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Game Design as an Urban Plan Strategy

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**Game Design as an Urban Plan Strategy**

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## **Abstract**

Board games have always been fun and entertaining, a way for people to spend leisure time together. And in the last 30 years, both playing and designing games have evolved into learning tools in which to engage students while covering learning objectives and playable goals. This study is an exploration of the idea that designing and playing an urban planning board game can be used not only as a teaching tool but also as a strategy of urban development and design in the areas of architecture and planning. The study investigates the relationship between these disciplines and board games, and questions how playing a board game compares or fits within traditional theory and professional practices. A new urban board game, named “Place Re-Imagined”, was designed and played to test the argument. The results of this game were compared to a previous one to formulate a framework for gaming in architecture and planning fields. The experiment presented some challenges and opportunities in this modern approach to planning. After contemplating the lessons learned the next step was to examine other potentials of an urban planning board game. The three main ideas were: to make it commercial, further development as a professional tool and its academic application as a fresh niche of gaming in architecture/planning literature.

**Key Words:** Game Design, Urban Planning, Design Strategies, Development.

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# INTRODUCTION

# 1

The purpose of this thesis is to explore the idea that designing and playing an urban planning board game can be used as a teaching tool and or a strategy of urban development. This thesis will not evaluate the value or efficacy of this concept but simply analyze what the process of creating and participating in the game can provide to architects, urban planners, activists, developers, students, teachers and government officials who wish to use it as a stratagem for future developments and or master plans. The notion for this study is based on the Master of Integrated Architectural Design workshop for the Zona Franca of Barcelona, conducted in June of 2018 at Ramon Lull University, La Salle School of Architecture, in Barcelona, Spain. An urban board game, “El Nuvol” (figure 1-box of the game), was created with the students of the masters and lead by professors Jordi Manzilla and Roger Paez. The workshop lasted a month and the final deliverables were: multiple pictures of the process, the game (board, pieces, rule book), one axonometric view and 15 conceptual vignettes of the ideas illustrated by the game played (see appendix A). The goal of the game was to develop an urban strategy to transform the industrial area of Zona Franca (figure 2), into a vibrant, desirable neighborhood. The students and professors played the game two and a half times and the “more interesting game” was selected for the final presentation. The reason for the description as “the most interesting one” is shown in figure 3. In it the red pieces represented a “talent” strategy, the blue “health and well-being”, the yellow “high millennials”, purple “knowledge”, and green was “art”. Figure 4 shows the game not selected, the players red, yellow and purple had the same strategies as in the previous one, but blue and green switch strategies: green had



figure 1- “El Nuvol” Box



figure 2- Zona Franca, Barcelona  
Port Area

“health and well-being”, and blue had “art”. Contrasting the two is important as it will set precedents for future discussion of how strategies were conceptualized in this game. In figure 1 all urban strategies were clear and understandable. Blue’s strategy was a continuous ring, Green’s an extensive band, Yellow’s a densified boundary, Red’s intensified axis and Purple discontinuous clusters. However, in the second game strategies were not identifiable. One can see the Yellow’s intent as nodes verging into other connections. Purple’s branching-based approach, Red has strokes of an X, Green is scatter through the board and Blue a zigzag pattern. They fail to visually communicate their design intent.

After participating in the development of “El Nuvol” one needed to test if this concept could be replicated in a location other than the Zona Franca, Port area of Barcelona, Spain. Furthermore, the inquiry into what and how much could be changed from this game represented an opportunity to experiment with the systematization of gaming design in the architecture and urban planning fields.

## EXPLORING BOARD GAMES AND URBAN PLANNING HISTORY

### 1.1

This paper will only explore the relationship of board games and urban planning; hence, it is important to acknowledge that most relevant literature about game design describes electronic/virtual/web-based games. Some of the best examples of virtual (electronic) games that have strong connections with urban development are: SimCity (1989) and City Rain (2010). First let’s define what a board game is: “a game of strategy (such as checkers, chess, or backgammon) played by moving pieces on a board” (Merriam-Webster dictionary), Wikipedia expands on the definition by adding:

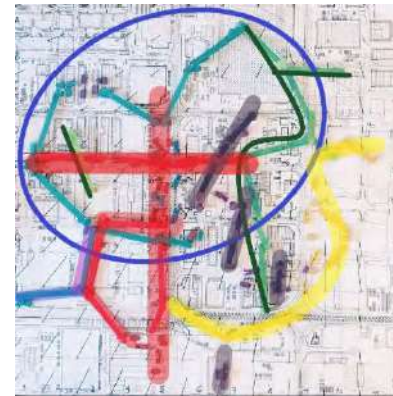


figure 3- “El Nuvol” Game 1 Strategies shown



figure 4 – “El Nuvol” Game 2 lack of strategy clarity



roots in land use, the first real game with direct claim to urban planning was invented in 1975 by Forrest Wilson and was called City Planning. The game was designed to introduce historic planning concepts to children in a three-dimensional way. (figure 7)

“City Planning presents a series of games designed to show the great number of rules for living together and how these rules determine the form of human settlements. The games are intended to explain the sets of “rules” from which communities, from simple hunting cultures to the modern city, develop, and to provide a method of teaching the basics of City Planning.” (Stephens, 2015)

Another commercial game based on urban planning principles is Carcassonne (figure 8). This board building game was published in 2000 by Hans im Glück in German. It is a tile-placement game in which the players draw and place a tile with a piece of southern French landscape on it. The tile might feature a city, a road, a cloister, grassland or some combination thereof, and it must be placed adjacent to tiles that have already been played, in such a way that cities are connected to cities, roads to roads and so on (Ferrall, 2011) While the urbanism imagery is simplistic, the physical arrangement of tiles will feel somehow familiar to many planners. Just like in real development, players in Carcassonne need a balanced approach between the size and connectivity of their cities, roads, and farms.

An example of a non-commercial Urban Planning game is “Urban Village”. It was created by Stephen Schudlich's and was featured in *Shrinking Cities? Wayne State Responds* (figure 9), a group exhibit inspired by the other *Shrinking Cities*, a German-funded show about depopulation and disinvestment in Detroit and five European cities. The game is based on an east side strip of Mack Avenue

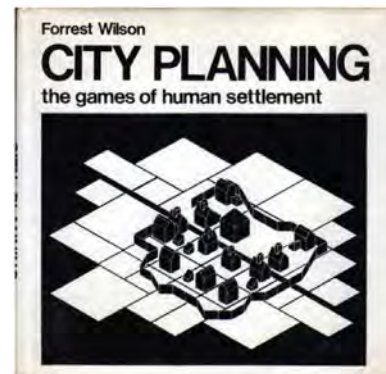


figure 7- City Planning by Forrest Wilson

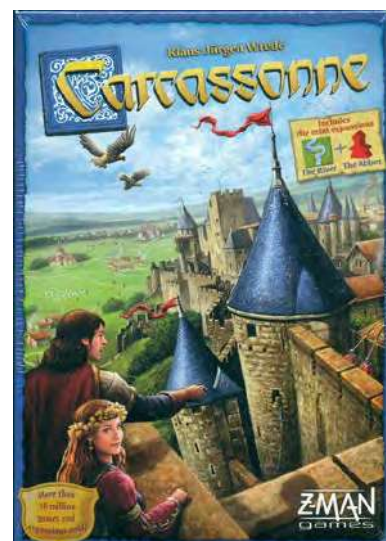


figure 8- Carcassonne Game



figure 9- Shrinking Cities exhibit



Government agencies, like the City of Helsinki, are not the only entities that have moved toward a “gamify” approach to idea development. Non-profits, multi-nationals, designers and planners all have incorporated some aspect of game theory to their operations. For example: Play the City, an Amsterdam based firm, is a global practice that supports public and private parties on large scale project development through city gaming. They design physical games as a method for collaborative decision making. One of their games was played in Cape Town, 2015 (figure12). According to their website this was a 'negotiation game' designed to help implement an existing masterplan developed for the center of South Africa's second-largest township, Khayelitsha, with the purpose of:

Consensus building for upgrading the CDB development plan between the land management organization Khayelitsha Community Trust and the City of Cape Town, Department of Spatial Planning and Urban Design (Play the City, n.d, projects).

The above-mentioned cases show that urban planning and board games already have an established relationship and history. These interactions then raise the following questions: Can playing a board game be a strategy for site/place creation/development? Can this conception process be used as a learning tool? As general questions these could be easily answered as yeses, since most things are possible is just a matter of cost, time and execution. The queries need to be more specific. How does playing a board game compare or fit in within traditional urban design theory and practice? When should it be used as a strategy? What are the benefits of the draw backs from using it as a plan? What can it teach as a learning tool? The possible answers to these are explored in the next section of this thesis.



Figure12 Play the City-  
Negotiation Game Cape Town  
2015

## **CREATING BOARD GAMES AS STRATEGY FOR URBAN DESIGN**

How does playing a board game compare or fit in within traditional urban design theory and practice? First let's be clear that this paper does not aim to re-establish or reiterate the history of Urban planning theory and or the Urban design field. Anyone interested in expanding their personal knowledge on these topics should read: *Design of cities*, Edmund Bacon (1967); *The History of the City*, Leonardo Benevolo (1980); *Cities in Civilization*, Sir Peter Hall (1998); *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century*, Peter Geoffrey Hall (1996 Updated Edition); *Good City Form*, Kevin Lynch (1995); *The City in History: Its Origins, Its Transformations, and Its Prospects*, Lewis Mumford (1972); *The Death and Life of Great American Cities*, Jane Jacobs (1961). For a more complete list of books see appendix B.

However, to explain and compare the game board approach, references will be made to well known planners and theories. This portion of the paper will explore three facets of Urban Design theory: Form, Place-Making, and Sustainable design. It will also highlight the importance of the planning process itself and the impact of the actor's relationship.

## **Form**

Jacobs, Alexander and Lynch are arguably the most influential writers about city form. Jacobs in "*The Death and Life of Great American Cities*" argued that a dynamic urban life needed multifunctional neighborhoods, short blocks and connected street systems, diverse age residential areas and high density of people. She viewed the city as a living organism and its streets as lifeblood. She described "a good city street neighborhood" as a balance between people's need for privacy and their wishes for interaction with others (Jacobs pg). Now Alexander although less practical and more ethereal in his writings, also calls for density when arguing for good

city form, in his book “*A Pattern Language: Towns, Buildings, Construction*” he said:

“It is possible to make buildings by stringing together patterns, in a rather loose way. A building made like this, is an assembly of patterns. It is not dense. It is not profound. But it is also possible to put patterns together in such a way that many patterns overlap in the same physical space: the building is very dense; it has many meanings captured in a small space; and through this density, it becomes profound.”  
(Alexander, p.41)

In his book “*The Timeless Way of Building*” he encourages the return to values such as beauty, harmony and soul. Arguing for self-building that produce simpler and more expressive places that people have always loved and therefore provide for cultural differentiation around the world (1979). Like Alexander, Lynch’s book “*Good City Form*” focused on human values and characteristics that are general and can be applied contextually to different cultures. He believed creating easily identifiable and measurable performance dimensions, could be used to evaluate existing places and reveal where improvements to urban form was needed. His five basic performance dimensions were: vitality; sense; fit; access and control. He also called for two meta-criteria that would be sub categories of each of the previous dimensions: efficiency and justice. He said:

“these five dimensions and two meta-criteria are the inclusive measures of settlement quality. Groups and persons will value different aspects of them and assign different priorities to them. But, having measured them, a group in real situation would be able to judge the relative goodness of their place, and would have the clues necessary to improve or maintain that goodness” (Lynch, 111)

So, considering these three authors and the idea that good form needs to be personable, balanced, tied to human values, beautiful, and measurable, how can a board game fit within th



Figure13- Favela game tiles



figure 14- Favela tiles and board.



figure 15-Rio de Janeiro Favela



ese parameters? Such broad terms provide a wide range of options for board games to fulfill these concepts. An example of a beautifully design board game that are tied to human values can be found in the Favelas Game. A tile-laying game about the beautification of the iconic favelas of Rio de Janeiro. (figure 13 and 14) One could argue that its form and imagery isat the same time evocative of the reals favelas (figure 15) and a first step in understanding that beauty is connected to the soul of place.

Furthermore, below are a couple of ways that an Urban board game could comply. First the ability to design the game itself. It enables groups to include the values they feel are needed to be part of the game. For example, if values such as access (Lynch) and harmony (Alexander), they could be incorporated in the game as strategies that drive the game. Second, the game's success can be measured in relation to what is consider good form by these authors. Meaning once a game is played, and the participants look at the result, they can measure if the image/proposal in the board can be called good. Does it have balance between private and public? Is it vital? Does it have density? And so forth. This idea was tested by an analysis of the game "El Nuvol" (figure 16). Looking at the image and considering the circle the nucleus of the project, one could read the image the following way: There is good balance between the strategies involved, all colors are part of the "heart" of the project. The crossing rectangles can be interpreted as anchors of activities: such as economic services, infrastructure or even housing. The triangle could be interpreted as the path of density, starting in a less dense area yellow to a denser one, where blue, red and purple seem to interconnect. Therefore, one could consider this a good plan proposal.

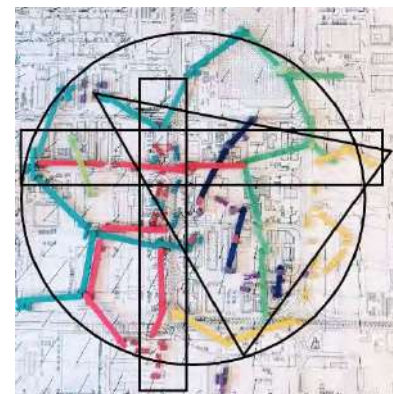


figure 16 "El Nuvol" analysis.

## Place Making

Christopher Alexander once said: "Most of the wonderful places in the world were not made by architects but by the people." Which brings up the next topic: what is place making? And why place matters. Starting with the latter question, why place matters? One could read the book "*Place Matters*" by authors, Dreier, Mollenkopf & Swanstrom, but it can be easily explained as people care deeply about where they live, because it affects their quality of life. Another important aspect of place is site, many times planners and architects use these terms exchangeably which is wrong. In "Site Matters", Burns and Kahn argue that for urban design what matters is gaining understanding of the city in the site. (295) They call for the representation of sites through multiple boundary conditions and scales, so that a new conceptual model for describing and analyzing places slated for intervention can be constructed (286). How one understands and define site and place can have a profound influence in urban projects, because no locale can be experienced in isolation, it needs to be considered in reference to its setting. Since site and place both matters, the next step is to determine what is place making in urban planning. Place making became a topic of Urban theory after an increase dissatisfaction with mid-twentieth-century urban spaces. The argument was that those spaces were soulless and homogenic. Therefore, the physical character and essence of places needed to be concretized and designed to regain its communicative role. Christian Norberg-Schulz argued that "the basic act of architecture is therefore to understand the "vocation" of place. In this way we protect the earth and become ourselves part of a comprehensive totality" (Tiesdell, 136). Francis Tibbalds believes that "Places" matter most, it matters much more than either the individual building or the vehicular traffic (Tiesdell, 9). He contends that planner and designers' tasks are to create urban areas with their own identities, rooted in a regional

and/or historical context. He also counsels that although the joys of towns and cities are their variety, it is important that when places of special character are recognized, defined or created their essence be real and not contrived (Tiesdell, 10). Thus, keeping these ideas of place-making in mind how can a board game represent or utilize them? Once again, the need to check if this was accounted for during the creation of “El Nuvol”. Although the character of Zona Franca was studied, and many special individual buildings researched (figures 17-19). Ultimately the decision was made to not include this aspect of the site in the game. Hence, as theory the first step if using a board game would be to investigate the place and determine if it does have a distinctiveness appeal. Is this something perceived only by its own citizens or is it clear to all? If the place has a clear identity that should be used in the design of the game, possibly in the board itself. If the place does not, the game could be used to investigate and bring the core of the place to light. Consequently, influencing the direction of the development. As a post note to this point, there are architect and planners that argue in favor of mid-twentieth-century urban spaces homogeneity. The most famous architect to argue this is Rem Koolhaas, he said in an interview with wire magazine:

“But the generic city, the general urban condition, is happening everywhere, and just the fact that it occurs in such enormous quantities must mean that it's habitable. Architecture can't do anything that the culture doesn't. We all complain that we are confronted by urban environments that are completely similar. We say we want to create beauty, identity, quality, singularity. And yet, maybe in truth these cities that we have are desired. Maybe their very characterlessness provides the best context for living.”- Kem Koolhaas

Albeit, President Roosevelt warned the US about the perils of environment destruction back in the 1940's, the Urban planning



figure 17- Zona Franca Tower



figure 18- Zona Franca Cilos



figure 19- Zona Franca factory

## Sustainable Design

Sustainable Design movement did not take off until the late 1990's. Before anything else the term Sustainable needs to be stated. As described by Peter Buchanan, Sustainability denotes long term viability. Used in a narrow sense, it emphasizes only environmental and ecological concerns as they manifest locally and globally. In a broad full sense requires economic viability and social equity. (Saunders, 116) Hildebrand Frey concludes that a more relevant search for an urban form that responds to a sustainability criterion needs to be people friendly, work efficiently and have a sustainable relationship with the region and global hinterland. (Saunders, 342) According to Susannah Hagan the economic argument for sustainable design lies on the fact that even though low energy buildings may require a larger initial capital investment, its pay back is realized through the dramatically lower running costs. (Saunders, 109) Bearing in mind these characterizations, how can sustainability be included in an Urban board game? The first and most obvious answer is the game itself should only be made from recyclable and biodegradable materials. The second is to include long term viability and social equity as strategies or actors of the game. In "El Nuvol" sustainability was folded under the strategy of "health and well-being" and it was only discussed in the broadest way as having for green spaces to increase air quality index. It is the blue strategy in figure 20 and green in figure 21. Another option could be a game focused only on sustainable urban strategies, the subject of exploration depends on both who designs it and how it is designed. Such an example is Footprint (figure 22), a Portsmouth-based family/kids' game, in which players adopt an area of the island, and race to reduce their pollution by investing in different eco-measures, like public transport, renewable energy, and sustainable food.

*"A nation that destroys its soils destroys itself".*  
Franklin D. Roosevelt (1882-1945) Thirty-second President of the USA.



figure 20- "El Nuvol" Game 1 Health and Well-being strategy

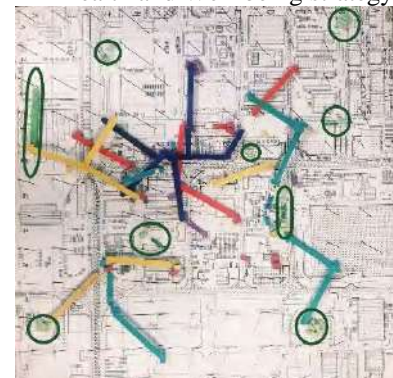


figure 21- "El Nuvol" Game 2 Health and Well-being strategy



figure 22-Footprint Sustainability game

## **The Planning Process**

Just like planning is a process, so is game design. For gamification systems to provide valid results a game needs to be carefully and correctly designed. The process of designing the game, from site selection, to the identity of the designers and players, the strategies employed, creating rules on how to play, board development, all are equally important to the results of the game. Similarly, Ali Madanipour maintains that Urban Design is a process which deals with shaping urban space, and as such it is interested in both the process of this shaping and the spaces it helps shape. (Larice & Macdonalde, 17). He adds to the idea by stating the process can be technical, social or aesthetic expressive in nature, and therefore engage in all scales of the social-spatial continuum (Larice & Macdonalde, 22). Authors Loukaitou-Sideris and Banerjee arrived at an equivalent conclusion but expressed their idea of the urban design process as a movie production.

“It is a collaborative process that involves many actors and experts. Even the end products-especially the open spaces, gallerias, and so on-are seen as stage sets where what matters is the design of the overall experience rather than the space itself. The script for the uses of an open space is equally as important as the design of the setting itself” (Larice & Macdonalde, 50)

Therefore, a parallel can be clearly drawn between the design processes: both are collaborative, have actors, rules and believe participation and experience are as important as the final product, be it a game or a space. Consequentially, a matching reference can be inferred about the role actors have in both game and urban design.

## **Actors**

In game design, actors are mostly stake holders, clients, designers, investors, target audiences, etc. When referring to the specific Urban board game design, these actors can differ a bit, they can be students, professors, architects, planners, developers, activists, residents, government officials, and

others. These completely overlap with the Urban design profession established actors. For example, Paul Knox and Peter Ozolin's name the main actors involved in the built environment as: Landowners, speculators, developers, builders, consumers, real estate agents, financiers, government and regulatory agencies, and market trends (Tiesdell, 313). The biggest issues is not so much who the actors are as how they relate to one another. For example, in figures 23 and 24 images of town hall meetings are shown. One can clearly see that even after many years have passed the way information is being distribute and how "experts", government entities and citizens interact is stagnant. This takes us to Ekim Tan, the founder of Play the City and her take on how relationships among "urban" actors are evolving.

"the idea that the twentieth century 'planned city' is transforming into an awareness of the 'city as a self-organizing system', run by multiple urban stakeholders, (Tan, 2018)

such a complex urban system<sup>5</sup> is in constant search for its state of equilibrium, rather than being represented by a frozen plan. Cities are shaped by the interconnection of spatial, social, economic, political, environmental and cultural sub-systems under the influence of formal and informal processes. Urban agents activate these sub-systems by generating, evolving or simply following their driving forces." (Tan, 2018)

"Some of these urban agents come into power for a given time, until the city changes its state, following a new set of rules, whose order is influenced by other active players until this too shifts into, yet another state and a new balance emerges. The process is open-ended." (Tan, 2018)

Her position that agents/actors are in fact rotating and not stagnant, that they constantly shift as balance is pursued, is powerful. This framework not only supports this thesis theory that actors of the Urban Design process can be the same as the Urban board game design, but it lays the ground work for gaming as a viable option for urban design.



figure 23- Historical picture of a town hall meeting



figure 24- picture of a town hall meeting on 2017-Tawain.

“This new understanding of cities, free from the division of bottom and top urban players, will call for innovation of open and collaborative city-making methods where urban agents constantly exchange information, learn and negotiate and based on these interactions make decisions and implement plans for the city. (Tan, 2018)

Consequently, this research asks: what would the new methods be which refer to the unpredictable spatial and social states of the urban complexity? What role do simple rules play in the organization of complex urban systems? What role could these simple rules play in the establishment of new collaborative methods engaging well-informed urban stakeholders?” (Tan, 2018)

Another argument for gaming as planning tool or strategy is the fact that planners, architects, developers, activists, just like all human beings, have their own sets of values, biases, aesthetics and dispositions. Role playing or playing a game through a different prospective gives the player/actor the opportunity to tackle challenges in a completely new way. Now that the relationship between board games and Urban planning has been determined, as has the viability of game systems as an urban design strategy. The next step is to clarify the methodology this study will apply when creating and testing a new urban board game.

## **STUDY METHODOLOGY**

### **1.3**

A new urban board game, named “Place Re-Imagined”, was designed and played as an experiment on the validity of gaming as a strategy of urban development. The game, its attributes and conceptualization were based on the game “El Nuvol”. Since the literature research and some existing practices show a favorable outcome to the validity of gaming as an urban planning approach. The next step was to evaluate the new game’s design and overall experience by comparing it to its predecessor, “El Nuvol” and hopefully develop a framework for

future urban board games. To keep the games comparable, a methodology for documenting how the new game was played needed to be set. After exploring various qualitative research methodologies, it was clear that a descriptive observation technique fit best within the study objective. “descriptive studies may be characterized as simply the attempt to determine, describe or identify what is, while analytical research attempts to establish why it is that way or how it came to be”

“Observation, as the name implies, is a way of collecting data through observing. Observation data collection method is classified as a participatory study, because the researcher must immerse herself in the setting where her respondents are, while taking notes and/or recording”( McLeod, 2015)

After the system was determined, the information and data gathering procedures needed to be stipulated. It was important that the measures were analogous with the original game. When the original game was played at La Salle University, it was recorded with photography (A picture taken after each round) and the players, who also designed the game, were Master of Architecture students and two professors. The photography recording was easily replicated in the new game, the players were recently architecture graduates and two 5<sup>th</sup> year students, they were not involved in the game design and had never played it before. A desire for a more rigorous data collection, compelled the formulation of the following process:

1. Choosing the location, date and time of the game:  
Private Residence in Washington Heights, New York City, NY. August 16-17<sup>th</sup>, 2018 at 6pm- Game was cancelled (pieces did not arrive on time). It was re-scheduled and played on August 26-27<sup>th</sup>, 2018 from 6:30pm to 10:20pm on the 26<sup>th</sup> and from 6:15pm to 9:50pm on the 27<sup>th</sup>.



2. Roles- There were two main roles of this experiment: the players who were invited to play an urban planning board game. They were told this was to be used as an experiment for a master thesis, and that their participation was voluntary. The observer, who designed the game and was to record the game through pictures and notes.
  - a. This game was designed to be played by 7 people, where 6 people use strategies to develop a site and 1 is the bank who controls the money and land. Each player is designated a specific color for all the games played, so their strategy, behavior and aesthetic choices could be observed. Seven Architects and three 5<sup>th</sup> year architect students were invited to participate, but only four architects and two students played the game. Their names will be omitted from the study, they will be referred as players 1-6 or by the color of their game pieces (yellow, orange, red, blue, green and purple)
  - b. Due to the schedule change and the shortage of one player, the observer played the part of the banker in the game.
3. Playing the game- It was to be played with the same rules as the Zona Franca one. The difference is that instead of playing only once, this experiment called for it to be played 5 times. Quarantining that each person could play a different strategy each time.
  - a. After each round a picture would be taken with the observer's cell phone
  - b. After the negotiations round notes would be taken (hand notes in notepad)
  - c. After the first game was completed, the players would reveal their strategy

- d. Games (2-4) players would have new strategies and the steps above would be repeated.
  - e. Game 5 players could pick their strategy, so everyone would know each other's strategies. Steps a and b would be repeated.
4. The questions playing the game more than once aimed to answer were: did designers have a clear aesthetic that could be identified? Did any strategy have a single visual form? Were designers influenced by how each other played?
  5. Reviewing the data gathered. Analyzing the pictures, side by side, and comparing the notes.

Note: This process had to be tweaked, the new game needed to have its rules revised because the additional players and smaller board. The time constraints only allowed the game to be played 4 times instead of 5. After the first and last game the observer interviewed the players as a group, the notes were not taken after each negotiation round, instead they were taken more sporadically as things unfolded.

It is important to bring to light some of the challenges and weakness of this method. This was a naturalistic/ overt participant observation. Which means the observer was a participant of the game, and the players were aware of his/her role. As in other research of this nature the small size of the sample is one of its weakness. The personal relationship (friendship) between the observer and the players, even if it made for some interesting insights on their behavior, made the players more invested on how the game played out. Furthermore, the observer was extremely immersed and invested in the results. This clear bias may affect the legitimacy of the experiment. Yet, this game can be played in a different setting under stricter observation. The easiness of replicating the research provides an opportunity for further and more in-

depth investigations. (for pictures on all 4 games see appendix C)The experiment was on how the urban planning board game was played. Before the results can be evaluated, it is important to investigate how the game itself was crafted, and how some of its design choices affected play.

# A NEW URBAN PLANNING BOARD GAME

2

This part of the study looks at the process of designing a new urban planning board game in its entirety, and then assess it through comparison with a previous one. It describes the experience of the architects and students who tested it in New York City, and concludes by debating the pros and cons of using it as a strategy of development.

## DESIGNING THE NEW GAME

2.1

This game design process was based and tailored to be comparable to “El Nuvol”. And at the same time to stand on its own. Like its predecessor, this is a board game based on an existing site. It needed to contain the same components: a name, a board, mission statements for the player, rules of engagement and pieces.

The site selection had to be akin to the industrial port of Barcelona. It had to have approximately the same total square footage. It had to be an area known to the architect creating the new game and future players. The decision was made to use the Brooklyn port area in New York City. However, this proved

### New Site Selection



figure 25- South Brooklyn port area

aesthetic problematic, because the Brooklyn port area is very long but not very wide (figure 25). Brooklyn's residential neighborhood are only one or two blocks away from the industrial section, which would make comparisons between the sites difficult, and the design of a game board that is narrow and long undesirable. During the research about the area's existing conditions and character, the New York City Department of City Planning Vision 2020 Comprehensive Water Front Plan was checked. The Brooklyn site included in the game is marked for future development. The main strategy points can be seen in figure 26 and the zone affected in figure 27 Anyone interested in the entire plan can check:

<https://www1.nyc.gov/site/planning/plans/vision-2020-cwp/vision-2020-cwp.page>. Figure 28 shows the area now.

Another issue considered was the possibility of selecting a site with existing master plans. This generated another topic for investigation: seeing how the results from the game compares to a existing urban planning proposal. The choice to use both Governor's Island and part of the Brooklyn Terminal (figure 29) was the result of a compromise, having the Brooklyn side be similar in character to Zona Franca and at the same time being able to compare the final results of the new game to the chosen proposal of the Governor's island design competition, by West8 (figure 30) (West8.com).

This site provides new opportunities and challenges to the players. Having to address the water, the connectivity of an island to mainland (figure 31), looking at the existing proportion of green spaces in the island, the appropriation of the water front in the Brooklyn side, the transformation of edges and boundaries. Recognizing the island not as a single entity but as part of larger place it changes how we plan. One of the new challenges could be the existing landmark buildings in Governor's island (Castle Williams, Fort Jay and the Admiral's

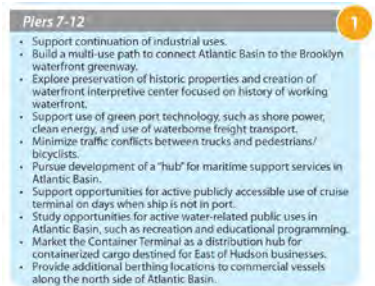


figure 26- Vision 2020 Strategies points for Brooklyn upper bay south



figure 27- Vision 2020 -map Brooklyn upper bay south



figure 28- Brooklyn upper bay south



figure 29- New Site



figure 30-West8 Winning Proposal Governor's Island Design Competition

House) (figures 32-34) and whether the players will choose to incorporate them on their proposals. One of the most important aspects of a game is its name. It

needs to relate to the theme it represents, be simple but catchy. This can be seen in Clue the detective game, Monopoly the property buying game, Uno the card game, and many others. The main considerations for names demanded that they relate to Urban Planning, but at the same time brought the idea of transformation to the fore front. This was vital because the sites are real, and the goal of the game is to refine the concepts of what makes a desirable and inviting place. Picking the right name turned out to be a challenging task, because many of the names considered were already used by companies and nonprofits and copywrite laws in the US are not to be trifled with. In the end, there were three names considered: Transform (Transforming underdeveloped areas in urban beacons); Up and Coming (Creating the first steps to a better and richer neighborhoods) and Place Re-Imagined, (re-imagining new vibrant neighborhoods). Transform was eliminated due to its close similarities to the transformers (movies and toys), Up and Coming was discarded because of the negative connotation to gentrification. Place Re-Imagined was selected.

Once the site and a name were picked, the new board had to be designed. Decisions had to be made, including: how many aspects of the area needed to be included, should the board look like an architectural drawing or like a game, what shape should it have? Exploring the physical aspects of the area through mapping helped the final board have the right balance of built and non-built; and provide moments for opportunities and challenges. The maps used were: edges and boundaries (figure 35), built (figure 36), hierarchy of roads (figure 37), movement (figure 38) and green spaces (figure 39). Thesis combined

## The Name



figure 31- Governor's island view to Manhattan

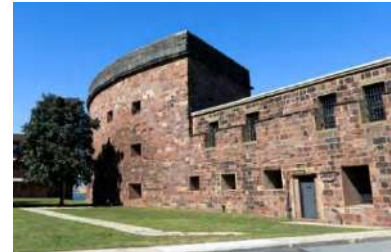


figure 32- Castle Williams



figure 33- Fort Jay

## The Board



figure 34- Admiral's House

These are the layers that created the board design:

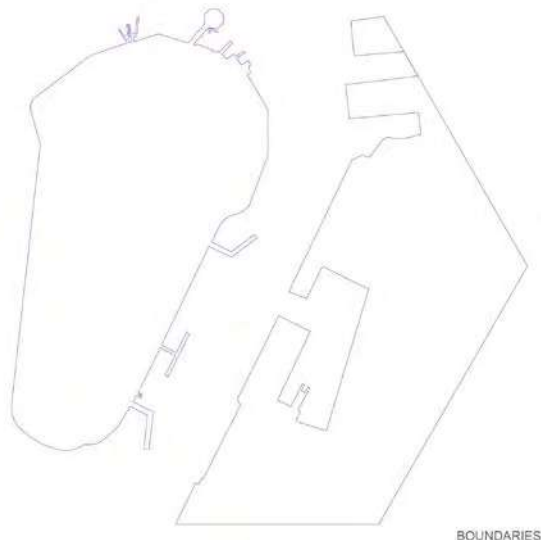


figure 35- Boundary

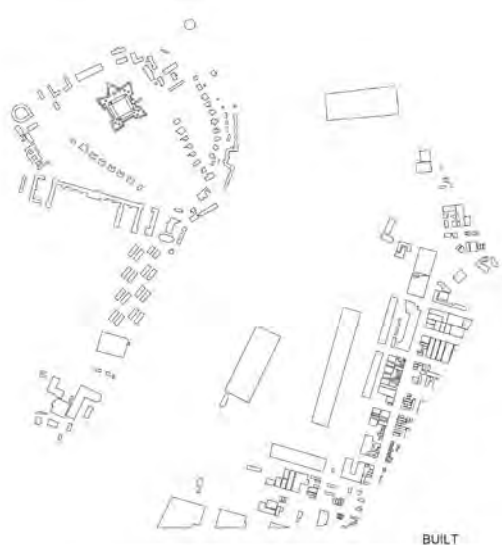


figure 36- Built

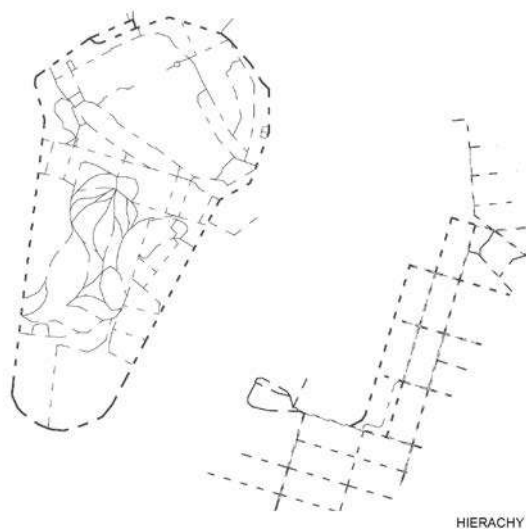


figure 37- Road Hierarchy

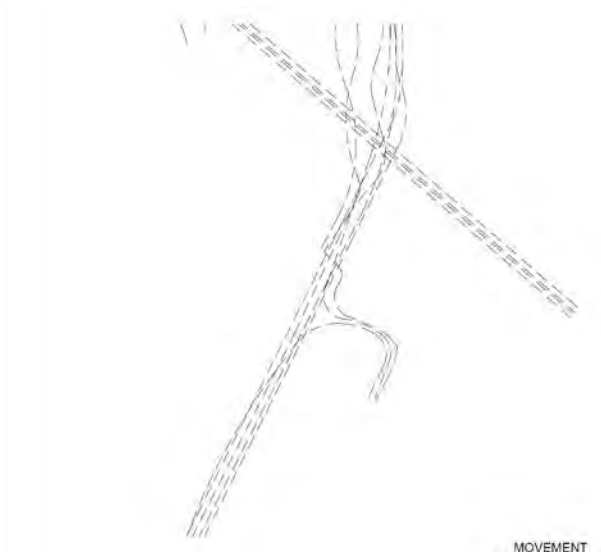


figure 38- Movement

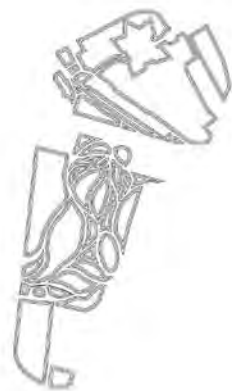


figure 39- Green Space

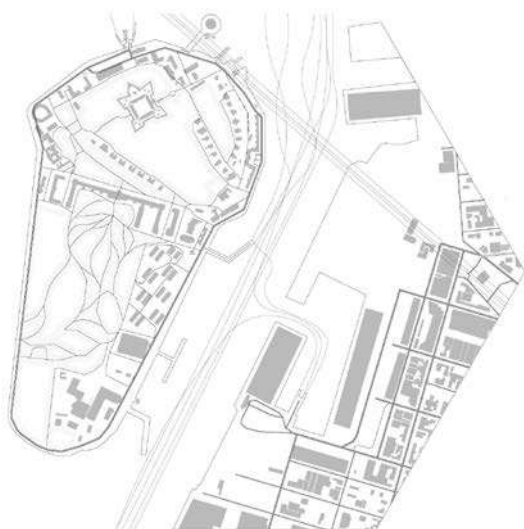
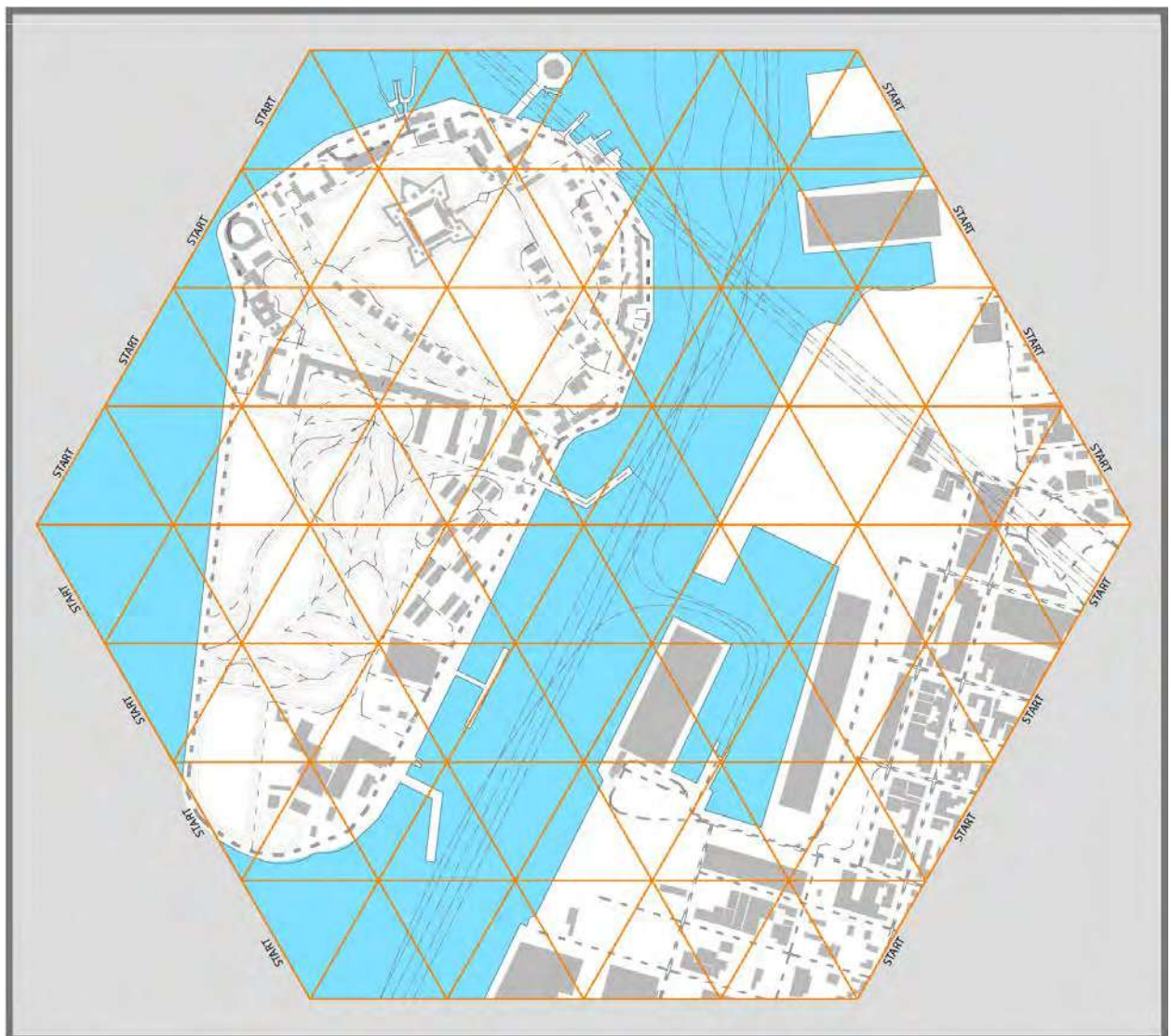


figure 40- Combined Maps

topics illustrate the composition of the site, and its prospects for transformation (figure 40). Architectural drawings are the footprint for what is to come, and most designers can read them and envision the end result. However, a board that looks a technical drawing would limit this game to be played only by architect and or planners, creating a more abstract and graphically friendly board allows anyone to play. Once the content of the board was certain, its shape had to be decided. The existing condition of the site, and ascertaining that the proportionality between Governor's island, the water and the Brooklyn terminal were maintained, exposed the option of a hexagon layout. This option was confirmed, and the final board

figure 41- Final Board





created when the decision to have 6 strategies was reached. (figure 41) (A4 formatted images of the maps see appendix D)

## The Players

2-7 People can play “Place Re-Imagined” at any given time. There are two roles to be played, one is the “banker” and the other is the “Facilitator”. There can be up to six facilitators, but only one banker per game. The banker has a pretty straight forward role, he owns all the non-occupied lots, the money, the actions and connections to be sold. The Facilitators must draw cards to see what strategy/mission they will promote. There are six distinct strategies: Mobility and Connectivity; Fit City; Economic Competitiveness; Social Inclusiveness; Knowledge; and Art.

## The Rules

The rules of this game were constructed to provide as many opportunities for interactions among facilitators as possible. At the same time incorporating the element of chance and luck, which forces them to adapt when luck turns on them. Players toss the dice to determine who starts (highest roll) and then play clockwise....

- Each facilitator chooses a starting point in the board. They will be given (8) actions (blocks) to start and \$2000 in chips. They roll two numbered dices and walk their piece to the location they want. Example: if a player rolls a 4 and 6 they can move 10 spaces, either 10 straight, 6 straight and 4 to the right and so on. See figure 42

- Once they arrive at the space they want, they must roll the (action, no action, sell) dice. If the dice lands on either (a) action or (n) no action the facilitator gets to keep that lot. If it calls for action the facilitator must place at least one more action block on the location, if no action they just keep the first piece. If the dice



figure 42- Piece movement

shows (s) sell, the property is offered for auction. The bank determines the minimum value of the property and all other facilitators have a chance to bid. If no other facilitator wants the property, the bank buys it for half of the price previously determined. Looking at figure 43 The orange cube in the yellow triangle on the top left corner of the image happened because Yellow landed on (s) sell when it tossed the dice. The orange player bought, therefore it now owns the plot. Both Blue, one Green, one Red and One Purple, all have a single cube/action in their plots because they rolled a (n) no action. The others rolled and (a) action so they could add cubes/actions to their plots. In this case they only added one each.



figure 43- Action/sell and no action

- After each facilitator has acquired the first 2 plots a round of negotiation starts. Each facilitator decides if they want to sell any of their existing plots and actions. Plots to be sold are placed for auction, in which the highest bidder wins. Another negotiation tactic players can use is to share a plot by exchanging actions among themselves, or paying someone for the use of the plot. (The buyer gets the plot and actions; the seller gets the money)
- When the round of auctioning ends, all facilitator s can re-assess their mission statement and make alterations if needed.
- Facilitators get another set of 2 rounds of plot acquisition.
- When all facilitators have completed their procurement of plots, a second negotiation starts. In case of highly desirable plots a bidding war can happen and the highest bidder wins. (those buying get the plot; the ones selling get the money)

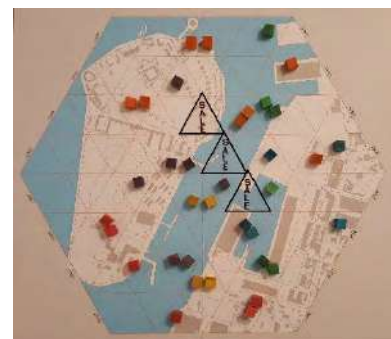


figure 44- Bank sale

- After this round of negotiation is finalized the bank puts 3 new plots for auction. In figure 44 the black triangles show the plots for sale.
- For the next round everyone gets to buy and place up to \$500 of actions (blocks) and connections (sticks) to place on the board following their tactics. (They negotiate to place their actions into other's plot at a price or for an exchange)
- For the next two rounds all participants get to buy and place up to \$500 of actions (blocks) and connections or buy up to 2 new plots from the bank. (They can negotiate to place their actions into each other's plot at a price or for an exchange, and even buy a plot with another facilitator). In figure 45 you can see on the small black rectangle on the left an example of two players sharing a site (green and yellow). On the top center pink rectangle, you can see three players crossing each other's connections. And on the marron right rectangle you can see that orange went around purple with short connections, instead of using one long one. This happened because negotiations between purple and orange players did not go well.
- After all negotiations and actions are accomplished, the teams reveal their mission and strategies to conclude the game.



figure 45- Details of negotiations

**Blocks-** small colored cubes that can be used as actions to indicate what will take place in the plot, are worth \$100. They can be bought from the bank or traded with another player.

**Mission Cards-** Cards that govern the strategies that the facilitator will use.

**Money-** chips in three colors (white valued at \$50; blue at \$100; and red at \$200) that will be used for the acquisition and sale of land. (figure 46)

### The Pieces



figure 46- Money Chips

**Long Connections:** are used to connect two plots of the same player. They are worth \$200. If a player wants to place a connection over another player's plot they need to negotiate, either a price or action trade. (figure 47)



figure 47- Long Connections

**Short Connections:** are used adjacent plots that have a street in between or used within a plot that has a street in the middle. They are worth \$100. (figure 48)



figure 48- Short Connections

**Dice-** There are two numbered dices which are used to move players within the board. There is one (6 sides) dice with (3) action and (2) no actions sides; and (1) sell side.

**Bank Sale Triangle-** this piece fits on top of plots and has sale written on it. The bank places three of these for sale throughout the game.

## STRATEGIES GUIDING THE GAME

### 2.1.1

If one considers site and place the heart of the game, its soul is definitely the strategies guiding it. Thus, it was vital to chose those that are: broad in scope but can be applied to specific cases; are flexible and adaptable; engage in and encourage: participation, discussion and study. With those qualifications in mind, the strategies elected were: Art, Knowledge, Mobility and Connectivity, FitCity, Economic Competitiveness, and Social Inclusiveness.

The concept of Art as a strategy for urban development has been well documented in the US through the designations as Cultural Districts and or Creative Cities. Once cities and their broader economic regions begun to recognize the importance of creating neighborhoods that can readily attract, develop, and export robust economic activity and offer a high quality of life, the number of Cultural Districts surged in the US. However, this approach failed to take in consideration the important role of the arts as an industry. Thinking of arts as industries paints a new picture, in which The Arts are part of a larger innovation district. The Innovation district would include

#### Art

“Cultural districts are formally designated or labeled areas with high concentrations of cultural activities and institutions” (Frost-Kumpf 2001).

“Successful arts districts exhibit robust coalitions that span traditional boundaries, as governments, nonprofits, and business communities collaborate in its operation” (Brooks and Kushner 2001).

Knowledge-driven industries, such as: technology, media, and finance alongside higher-education institutions and amenities. Whichever, approach one chooses to take, by designating Art as a necessary strategy in the game, it inspires those playing to think about the relationship among culture, identity and quality of life. It also opens questions on what synergies may exist between the chosen strategies.

## Knowledge

The greatest challenge of Knowledge as a strategy is the broadness of its definition. Most people when asked what they associate knowledge with say: school, education, academia, learning, and information. But to architects and planners Knowledge has become associate with innovation, creativity and opportunity for growth. This can be seen in the concept of Knowledge cities. In the 21<sup>st</sup> century knowledge is accorded a pivotal role not only in economic growth and competitiveness, but also in societal and environmental development. According to May and Perry (2011), cities are positioned as critical places where the challenges of knowledge-based growth in the 21<sup>st</sup> century will be met. Incorporating knowledge in both tacit and explicit forms into urban planning and development is a critical aspect of success in this new era. Hopefully, players will use the full potential of this strategy, creating powerful networks.

‘Knowledge cities’ are urban areas that base their ability to create wealth on the generation and exchange of ideas and the leveraging of knowledge networks. They are cities in which both the private and public sectors value and nurture knowledge, invest in supporting knowledge dissemination and discovery and harness knowledge to create products and services that add value and contribute to prosperity (Carillo, 2006)

## FitCity

The idea of FitCity was based on the yearly conference by the same name held in NYC since 2005. It examines how the design of the built environment can create opportunities for increasing physical activity and access to healthier food and beverages and help to improve health equity across neighborhoods. (AIA New York, 2015). They join writers, whose works have confirmed the profound impacts of the built environment on people’s physical, mental as well as socio-economic well-being (Barton, Thompson, Burgess and Grant, 2015). So, as a strategy FitCity needs to look beyond simple urban design

*“[There] is a real opportunity for people who work in the planning, architecture and urban-focused professions to have an impact on mental health,”*  
Layla McCay, founder and director of the Centre for Urban Development and Mental Health

solutions, and search for what drives people's overall well-being. To create a plan for making positive impacts towards a more just, equitable, healthy and sustainable environment.

Connected and Sustainable Mobility allows people and goods to move freely and safely while respecting the environment. It's also the ability to travel when and where the traveler or the goods need to in the most efficient way. This means that urban mobility is a means to ensuring an end, namely accessibility. Therefore, a truly integrative transportation system looks first at people and quality of life. Another way to tackle this challenge is to transform city form. Bringing a group of activities together, in a more compact configuration, and interlaced by high-quality pedestrian and bicycle infrastructure, creates a more accessible city. However, this game should look beyond the most obvious meanings of connectivity and mobility and explore new ways of understanding what these words could mean to people and our built environment. Keeping in mind its relevance to issues of accessibility and consequentially to economic and social equity.

The World Economic Forum defines economic competitiveness as "the set of institutions, policies and factors that determine the level of productivity of a country". The same definition can also apply to state, region, city or neighborhood. Another way to see this is: A competitive economy, is a productive one. And productivity leads to growth, which leads to income levels and hopefully to improved well-being. Economic growth can be achieved by locale's that engender an environment in which creative and innovative individuals and organizations can gather, grow and thrive. Growth, prosperity, and inclusion are

## **Mobility and Connectivity**

J. Barceló, L. Montero and X. Ros-Roca from UPC-Barcelona Tech argue on their Urban Mobility Lab paper that accessibility to activities becomes then the driving force of why and when people moves, technology usually provides the support on how to move, when physical journeys are necessary, or how to accede to the activities without physically moving, since current technological advances make it possible.

## **Economic Competitiveness**

*"the basic idea is to use whatever commercial strengths and resources a locality already has, but that it has been neglecting, wasting or overlooking". Jane Jacobs (1992)*

complementary goals for meaningful economic development and competitiveness. Another positive view in economic development is Gibson-Graham, Cameron and Healy, who in *Take Back the Economy* (2013) remind us that economic development is to allow us to survive well together and equitably; to distribute surplus to enrich social and environmental health; to encounter others in ways that support mutual well-being; to consume sustainably; to maintain, replenish and grow our natural and cultural commons; and to invest our wealth to ensure the well-being of future generations. Players should take advantage of the clear connections between economic competitiveness and the other strategies in order to create an inclusive and diverse vision during the game.

Social Inclusion is “The process of improving the ability, opportunity, and dignity of people, disadvantaged on the basis of their identity, to take part in society” (World Bank, 2013, pp. 3-4). “It is a process which ensures that those at risk of poverty and social exclusion gain the opportunities and resources necessary to participate fully in economic, social, political and cultural life and to enjoy a standard of living that is considered normal in the society in which they live. It ensures that they have greater participation in decision making which affects their lives and access to their fundamental rights” (Commission of the European Communities, 2003). Of all the strategies in the game, this will be the hardest for players to concretize in a plan. Some may take inspiration from the new concept of Inclusive Cities that has become popular since the European Council adopted *Europe 2020: A strategy for smart, sustainable and inclusive growth*. Inclusive Cities encourage access to opportunity, to all its residents.

### **Social Inclusiveness**

*"It's important to recognize that expanding the circle of opportunity and increasing the democratic potential of our own society, as well as those across the world, is a continuing process of inclusion."*

~ Hillary Clinton

To do so they invest in three main areas: inclusive housing, sustainable transportation and accessible education in order to “equalize” the playing field for those that are normally socially excluded, like the poor, the disable, etc.

The strength that these six strategies share are their flexibility, broadness and interconnectivity. They will engage those who play the game and encourage communication, participation and increase awareness of the impact they can have in the design, planning and creation of vibrant, desirable, health communities.

Now that the design of Place Re-Imagined has been finalized and its guiding strategies analyzed. The next step is to compare its process to “El Nuvol”’s”, the Zona Franca game, which was invented as a possible approach to developing the port area of Barcelona.

## **Comparing the Design of Place Re-Imagined and “El Nuvol”**

## **2.1.2**

First is essential to acknowledge that Place Re-Imagined was based on “El Nuvol”, meaning that without the latter the former would not exist. Thus, many aspects of the original game were used when developing the new one. Both board designs were inspired by a compilation of maps of the site. Most of the same pieces were used, as well as the representation of money using chips. They have the same actors, and the occupation of the site is done through strategies. Their rules encourage negotiation and incorporate chance as part of the game. Most important of all they have the same goal: the exploration of new approaches, in project development and planning. Even with so many characteristics in common, these two games have some fundamental differences that influenced how they were played.



## Design Process

Foremost, the design process. “El Nuvol” was drawn as part of a workshop at La Salle University, in which 2 professors proposed the game, and led 13 students through the exercise. The professors provided the site location (Zona Franca) as well the 9 morphologies to investigate for the map/board generation. The morphologies were: levels, structure, roof, roof light, street corners and hierarchy, time, hidden geometries, movement of containers, hard surfaces. The students worked in three groups and generated 9 maps (see appendix A). The copulation of these in a single image was used as the base for the board. (figure 49).

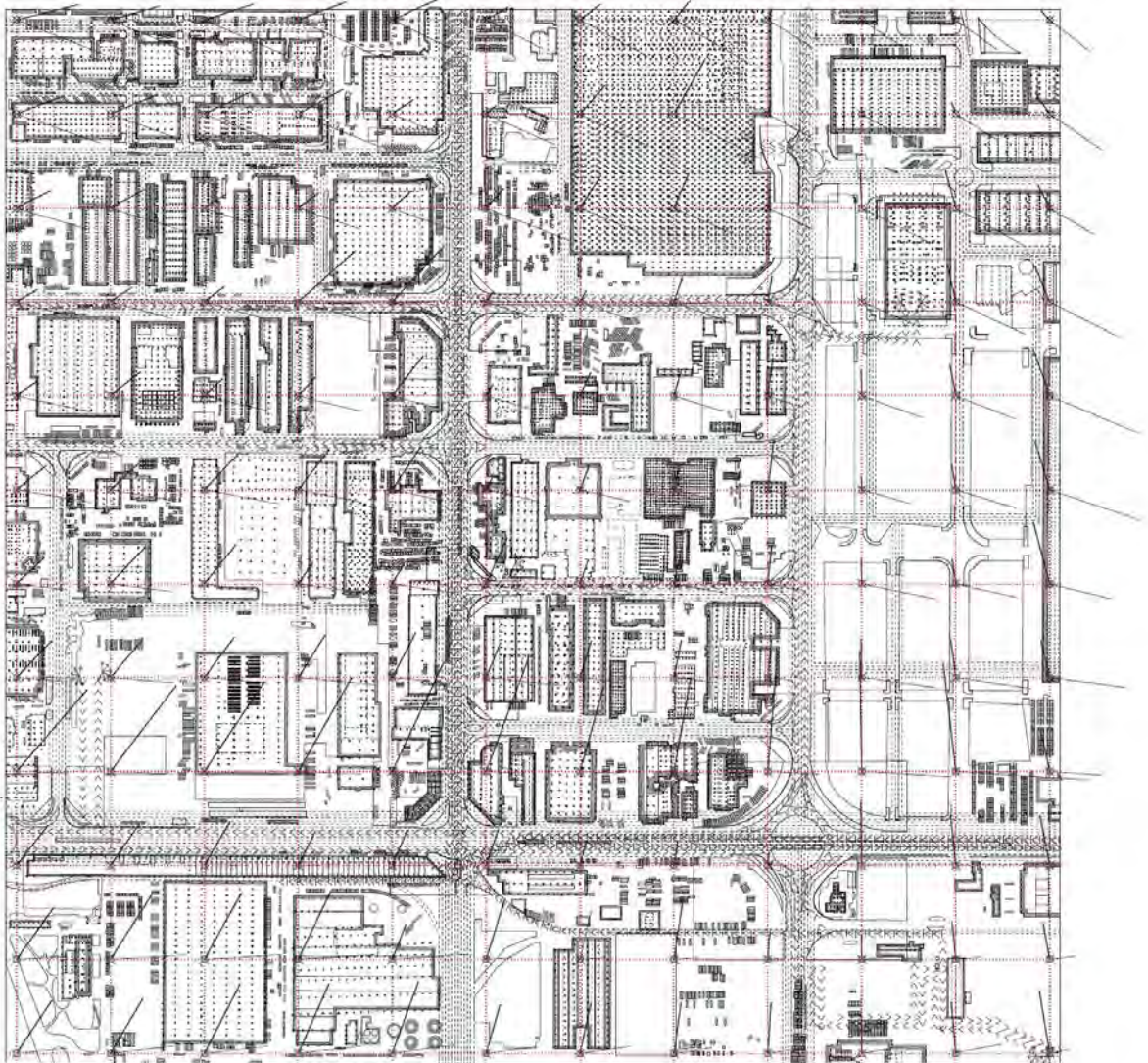


figure 49- “El Nuvol” Board.

The professors also defined the 5 strategies to be used: High Millennials; Health and well-being; Knowledge; Talent and Art. As a group, the students chose the pieces to be used, developed the rules of how to play and named the game. This was an extremely collaborative process. In which discussions of the strategies meaning, how they could be expressed and represented; the fine tuning of how to play the game to generated valued information for future area development, all contributed to an amazing learning experience. But, as in any group work, individual preferences and opinions were surpassed by the will of the majority, reflecting the realities of all community work. On the other hand, Place-Imagined is the “brain child” of a single creator. Which makes all the decisions autocratic in nature. The relevant issue of this process is ownership. By owning the design choices, the designer must look for context within the selections, to minimize personal bias and meaningless gestures. This was most successful in the research of prevalent urban design and planning themes, to be used as strategies. In the mapping process, the architect had a pretty clear vision of the morphologies to be included once the site was determined. The most challenging part of the process was selecting a site. The diversity of localities throughout New York City, made for different investigation opportunities (i.e. population density, waterfront, topography).

The change in strategies from “El Nuvol” to Place Re-imagined, caused a shift in how the game was played. The strategies of High Millennials and Talent were replaced by Mobility and Connectivity; economic competitiveness and social inclusion. These new themes are more overt in their interrelationship, pushing players to talk and negotiate among themselves more. Furthermore, a practical issue also rose, the

## Strategies Changes



figure 50- “El Nuvol”-Occupied plots after first round

additional players necessitated the rules to be revised. In the original game each round consisted of 5 turns per player; in the new game players take 2 turn per round. This can be seen in the figures 50 and 51. In figure 46 “El Nuvol” board game after the first round shows 25 occupied plots (pink transparant squares). In figure 51 “Place Re-Imagined has approximately 12 occupied lots (pink triangles).



figure 51- “Place Re-Imagined- Occupied plots after first round.

## Board

The two boards are also very diverse, beyond the geographical and land use dissimilarities. The “El Nuvol” has a rich, information filled architectural look. Place Re-imagined contains less morphologies and has a more “game” feels to it. The original board was square, with a grid system, and 121 possible plots to be occupied. The new game is a hexagon, with a triangular grid system and 90 plots.

The game pieces have some small differences: such as: In “El Nuvol” the actions/blocks are smaller and rectangular; in Place Re-imagined, they are bigger cubes (figure 52) The peg pieces from the original game were not used in the new one; the square for sale piece in the first game became transparant triangles on the second. The smaller board of the new game made playing it faster. The removal of the peg pieces increased the use of the short connections in the new game. Including dice as a means to move on the board and to determine if a player keeps, acts or sells a plot brought a new dimension of planning and chance to the new game that was not part of the original (figure53).

After comparing these two games, and discussing how they are played, the next part of this study will describe how Place Re-Imagined was played in New York City.

## Pieces



figure 52- Actions/Blocks



figure 53- Action/Sell/No action Dice

## Playing the game: Place Re-Imagined in New York City

As previously stated in the methodology section, a group of architects and architecture students played Place Re-Imagined 4 times on August 26<sup>th</sup> and 27<sup>th</sup> 2018. However, to maintain equality with “El Nuvol”, only one of the games will be describe here. Some references to other games will be made in the next section: Designers make their mark. (the full games are included in appendix C). The game picked, depicted clear player

visions and at the same time presented the most interconnections among the strategies. This is not surprising since it was the game that had the most negotiations. Everyone was invested into collaborating for the purpose of achieving their individual goal. One can extrapolate that after playing twice the day before, players understood the goals of the game better, and were more direct in completing their tactics.

This is how it unfolded: Players tossed the dice to determine the order of play, blue rolled highest becoming player 1. Going clock wise yellow (player 2), red (player 3), purple (player 4), orange (player 5) and green (player 6). By the end of the first round before the negotiations started. Red had only one plot and all others had two. The plots from Blue, Yellow, Orange and Red all had two actions. Green had a plot with a single action and a plot with two. Both purple plots had 3 actions. (figure 54). After negotiations Red had actions on both Blue, Orange, and Purple. Purple had action in Red. (figure 55)

After the second round before negotiations. Blue had 4 plots with 2 actions each, one of them had a red action. Yellow had 4 plots (three with 2 actions and one with 1). Red had three plots with 2 actions; one with 1 action; and an action in blue, orange, green and purple plots. Purple had four plots (two with 3 actions, one with 2 purple and 1 a red, and one with only 1).



figure 54- First Round



figure 55- After Negotiations First Round



figure 56- Second Round

Orange had 3 plots with 2 actions each. Green had 3 plots (two with 2 actions and one with 1). (figure 56) Negotiations begin Red and Green exchange actions. Bank place three plots for sale (figure 57). Orange buys one without other bids. Blue buys one after bid war with Green for \$400. Another plot goes unsold. New round starts as players can buy and place connections up to \$500. Blue buys two long connections. Yellow buys two short connections and one long. Red buys 2 actions. Purple buys two long connections and one action. Orange buys two long. Green buys two long connections. Players negotiate among themselves while they place their connections and new actions. Blue gets permission from Orange to connect to their site. Yellow agrees to have two red actions on their site so they can go over a red plot. Purple, Orange and Green make connections within their own sites. (figure 58)

New round of purchases, Blue buys two long connections. Yellow buys four actions. Red buys one plot and one action. Purple buys one actions and two long connections. Orange buys two long connections. Green buys five actions. Players negotiated as they place their connections Orange connects to Blue. All other players re-enforce their positions (figure 59). Players reveal their strategy. Blue had Mobility and Connectivity; Yellow had Knowledge; Red had Social Inclusion; Purple had Economic Competitiveness; Orange had FitCity and Green had Art. Stating the actions taken by players fail to communicate how intense some of the negotiations got, how noticeable some of the strategies were or how frustrated some of the players became. For example, by the end of the first round everyone new that Red was Social Inclusion. Instead of being upset that he/she had to sell one of its plots, he/she took advantage of the money received and negotiate a position within three other players. Red’s approach was to either co-locate with as many of the other players or be next to them. See figure 60 showing Red’s “points of inclusion strategy”.



figure 57- After Negotiations  
Second Round



figure 58- After First Round of  
Connections.



figure 59- End of the Game



figure 60- Social Inclusiveness-  
Points of Inclusion strategy

Purple's massive positioning on both sides of the water channel was a clear indication that it had Economic Competitiveness. The message was clear stitching two localities (Governor's Island and Brooklyn) through a zig zag pattern. See figure 61 for the "Switching Strength strategy". Once Blue placed its last connection it was obvious it had Mobility and Connectivity. It was also visible it had a plan to create a full circle that unfortunately never came to fruition. See figure 62 for the Arch of mobility approach. Orange's tactic was the true-and-true corridor. However, the method could fit some of the other strategies, so it was not transparent that he/she had FitCity. See figure 63 for the corridor of well-being approach. Yellows and Green had similar ploys of building a nucleus for their strategies, for Yellow's "S" of Knowledge see figure 64. It was also apparent that Green had hopes of connecting its Governor's Island site to the Brooklyn side. However, that was not possible because blue bought the plot that would facilitate Green's connection. Green was especially upset when by the end of the game blue did not even use the plot.

The value of this game goes beyond having a visually stimulating proposal of what an urban plan for this area could be. To generating the beginning of an in-depth investigation of how these themes can be manifested in this site to transform it into a desirable, living place. Furthermore, an unexpected benefit from it is to teach designers, planners, architects, and other stake holders to be opened and flexible to a new process of Urban Planning, in which ideas and aesthetics of the professionals is not driving the project. Even with the small sample of 4 games, this concept could be observed when Place Re-Imagined was played in New York. However, some of the Architects still had very distinct styles of play.



figure 61- Economic Competitiveness-Switching strengths strategy



figure 62- Mobility and Connectivity-The Arch of mobility approach

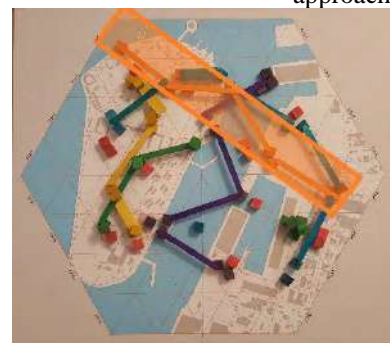


figure 63- FitCity-The corridor of well-being approach



figure 64- Knowledge- The "S" shape Knowledge center.

## Designers make their mark

### 2.2.1

Playing 4 games, with 4 strategies, allowed some of the players to change their style of play as time progressed. During the first game most of the players seemed to operate from a Monopoly/Developer mind set, in which they were trying to buy as many plots and actions as possible. The worst of them all, was so aggressive in his/hers strategy of board domination, completely ignoring his/hers strategy (Purple-Knowledge) and the real goal of the game. figure 65 shows the final board of game 1. Unfortunately, the top view did not display the density of all the actions as well as one would have like. Therefore, a close up of the purple strategy illustrates its overly densified plots during the first game. Looking at the images, one would imagine that the player wanted to demonstrate a stronghold of knowledge. After all the zoom on figure 66 shows almost a “mini castle” like structure. However, the truth about the design choice was that he/she did not want anyone going over his/hers plots. An argument with the Blue player, led Blue to place all the actions he had left, right in the middle of the Purple plots. This behavior was connected to the win/lose mentality that so many games have. Therefore, the purpose of the game: “to refine strategies that transform place into desirable and vibrant communities” was re-stated encouraging them to think about each strategy and how they can be revealed.

This helped them, and in game two, three and four, more styles of play were in evidence. However, there were three architects that had very characteristic styles. They made each strategy fit within their own signature methods. The three tactics were termed: The Zaha Hadid; The Jean Nouvel and the Leonardo Da Vinci.



figure 65- Game 1 monopoly mentality



figure 66-Game 1-over densified strategy.

The Zaha Hadid style was to develop varied forms using different angles. By analyzing the results of the Purple player in figure 67 one can immediately identify the design intent of the architect/player. One can see how the architect's intent was to create forms by using angles. Regrettably, one is not able to co-relate the images created with the strategies that were the point of the game. For example, in game one, the form created was a closed "C" shape with different size arms/parts and no right angles. Purple's strategy for that game was knowledge. And it was not a successful attempt as explained above.

In game two it was a windmill with different obtuse angles, each of the end points in has additional actions as to reinforce those destinations. The strategy that the design was to convey is Art. Out of these three strategies this is the one that works the best, because it crosses over both Social Inclusiveness (orange) and Knowledge (blue) and has a direct connection to Red (mobility). The third imagery can be seen as a fletcher. Once again, a composition of multiple angles both acute and obtuse. Certainly an eye catching shape, however the strategy was social inclusiveness. This strategy barely crosses over one other strategy, in this case yellow (FitCity), and falls short of connecting with either orange (knowledge) on top or Red (Economic Competitiveness) on the right.

The Jean Nouvel style was to create new tactics and forms for each new game. Looking specifically at the Red strategies represented in the final board of games 1,2, and 4; The player has definitely accomplished that. All three are stylistically diverse. Furthermore, the objectives of two is very identifiable. However, one and four both falls short. The main issue with the one is its depiction Fit City as a "closed" square. One would hope that Designers would shy away from closed shapes as the purpose of the game is inter-relationships and connections among strategies.



figure 67 The Zaha Hadid Style

*"There are 360 degrees, so why stick to one?" - Zaha Hadid*

*"Each new situation requires a new architecture." - Jean Nouvel*

*"Simplicity is the ultimate sophistication." -Leonardo da Vinci*



But, first let's praise the incredibly successful strategy of games two. The mobility and connectivity plan worked because it was simple. It had three main corridor connectors between Brooklyn and Governor's Island as well as a couple of individual points of access. By creating multiple paths, the designer was able to connect all the other strategies. In the top a connection between purple and orange ( Art and Social Inclusiveness); in the middle between green and blue (Knowledge and Fit City) and in the bottom yellow and green (economic competitiveness and FitCity). The strategy in four makes sense once explained as the corner of economic competitiveness, nevertheless it did not connect to any other strategy and it is by the corner excluded from all.

The Leonardo Da Vinci style was simple and elegant solutions to each strategy. This was exemplified in the results of the Yellow player in games 1, 2, and 4. In game 3 this was not identifiable. To give the designer credit, he/she did develop nice forms that can be consider elegant. Yet, creating forms is not the reason for playing this game, content and context are the essential parts of this exercise. Its strategies were Art for game one, Economic Competitiveness on game two and FitCity in game four. None of them are particularly impressive, as only one of them had a real connection. Game two connected with orange (social inclusiveness.). Although, the results were a disappointing in terms of content. The ability to recognize individual styles was valuable for this research.

The fact that even in an abstract game architects were able to show their distinguished styles begs the questions if this is a flaw on the design of the game, which allows for an architect to mold the broad strategies into their aesthetics or is it a flaw

figure 69 on right  
Leonardo Da Vinci Style



figure 68 Jean Nouvel method



Of the architects and planners who cannot leave ego and self out of any design process, even one as open ended as playing a game.

## **Comparing Playing “El Nuvol” and Place Re-Imagined**

### **2.2.2**

As this thesis continues to argue in favor of gaming as a method for Urban development it is necessary to demonstrated what can be learned in playing the game. To do this, a comparison of how “El Nuvol” and Place Re-Imagined were played is helpful.

Prior to starting is critical to determine that this section will not be comparing play by play, instead it will focus on what was learned by the experience. There are a few key differences between the two: “El Nuvol” was played in teams, Place Re-Imagined by individuals; “El Nuvol” was developed by its players and they had an invested interest in playing it since it was part of their final grade; the players in Place Re-Imagined were friends with its creator and participated in it as a favor (or more accurately in exchange for dinner); “El Nuvol” was played in June 14<sup>th</sup> 2018 and Place Re-Imagined in August 27<sup>th</sup> 2018.

The main technical variance to affect game play was the fact that in Place Re-Imagined players could determine their starting point and use a dice to move towards a plot. While in “El Nuvol” players tossed their action blocks on the board and wherever they landed was theirs. Another modification was in “El Nuvol” players decided if they wanted to sell their plot or not, while in Place Re-Imagined a dice toss decided if player sold or not. Having the decision of keeping or selling out of the hands of the players, clearly frustrated them, and often forced revisions of strategies.

The players of “El Nuvol” were given the opportunity of completing their final plan by placing additional connections and actions without the constraints of the money or the rules. This did not occur in Place Re-Imagined. (figure 70-71)

The technical aspects of a game directly relate to the enjoyment of it. People do not like games that are overly complicated and hard to understand and play. Thus, the different procedural rules of games affected players perceptions of it and consequentially their learning experience.

Participating in “El Nuvol” had an experimental feel to it since its players were fine tuning the meaning of the negotiations as they took place. For example, when red placed actions in blue lots and yellow connections crossed above over a green one what did these moves mean? They had to consider what it meant to the game (did they need to impose regulations, or should everything be allowed?), And they had to think what these decisions would mean in real life (what would they cost? What would they look like?). It truly felt investigational, players working together, questioning and answering issues as they flowed. In truth some of the students were surprised when they saw the end axonometry conceptualizing the game (figure 72). This was when the validity of this method was recognized.

Place Re-Imagined in the other hand had a fun lets play a game vibe. The players at first accepted the rules as given, but as the game progressed, the questions that surfaced were: I want to do this, why is not allowed? This caused pauses when the observer had to intervene and make decisions. However, in most cases it generated other questions, of why the player wanted to take such an action and whether that action was the only way the player could accomplish the same objective.

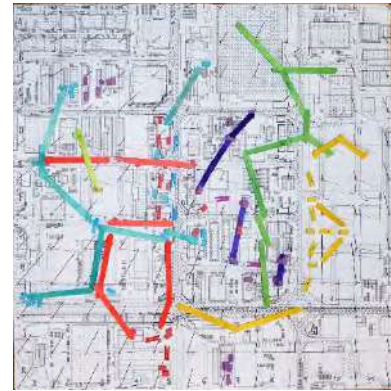


figure 70- “El Nuvol”’s board before the last



figure 71- Last board “El Nuvol”

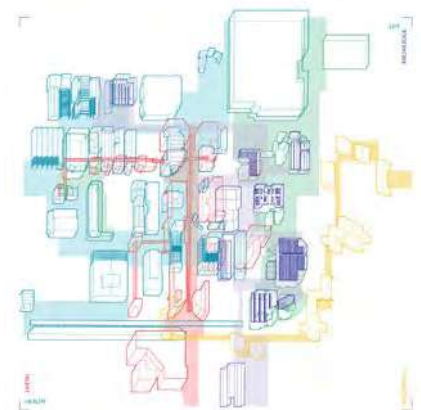


figure 72- “El Nuvol”’s axonometry

The negotiations were concise and effective as the participants were always very direct about what they wanted and what they were willing to trade or pay for it. They all approach playing from a win-lose view point and were very disappointed that the game did not have a mechanism for declaring a winner.

They had to learn to see beyond individual winners and to look at the area (in this case the board) as the winner. They were “happier” once the observer declared that they could pick a winner not among themselves but amid the games played. They had to decide which game provided the best base for a future urban plan for this location. Their reasoning for selecting game 2 was that all strategies were clear and well developed. (figure 73) It is this author’s belief that they pick the second game because it was the most visually striking of the four. This comparison leads to the conclusion that playing an urban planning game can be both experimental and fun. One can learn from the questions that arise from it. Because they bring forth our intent as designers, and inspire needed conversations about what constitutes livable, desirable, healthy places. Therefore, one can argue that the learning experience is one of the positive points in an of having created and played a new urban planning board game, Place Re-Imagined. The next section ponders other pro and cons of the game.



figure 73- Final board Game 2  
“Place Re-Imagined”

## **The Pros and Cons of Place Re-Imagined**

**2.3**

Evaluating the creative process of Place Re-Imagined, one notices that there were positive and negative aspects to the exercise. These aspects deserve to be discussed as they can be of worth to other researchers, planners, architects, teachers or students who want to pursue a similar line of enquiry.

The innovative characteristic of creating and playing Place Re-Imagined was one of the contributing factors to pursue it as a topic of research. Although, there are a few planning practices that have started to incorporate gaming as a strategy, this is still a new enough development that makes it exciting. Another advantage is the flexibility of such an approach. There are infinite ways that a game can be designed and just as many issues it can be designed for. This allows for multiple explorations of topics and their solutions. Nevertheless, this same flexibility can become a disadvantage when lack of controls causes the game to be too broad and generic to provide measurable and useful outputs.

The participatory nature of gaming is one of the strongest cases for its use as tools in the urban planning process. This can be seen when people get together to play a game they show up for it in a different frame of mind then when they are invited to town hall meetings or brainstorming event. Finally, another advantage is the fact that the process of designing the game can generate as much information and learning opportunities as the playing of it. This compounded opportunity for study is invaluable for planning.

The other side of this argument is the disadvantages of the method. For example, by controlling the entire experiment one could manipulate the rules of the it as to achieve a specific end result. Also depending on intent and scope, a game and its final product can have to narrow a field of study to provide significant insight. And yet in all that, one needs to remember that as innovative and seductive a method, creating and playing an urban planning board game is only a first step in the overall process of an inclusive, meaningful urban plan.

# Conclusion

This thesis has shown that there is a history between board games and the Urban Planning field. It has demonstrated how the game design and playing can incorporate well established Urban Design and Planning theories to be used as development and learning tools and strategies. The experiment of designing and playing a new game has presented some challenges and opportunities about this new approach to planning. Following are some of the lessons learned that can help frame this concept in the future.

Board games have been used as a participatory inclusionary tool (Helsinki and Cape Town examples), it has also brought to light people's bias and architect's attachment to their aesthetics (Urban Village and Place Re-Imagined examples), and although neither of these statements are surprising they help shape the way gaming can become an effective tool of Urban development. The most obvious way is to have all stake holders participate in designing the game from the beginning. The act of creating the game allows for open conversations among the diverse actors, it fosters collaboration and permits for bias and pre-conceived notions to surface in a non-adversary form. Most importantly by participating in the game creation the actors are buying into the process, they become invested in it and its outcome. Finally, by playing a game multiple times, it teaches actors that every problem has more than one solution to it. The importance is placed not on the end result itself but in both the process and the evaluation of what works and why. Evaluations are an important source of information and opportunities for learning.

“You can draw any kind of picture you want on a clean slate and indulge your every whim in the wilderness in laying out a New Delhi, Canberra, or Brasilia, but when you operate in an overbuilt metropolis, you have to hack your way with a meat ax.” -Robert Moses (Caro, 849)

When gaming is applicable as a tool is another important lesson. In “El Nuvol” (Zona Franca, Barcelona) the use of gaming seemed like a good strategy because of the industrial characteristic of the site. In the case of Urban Village, the abandoned condition of Detroit Mack Avenue also gives weight to the approach. However, an argument can be made that the flexibility of game design should permit the exploration of its use in any site, even one as dense as New York. After all it has been more than 30 years since Moses and with the advances of technology and strategies in Urban Planning, the idea that metropolis sites need a heavy top down approach (the idea of hacking) no longer applies.

After contemplating the lessons learned the next step in concluding this thesis is the other potentials of an Urban Planning Board Game. The three main ideas that come to mind are making it commercial, a more in depth look of it as a professional tool and its academic application.

## **Making it Commercial**

In the past, when one thought of commercial board games, the implication was that the board game was mass produced, distributed, and sold in stores throughout the world to make a profit. However, in the age of crowdsourcing and do-it yourself ‘you tubers’, this is too narrow a view. So, if one wanted to make a game such as Place Re-Imagined or “El Nuvol” “commercial”, they would need to determine: is profit the end goal? Do they want to become a business and have complete control of manufacturing, distributing, marketing and selling the game themselves? Do they want to patent the game and sell it to an already established game manufacturer? Or is this an educational game non-for-profit scenario, in which educational games are defined by games that increase engagement with subject material through playing a game. This would mean that at least a website would be created, and other educators would

be able to buy or rent the game or the concept to create their own versions of it for their classrooms. Both would mean a tremendous amount of work, so someone choosing to pursue this path should be aware of the commitment necessary. This is not to discourage, the concept of a commercial urban planning board game, as the payoff could be significant if the game developed is challenging and fun to play, look at the success of Catlan, which is in essence a land development farming game. As another incentive, the Guardian has claimed that we are living in board gaming coming area.

### **Creating a new professional tool.**

Gaming as a professional tool is not a new concept. It has been used extensively in citizen science, in which the public is engaged in the collection and/or analysis of data. (David A. Coil, Cassandra L. Ettinger). The significance is in how, when and what results will or can be collected by it?

Will this tool continue to be used mostly for engagement and citizenship participations? Will it only be used when actors cannot agree on a plan of actions and are locked in combative situations? Or can this be a tool that searches awareness of the site and presents hidden possibilities within plans? Can it be molded in varied forms to be used in different situations? One can answer these questions in many ways depending on the circumstances, in the end how gamification will be used as a tool depends completely on the practitioners that incorporate them in their work. As the example of Play the City mentioned previously.

### **Towards an Academic Future**

The future literature and academic research in board games systematization needs to be expanded. Currently most literature relates to video or computer games. Hopefully, more research will be developed through schools and universities creating and documenting the process of board games, its designs and the results of the playing them.



There are a lot of lines of inquiries for future research. From an age prospective comparing how, kids approach a gaming versus adults, to roles of gender in game playing, and the prospective of the expert vs the citizen, etc. One expects that due diligence in documenting and conducting these experiments would be followed. This paper has shown that both in “El Nuvol” and in Place Re-Imagined there was a need for larger samples and more impartial relationships between those participating in it. Overall, though participating in these two projects was a challenging, collaborative, positive, learning experience, with many lessons learned on how to proceed in further investigations. For example: make the strategies relatable to the site selected, ask the community what they issues they are facing; make the board as big as it need to be, do not be constrained by sizes imposed by regular game boards; team play, make actors play as teams instead of individuals, this will help mitigate personal aesthetics; Play, play, play and adjust. Be flexible and humble to know when things need to be changed be them the rules, the board, the strategies, and to end (this should not be needed to be said, but) let the process be the experiment, do not let the desired outcome direct play or design decisions.

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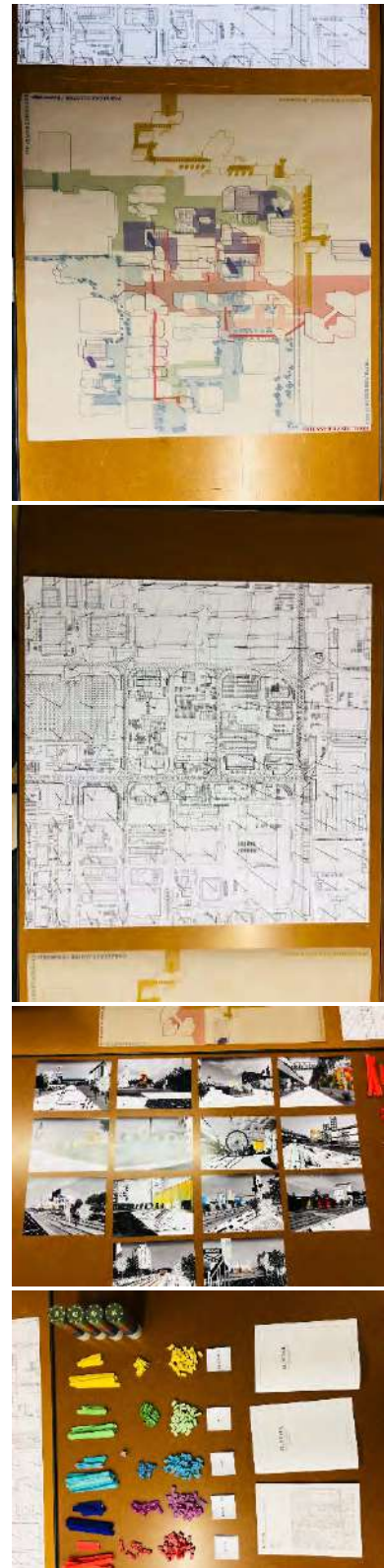
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Appendix A- "El Nuvol"



## Appendix B- List of Favorite Books in Urban Planning Theory

### **The Death and Life of Great American Cities**

by Jane Jacobs (1961)

### **The City in History: Its Origins, Its Transformations, and Its Prospects**

by Lewis Mumford (1972)

### **Civilizing American Cities: Writings on City Landscapes**

by Frederick Law Olmsted (1997)

### **The Image of the City**

by Kevin Lynch (1960)

### **Good City Form**

by Kevin Lynch (1995)

### **The Next American Metropolis: Ecology, Community, and the American Dream**

by Peter Calthorpe (1993)

### **Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century**

by Peter Geoffrey Hall (1996 Updated Edition)

### **A Pattern Language: Towns, Buildings, Construction**

by Christopher Alexander, Sara Ishikawa, and Murray Silverstein (1976)

### **The Power Broker: Robert Moses and the Fall of New York**

by Robert A. Caro (1975)

### **Edge City: Life on the New Frontier**

by Joel Garreau (1992)

### **The Geography of Nowhere: The Rise and Decline of America's Man-Made Landscape**

by James Howard Kunstler (1995)

### **The Essential William Whyte**

by William Hollingsworth Whyte (2000)

### **Design With Nature**

by Ian L. McHarg (1995)

### **Planning in the USA: Policies, Issues, and Processes**

by Barry Cullingworth, and J. Barry Cullingworth (1997)

### **Great Streets**

by Allan B. Jacobs (1995)

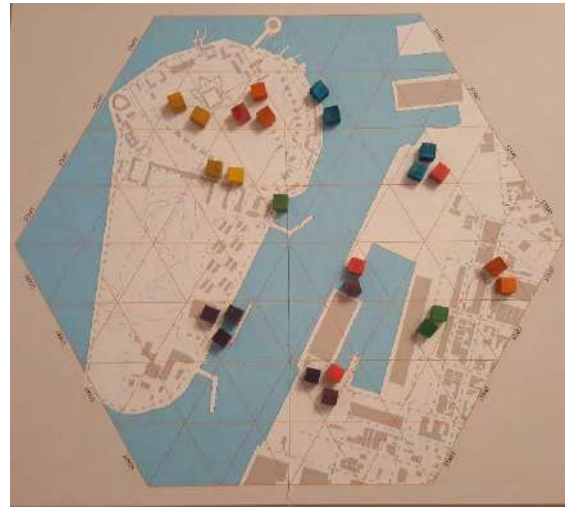




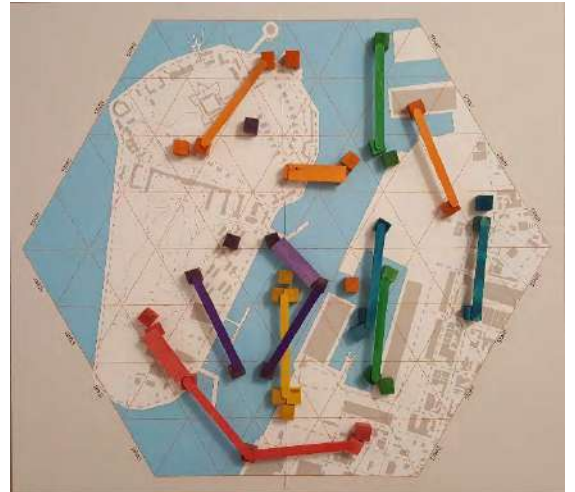
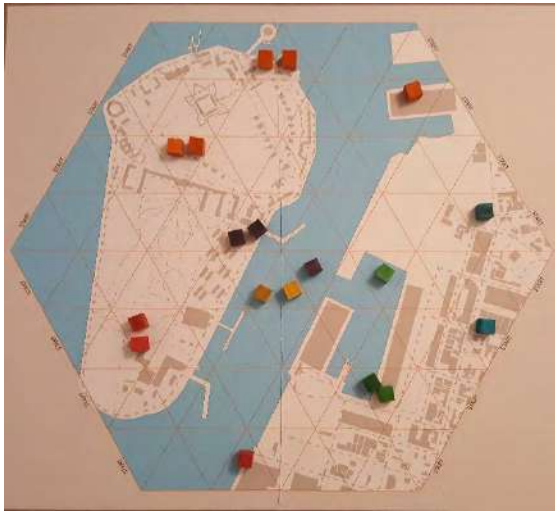
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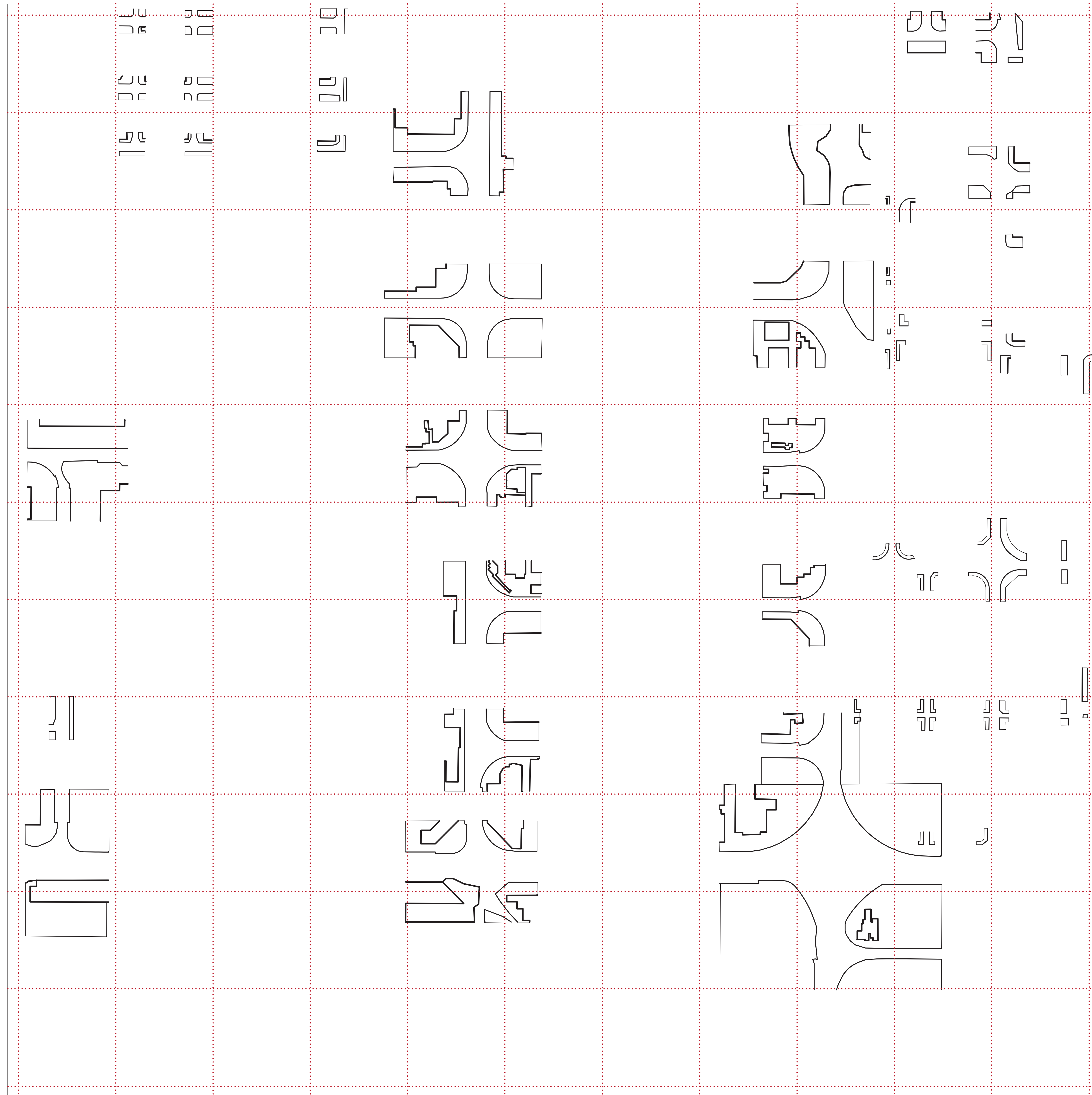


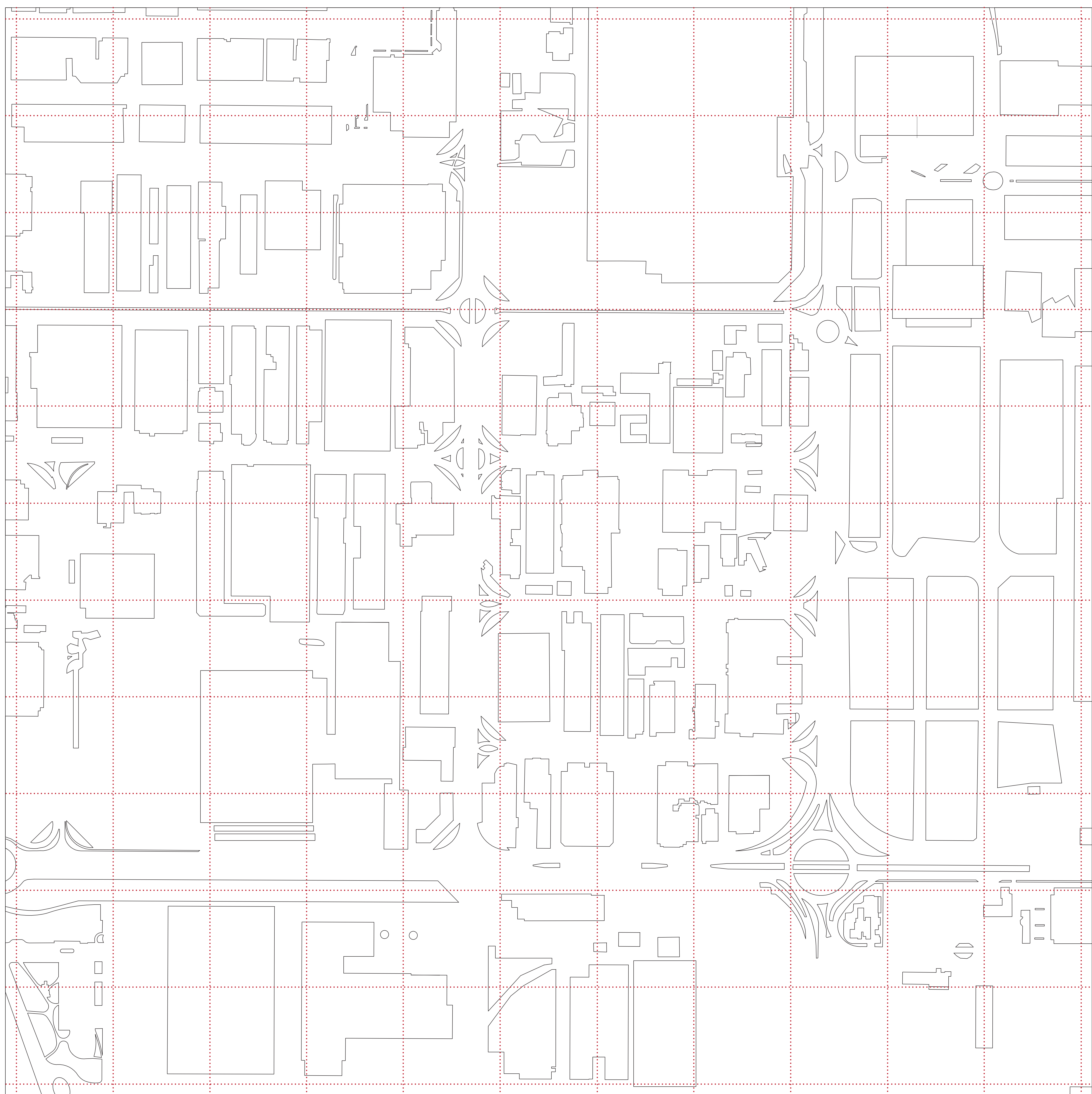
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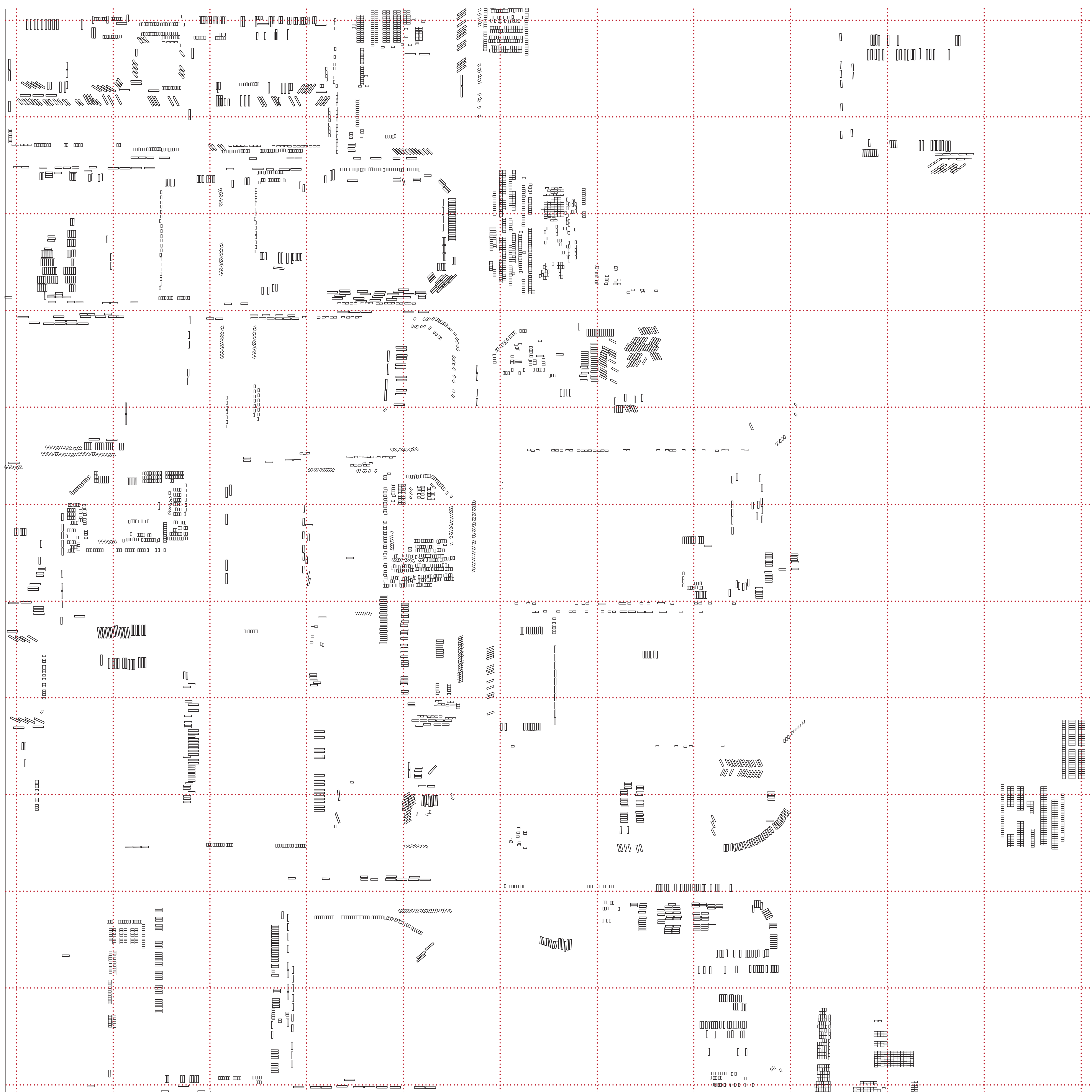


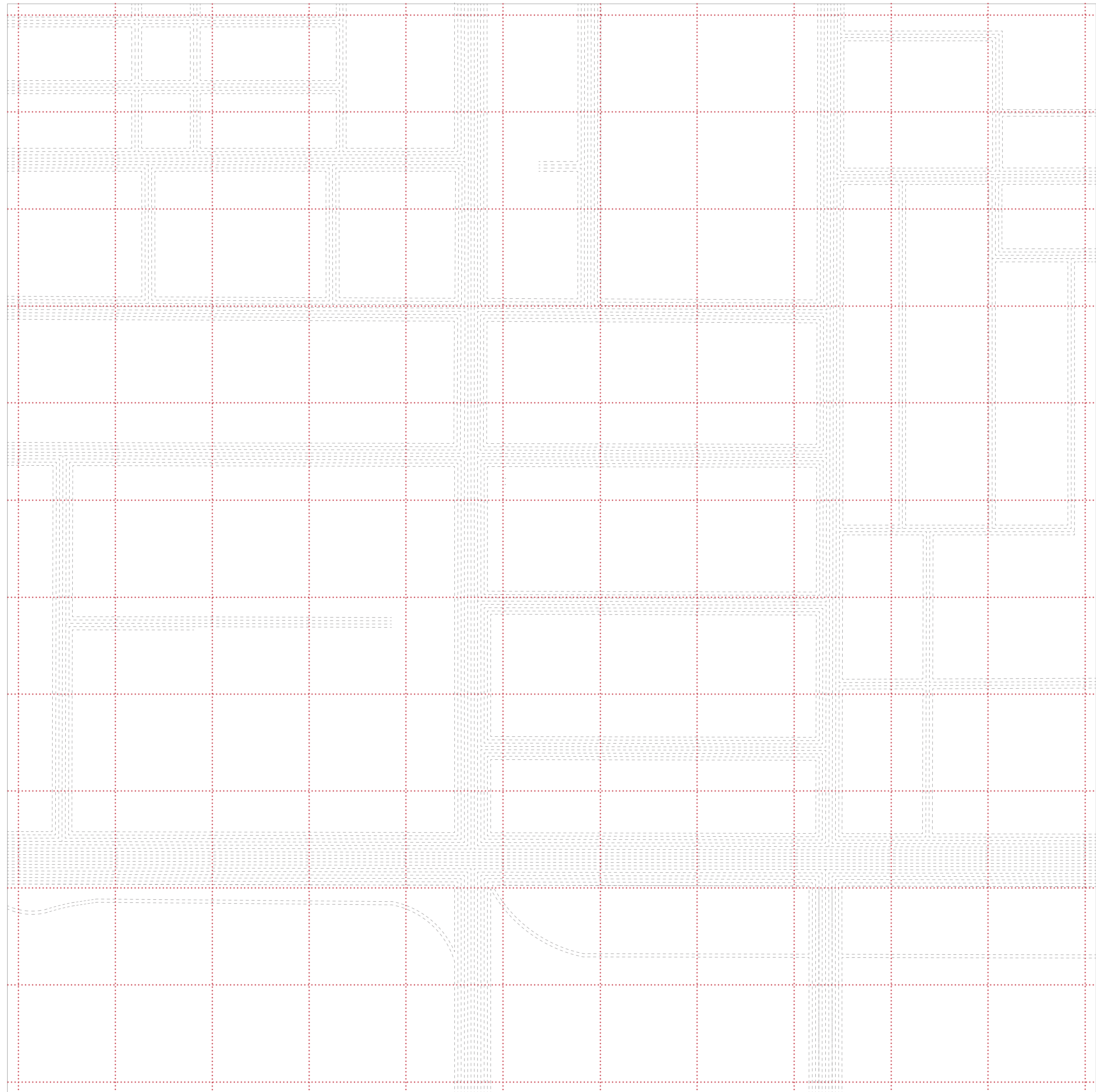
Game 4

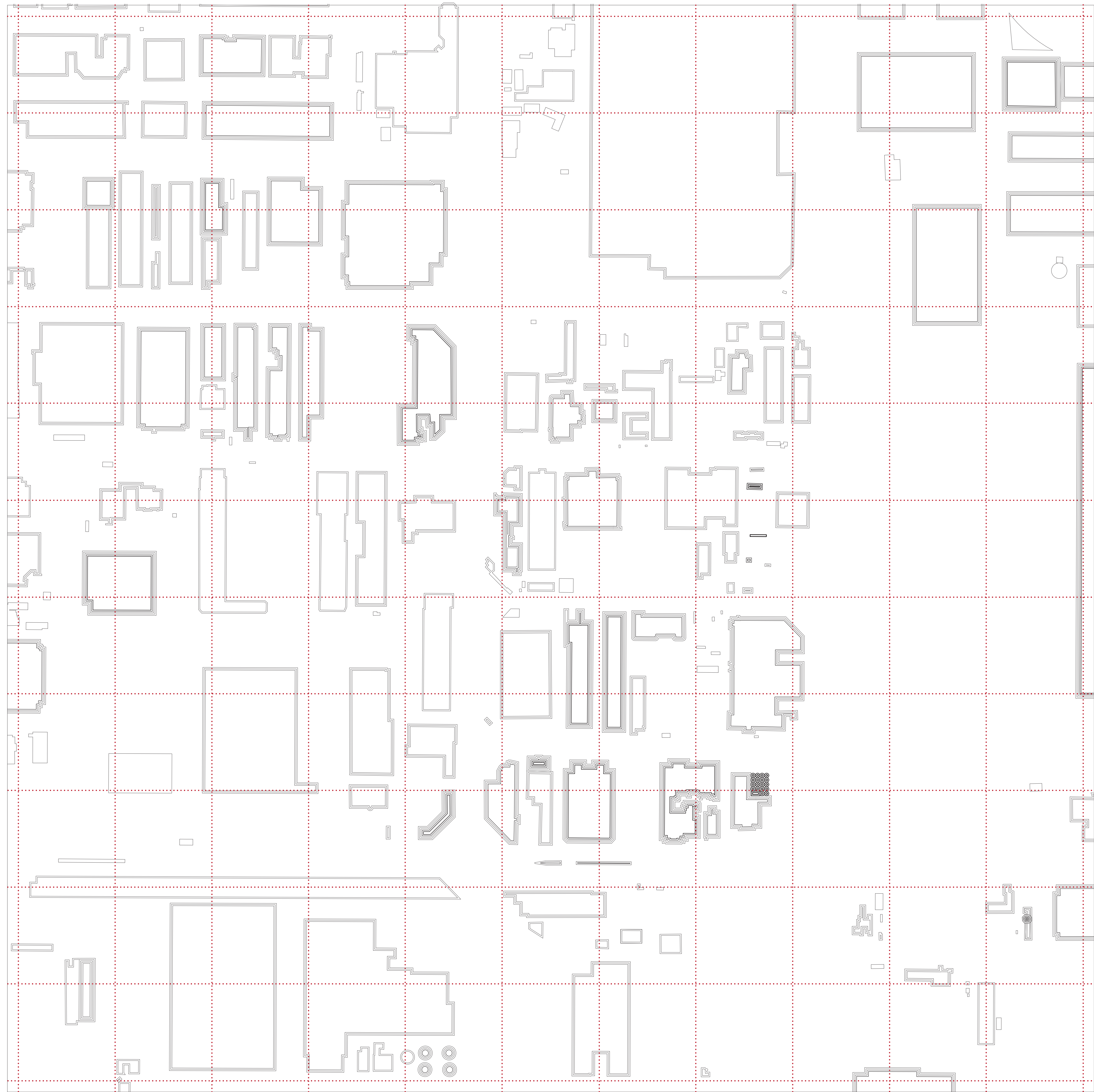






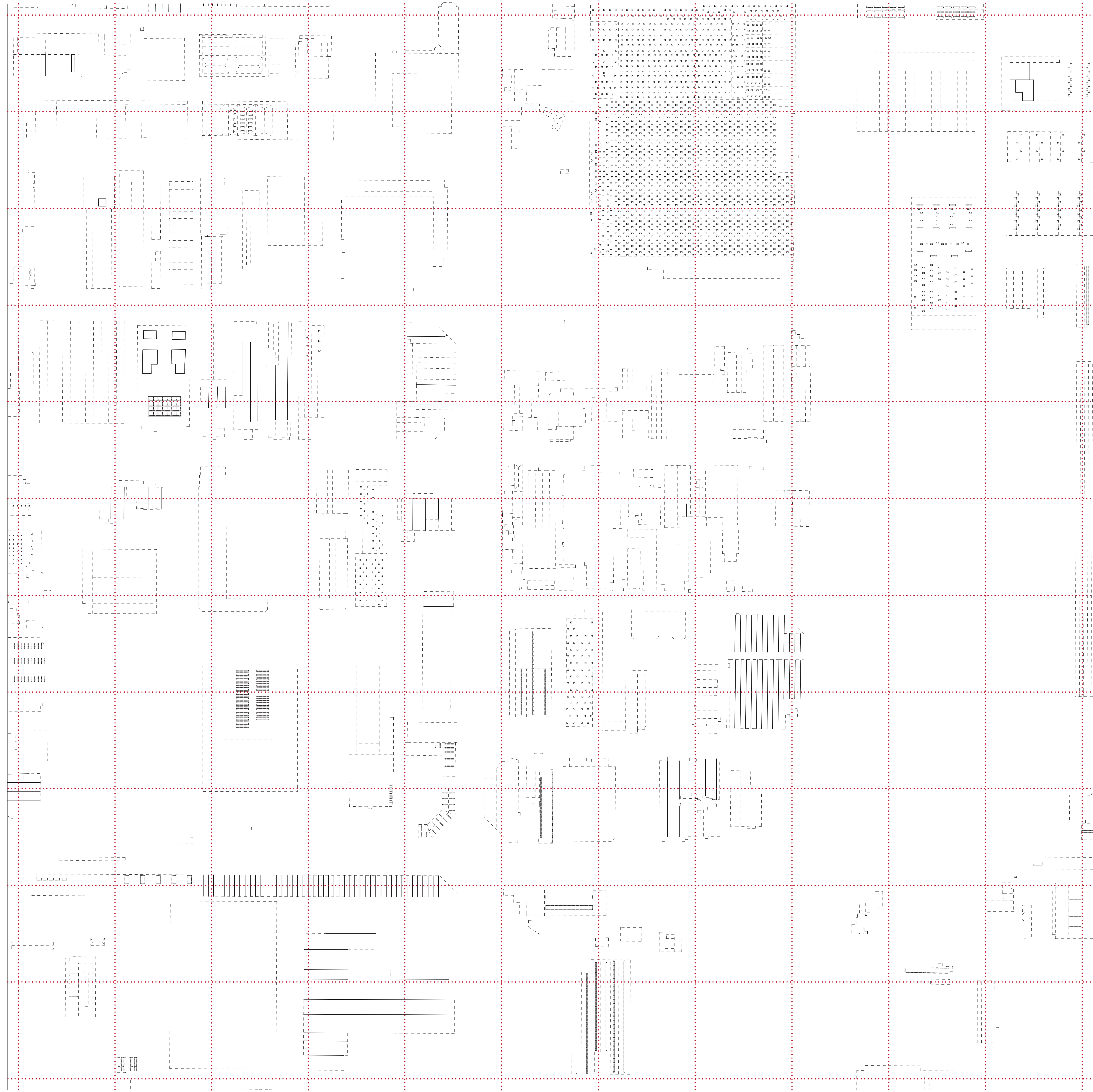


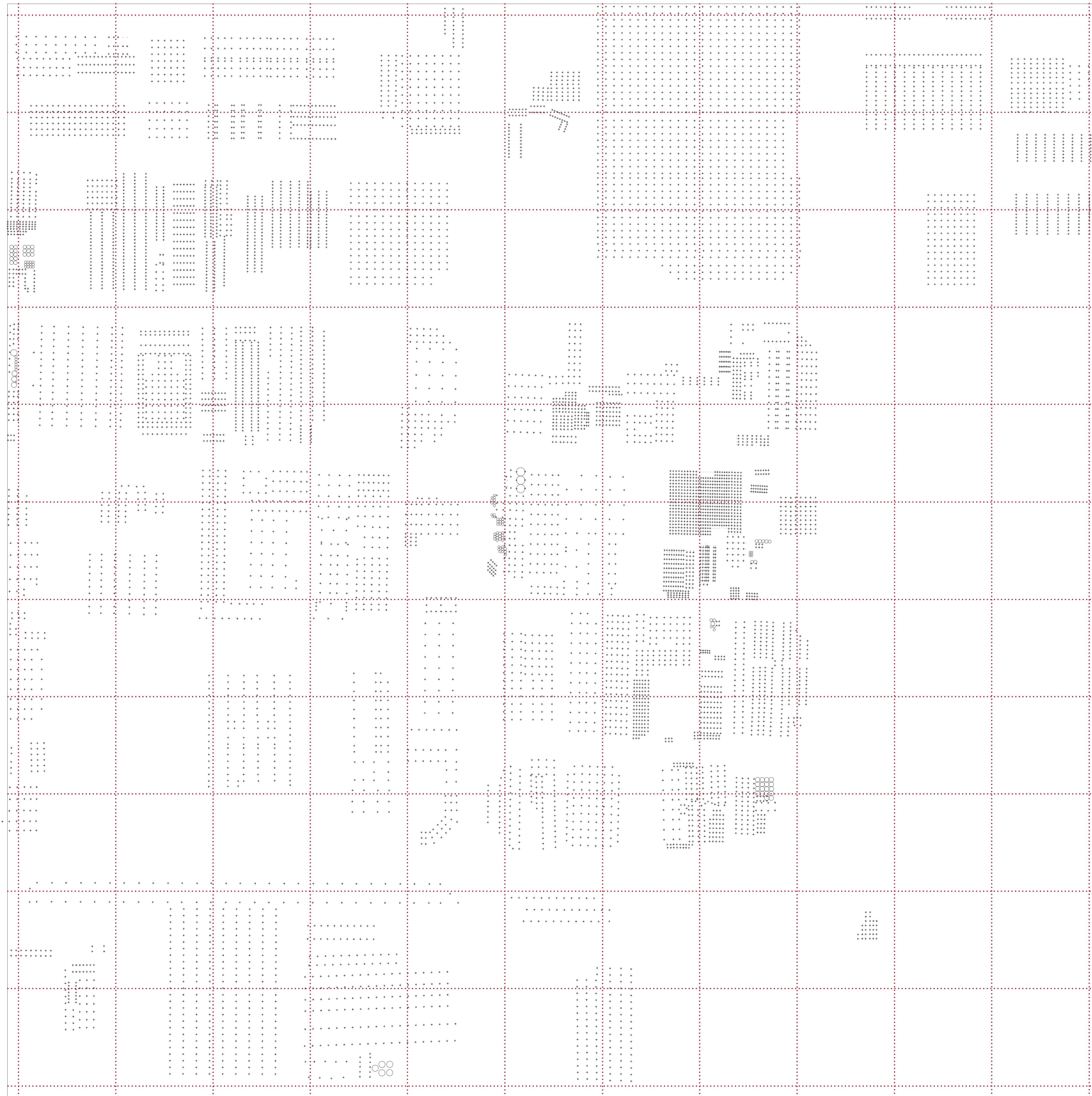


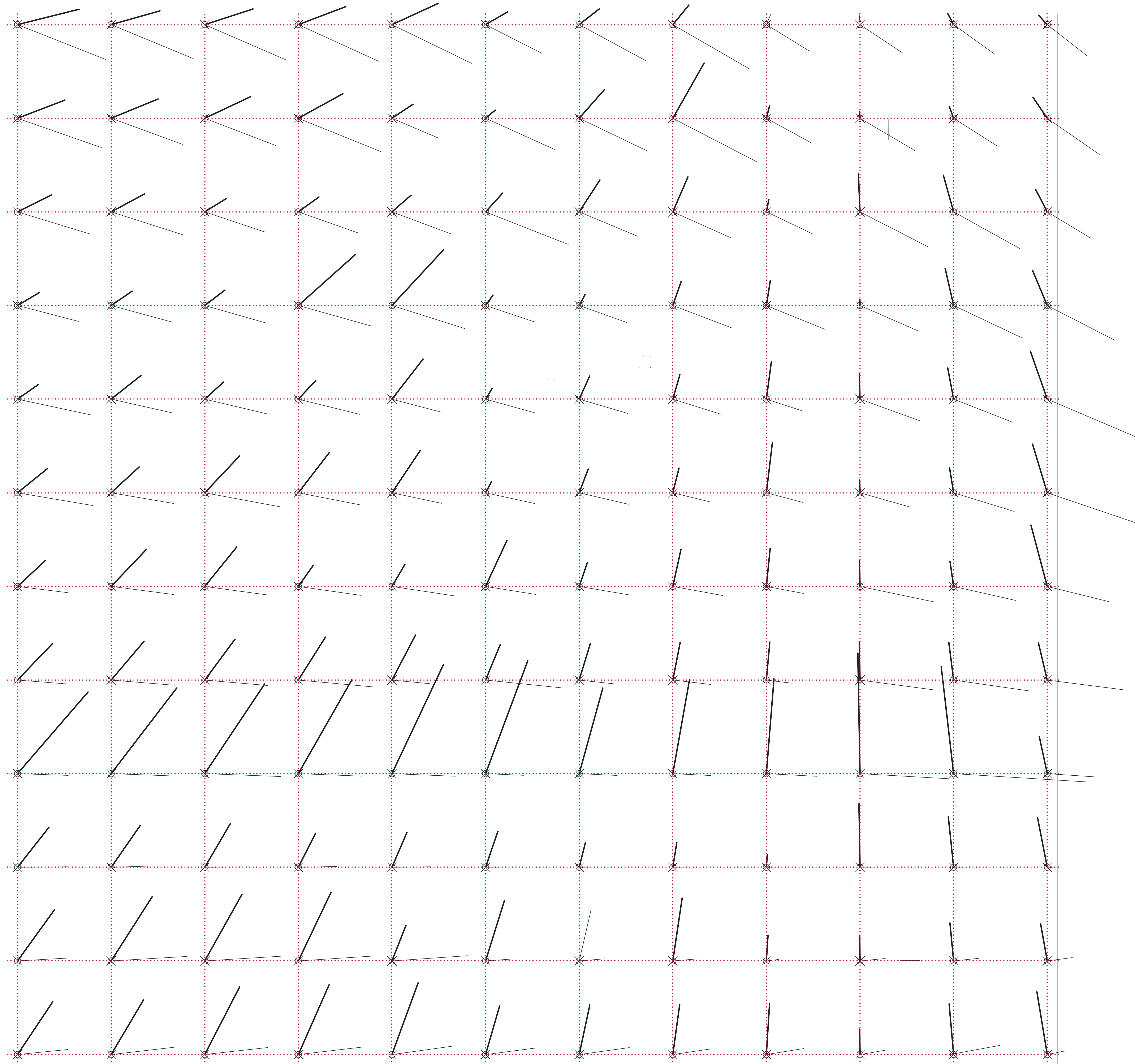


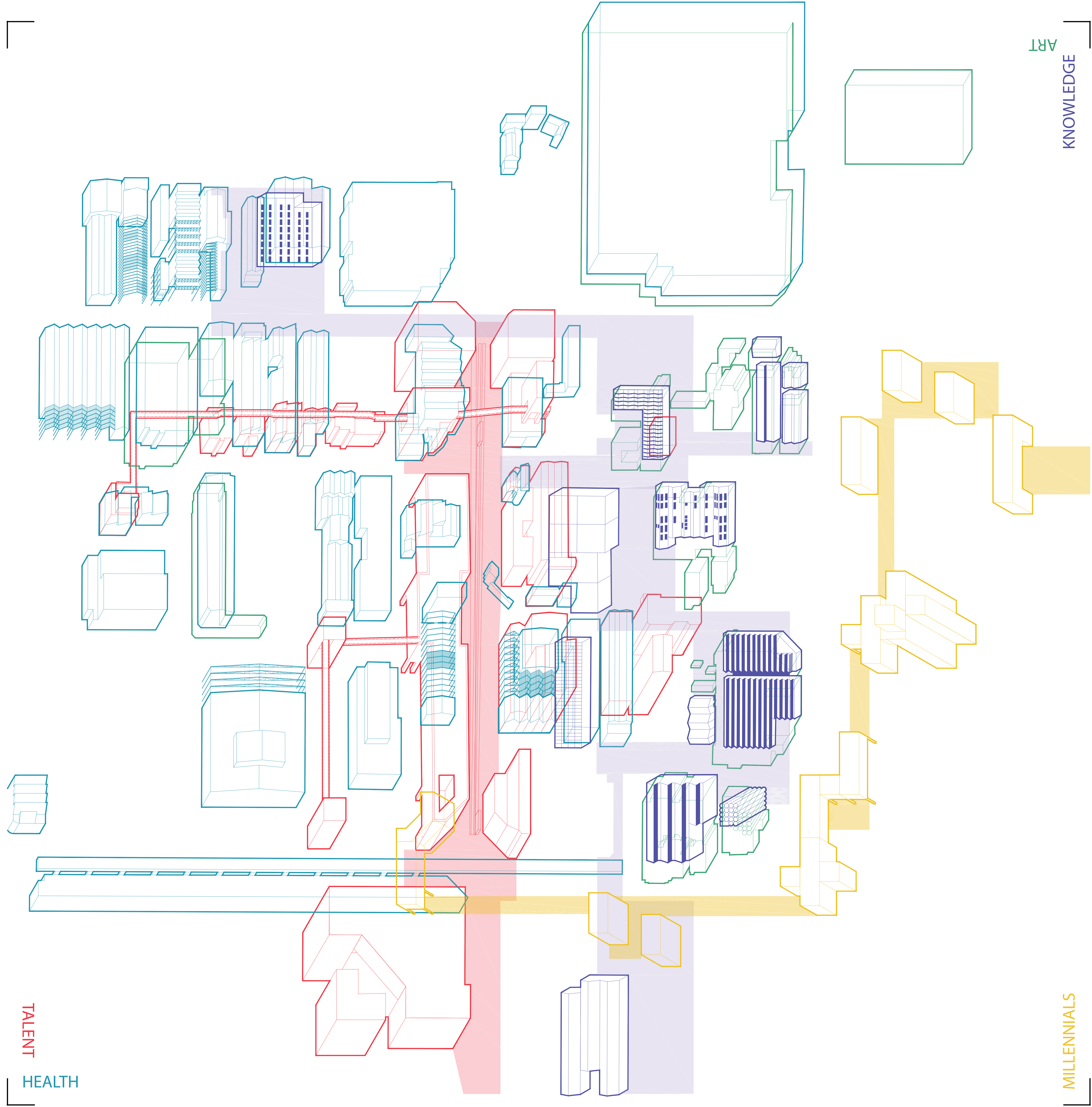












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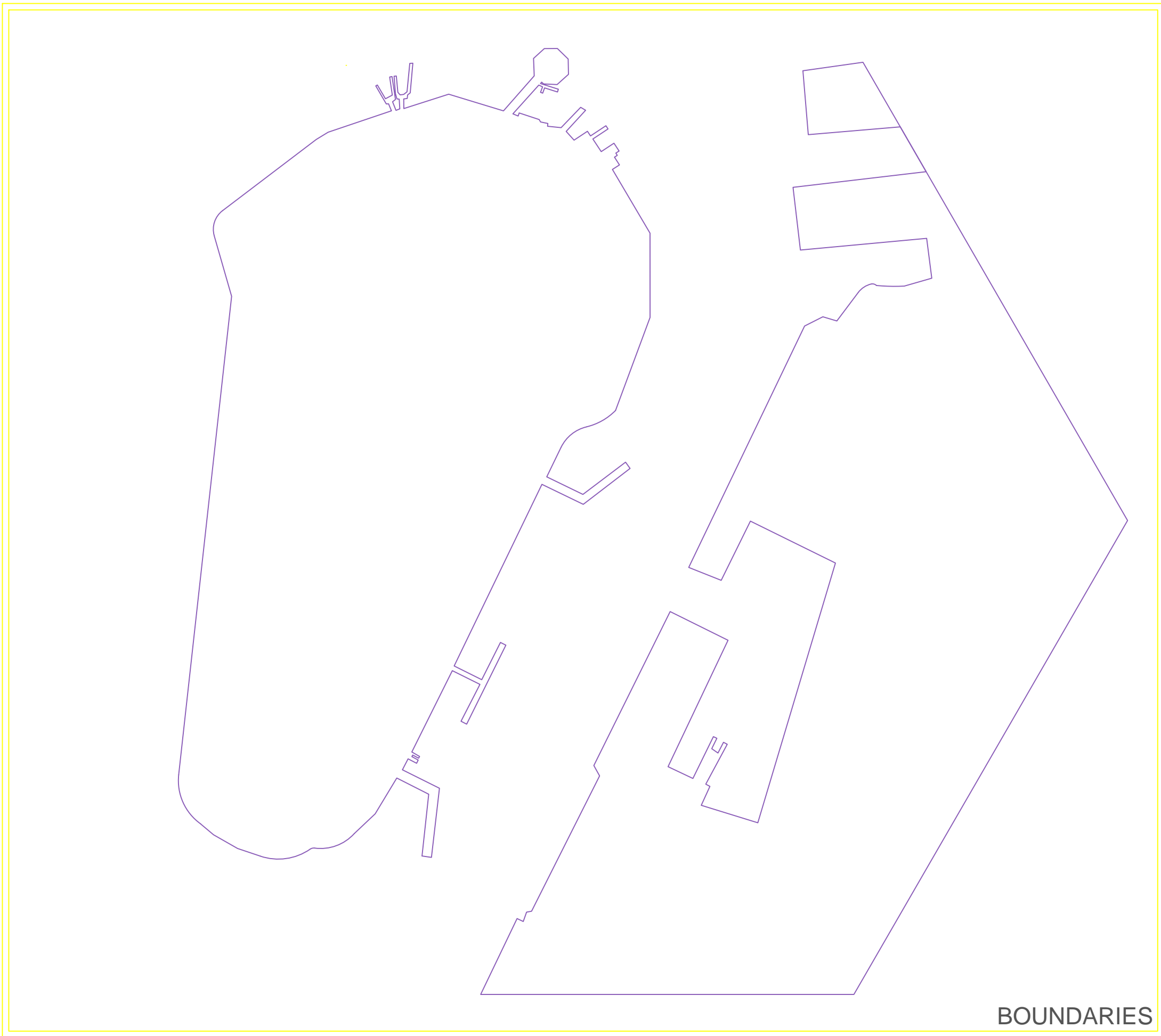
HEALTH

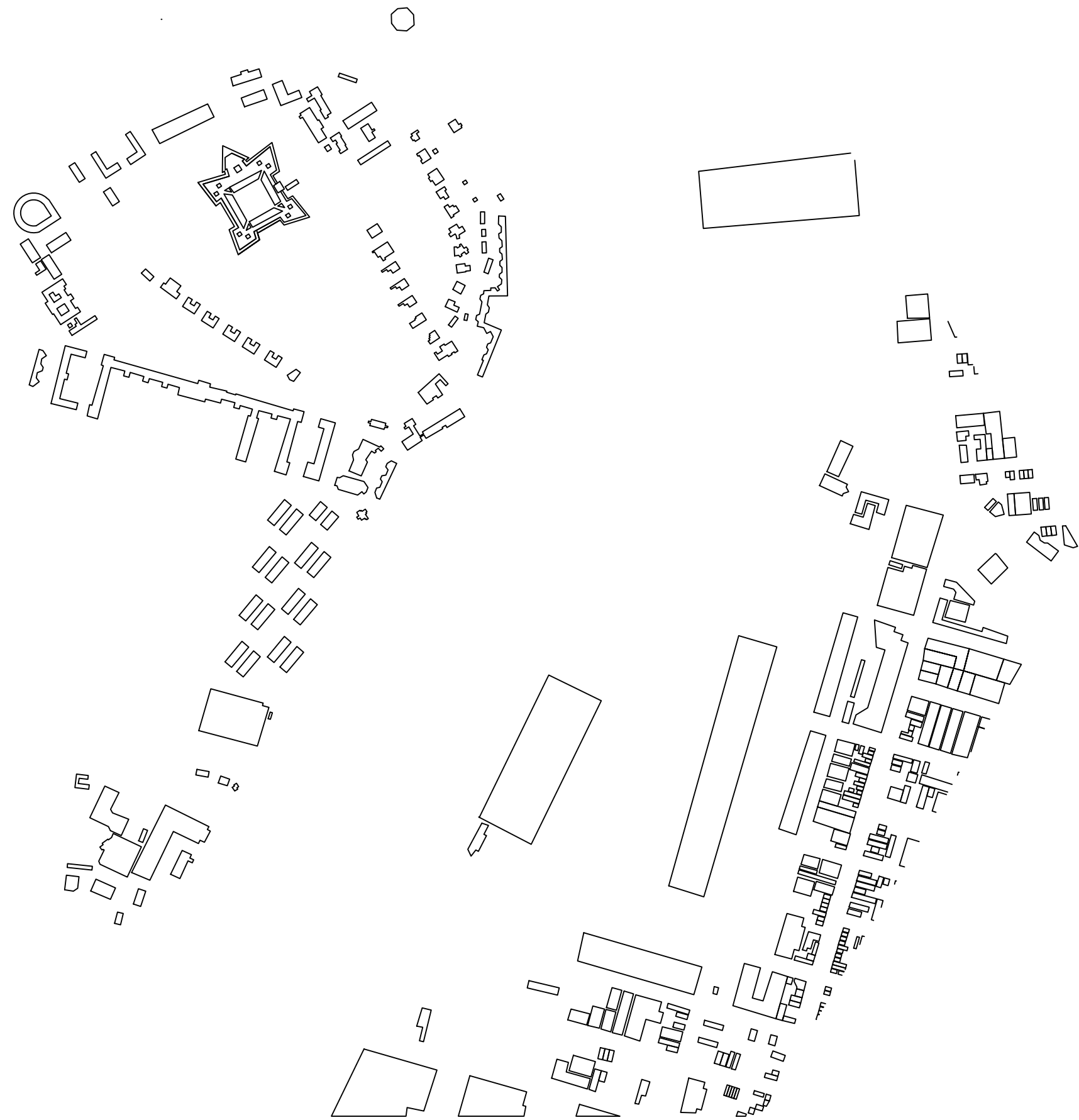
ART

KNOWLEDGE

MILLENNIALS

APPENDIX D

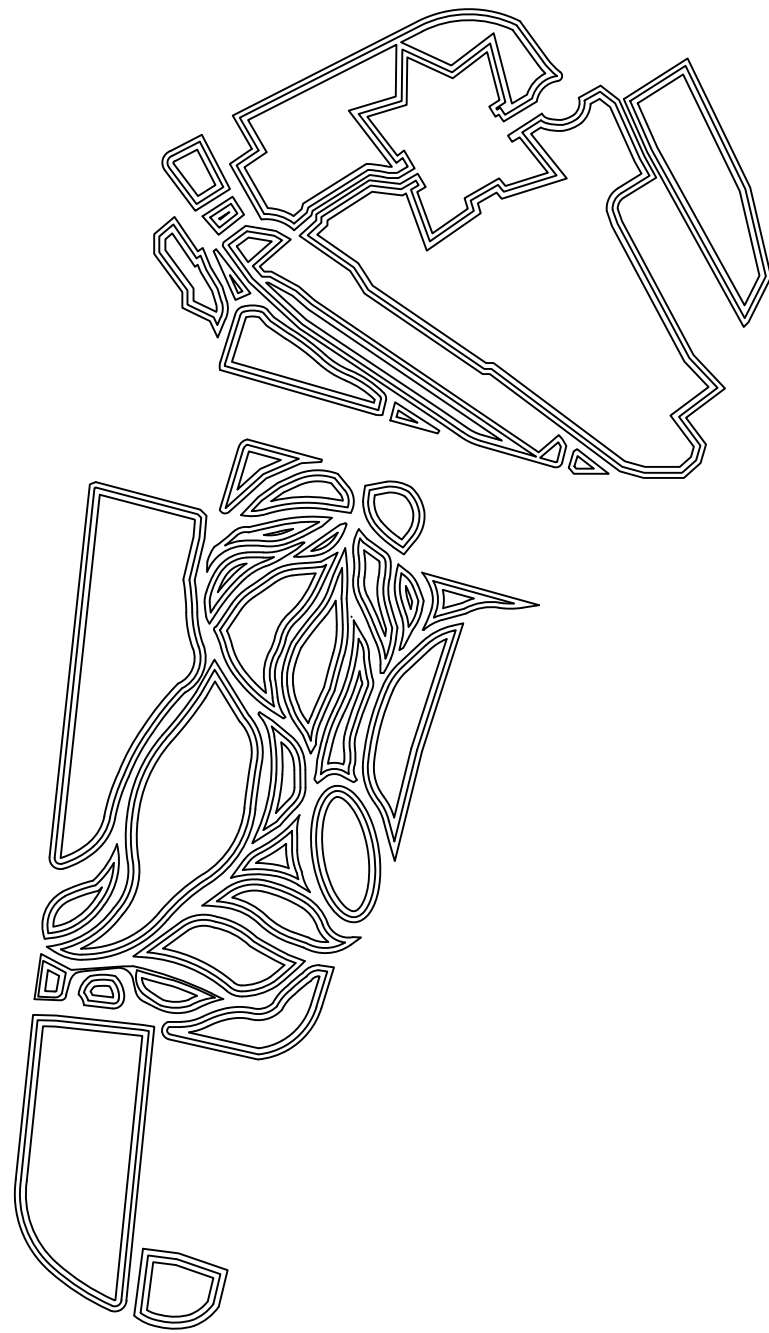




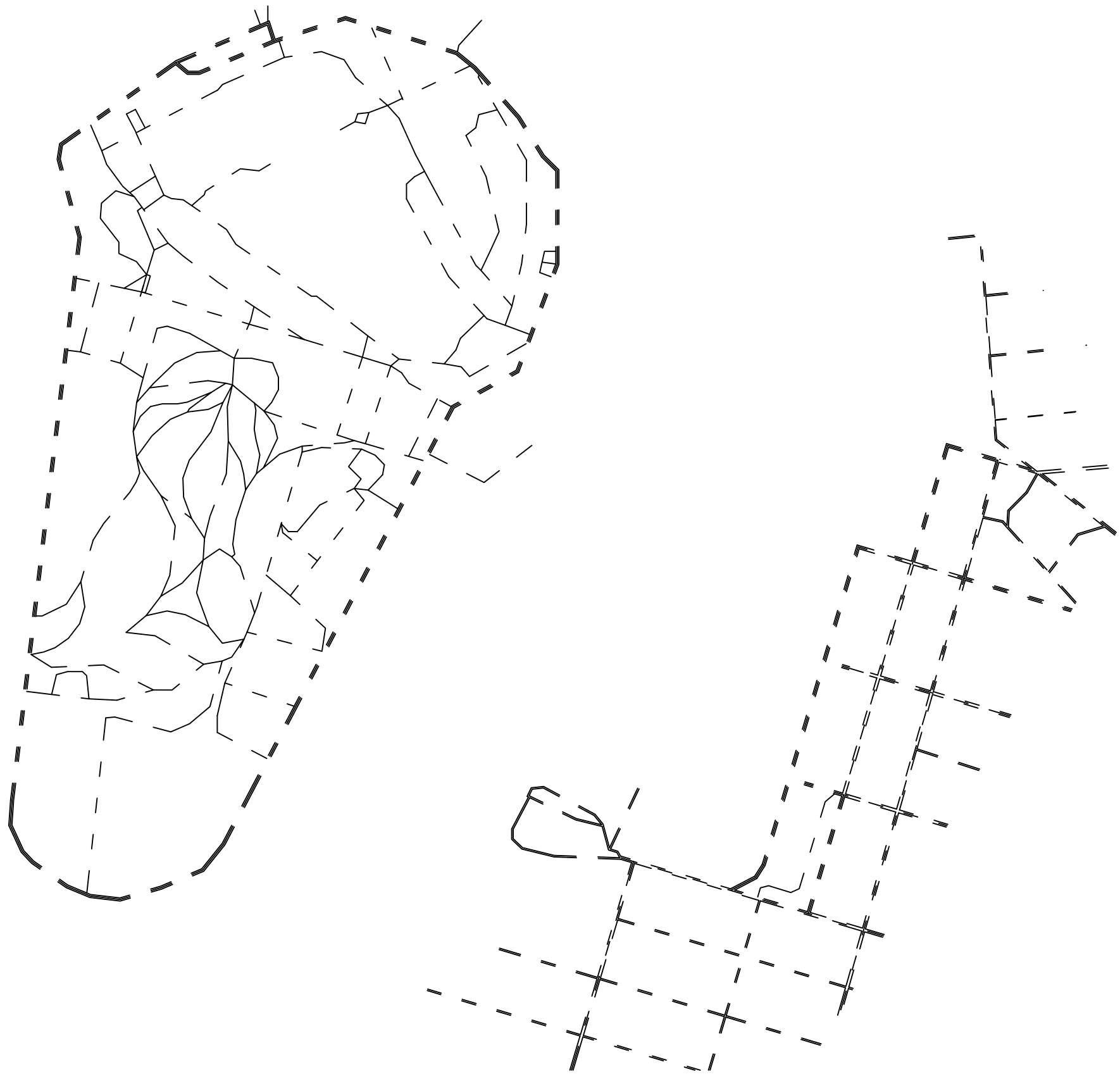
BUILT







GREEN SPACE



HIERACHY