

An aerial photograph of a city grid, overlaid with a semi-transparent map. The map shows white outlines of buildings and blue shaded areas representing density or land use. The text 'DRIFTSCAPE' is prominently displayed in the upper left quadrant.

DRIFTSCAPE

—Maximize urban space uses in the context of densification

Sida Zhang

DRIFTSCAPE

**–Maximize urban space uses in the context of
densification**

Sida Zhang

MLA Landscape Architecture, RISD

This Book was written and designed by Sida Zhang.

All of the photographs and works by other artist are reproduced and credited for academic purposes. Every resonable attempt has been made to identify owners of copyright. Error or omissions will be corrected in subsequent editions.

The original content and design of this book is © Sida Zhang, 2021.

Typeface: Helvetica Neue by Max Miedinger,
Mergenthaler Linotype Company, 1983.

DRIFTSCAPE: Maximize urban space uses in the context of densification.

A thesis submitted in partial fulfillment of the requirements for the Master of Landscape Architecture Degree in the Department of Landscape Architecture of the Rhode Island School of Design, Providence, Rhode Island.

By Sida Zhang

May 28, 2021

Approved by Masters Examination Committee:

Johanna Barthmaier-Payne, Department Head, Landscape Architecture

Nick De Pace, Primary Thesis Advisor

Colgate Searle, Thesis committee

Acknowledgements

I would like to thank the following people who gave me support and were involved in my three years of life and study:

To my family for all of help, understanding, and life support.

To Yuxi for being in my life.

To my thesis advisor, Nick De Pace, for your trusted, helped and kindness.

To my thesis committee, Colgate Searle, Ann Kearsley, and Robyn Reed, for all constructive guidance and suggestions.

To faculty, Johanna Barthmaier-Payne, Tiago Torres-Campos, Emily Volger, Elizabeth Dean Hermann, Courtney Goode, Adam Aderson, and Jacob Mitchell for all of the knowledge, trust, and experience.

To my friends and classmates in MLA 2021, for all of the company, criticisms, and inspirations.

Thank you all.

Table of Contents

12	Abstract and Introduction
18	Chapter One: Density problem in urban context Historical problems, Current Spare Space Density problem as an urgent issue
26	Chapter Two: “Drifting” theories and practices Theories of “Drifting” Case Studies
58	Chapter Three: The idea of “Driftscape” The logic map Design Principle and Strategies
76	Chapter Four: Site analysis and field proposal Providence overview Proposed districts
100	Chapter Five: Design Visions Federal Hill Driftscape Vision Downtown Driftscape Vison
152	Findings and Conclusions
156	Bibliography

Abstract

This study aims to explore a systematic method to stimulate and maximize the use of the urban space in the context of urban densification, expanding urban space usage in the dimension of time and space. In this context, urban space is reclaimed as the notion of overlap between public and private space in urban figure-ground.

The research focuses on Providence as a study area that encompasses different transects of the urbanized American city and faces typical densification issues. It has strategically turned the issue of densification into opportunities for improving social interactions and space utilization. The “Driftscape” principle with its three dimensions: boundary, temporality, and connectivity has been proposed as a flexible strategy that rethinks the potential dimension behind existing areas and doubling their uses, which questions the power of the conventional “right of way,” provides a new understanding of the utilization of urban space.

“Ground Plan of New Babylon over The Hague,” 1964,
a representation — in collage, watercolor and graphic foil
— of Nieuwenhuys’s idealized city of tomorrow.

Introduction

Due to urbanization, modernized cities are facing serious issues related to an increase in urban density. A new analysis has found that by 2040, the amount of green space provision per person will have reduced by 7.6%. Over the next five years alone there will be a 6.5% increase in the number of people not living within a ten-minute walk of a park or green space, to nearly 2.87 million.

It’s urgent to explore the potential space in urban areas in limited urban areas for communities, which could further help solving a series of urban issues.

The point of this research is to help mitigate the incoming urban density issues by providing a method to redesign the finite landscape public places, generating a more spacious and capacious landscape experience.

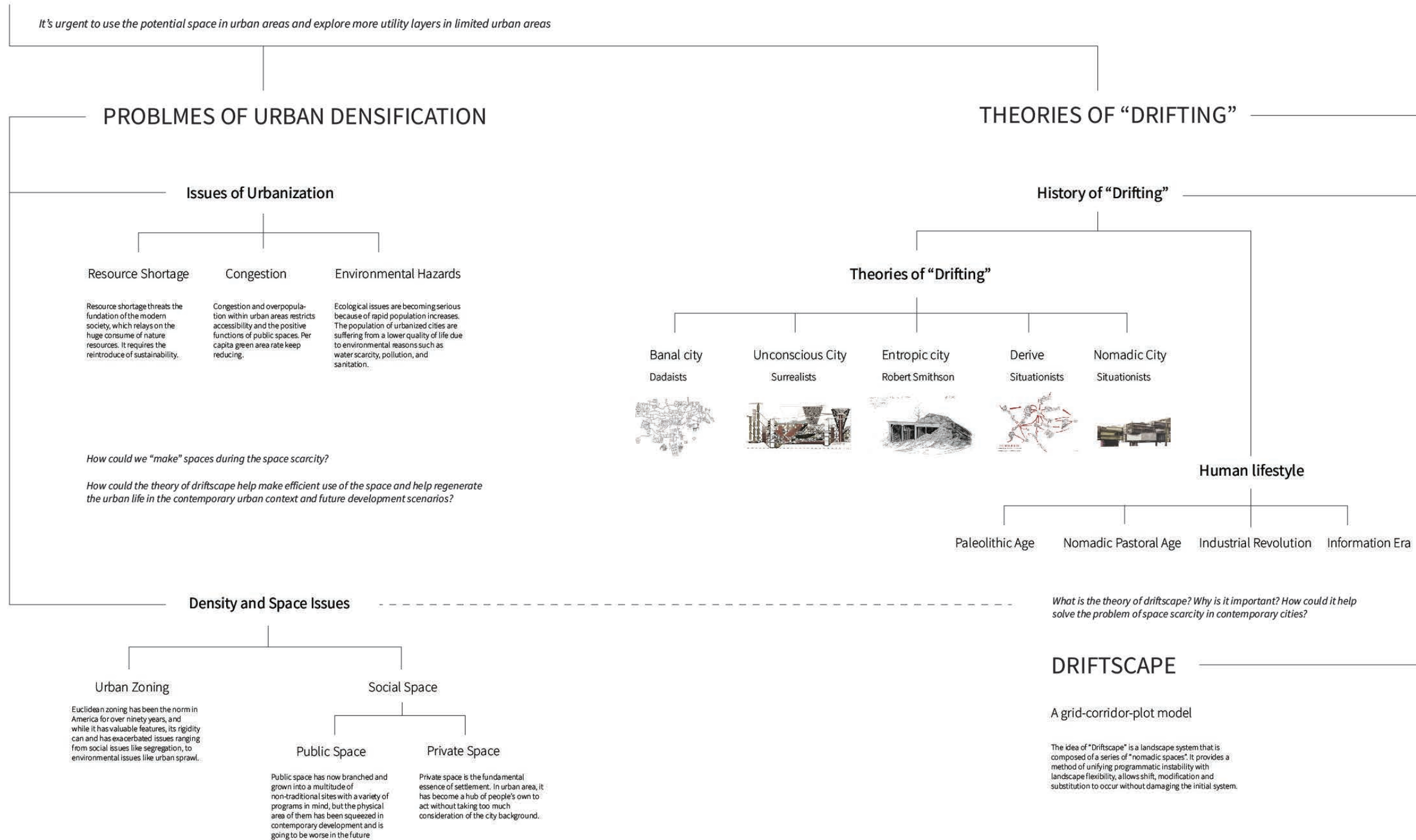
The idea of “Driftscape” is a landscape system that is

composed of a series of “drifting spaces”. It’s not a landscape with movable spaces, but sedentary fields with changeable programs. It provides a methodology of landscape design which unifies programmatic instability with landscape flexibility, allows shift, modification, and substitution to occur on-site without compromising the initial system.

In this case, public spaces become vessels of the fluidic programs, which requires less spaces to serve the same volume of participants. In other words, it’s a way of doubling space utilization in the context of densification.



A need of “exploring” spaces in urban area



Chapter 1

Density Problem in Urban Context



Urban Density Issue

Expansion is one of the key features of urbanization. It's undoubtedly that whether these expansions are the result of indicated zoning plans or unbridled urban sprawl, cities have increased in surface area and open spaces are sacrificed for the ever-growing demand for urban space. In other aspects, cities also grow by adding new houses to the existing dense urban fabric and thus increasing the initial density, a term we refer to as "densification". (Jip Claassens. Urban density and spatial planning: The unforeseen impacts of Dutch devolution. 2020.)

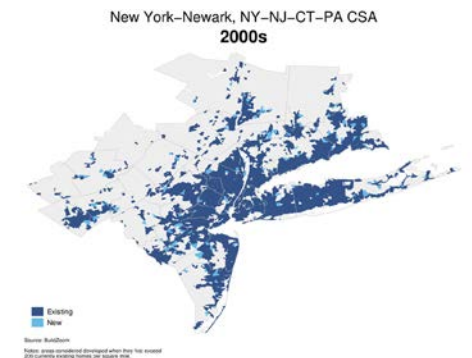
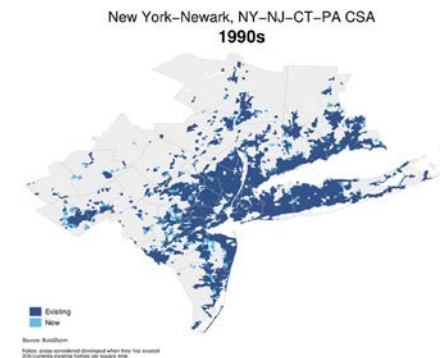
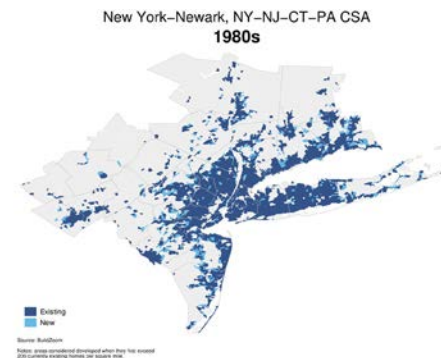
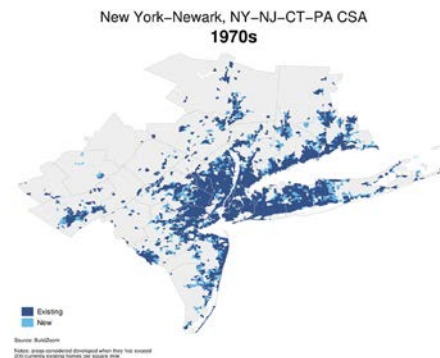
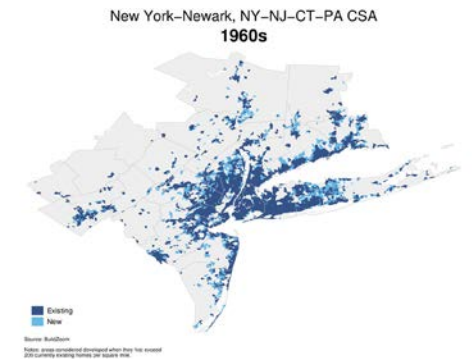
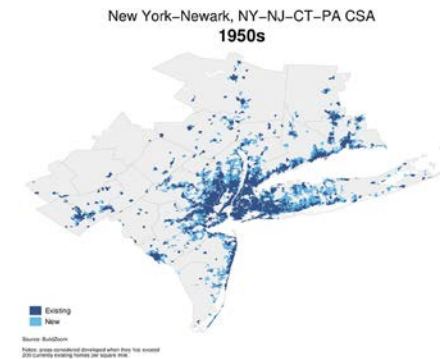
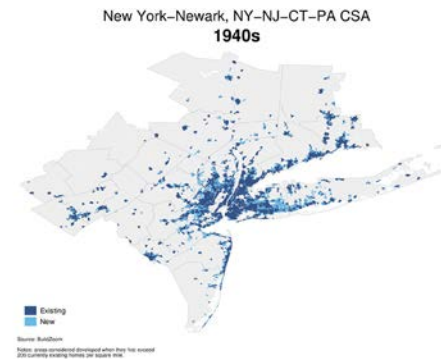
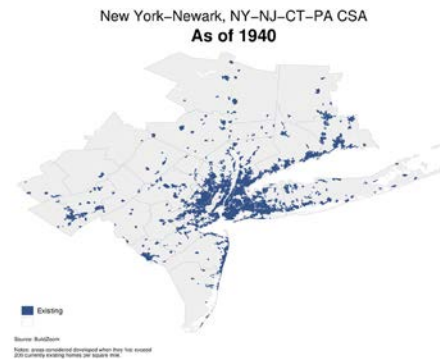
As a result, with such urban sprawl, big cities have become prosperous in the last 5 decades due to the increasing population as well as the workloads. However, urban density is becoming a problem which will limit the development of cities in a foreseeable future. The question of streetlife density – of people in public space, becomes a consideration of the urban planners and landscape architects who aim to deal with the certain issue.



Historical problems

Historically, urban sprawl transforms parks and open spaces into highways and strip malls and destroys more than one million acres of parks, farms, and open space each year (Urban Sprawl. /www.everythingconnects.org/. 2013.).

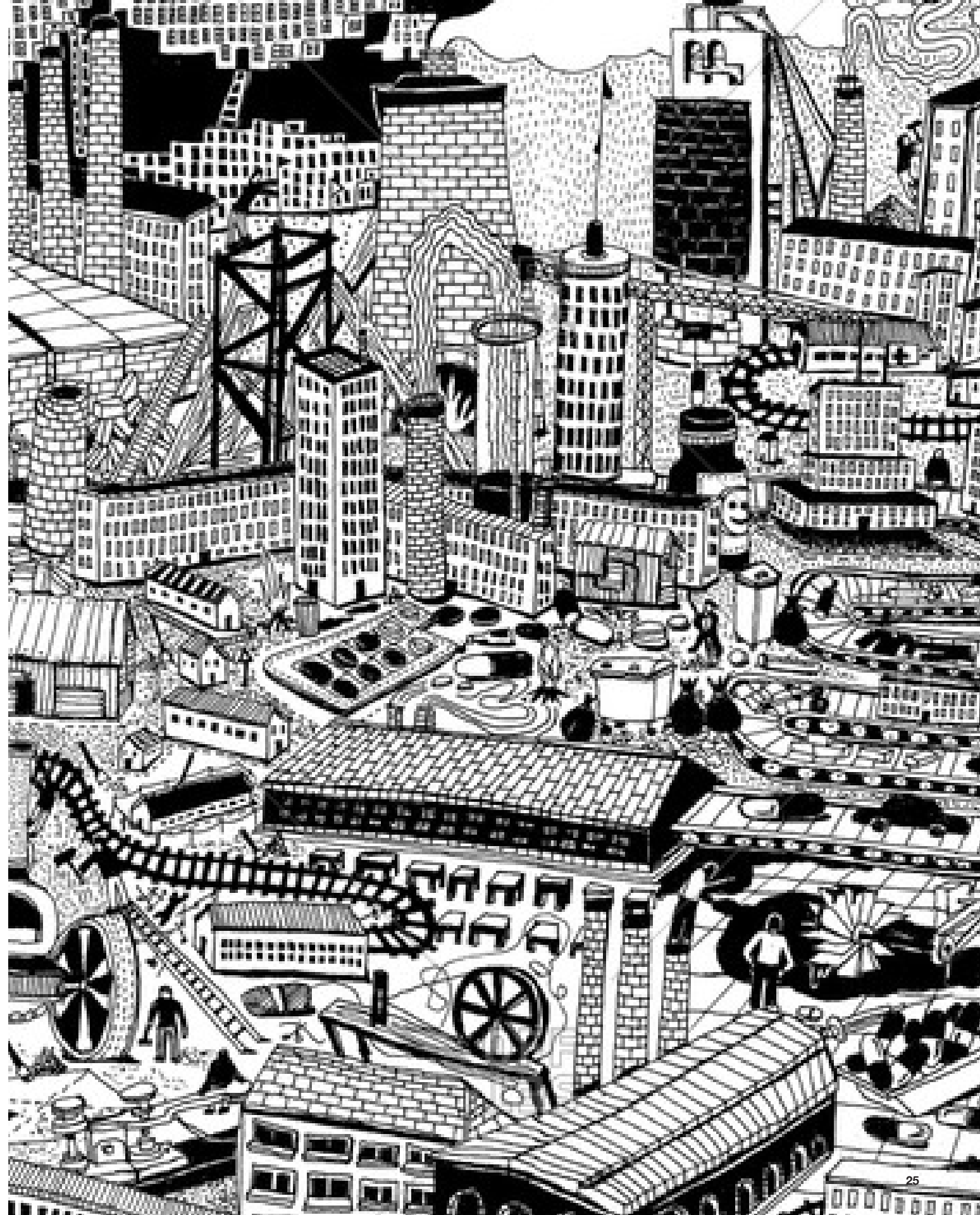
Sprawling neighborhoods and highways engulf open space, simultaneously increasing urban density compress the place for people to enjoy their daily lives even less. If we could not stop the ongoing urban sprawl, how could we explore our open spaces in such a situation?



Data source: ISSI ROMEM, *Has the Expansion of American Cities Slowed Down*, Turner Center For Housing Innovation, UC Berkeley, 2016

“Urban densification as an opportunity. Increasing the number of dwelling units and mixed-use spaces per acre, is the key to tapping into the potential of cities to become part of the solution to climate change because it encourages efficiency and conservation. It is a critical aspect of making a city more sustainable and environmentally friendly.”

— Amy Leung in *The Key to Green Cities and Mindsets: Densification*



Patric Sandri, Illustration of a crowded city

Chapter 2

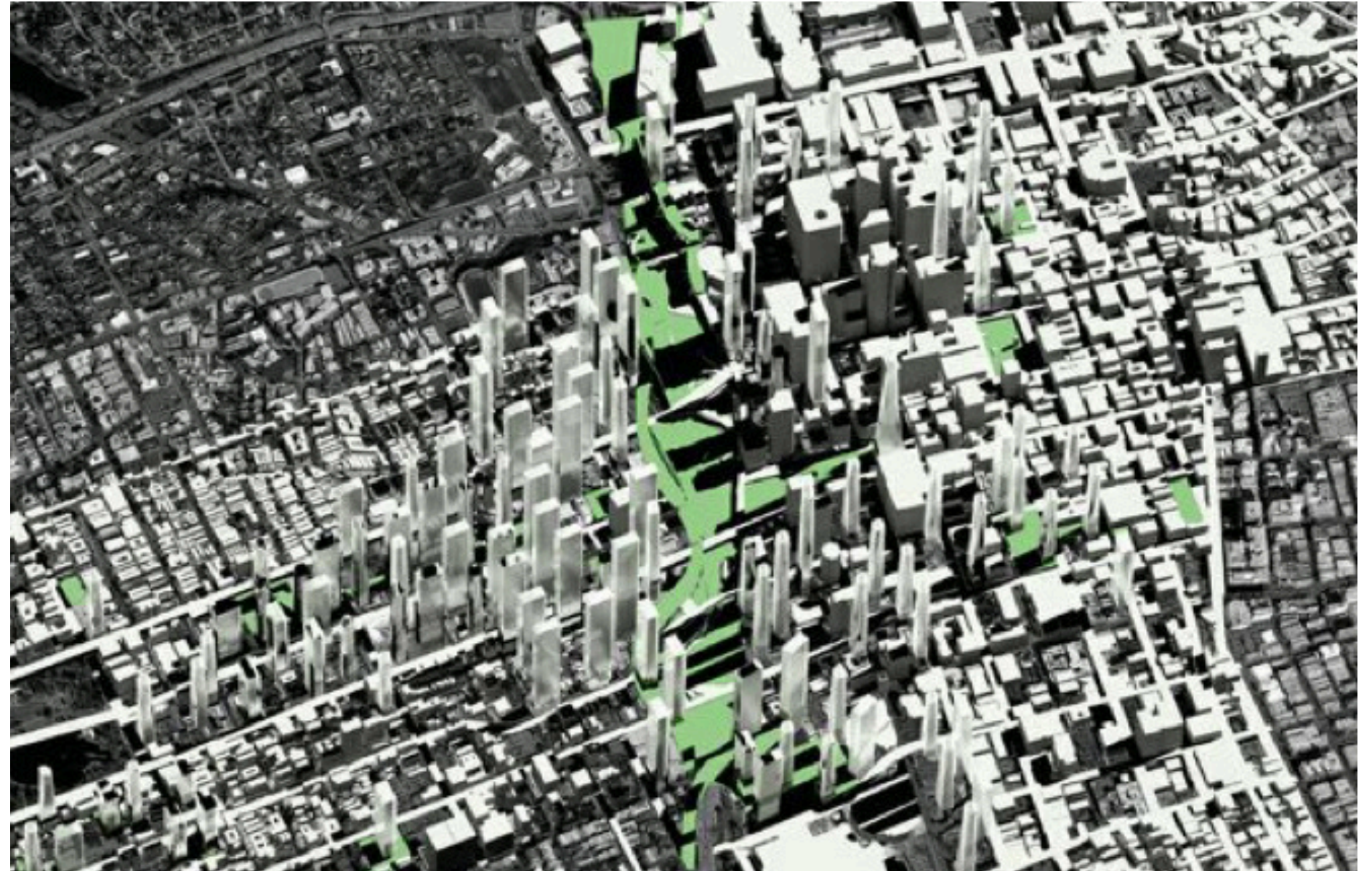
“Drifting” theories and practices



A “Dirfting” Future?

The question is how could we re-explore spaces in our dense city? How could we “make” spaces in the increasing dense city?

“Drifting” has been a way of living and thinking in human history. From ancient time to contemporary era. It emphasizes the dynamism of spaces, requires new methods of operating spaces as a fluidic system instead of previous static one.



Part of the series Future L.A.: Engineering a Sustainable Supercity

History of “Drifting”

Paleolithic Age

2.5 M Years ago-10,000 B.C

Paleolithic humans were nomads, who often moved their settlements as food became scarce. This eventually resulted in humans spreading out from Africa (beginning roughly 60,000 years ago) and into Eurasia, Southeast Asia, and Australia.

Nomadic pastoral Age

8,500–6,500 B.C

A nomad (Middle French: nomade "people without fixed habitation") is a member of a community without fixed habitation which regularly moves to and from the same areas. Such groups include hunter-gatherers, pastoral nomads (owning livestock), and tinkers or trader nomads

The Age of Sail

1571–1862

The Age of Sail (usually dated as 1571–1862) was a period roughly corresponding to the early modern period in which international trade and naval warfare were dominated by sailing ships and gunpowder warfare, lasting from the mid-16th to the mid-19th centuries

Industrial revolution

1760-1900

The Industrial Revolution was one of the most important events in human history and dramatically transformed life for people throughout the world. A life of “moving” became more available for common people.

Modern urbanization

1890--

Urbanization is not merely a modern phenomenon, but a rapid and historic transformation of human social roots on a global scale, whereby predominantly rural culture is being rapidly replaced by predominantly urban culture. The first major change in settlement patterns was the accumulation of hunter-gatherers into villages many thousand years ago



Ancient Nomads rely on horses and boats to drift and survive

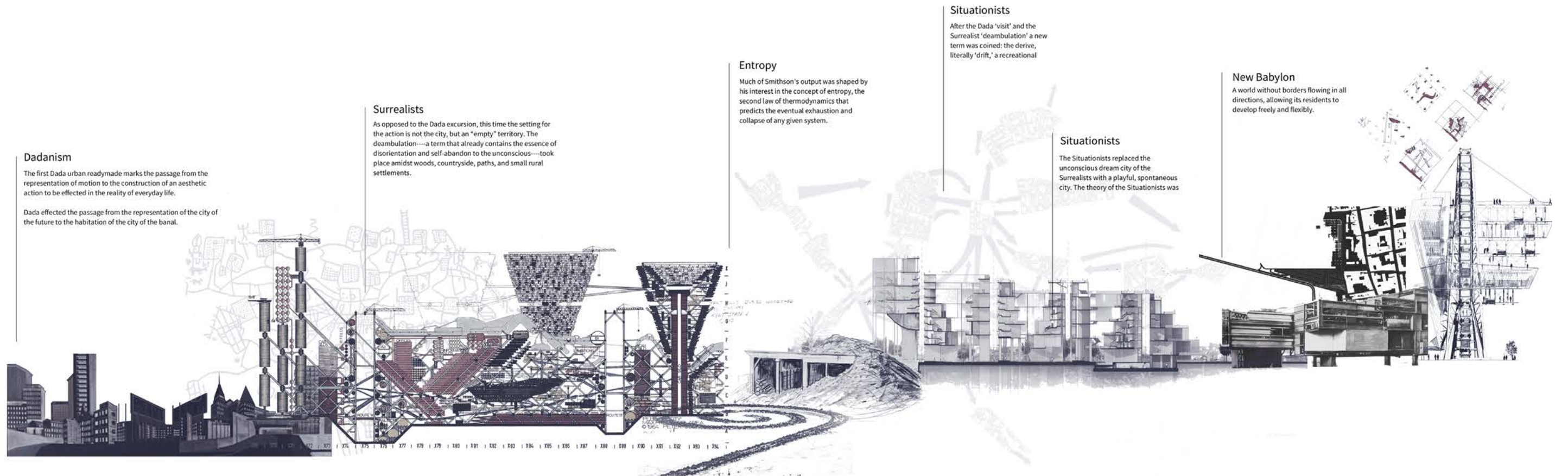
Pastoral and sailing lifestyle

Ships and vehicles support new lifestyle

Modern "nomads"

Digital and commute nomadic lifestyle

Theories of “Drifting”



“Banal City”
1915-1920s
Dadanism

“Unconscious city”
1924-1966
Surrealists

“Entropic city”
1960-1970
Robert Smithson

“Lettrist Drifting(Derive)”
1956-1980
Guy Debord

“Nomadic city”
1957-2000
Situationists

Banal city

—Banal city of Dada

The first Dada urban readymade marks the passage from the representation of motion to the construction of an aesthetic action to be effected in the reality of everyday life.

Dada effected the passage from the representation of the city of the future to the habitation of the city of the banal.

Entropic city

—Entropic city of Robert Smithson

Much of Smithson's output was shaped by his interest in the concept of entropy, the second law of thermodynamics that predicts the eventual exhaustion and collapse of any given system.

Unconscious city

—Unconscious and oneiric city of the Surrealists

As opposed to the Dada excursion, this time the setting for the action is not the city, but an "empty" territory. The deambulation---a term that already contains the essence of disorientation and self-abandon to the unconscious---took place amidst woods, countryside, paths, and small rural

settlements.

Lettrist Drifting(Derive)

After the Dada 'visit' and the Surrealist 'deambulation' a new term was coined: the derive, literally 'drift,' a recreational collective act that not only aims at defining the unconscious zones of the city, but which----with the help of the concept of 'psychogeography'----attempts to investigate the psychic effects of the urban context on the individual.

Nomadic city

—Playful and nomadic city of the Situationists.

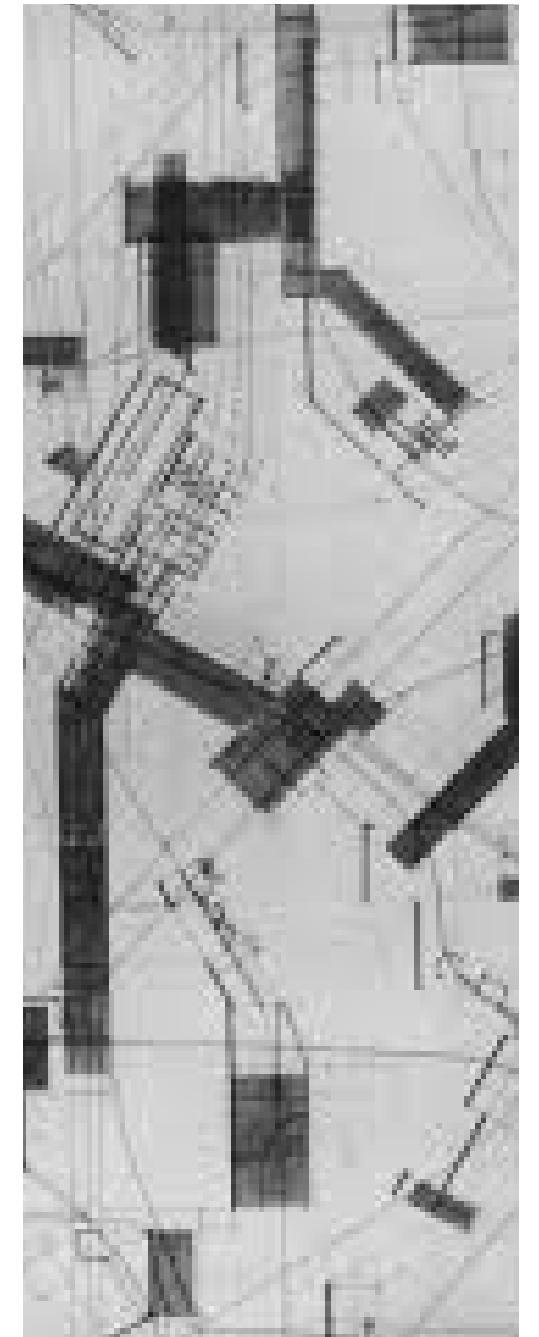
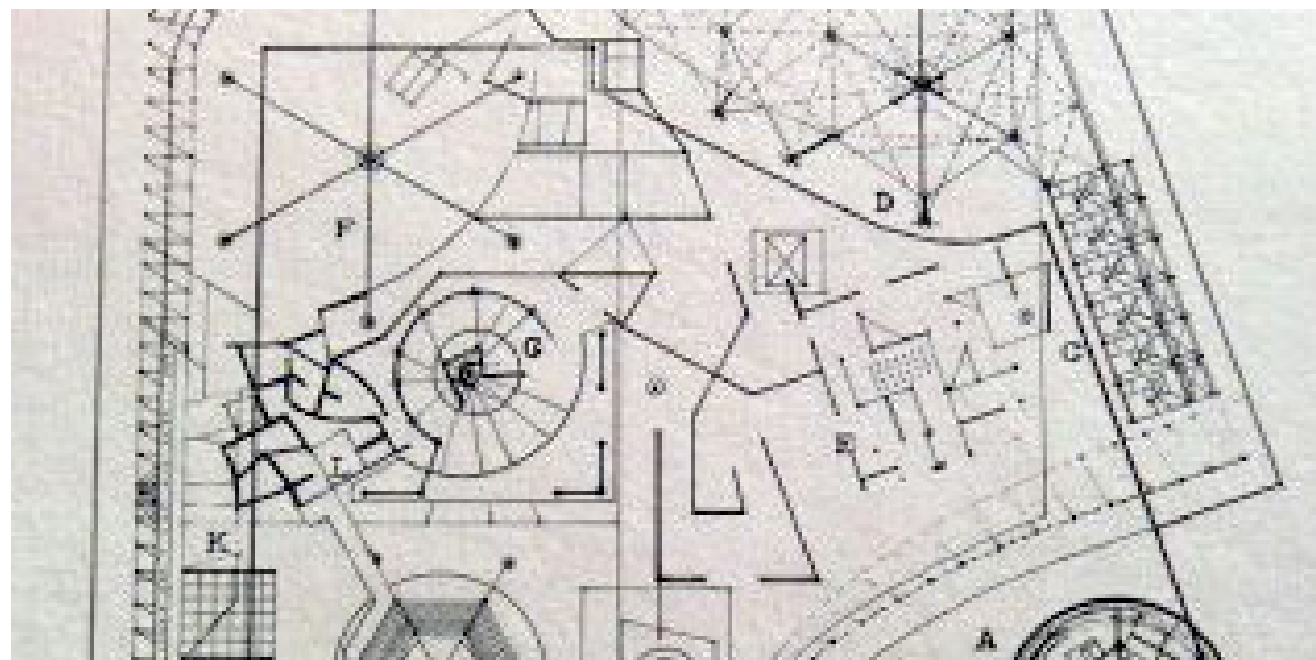
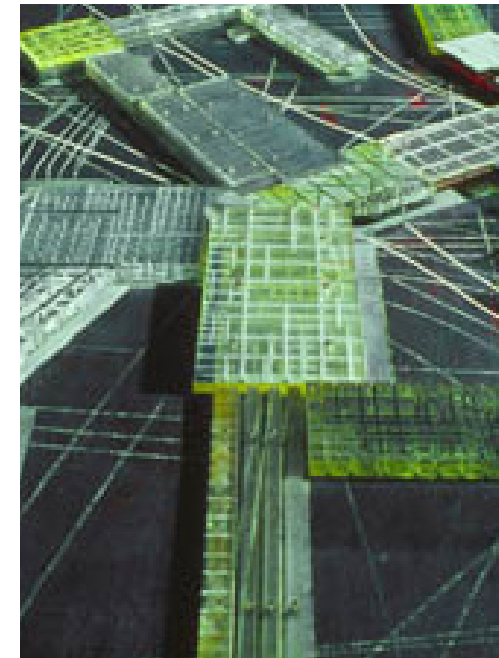
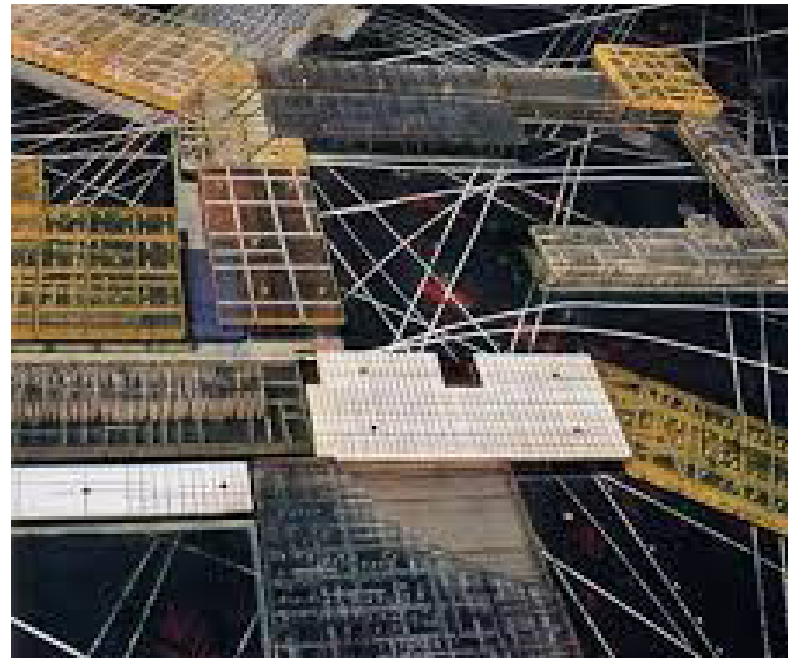
The Situationists replaced the unconscious dream city of the Surrealists with a playful, spontaneous city. The theory of the Situationists was based on an aversion for work and the premise of an imminent transformation of the use of time in society: with the changes in production systems and the progress of automation, work time would be reduced in favor of free time.

New Babylon

Constant Nieuwenhuys
1956-1974

New Babylon is a dream of an ideal society. What Constant conjured up in New Babylon was a new world that would require a fundamental change in thinking.

People would no longer have a fixed abode. Receptiveness to new experiences, communication and encounters, and development of creativity, on the other hand, would result in happier people and a better world.



Constant. New Babylon. 1962

“The slavish existence of living, working and recreation cannot possibly constitute the starting point for building our living environment, the starting-point for a creative urbanism. ... The technical facilities are deployed as powerful, ambience-creating resources in the psychogeographical game played in the social space.”

— Constant in the New Babylon



Constant. New Babylon. To Us, Liberty. 1974



Analyzing and Learning through Relevant Precedents



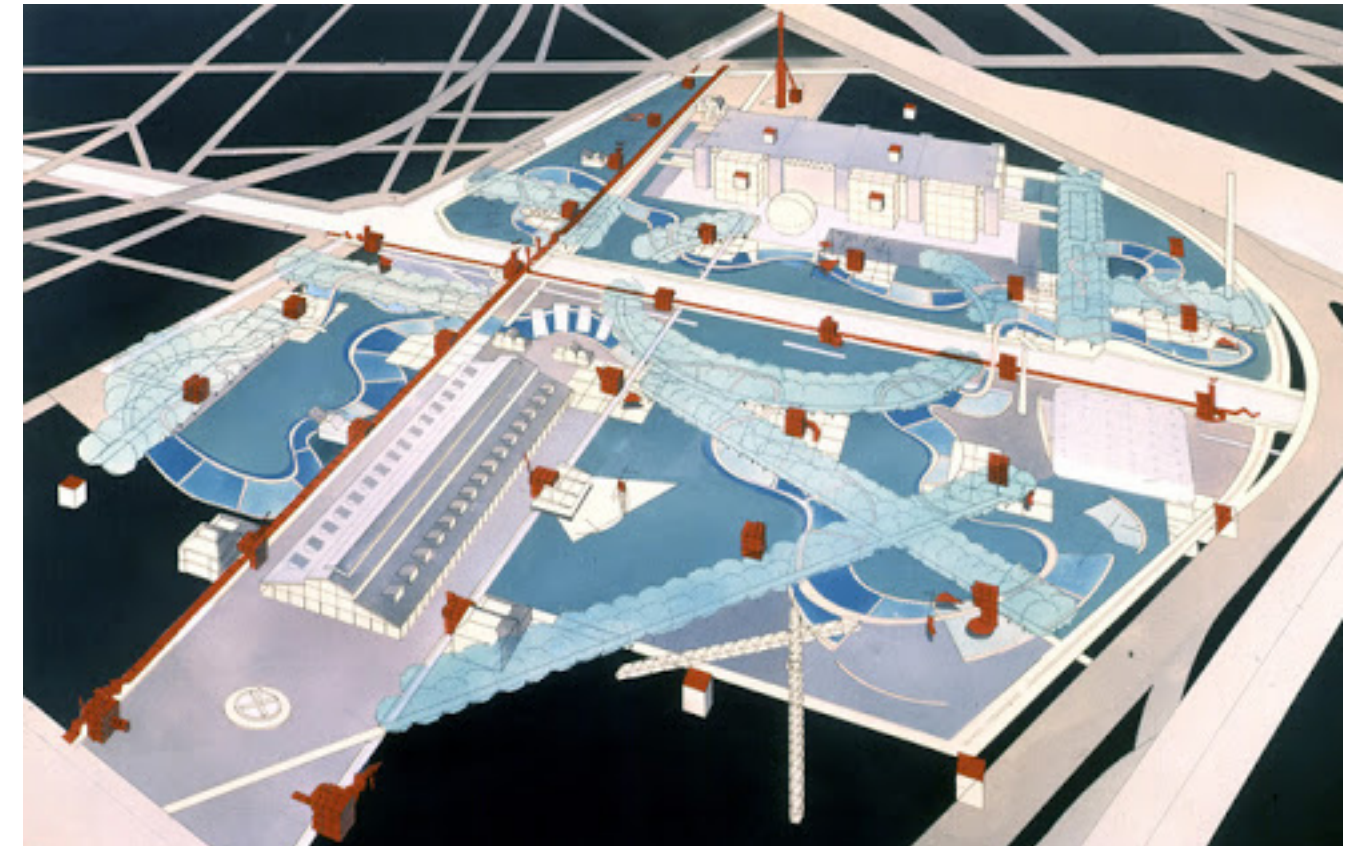
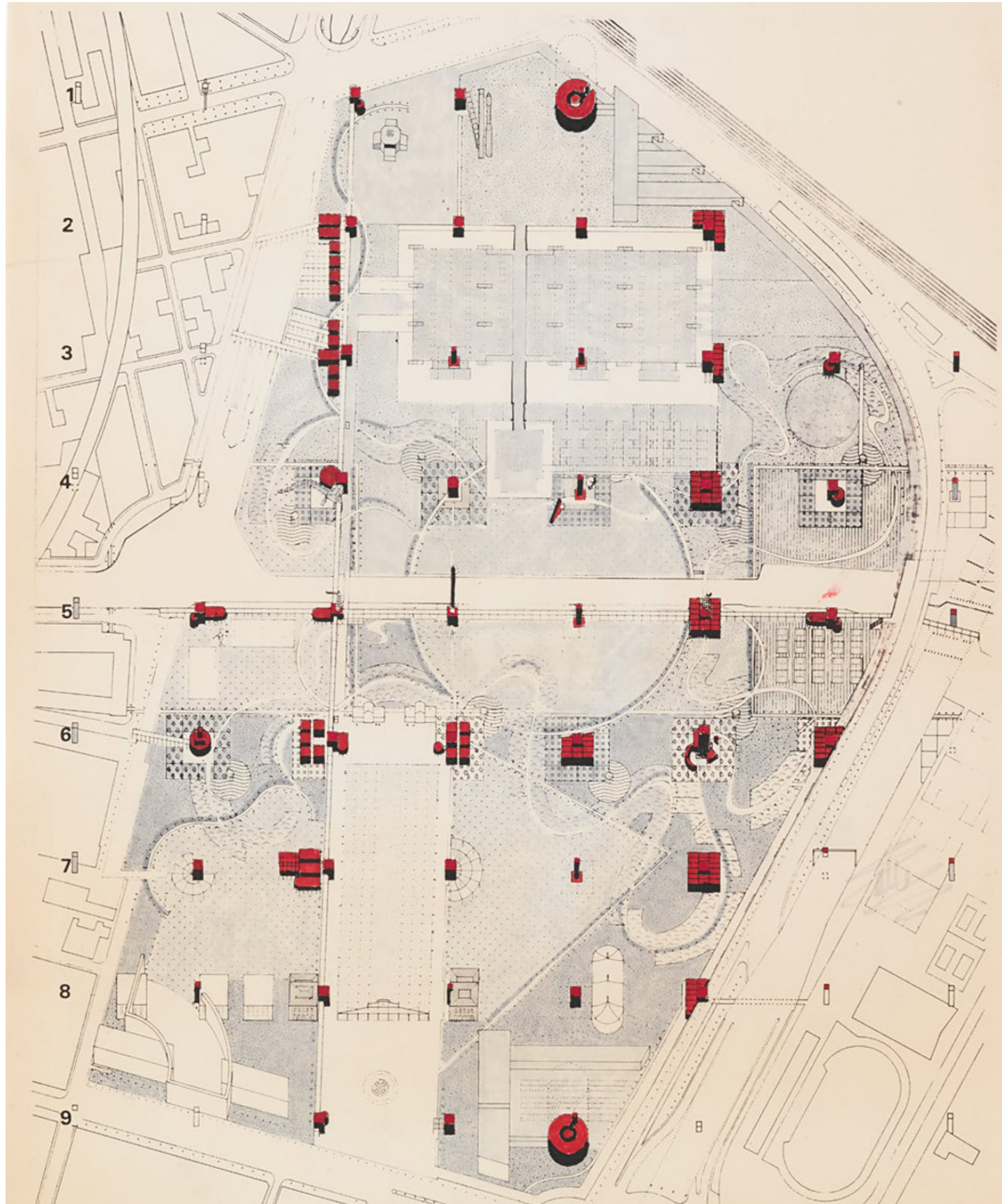
EPPGHV / Philippe Guignard,
Aerial view of the Parc de la
Villette, 1995



Parc de la Villette

Paris,
Bernard Tschumi,
1982-1998

La Villette could be conceived of as one of the largest buildings ever constructed — a discontinuous building but a single structure nevertheless, overlapping the site's existing features and articulating new activities. It opposes the landscape notion of Olmsted, widespread during the 19th century, that “in the park, the city is not supposed to exist.” Instead, it proposes a social and cultural park with activities that include workshops, gymnasium and bath facilities, playgrounds, exhibitions, concerts, science experiments, games and competitions, in addition to the Museum of Science and Technology and the City of Music on the site. At night during the summer, the broad playing fields become an open-air movie theater for 3,000 spectators. The park currently accommodates around eight million visitors a year.



Tschumi, Plan of Parc de la Villette, 1983

As part of Tschumi's overall goal to induce exploration, movement, and interaction, he scattered 10 themed gardens throughout the large expansive site that people would stumble upon either quite literally or ambiguously. Each themed garden gives the visitors a chance to relax, meditate, and even play.

Parc de la Villette is designed with three principles of organization which Tschumi classifies as points, lines, and surfaces. The 135 acre site is organized spatially through a grid of 35 points, or what Tschumi calls follies. The series of follies give a dimensional and organizational quality to the park serving as points of reference.

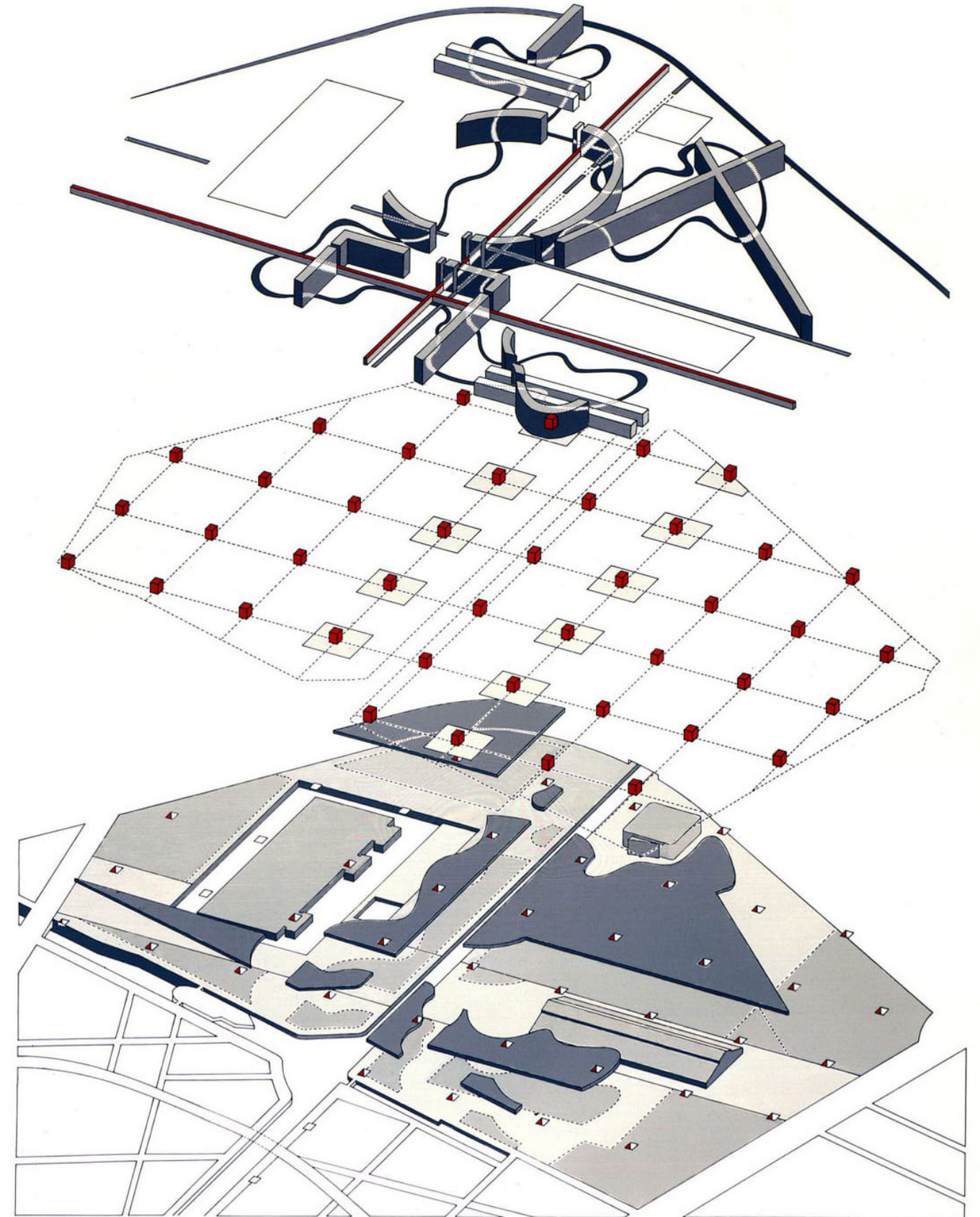
The repetitive nature of each folly, even though each one is unique and different, allow for the visitors to retain a sense of place through the large park.

“The program will undergo constant change and adjustment. ... The underlying principle of programmatic indeterminacy as a basis of the formal concept allows any shift, modification, replacement, or substitutions to occur without damaging the initial hypothesis.”

— Rem Koolhaas in relation to OMA's Vilette entry

Tchumi, Concept of Parc de la Villette, 1983

Tschumi's lines are essentially the main demarcated movement paths across the park. Unlike the follies, the paths do not follow any organizational structure; rather they intersect and lead to various points of interest within the park and the surrounding urban area.





The TechTown Districts, Sasaki, 2013

The TechTown District

Detroit
Sasaki Associates
2013

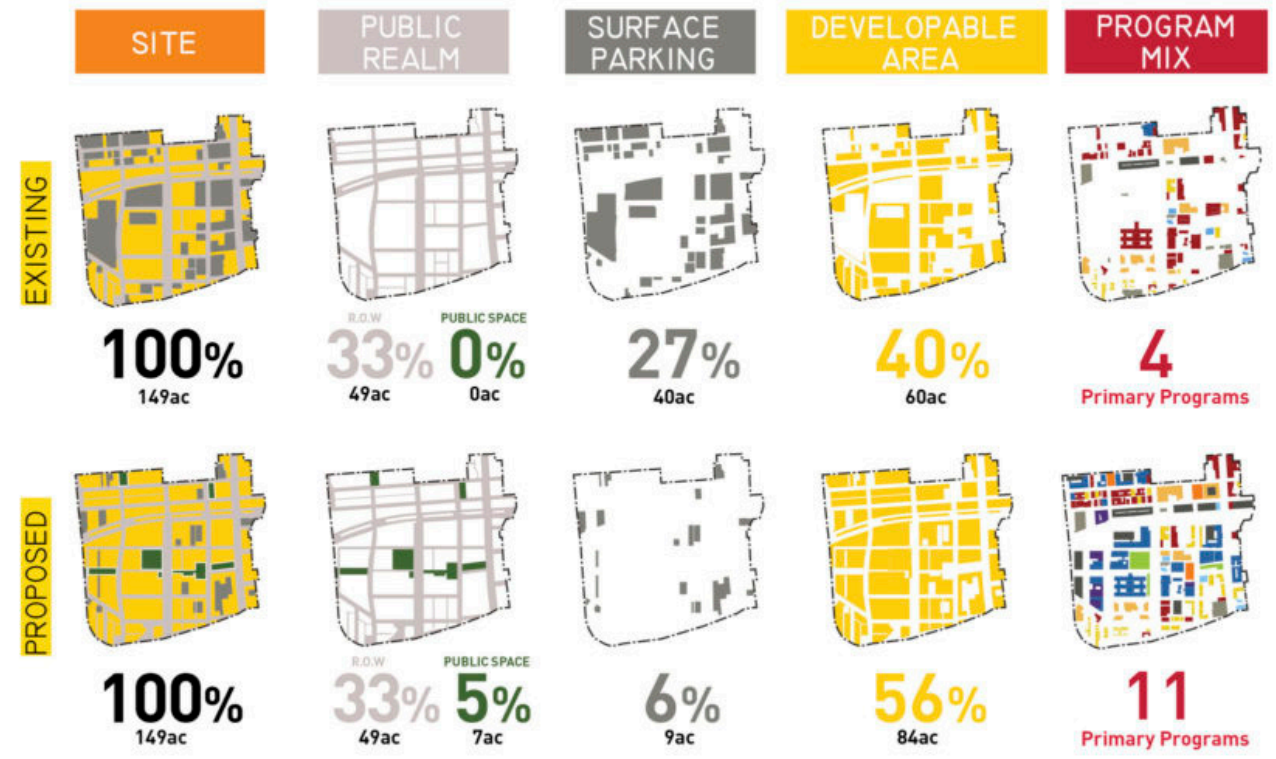
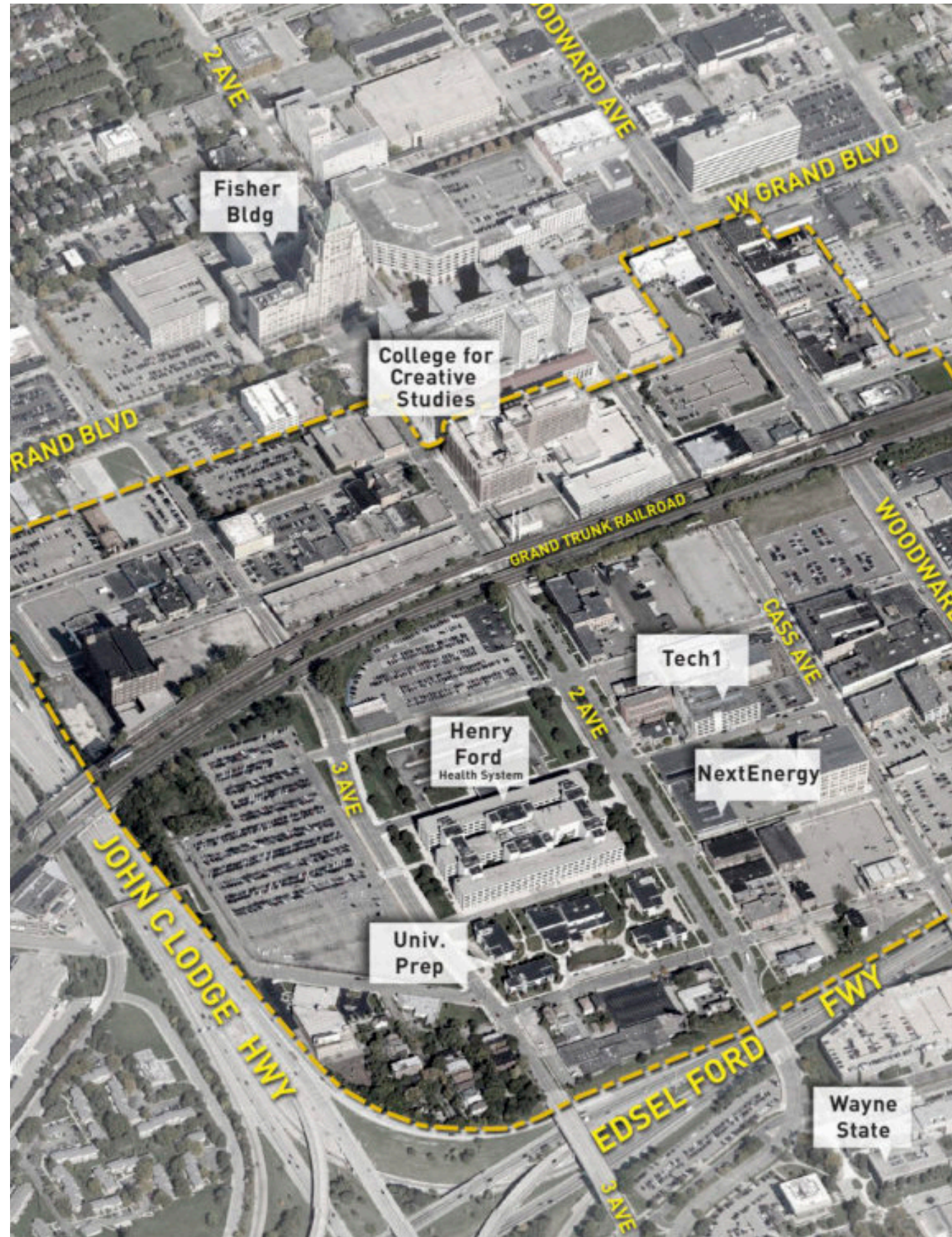
An inspiring vision for the revitalization of the district. An emerging knowledge district in Midtown Detroit, this town is currently characterized by surface parking, vacant properties, and inward-facing, siloed hubs of activity. The architects' concept, however, aims to accelerate innovation, promote entrepreneurship, and build community around the generation of ideas in a vibrant, mixed-use setting.





Sasaki, The TechTown District

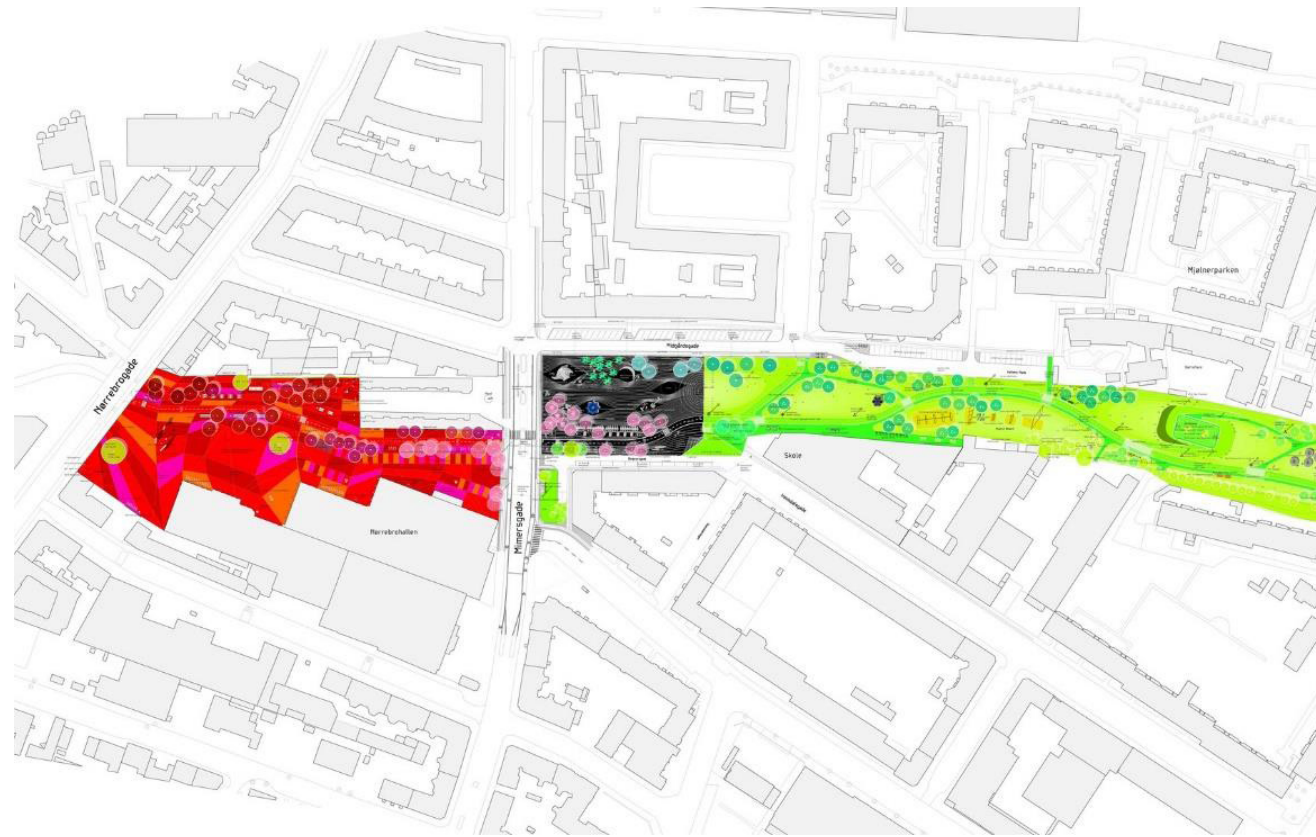
The core catalyzes new investment in TechTown. Engaging civic spaces and a carefully curated public realm program encourage participation, creation, and collaboration.



A district currently defined by surface parking lots and a lack of identity will transform into a sustainable, dense, well-balanced urban setting, with a clearly defined heart and strong sense of place

urban design strategies.

The team employed a variety of strategies to encourage participation in the TechTown planning process. A regular series of open forums included presentations from experts in innovation districts and research parks, urban design, and planning. Interactive games, such as the Circuit Board and the CoinSurvey allowed the community to test program and design alternatives, and to rank strategies for investment. MyTechTown—an interactive online graphics survey—collected constituents’ qualitative impressions of the district, which helped the design team tailor the planning, programming, and



Archdaily, Aerial view of Supekilen

SUPERKILEN

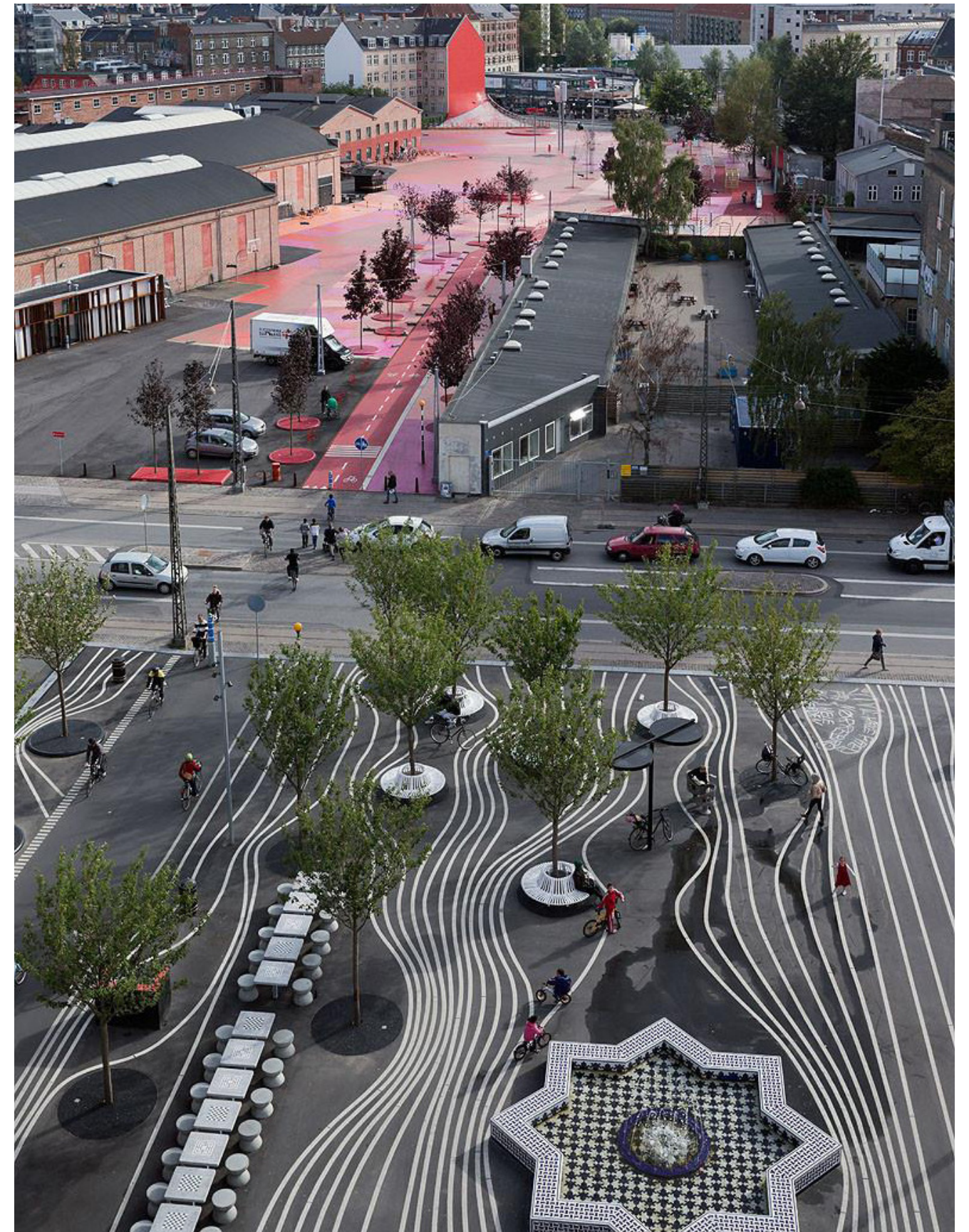
Copenhagen, Denmark

BIG-Bjarke Ingels Group, TOPOTEK1, SUPERFLEX

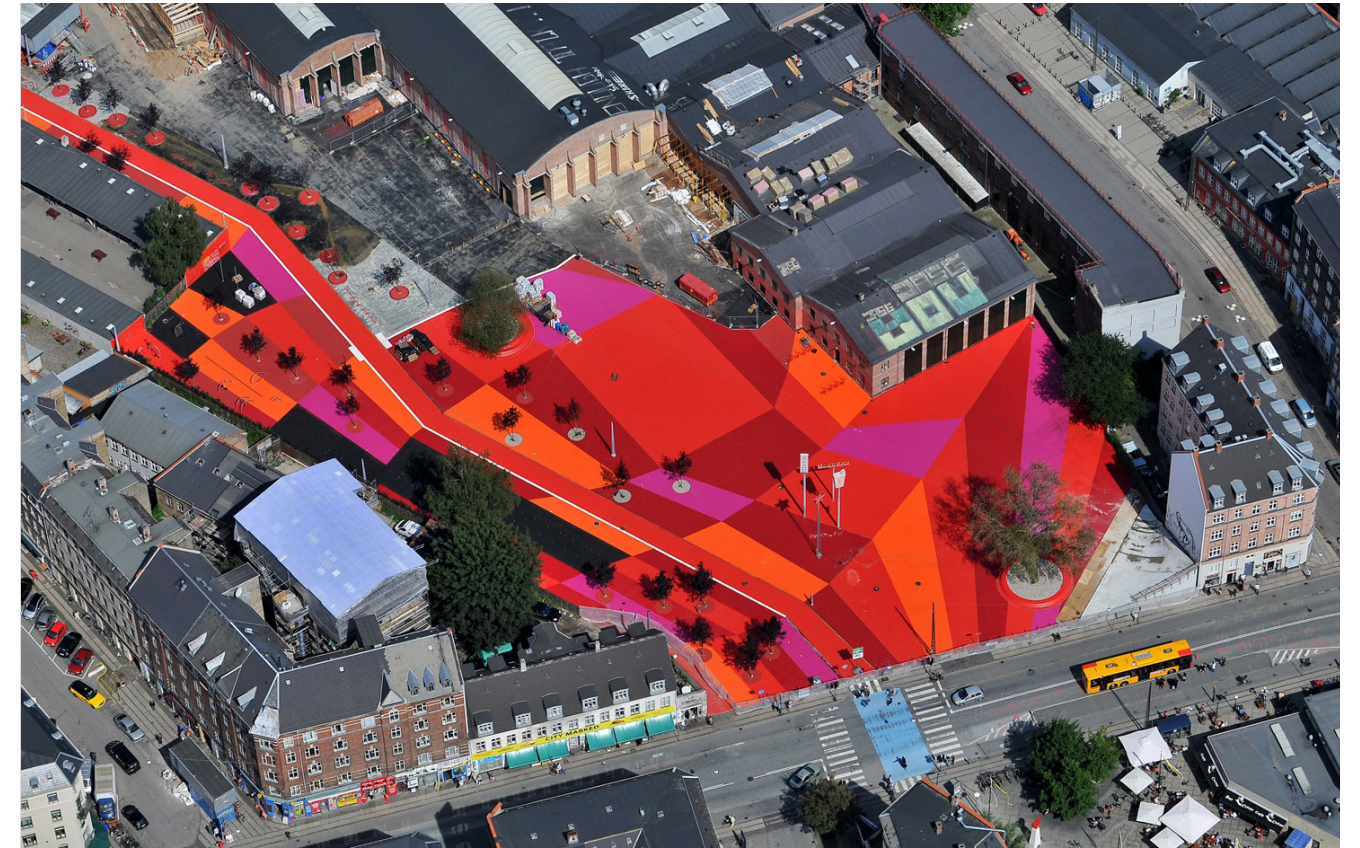
2014

Superkilen located in the center of Nørrebro, the neighborhood that can be described as the most socially challenged and culturally diverse of Copenhagen.

It offered a collection of functions and outdoor activities and recreation, and to transform a mono-function area into a multi-functional public space that would provide a space for gathering and outdoor activities for neighborhood.



Archdaily, Aerial view of Supekilen



BIG, Plan of Supekilen

The park is divided into three main zones. Each one of them with different program identified by its colour in the name. The Red Square is for market, culture, and sport. The Black Market is an urban living room. The Green Park is for sport and playing. Each zone has its iconic urban furniture.



Chapter 3

The Strategy of “Driftscape”



The Strategy of “Driftscape”

The population distribution reflects the difference in cities and districts. People’s daily needs and city’s development needs become conflict in the context of urban construction. As a result, the urban space tend to be more regulated and strict, and citizens become “swift walkers” in cities, many of them spend their time passing though their surrounding areas instead of taking a breath and be ease as a human.

Urban space is the reality resulting from the combination of social relationships in body context to needed human performances(Majiedi et al., 2011: 263). In other aspects, in related to performance perspectives, urban spaces are known as out door spaces of buildings. These spaces are defined by city symbols and city roofs. (Chau, 2000: Paumier, 2004). The public spaces, semi-public spaces and privates spaces, are hierarchical entity which compose a city’s urban spaces.

Among the various classifications of urban spaces, public space can be the most effective urban area for

refreshing and dynamics(Mahyar Ardeshiri, 2016). The concept of “Driftscape” is a landscape system of “drifting”. It generate urban spaces become vessels of the fluidic programs, and require fewer spaces to serve the same volume of participants.

It’s opposed with the landscape notion of Olmsted, that “in the park, the city is not supposed to exist.” Instead, “Driftscape” indicates to mitigate the boundary between urban context and public spare spaces by proposing a system of fluidic public spaces which could provide more spare spaces for citizens and could be self-promoting with its participants.

THEORIES OF “DRIFTING”

Banal city → Entropic city → Oneiric city → Nomadic city

1920s

EVOLUTION OF “DRIFTING” CITY

Goes from the banal city of Dada to the entropic city of Robert Smithson, passing through the unconscious and oneiric city of the Surrealists and the playful and nomadic city of the Situationists.

INCREASING URBAN DENSITY

Economic, social, and ecological

PROBLEMS OF DENSITY

Vacant spaces in urban area

Inefficient-use fields as well as polluted fields

DRIFTSCAPE

Driftscape is a system of drifting spaces, an urban archipelago form.

PARTICIPANTS

Factors and stakeholders

Social

Communities, Public

Spacial

Vibrant multi-use spaces like public street spaces, tidal spaces like parking lots and others

Temporal

Temporary events like daily and weekly markets, urban nursery activities, etc

DIMENSIONS

Non-Regulated Spaces

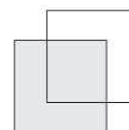
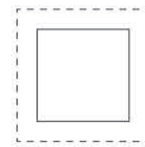
“Fluidic spaces with Blurring Boundaries”

Temporary Spaces

“Spaces that allows diverse activities to happen in the dimension of time”

Regulated Spaces

“Zoning connection structure and space on fields”



“Urban Archipelago”

“Transurbance”

“Drifting”

“Nomadic”

“Derive”

Design Principle

1. NON-REGULATED SPACES—BLURRING BOUNDARIES

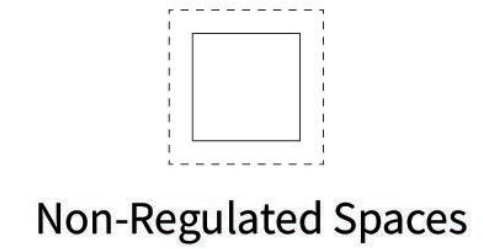
Expansibility and Convertibility--exterior and interior space changes

2. TEMPORARY SPACES—EXPANDING TEMPORAL USES

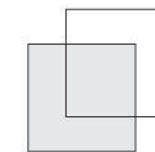
Versatility--multifunction

3. REGULATED SPACES—CONNECTING DISPERSE ZONES

Linkability--different area connection

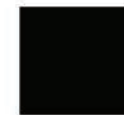


“Fluidic spaces with Blurring Boundaries”



Temporary Spaces

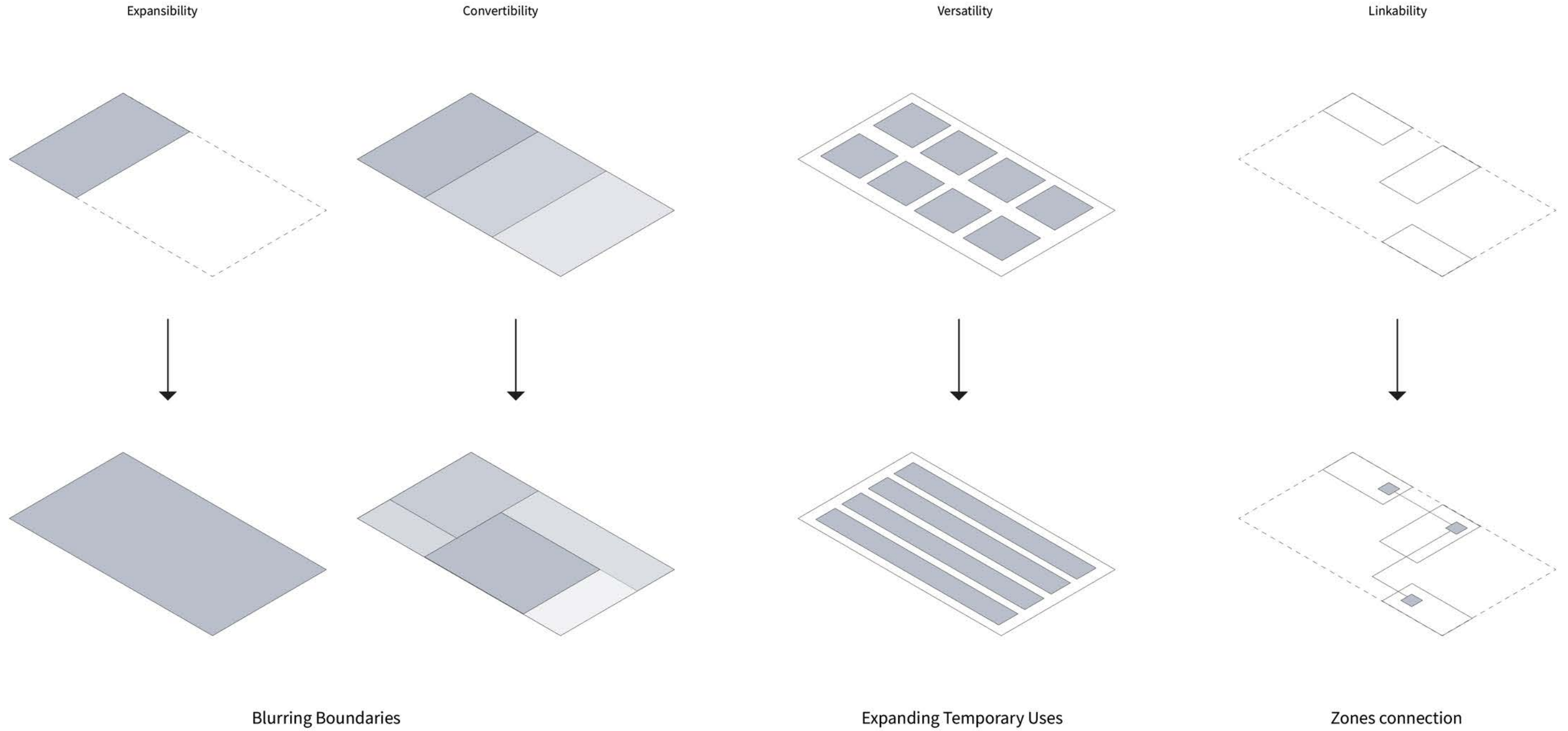
“Spaces that allows diverse activities to happen in the dimension of time”

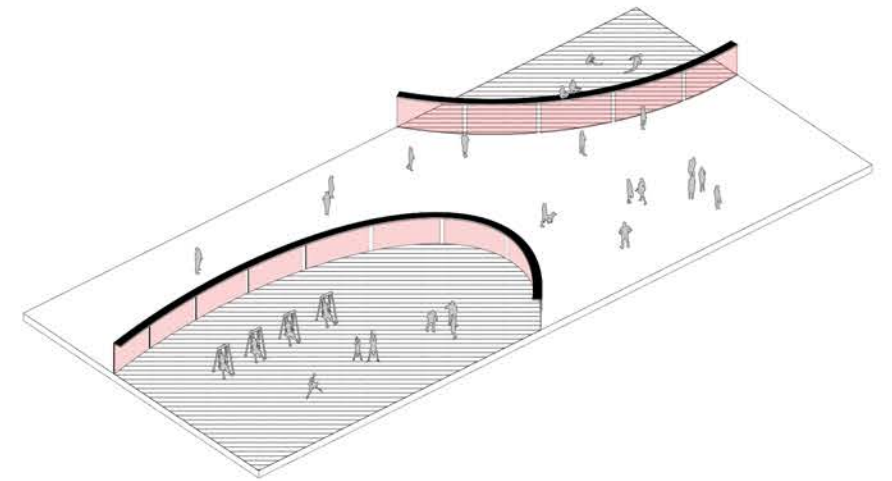
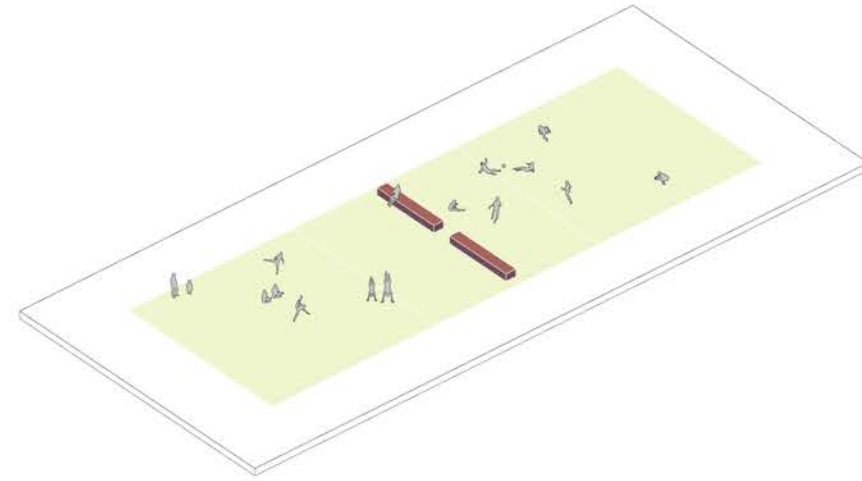


Regulated Spaces

“Zoning connection structure and space on fields”

3 strategies in Principle

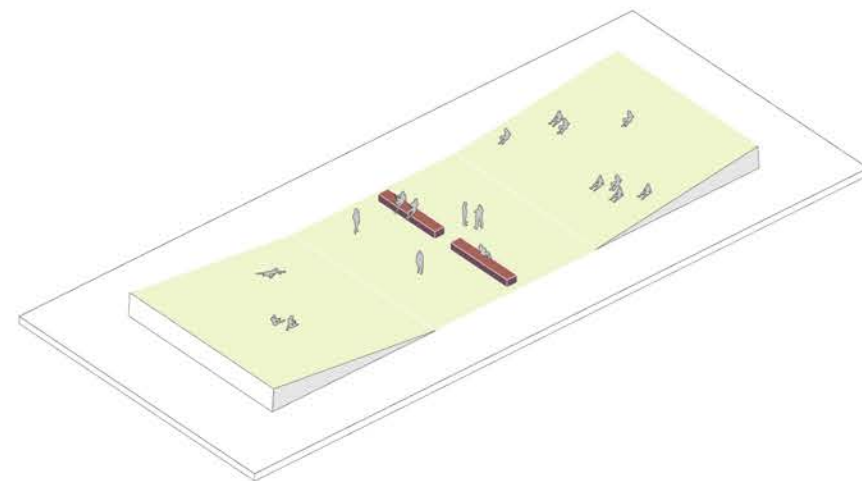




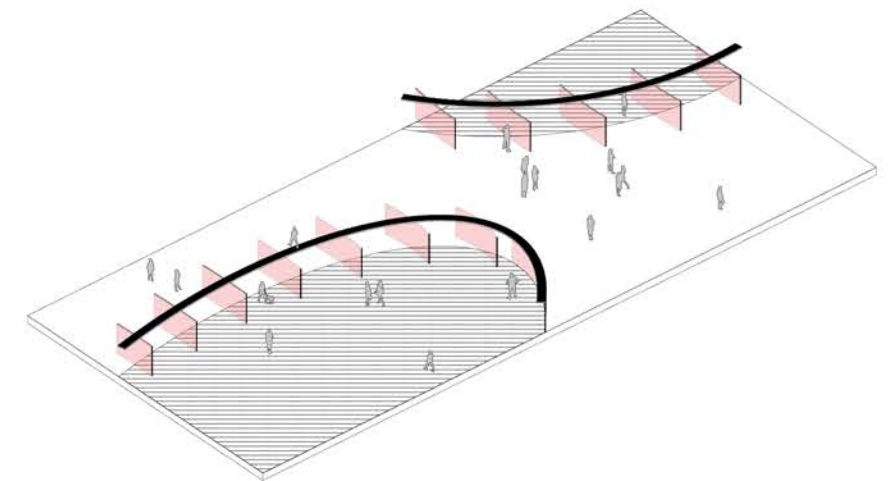
Blurring boundaries

Space Expansibility

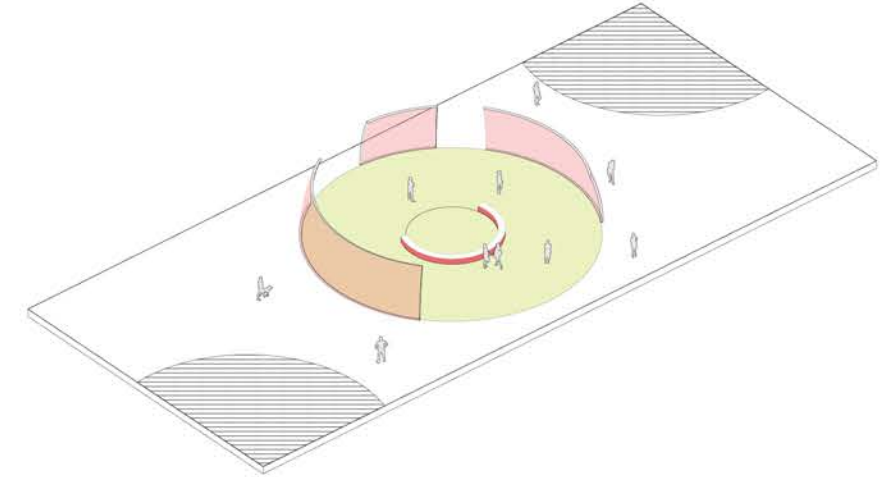
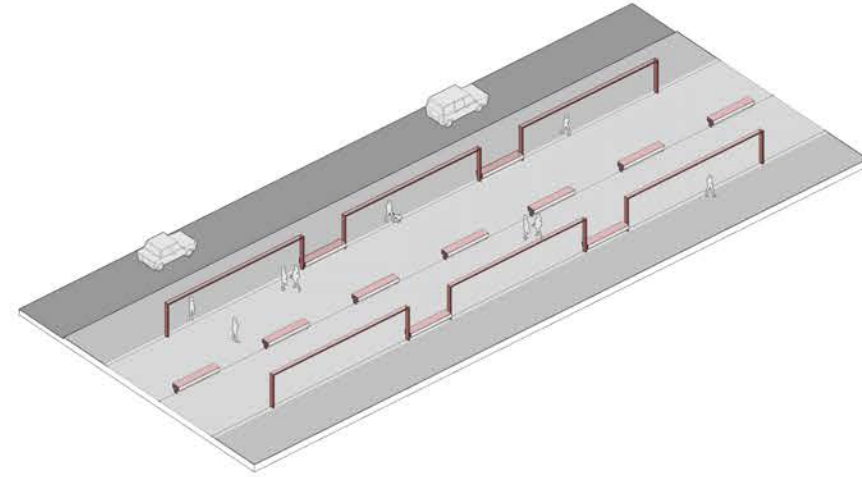
Non-regulated spaces are fluidic spaces with blurring boundaries. The boundary is not binary identities but gradients.



Elevated Boundary Installation



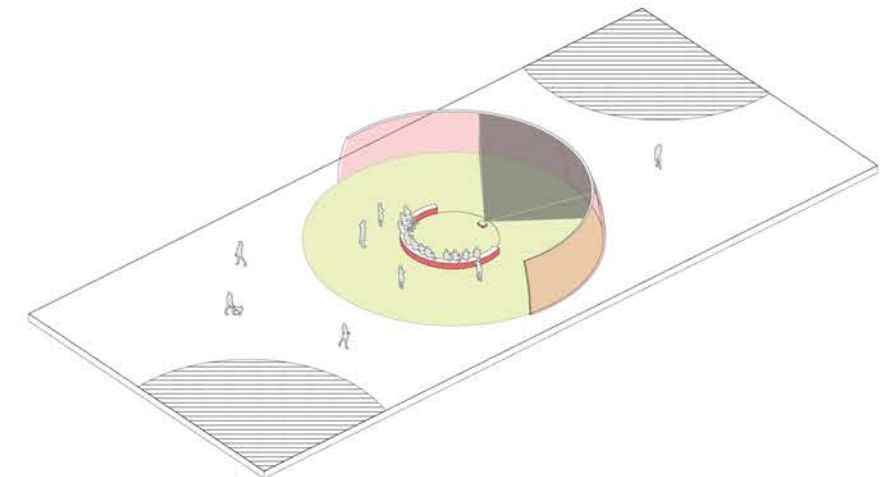
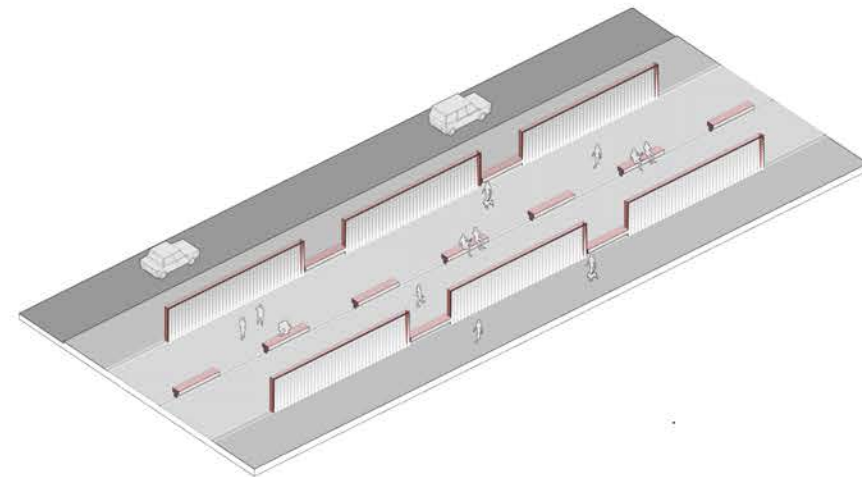
Louwer Boundary



Blurring boundaries

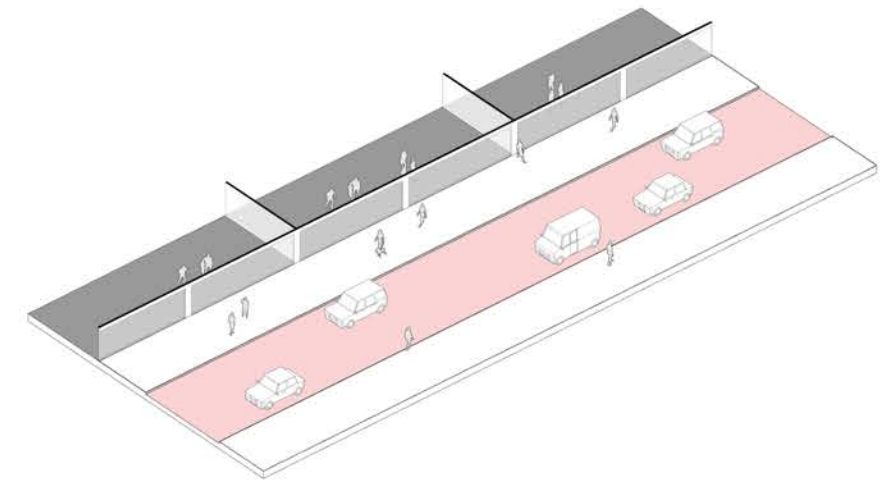
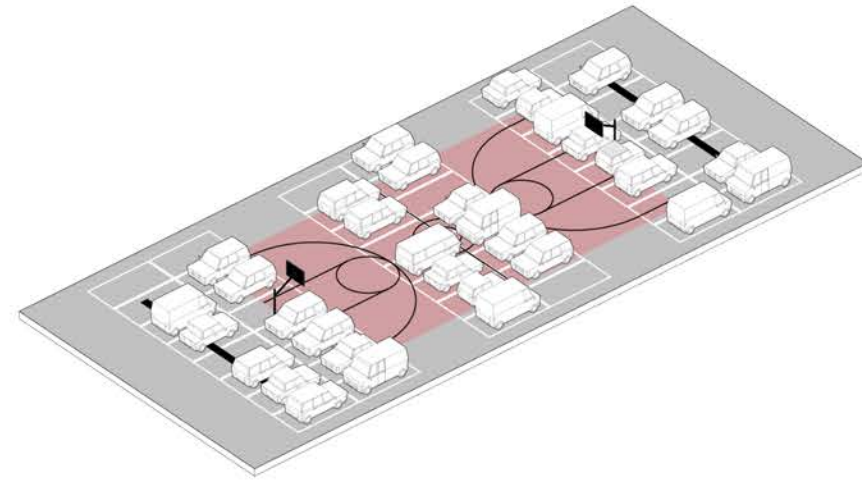
Space Convertibility

Their boundaries come and go, without disturbing the site entity, which could be ideal spaces to allow “drifting” and provide more public spaces in various aspects.



Water Curtain Boundary

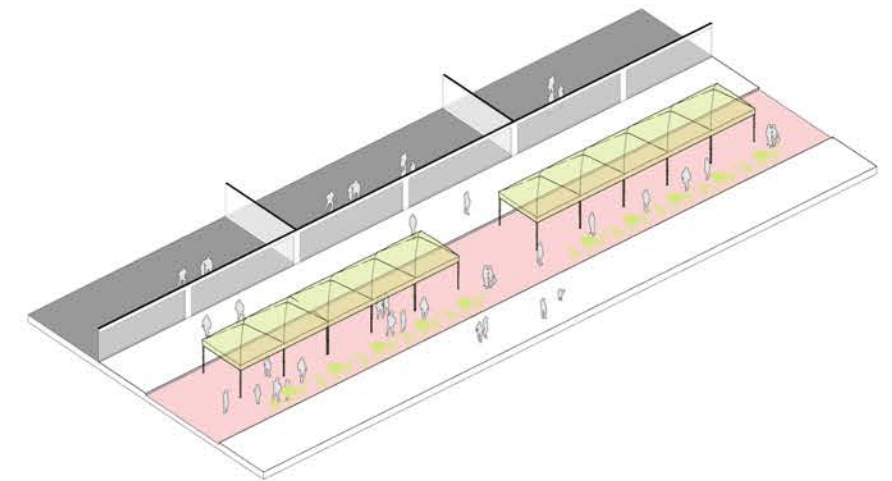
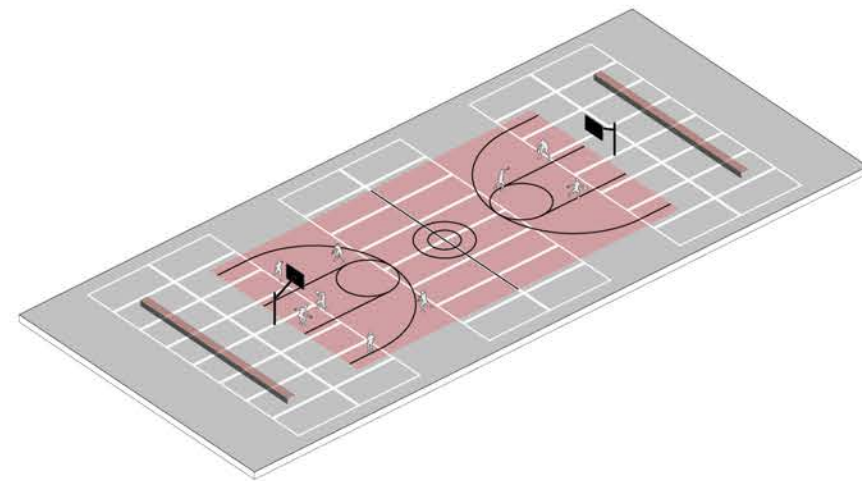
Slidable, rotatable Boundary



Expanding Temporary Uses

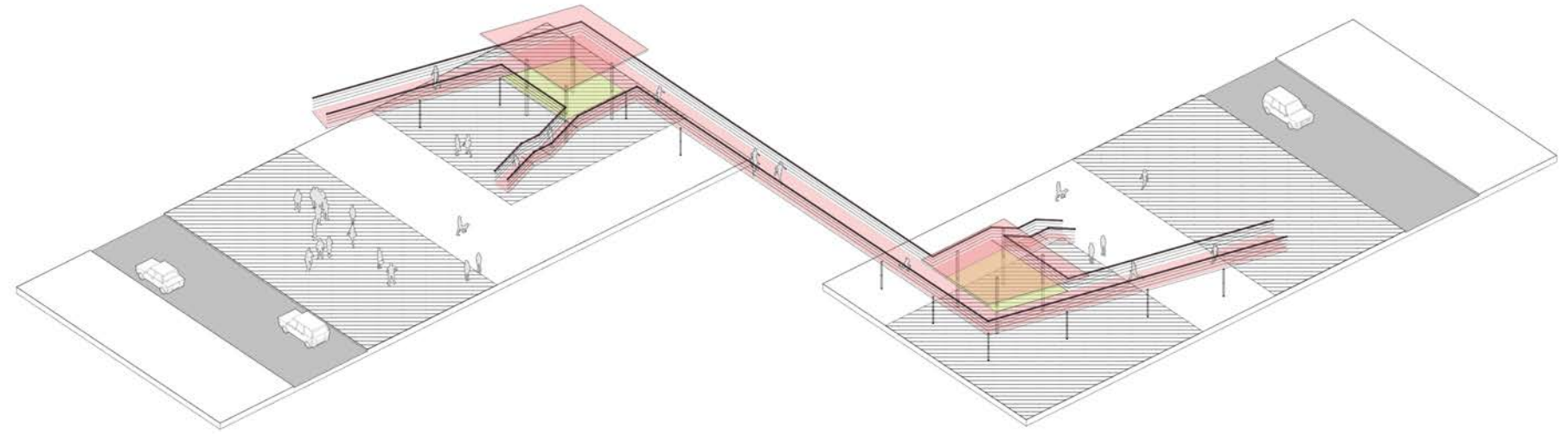
Versatility, Multifunction

Temporary spaces are much familiar to us in urban lives. They are spaces that allows diverse activities to happen in the dimension of time. They are not planned design spaces but are spaces in planned locations allow multiple temporary activities to happen.



Parking and Sport Spaces Drifting

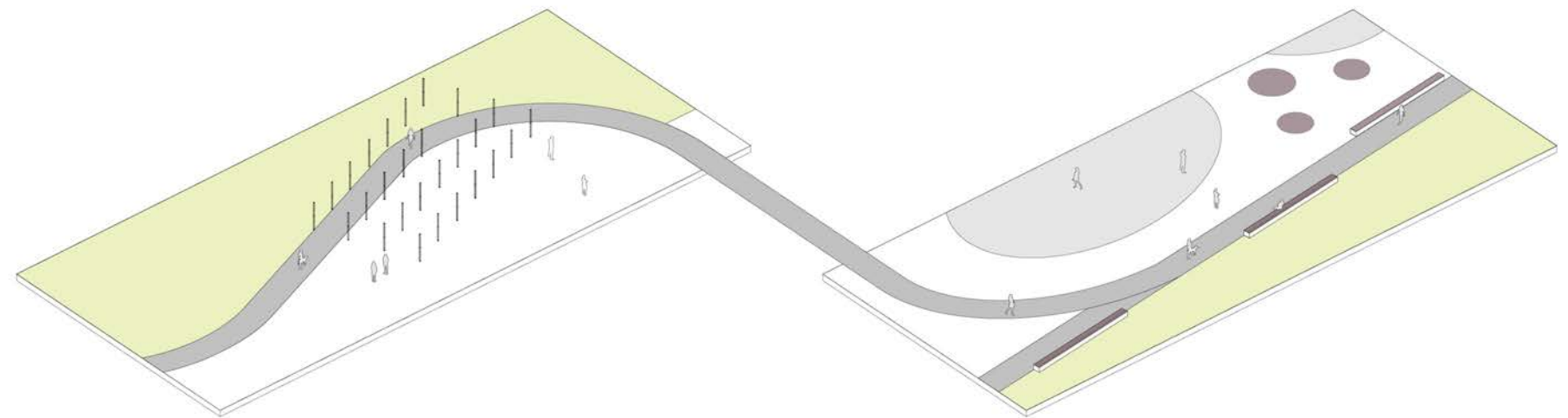
Minor Driveway and Festival Activity Space Drifting



Connecting Separated Spaces

Linkability

Regulated spaces are base tone of fields. For one thing, they serve as stable functional space in certain area. For another, they build fixed flows among different fields, make them connect to each other.



Parking and Sport Spaces Drifting

Minor Driveway and Festival Activity Space Drifting

An aerial, black and white photograph of a city skyline. The foreground shows a river with a bridge, a park area with trees, and a large building. The middle ground is filled with various skyscrapers and buildings of different heights and styles. The background shows a hazy horizon. The text 'Chapter 4' and 'Site Analysis and Field Proposal' is overlaid on the left side of the image.

Chapter 4

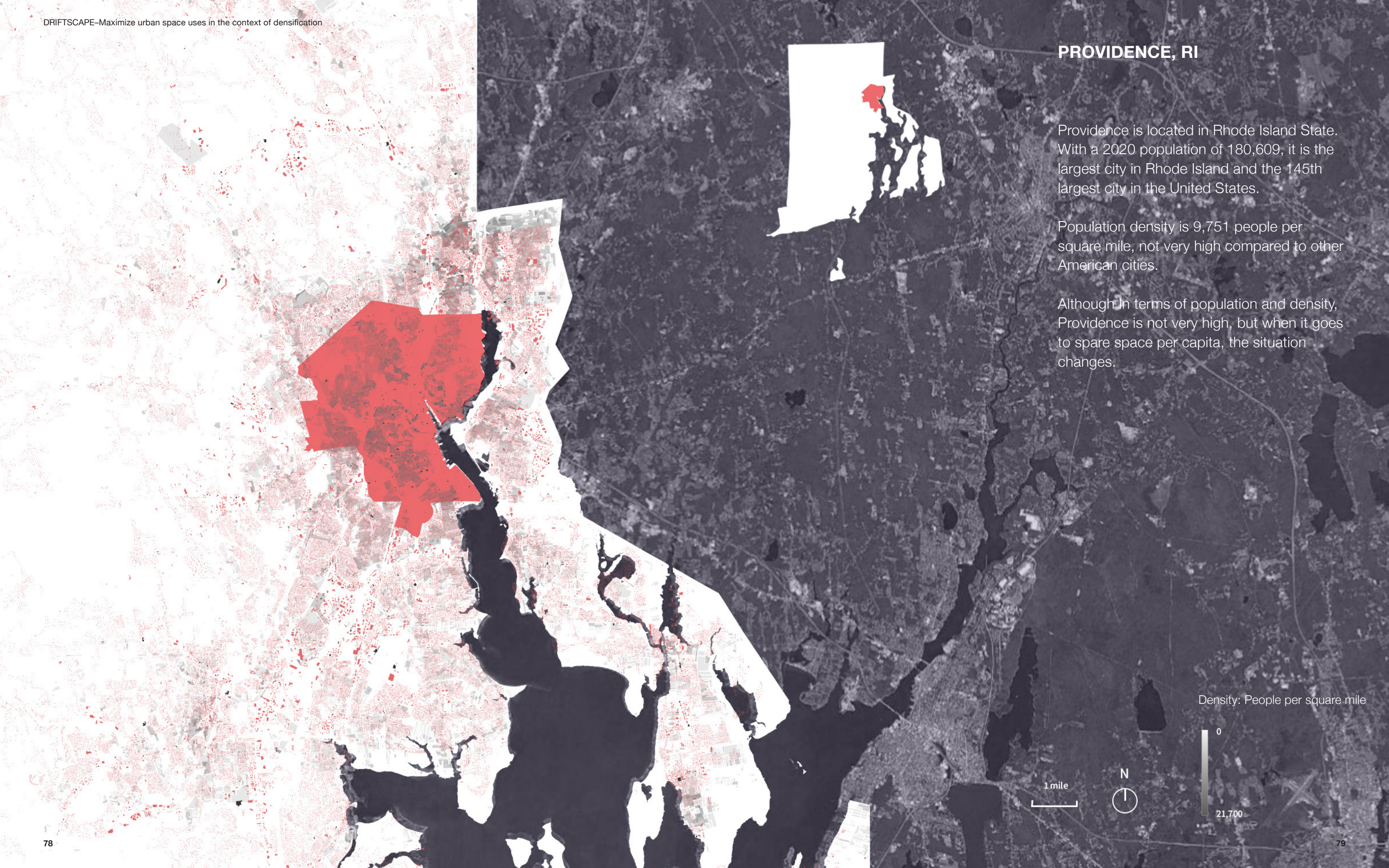
Site Analysis and Field Proposal

PROVIDENCE, RI

Providence is located in Rhode Island State. With a 2020 population of 180,609, it is the largest city in Rhode Island and the 145th largest city in the United States.

Population density is 9,751 people per square mile, not very high compared to other American cities.

Although in terms of population and density, Providence is not very high, but when it goes to spare space per capita, the situation changes.



Density: People per square mile



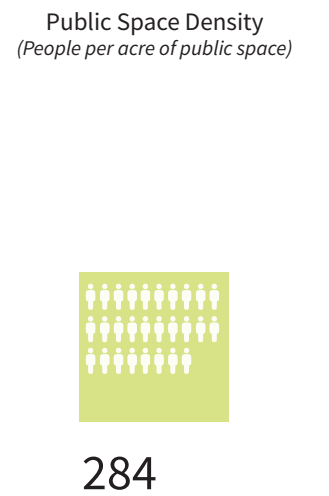
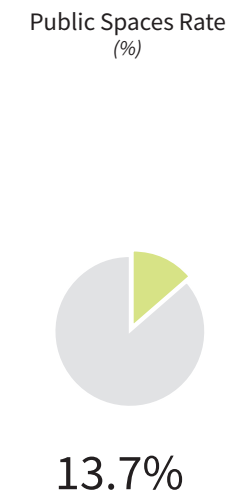
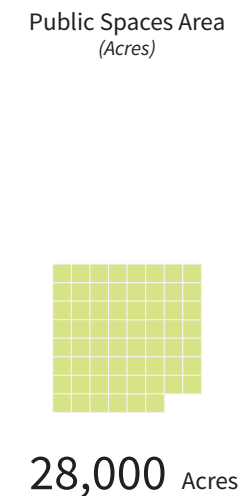
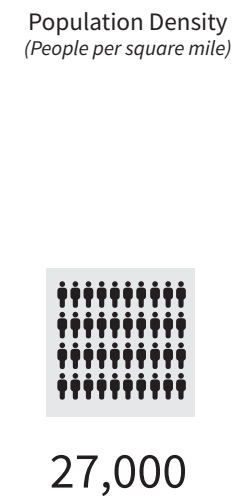
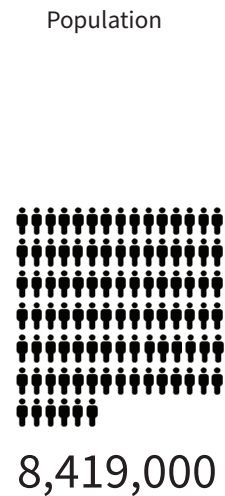
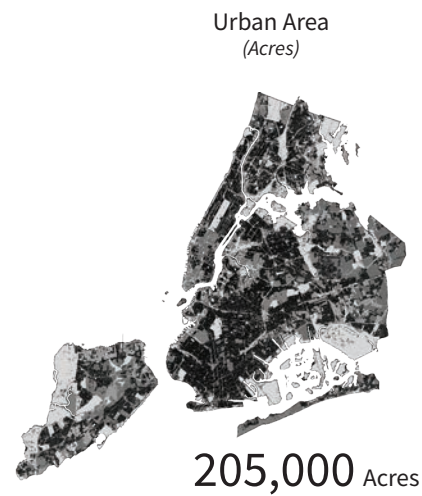
1 mile



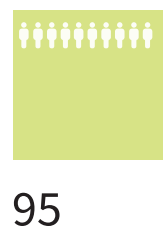
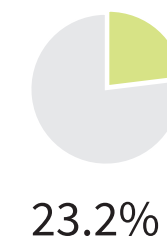
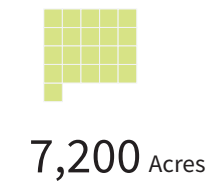
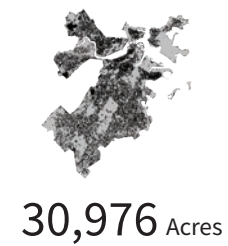
City data comparison

Is Providence dense?

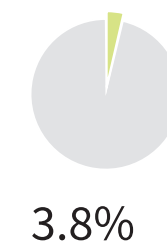
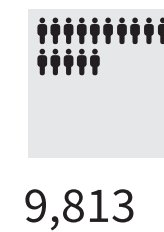
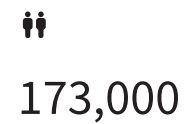
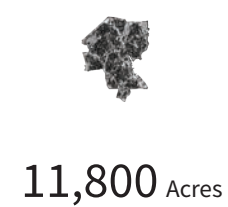
NEW YORK



BOSTON



PROVIDENCE



Compared with New York and Boston, Providence has a fewer area and population density, but because of the lack of public open spaces, the density of participants in public spaces is 30% higher than New York and 3 times higher than Boston.



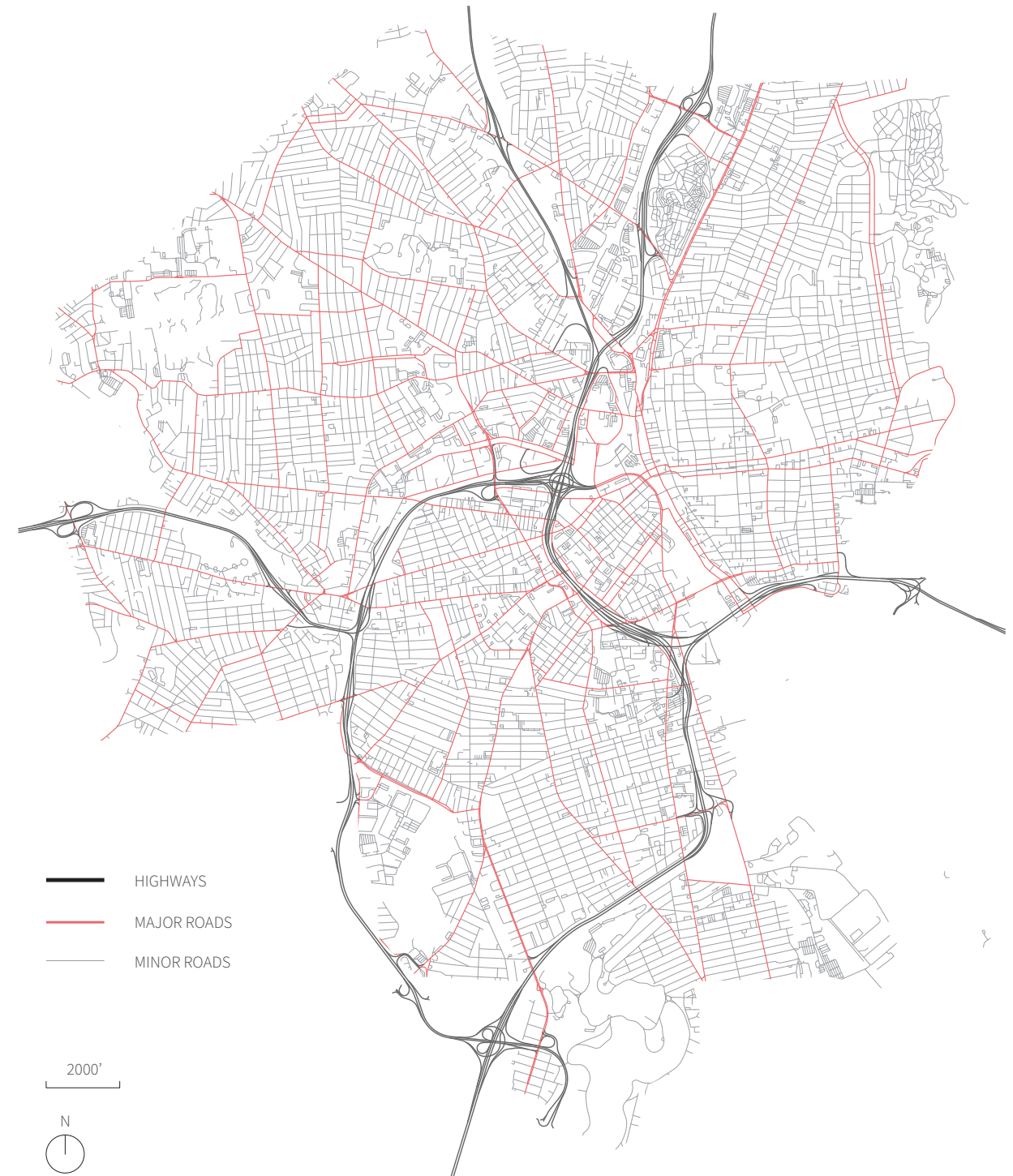
City data comparison

Space, especially parking space in Providence is experiencing binary usage switch. The usage of such space could be extremely full and empty during daily and weekly times. In terms of addressing the issue of the densification, maximize the usage in these spaces could be critical.

Larger scale space and density analysis

City Circulation

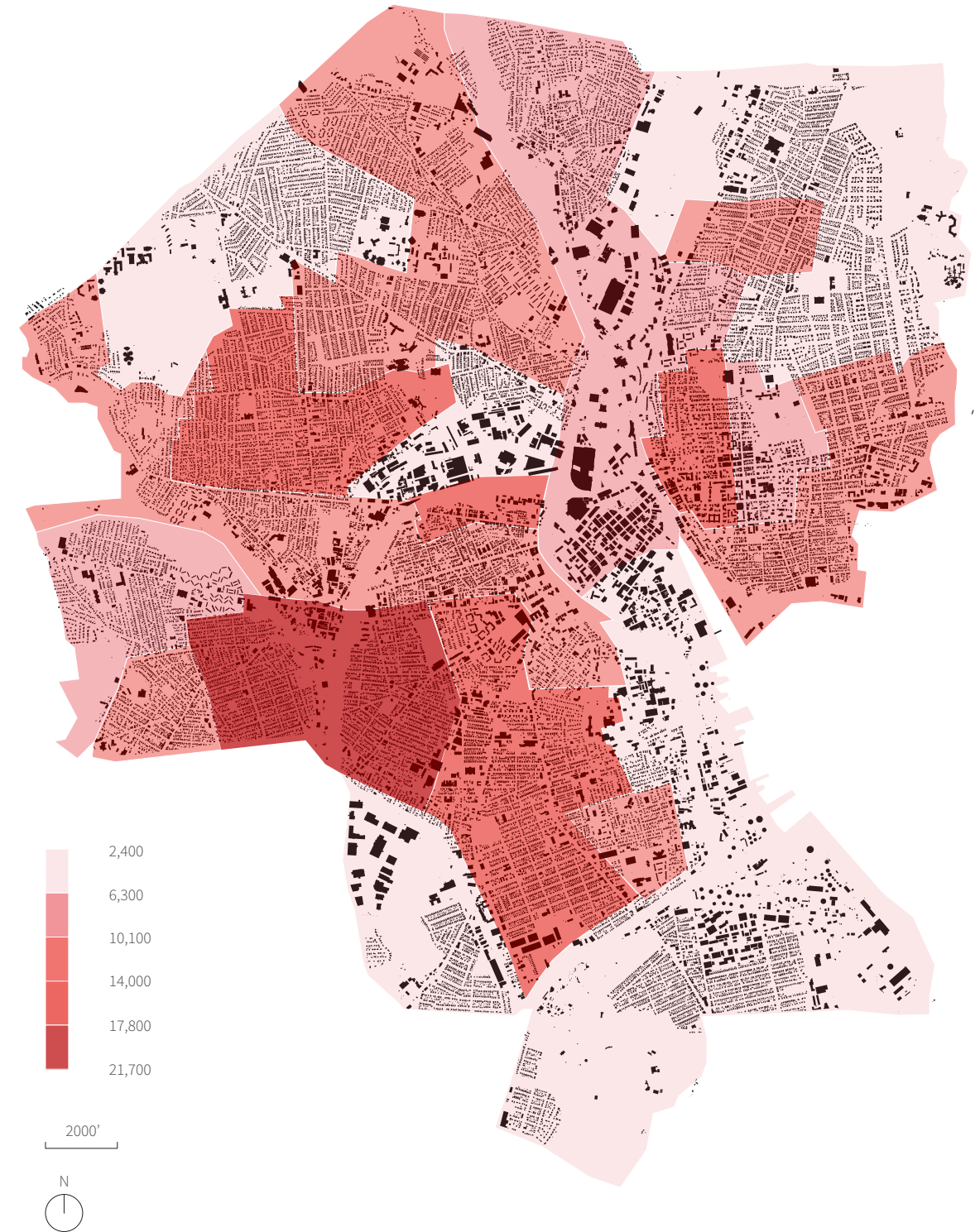
Circulation is one of the most important basic tones that affect the density flows and distributions. Highway I95 goes through Providence since 1957, it caused the division of Federal Hill District and Downtown District. Main roads are more regular and dense in Downtown area compared to Federal Hill and College Hill.



Density distribution

As shown in the density analysis, the most dense area is North-west of Federal Hill Community-West End. Because of the land use, Downtown area density is relatively lower than other neighborhood districts.

Federal Hill/West side is a medium density neighborhood within the city with mixed single and multi-family homes. The mixed zoning and diverse people are the key features there. Downtown is in a different situation. It contains a more floating population, and as the center of the urban area, it assumes more public functions.



Public space distribution

The total public space in Providence is approximately 451 acres. More than 80% of them are distributed in the suburban area and not accessible for urban citizens during daytime: Roger Williams Park, golf lands, and other waterfront spaces. There are far fewer sufficient open spaces for the Downtown and Federal Hill community to spend their spare time.



Proposed Districts in Providence

There are 3 districts in Providence which represent 3 different urban contexts and then apply the “drifting” strategy.

Federal Hill: Most densely populated district in Providence. Most land uses are community residential lands.

Downtown: Most dynamic district in Providence. Commercial buildings dominate this area, accompanied with tidal-like parking lots and streetscapes.

College Hill: Relatively different from other 2 districts. It has more college students and high-income communities



Design Area

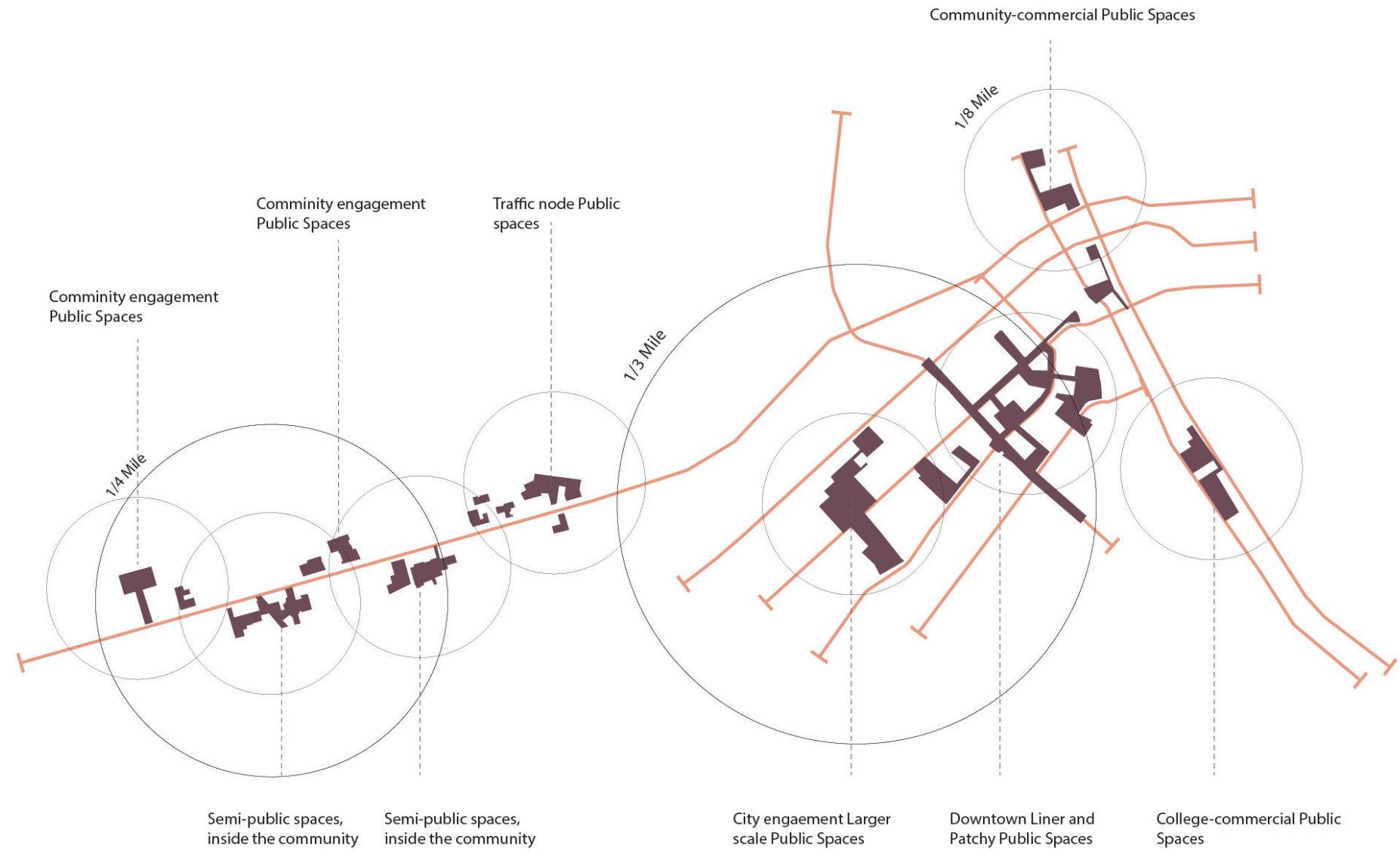


Potential Spaces

The proposed site covers Federal Hill, Downtown and West College Hill.

Federal Hill is a more community engaging area.

Downtown and west College Hill are more open and public for diverse citizens.



Density Condition and Purposed Space

Following the analysis of city density and land use condition, the design area is located along the main street and enclosed space in the city.

It could not only makes the “Drifting” happen in specific field, but also generate a system in larger scale,



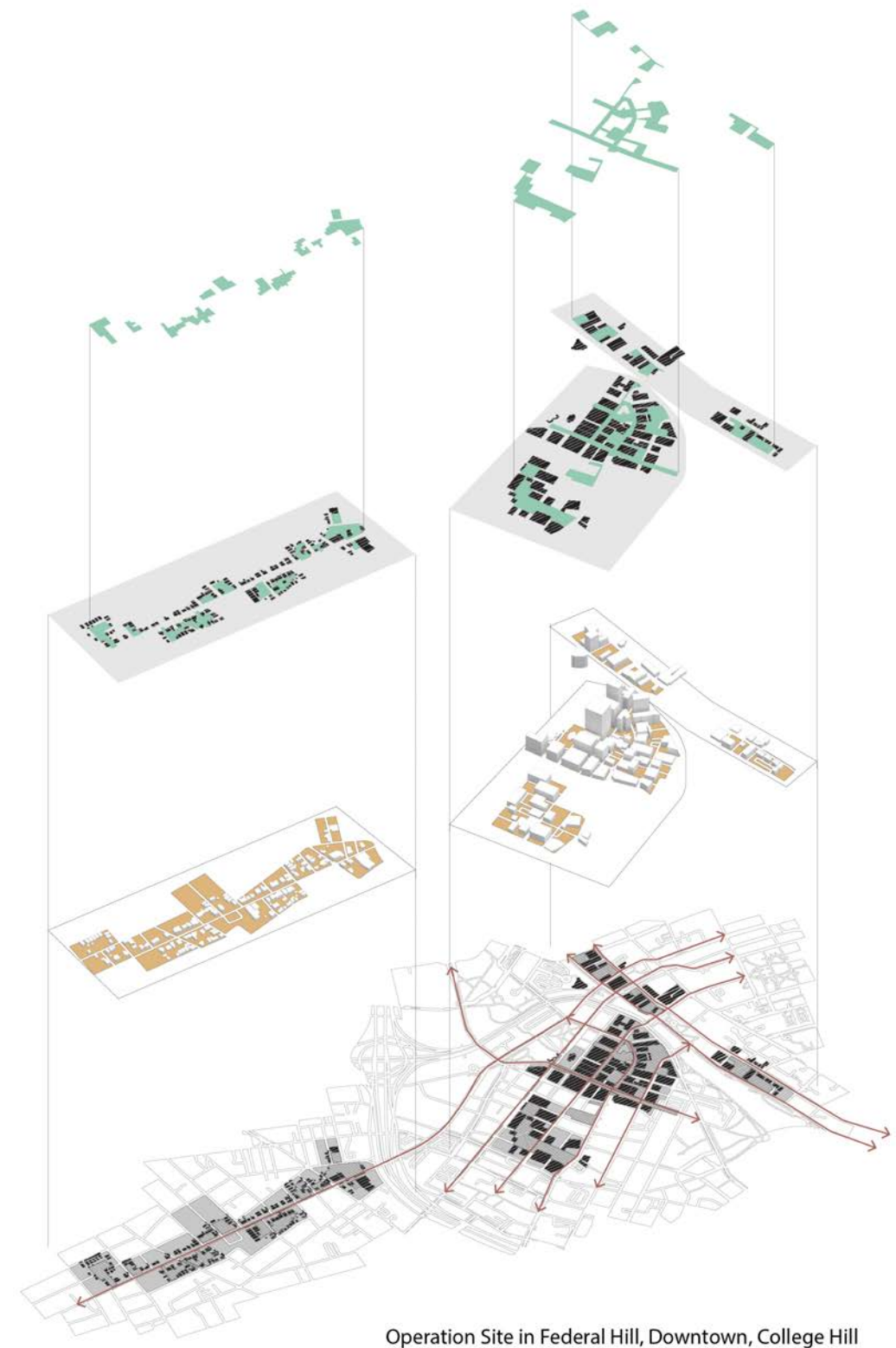
SITE LAYERS

Federal Hill, Downtown and West College Hill.

Following the main city circulation and their surrounding city blocks, the proposed site mainly located in the area enclosed by buildings.

The design spaces are like small driftscape islands, together they form an urban “archipelago”.

Detailed design starts with the Federal Hill community area.



Operation Site in Federal Hill, Downtown, College Hill

Chapter 5

Design Visions





Design Visions
Federal Hill



The Providence Warwick Convention & Visitors Bureau, PROVIDENCE NEIGHBORHOODS, Federal Hill



Community Vecant Lot

Ground covered by grass, sometimes serve as parking space, baseball courts and Badminton area



Commercial Public Parking

Hard surface, Bakery store parking lots, Army company parking lots.



Internal Private Space

Hard surface
As private parking area



Internal Private Space

Hard surface
As private parking area



Big Vecant Space

Hard surface, poor surface condition, ruderal landscape area. Mostly vacant, sometimes used as parking spaces



Internal Private Space
Mostly Softsurface
Private parking and garden area



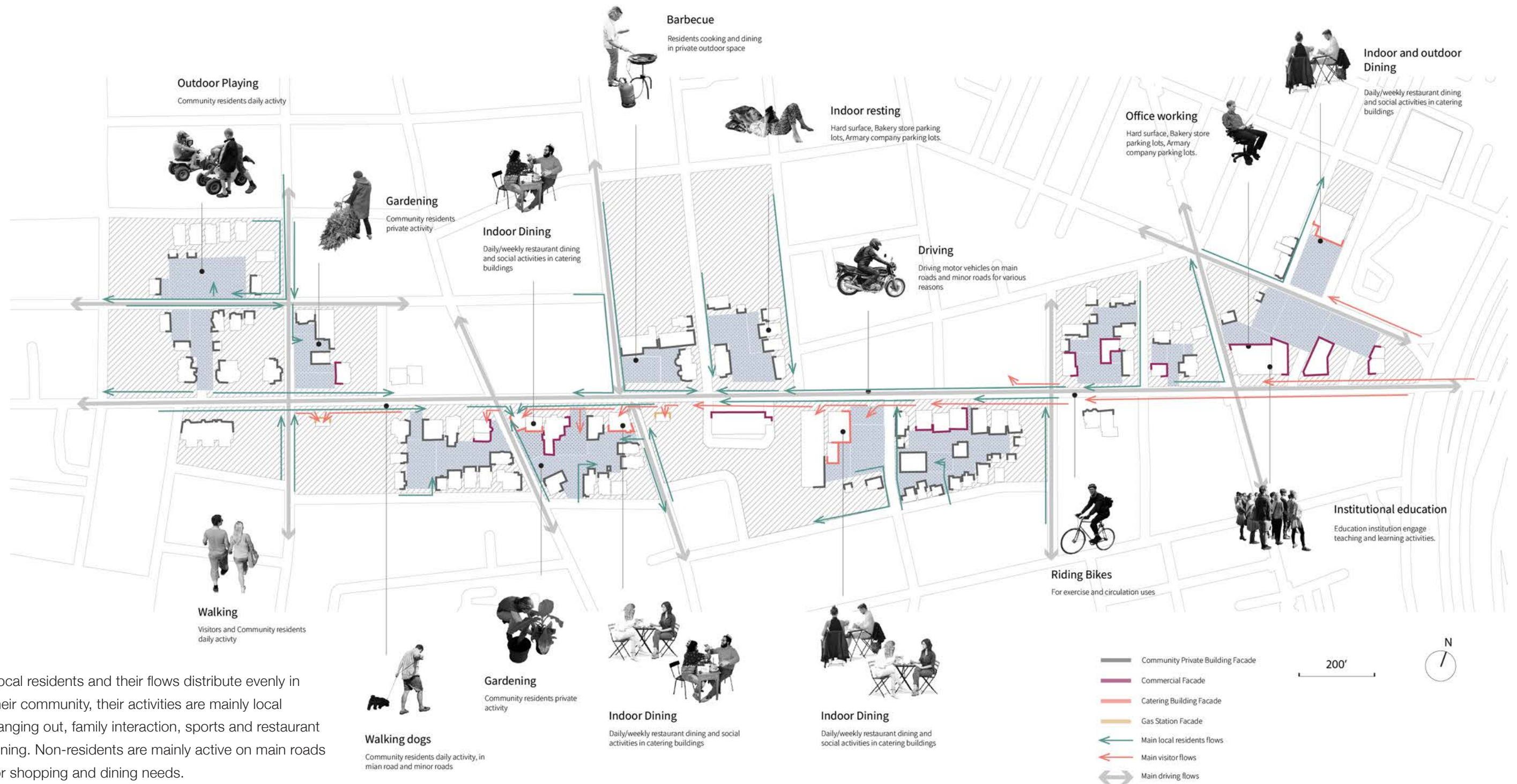
Internal Private Space
Hard surface with soft surface
Private parking and garden area



Restaurants Public Parking
Hard surface
Mostly 90% parking spaces are vacant

- Private Parking Lots
- Public Parking Lots
- Private Community Spaces
- Vecant Lots





Local residents and their flows distribute evenly in their community, their activities are mainly local hanging out, family interaction, sports and restaurant dining. Non-residents are mainly active on main roads for shopping and dining needs.

Community Parking-Sports Hybrid Fields

- Temporary space allows parking uses and sport activities
- Running path through whole area
- Rotateable boundary separate and merge spaces

Typical Scale Community Space

- Rotateable boundary separate and merge spaces for multiple uses
- Liftable infrastructures on public plaza

Internal Community Area

- Temporary space. Shift from parking spaces to sports courts.
- Liftable infrastructures for seat and various activities.

Parking-Plaza Drift Space

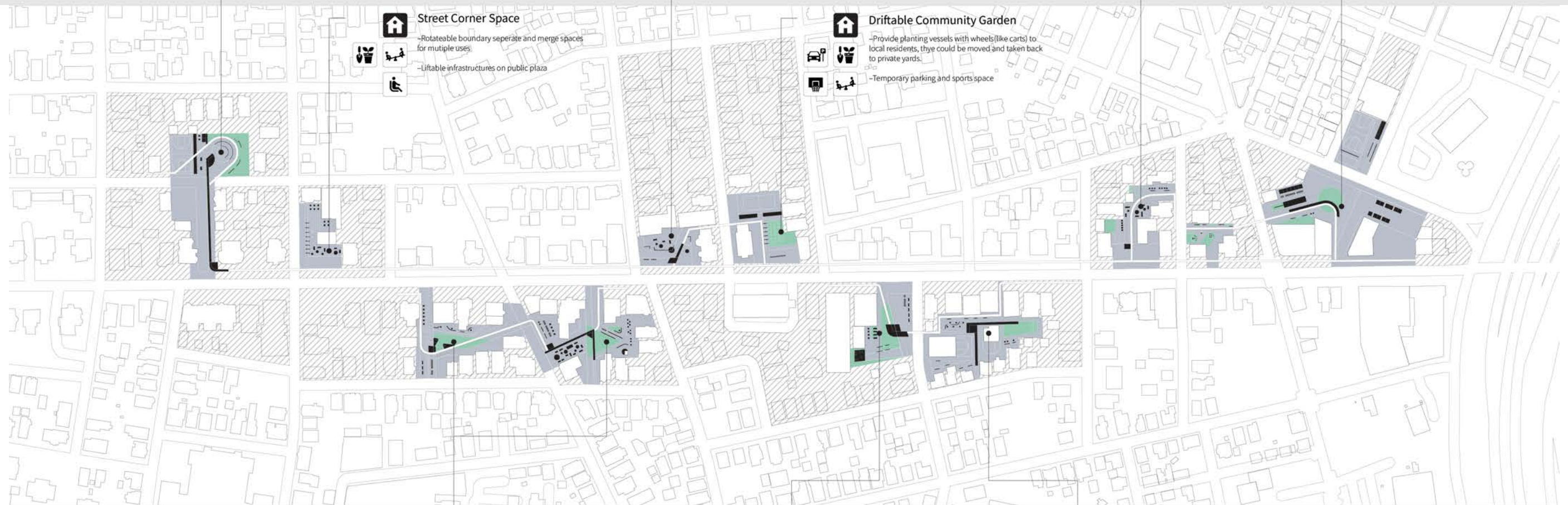
- Temporary space allows parking uses and sport activities
- Running path through whole area

Street Corner Space

- Rotateable boundary separate and merge spaces for multiple uses
- Liftable infrastructures on public plaza

Driftable Community Garden

- Provide planting vessels with wheels (like carts) to local residents, they could be moved and taken back to private yards.
- Temporary parking and sports space



Community-Public Hybrid Area

- Temporary space which allow multiple activities and uses.
- Liftable lawn, boundary could shift and then separate and merge spaces
- Suspending structure connect spaces and separate ground and lifted activities

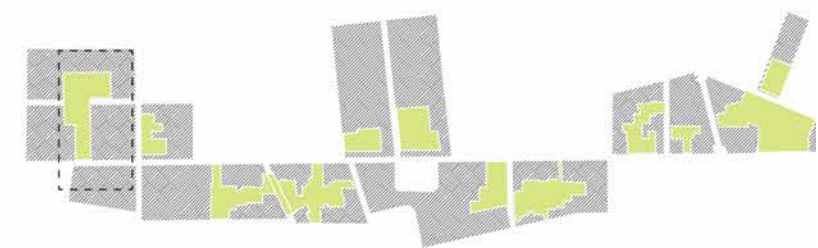
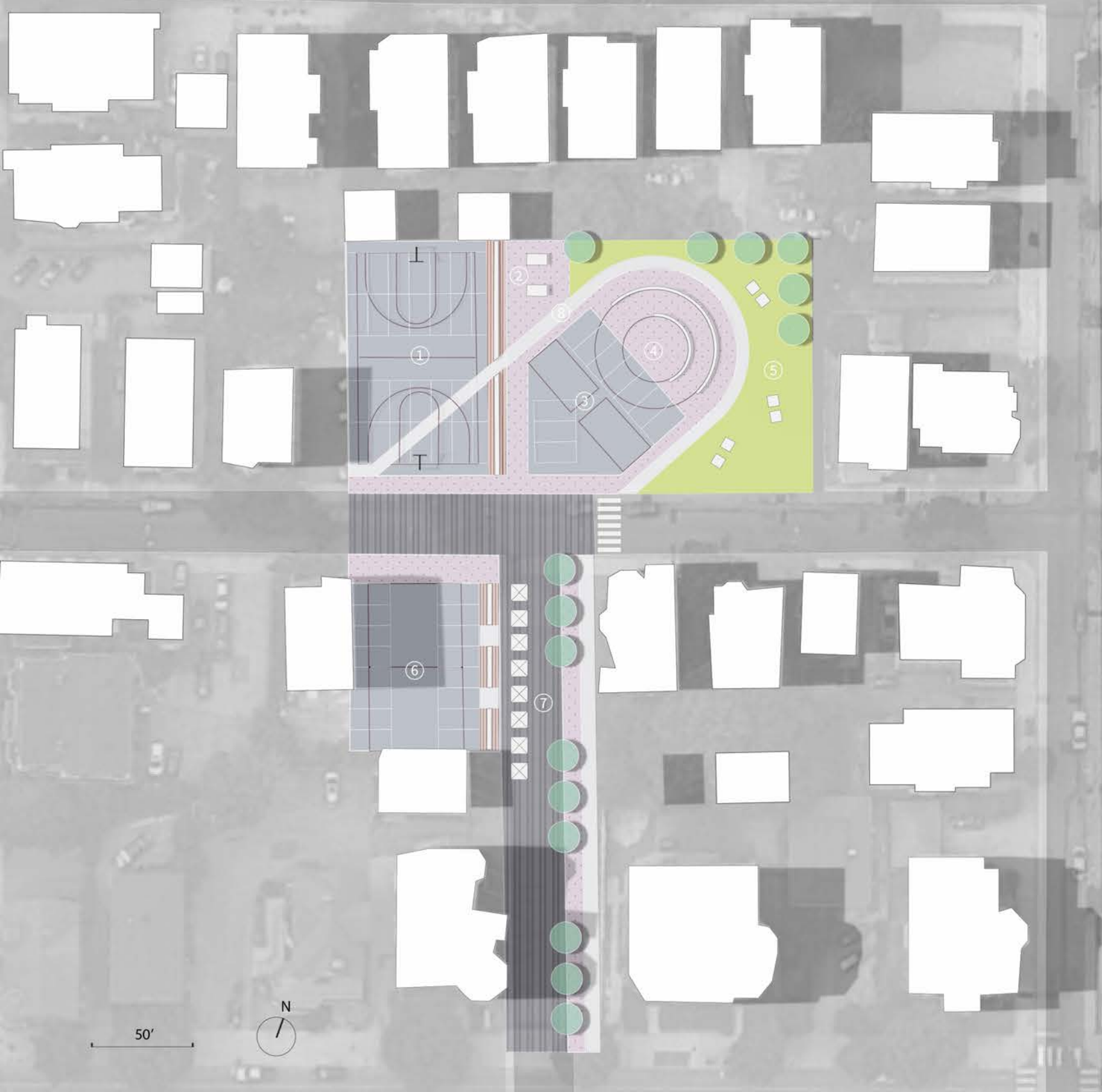
Commercial Engagement Area

- Public lawn, allow outdoor activities
- Temporary open space with movable infrastructures.
- Suspending platform

Internal Community Area

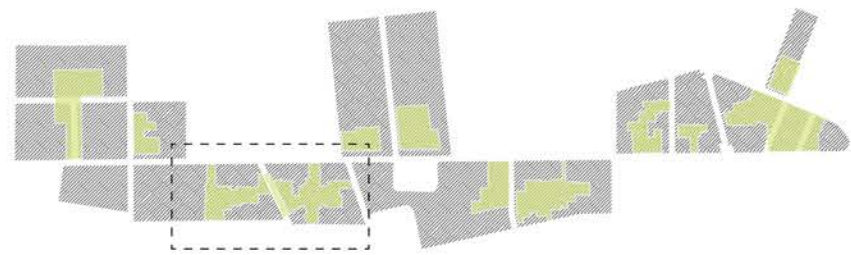
- Temporary space. Shift from parking spaces to sports courts.
- Liftable infrastructures for seat and various activities.





- 1. Temporary Space I**
Parking Lots--Basketball Courts
- 2. Table tennis Field and Rest Space**
Inner Space with movable table
- 3. Temporary Space II**
Parking Lots--Playground Fields
- 4. Outdoor theater**
Rotatable boundary--space shift from open space to enclosed space

- 5. Lawn**
Space for diverse resting and playing u
- 6. Temporary Space III**
Parking Lots--Tennis Courts
- 7. Temporary Space IV**
Driveway--Special events(Dining, Mark community guided activities)
- 8. Running Path**
Area connection and circulation uses



1. Temporary Space
Parking Lots--Interactive spaces--Other uses

2. Running Path
Field Connection

3. Lifiable Lawn
Lifiable boundary--change between Public and semipublic

4. Suspending Structure
Field Connection, lifted rest spaces

5. Private Community Space
Private area for residents

6. Interactive Plaza
Dry fountain, ground lighting and liftable pillars for public exhibitions

7. Temporary Space
Driveway--Festival space for activities and outdoor dining

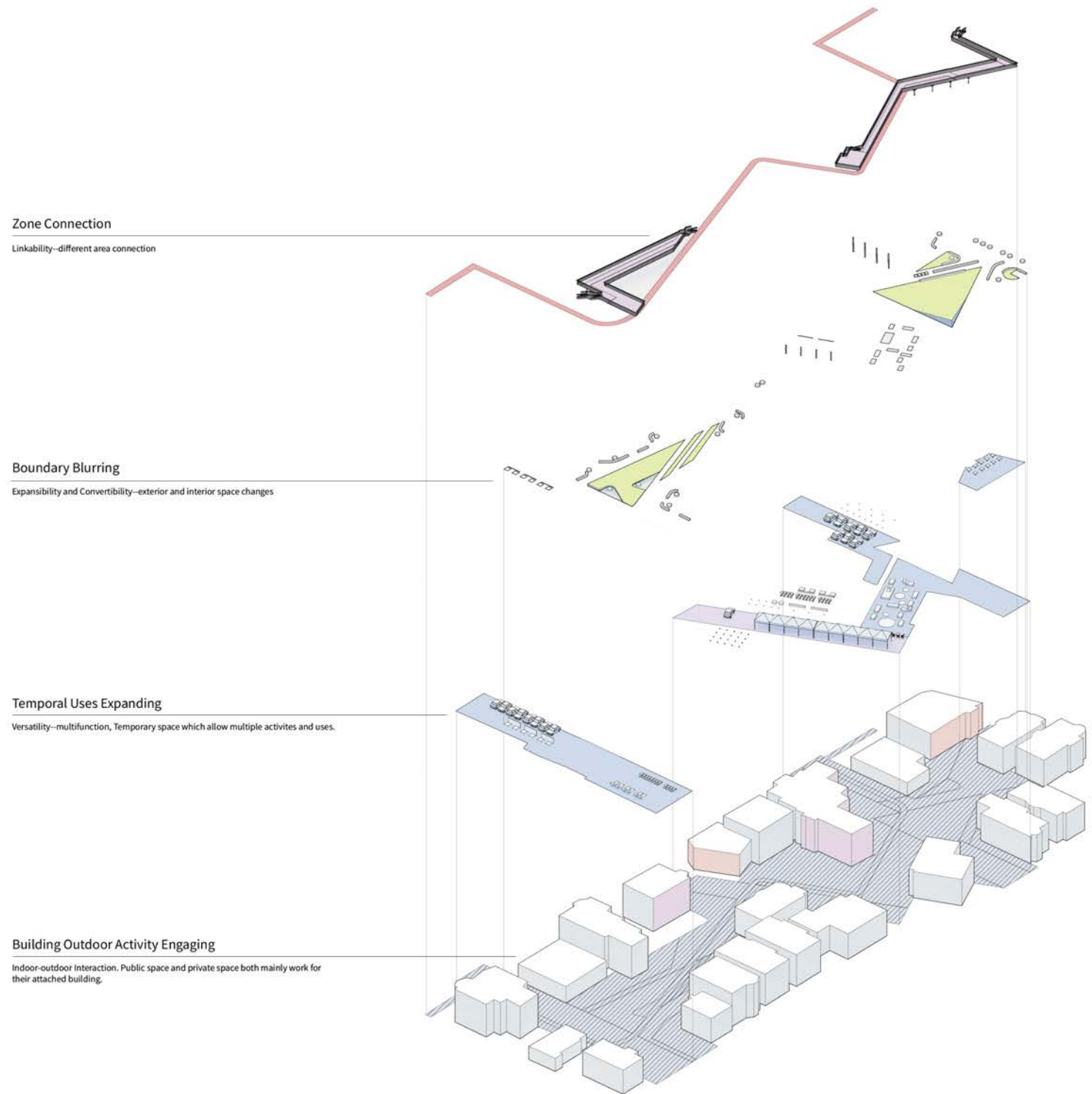
8. Building Attached Mutiuse space
Parking spaces--outdoor dining--gathering--others

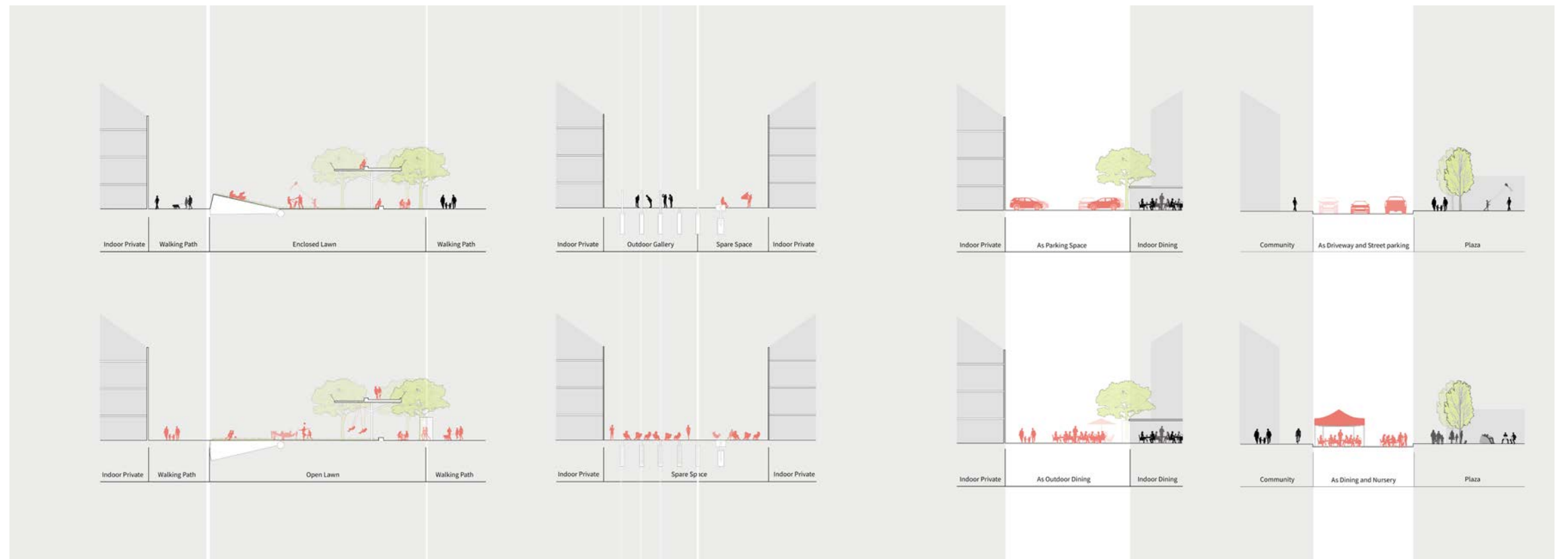


Principle Layers

The site modification aims to maximize the use of spaces by the principle of driftscape, which is Boundary Blurring, Temporal uses expanding, and Zone connection.

Changeable boundaries allow space shift among public-semi public-private uses, generating more potential spaces in the dimension of space types. Temporal use space is applied as the center of community events and social gatherings during off-work time. During the daytime, it could be used as a parking space on workdays, and in other off-work times, it could be used in multiple ways. Site connection is built through racing paths or suspending trails; they help guide circulation and provide a “free-way” for users to travel through different fields.





Principle Layers

The site modification aims to maximize the use of spaces by the principle of driftscape, which is Boundary Blurring, Temporal uses expanding and Zone connection.

TEMPORARY SPACE

Underground Lifting Structure being installed, allowing parking uses, festival events, rest seats and others.



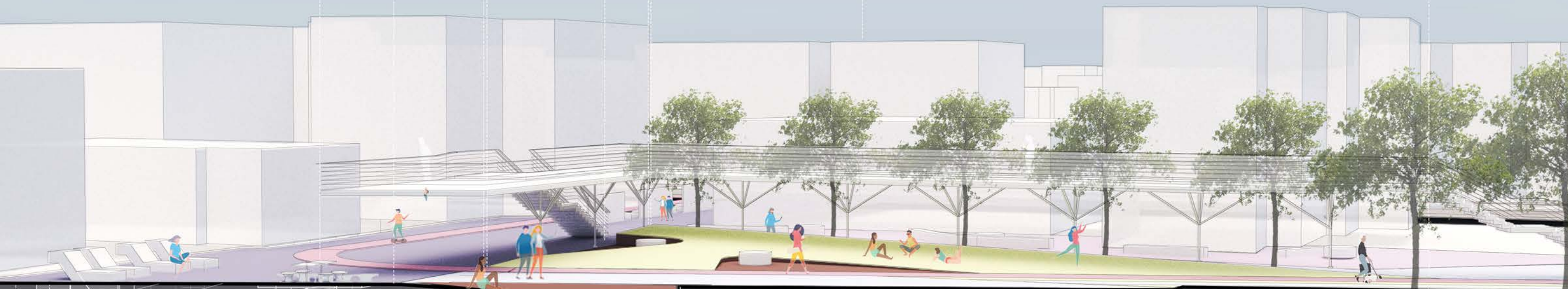
SUSPENDING SPACE

Provide a lifted circulation choice for participants. It connect the west and east of the site, works as express path and undisturbed rest space. Also provide canopy function which engage various ground activities.



CONVERIABLE BOUNDARY SPACE

The Lawn could lift and lower through the underground structure It provide a changeable boundary in north and west of the lawn. This could switch the lawn space from a totally open public space to a more community occupied space, which maximize the uses of the space.



Temporary Space

Sink Rest Area

Public/Semi-Public Lawn Area

Sink Rest Area

Underground Lifting Structure being installed, allowing parking uses, festival events, rest seats and others.

Community rest area, also could open to public in special events company with temporary space events

Coverisable boundary structures allow the whole lawn be raised and lowered at a vertical range from 0' to 4'. This structure could help the space convert form a totally open space to a semi open space and activate different activities.

Open Space near street for more public uses



TEMPORARY DRIVEWAY SPACE

Temporary space which could be occupied by neighborhood residents and local commercial groups, could hold festival events, farmer's market and urban nursery.

CONVERIABLE INSTALLATIONS & TEMPORARY SPACE

Underground Lifting Structure being installed, allowing parking uses, festival events, rest seats and other uses. Mainly for public uses, as plaza and gathering space.

CONVERIABLE BOUNDARY SPACE

Mainly function as a private or semi public lawn for surrounding residents to engage. With the converiable boundary, it could switch to an open lawn space in particular conditions such as festival events, sports games.



Temporary Driveway

Converiable Seat Plaza

Temporary Space

Blurring Boundary Space

Path

Underground Lifting Structure being installed, allowing parking uses, festival events, rest seats and others.

Underground Lifting Structure being installed, allowing parking uses, festival events, rest seats and others.

Underground Lifting Structure being installed, allowing parking uses, festival events, rest seats and others.

Underground Lifting Structure being installed, allowing parking uses, festival events, rest seats and others.



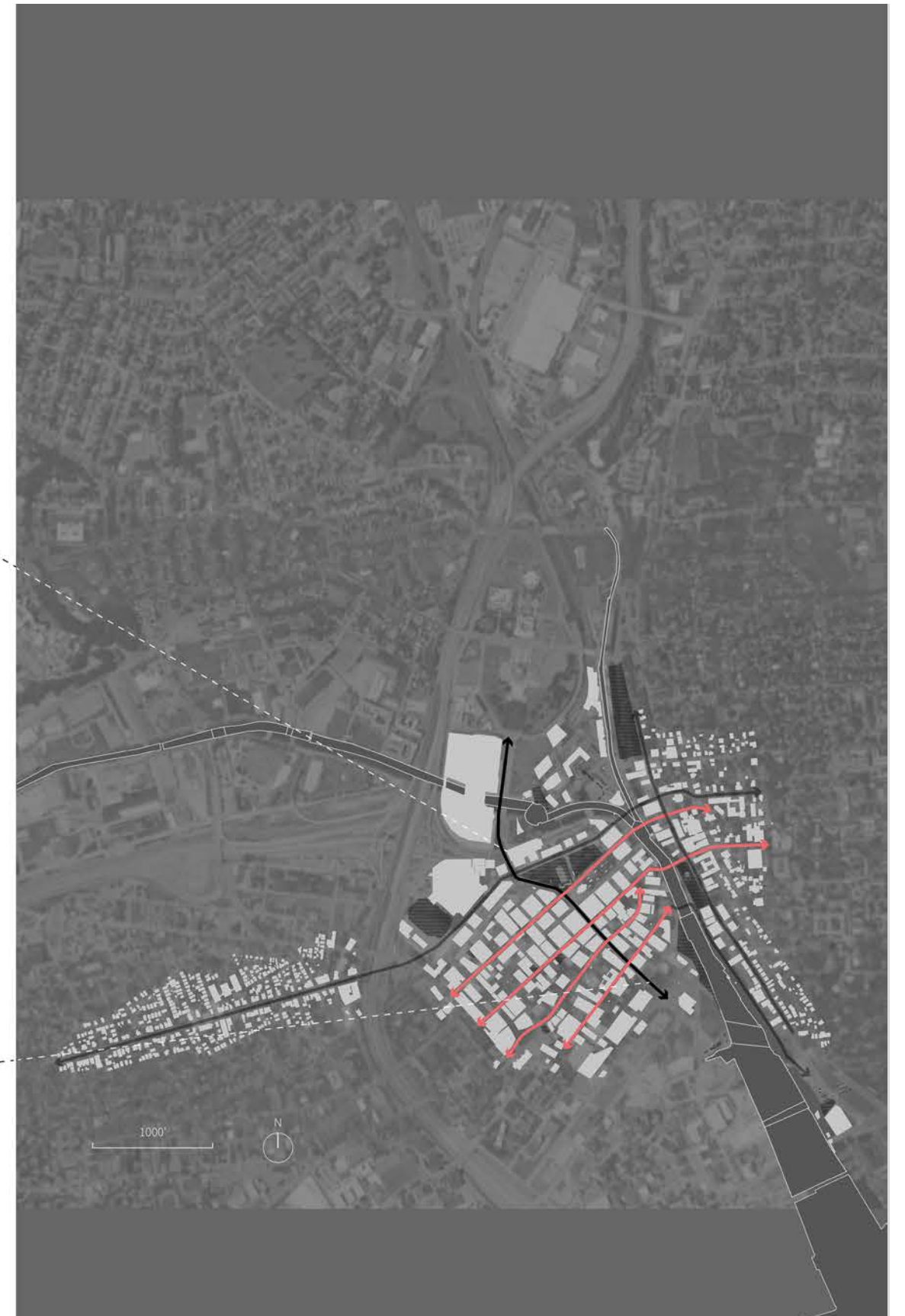
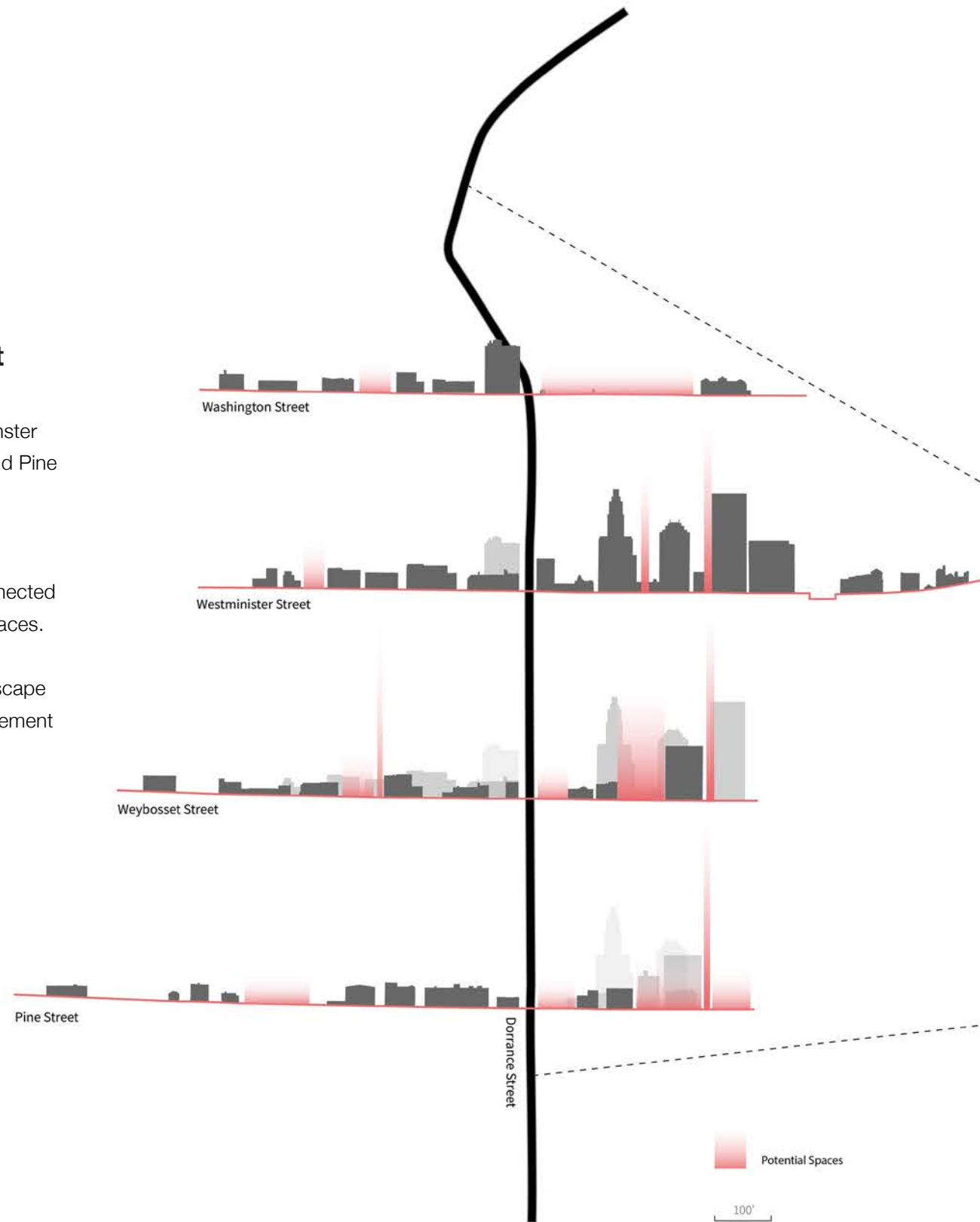


Design Visions Downtown

Downtown district

Washington Street, Westminster Street, Weybosset Street and Pine Street are 4 main street in Downtown.

They could possibly be connected together through Drifting spaces. Which would stimulate the development of a new landscape system that fulfills the requirement of public spaces.





Washington St



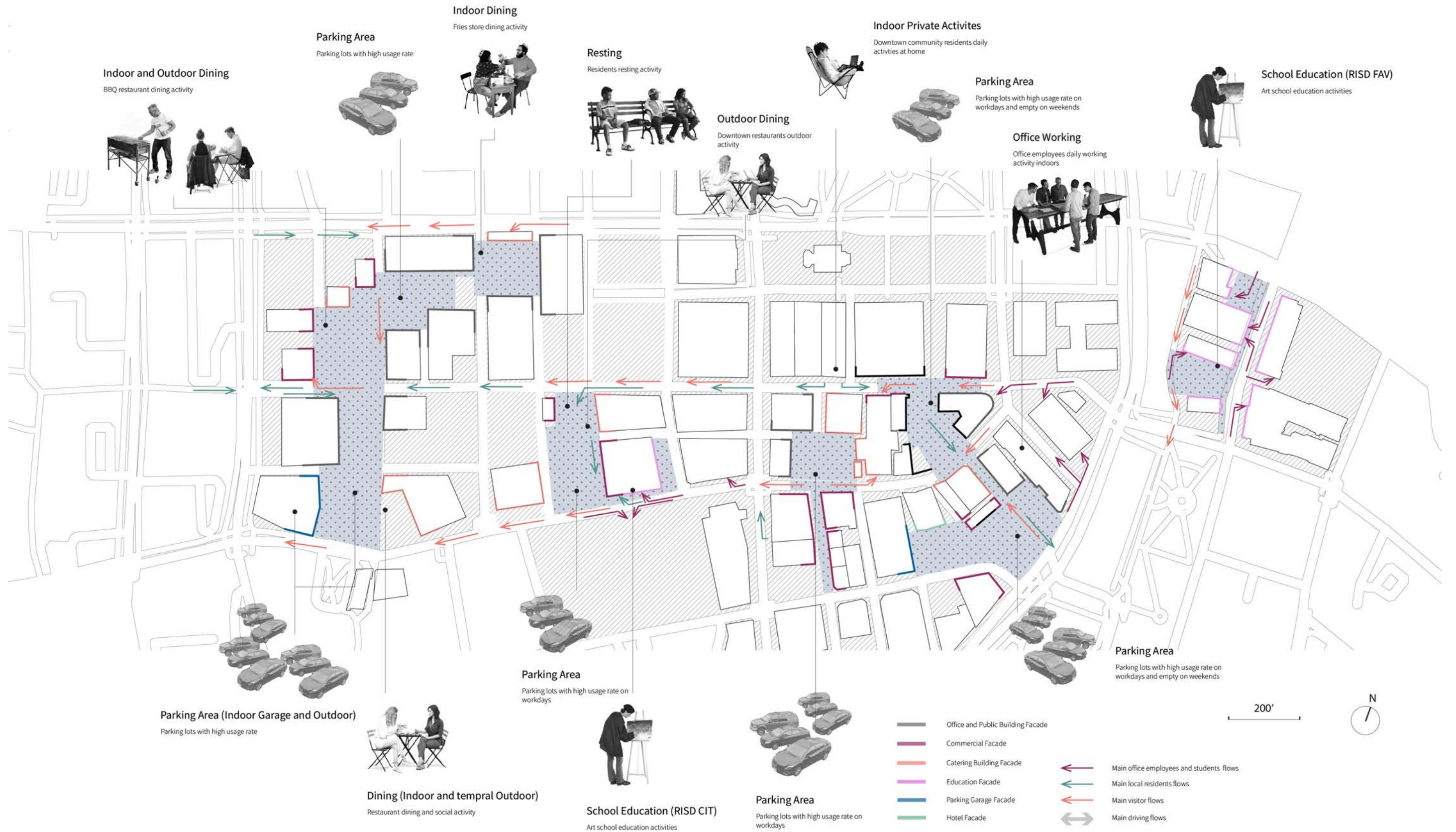
Weybosset St Parking Lot



Pine St parking Lot

Building facades and figure-ground analysis







Commercial and Office Hybrid Fields

- Temporary space allows parking uses and sport activities
- Suspending Path around area
- Boundary-shiftable structures separate and merge spaces



Parking-Sports Hybrid Fields

- As temporary space allows parking uses and sport activities
- Running path through whole area
- Hard surface sports activities--Basketball, tennis, skateboard



Parking-Commercial Hybrid Fields

- Temporary space allows parking uses and social, commercial and community activities
- Rotateable, liftable boundaries separate and merge spaces



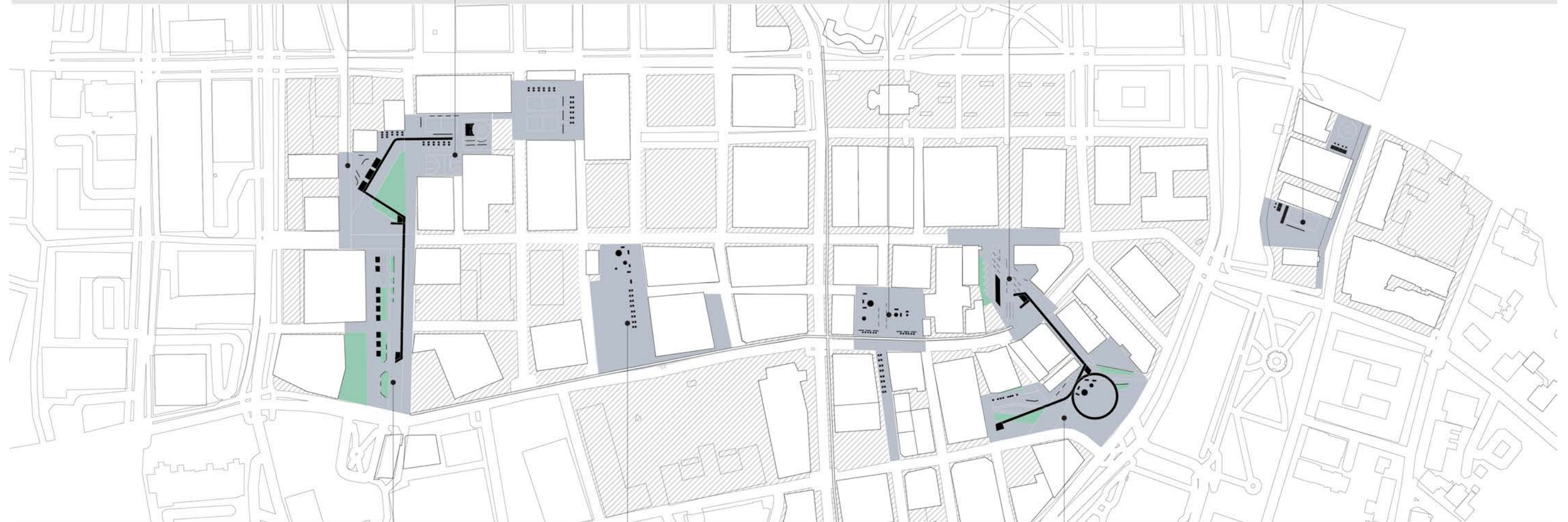
Parking-Plaza Drift Space

- Temporary space allows parking uses and social activities



College Teaching and Sports Hybrid Fields

- Temporary space allows outdoor critic and sports activities
- Rotateable and liftable boundary separate and merge spaces for student uses



Community-Commercial Hybrid Fields

- Temporary space allows parking uses and outdoor dining, social gathering activities
- Running path through whole area
- Movable and interactive boundary separate and merge spaces



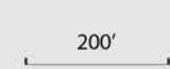
Parking-Community Hybrid Fields

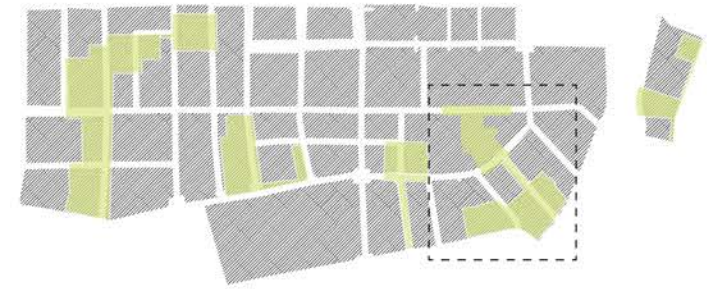
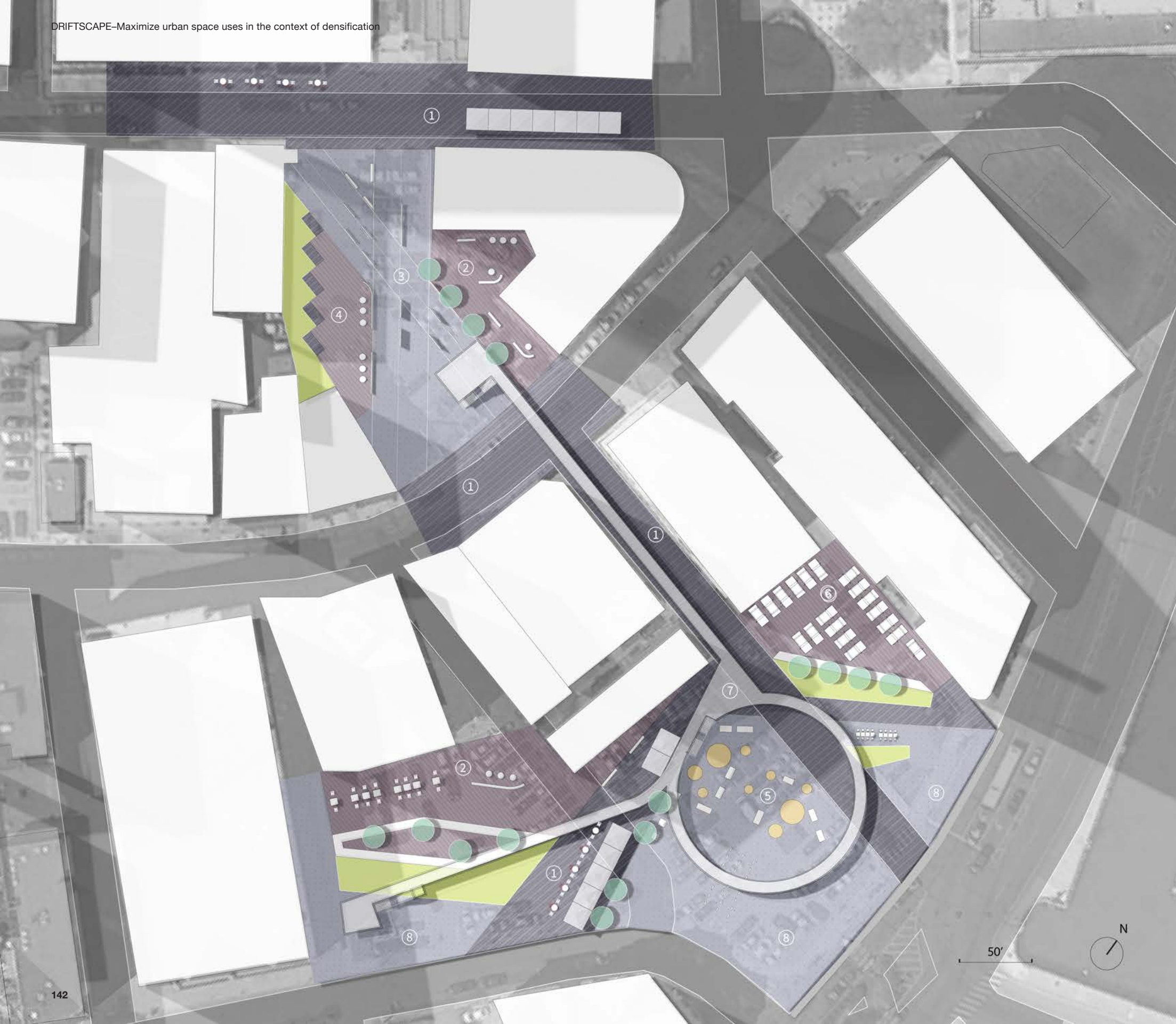
- Temporary space allows parking uses and social, commercial and community activities
- Rotateable, liftable boundaries separate and merge spaces



Parking-Plaza Hybrid Fields

- Temporary space allows parking uses and social activities, weekly markets and events
- Suspending path
- Ground paving and changeable boundaries separate and merge spaces





1. Temporary Space

Driveways--Interactive activities--Events holding, Outdoor dining, Marketing

2. Building Attaching Space

Regulated resting and gathering space

3. Boundary Blurring Space

Liftable and rotatable boundary--switch between parking space to gaming space.

4. Gaming Space

Changeable Activity box--Truck Box

5. Temporary Space II

Parking Lots--Interactive spaces

6. Temporary Space III

Parking Lots-- resting spaces for office building

7. Scaffolding Suspending Path

Field Connection, lifted rest spaces

8. Open Gathering Space

Space for pedestrian user gathering and big social activities

Principle Layers

In Downtown area, the principle of driftscape: Boundary Blurring, Temporal uses expanding and Zone connection is also used to generate a higher efficient space use.

In the Downtown area, the principle of driftscape: Boundary Blurring, Temporal uses expanding and Zone connection is also used to generate a higher efficient space use.

Same as Federal Hill site design, changeable boundaries like rotatable walls and installations allow space shifts between gathering space and circulation path, generating more potential spaces in the dimension of space types. Temporal use space mainly works as parking space on workdays during the daytime, and in other off-work times, it could be used in multiple wayslike. Site connection is built through racing paths or suspending trails; they help guide circulation and separate different types of pedestrians and site users.

Zone Connection

Linkability—different area connection

Boundary Blurring

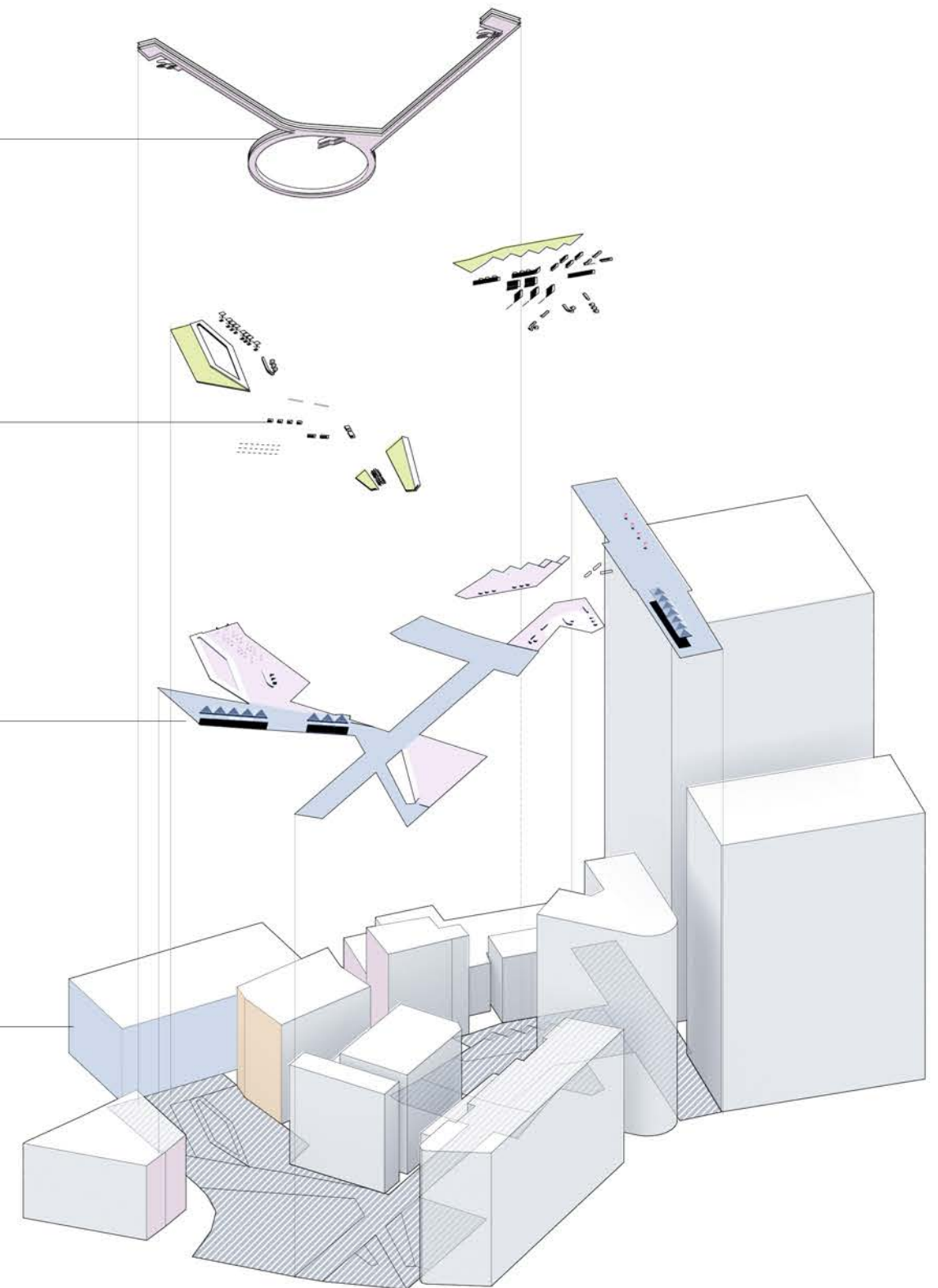
Expansibility and Convertibility—space scale changes

Temporal Uses Expanding

Versatility—multifunction, Temporary space which allow multiple activities and uses.

Building Outdoor Activity Engaging

Indoor-outdoor Interaction. Public space and private space both mainly work for their attached building.









Findings + Conclusions

Through studying in school and daily observation, I developed my own understanding of urban space. The urban system has a trend of continuous self-expansion, and at the same time, population flows and gatherings are happening in the opposite direction. In most large cities, the urban siphoning effect of urban resources on the population makes urban expansion and construction slower than the population growth rate. The asynchrony between these two speeds has led to the continuous increase of urban population density, which has also induced a series of. One aspect of the problem is the lack of green space per capita. As an element of the urban landscape, the importance of urban space is not only embodied in its role as an urban utopia that enables people to escape the hustle and bustle in the Olmsted period, but also in that it, as a part of the urban organism, allows people to participate through urban space. The city and the landscape are integrated into this unity, thereby improving people's quality of life.

The investigation of this thesis began with the daily observation of the sharp contrast between vacant and crowded in the same area of the city. It's interesting that people usually complain that there is nowhere to hang out, to take a short break, or to engage in a social event in their working and living urban environment. I noticed that the potential spaces are always there, waiting to be explored and utilized by us.

By exploring the possibility of urban spaces in the city of Providence in this thesis, "Driftscape" which has the feature of flexibility and diversity, could be critical in the

future of the landscape to address the density issue in big cities.

The research on the relationship between urban spaces and density conditions indicates that the scattered areas in-between urban context could motivate future changes.

Chapter one:

In the earlier chapter, I studied the existing problems of urban space and densification. The problem that is rising recently is the increase in urban density. Urban density is a term used in urban planning to describe the dimensions of relationships between urban substance and to be. The measure of urban density is various due to definition problems.

One of the most critical problems in urban development is urban sprawl. Urban sprawl is accompanied by the extension of urban land boundaries and the development of high-density residential areas in the suburbs. The most prominent feature of these areas is the mixture of large amounts of housing and block space, lack of reasonable space utilization, and thus the lack of community public activity space. At the same time, in the downtown area of the city, early urban planning created narrow street space and towering building facades. While the city is expanding, the internal blocks are often due to the high density of the floating population and lack of sufficient public space for public activities. The city center becomes an "exclusive office area." This status quo is reflected in many large and medium-sized cities in the United States. Therefore, it is imperative to rethink urban space based on alleviating the density problem.

Chapter two:

The problem of density is a question about urban space uses: how could we improve our space uses in a dense city? How could we maximize these uses? Through the preliminary data analysis, I started to analyze the drifting theory and practice of urban space in chapter two. There is a history of "drifting city" that goes from the banal city of Dada to the entropic city of Robert Smithson, passing through the unconscious and oneiric city of the Surrealists and the playful and nomadic city of the Situationists. Especially, Constant's New Babylon inspired me in his gamer's utopia and drifting cities. The carefully selected relevant precedents provided both research and practice-based knowledge for Driftscape practice that suggests boundary flexibility, provisional application, and larger-scale site connection. Combining with the preliminary research on urban density issues, these theories and precedents led me to come up with a strategy of projective design with the name "Driftscape".

Chapter three:

In this chapter, I summarized the main points of the previous research and detailed the design principles, strategies, and dimensions of the exploration of Driftscape. To answer the question about how we could maximize the uses of our urban space, I envisioned a principle composed of three main dimensions: First, creating spaces with blurring boundaries to allow space expansion and conversion. Spaces are defined by boundaries; a high-quality urban space requires more frequent boundary changes in

different situations. Second, making room for temporary uses to meet the demand of space versatility and multifunction. Temporality is a new tendency in urban design as a kind of planning method which jumped out of the traditional urban zoning thinking. It gives urban space opportunities to fulfill multiple demands, allows doubled activities to happen in a certain space in the dimension of time. Third, building larger-scale site connections through linear circulation paths to generate interactions between sites. Connecting spaces on a larger scale could encourage district participation and interaction, thereby generate comprehensive space uses on a larger scale.

Chapter four and five:

In the last two chapters, I discussed and explored the potential practical project guided by the design principle. The site I selected to engage the practice locates in Providence, a city I have lived for three years. It is a city of over 150,000 population but only has 451 acres of spare public spaces. Compared with the two biggest cities in the US, the public space density(people per acre of public space) in New York and Boston are even lower than the city of Providence. The density issue is quite clear here. The investigation in the districts of Federal Hill and Downtown shows that they both require physical changes in urban spaces to allow diverse uses and benefit the surrounding areas. Federal Hill/West side is a medium density neighborhood within the city with mixed single and multi-family homes.. The mixed zoning and diverse people are the key features there. Understanding how to make the community engage in

their nearby space is crucial in the practice of the strategy of Driftscape. Downtown is in a different situation. It contains a more floating population, and as the center of the urban area, it assumes more public functions.

Finally, my research and practice on Drifting Landscape which aims to solve the problem of densification through urban spaces, led to a conclusion from the perspective of landscape architecture. Design operation is needed in certain areas with densification issues, and the process needs help and support from local communities and government departments. The traditional zoning plan which guides the land use could be modified and improved in order to meet the demand of the future urban development. In terms of maximizing the use of urban space, projects of landscape design are not enough to meet this demand, people's participation is much important than any physical land operations, let the participants engage in the proposed space is the way to figure out how good the strategy works. The discussion on Drifting Landscape gives us an opportunity to explore the future of our urban spaces. The result of this thesis provides a study of community and urban space modification in the context of densification, which could guide many other cities which are facing similar issues.

Bibliography

1. Pierre Belanger. 2017. Landscape as infrastructure, Routledge. 80-130, 254-295.
2. Francesco Careri. 2002. Walkscapes. Culicidae Architectural Press. 10-34.
3. Peter Jay Zweig, Matthew Johnson, Jason Logan. 2016. Houston Genetic City. University of Houston College Of Architecture and Design. Actar Publishers. 17-21, 44-57.
4. Den Haag. 2015. Constant-New Babylon. Hatje Cantz Verlag.
5. Ali Madanipour. 2017. Cities in time: temporary urbanism and the future of the city. Bloomsbury Academic. 32-28, 129-133.
6. Charles Waldheim. 2006. The Landscape Urbanism Reader. Princeton Architectural Press. New York.
7. Stephanie Rigolot. 2011. Combinatory urbanism: the complex behavior of collective form. Stray Dog Cafe/ Morphosis Architects.
8. Adam Frampton, Jonathan D Solomon, Clara Wong. 2018. Cities Without Ground: A Hong Kong Guidebook. ORO.
9. Bernard Tschumi. 2014. Tschumi Parc de la Villette. Artifice books on architecture.
10. Mahyar Ardeshiri, Ahmad Esteghlal, Iraj Etesam. 2016. Explaining the Concept of Flexibility in Urban Spaces, International Journal of Applied Arts Studies. 80-89.
11. Paula Pintos. 2020. Revitalized Public Spaces: Fostering Human Connections in Cities. ArchDaily. 1-2.
12. Paul Robbins. 2000. Fixed categories in a portable landscape: the causes and consequences of land-cover categorization. Ohio State University Press.
13. Jacques Teller. 2020. Urban densification. Building and Cities Organization. 1-4.
14. Jordan Gran, Alessandro Rocca. 2012. OMA Versus Tschumi: The Parc de la Villette. Contemporary European Architecture. The Blogger. 1-2.
15. Jacky Bowring, Simon Swaffield. 2021. Shifting Landscapes In-Between Times. Harvard Design Magazine. 1-7.
16. Khalid Mandeli. 2019. Public space and the challenge of urban transformation in cities of emerging economies: Jeddah case study. Cities magazine. 2-10.
17. Nikos A. Salingaros 1999. Urban space and its information field. Journal of Urban Design . Volume 4. 29-49.
18. James Corner. 2014. The Agency of Mapping: Speculation, Critique, and Invention. Princeton Architectural Press. 3-10, 18-35.
19. Michael G. Jacobides. 2010. Strategy Tools for a Shifting Landscape. Harvard Business Review Magazine. 1-5.
20. Robert I. McDonald, Richard T. T. Forman, Peter Kareiva. 2010. Open Space Loss and Land Inequality in United States' Cities 1990–2000. PLoS. 1-3, 6-7 .
21. Souhalla Bendjedidi, Yassine Bada, Rim Meziani. 2018. Urban plaza design process using space syntax analysis: El-Houria plaza, Biskra, Algeria. SPSD Press. 1-9, 12-13.
22. Torill Nyseth. 2012. Fluid Planning: A Meaningless Concept or a Rational Response to Uncertainty in Urban Planning. InTech Magazine. 27-28, 32-34.
23. Eunju Han. 2012. Locative Interaction In Urban Space: Programmatic Flexibility, Royal College of Art. 70-91.
24. Team of Sasaki. 2017. Shifting Gears: An Urbanist Take on Autonomous Vehicles. Sasaki Sponsored Research. 2-8.
25. Yang Xu. 2015. Mobility and Activity Space: Understanding Human Dynamics From Mobile Phone Location Data. TRACE: Tennessee Research and Creative Exchange. 132-136.
26. Eric Eidlin. 2015. What Density Doesn't Tell Us About Sprawl, ACCESS Magazine. 1-3, 11-15
27. Alison Furuto. 2013. TechTown District Plan / Sasaki Associates. ArchDaily. 1-7.
28. Constant. 1974. New Babylon. The Haags Gemeentemuseum exhibition catalogue. The Hague. 1-5, 9-11.
29. Amie Tullius. 2020. Robert Smithson's Experiments in Entropy. Hyperallergic Magazine. 1-5.
30. Madanipour. 2019. A. Rethinking public space: Between rhetoric and reality. Urban Design International. 24, 38–46.
31. Wang L, Omrani H, Zhao Z, Francomano D, Li K, Pijanowski B. 2019. Analysis on urban densification dynamics and future modes in southeastern Wisconsin, USA. Jilin Province Science and Technology Development Plan Project. 1-3.
32. Benjamin N. Vis. 2018. Cities Made of Boundaries: Mapping Social Life in Urban Form. UCL Press. 72-76, 101-106, 128-133.
33. Rehanna Hartung, Gillian Herold, Nicolette Layne, Darci Madlung, Aimee Mah, Tamara Nyysola, Christine Plett. 2012. Surface: Boundary Conditions and Spatial Interaction. Curtin University Press. 1-8.

