[UN]PREDICTABLE SUBURBIA

An Exploration of Rules, Representation, & Rigidity

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

Suburbia presents itself as an uninspiring, homogenous landscape, where our personal lot lines define our boundaries of care. Characterized by detached houses with private gardens and fences, the controlled and uniform design of these spaces, which are rooted in historical policy, greatly limits potential for social and spatial complexity. As experts in charge of understanding the rules, guidelines, and best practices that dictate the design of urban zones, we often confront this entrenched reality, built through decades of regulatory frameworks.

This thesis anchors itself within urbanism, exploring the boundaries and intersections between rules, guidelines, and suggestions. It tests various design methodologies that work within established frameworks of control to subvert suburban monotony and enable greater agency and complexity. Rather than rejecting urban rules outright, the research examines how both control and agency can coexist to produce varied and unexpected outcomes within a suburban context.

Drawing upon the work of Michael Sorkin's *Local Code*, Alex Lehnerer's *Grand Urban Rules*, Ekim Tan's *Play the City*, and Archizoom's *No Stop City*, the thesis develops a novel, iterative design methodology combining analytical study with tests of agency and complexity. This method critically examines and reimagines urban rules through design experimentation aimed at uncovering new possibilities for suburban transformation.

This thesis offers both a theoretical critique of suburban spatial and social homogeneity, as well as a practical methodology for designers to engage with and reshape suburban environments. By reframing suburbia as a space of controlled agency, this work encourages architectural and urban innovation within traditionally rigid, mono-programmatic landscapes. Thus, suburbia is positioned not as a fixed condition, but rather a mutable environment capable of supporting complexity and social diversity.

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Google Maps. "Google street view looking into the cul-de-sac on 8 Mayfair Ct." n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Grand+River+South,+Kitchener,+ON/@43.4515347,-80.4361423,3a,60y,110.98h,92.51t/data=!3m7!1e1!3m5!1s-LjjAVMEzOVM0n82UHZ-3g!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D-2.510212559859866%26panoid%3D-LjjAVMEzOVM0n82UHZ-3g%26yaw%3D110.97693065660047!7i16384!8i8192!4m6!3m5!1s0x882b8b75a18d0b9b:0xf521d54ec6c2e138!8m2!3d43.4480685!4d-80.4047401!16s%2Fm%2F0cqzwvw?entry=ttu&g_ep=EgoyMDI1MTExNi4wIKXMDSoASAFQAw%3D%3D;

Google Maps. “Google street view looking into Eby Park from Holborn Dr.” n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Grand+River+South,+Kitchener,+ON/@43.4514073,-80.4380203,3a,60y,151.26h,86.77t/data=!3m7!1e1!3m5!1srnjuacUDpzFOzmY3zHPwkQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_;

Zarti, Shada. Idlewood Greenway. August 2024. Photograph. Google Maps. https://www.google.com/maps/place/Idlewood+Greenway/@43.4501358,-80.4315853,3a,75y,90t/

FIGURE 3.64 **Erin Mills, Mississauga – Plan** **p.142**

Drawing by Author, 2025.

FIGURE 3.65 **Erin Mills, Mississauga – Street Images** **p.142**

Smith, Timothy. “360 street view looking southeast into a greenway” n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Erin+Mills,+Mississauga,+ON/@43.5476098,-79.7227245,3a,75y,134.58h,93.49t/data=!3m8!1e1!3m6!1sCIHM0ogKEICAgIDa3-Ca1AE!2e10!3e11!6shttps:%2F%2Flh3.googleusercontent.com%2Fgpms-cs-s%2FAPRy3c9hqxMLDnjXh5hhSpJqUpf8ro6P_8-r2aR4CBi8U21leSfjby6oI4RT9u-pgkAAxD8t-EZa4cyPPNq8_fzYhaHV8bvVWng7GU2ydj1nNDg4hAPQmP46-trSs-CizaaSkXuXNuk-BA%3Dw900-h600-k-no-pi-3.4948496458184906-ya147.5846502514779-ro0-fo100!7i10240!8i5120!4m6!3m5!1s0x882b43c85bc3cb3d:0x7ca71a00f145bd55!8m2!3d43.5491367!4d-79.7175219!16zL20vMDc1dl9i?entry=ttu&g_ep=EgoyMDI1MTExNi4wIKXMDSoASAFQAw%3D%3D;

Google Maps. “Google street view looking down Respond Rd.” n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Erin+Mills,+Mississauga,+ON/@43.5462534,-79.7234012,3a,60y,90t/data=!3m7!1e1!3m5!1su9HxnnfUYphoYz-_aSv8ag!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_;

Google Maps. “Google street view looking down Eglinton Ave W.” n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Erin+Mills,+Mississauga,+ON/@43.5476175,-79.7193241,3a,60y,233.02h,93.97t/data=!3m7!1e1!3m5!1sgrDhspTvQzLeLh-5siI7Dg!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D-3.9746909168325 29%26panoid%3DgrDhspTvQzLeLh-5siI7Dg%26yaw%3D233.01581549004592!7i13312!8i6656!4m6!3m5!1s0x882b43c85bc3cb3d:0x7ca71a00f145bd55!8m2!3d43.5491367!4d-79.7175219!16zL20vMDc1dl9i?entry=ttu&g_ep=EgoyMDI1MTExNi4wIKXMDSoASAFQAw%3D%3D

FIGURE 3.66 **Milliken, Scarborough – Plan** **p.143**

Drawing by Author, 2025.

FIGURE 3.67 **Erin Mills, Mississauga – Street Images** **p.143**

Google Maps. “Google street view looking down Dynasty Dr.” n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Milliken,+ON/@43.8330564,-79.2855534,3a,60y,259.87h,98.6t/data=!3m7!1e1!3m5!1stAWg2blRiQPTrAmUihRoxQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D-8.5954968475477 07%26panoid%3DtAWg2blRiQPTrAmUihRoxQ%26yaw%3D259.8736223265621!7i16384!8i8192!4m6!3m5!1s0x89d4d6af4e08d39d:0xfad5f42f714df65a!8m2!3d43.8273667!4d-79.2652241!16s%2Fg%2F1z264pxly?entry=ttu&g_ep=EgoyMDI1MTExNi4wIKXMDSoASAFQAw%3D%3D;

Google Maps. “Google street view looking towards Wilclay Park from Worthing Ave.” n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Milliken,+ON/@43.8350306,-79.2830784,3a,75y,162.51h,88.56t/data=!3m7!1e1!3m5!1sMH777t6YfXSElvFop8UW9Q!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_;

Google Maps. “Google street view approaching Wilclay Park School” n.d. Accessed 14 November, 2025. https://www.google.com/maps/place/Milliken,+ON/@43.8324523,-79.282018,3a,75y,296.16h,94.21t/data=!3m7!1e1!3m5!1sn4NlvKt7i5pfTUuB5XpiUQ!2e0!6shttps:%2F%2Fstreetviewpixels-pa.googleapis.com%2Fv1%2Fthumbnail%3Fcb_client%3Dmaps_sv.tactile%26w%3D900%26h%3D600%26pitch%3D-4.208342727186 96%26panoid%3Dn4NlvKt7i5pfTUuB5XpiUQ%26yaw%3D296.16128465404233!7i16384!8i8192!4m6!3m5!1s0x89d4d6af4e08d39d:0xfad5f42f714df65a!8m2!3d43.8273667!4d-79.2652241!16s%2Fg%2F1z264pxly?entry=ttu&g_ep=EgoyMDI1MTExNi4wIKXMDSoASAFQAw%3D%3D

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Drawing by Author, 2025.

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Photograph by Author, 2025.

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Photograph by Author, 2025.

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Drawing by Author, 2025.

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Photograph by Author, 2025.

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EdoM. Andrea Branzi at the Domus Academy accademic year inauguration. 17 January 2008. Photograph. Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Andrea_Branzi_20080117.png. Edited by Author.

FIGURE 3.74 ***Weak and Diffuse Modernity* by Andrea Branzi** **p.157**

Weak and Diffuse Modernity, Book Cover. In *Weak and Diffuse Modernity: The World of Projects at the Beginning of the 21st Century*, by Andrea Branzi. Skira, 2006.

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Redrawn by Author, 2025. Informed by *Weak and Diffuse Modernity: The World of Projects at the Beginning of the 21st Century*, by Andrea Branzi. Skira, 2006, 72–73.

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SimonP. Houses in Don Mills. 19 April 2009. Photograph. Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Don_Mills_homes.JPG. Edited by Author.

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Drawing by Author, 2025.

FIGURE 3.78 ***The Shape of the City* by John Sewell** **p.159**

The Shape of the City, Book Cover. In *The Shape of the City: Toronto Struggles with Modern Planning*, by John Sewell. University of Toronto Press, 1993.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2026.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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Drawing by Author, 2025.

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	Drawing by Author, 2025.	
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	Drawing by Author, 2025.	
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	Photograph by Author, 2025.	
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	Drawing by Author, 2025.	
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INTRODUCTION

INTRODUCTION

THE AMERICAN SUBURB strikes a clear image in our minds: detached single family homes surrounded by manicured lawns, private gardens and white picket fences. These landscapes are defined by strict urban codes that mandate setbacks, minimum lot sizes, and uniform street patterns, promising values of freedom and individuality through the private ownership of homes and personal space.

Through the proliferation and expansion of this model, many now live within the manufactured landscape of the American suburbs. As of 2020, 54.6% of Americans live in areas defined as the suburbs.[1] In Canada, this number is much larger, at 66% in 2021.[2] Thus, suburbia is a significant yet also contested urban form. As suburban sprawl continues to expand, the cracks within its facade of freedom and individuality begin to show. Contemporary critique of suburbia becomes commonplace, criticizing the way that it expands without regard for its ecological impact, as well as the way that it affects an individual's relationship with their direct neighbours and the broader community.

The suburban model's ideal of freedom, individuality, and prosperity fails in its endeavour to deliver upon these promises, instead enforcing conformity and isolation through the over-rigidity of its demands. This conflict between freedom and conformity lies at the heart of a model that shapes both landscapes and lives, where physical boundaries transcend into psychological ones, limiting opportunities for spontaneous interaction and community formation.[3]

POSITIONALITY

As a second-generation immigrant in Canada, I have the privilege of living within the suburbs of Southern Ontario. My parents, having left Vietnam in search of a better life, came to Canada under the promise of the North American, suburban dream. Having earned citizenship of this dream via occupation of a suburban home, my parents seized the fruits of their labour. In opposition to our homogenized surroundings, they chose to customize their home with lush gardens, custom doors with elaborate detailing, as well as lights and projections that brighten up our corner of the neighbourhood all year. My parents, having complete control over their property within its individual lot lines, exerted immense amounts of agency over its appearance. With a home that was not like any other, we chose to live within our lot lines very differently than our neighbours.

PROVOCATION

In the present, as I walk through the neighbourhood that I grew up in, with rows and rows of seemingly identical homes, I begin to question its homogeneity, from the perspective of an inhabitant, but also from the perspective of an architecture student. I wondered why homes, streetlights, trees and roads appear to be the same, and why these observations pervade across many neighbourhoods in southern Ontario regardless of nearby context. As inhabitants of individual lots, we occupy and exert agency within our established lot lines, yet as inhabitants of a shared urban environment, that level of engagement fails to extend outwards. With these observations as a catalyst, the site of investigation for this thesis is not suburbia, but rather control/agency, homogeneity/heterogeneity, and complexity, with suburbia as the subject for experimentation.



FIGURE 1.1 1960s Philadelphia Electric Company Marketing Campaign Depicting The Idealized American Suburbia

1. Becky M. Nicolaides, *The New Suburbia: How Diversity Remade Suburban Life in Los Angeles After 1945* (Oxford University Press, Incorporated, 2024).
2. David Gordon and Remus Herteg, *Canadian Suburbs Atlas* (University of Toronto, 2023), 4, https://schoolofcities.utoronto.ca/wp-content/uploads/2023/08/Canadian_Suburbs_Atlas_v14.pdf.
3. Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects*, A Harvest Book (Harcourt, Inc, 1989), 513, quoted in John Sewell, *The Shape of the City: Toronto Struggles with Modern Planning* (University of Toronto press, 1993), xv.

This thesis exists in three parts: the first chapter traces the history of regulation and control. The second chapter expands upon the tension between control and agency in relation to theories of complexity. Lastly, the thesis culminates with a series of design explorations intended to subvert the logic which underlie the suburbs with the intent of generating more social and spatial complexity.

TRACING HISTORY

CHAPTER 1 "The DNA of the Suburbs" traces the history of urban control leading up to the creation of regulatory processes that invented, shaped, and proliferated planned development. This chapter unravels historical precedents, legislative influences, as well as implicit social codes; thus, placing suburbia as a product of deliberate choices about control, order and exclusion. By situating why these patterns exist, the suburbs are presented as the result of entrenched control suggesting its importance as a site for design intervention.

THEORIES OF CONTROL AND AGENCY

CHAPTER 2 "Control vs. Agency" shifts the focus of the thesis towards an examination of the tension between control and agency, suggesting that controlled agency, which exists in-between these two dichotomies, carries the potential to generate socially complex environments that enable propinquity and trust formation.

DESIGN EXPERIMENTATION

CHAPTER 3 "Methods of Subversion" explores various methods of subversion that are tested and evolved throughout the thesis: a study of urban rules, a test of design agency, as well as a test of representation through notation. The goal of these exploratory studies is to identify and mediate forces of control and agency, culminating in a design method that allows one to design spaces with controlled agency.

Thus, the thesis seeks to answer the following research questions:

1. How could one work within a framework of control to generate socially complex and diverse spaces?
2. What design methods are there to bridge the gap between control and agency in the design of suburbia?
3. What do socially and spatially complex spaces look like and how could this be represented, communicated, and measured within a proposed design methodology?

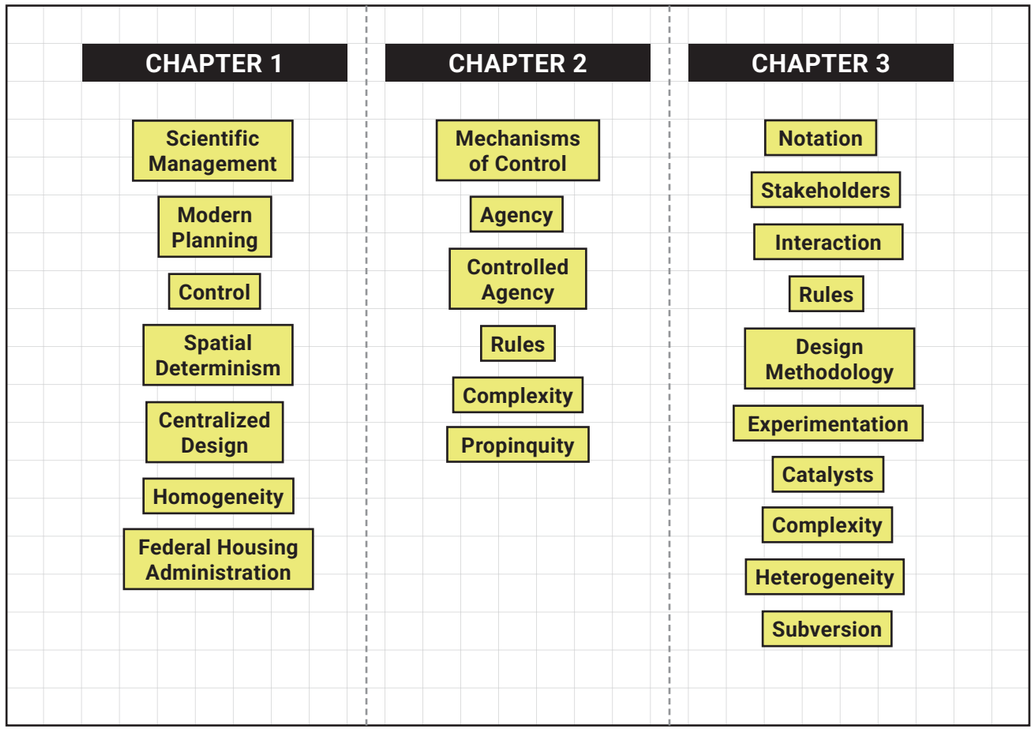


FIGURE 1.2 Thesis Concepts by Chapter

THE DNA OF THE SUBURBS

THE DNA OF THE SUBURBS

INTRODUCTION

THE RISE OF MODERN PLANNING

FEDERAL FINANCING

WHAT CONSTITUTES THE SUBURBS?

NEW SUBURBIA

INTRODUCTION

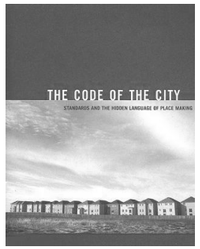


FIGURE 1.3
The Code of the City by Eran Ben-Joseph

In the introduction to his book, *The Code of the City: Standards and the Hidden Language of Place Making*, Eran Ben-Joseph uses the following quote by Julius Caesar: "All bad precedents began as justifiable measures."[4] This quote suggests that decisions and measures that have led to negative outcomes, were introduced under the guise of necessity, expediency, or a perceived greater good.

Despite contemporary critique of the suburban model highlighting issues of inequality, vehicular reliance, and isolation, among other issues, if one were to trace back the origins of this model of living, there underlies a great deal of intelligence.[5] This issue exists as a consequence of a broader positioning of modern planning that placed rigid standards and the role of technocratic urban planning at the forefront of solving the problems of the city.



FIGURE 1.4
Organization Space by Keller Easterling

As Ben-Joseph posits, "[t]oday, communities face problems that have arisen because standards intended for health and safety have become disconnected from the original rationale for their existence."[6] Many of the issues that plague post-modern planning today originated from mandates that were originally designed to improve the living conditions of cities within the late nineteenth and early twentieth centuries, which now persist without direct relevance to present-day conditions.[7]

4. Eran Ben-Joseph, *The Code of the City: Standards and the Hidden Language of Place Making*, Urban and Industrial Environments (MIT Press, 2005), xiii.
5. Keller Easterling, *Organization Space: Landscapes, Highways, and Houses in America* (MIT Press, 1999), 129.
6. Eran Ben-Joseph, *The Code of the City*, xvi.

When viewed as individual regulations, codes and their effects may be perceived as minor and perhaps inconsequential; however, when viewed as an aggregate, these codes exert a profound amount of influence on the built environment.[8] This is evident in the logic of roads, the size and distribution of public space, the separation of programs, as well as the shape and placement of buildings. Because of this evolution, attempts to subvert these conditions are often lost in service of meeting the over-rigidity of these demands.

CHAPTER 1 traces this history of regulation to situate why patterns of homogeneity exist in urbanism. From its beginning in unplanned development, towards solutions based in scientific management, through to its entrenchment within over-rigid regulatory frameworks. In this chapter, suburbia is shown as a product of deliberate choices of control, order, and exclusion.

"All bad precedents began as justifiable measures."
— Julius Caesar

7. Eran Ben-Joseph, *The Code of the City*, xiii.
8. Eran Ben-Joseph, *The Code of the City*, xiii–xvii.

THE RISE OF MODERN PLANNING

THE UNREGULATED CITY

Early efforts to regulate urban design emerged as rational and justifiable responses to the nineteenth century city's crises of overcrowding, moral decline, and disease. Over time, however, these measures evolved and solidified into rigid systems that now produce new problems in place of those they were originally meant to solve.

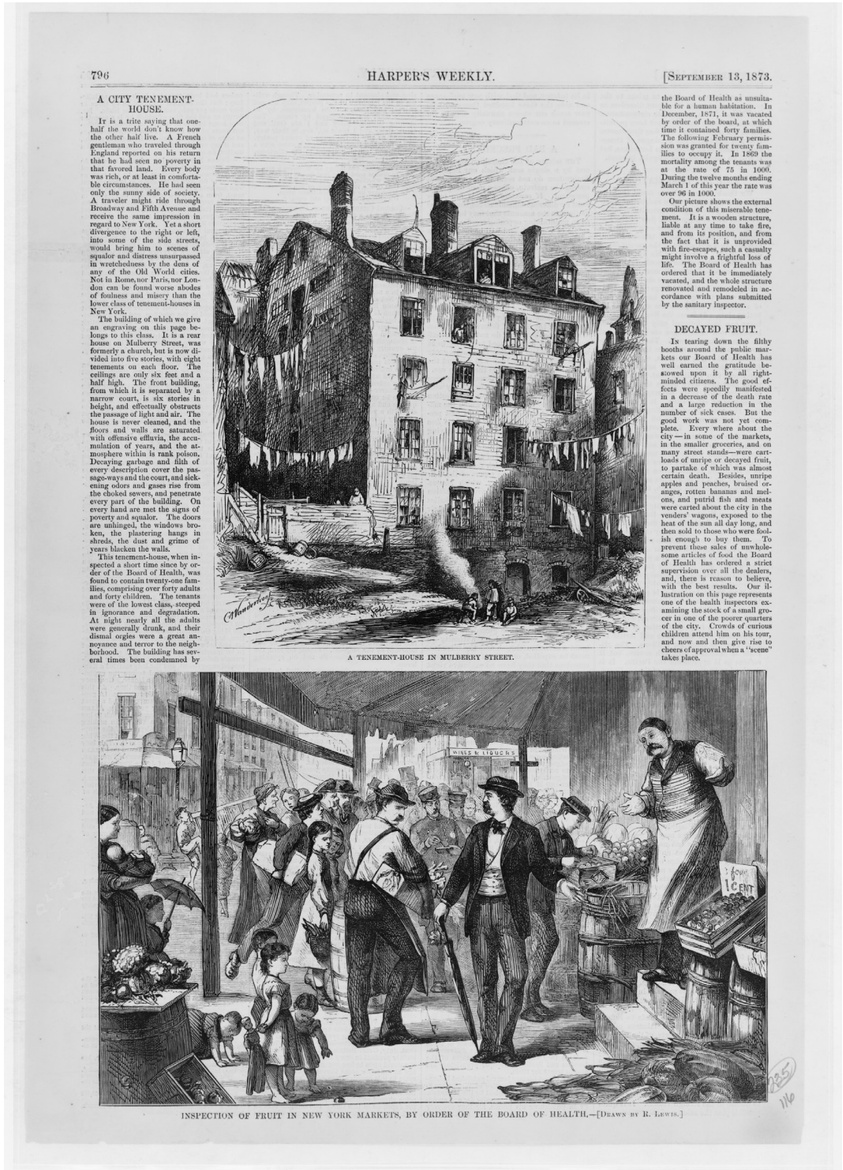
Western industrialized cities in the late nineteenth century became synonymous with overcrowding, moral decline, and disease, especially in rapidly growing centres like New York, London, and Toronto. Tenement slums were common in this period, characterized as poorly built, multi-family dwellings often lacking access to natural light, ventilation, and adequate sanitation. As such, these districts became the focal point for reform and early planning regulation.[9]

RELOCATING THE MIDDLE CLASS

Early urban reformers assumed that the solution for congestion was to redistribute dense populations from the urban core to the urban fringe. This solution was based on a belief that encouraging middle-class households to relocate to these emerging suburbs would relieve the pressure on downtown districts. The housing left behind by this migration would theoretically open paths of upward mobility for the urban poor. At the same time, the new spaces carved out for the middle-class became aspirational landscapes of social and economic stability.[10] To avoid what they saw as the chaos of unregulated growth, reformers increasingly embraced a technocratic planning ethos grounded in principles of spatial determinism and scientific management. A shift that would later become known as the American City Planning movement.

THE AMERICAN CITY PLANNING MOVEMENT

9. Eran Ben-Joseph, *The Code of the City*, 48.
10. Eran Ben-Joseph, *The Code of the City*, 49.



796 HARPER'S WEEKLY. [SEPTEMBER 13, 1873.

A CITY TENEMENT-HOUSE.

It is a trite saying that one-half the world don't know how the other half live. A French gentleman who traveled through England reported on his return that he had seen no poverty in that favored land. Every body was rich, or at least in comfortable circumstances. He had seen only the sunny side of society. A traveler might ride through Broadway and Fifth Avenue and receive the same impression in regard to New York. Yet a short divergence to the right or left, into some of the side streets, would bring him to scenes of squalor and distress unsurpassed in wretchedness by the dens of any of the Old World cities. Not in Rome, nor Paris, nor London can be found worse abodes of foulness and misery than the lower class of tenement-houses in New York.

The building of which we give an engraving on this page belongs to this class. It is a rear house on Mulberry Street, was formerly a church, but is now divided into five stories, with eight tenements on each floor. The ceilings are only six feet and a half high. The front building, from which it is separated by a narrow court, is six stories in height, and effectually obstructs the passage of light and air. The house is never cleaned, and the floors and walls are saturated with offensive effluvia, the accumulation of years, and the atmosphere within is rank poison. Decaying garbage and filth of every description cover the passage-ways and the court, and sickening odors and gases rise from the choked sewers, and penetrate every part of the building. On every hand are met the signs of poverty and squalor. The doors are unhinged, the windows broken, the plastering hangs in shreds, the dust and grime of years blacken the walls.

This tenement-house, when inspected a short time since by order of the Board of Health, was found to contain twenty-one families, comprising over forty adults and forty children. The tenants were of the lowest class, steeped in ignorance and degradation. At night nearly all the adults were generally drunk, and their dismal orgies were a great annoyance and terror to the neighborhood. The building has several times been condemned by the Board of Health as unsuitable for a human habitation. In December, 1871, it was vacated by order of the board, at which time it contained forty families. The following February permission was granted for twenty families to occupy it. In 1869 the mortality among the tenants was at the rate of 75 in 1000. During the twelve months ending March 1 of this year the rate was over 96 in 1000.

Our picture shows the external condition of this miserable tenement. It is a wooden structure, liable at any time to take fire, and from its position, and from the fact that it is unprovided with fire-escapes, such a casualty might involve a frightful loss of life. The Board of Health has ordered that it be immediately vacated, and the whole structure renovated and remodeled in accordance with plans submitted by the sanitary inspector.

A TENEMENT-HOUSE IN MULBERRY STREET.

DECAYED FRUIT.

In tearing down the filthy booths around the public markets our Board of Health has well earned the gratitude bestowed upon it by all right-minded citizens. The good effects were speedily manifested in a decrease of the death rate and a large reduction in the number of sick cases. But the good work was not yet complete. Every where about the city—in some of the markets, in the smaller groceries, and on many street stands—were cartloads of unripe or decayed fruit, to partake of which was almost certain death. Besides, unripe apples and peaches, bruised oranges, rotten bananas and melons, and putrid fish and meats were carted about the city in the venders' wagons, exposed to the heat of the sun all day long, and then sold to those who were foolish enough to buy them. To prevent these sales of unwholesome articles of food the Board of Health has ordered a strict supervision over all the dealers, and, there is reason to believe, with the best results. Our illustration on this page represents one of the health inspectors examining the stock of a small grocer in one of the poorer quarters of the city. Crowds of curious children attend him on his tour, and now and then give rise to cheers of approval when a "scene" takes place.

INSPECTION OF FRUIT IN NEW YORK MARKETS, BY ORDER OF THE BOARD OF HEALTH.—[DRAWN BY R. LEWIS.]

FIGURE 1.5 An 1873 New York newspaper article reporting on the Board of Health's inspection of a tenement-house on Mulberry Street deemed unsuitable for human habitation. The article notes the building's obstruction of light and air, and lack of fire safety controls as contributing factors to its degradation.

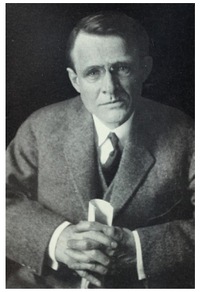


FIGURE 1.6
Frederic C. Howe



FIGURE 1.7
Frederick Winslow Taylor

In 1912, Frederic C. Howe, a prominent figure in the emerging city planning movement, argued that cities became what they are because they have been left to the cumulative effects of private decisions made by countless individual actors who act according to their private interests with little regard for the broader public realm.[11] He insisted that this uncoordinated, free approach to city building contributed to the deterioration of urban space. With little to no regulation to control it, this free-for-all approach to urbanism, where individuals are left to build with little regard for conditions beyond their lot lines, fed into a broader push to systemize the city. The logic behind this argument is that if an aggregate of individual actors is too short-sighted to be trusted with the power to shape the city, then that power should be in the hands of experts who, presumed to be more knowledgeable and experienced, would design the city for the public good.

"A million men are thinking only of their individual lot lines, of their inviolable right to do as they will with their own, irrespective of its effect on the community."
— Frederic C. Howe

11. Frederic C. Howe, "The City as a Socializing Agency: The Physical Basis of the City: The City Plan," *American Journal of Sociology* 17, no. 5 (1912): 590–601, JSTOR, quoted in Eran Ben-Joseph, *The Code of the City*, 49–50.

12. Frederick Winslow Taylor, *Scientific Management, Comprising Shop Management: The Principles of Scientific Management Testimony Before the Special House Committee* (ACLS History E-Book Project, 2007), 7.

Around this time, American mechanical engineer Frederick Winslow Taylor formulated his theory of Scientific Management, or "Taylorism". His theory asserts that management is a true science that is grounded in laws, rules, and principles.[12] In the context of production, this theory was used to maximize the efficiency of the worker by measuring the productivity of tasks. The metrics generated by this method allowed Taylorists to identify inefficiencies in production. This mode of thinking extended to urbanism, where the city itself was treated as a machine, managed by a small group of experts overseeing a landscape of individual owners. The "science" of urban planning manifested in urban codes, guidelines, and suggestions, which were seen as essential tools for solving the problems of the city.[13]

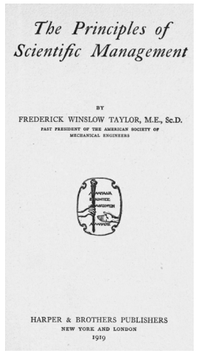


FIGURE 1.8
The Principles of Scientific Management by Frederic C. Howe

13. Eran Ben-Joseph, *The Code of the City*, 49–50.

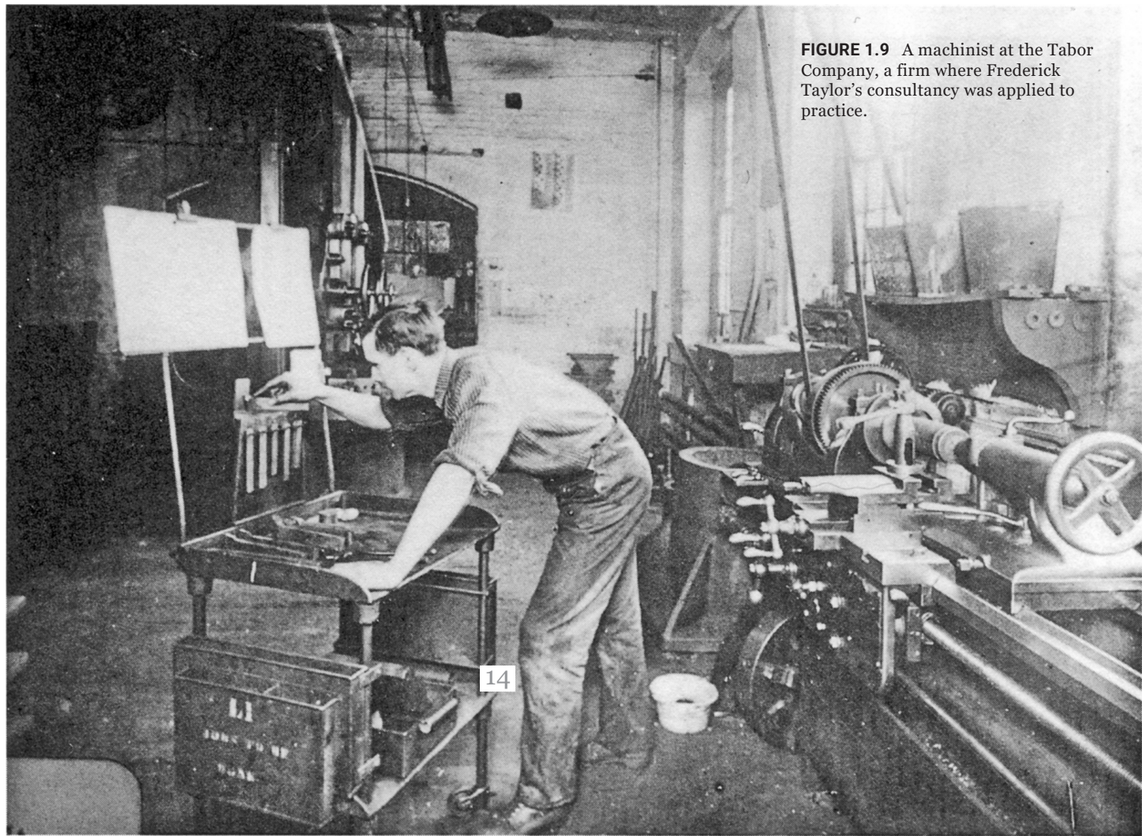


FIGURE 1.9 A machinist at the Tabor Company, a firm where Frederick Taylor's consultancy was applied to practice.

FIGURE 1.10
Diagram of Clarence Perry's neighbourhood unit.

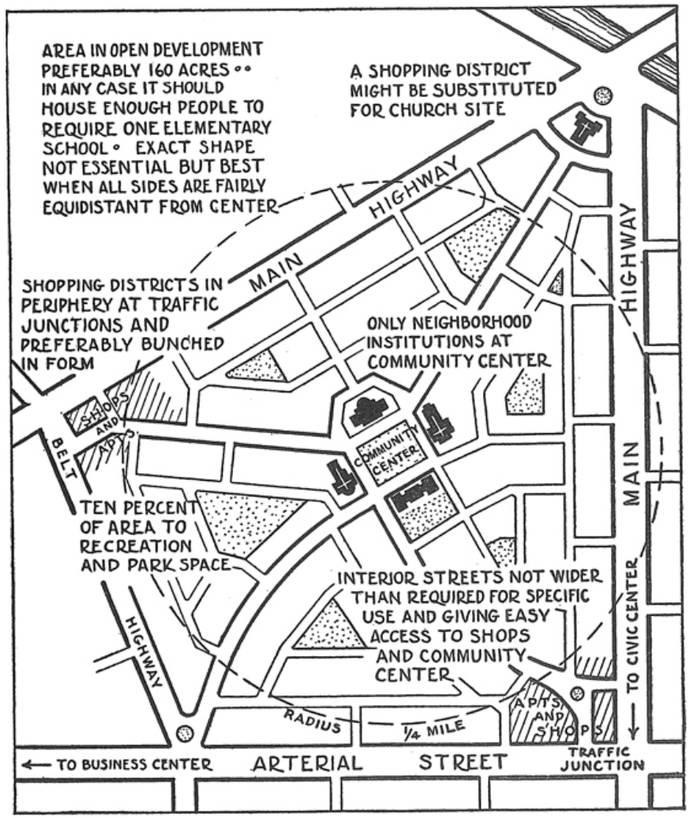




FIGURE 1.11 A bird's-eye view of Clarence Perry's 1928 scheme for a Neighborhood Unit, to contain all requirements and amenities of daily life.

Moving forward, there was the belief that the act of careful planning would result in secure neighbourhoods. It is this characteristic that defined modern planning practices for the majority of the 20th century, heavily endorsed through administrative and legislative action.

In 1936, the Federal Housing Administration published *Planning Neighborhoods for Small Houses*, a document that outlined the administration's preferences for design based on Clarence Perry's neighbourhood unit concept.[14] Supporting this document, the FHA's Committee on Hygiene and Housing issued a document titled *Planning the Neighborhood*, which declared a set of minimum standards for developers to reference, claiming that doing so would "improve the quality of life, for all incomes' while maintaining cleanliness, providing adequate daylight, sunshine, and ventilation, protecting against excessive noise and pollution, and allowing opportunities for community life as well as guarding against moral hazards."[15] These official endorsements, along with the financial mechanisms explored in the next section, institutionalized urban codes as tools of state control, marking the formal establishment of planning practices that continue to shape the urban environment today.

ACTS OF ENDORSEMENT



FIGURE 1.12
Clarence Perry

14. *Planning Neighborhoods for Small Houses* (Federal Housing Administration, 1936), https://catalog.hathitrust.org/Record/100710536, cited in Eran Ben-Joseph, *The Code of the City*, 66.

15. *Planning the Neighborhood*, American Public Health Association. Committee on the Hygiene of Housing. Standards for Healthful Housing (Public Administration Service, 1960), 12 –16.

FEDERAL FINANCING

THE FEDERAL HOUSING ADMINISTRATION

To understand the link between codes, standards, and the development of the suburbs requires an examination of the role of the Federal Housing Administration (FHA) in the U.S. and its counterpart, the Canada Mortgage and Housing Corporation (CMHC) in Canada.

THE NATIONAL HOUSING ACT, 1934

Influenced by the American City Planning movement and Scientific Management, the FHA implemented these principles at a grand scale through the National Housing Act of 1934, which provided a government backed alternative to private home financing.[16] By guaranteeing long-term, low-interest loans to those who followed their standardized guidelines, the FHA's strategy allowed them to simultaneously push an urban ideal while making home ownership financially accessible to many Americans. Notably, the legislation's authors were not themselves experts in urban planning, but rather experts in the field of business, finance, and government.[17] Nevertheless, developers seeking funding from the FHA had to submit detailed plans for review, often standardizing their designs to guarantee that they comply to FHA guidelines.[18] These federal loans heavily incentivized the uniform suburbs that we are familiar with today: identical lots, single-family homes, and car-centric street layouts.

HOUSING STANDARDIZATION

16. Eran Ben-Joseph, *The Code of the City*, 70.
17. Keller Easterling, *Organization Space*, 176.
18. Eran Ben-Joseph, *The Code of the City*, 70.

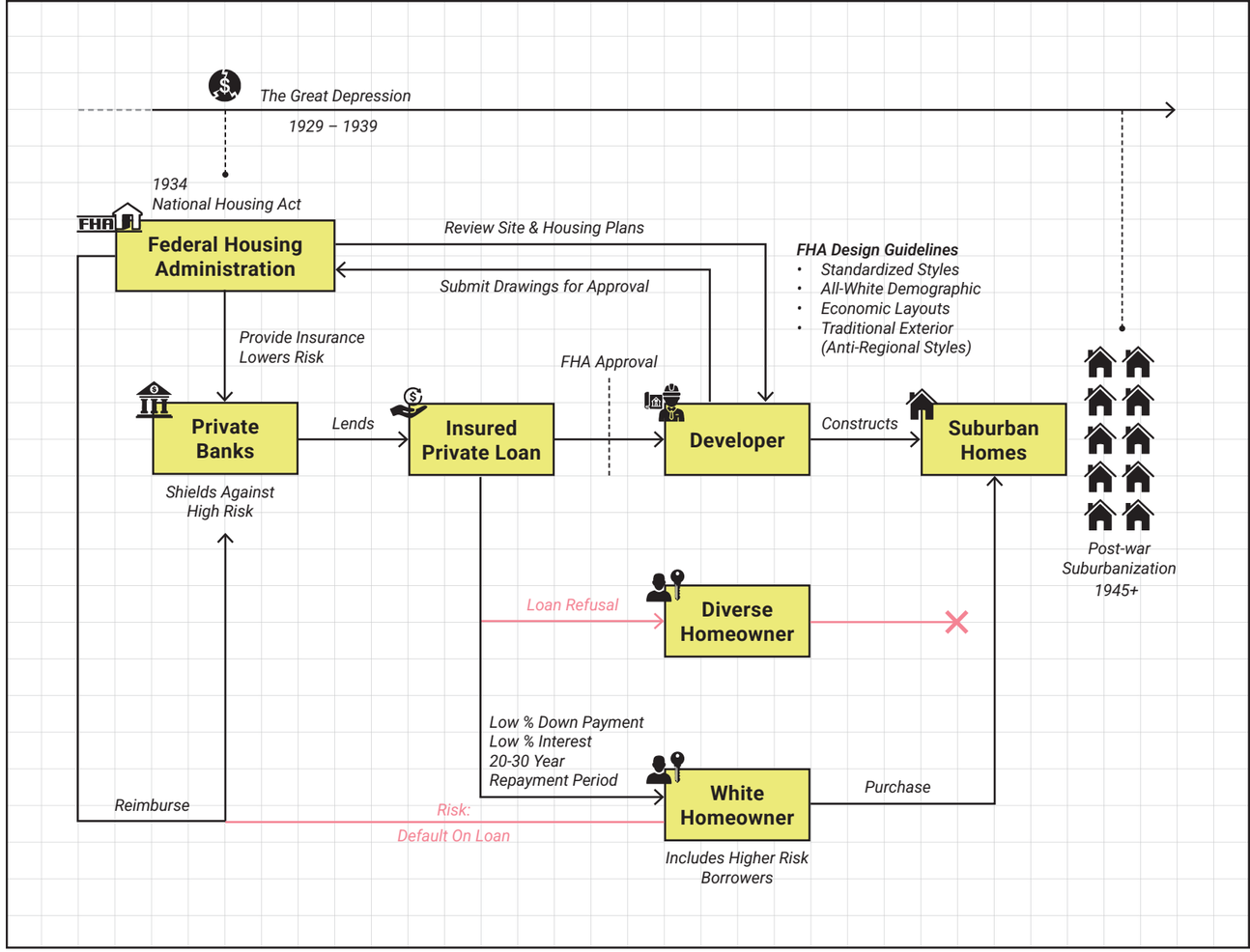


FIGURE 1.13 Diagram describing the influence of the Federal Housing Administration (FHA) on the design of single-family housing across the nation.

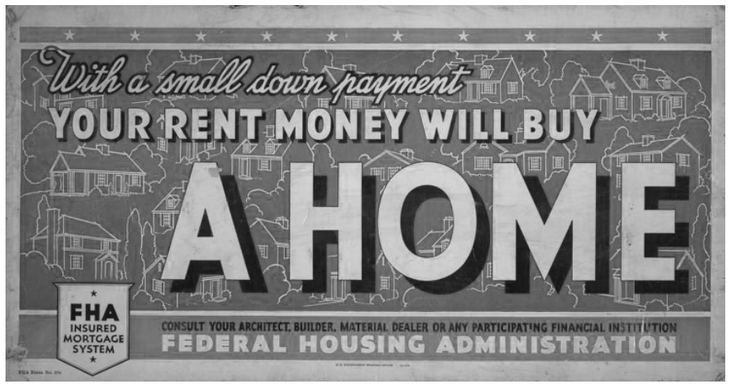


FIGURE 1.14 Streetcar interior advertisement for the Federal Housing Administration's home financing program.

CANADA MORTGAGE AND HOUSING CORPORATION

Alongside the Federal Housing Administration's initiatives in the United States, the Canadian government passed its own National Housing Act in 1938, aimed at expanding the housing supply and stimulating the construction industry.[19] Nearly a decade later in 1946, Canada established the Canada Mortgage and Housing Corporation (CMHC) to provide regulatory guidelines and financial assistance similar to those the FHA offered to developers and homeowners.[20]

ESTABLISHING CAPITALIST CONTROL

By locking the most accessible source of financial support behind a set of regulatory rules, the federal government, according to Ben-Joseph, "exercise[d] tremendous authority and power through the simple act of making an offer that could not be realistically refused."[21] Similarly, Keller Easterling views this mode of financialization as the transformation of housing into a commodity that enables institutions to exert social and economic control. This strategy of offering no viable alternative masks what would otherwise be seen as statist control, instead operating through capitalist mechanisms.[22]

Thus, the federal government's mode of financing has become the single largest limiter of housing type innovation. The FHA's regulations significantly influenced suburban design by prioritizing the development of single-family detached homes while alternative models of financing such as co-operative and co-ownership models become increasingly difficult to implement. Their guidelines also favoured neighbourhood plans that functioned as separate entities, distinct from adjacent communities, thereby segregating and individualizing these areas from their larger urban context. Although these regulations theoretically could have been applied in various ways, many developers chose to rely on established FHA-compliant plans rather than invest in the creation of new plans.[23] This reliance on standardized plans streamlined the development process, a pattern that continued to define suburban development decades into the future. Consequently, the FHA's promise of stability came at the cost of conformity towards an urban ideal of order, creating the historical foundation for the uniform residential landscapes that characterize much of North America.

19. Peter H. Oberlander and Arther L. Fallick, *Housing a Nation: The Evolution of Canadian Housing Policy* (Canada Mortgage and Housing Corporation, 1992), 19, https://publications.gc.ca/collections/collection_2018/schl-cmhc/nh15/NH15-818-1992-eng.pdf.

20. Peter H. Oberlander and Arther L. Fallick, *Housing a Nation*, 22–23.

21. Eran Ben-Joseph, *The Code of the City*, 73.

22. Keller Easterling, *Organization Space*, 134.

23. Eran Ben-Joseph, *The Code of the City*, 74.



FIGURE 1.15 Aerial view of suburban Levittown in Pennsylvania. One of several planned suburban housing developments in the United States funded by the FHA. Often cited as the archetypal post-war American suburb.

WHAT CONSTITUTES THE SUBURBS?

A PROBLEM OF DEFINITION

According to psychologists Caplan and Nelson, "what is done about a problem depends on how it is defined."[24] As established in the previous subchapter, the morphology of the North American suburbs is the result of regulatory actions crafted by generations of planners, particularly those orchestrated at scale by the FHA and the CMHC.

In discussions of suburbia, the question of definition is often neglected, with individual assumptions serving as a pretext for theories of suburbia.[25] This can be problematic because perceptions of what defines a suburb physically, socially, or culturally, vary widely across disciplines and individual worldviews. Therefore, before engaging in any speculation or subversion of the suburbs, it is necessary to establish a working definition within the context of the thesis. While not exhaustive, the following elements provide a foundational framework for this exploration.

This thesis broadly understands the suburbs as residential communities characterized by physical and social homogeneity, reinforced by privatized space, a reliance on vehicular transport, and a separation of functions. The suburbs embody the ultimate model of top-down planning, where no unpredictability (spatial, ecological, social) is possible.

24. Nathan Caplan and Stephen D. Nelson, "On Being Useful: The Nature and Consequences of Psychological Research on Social Problems.," American Psychologist 28, no. 3 (1973): 200, https://doi.org/10.1037/h0034433m, quoted in Ann Forsyth, "Defining Suburbs," *Journal of Planning Literature* 27, no. 3 (2012): 270–81, https://doi.org/10.1177/0885412212448101.

25. Robert L. Lineberry, "Suburbia and the Metropolitan Turf," *The ANNALS of the American Academy of Political and Social Science* 422, no. 1 (1975): 1–9, https://doi.org/10.1177/000271627542200102. Cited in Ann Forsyth, "Defining Suburbs," 270–81.



FIGURE 1.16 Aerial Image of Contemporary Suburban Neighbourhood

SINGLE-FAMILY HOMES

A STATEMENT OF TERRITORIAL CLAIM

To many, the ultimate appeal of the suburbs lies in its promise of privacy, control, and space. The distribution of and use of space is entirely within the homeowner's control, eliminating the need for negotiation between neighbours. In his 1972 book *Defensible Space*, Oscar Newman identifies the single-family house as a statement of territorial claim.[26] Positioned as a singular structure on a demarcated plot of land, the single-family home distinguishes itself from its neighbours through the placement of symbolic barriers (i.e. hedges and fences) that block both physical and visual access. This design grants homeowners complete control over their property, both physically and psychologically. Newman argues that the single-family home, as an expression of American hegemony, symbolizes a stake in the social order. It embodies notions of proprietorship and cultural belonging, representing maturity, success and power.[27] This symbolic meaning reinforces the home as not only a statement of territorial claim, but also a social and psychological marker of one's place within the established social order.

SOCIAL SYMBOLISM

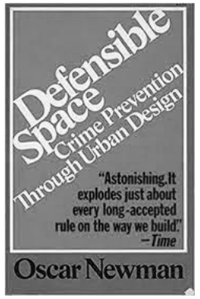


FIGURE 1.17
Defensible Space by Oscar Newman

Given these characteristics, the suburban home emerges as a spatial manifesto of Western values of individualism, homogeneity and control. The boundaries of the lot line serve not only as physical delimitations, but also as mental limits of care and responsibility. These framing positions the home as a self-contained unit, detached from a larger collective system. Moreover, the codes, zoning laws, and guidelines governing the design of these spaces codify a vision of North American success, one closely tied to private ownership and the traditional nuclear family structure.

26. Oscar Newman, *Defensible Space; Crime Prevention Through Urban Design* (The Macmillan Company, 1972), 51.

27. Oscar Newman, *Defensible Space*, 51.

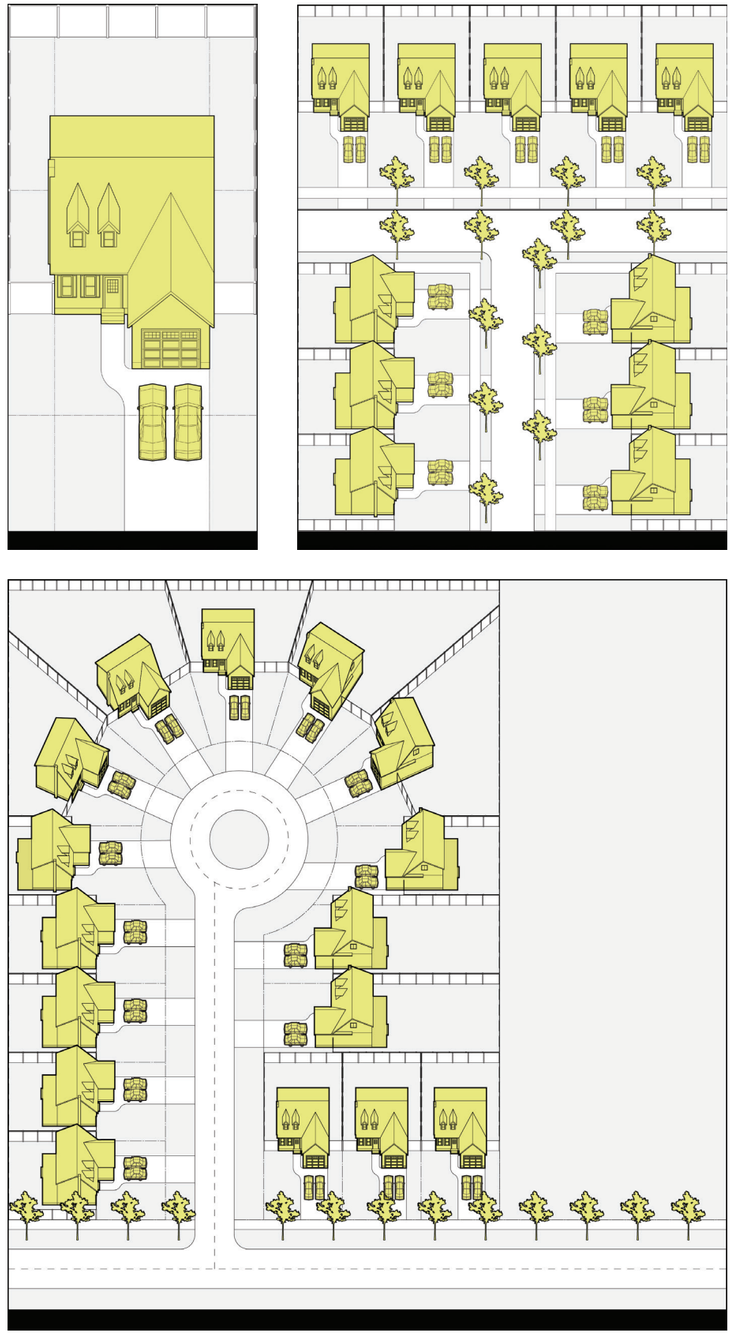


FIGURE 1.18
Plan oblique drawings of an archetypal suburban home (left), street (right), and cul-de-sac (bottom).

SEPARATION OF FUNCTIONS

MONO FUNCTIONALITY

One of the planning principles behind suburban developments is the deliberate separation of programs, both residential and non-residential (ex. industrial, commercial, and institutional uses), within a given subdivision.[28] The intention behind this approach is to enable residents to live, work, and play within their community. Unlike the mixed-use character of downtown urban cores, where residential and commercial uses overlap, suburban planning typically assigns to each use a distinct area or zone.[29]

CAR DEPENDENCE

Critics argue that this spatial separation of uses diminishes the complexity of urban life, reducing the vibrancy of urban environments into simplified zones characterized by isolated, single use “boxes” surrounded by vast seas of parking and interconnected by extensive networks of road infrastructure.[30] This car-dependent layout disperses non-residential uses across broad areas, undermining both the walkability and the social potential fostered by mixed-use urban cores. Such designs can lead to increased infrastructure costs, contribute to environmental issues, and weaken social cohesion within communities.

REFLECTION

By defining the suburbs through their dominant characteristics of detached homes on individualized lots, privatization of space, automobile dependence, and separation of uses, this thesis establishes a framework for critique and intervention. Understanding suburbia within these terms provides a foundation for analysis. By questioning and reimagining these boundaries, the potential arises to introduce greater complexity and diversity, challenging the inherent limitations of suburban form.

28. John Sewell, *The Shape of the City: Toronto Struggles with Modern Planning* (University of Toronto press, 1993), 82.

29. John Sewell, *The Shape of the City*, 90–91.

30. Michael Patrick McGreevy, “Complexity as the Telos of Postmodern Planning and Design: Designing Better Cities from the Bottom-Up,” *Planning Theory* 17, no. 3 (2018): 359, https://doi.org/10.1177/1473095217711473.



FIGURE 1.19 Plan oblique drawings of transportation infrastructure and a separation of functions (office/industrial/community/school/mall/strip mall).

NEW SUBURBIA

SOCIAL CONTRADICTION

Suburbia has often been stereotyped as a predominantly white, middle-class, and homogenous environment. This observation is often paired with the belief that the suburbs are a space of refuge for a uniform population sharing similar values. However, this idealized vision contrasts with narratives of social decline and disconnection.[31] These contradictions arise from the misconception that suburbia is an unchanging, fixed condition when in reality, it is capable of transformation and evolution.

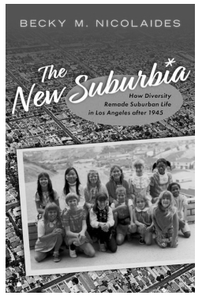


FIGURE 1.20
The New Suburbia by Becky Nicolaides

In her 2024 book titled *The New Suburbia*, Becky Nicolaide identifies these opposing perspectives as belonging to two distinct generations of suburbia. The first generation, the conventional suburb of the 1950s and 1960s, embodies the stereotypical image of a predominantly white, middle-class, community-focused neighbourhood. Subsequent generations of suburbia beginning in the 1980s have come to be associated with an almost antithetical image of social disconnection, privatism, and community decline. Nicolaide observes that while these images appear contradictory, "suburban design was often implicated in these radically different social outcomes. The same built environment that was initially thought to foster community connectedness in the early years was blamed for deep social alienation by the 1980s."[32] This raises important questions about how these opposing views can coexist within a built environment that has remained largely unchanged.

31. Becky M. Nicolaides, *The New Suburbia*, 10.
32. Becky M. Nicolaides, The New Suburbia, 10.
33. Oscar Newman, *Defensible Space*, 18.

THE DIVERSE SUBURBS

Building upon Newman's earlier discussions of suburbia, he asserts that the idealized image of suburbia lies in the question of who resides there. Historically, developers have maintained low crime rates by ensuring communities were exclusively white and middle-class.[33] Though designing for such a uniform population is prejudicial and morally undesirable, there was an unspoken expectation that somehow, these homogenous

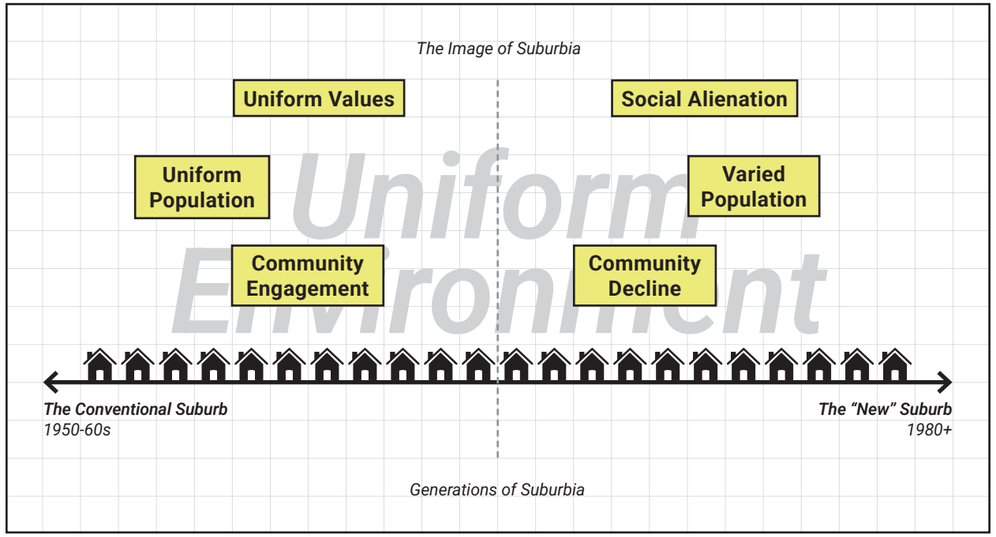


FIGURE 1.21 Conventional and new suburbia, though representating uniform environments, carry vastly different reputations.

spaces would endure indefinitely.[34] Nicolaide echoes this perspective, identifying the second generation of suburbia in the 1980s as the "new suburbia". An evolution of the suburbs from its image as "starkly segregated whiteness into a more varied, uneven social landscape."[35] This evolving landscape is shaped by residents of diverse races, classes, and household compositions. As these populations seek upward mobility, the suburbs, once predominantly white, have transformed into a microcosm of North America itself.[36]

TENSIONS BETWEEN CONFLICT AND SOLIDARITY

In cities such as Toronto, the suburbs have not changed in their spatial DNA but have diversified culturally at the risk of creating suburban cultural enclaves which further amplify the isolation of different cultural groups. In this new suburbia, white residents, once the dominant group, often attempt to reassert control, either through local action that maintains the appearance of a homogenous community and encourage conformity to uniform lifestyles, or by retreating from public life altogether.[37] Meanwhile, as in any diverse society, this evolving suburbia invites tensions between conflict and solidarity. New residents may adopt segregationist behaviours reminiscent of the original, homogenous population, fostering conflicts within what were once unified communities.[38] These interactions contribute to the complexity of the new suburbia, where diverse residents shaped by various racial, cultural, and socioeconomic backgrounds converge, bringing a multiplicity of experiences that influence how individuals relate with each other and their environment.

Given these observations, efforts to subvert, redefine, and redesign the suburbs must be undertaken with the assumption that the target community is the heterogeneous population of the new suburbs, rather than the homogenous residents of the past. Although the suburb may appear visually and morphologically homogenous, such formal uniformity conceals diverse cultural practices, and complex everyday habitation. Therefore, if the uniform design of the suburbs persists under shifting demographics, carrying a culture of social disconnection, privatism, and community decline, then perhaps the suburbs could be reinvented to let this hidden complexity surface as a driver for new forms of spatial expression.

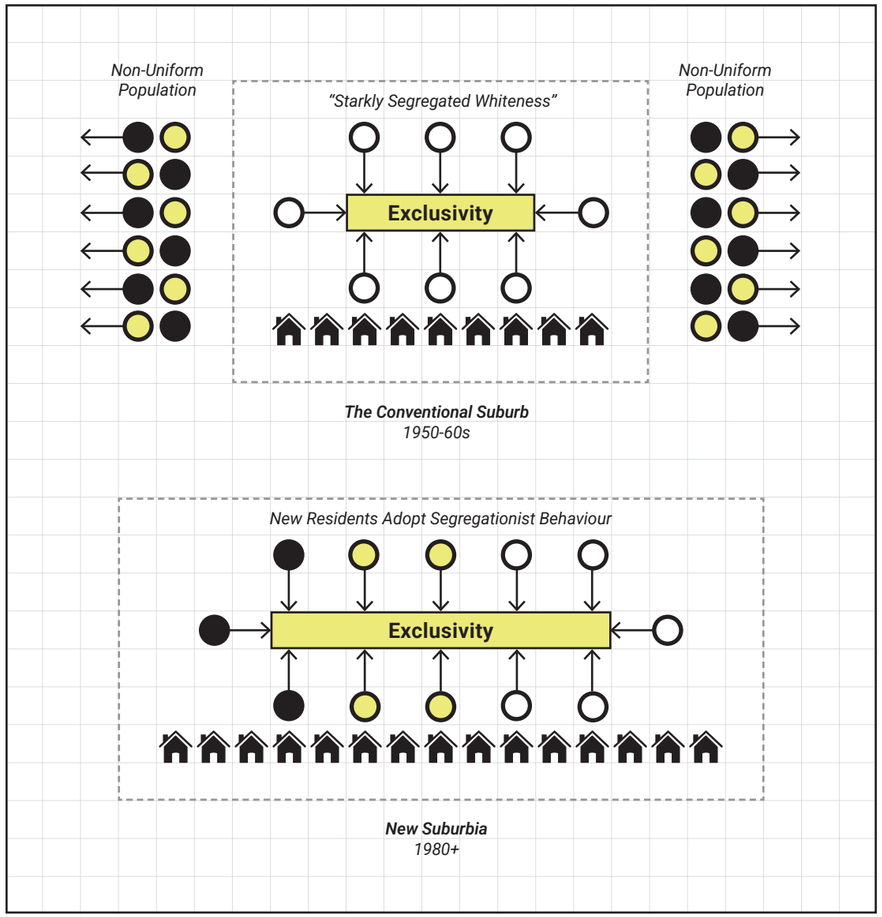


FIGURE 1.22 Although the suburbs have diversified culturally, all residents/participants of suburbia continue to partake in a culture of exclusivity, which values separation, privacy and control. Meanwhile, white residents, once dominant in suburbia attempt to reassert control through local action or retreat from public life altogether.

34. Becky M. Nicolaides, *The New Suburbia*, 397–398.
35. Becky M. Nicolaides, *The New Suburbia*, 1.
36. Becky M. Nicolaides, *The New Suburbia*, 1.
37. Becky M. Nicolaides, *The New Suburbia*, 8–9.
38. Becky M. Nicolaides, *The New Suburbia*, 6–7.

CONTROL VS. AGENCY

CONTROL VS. AGENCY

INTRODUCTION

CONTROL & SUBURBAN RIGIDITY

AGENCY UNDER CONSTRAINT

DESIGNING COMPLEXITY

DESIGNING IMPRECISELY

DESIGN EXPERIMENTATION

CONTROL.CONTROL.CONTROL.CONTROL.CONTROL.CONTROL.CONTROL.CONTROL.

INTRODUCTION

CONTROL VS. AGENCY

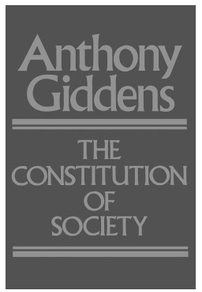


FIGURE 2.1
The Constitution of Society by Anthony Giddens

At the heart of this thesis is an examination of the tension between control and agency in the design of cities, particularly how these principles manifest through design, planning, and social policy to mediate social and spatial diversity. In the previous chapter, control within the context of urbanism was identified primarily through regulatory codes, zoning laws, and planning standards. These mechanisms shape a physical and social landscape characterized by homogeneity, privatization and control.

Sociologist Anthony Giddens in his 1986 work, *The Constitution of Society* introduces the theory of structuration, which offers a framework to reinterpret this history. He urges us to "regard the rule of social life [...] as techniques or generalizable procedures applied in the enactment/reproduction of social practices."[39] According to Giddens, the DNA of the suburb is not solely imposed by top-down powers; rather, it is continuously produced and reproduced through the actions of residents who draw upon and enact these rules. These rules are not limited to explicit instructions in the way we typically understand them in practice, but they can also be tacit rules: unstated norms, conventions as well as shared understandings of how one behaves.

LIMITATIONS & POSSIBILITIES OF RULES

He also challenges the implicit limitations of rules, suggesting that rules both restrict certain actions and enable others. On one hand, rules set boundaries by specifying what is permitted and what is prohibited.[40] For example, zoning regulations limit what can be built on a site and dictate permissible uses, thereby restricting agency. On the other hand, rules carry the potential to enable action. A rule allowing for mixed-use development, for instance, provides residents and businesses the flexibility to shape their neighbourhoods in diverse ways. Giddens' observations imply that control in the suburbs is dynamic. Rules, whether explicit or implicit, physical or social, can be reinterpreted and leveraged to shape urban life.

CHAPTER 2 outlines mechanisms of control embedded in both regulatory and social actions, as well as precedents of controlled agency. If urban form is largely shaped by codes and standards designed to produce conformity, what practices might allow individuals and communities to reassert their agency within these rigid frameworks? Drawing on complexity theory, this chapter frames suburbia not as a static environment, but as a dynamic one where controlled forms of agency create moments of social complexity.



EXPLICIT RULE
Ex. Building Height Restrictions

IMPLICIT RULE
Ex. Lawn Maintenance

PHYSICAL RULE
Ex. Cul-de-sac Subdivision Plan

SOCIAL RULE
Ex. Community Surveillance

39. Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration* (University of California Press, 1986), 21.

40. Anthony Giddens, *The Constitution of Society*, 22.

CONTROL & SUBURBAN RIGIDITY

SUBURBAN SOCIAL & PHYSICAL HOMOGENEITY

According to Giddens, rules, depending on how they are framed and communicated, can both limit and enable action within established systems. Explicit rules with absolute mandates, such as property boundaries, setback requirements, lot sizes and street layouts codify physical uniformity. These regulations shape residential spaces with shared formal qualities, ensuring that only certain populations can participate in suburban life. Residents understand that their street is inhabited by families with similar incomes as the financing of each house is either the same or comparable to one another.[41] Thus, the act of buying into suburbia becomes an act of exclusivity, a purchase that grants citizenship into an urban ideal.

DEVOLUTION OF FEDERAL RESPONSIBILITIES

This image of suburban exclusivity became more pronounced starting in the 1980s, aligning with America's Reagan era, during which federal responsibility over social services were decentralized to states and localities.[42] Nicolaides observes that during this "colossal handoff, the suburbs emerged as a new, important locus of authority. They formed policies and asserted new forms of social control, often targeting those most marginalized—the poor, undocumented, and unhoused."[43] Local government, faced with limited funding to accommodate their additional responsibilities, devised private legal mechanisms for communities in the form of neighbourhood associations. These associations assert collective control over a neighbourhood's common spaces while individual residents retain private control over their properties.[44] Although these

41. John Sewell, *The Shape of the City*, 235.
42. Nicolaides, *The New Suburbia*, 9.
43. Nicolaides, *The New Suburbia*, 9.

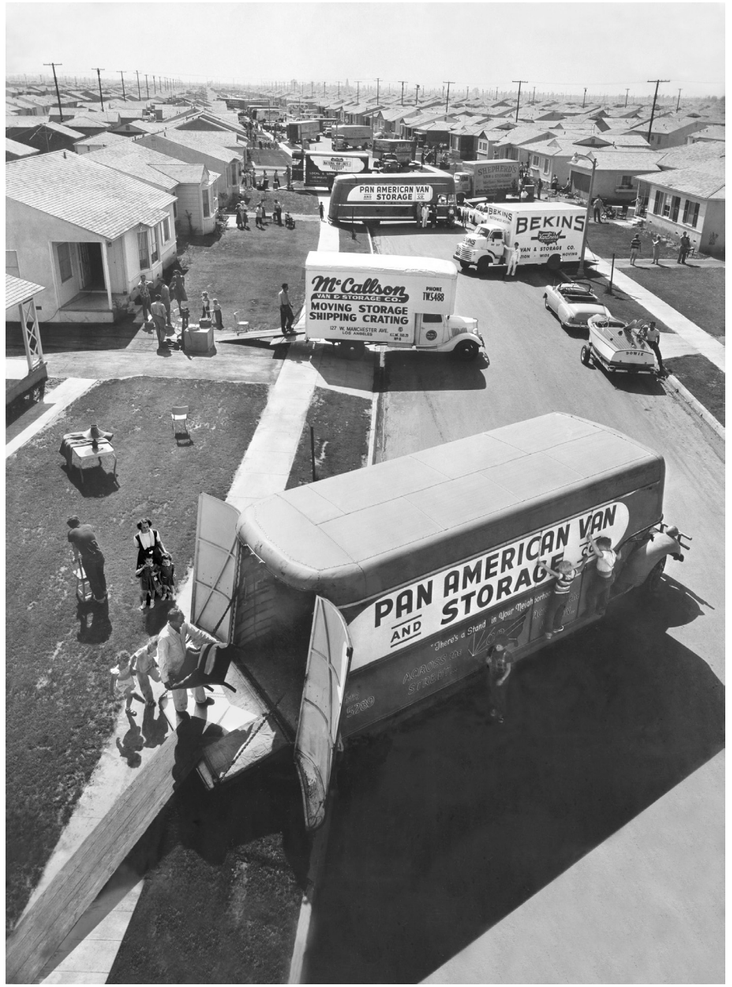


FIGURE 2.2
A staged photo in 1953, depicting 60 families moving into a neighbourhood in Lakewood on the same day.

micro-democracies might seem like an effective mechanism for local governance, many urban planners and sociologists note that they often provoke conflicts within communities as members assert their property rights against one another. Moreover, these frameworks privilege the rights of property owners, frequently excluding short-term renters from exercising their agency within the community.[45]

COMMON-INTEREST COMMUNITIES

44. Eran Ben-Joseph, *The Code of the City*, 135.
45. Eran Ben-Joseph, *The Code of the City*, 135–136.



FIGURE 2.3
Grand Urban Rules by Alex Lehnerer

Within the context of large-scale regulations, rules allow authorities to control the shape of the city, often with the intention of promoting health, safety, and overall quality of life.[46] Alex Lehnerer in his book, *Grand Urban Rules*, documents the history of such regulations, from height restrictions to view corridor mandates, providing clarity on why these rules exist. He highlights the inherent tension between neighbours as a driving force behind many urban rules:

"A history of the city can be understood as the persistent problem of close proximity between neighbors. [...] In general, when direct neighbors are present, individual freedoms are constricted [...] Individual interests collide with those prevailing in the adjacent context—even to the point of becoming unbearable. Seldom have such unbearable conditions been so manifest and dramatically crystallized as in the trivial design-guidelines for hedges between adjacent parcels in an American suburb."[47]

Homeowners' associations often enforce restrictive, and seemingly ridiculous rules that are often in service of more trivial, private interests over public interests, often over aesthetic or behavioural choices.[48] Some rules ensure a uniform appearance throughout the neighbourhood, while others may restrict one's ability to park in certain lots or operate businesses near residential areas. These rules, and the distaste for these rules, are so prevalent in suburban life that many seek to contest or subvert them, as evidenced in numerous online community discussions and blog posts.

In combination with the suburban form, which offer poor means of generating conversation and collective action, these common-interest communities create a social landscape that encourages silent conformity over negotiation, trust, and agency.[49] The physical and social structures of these communities limit active engagement, instead fostering an environment where residents often follow established norms without challenge or collective involvement.

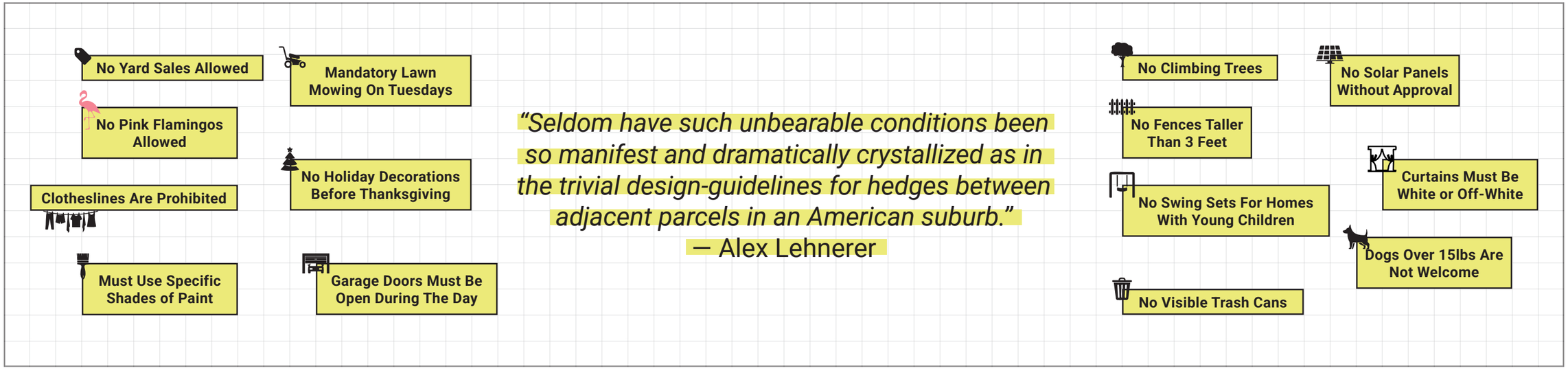


FIGURE 2.4 Examples of some of the most trivial Homeowners Association rules.

46. Eran Ben-Joseph, *The Code of the City*, xiii.
47. Alex Lehnerer, *Grand Urban Rules* (nai010 Publishers, 2013), 145.
48. Eran Ben-Joseph, *The Code of the City*, 135–136.
49. Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects, A Harvest Book* (Harcourt, Inc, 1989), 513, cited in John Sewell, *The Shape of the City*, xv.

AGENCY UNDER CONSTRAINT

DEFINING AGENCY

At the core of Giddens' theory of structuration, is his theory of agency; one that both critiques and expands upon existing definitions of agency. Prior to Giddens, many sociologists defined agency as actions inseparable from intent, meaning that an act is considered intentional only if it is performed with a clear purpose in mind.[50] While Giddens acknowledges this theory to some extent, he critiques it by introducing the concept of "unintended acts", suggesting that one could act without fully formed intentions. For example, a person might use single-use plastics without intending to harm the environment, yet their choice still constitutes an exercise of agency as the person carried the choice to consume such products. According to Giddens, agency is not simply about intentional action; rather it "depends upon the capability of the individual to 'make a difference' to a pre-existing situation or course of events."[51] Agency, therefore, encompasses the ability to act or to refrain from acting, with both choices constituting expressions of agency.

MUNDANE ACTS OF AGENCY

If one examines agency at the scale of the detached single-family home, seemingly small acts such as painting walls or arranging furniture can be understood as expressions of agency. Giddens' theory gives clarity to how these seemingly insignificant, perhaps mundane choices could become acts of subversive agency as residents navigate, resist, or negotiate these social and physical constraints. Even actions that oppose regulations constitute acts of agency as these demonstrate one's ability to choose alternative paths.

50. Anthony Giddens, *The Constitution of Society*, 8.

51. Anthony Giddens, *The Constitution of Society*, 14.

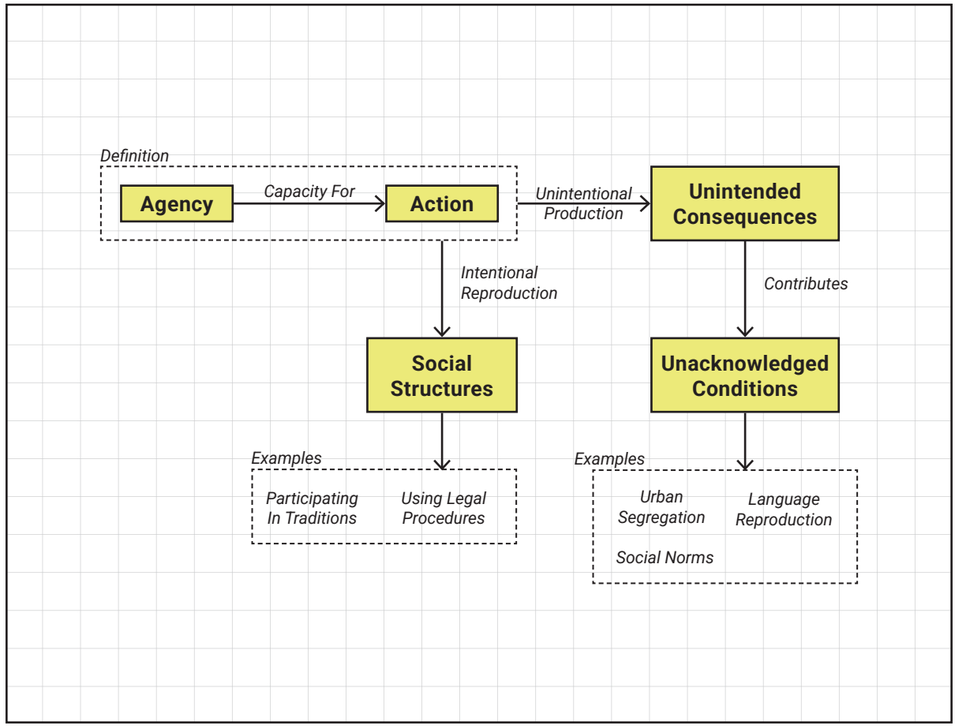


FIGURE 2.5 Agency is when one has the capacity to act. These actions can intentionally and unintentionally contribute to social structures and conditions.

Numerous creative, and often humorous examples illustrate how residents have exercised their agency in response to regulation:

EXAMPLE #1: GENE'S CARS

CREATIVE COMPLIANCE



FIGURE 2.6
Junkyard

In 2000, Gene Crandall, a resident and junkyard owner in Mentz, NY, was mandated by the town to erect a fence around his junkyard to block views to its interior.[52] Taking advantage of the lack of specificity regarding the fence's materials, Crandall exercised subversive agency by stacking junked automobiles around the perimeter of his property, arranged in an eclectic pattern of colours, models, and sizes. This creative compliance not only met the mandate but also transformed the fence from an intervention designed to block views, to a visual spectacle itself.[53] Crandall's actions exemplify how residents can navigate regulatory constraints to assert agency within the built environment.

"Junkyards are to be surrounded by fences which block views to their interiors."
— Alex Lehnerer, *Grand Urban Rules*, p.40

52. Town of Mentz v. Crandall (Supreme Court, Appellate Division, Fourth Department, New York November 9, 2001), https://caselaw.findlaw.com/court/ny-supreme-court-appellate-division/1088753.html.

53. Alex Lehnerer, *Grand Urban Rules*, 113–114.

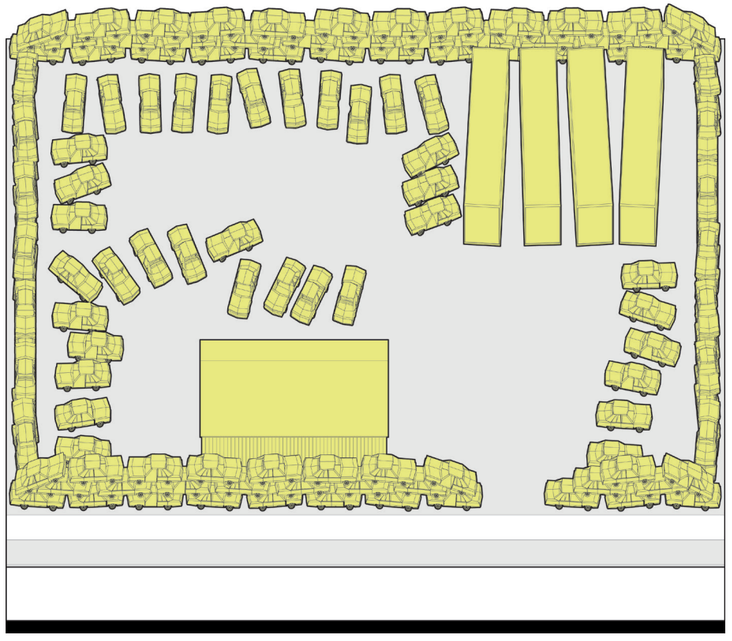


FIGURE 2.7
A drawing of a junkyard with a fence made out of cars, as opposed to a traditional fance.



FIGURE 2.8
A photo of Gene's wall of cars, which stretched for a quarter of a mile.

EXAMPLE #2: THE GUERILLA GARDENING MOVEMENT

DIRECT OPPOSITION & CONFRONTATION



FIGURE 2.9
Convenience Store

Ron Finley's guerilla gardening movement offers an alternative example of agency, this time in direct opposition to regulation. In 2010, frustrated with the challenges of living in a food desert where residents must travel long distances to access fresh produce, Finley, a fashion designer turned urban activist, transformed the narrow strip of public land between the house and the street known as the "parkway" into an urban garden.[54] In doing so, he defied municipal policy, which prohibited residents from using this space. Soon after, Finley received a warrant for his arrest from the City of Los Angeles, which ordered him to clear the garden and restore the parkway to its original state. Rather than comply with the order, Finley contested it, arguing that growing food on otherwise neglected land should not be an illegal act.[55]

Unlike Crandall's example, which relied on strategic compliance or reinterpretation of existing regulation, Finley's approach involves direct resistance. His case illustrates that regulation, even when explicitly forbidding action, cannot entirely suppress agency so long as individuals retain the capacity to "act otherwise". In both cases, agency emerges as the power to produce change, whether it is within the system itself, or by subverting it altogether.

54. Lindsey J. Schueman, *How Ron Finley Transformed His Community With Flourishing Urban Gardens*, one earth, May 13, 2025, https://www.oneearth.org/featured-hero-ron-finley/.

55. Claudia McNeilly, *Meet the "Gangsta Gardener" Changing South Central Los Angeles With Soil*, Vogue, June 6, 2017, https://www.vogue.com/article/guerrilla-garden-ron-finley-los-angeles-south-central.



FIGURE 2.10 Ron Finley, the "Gangsta Gardener"

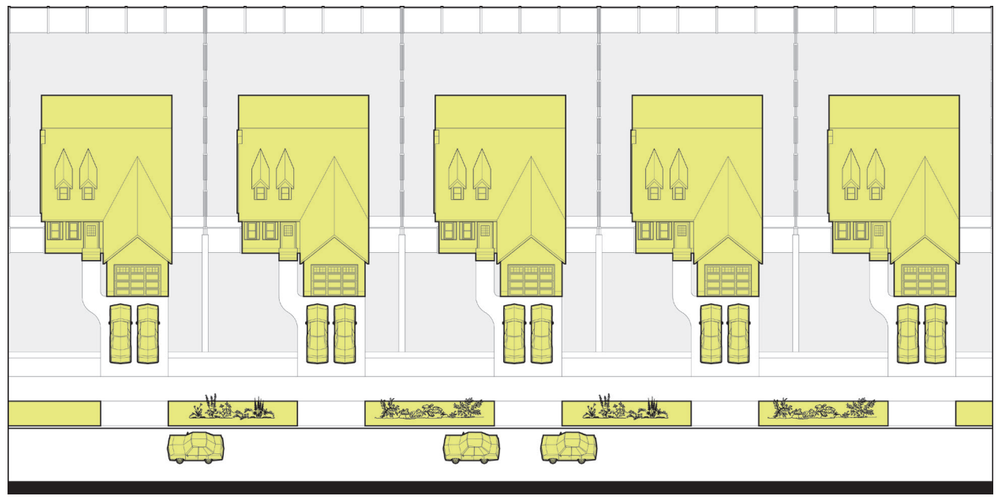


FIGURE 2.11 Parkways are generally owned by the city. Seeing an opportunity within these underutilized spaces, guerilla gardeners claim them for productive urban gardens.

TO AMPLIFY OR RESTRICT AGENCY



FIGURE 2.12 Constant behaviour monitoring alters behaviour and reinforces power dynamics.

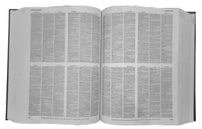


FIGURE 2.13 Language, operating under a set of rules, allow for communication and understanding.

At what point do regulations truly take away an individual's agency? If agency depends on the capacity to make a difference, then removing agency means restricting the ability to act otherwise. If a regulation is presented that is so restrictive that people have no meaningful choice, no room for negotiation, and no possibility to intervene or make a difference, then agency is compromised.

As illustrated by Finley's example, the existence of a rule does not necessarily eliminate agency. In some cases, rules have the potential to create agency. Giddens points to the rules of grammar and language as an example that enables new forms of communication and interaction among people.[56] Conversely, rules that eliminate all options, enforce total surveillance, or impose consequences so severe that resistance becomes unthinkable, genuinely suppresses agency. Outside of such conditions, agency continues to exist, even when severely constrained.

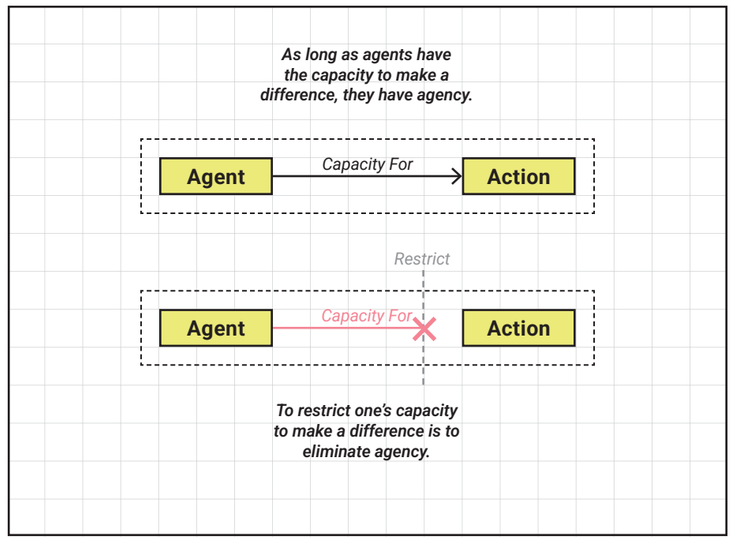


FIGURE 2.14 Agency and one's capacity to make a difference.

56. Anthony Giddens, *The Constitution of Society*, 22.

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DESIGNING COMPLEXITY

"[T]he fabric is usually most complex when the wild cards have outnumbered the rules."
— Keller Easterling, *Organization Space*, p.135

COMPLEXITY THEORY

THE CITY AS A COMPLEX SYSTEM

At the heart of this balancing act between control and agency lies the understanding that the environments that we live in are intrinsically and increasingly complex. Put simply, the city is a complex system. Economist and philosopher Friedrich von Hayek, defines a complex system as one "composed of a very large number of components whose interaction is iterative and recursive (i.e. non-linear), with many direct and indirect feedback loops; it presents unintentionally emergent forms of order; it is self-organising; it is markedly dynamic and adaptive."[57] Recognizing that the city is a complex system makes it clear that attempts at control are better understood as negotiations with unpredictable outcomes, to stabilize the complexity that is inherent to urban environments.

UNPREDICTABILITY AS DRIVERS OF COMPLEXITY

Urban critics such as Easterling have observed that some of the most sophisticated examples of urban form have origins in loosely regulated development, often from neglect, or the relaxation of formal control.[58] Easterling connects intelligence to complexity, suggesting that rich and adaptive environments stem from unpredictability, when "the wild cards have outnumbered the rules". In contrast, the most uniform and disengaging environments (i.e. suburbia), often stem from rigidly planned, financially driven models of development.[59]

This critique of control implies that successful design may not come from centralized planning, but instead from messy, decentralized processes. As discussed in earlier analyses of agency, excessive control constrains both agency and complexity. Yet despite recognition of the value of complexity, in practice, planners continue to privilege centralized coordination over other methods of design. Contemporary planners have noted that this contradiction is largely because corporate and institutional interests perpetuate this method of control in favour of maximizing profit.[60]

However, such hesitation is not without justifiable reason. As established in the previous chapter, the 19th century city, often perceived as chaotic and inefficient, is a city that despite embracing complexity in its highest form, carried a myriad of issues. Modern planning and scientific management sought to address these issues, suggesting that the problems of the city could be isolated and addressed individually, carrying its own set of issues. If a more productive approach is to design through the lens of complexity, rather than reverting to a city where, as Frederic Howe lamented, "a million men are thinking only of their individual lot lines, of their inviolable right to do as they will with their own," one could approach the design of cities with controlled agency, where mechanisms of control are employed not to ensure a singular, rigid result, but instead to ensure a set of unpredictable, yet desirable outcomes.

CONTROLLED AGENCY

57. Friedrich A. von Hayek, *Studies in Philosophy, Politics and Economics*, Repr (Routledge & Kegan Paul, 1978), cited in Stefano Moroni, "Complexity and the Inherent Limits of Explanation and Prediction: Urban Codes for Self-Organising Cities," Planning Theory 14, no. 3 (2015): 248–67, https://doi.org/10.1177/1473095214521104.

58. Keller Easterling, *Organization Space*, 135.

59. Keller Easterling, *Organization Space*, 135.

60. Michael Patrick McGreevy, "Complexity as the Telos of Postmodern Planning and Design: Designing Better Cities from the Bottom-Up," *Planning Theory* 17, no. 3 (2018): 358, https://doi.org/10.1177/1473095217711473.

DESIGNING IMPRECISELY

SPATIAL DETERMINISM



FIGURE 2.15 People walking in a city.

Historically, several social critics have debated the notion of spatial determinism: the idea that physical form can influence social behaviour.[61] Some, like Oscar Newman in his 1972 book Defensible Space, are proponents of spatial determinism while acknowledging the complexity of urban environments and the diversity of its inhabitants.[62] Newman maintains the belief that a precise (i.e. a tightly controlled, and carefully configurated) approach to design is the most effective means of reconciling differences in value systems. This methodological approach to design treats form as a tool to produce measurable results, such as lower crime rates and territorial responsibility, rather than leaving outcomes to informal social processes. Over the past century, urban planning has favoured a separation of functions, dividing spaces of living, work, and leisure through extensive networks of roads and zoning regulations. This highly deterministic approach to urban planning, designed for uniform populations, fails to adapt to evolving conditions.

PROPINQUITY

In recent decades, planning has shifted towards re-integration; bringing functions and therefore, people together to encourage interaction and community formation.[63] This shift is guided by the pursuit of propinquity, the condition in which proximity fosters social cohesion by increasing opportunities for encounters among strangers. This shift in approach has largely been confined to urban contexts, while suburban planning has remained predominantly unchanged.

Propinquity can be achieved in two ways. The first is physical propinquity, created by reducing the physical distance between individuals. This can be achieved through compactness created by increasing the density of the urban environment. The second is functional or situational propinquity, which is achieved by increasing the number of chance encounters between individuals through programmatic overlap, such as the overlapping of markets, recreation spaces, and other shared facilities.[64]

However, a rise in the number of encounters does not guarantee that the relationships formed are positive. Higher propinquity carries the potential of generating tension and conflict when differences are not supported shared frameworks of cooperation.[65] While spatial design can make encounters more likely, without care, the outcomes of these interactions are unpredictable.

DESIGNING COMPLEXITY

To design for complexity is not to abandon the ethos of structure and control, but to move beyond the rigid determinism of modern planning and to embrace designing imprecisely. Rather than designing environments with physical and social precision, designers can instead embrace unpredictability and design the city with both control and agency, where added density and programmatic overlap foster positive propinquity. In this approach, control sets the conditions for cooperation, and agency allows communities to shape their interactions within them.

61. Edmund Prince Fowler, ed., *Building Cities That Work*, 1st paperback ed. 1993 (McGill-Queen's University Press, 1993), 71–72, quoted in John Sewell, *The Shape of the City*, 224.

62. Oscar Newman, *Defensible Space*. Cited in John Sewell, *The Shape of the City*, 224.

63. Jeffrey K. H. Chan, "Propinquity," in *Urban Ethics in the Anthropocene*, by Jeffrey K.H. Chan (Springer Singapore, 2019), https://doi.org/10.1007/978-981-13-0308-1_3, 51.

64. Jeffrey K. H. Chan, "Propinquity," 52.

65. Jeffrey K. H. Chan, "Propinquity," 55–56.

DESIGN EXPERIMENTATION

THE CITY IS COMPLEX

This chapter sets up the theoretical foundation of control and agency within the suburbs, supported by tangible evidence of agents operating within frameworks of control in the form of local democracy and agency in the form of subversive acts within rigid mandates. It establishes the urban environment as a complex system composed of multiple interacting agents and argues that the suburban condition reflects an overregulated and centralized planning practice aimed at restricting complexity and unpredictability.

TRUST THROUGH PROPINQUITY

This thesis positions the suburb as a mutable and evolving environment shaped by shifting demographics and asserts that the suburb holds potential for complexity. Allowing for greater functional overlap, diversity formation, and propinquity can foster social, economic, and cultural benefits that the existing rigid suburban model fails to provide. These mechanisms of spatial complexity, in turn, can help cultivate community trust between diverse agents.

DESIGN EXPERIMENTATION AS METHODOLOGY

The theoretical framework provided by this chapter provides the intellectual foundation and rationale for the design investigations that follow. From an architectural perspective, design serves as a mode of critical inquiry where control, agency, and complexity can be explored as mutually reinforcing forces. The experiments in the following chapter are iterative tests of complexity formation; methodologies developed to examine, design, and represent suburban complexity.

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METHODS OF SUBVERSION

METHODS OF SUBVERSION

SUBVERSION.SUBVERSION.SUBVERSION.

INTRODUCTION

CRITICAL DESIGN INFLUENCES

CHAPTER 3 explores practical methodologies for subverting the entrenched spatial and social order of suburbia. Inspired by Michael Sorkin's *Local Code* and Alex Lehnerer's *Grand Urban Rules*, it presents a series of exploratory studies designed to transform traditional mechanisms of control (i.e. rules, codes, guidelines, expectations) into tools that enable agency. These "subversive rules" seek to provoke and catalyze transformation within rigid environments.

To test these ideas, methods of interaction and agency were tested, inspired by the work of Janette Kim's *WIN WIN Board Games*, and Ekim Tan's work in *Play the City*. The thesis culminates in a test of notation, inspired by Archigram's *No Stop City*, which proposes a method to visualize the complexity of the suburbs through layered program and intervention.

CHAPTER OUTLINE

The trajectory of this chapter is outlined through the following subchapters, each guided by specific research questions:

- **A STUDY OF RULES:** What existing regulations shape the physical and social form of the suburb, and how might these rules be rephrased/reframed, adjusted, flipped, and/or transformed to foster greater spatial and social complexity?
- **A TEST OF AGENCY:** What tools or strategies can empower individuals or communities to redesign the suburb, and how do existing constraints influence their capacity for agency in the design process?
- **A TEST OF NOTATION:** What methods of representation enable us to transcend the rigidity of suburbia and approach design with controlled agency?

Together, these investigations constitute a "method of subversion" that balances control and agency, inviting experimentation with complexity within a landscape historically characterized by predictability and uniformity.

A STUDY OF RULES

This study is a foundational exploration into the nature of urban rules, guided by the work of Lehnerer's *Grand Urban Rules* and Sorkin's *Local Code*.

LEHNERER'S GRAND URBAN RULES

In his 2009 work, *Grand Urban Rules*, Alex Lehnerer documents 115 rules that shape the form of the contemporary metropolis, providing explanation and context to each rule along with the rationale behind their existence. Each rule is accompanied by a parti drawing, which both clarifies its meaning and highlights its playful nature.[66]

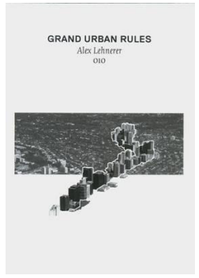


FIGURE 3.1
Grand Urban Rules by Alex Lehnerer

Lehnerer unravels the common misconception that rules are controlling mechanisms, highlighting instead their potential to generate agency through control. He acknowledges the negative reputation of rules, especially among architects who often see building laws as constraints to creative freedom.[67] Citing the words of Le Corbusier, he notes that "there are good and bad regulations, those that restrict freedom of movement, and those that actually generate it in the first place,"[68] Lehnerer challenges this reputation, arguing that rules are not exclusively restrictive frameworks, but rather tools that mediate and adjust levels of freedom within a system.

Lehnerer's analysis reveals that the flexibility of regulatory phrasing can open a wide range of potential possibilities. The use of wording such as "it must be", "potentially allowable, or

66. Alex Lehnerer, Grand Urban Rules.

67. Alex Lehnerer, Grand Urban Rules, 61.

68. Le Corbusier, When The Cathedrals Were White (McGraw-Hill Paperbacks, 1964), 20. Quoted in Alex Lehnerer, Grand Urban Rules, 62.

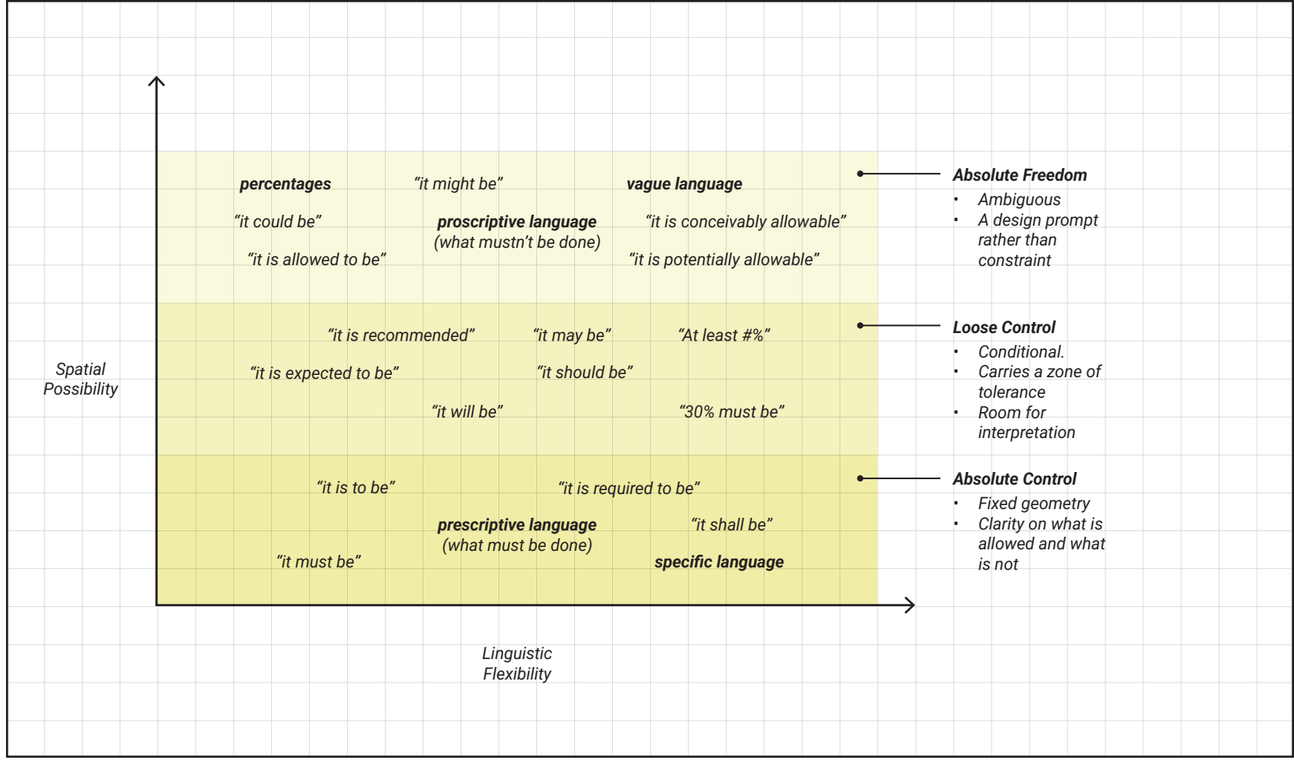


FIGURE 3.2 Semantics of Control & Agency

"conceivably permissible" significantly influences how much agency an individual has to subvert, resist, or reinterpret a given rule.[69] Therefore, the degree of agency granted by a rule lies in what remains unspecified within the blurring of boundaries. For example, an absolute standard might mandate that a building "must be exactly" three stories tall, whereas a more flexible standard might mandate that a building "can be up to" three stories tall. This subtle shift in language opens the possibility for varied outcomes. These "loose rules", as Lehnerer calls them, possess the capacity to create a range of spatial and social configurations.

LOOSE / FLEXIBLE / ADAPTABLE RULES

"Rules have a bad reputation. Architects in particular are not terribly fond of them."
— Alex Lehnerer, *Grand Urban Rules*, p.61

69. Alex Lehnerer, Grand Urban Rules, 65.

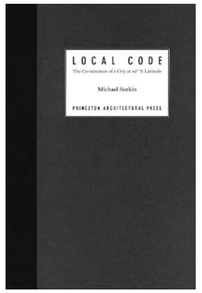


FIGURE 3.3
Local Code by Michael Sorkin

SORKIN'S LOCAL CODE

Michael Sorkin's 1993 work titled *Local Code* is a utopian text in the form of an imagined building code. It is a playful piece of media, one that proposes a range of unspecific and whimsical rules using vague language in service of coding a utopian city.[70] While Lehnerer provides an analysis of existing urban legislation, Sorkin's *Local Code* imagines a new, speculative code, one that is intentionally linguistically indeterminant. He purposefully approaches the exercise with a lack of precision, intentionally omitting drawings and using vague language to ensure a wide range of interpretations. Sorkin views cities as complex systems that should "support and nurture the diversity they harbor," critiquing spatial determinism, or the notion that a singular, constrained model of design yields predictable results.[71] He shares Lehnerer's perspective, recognizing the potential of rules as catalysts for intervention, rooted in the specificity of its language: "[c]odes are Rosetta Stones, keys or prescriptions for acts of translation. Poised between fantasy and construction, codes—if they are both broad enough and precise enough—can be channels of urban invention."[72] In this way, Sorkin frames ambiguity as a productive design tool. His speculative code presents an alternative regulatory framework, one that might better reflect the complexity and unpredictability of urban life. By resisting precision, Sorkin shows that rules can invite experimentation and collective authorship, allowing the city to be shaped by its inhabitants.



FIGURE 3.4
The Rosetta Stone

"Codes are Rosetta Stones, keys or prescriptions for acts of translation. Poised between fantasy and construction, codes—if they are both broad enough and precise enough—can be channels of urban invention."
— Michael Sorkin, *Local Code*, p.127

70. Michael Sorkin, *Local Code: The Constitution of a City at 42°N Latitude* (Princeton Architectural Press, 1993), 127.
71. Michael Sorkin, *Local Code*, 128.
72. Michael Sorkin, *Local Code*, 127.

CODE	RULE	DESCRIPTION	TYPE
NSG 2.14	No Site Grading	"The natural topography should be preserved." (Lehnerer, 2009, 20)	Controlled Agency
TDS 3.02	Taper Down to Shoreline	"The maximum permissible building height is reduced progressively as the water's edge is approached." (Lehnerer, 2009, 21)	Control
DQ 3.06	Development Quota	"In the central business district, a maximum of 475,000 square (44,000 sqm) feet of office space can be built annually." (Lehnerer, 2009, 22)	Controlled Agency
SHB 4.02	Short Blocks	"Block lengths shall be short." (Lehnerer, 2009, 25)	Control
FT 4.08	Façade Transparency	"In Class I pedestrian streets, at least 60% of ground-level façades must be transparent. Nontransparent surfaces may be no more than 15 ft (4.6 m). For Class II pedestrian streets, transparency must be at least 30%, with utmost 30 ft (9.1m) of blank façade." (Lehnerer, 2009, 27)	Controlled Agency
YM 5.12	Yard Maintenance	"Plants present in private gardens may not interfere with or disturb neighbors. The general appearance of the garden must be consistent with that of adjacent gardens." (Lehnerer, 2009, 33)	Control
FOR 6.06	Fodder Ratio	"Gardens must be of sufficient size to allow proprieters to provide themselves with foodstuffs through their own agricultural labor." (Lehnerer, 2009, 37)	Control
OSR 6.09	Open Space Ratio	"The quantum of undeveloped, open space on a given zoning lot is given as a percentage of the total FAR on the lot. This Open Space Ratio must amount to at least 20% per zone." (Lehnerer, 2009, 38)	Controlled Agency
LC 6.10	Lot Coverage	"A building may occupy a maximum of 35% of the surface of a building lot. This value can vary according to zone." (Lehnerer, 2009, 38)	Controlled Agency
BD 6.11	Building Distance	"The minimum distance between buildings is 8 ft (2.4 m)." (Lehnerer, 2009, 38)	Controlled Agency
POA 6.13	Planted Open Areas	"All open surfaces between the street wall and the front lot line are to be landscaped with plants." (Lehnerer, 2009, 39)	Control
LSS 6.14	Landscape Screening	"In protected natural areas, visible portions of buildings are to be masked by plants and vegetation." (Lehnerer, 2009, 39)	Controlled Agency
DTE 7.02–8	Down to Earth	"At least 55% of a building's volume is found below a height of 150 ft (46 m)." (Lehnerer, 2009, 44)	Controlled Agency
FRR 7.02–11	Flat Roof	"All roofs are flat." (Lehnerer, 2009, 45)	Control
CW 7.04–4	Color Wheel	"For buildings in special nature protection zones, the colors of the building and its outer parts must be compatible with the seasonal coloration of the surrounding natural environment." (Lehnerer, 2009, 50)	Controlled Agency
CS 7.04–5	Color Stipulation	"The color of all outside façades is as a rule white." (Lehnerer, 2009, 51)	Control

FIGURE 3.5 Sample Rules From *Grand Urban Rules*

CODE	RULE	DESCRIPTION	TYPE
III–1.19	**Climax**	"Areas at Climax shall not be further changed." (Sorkin, 1993, 21)	Control
III–1.20	**Automatic State of Climax**	"Any Mapped Area shall, after fifty years, automatically assume the state of Climax." (Sorkin, 1993, 21)	Control
III–5.5	**View of the Moon**	"Every Hab shall have a View of the moon." (Sorkin, 1993, 30)	Controlled Agency
IV–4.2	**Minimum Waterway %**	"A minimum of 30% of the original surface area of the City shall be occupied by Waterways." (Sorkin, 1993, 42)	Controlled Agency
IV–8.22	**Branching Circulation**	"Waternets will branch a minimum of three times per mile." (Sorkin, 1993, 56)	Controlled Agency
IV–8.23	**Bending Circulation**	"Waternets will bend a cumulative total of 90° off their mean horizontal axis every mile. Twenty-five percent (25%) of any given Waternet is excused from this requirement." (Sorkin, 1993, 57)	Controlled Agency
IV–8.36	**Zones For The Non-Human**	"Mechanical, animal, and other non-human conveyances shall be generally permitted on all Class B Nets. In limited instances, supplementary systems shall be permitted in Habnets for use by those of restricted mobility or otherwise encumbered." (Sorkin, 1993, 58)	Controlled Agency
IV–12.3	**Hard Edges**	"Hard Edges are absolute and take place along lines or planes." (Sorkin, 1993, 64)	Control
IV–12.4	**Soft Edges**	"Soft Edges—the laboratories of fresh forms—are gradients or zones of transition between two tectonic conditions, incorporating in varying degrees, aspects of both. Soft Edge conditions may include lacings, composites, combinations, hybrids, freaks, and other special transitional forms." (Sorkin, 1993, 64)	Controlled Agency
IV–12.7	**Green/Blue Land Perimeter %**	"Ninety-nine percent (99%) of the land perimeter will be Green or Blue." (Sorkin, 1993, 64)	Control
IV-13.4	**Continuous Public Space**	"No Public Space may be unlinked. The public area of the City is to be continuous." (Sorkin, 1993, 66)	Control
IV–17.13	**Spaces For Outdoor Sleeping**	"Each Hab shall offer suitable accommodation for outdoor sleeping." (Sorkin, 1993, 75)	Control
IV–17.23	**Minimum Fenestration %**	"Thirty percent (30%) of all exterior surfaces of Habs must be fully fenestrated." (Sorkin, 1993, 76)	Controlled Agency
IV–18.6	**Party Wall Expansion**	"Party Walls may be expanded but not decreased in size." (Sorkin, 1993, 77)	Controlled Agency

FIGURE 3.6 Sample Rules From *Local Code*

CODE	RULE	DESCRIPTION	TYPE
IV–18.10	**Unique Party Walls**	"No two Party Walls may be alike." (Sorkin, 1993, 77)	Controlled Agency
IV–19.5	**Structures Minimum Size**	"There is no minimum size for Structures." (Sorkin, 1993, 78)	Agency
IV–19.6	**Structures Maximum Size**	"There is no maximum size for Structures. No single Structure, however, may account for more than 0.25% of the total area of Structure in the City." (Sorkin, 1993, 78)	Controlled Agency
IV–19.10	**Permanent Structures**	"All Structures shall be permanent." (Sorkin, 1993, 78)	Control
IV–23.1	**Free Terrains**	"The Free Terrains are Areas in which all longevity regulations shall be superceded by a single requirements: no structure shall stand, either in whole or in part, for a period longer than twelve months." (Sorkin, 1993, 85)	Controlled Agency
IV-23.2	**Minimum Free Terrain %**	"One percent (1%) of the Habbed area of the City shall be devoted to Free Terrains." (Sorkin, 1993, 85)	Controlled Agency
V–1.12	**No Colour Restrictions on Beach**	"No restrictions are to be placed on the colours of visible elements of Beach Habmass." (Sorkin, 1993, 92)	Agency
V–11.1	**Mandatory Unmapped Enclave**	"Each Nabe is to contain an unmapped enclave." (Sorkin, 1993, 109)	Control
V–11.2	**Enclosed Enclave**	"The enclave is to be enclosed." (Sorkin, 1993, 109)	Control

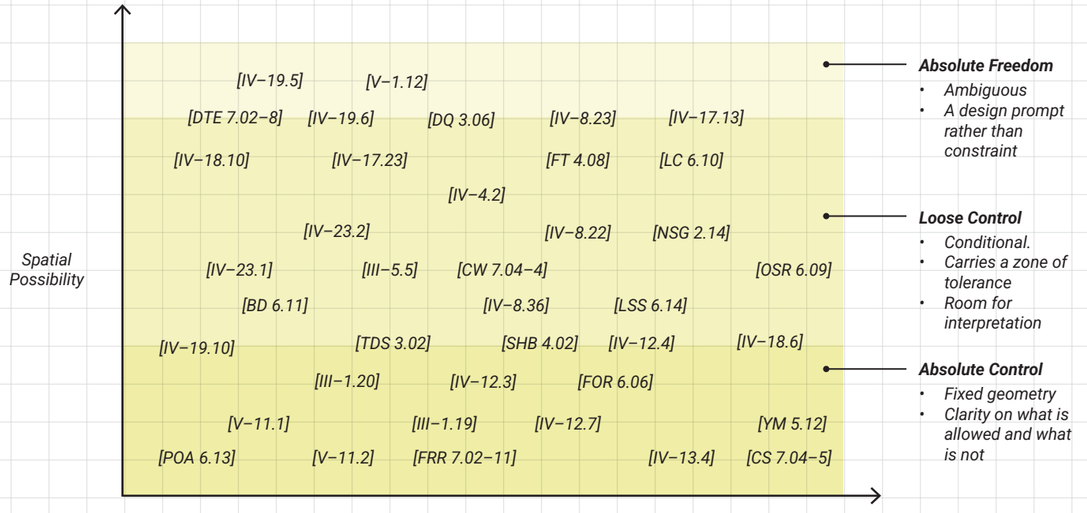


FIGURE 3.7
Semantics of Control & Agency: Mapped Rules

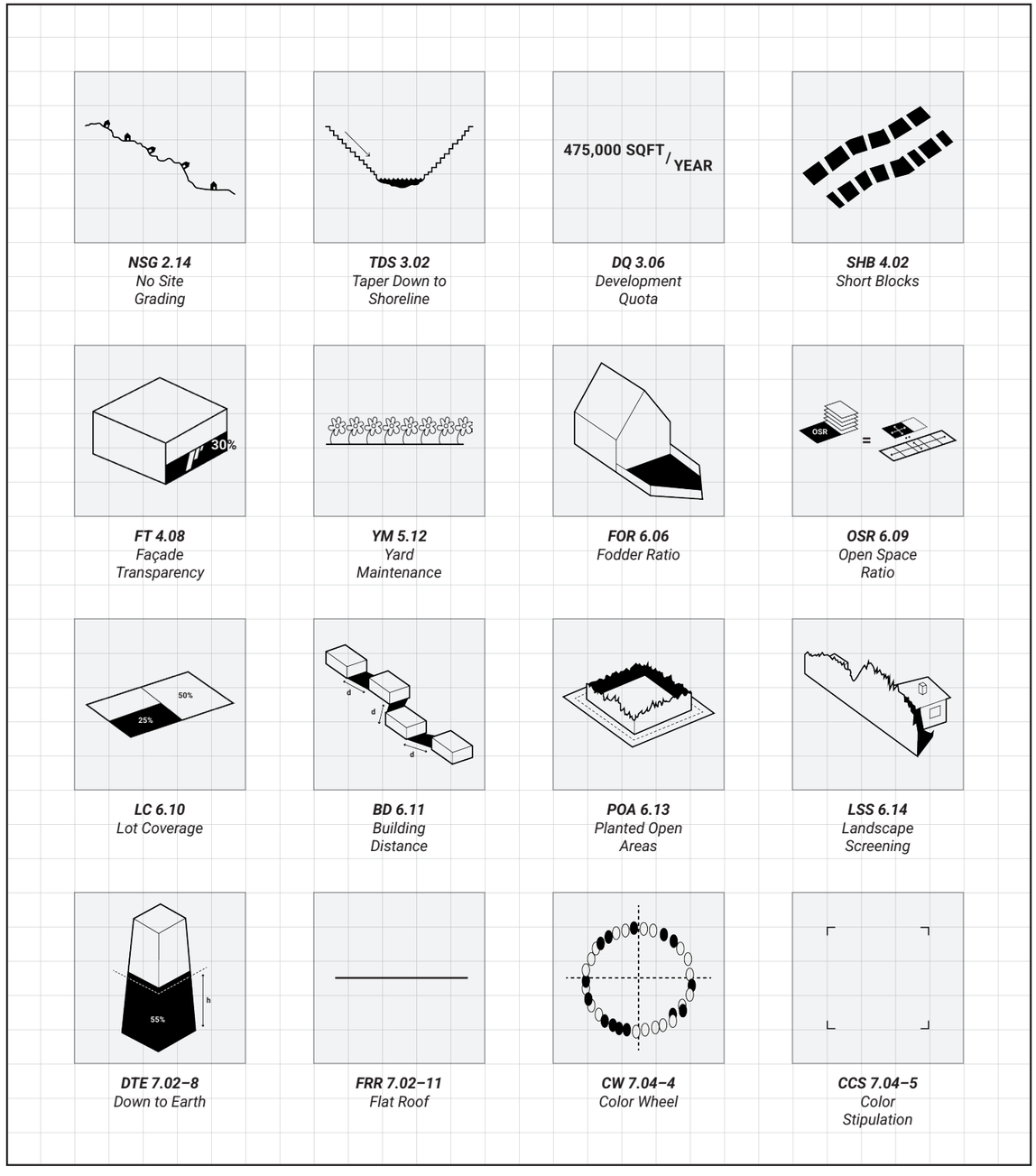


FIGURE 3.8 Sample Parti Set From *Grand Urban Rules*. Redrawn by Author.

URBAN RULE CARDS

This thesis draws inspiration from Sorkin's rules, its absurdity, lack of specificity and other times, hyper-specificity. Combined with Lehnerer's analytical observations on the nature of rules and method of visualizing them, the following exercise becomes an exploration of both existing and subversive urban rules.

1. What existing rules currently shape the form of the suburbs?
2. How could these existing rules be rephrased/reframed, adjusted, flipped, and/or transformed to allow for more physical and social complexity?

EXISTING RULES

The first half of this study begins with an indexing exercise, collecting rules from several sources: accessible design standards, transit guidelines, and municipal official plans. This exercise is intended to be informative rather than exhaustive. By cataloguing these rules, I derive insight into what urban elements are controlled as well as the language used to frame these codes.

I draw commonalities between these rules to generate a set of categories to organize them, starting off with ten (10): land use, accessibility, public realm, aesthetic, diversity, mobility, sustainability, view management, construction, and quality of life. These catalogs were then transformed into cards, each representing specific actions or steps that contribute to shaping the urban fabric.

SUBVERSIVE RULES

In a complementary study, I set upon the task of formulating a set of subversive, unpredictable rules that challenge conventional notions of public-private, visible-invisible, accessible and non-accessible. It is within this blurred zone that physical and social complexity thrives.

URBAN RULE CARDS

FIGURE 3.9 Existing/Conventional Rule Cards

TITLE

TAGS

DIAGRAM

DESCRIPTION

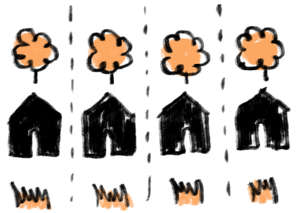
INTENT

SOURCE

4.2 YARD MAINTENANCE

A

Aesthetic

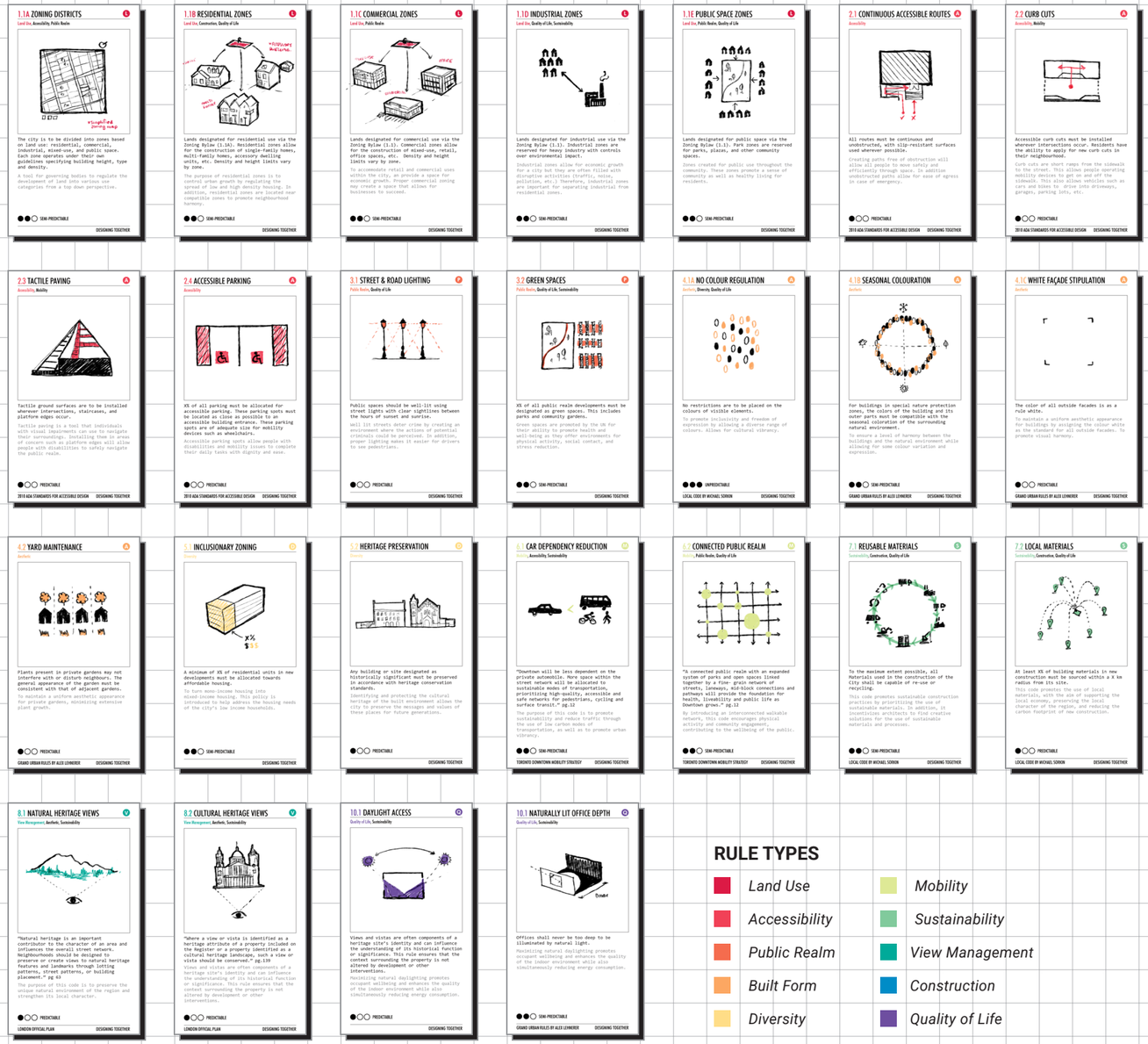


Plants present in private gardens may not interfere with or disturb neighbours. The general appearance of the garden must be consistent with that of adjacent gardens.

To maintain a uniform aesthetic appearance for private gardens, minimizing extensive plant growth.

●○○ PREDICTABLE

GRAND URBAN RULES BY ALEX LEHNERER — DESIGNING TOGETHER



Q1: *What existing rules currently shape the form of the suburbs?*

These rules represent a collection of rules captured from existing sources: typical codes (ex. accessibility guidelines, building code) & Grand Urban Rules. The intent of this exercise is not to be exhaustive, but to get a sense for what rules currently exist.

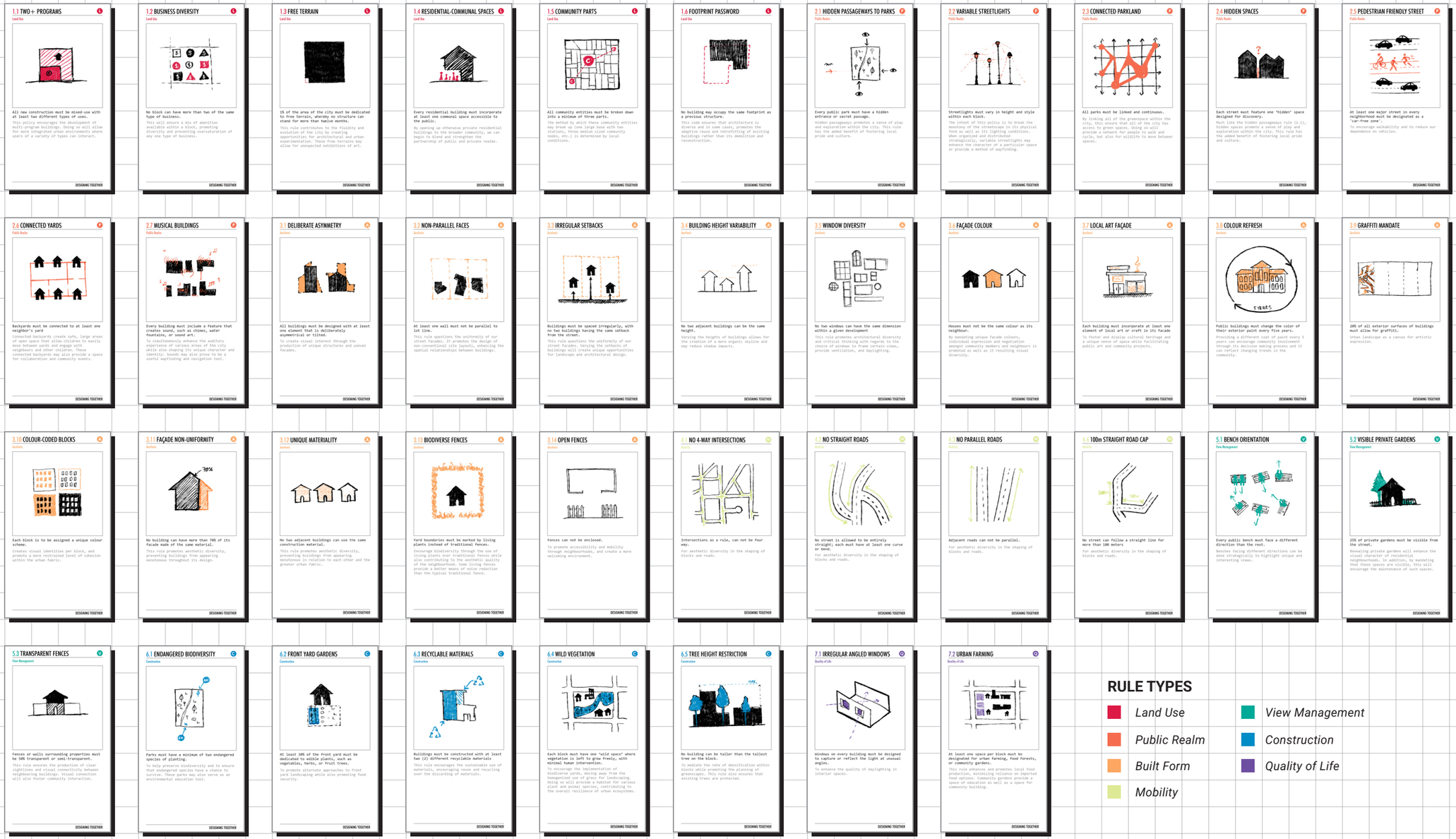
CODE	RULE	DESCRIPTION	TYPE
1.1A	**Zoning Districts**	The city is to be divided into zones based on land use: residential, commercial, industrial, mixed-use, and public space. Each zone operates under their own guidelines specifying building height, type and density.	Land Use
1.1B	**Residential Zones**	Lands designated for residential use via the Zoning Bylaw (1.1A). Residential zones allow for the construction of single-family homes, multi-family homes, accessory dwelling units, etc. Density and height limits vary by zone.	Land Use
1.1C	**Commercial Zones**	Lands designated for commercial use via the Zoning Bylaw (1.1). Commercial zones allow for the construction of mixed-use, retail, office spaces, etc. Density and height limits vary by zone.	Land Use
1.1D	**Industrial Zones**	Lands designated for industrial use via the Zoning Bylaw (1.1). Industrial zones are reserved for heavy industry with controls over environmental impact.	Land Use
1.1E	**Public Space Zones**	Lands designated for public space via the Zoning Bylaw (1.1). Park zones are reserved for parks, plazas, and other community spaces.	Land Use
2.1	**Continuous Accessible Routes**	"All routes must be continuous and unobstructed, with slip-resistant surfaces used wherever possible." (ADA, 2010)	Accessibility
2.2	**Curb Cuts**	"Accessible curb cuts must be installed wherever intersections occur. Residents have the ability to apply for new curb cuts in their neighbourhood." (ADA, 2010)	Accessibility
2.3	**Tactile Paving**	"Tactile ground surfaces are to be installed wherever intersections, staircases, and platform edges occur." (ADA, 2010)	Accessibility
2.4	**Accessible Parking**	"[X%] of all parking must be allocated for accessible parking. These parking spots must be located as close as possible to an accessible building entrance. These parking spots are of adequate size for mobility devices such as wheelchairs." (ADA, 2010)	Accessibility
3.1	**Street & Road Lighting**	Public spaces should be well-lit using street lights with clear sightlines between the hours of sunset and sunrise.	Public Realm
3.2	**Green Spaces**	X% of all public realm developments must be designated as green spaces. This includes parks and community gardens.	Public Realm
4.1A	**No Colour Regulation**	"No restrictions are to be placed on the colours of visible elements." (Sorkin, 1993, 92)	Aesthetic
4.1B	**Seasonal Colouration**	"For buildings in special nature protection zones, the colors of the building and its outer parts must be compatible with the seasonal coloration of the surrounding natural environment." (Lehnerer, 2009, 50)	Aesthetic
4.1C	**White Façade Stipulation**	"The color of all outside facades is as a rule white." (Lehnerer, 2009, 51)	Aesthetic

FIGURE 3.10 Existing/Conventional Rule Cards - Table

CODE	RULE	DESCRIPTION	TYPE
4.2	**Yard Maintenance**	"Plants present in private gardens may not interfere with or disturb neighbours. The general appearance of the garden must be consistent with that of adjacent gardens."(Lehnerer, 2009, 33)	Aesthetic
5.1	**Inclusionary Zoning**	A minimum of X% of residential units in new development must be allocated towards affordable housing.	Diversity
5.2	**Heritage Preservation**	Any building or site designated as historically significant must be preserved in accordance with heritage conservation standards.	Diversity
6.1	**Car Dependency Reduction**	"Downtown will be less dependent on the private automobile. More space within the street network will be allocated to sustainable modes of transportation, prioritizing high-quality, accessible and safe networks for pedestrians, cycling and surface transit." (City of Toronto, 2018, 12)	Mobility
6.2	**Connected Public Realm**	"A connected public realm with an expanded system of parks and open spaces linked together by a fine- grain network of streets, laneways, mid-block connections and pathways will provide the foundation for health, liveability, and public life as Downtown grows." (City of Toronto, 2018, 12)	Mobility
7.1	**Reusable Materials**	"To the maximum extent possible, all Materials used in the construction of the City shall be capable of re-use or recycling." (Sorkin, 1993, 25)	Sustainability
7.2	**Local Materials**	"At least [X%] of building materials in new construction must be sourced within a [X] km radius from its site."	Sustainability
8.1	**Natural Heritage Views**	"Natural heritage is an important contributor to the character of an area and influences the overall street network. Neighbourhoods should be designed to preserve or create views to natural heritage features and landmarks through lotting patterns, street patterns, or building placement." (City of London, 2025, 63)	View Management
8.2	**Cultural Heritage Views**	"Where a view or vista is identified as a heritage attribute of a property included on the Register or a property identified as a cultural heritage landscape, such a view or vista should be conserved." (City of London, 2025, 139)	View Management
10.1	**Daylight Access**	Views and vistas are often components of a heritage site's identity and can influence the understanding of its historical function or significance. This rule ensures that the context surrounding the property is not altered by development or other interventions.	Quality of Life
10.2	**Naturally Lit Office Depth**	"Offices shall never be too deep to be illuminated by natural light." (Lehnerer, 2009, 46)	Quality of Life

URBAN RULE CARDS

FIGURE 3.11
Subversive Rule Cards



Q2: *How could these existing rules be rephrased/reframed, adjusted, flipped, and/or transformed to allow for more physical and social complexity?*

These rules represent a collection of subversive rules captured from existing sources: Grand Urban Rules and Local Code. In addition, this collection carries several new rules produced by the author.

CODE	RULE	DESCRIPTION	TYPE
1.1	**Two+ Programs**	All new construction must be mixed-use with at least two different types of uses.	Land Use
1.2	**Business Diversity**	No block can have more than two of the same type of business.	Land Use
1.3	**Free Terrain**	1% of the area of the city must be dedicated to free terrain, whereby no structure can stand for more than twelve months.	Land Use
1.4	**Residential-Communal Spaces**	Every residential building must incorporate at least one communal space accessible to the public.	Land Use
1.5	**Community Parts**	All community entities must be broken down into a minimum of three parts.	Land Use
1.6	**Footprint Password**	No building may occupy the same footprint as a previous structure.	Land Use
2.1	**Hidden Passageways To Parks**	Every public park must have a hidden entrance or secret passage.	Public Realm
2.2	**Variable Streetlights**	Streetlights must vary in height and style within each block.	Public Realm
2.3	**Connected Parkland**	All parks must be linked and continuous.	Public Realm
2.4	**Hidden Spaces**	Each street must feature one ‘hidden’ space designed for discovery.	Public Realm
2.5	**Pedestrian Friendly Street**	At least one major street in every neighbourhood must be designated as a ‘car-free zone’.	Public Realm
2.6	**Connected Yards**	Backyards must be connected to at least one neighbour’s yard.	Public Realm
2.7	**Musical Buildings**	Every building must include a feature that creates sound, such as chimes, water fountains, or sound art.	Public Realm
3.1	**Deliberate Asymmetry**	All buildings must be designed with at least one element that is deliberately asymmetrical or tilted.	Aesthetic
3.2	**Non-Parallel Faces**	At least one wall must not be parallel to the lot line.	Aesthetic
3.3	**Irregular Setbacks**	Buildings must be spaced irregularly, with no two buildings having the same setback from the street.	Aesthetic
3.4	**Building Height Variability**	No two adjacent buildings can be the same height	Aesthetic

FIGURE 3.12 Subversive Rule Cards - Table

CODE	RULE	DESCRIPTION	TYPE
3.5	**Window Diversity**	No two windows can have the same dimension within a given development.	Aesthetic
3.6	**Façade Colour**	Houses must not be the same colour as its neighbour.	Aesthetic
3.7	**Local Art Façade**	Each building must incorporate at least one element of local art or craft in its façade	Aesthetic
3.8	**Colour Refresh**	Public buildings must change the colour of their exterior paint every five years.	Aesthetic
3.9	**Graffiti Mandate**	20% of all exterior surfaces of buildings must allow for graffiti.	Aesthetic
3.10	**Colour-Coded Blocks**	Each block is to be assigned a unique colour scheme.	Aesthetic
3.11	**Façade Non-Uniformity**	No building can have more than 70% of its façade made of the same material.	Aesthetic
3.12	**Unique Materiality**	No two adjacent buildings can use the same construction material.	Aesthetic
3.13	**Biodiverse Fences**	Yard boundaries must be marked by living plants instead of traditional fences.	Aesthetic
3.14	**Open Fences**	Fences can not be enclosed.	Aesthetic
3.15	**No 4-Way Intersections**	Intersections as a rule, can not be four way.	Aesthetic
3.16	**No Straight Roads**	No street is allowed to be entirely straight; each must have at least one curve.	Aesthetic
4.3	**No Parallel Roads**	Adjacent roads can not be parallel.	Mobility
4.4	**100m Straight Road Cap**	No street can follow a straight line for more than 100 metres.	Mobility
5.1	**Bench Orientation**	Every public bench must face a different direction than the rest.	View Management
5.2	**Visible Private Gardens**	25% of private gardens must be visible from the street.	View Management

CODE	RULE	DESCRIPTION	TYPE
5.3	**Transparent Fences**	Fences or walls surrounding properties must be 50% transparent or semi-transparent.	View Management
6.1	**Endangered Biodiversity**	Players must have a minimum of two endangered species of planting	Construction
6.2	**Front Yard Gardens**	At least 30% of the front yard must be dedicated to edible plants, such as vegetables, herbs, or fruit trees.	Construction
6.3	**Recyclable Materials**	Buildings must be constructed with at least two (2) different recyclable materials.	Construction
6.4	**Wild Vegetation**	Each block must have one 'wild space' where vegetation is left to grow freely, with minimal human intervention.	Construction
6.5	**Tree Height Restriction**	No building can be taller than the tallest tree on the block.	Construction
7.1	**Irregular Angled Windows**	Windows on every building must be designed to capture or reflect the light at unusual angles.	Quality of Life
7.2	**Urban Farming**	At least one space per block must be designated for urban farming, food forests, or community gardens.	Quality of Life

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Q3: *What are some existing rules and how can I create new rules that subvert these expectations?*

1. **CONNECTED YARDS**
   Backyards must be connected to at least one neighbour's yard.

2. **IRREGULAR SETBACKS**
   Buildings must be spaced irregularly, with no two buildings having the same setback from the street

3. **BUILDING HEIGHT VARIABILITY**
   No two adjacent buildings can be the same height.

Q4: *What bothers people about the places that they live in?*

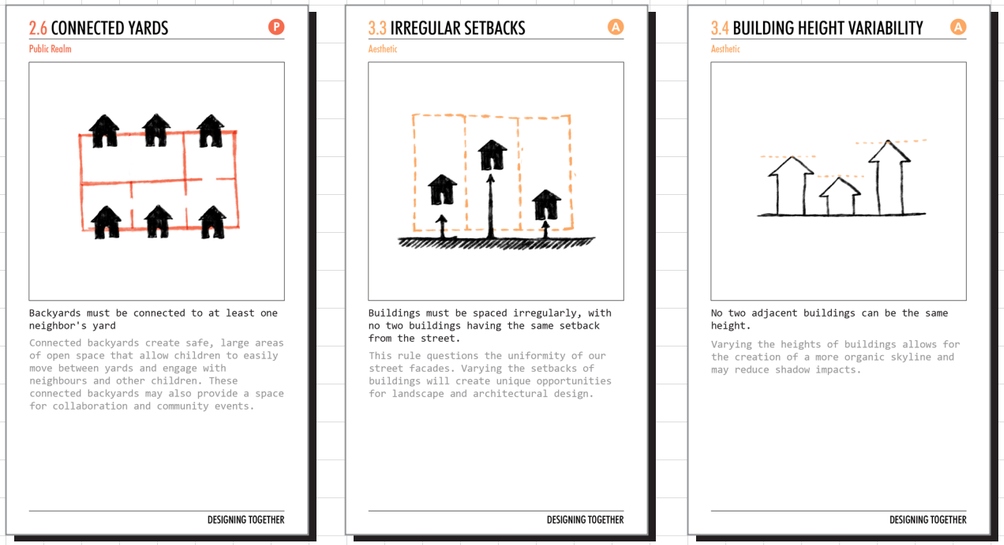
1. **GRAFFITI MANDATE**
   20% of all exterior surface of buildings must allow for graffiti.

2. **FRONT YARD GARDENS**
   At least 30% of the front yard must be dedicated to edible plants, such as vegetables, herbs, or fruit trees.

3. **WILD VEGETATION**
   Each block must have one 'wild space' where vegetation is left to grow freely, with minimal human intervention.

URBAN RULE CARDS

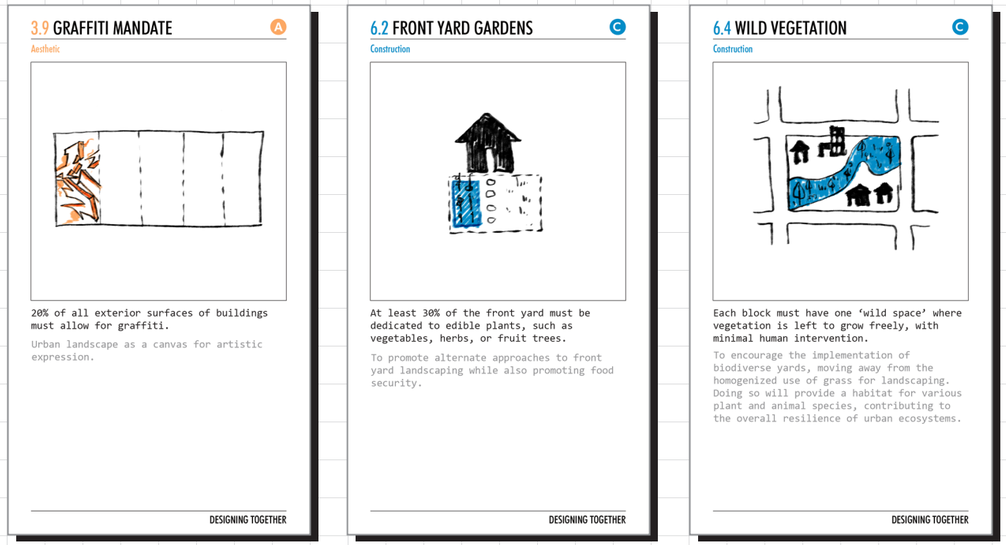
FIGURE 3.13
Subverting Expectations



RULE TYPES

- *Land Use*
- *Built Form*
- *View Management*
- *Public Realm*
- *Mobility*

FIGURE 3.14
Embracing the Undesirable



Q5: *What rules blur the legibility of the private lot line and instead encourage the practice of sharing space?*

1 TWO+ PROGRAMS
All new construction must be mixed-use with at least two different types of uses.

2 RESIDENTIAL-COMMUNAL SPACES
Every residential building must incorporate at least one communal space accessible to the public.

3 TRANSPARENT FENCES
Fences or walls surrounding properties must be 50% transparent or semi-transparent.

Q6: *What rules have the potential to create moments of whimsy and discovery?*

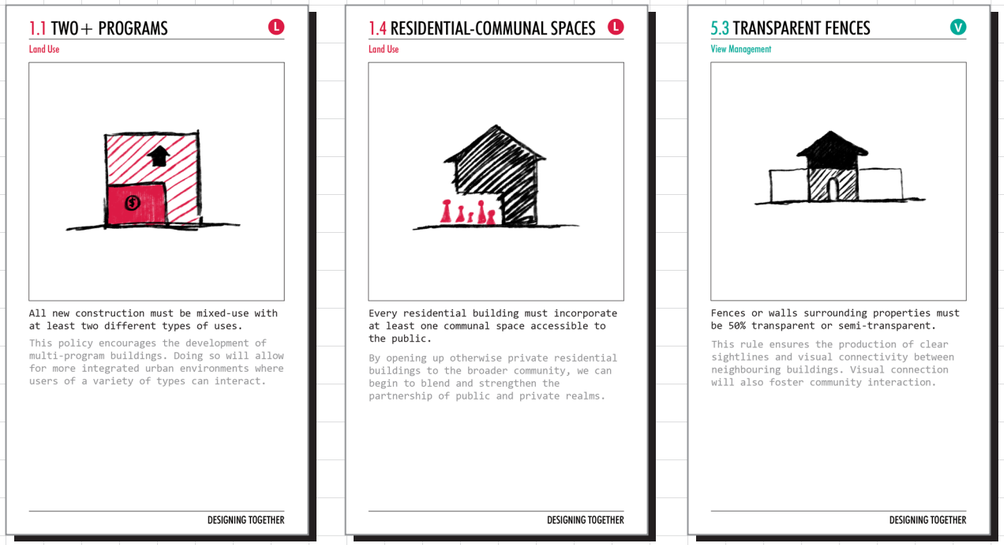
1 HIDDEN SPACES
Each street must feature one ‘hidden space’ designed for discovery.

2 VISIBLE PRIVATE GARDENS
25% of private gardens must be visible from the street.

3 FREE TERRAIN
1% of the area of the city must be dedicated to free terrain, whereby no structure can stand for more than twelve (12) months.

URBAN RULE CARDS

FIGURE 3.15
Blurring Boundaries



RULE TYPES

- *Land Use*
- *Built Form*
- *View Management*
- *Public Realm*
- *Mobility*

FIGURE 3.16
Creating Moments of Discovery



AGENDA SPECULATION

FIGURE 3.17 Preliminary Rule – Agenda Alignments

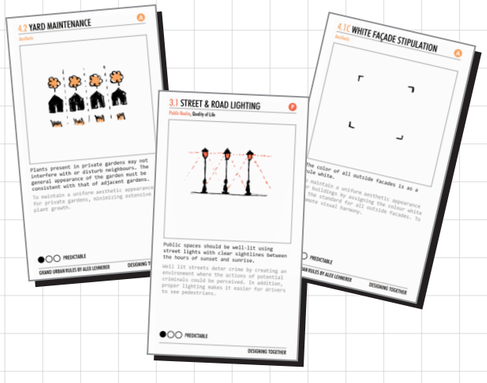
A preliminary exercise speculating on rules and their alignment with the agenda of various potential residents.

AGENDA #1: THE PRIVACY-ORIENTED RESIDENT

Privacy · Personal Space · Enclosed Home · Safety

This player is a resident who values independence, privacy, and control. Their home is a sanctuary, one that offers comfort and safety from the outside world.

As a result, they often take steps to ensure their home remains a sanctuary: fences, privacy landscaping, window coverings, etc. allow this type of person to control the public's access to their home.



AGENDA #2: THE COMMUNITY-ENGAGED RESIDENT

Community · Social Interaction · Public Spaces · Connections

This player is a resident who values social bonds and collective responsibility. They seek to live in a connected, vibrant neighbourhood.

As a result, they often strive to make connections with their neighbours, ensuring that everyone feels welcome and included. They may also be willing to help their neighbours and participate in neighbourhood initiatives.

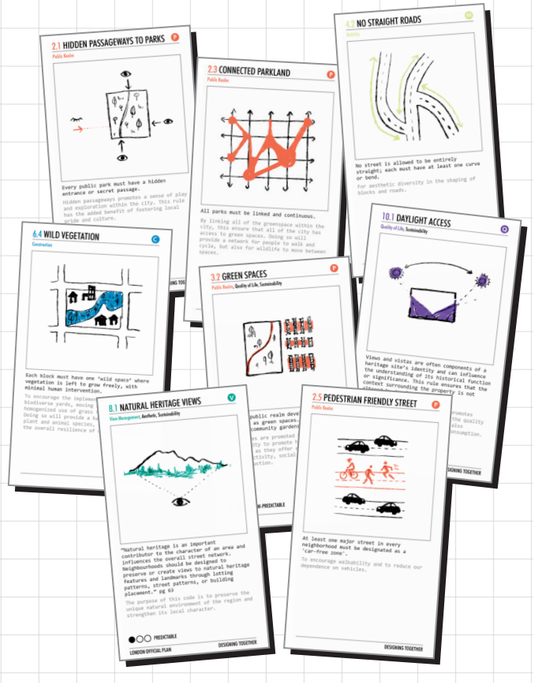


AGENDA #3: THE HEALTH-CONSCIOUS RESIDENT

Outdoor Space · Health · Mobility · Safety

This player is a resident who lives an active life, prioritizing a lifestyle that incorporates physical activity and outdoor exploration. Their values are based on balance, and health.

These residents are likely to go on walks through the neighbourhood, or hikes through green zones. They may also value having a strong and consistent routine.

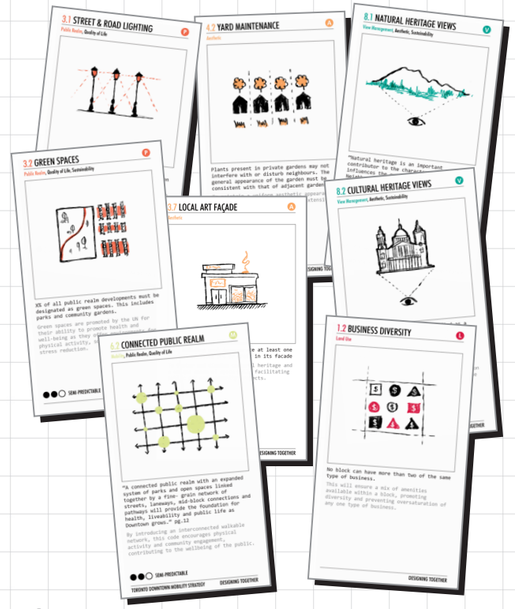


AGENDA #4: INVESTMENT-MINDED RESIDENT

Investment · Safety · Public Spaces · Mobility

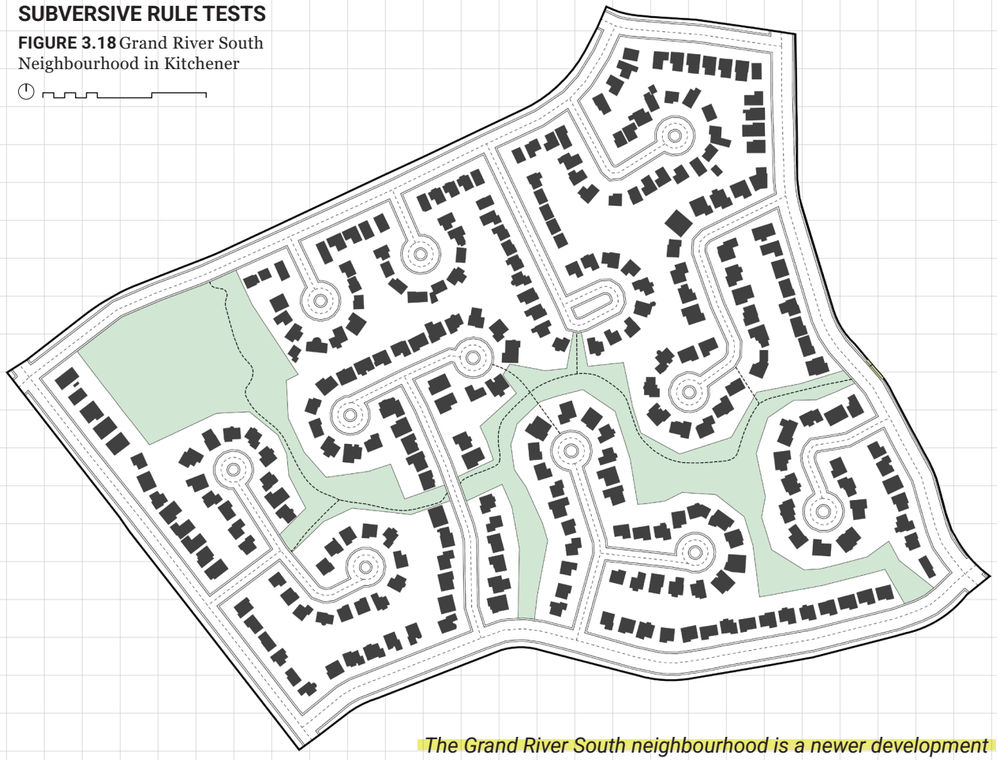
This player is a resident who treats their home as a financial asset. They prioritize their home's potential for appreciation and wealth-building, seeing it as a gateway to long term financial security.

These players losely monitor neighbourhood trends, and housing marketability. They may be sensitive to changing neighbourhood conditions. As a result, they may be risk adverse.



SUBVERSIVE RULE TESTS

FIGURE 3.18 Grand River South Neighbourhood in Kitchener



The Grand River South neighbourhood is a newer development in Kitchener, ON. It consists of a series of cul-de-sacs backing a greenway connected to a park.

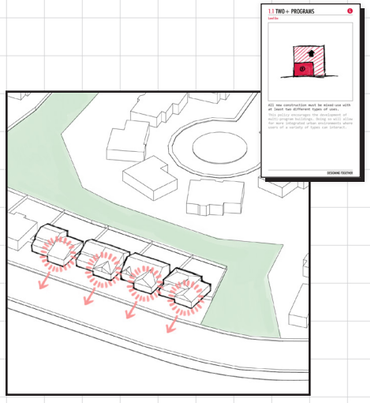


FIGURE 3.19 Public-Facing Room – Garages repurposed for public program (ex. cafe, workshop, co-working space)

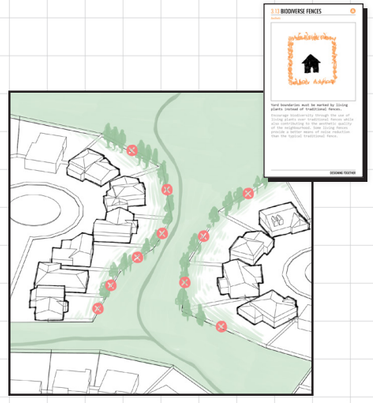


FIGURE 3.20 Biodiverse Fences – Easement of hard lines, living + transit zones for animals

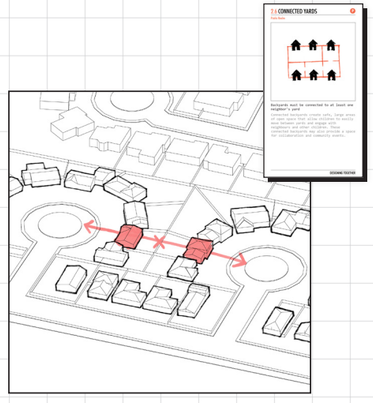


FIGURE 3.21 Connected Backyards – new throughways between cul-de-sacs. Potential for shared greenspace.

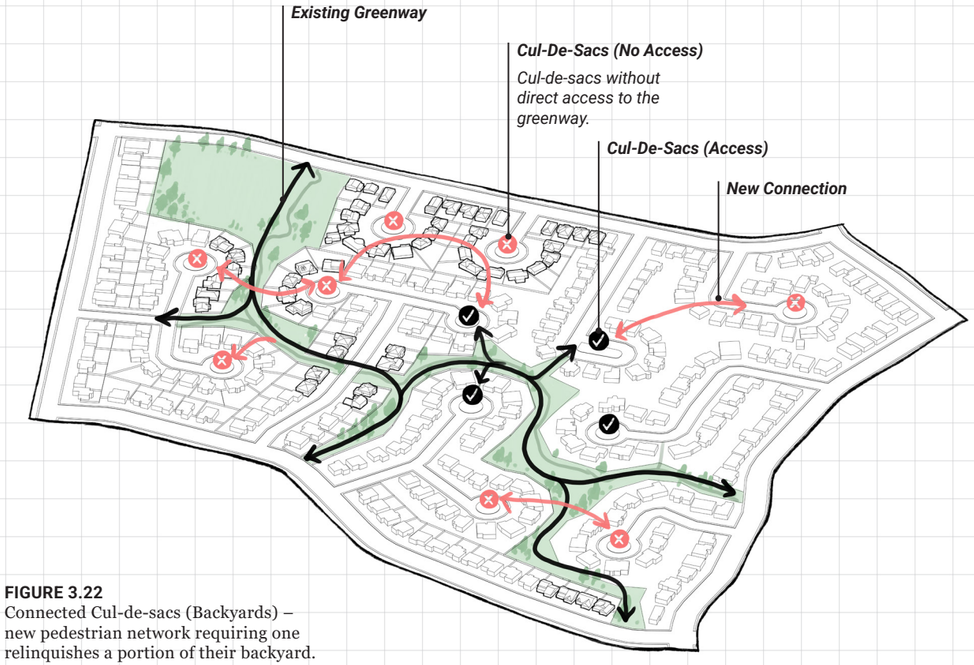


FIGURE 3.22
Connected Cul-de-sacs (Backyards) – new pedestrian network requiring one relinquishes a portion of their backyard.

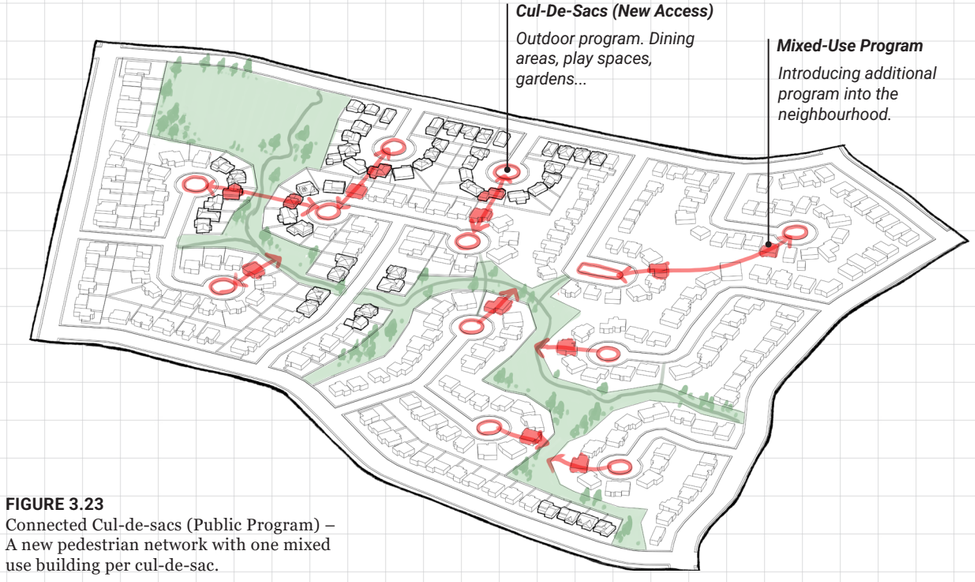
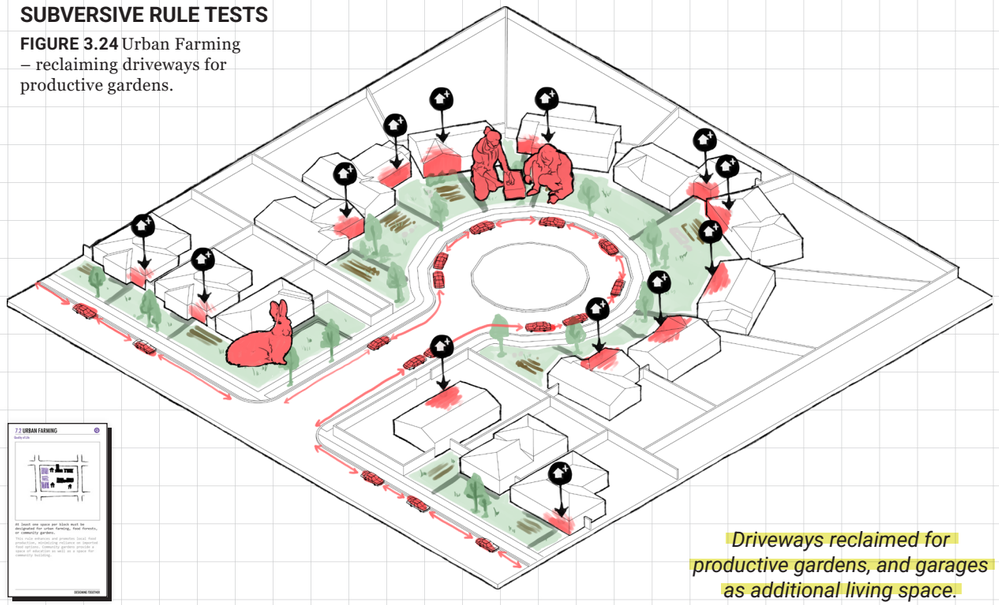


FIGURE 3.23
Connected Cul-de-sacs (Public Program) – A new pedestrian network with one mixed use building per cul-de-sac.

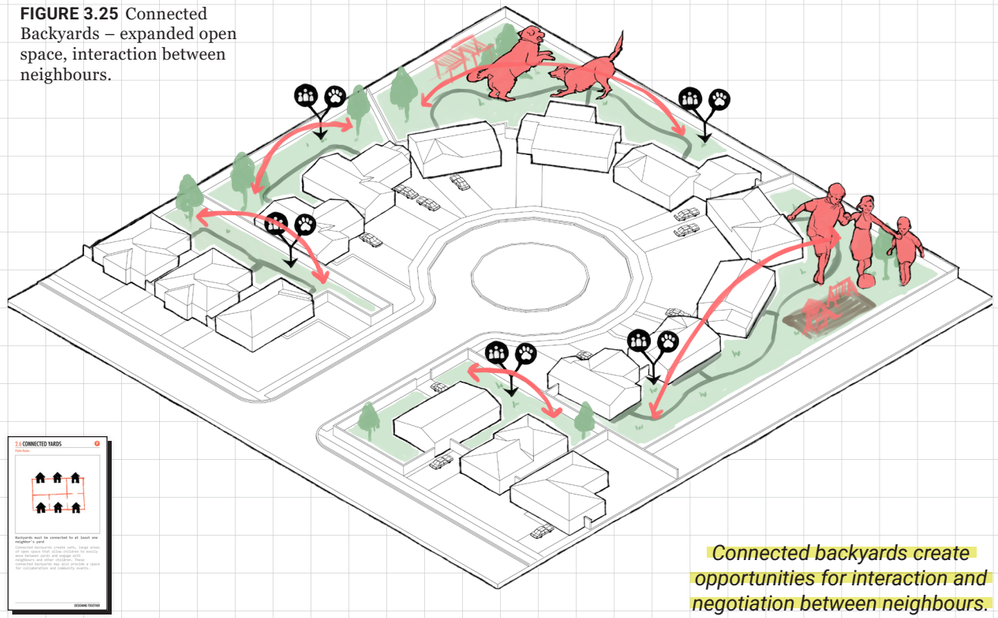
SUBVERSIVE RULE TESTS

FIGURE 3.24 Urban Farming – reclaiming driveways for productive gardens.



Driveways reclaimed for productive gardens, and garages as additional living space.

FIGURE 3.25 Connected Backyards – expanded open space, interaction between neighbours.



Connected backyards create opportunities for interaction and negotiation between neighbours.

REFLECTION# #1: AGENDA

This study of rules highlights the power of language as a tool for design. Many existing rules impose rigid mandates that produce predictable outcomes. However, these rigid rules can be subtly reframed to make space for unpredictability and flexibility through shifts in semantics or by replacing absolute mandates with percentages or ranges.

Despite this, it is important to recognize that rules embody underlying agendas. Some are inherently inflexible, not because of their language, but because they represent a non-negotiable standard in alignment with core values such as public safety and accessibility. For example, rules ensuring that spaces are accessible to disabled individuals should not be compromised in favour of more superfluous design decisions. The same could be said for many of the rules of the building code that set a minimum standard of safety.

Therefore, in the construction of subversive rules, one must make the following considerations:

1. Where can subversion occur;
2. Which rules (urban codes, standards, guidelines, suggestions, and/or orders) are non-negotiable and which allow for flexibility;
3. Where do these rules lie in a spectrum of control and agency;
4. How could space be re-coded to allow for unpredictability and complexity?

THE AGENDA OF RULES



INFLEXIBLE / NON-NEGOTIABLE RULES



FIGURE 3.26 Man pushes a woman in a wheelchair

REFLECTION #2: THE IMPLEMENTATION OF RULES

This study of rules is both speculative and playful, reflecting the abstract nature of rules themselves. Rules allow one to speculate on the design of the city unconstrained by time and space because they exist only within the context of other rules. Lehnerer describes this, stating:

"Rules are precise and unambiguous formulations, yet they produce a multiplicity of alternative realities. There exists no special discipline or special location for them, only a context, which takes the form of—once again—still more rules. In this case, it is the city—the city as a totality of rules which circumscribe it and the building code constitutes an abstract chronicle, or notes for one, one that knows no past tense, and one that can be periodically updated almost unproblematically."[73]

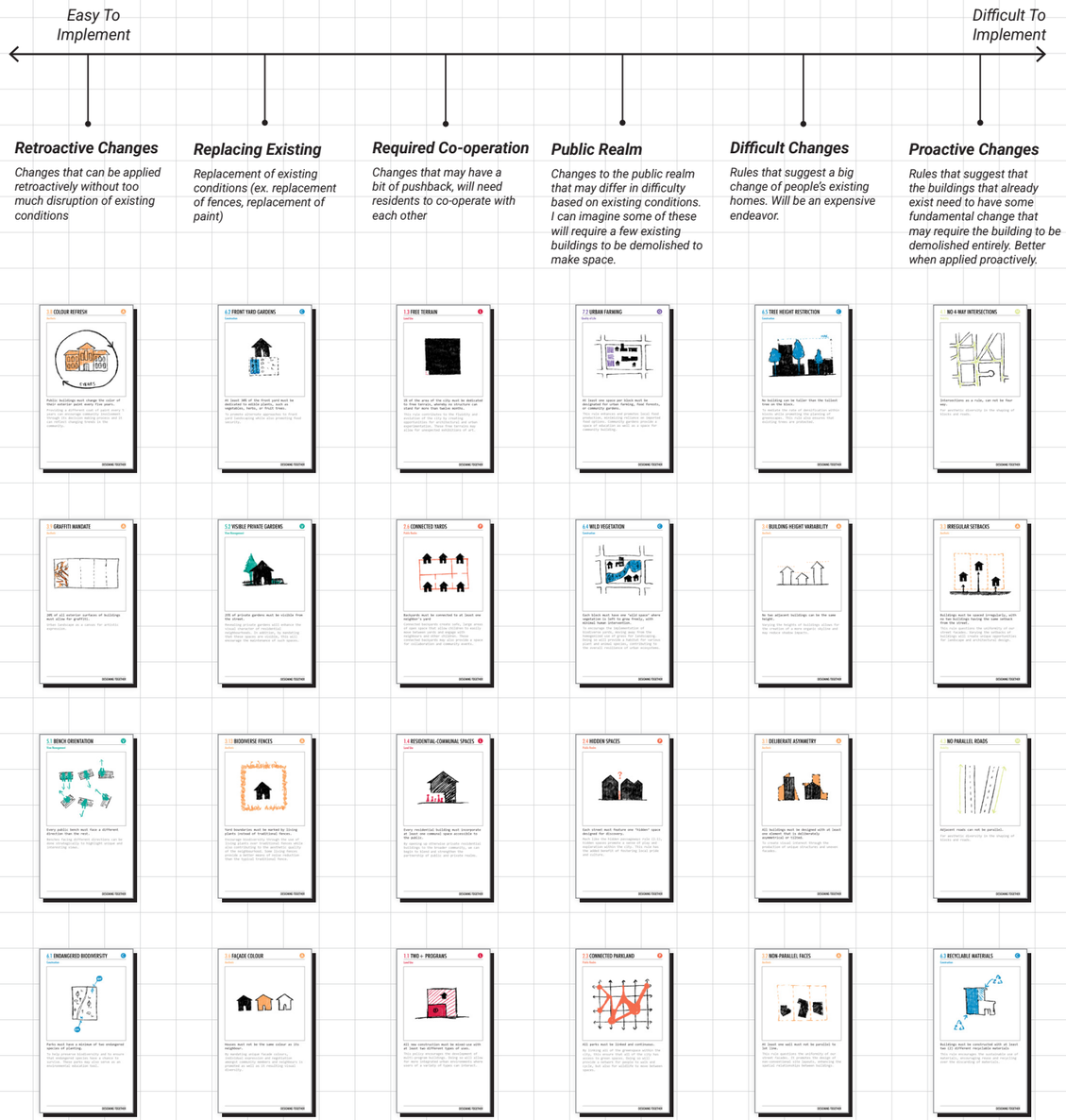
Lehnerer argues that although rules are "precise and unambiguous" in language, they don't necessarily produce a singular outcome but instead hold the potential to produce varied results. This was explored in [Figure 3.2] which shows how subtle, intentional shifts in semantics could modulate the number of resultant "alternative realities".

He further suggests that rules "can be periodically updated almost unproblematically" because to modify a rule is simply a matter of rewriting text. Rules are simultaneously site-less and timeless, existing within a context of other rules. The city itself is a manifestation of a dynamic set of rules that are continually present and changing. Rules, like those found in the building code, are expected to be amended, applying typically to new construction, with existing construction grandfathered in.

Therefore, to design the city using a language of rules is to design imprecisely; to expect the unexpected as part of an evolving city.

73. Alex Lehnerer, *Grand Urban Rules*, 58–59.

FIGURE 3.27 Rules – Speculating on the difficulty of implementation



When rules change, depending on how much they disrupt existing conditions, change may be difficult to implement and thus, change realized across shorter or longer timelines accordingly.

A TEST OF AGENCY

SPATIALIZING COMPLEXITY

In the following two exploratory studies, I spatialize the impacts of subversive rules on the suburban neighbourhood. Taking an approach of controlled agency, I speculate on what a subverted suburb might look like, one that has the capacity to host diverse populations, relationships and interactions.

Though these exercises of spatializing rules could occur in any context, the monofunctional and uniform nature of the suburbs (i.e. its lack of complexity resulting from excessive rigidity) makes for an ideal site for tests of complexity. Here, the impacts of agency can be more readily perceived and compared.

This initial approach to spatializing controlled agency focuses less on the rules themselves, and more on the complexity that can emerge from the negotiation and cooperation among stakeholders of differing agendas. Drawing Inspiration from Ekim Tan and *Play the City*, this first study explores how this can be done with an interactive model.



FIGURE 3.28 Collage - Interactive Urban Games

EKIM TAN'S PLAY THE CITY

GAMES AS METHODOLOGY

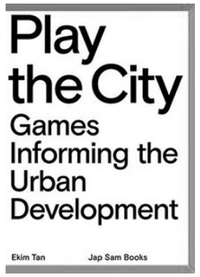


FIGURE 3.29 *Play The City* by Ekim Tan

LIGHT ABSTRACTION OF REALITY

According to Ekim Tan and her studio *Play the City*, a game centered methodology inherently supports self-organization. Because cities operate as self-organizing systems, this approach serves as an effective means for designing the city. This rationale was communicated in her PhD thesis, explaining that: "[t]he method is invented to bridge the gap between understanding cities as nonlinear, unpredictable and complex processes and the lack of present operational methods treating the city as a complex system."[74] As a light abstraction of real space in model form, these games function as tangible design tools, ones that allow urban actors to experiment with, or "play out" spatial arrangements.

Within these models, the barriers often associated with planning at a large scale are abstracted into the temporary world of the game. Time scales are simplified, and design scenarios can be tested and iterated quickly regardless of one's ability to draw or model space. Through the abstraction and democratization of knowledge, various urban actors may come to the table, regardless of their level of expertise in urbanism, and participate in discussions of policy and their concrete spatial outcomes.[75] Through interaction, collaboration, and negotiation within a risk-free environment, users can reflect on their homes, not just as a private dwelling, but as an extension of a connected and engaged community.

URBAN COMPONENTS AND STAKEHOLDERS

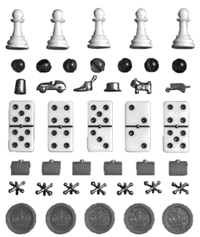


FIGURE 3.30 Games often incorporate abstract components.

Oftentimes the agenda of these games is to build empathy and trust between stakeholders.[76] Many of Tan's models are translations of real space. Components are vague in shape, suggesting size but not architectural form. The intention behind these city games is not to produce a fully realized design, but instead to build a shared framework for identifying needed programs and spatial relationships in alignment with diverse stakeholder interests. Her games are designed as ephemeral tools that operate iteratively. Games play out in cycles, where

74. Ekim Tan, "Negotiation and Design for the Self-Organizing City," preprint, A+BE | Architecture and the Built Environment, August 13, 2014, https://doi.org/10.7480/ABE.2014.11, 135.
75. Ekim Tan, "Negotiation and Design for the Self-Organizing City," 137.
76. Ekim Tan, *Play the City: Games Informing the Urban Development* (Jap Sam Books, 2017), 11.



FIGURE 3.31 Play the City Show at Mediamatic Amsterdam

each round builds upon its previous iteration contributing to an ongoing process of self-organization.[77] In this model, the game is designed to continue indefinitely, with an absence of a final, "optimal" solution. The game itself is a low-stakes mediator that allows stakeholders to inhabit the roles of others, adopting different perspectives and motivations, deepening mutual understanding.[78]



FIGURE 3.32 Ekim Tan cites Dungeons and Dragons as the most helpful model for city gaming.

Tan differentiates her approach to city games from other genres, explored by designers like Janette Kim. While other approaches to urban games function as pedagogical tools, Tan's "generative city gaming" approach carries a different agenda. It integrates both design and decision making, allowing groups to come together to solve complex urban problems, sometimes in relation to broader urban issues ranging from global warming to migration and inequality.[79]

77. Ekim Tan, "Negotiation and Design for the Self-Organizing City," 139.
78. Ekim Tan, "Negotiation and Design for the Self-Organizing City," 137.
79. Ekim Tan, "Negotiation and Design for the Self-Organizing City," 135; Ekim Tan, *Play the City*, 32–33.

JANETTE KIM'S "WIN WIN BOARD GAMES"

HEAVY ABSTRACTION OF REALITY



FIGURE 3.33
Monopoly – A game about systems of development, wholly separated from real space.



FIGURE 3.34
Sprawlopolis – A master planning game simplifying design into 18 typological cards.

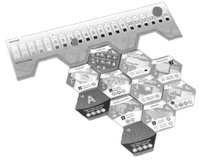


FIGURE 3.35
Suburbia – A tile-laying game centred around maximizing profits.

As a contrasting, board game-oriented model of city gaming, Janette Kim's *WIN WIN Board Games* at the California College of the Arts takes a more abstract approach than Ekim Tan's *Play the City*. *WIN WIN Board Games* is a collection of urban-themed board games that simulate climate risk scenarios.[80] The board games featured in this collection are often highly abstract, separated from real spatial context, with some operating outside of space entirely. Some are adapted versions of existing board games, while others are wholly new creations, designed to play like a traditional board game.

While Tan's open-ended, collaborative games operate as interactive models for collective design, Kim's games function as pedagogical tools. They illustrate the financial and legal mechanisms involved in responding to climate challenges rather than serve as design instruments.[81] This detachment from real spatial conditions allows Kim's games to assume various forms, unburdened in scale, context, and scope.[82] If Tan's city games act as participatory simulations driven by negotiation, Kim's games resemble conventional board games with win-lose conditions structured around external forces such as climate risks. In Kim's framework, the rules of the game dictate what is possible rather than participant ingenuity.

Between these two models of city gaming, Tan's approach better aligns with the goals of this thesis. The research benefits from an adaptive, interactive model approach to test and spatialize new and complex forms of suburban life. Tan's approach welcomes unpredictability and design in a way that a board game approach, bound by fixed rules and predefined outcomes, cannot effectively support.

80. *Win Win Board Games,* Urban Works Agency, n.d., https://www.urbanworks.cca.edu/win-win-board-games.

81. Janette Kim, "Daylighting Conflict: Board Games as Decision-Making Tools," *Scenario Journal*, no. 07 (December 2019), https://scenariojournal.com/article/daylighting-conflict/.

82. Janette Kim, "Daylighting Conflict: Board Games as Decision-Making Tools"

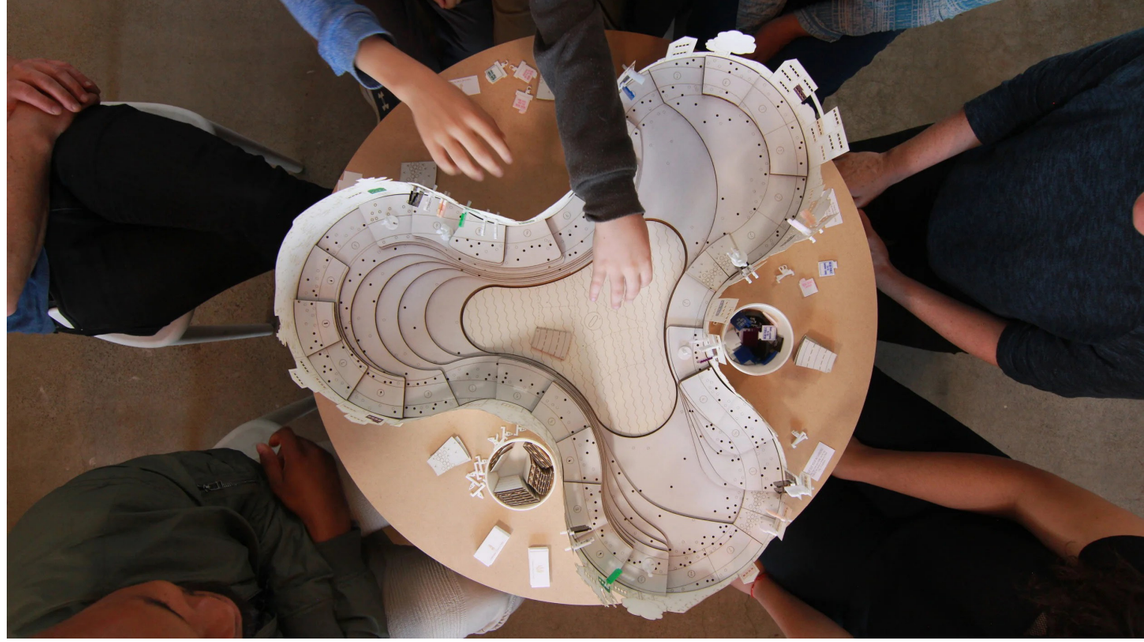


FIGURE 3.36 Janette Kim / UrbanWorksAgency, *Bartertown*

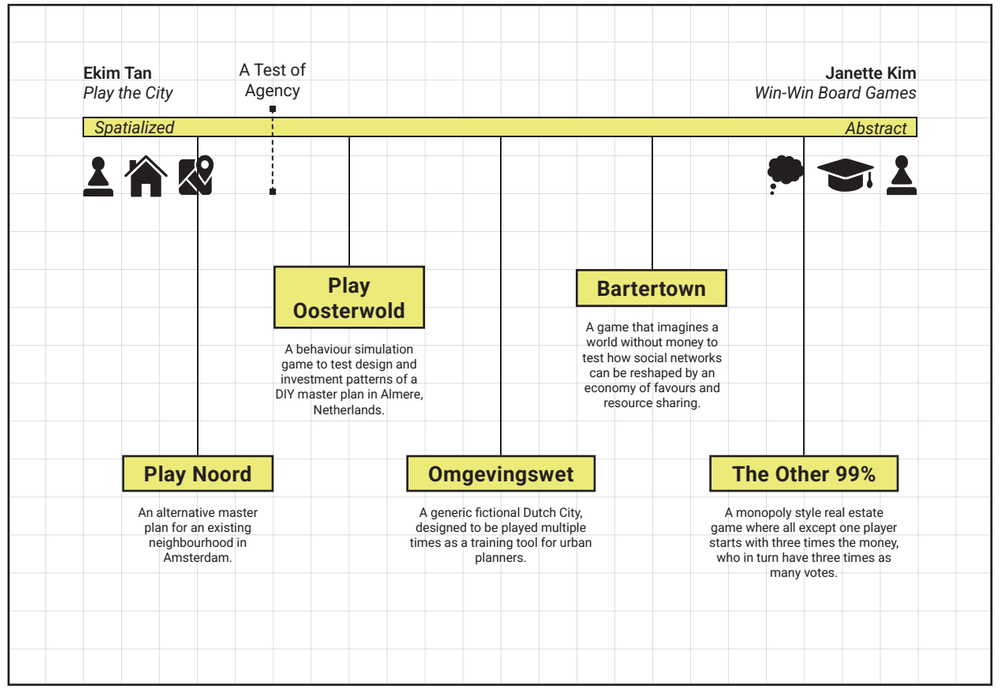


FIGURE 3.37 Examples of Ekim Tan and Janette Kim's work on a scale from spatialized to abstract space. The thesis sits within the realm of Tan's work, which often presents itself as simulations of existing conditions to be redesigned and reshaped. Janette Kim's work often abstracts away space, leaving only systems to interact with.

FIGURE 3.38
All Stakeholder Profiles

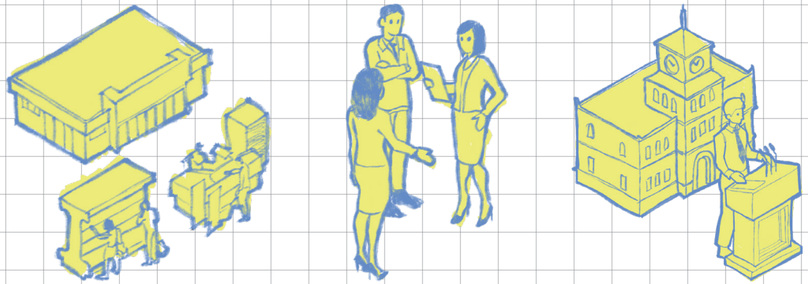
STAKEHOLDER CARDS

Who has a stake in suburbia, and what powers and priorities do they bring? Discussions of urban and architectural design often center on negotiation between top down and bottom-up stakeholders. While this binary provides a useful baseline, it is important to consider the role of non-human stakeholders that shape and are shaped by suburban environments.

TOP-DOWN

Individuals or groups with formal authority and decision-making power, typically responsible for establishing, implementing, and enforcing rules.

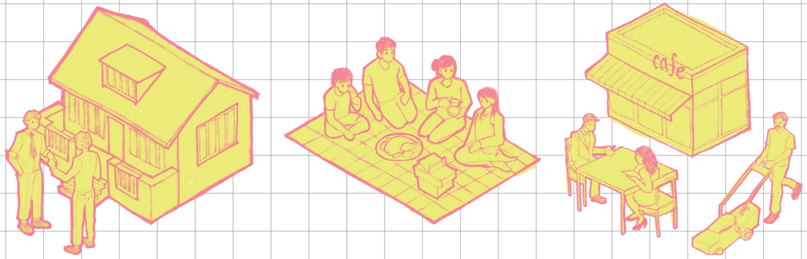
- Big Entrepreneurs
- Investors
- Government



BOTTOM-UP

Individuals or communities who experience, inhabit, and interact with spaces directly, responding to and sometimes adapting the rules set by higher authorities.

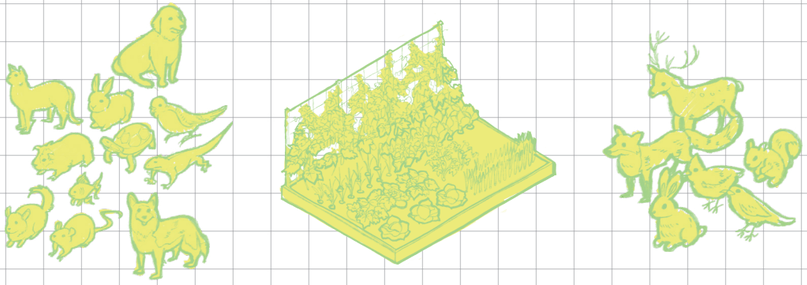
- Homeowners
- Families
- Small Entrepreneurs

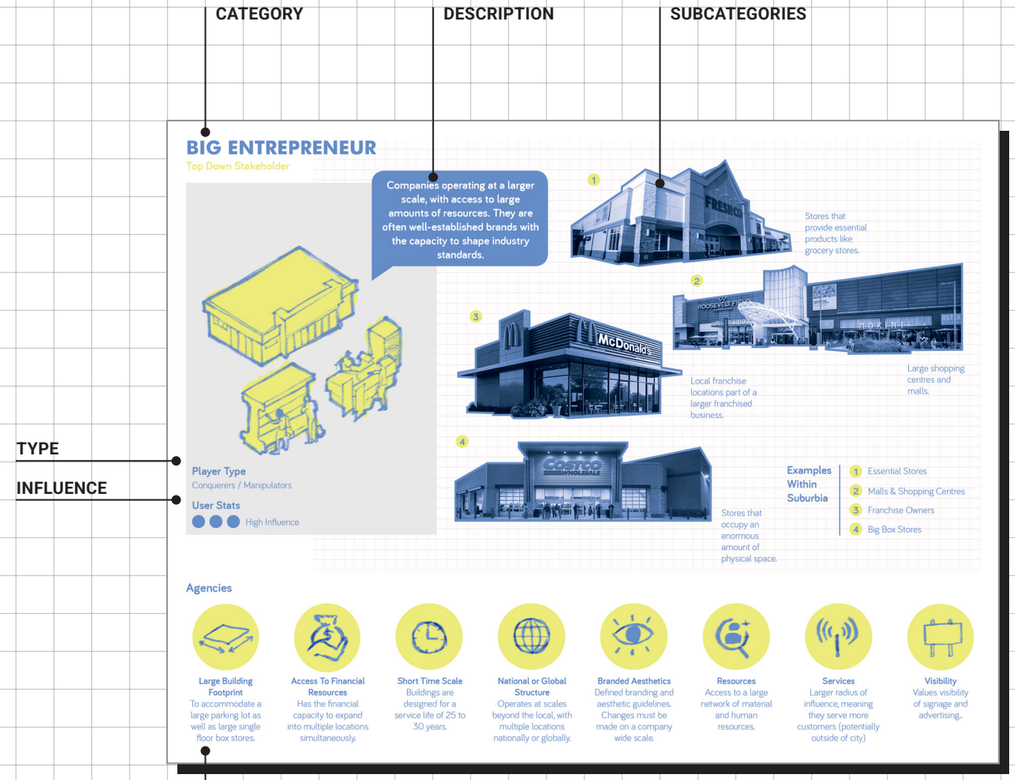


NON-HUMAN

Entities that are not human but impact and are impacted by the built environment.

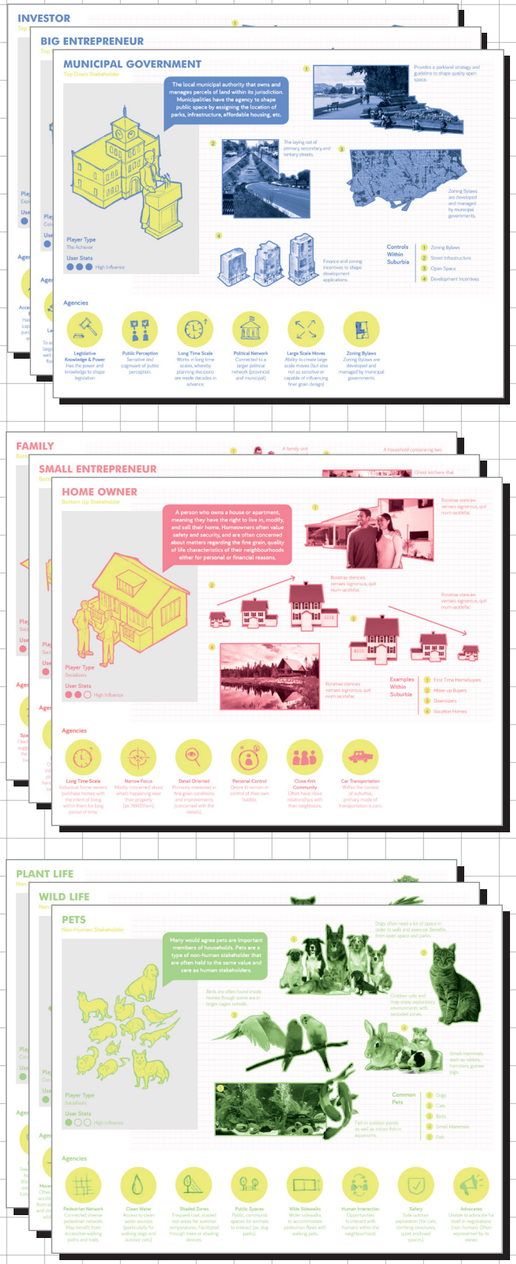
- Pets
- Plant Life
- Wildlife

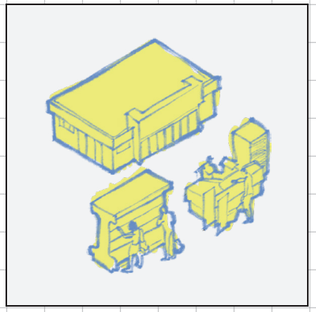




These player profiles represent some of the stakeholders involved in the shaping of suburbia. Note the inclusion of top down, bottom up, and non-human stakeholders. The last of which are voiceless agents, often represented through proxy parties.

FIGURE 3.39
Stakeholder Profile Cards





BIG ENTREPRENEURS

TOP-DOWN STAKEHOLDER

Companies operating at a larger scale, with access to large amounts of resources. They are often well-established brands with the capacity to shape industry standards.

1 Stores that provide essential products like grocery stores.



2 Large shopping centres and malls.



3 Stores that occupy an enormous amount of physical space.

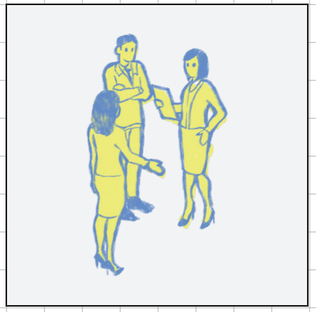


4 Local franchise locations part of a larger franchised business.



AGENCY	DESCRIPTION
Large Building Footprint	To accommodate a large parking lot as well as large single floor box stores.
Access to Financial Resources	Has the financial capacity to expand into multiple locations simultaneously.
Short Time Scale	Buildings are designed for a service life of 25 to 30 years.
National or Global Structure	Operates at scales beyond the local, with multiple locations nationally or globally.
Branded Aesthetics	Defined branding and aesthetic. Changes must be made on a company wide scale.
Resources	Access to a large network of material and human resources.
Services	Larger radius of influence, meaning they serve more customers
Visibility	Values visibility of signage and advertising..

FIGURE 3.40
Stakeholder Profile – Big Entrepreneurs



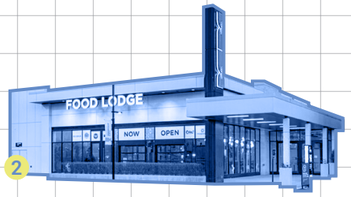
INVESTORS

TOP-DOWN STAKEHOLDER

A person who purchases properties as an investment, with the purpose of generating profit through rental income or property appreciation and resale.



1 People who purchase homes with the intent of renovating and selling them.



2 Commercial real estate, often purchased by large investors like banks.

3 Purchasing property with the intent of holding it over a long period of time





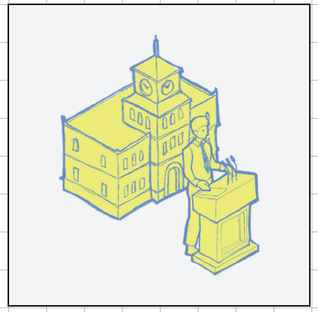
4 Properties listed on short-term rental apps like Airbnb as an alternative to hotels.



5 Purchasing raw land for future investment or development.

AGENCY	DESCRIPTION
Access To Financial Resources	Has the financial capacity to make purchases of land and property.
Time Scales	Depending on type of program, may be interested in either long or short term endeavors.
Profit Focused	Interested in maximizing profit as well as maintaining property values.
Market Knowledge	Intimate knowledge of forces and trends in the property market.
Building Renovation Knowledge	House flippers have the hands-on knowledge to renovate properties.
Aesthetic Preferences	Often prefers a neutral aesthetic to appeal to a wide audience.
Traditional Walkability Values	Distance to nearby amenities, transportation infrastructure, culture.

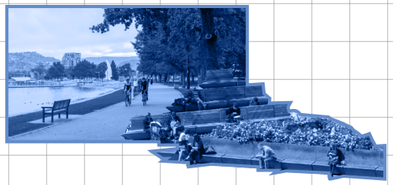
FIGURE 3.41
Stakeholder Profile – Investors



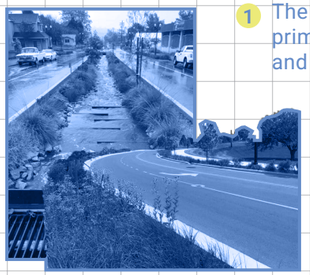
GOVERNMENT

TOP-DOWN STAKEHOLDER

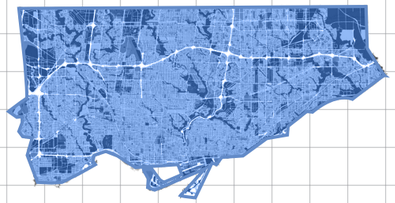
The local municipal authority that owns and manages parcels of land within its jurisdiction. Municipalities have the agency to shape public space by assigning the location of parks, infrastructure, affordable housing, etc.



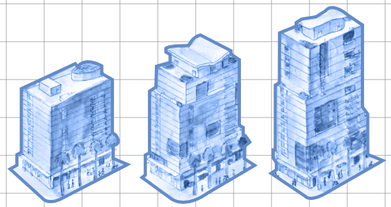
2 Provides a parkland strategy and guideline to shape quality open space.



1 The laying out of primary, secondary, and tertiary streets.



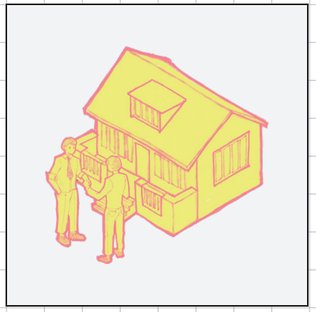
3 Zoning Bylaws are developed and managed by municipal governments.



4 Finance and zoning incentives to shape development applications.

AGENCY	DESCRIPTION
Legislative Knowledge & Power	Has the power and knowledge to shape legislation
Public Perception	Sensitive and cognisant of public perception.
Long Time Scale	Works in long time scales, whereby planning decisions are made decades in advance.
Political Network	Connected to a larger political network (provincial and municipal)
Large Scale Moves	Ability to create large scale moves (but also not as sensitive or capable of influencing finer grain design)
Zoning Bylaws	Zoning Bylaws are developed and managed by municipal governments.

FIGURE 3.42
Stakeholder Profile – Government



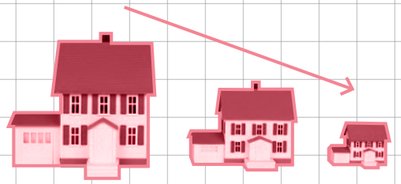
HOMEOWNERS

BOTTOM-UP STAKEHOLDER

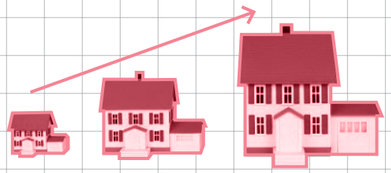
A person who owns a house or apartment, meaning they have the right to live in, modify, and sell their home. Homeowners often value safety and security and are often concerned about matters regarding the fine grain, quality of life characteristics of their neighbourhoods either for personal or financial reasons.



2 First-time homebuyers, often young couples purchasing starter homes, fixer-upper homes, etc.



1 Homeowners, for any number of reasons may choose to downsize their home.



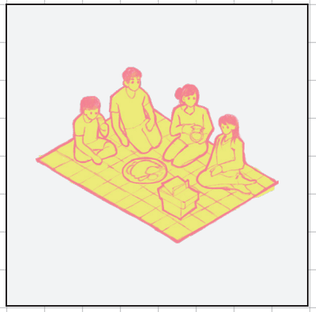
4 Homeowners, for any number of reasons may choose to upgrade their home.



3 Vacation homes, sometimes co-owned by multiple families.

AGENCY	DESCRIPTION
Long Time Scale	Individual home owners purchase homes with the intent of living within them for long period of time.
Narrow Focus	Mostly concerned about what's happening near their property (ex. NIMBYism).
Detail Oriented	Primarily interested in fine grain conditions and improvements
Personal Control	Desire to remain in control of their own bubble.
Close Knit Community	Often have close relationships with their neighbours.
Car Transportation	Within the context of suburbia, primary mode of transportation is cars.

FIGURE 3.43
Stakeholder Profile – Homeowners



FAMILIES

BOTTOM-UP STAKEHOLDER

A basic unit in society, consisting of any combination of two or more persons who are bound together over time by ties of mutual consent, birth, and/or adoption or placement.



1 A family unit consisting of parents and their children.



2 A household containing two or more adult generations.



3 A family unit consisting of one parent and their child(ren).



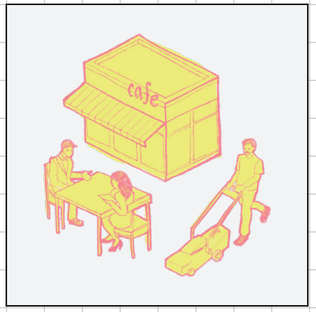
4 Non-biologically related group of people. A family of choice.



5 A partnership that does not have children.

AGENCY	DESCRIPTION
Space Expansion	Flexible family sizes suggests a need for the expansion of liveable space.
Internal Privacy	Privacy within the household, carving out spaces for individuals in a shared space.
Child Friendly Spaces	Benefits from safe, child friendly spaces as well as proximity to large parks.
Parking	Small parking requirements but may benefit from more parking spots.
Intergenerational Interaction	Seeks opportunities for intergenerational interaction.
Long Time Scale	Long term occupants, tied to place and perhaps advocates for stability.
Diverse Tastes	A range of personalities and aesthetic tastes within the household.
Internal Negotiatian	Choice in aesthetics, and function are to be negotiated upon within the family.

FIGURE 3.44
Stakeholder Profile – Families



SMALL ENTREPRENEURS

BOTTOM-UP STAKEHOLDER

A small entrepreneur operates at a smaller scale, often working with less capital and labour. Due to their small scale, they often prefer the use of local labour instead of technology. Success hinges on factors like entrepreneurial skills, knowledge, social networks, and innovation.



2 Ghost kitchens that serve customers exclusively via delivery.



1 Local landscaping and lawn care services.



3 Small local cafes, restaurants, study spots.



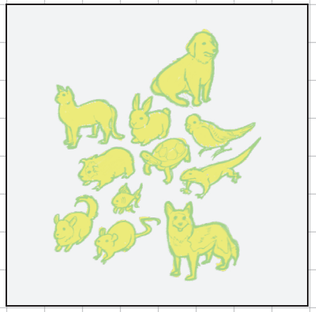
4 At home craft businesses, whereby items are sold via online or via craft fairs.



5 Childcare services from local babysitters.

AGENCY	DESCRIPTION
DIY Skills	Often involve individuals with strong DIY and handiness skills to save on costs.
Connected Community	Success hinges on connection and integration into the community they serve.
Small Footprint	Often don't need a lot of space to operate.
Hybrid Flexibility	Some operate digitally, or hybrid. These small businesses have flexibility of work space.
Limited Resources	Don't have a lot of manpower (inability to stay open for long periods of time).
Aesthetic Experimentation	More willing to experiment with unique branding & aesthetics.
Narrow Audience	Services few people, often niche (and thus has a smaller need for parking).

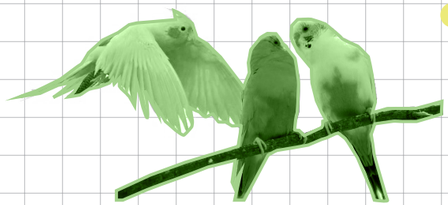
FIGURE 3.45
Stakeholder Profile – Small Entrepreneurs



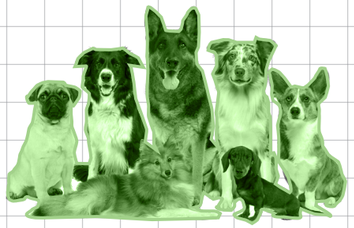
PETS

NON-HUMAN STAKEHOLDER

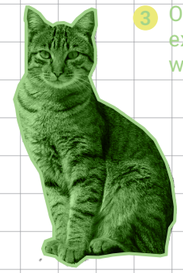
Many would agree pets are important members of households. Pets are a type of non-human stakeholder that are often held to the same value and care as human stakeholders.



1 Birds are often found inside homes though some are in larger cages outside.

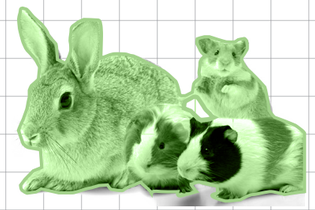


2 Dogs often need a lot of space in order to walk and exercise. Benefits from open space and parks.



3 Outdoor cats and may enjoy exploratory environments with secluded zones.

4 Small mammals such as rabbits, hamsters, guinea pigs.

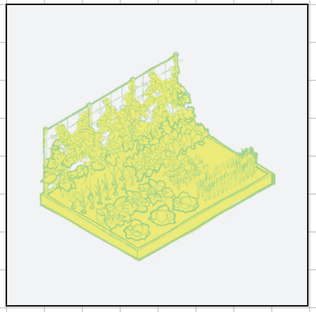




5 Fish in outdoor ponds as well as indoor fish in aquariums.

AGENCY	DESCRIPTION
Pedestrian Network	Connected, diverse pedestrian network. May benefit from accessible walking paths and trails.
Shaded Zones	Frequent cool, shaded rest areas for summer temperatures. Facilitated through trees or shading devices.
Human Interaction	Opportunities to interact with humans within the neighbourhood.
Clean Water	Access to clean water sources (particularly for walking dogs and outdoor cats).
Public Spaces	Public, communal spaces for animals to interact (ex. dog parks).
Wide Sidewalks	Wider sidewalks to accommodate pedestrian flows with walking pets.

FIGURE 3.46
Stakeholder Profile – Pets



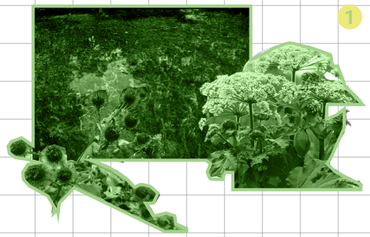
PLANT LIFE

NON-HUMAN STAKEHOLDER

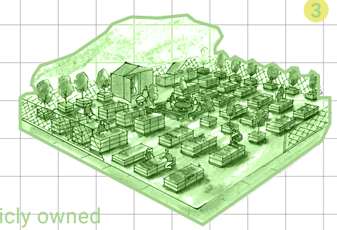
Plants that exist within suburbia. Often highly controlled by the humans that owns a given parcel of land via landscaping, and careful control of number and species of planting. The most notable of which is grass as well as a small selection of common street trees. Other controlled landscapes include gardens (private or community) which act as productive flora.



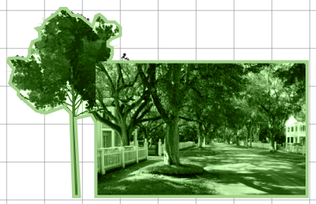
2 Species whereby no human intervention brought them to an area.



1 Species brought to an area via human intervention. Can be harmful to native ecosystem.

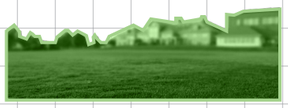


3 Gardens, managed by humans. Ex. community, private, urban.



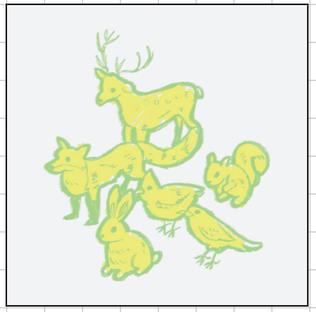
4 Publicly owned trees lining streets to improve pedestrian experience.

5 Traditional suburban lawns populated with well-kept grass.



AGENCY	DESCRIPTION
Longevity	Trees in particular have a longer lifespan than the average human. Long time scales.
Unkempt Nature	“Tamed” by humans through regular maintenance.
Spread	A tendency to spread, and take over spaces if not kept in check.
Needs	Access to sunlight, water and uncontaminated land as a priority
Advocates	Unable to advocate for itself in negotiations (non-human). Often represented
Large Space	Larger space to accommodate a variety of plant life, increasing biodiversity.
Preservation	Interested in the preservation of existing flora

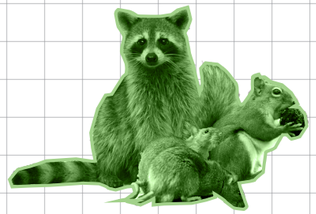
FIGURE 3.47
Stakeholder Profile – Plant Life



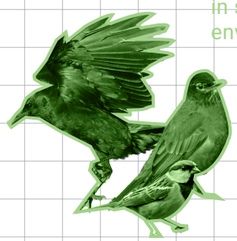
WILDLIFE

NON-HUMAN STAKEHOLDER

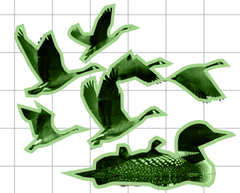
Animals that thrive in urban environments due to their ability to adapt and thrive in human lifestyles. Fauna have varying pedigrees. The “undesirable” raccoons, rats, pigeons (pigeons had a fall from grace) versus the “desirable” (deer, butterflies, sometimes rabbits).



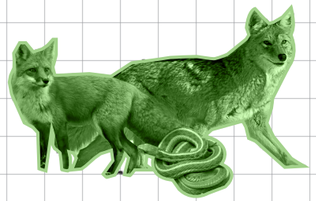
2 Wildlife on the boundary of natural and human spaces. Ex. raccoons and squirrels.



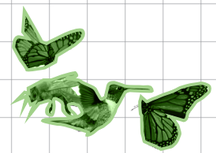
1 Birds common in suburban environments.



3 Animals (mostly birds) who migrate during the change of seasons.



4 Urban predators such as coyotes, snakes, and foxes.



5 Pollinators, often small in size (ex. bees, butterflies, hummingbirds)



6 Animals occasionally found visiting yards (ex. rabbits, deer)

AGENCY	DESCRIPTION
Movement Corridors	Often victims of road accidents. May benefit from enhanced visibility and driver awareness of wildlife crossings.
Proximity to Humans	For some animals, proximity to humans (ex. some gain food from human waste).
Ecosystems	Benefit from strengthened ecosystem.
Diverse Habitats	Benefits from diverse plant life (resilience, water retention) and habitats (dens, trees, etc.)
Connected Green Spaces	Benefits from connected green spaces and corridors.
Advocates	Unable to advocate for itself in negotiations. Often represented by environmental advocates.

FIGURE 3.48
Stakeholder Profile – Wild Life

STAKEHOLDER INTERACTIONS

I explored how these stakeholders could interact with each other in a pseudo game environment to reveal how these interactions might unfold without relying on a fixed spatial model.



How might these agendas compete or co-operate with each other to create mutual benefit?

FIGURE 3.49 A potential interaction is an exchange of cards. A player may trade away their cards to another player in order to pursue their goals.

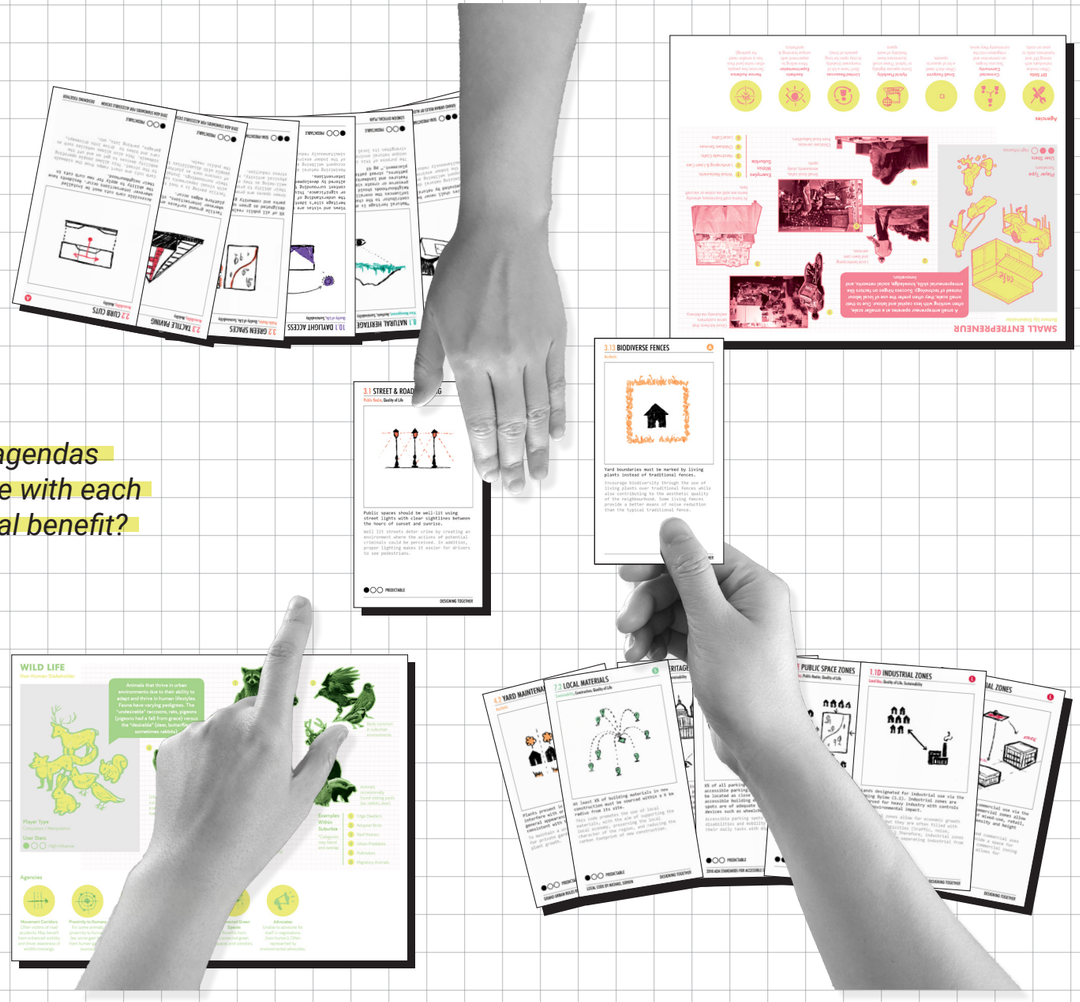


FIGURE 3.50 Cases of tension and negotiation. What happens when one player attempts to enact a rule that is not within the interests of the other player? Perhaps that interaction could be a moment of negotiation where one player may have their rule enacted in exchange with another rule.

CATALYST CARDS

To introduce an additional layer of complexity within the interactive model, I identified a series of catalyst events that act as external forces prompting change in specific directions. Although change is often perceived negatively, these catalysts can be positive, negative, or neutral. Rather than prescribing outcomes, they establish conditions that encourage change in the ways we live.

FIGURE 3.51
Catalyst Cards



FIGURE 3.52
Vacant Homes

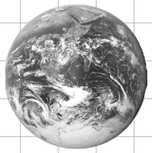


FIGURE 3.53
Rising Global Temperatures



FIGURE 3.54
Aging Population

DAILY NEWS

NO.1 TODAY'S EDITION

CATALYST EVENTS

ECONOMIC DOWNTURN SPARKS HOUSING CRISIS

A major recession hits, causing widespread job losses and financial instability. As a result, 10% of homes in the suburb are left vacant, leading to declining property values, reduced tax revenue, and increased pressure to repurpose or densify underutilized areas. How will you adapt to stabilize the community and attract new residents?

DAILY NEWS

NO.2 TODAY'S EDITION

CATALYST EVENTS

AUTONOMOUS VEHICLES TRANSFORM MOBILITY

Self-driving cars become the dominant mode of transportation, drastically reducing the need for parking by 70%. Vast parking lots and garages now sit underutilized, creating opportunities to reimagine suburban spaces. How will you repurpose this newfound land to increase density, improve walkability, and enhance community life?

DAILY NEWS

NO.3 TODAY'S EDITION

CATALYST EVENTS

AGING POPULATION RESHAPES SUBURBAN LIVING

A demographic shift sees 25% of households now consisting of single seniors. This creates a growing demand for accessible housing, healthcare facilities, and walkable neighborhoods designed for aging in place. How will you adapt suburban spaces to support intergenerational living and foster community connections?

DAILY NEWS

NO.4 TODAY'S EDITION

CATALYST EVENTS

GLOBAL SUPPLY CHAIN DISRUPTIONS SPARK LOCAL FOOD REVOLUTION

Severe global supply chain disruptions cause food prices to soar, leading to a 50% increase in demand for locally grown produce. Suburban residents push for community gardens, urban farms, and innovative food production spaces. How will you transform underutilized land to support local agriculture and ensure food security?

DAILY NEWS

NO.4 TODAY'S EDITION

CATALYST EVENTS

RISING TEMPERATURES BRING ANNUAL HEAT WAVES

Climate change has made severe heat waves a recurring challenge, putting pressure on suburban infrastructure and public health. Residents demand more shaded areas, cooling centers, and climate-resilient designs to combat extreme temperatures. How will you adapt the suburb to protect its community and create a more sustainable environment?

DAILY NEWS

NO.4 TODAY'S EDITION

CATALYST EVENTS

POPULATION BOOM SPARKS HOUSING CRISIS

A 20% surge in regional population due to migration has overwhelmed housing supply, leading to widespread shortages and rising demand for affordable options. Pressure mounts to increase density and diversify housing types to accommodate new residents. How will you redesign the suburb to meet the growing need for homes while maintaining community cohesion?



FIGURE 3.55
Self-Driving Cars



FIGURE 3.56
Population Boom

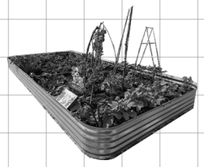


FIGURE 3.57
Local Food

THE SHOPPING LIST

TAN'S LIBRARY OF GAME PIECES



FIGURE 3.58
Shopping Basket

A key component of Tan's methodology is the development of a library of 2D and 3D game pieces representing various urban interventions. These elements are intentionally ambiguous in form, yet scaled appropriately, allowing participants to recognize their spatial impact without assigning specific architectural identities. In game sessions, stakeholders receive budgets that reflect their relative power or influence, which they use as a form of currency to "purchase" and place pieces within the model. Viewed from above, the pieces indicate their footprint and associated program. Viewed from the side, they reveal the elevation of each intervention. Tan intentionally crafted the pieces to be viewed from two perspectives to allow participants to read the outcome of the session as both a site plan and as tangible, three-dimensional space.

Building on this approach, I developed an interactive model "shopping list", composed of components representing common urban programs that could be introduced into the suburban neighbourhood. Drawing from Tan's city gaming approach, each piece is scaled to its typical footprint, and colour-coded according to program type.



FIGURE 3.59
Play Noord Game Board
+ "Shopping" Display

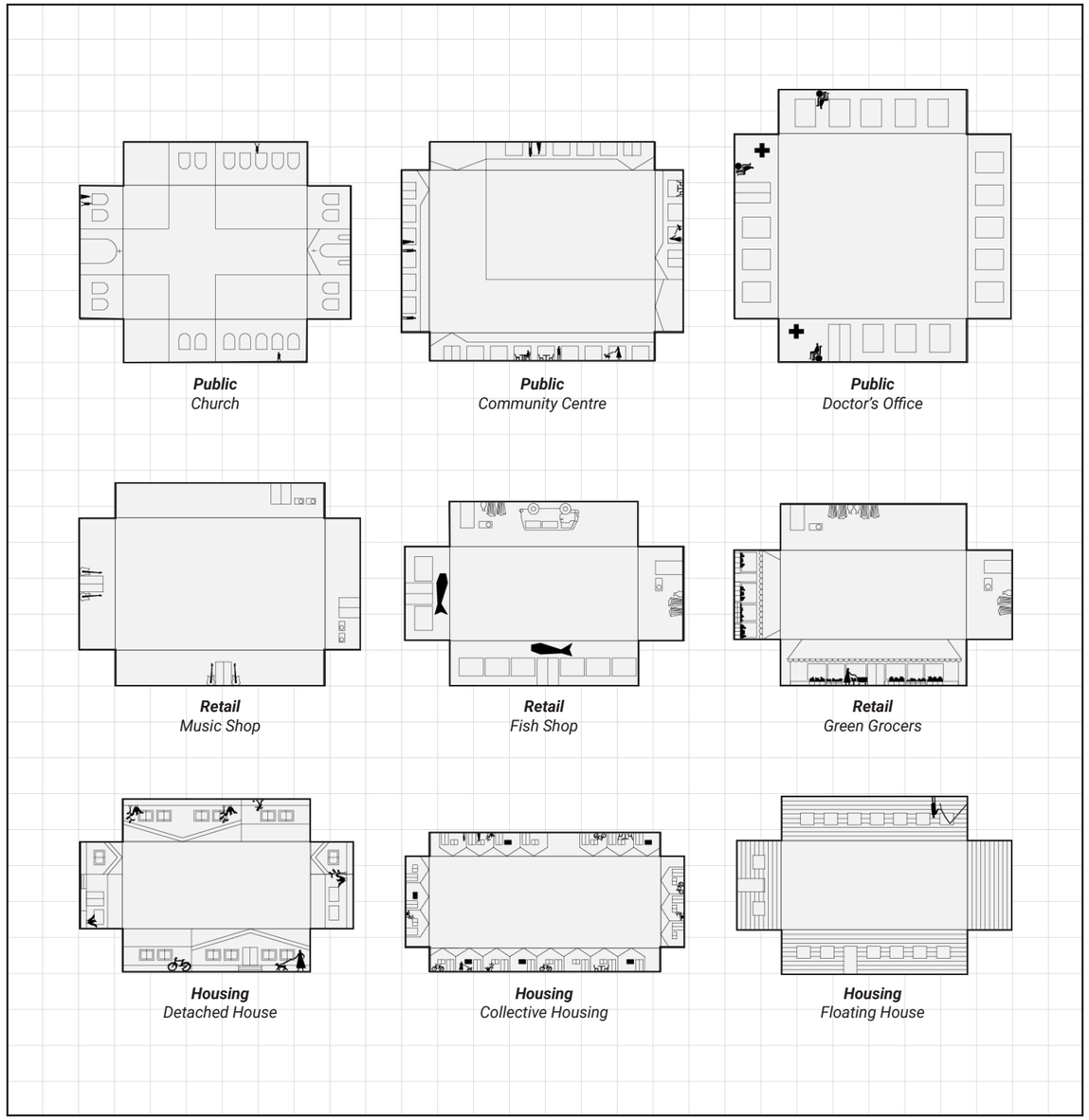
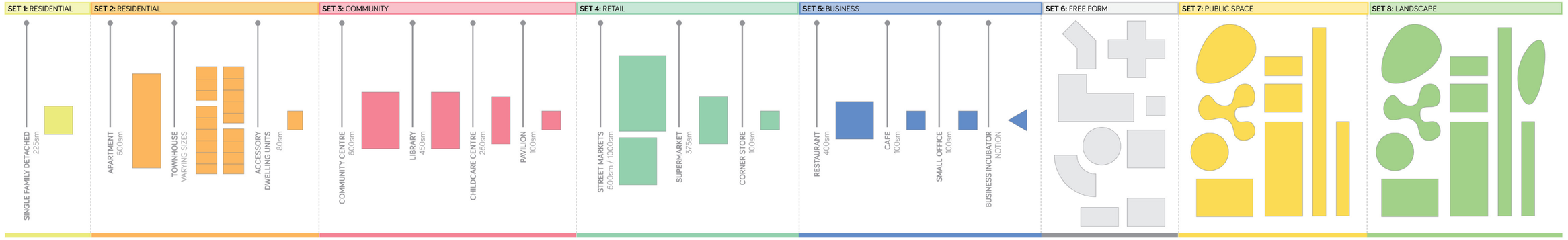
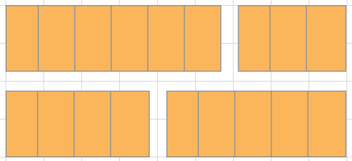


FIGURE 3.60 Sample Game Pieces From *Play the City*. Redrawn by Author.

2 THE TOOLKIT:

This toolkit consists of a series of preformed pieces and free form pieces. Preformed pieces provide a predefined set of programs and dimensioned pieces to work with, while free form pieces allow players to add additional programs that exist outside of its limitations. Consider how and where additional programs, densities, and open space could be designed in response to your catalyst card.





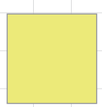
Townhouse
Varying Sizes



Apartment
600 sm



Accessory Dwelling Units
80 sm



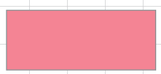
Single Family Detached
225 sm



Community Centre
600 sm



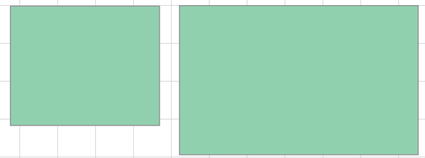
Library
450 sm



Childcare Centre
250 sm



Pavilion
100 sm



Street Markets
500/1000 sm



Supermarket
375 sm



Corner Store
100 sm



Restaurant
400 sm



Cafe
100 sm



Small Office
100 sm

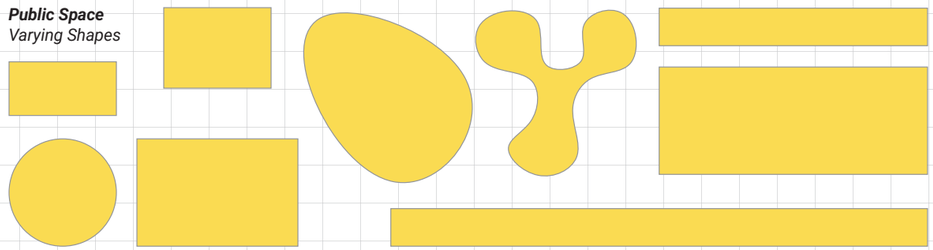


Business Incubator
Notion

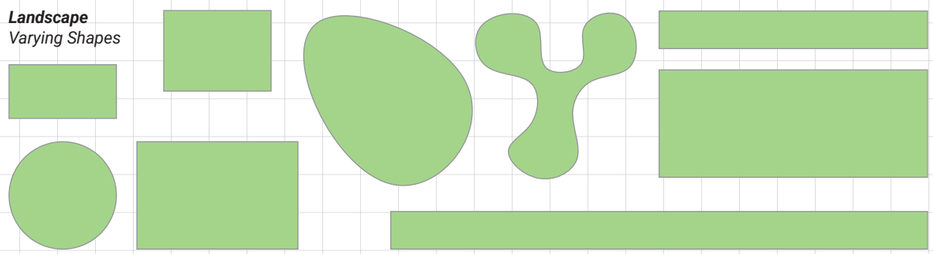
Free Form
Varying Shapes



Public Space
Varying Shapes



Landscape
Varying Shapes



A sample set of programs scaled to an approximate size. Free form shapes are offered to add additional program if needed.

FIGURE 3.61 A set of proposed game pieces, or "toolkit" produced for the thesis' prototype interactive model. Created by Author.

CHOOSING A TEST SITE

Several suburban sites across Southern Ontario were considered for this model, each selected to represent distinct spatial and organizational conditions:

CUL-DE-SACS

1. **GRAND RIVER SOUTH, KITCHENER:** A neighbourhood characterized by numerous cul-de-sacs backing onto a large greenway that connects to a large park. Smaller parks are situated along the edges of the greenway. The unusually high concentration of cul-de-sacs suggests an intentional design strategy.

DENSE STRIPS OF HOUSING & LINEAR GREENWAY

2. **ERIN MILLS, MISSISSAUGA:** A neighbourhood composed of long, continuous strips of housing linked by an extensive greenway system.

LARGE PARKS

3. **MILLIKEN, SCARBOROUGH:** A neighbourhood defined by segmented housing blocks divided by major roads and intersections. Parks are large but limited in number. Conditions carry the typical suburban challenge of poor walkability and a lack of cohesive public space.

The Grand River South neighbourhood in Kitchener was selected for further investigation. Its composition of dense cul-de-sacs adjacent to a connected greenway offers a compelling site for testing spatial interventions, where the uniformity of form provides an opportunity for subversion.

FIGURE 3.62 Grand River South, Kitchener – Plan

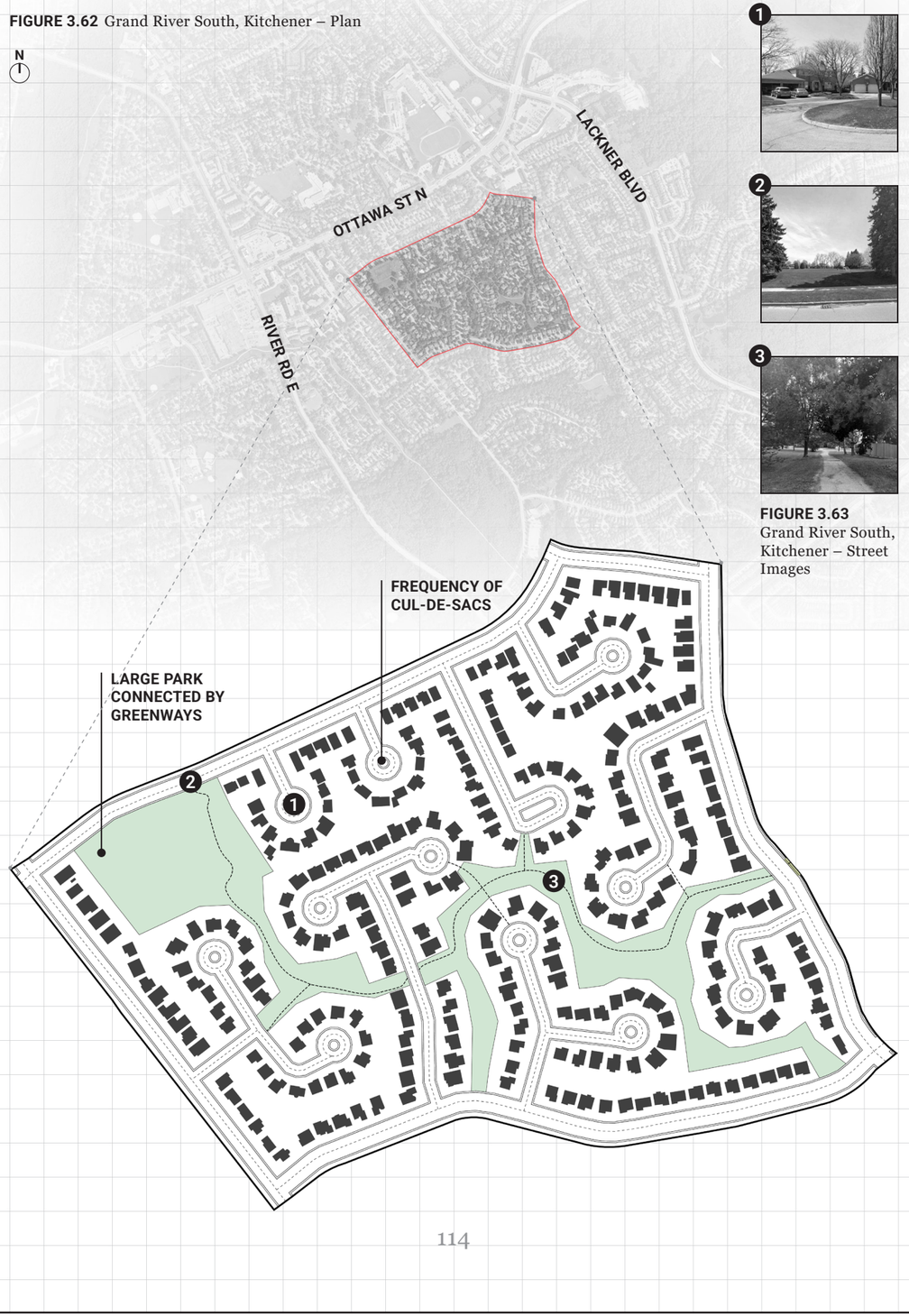


FIGURE 3.63
Grand River South, Kitchener – Street Images

FIGURE 3.64 Erin Mills, Mississauga – Plan

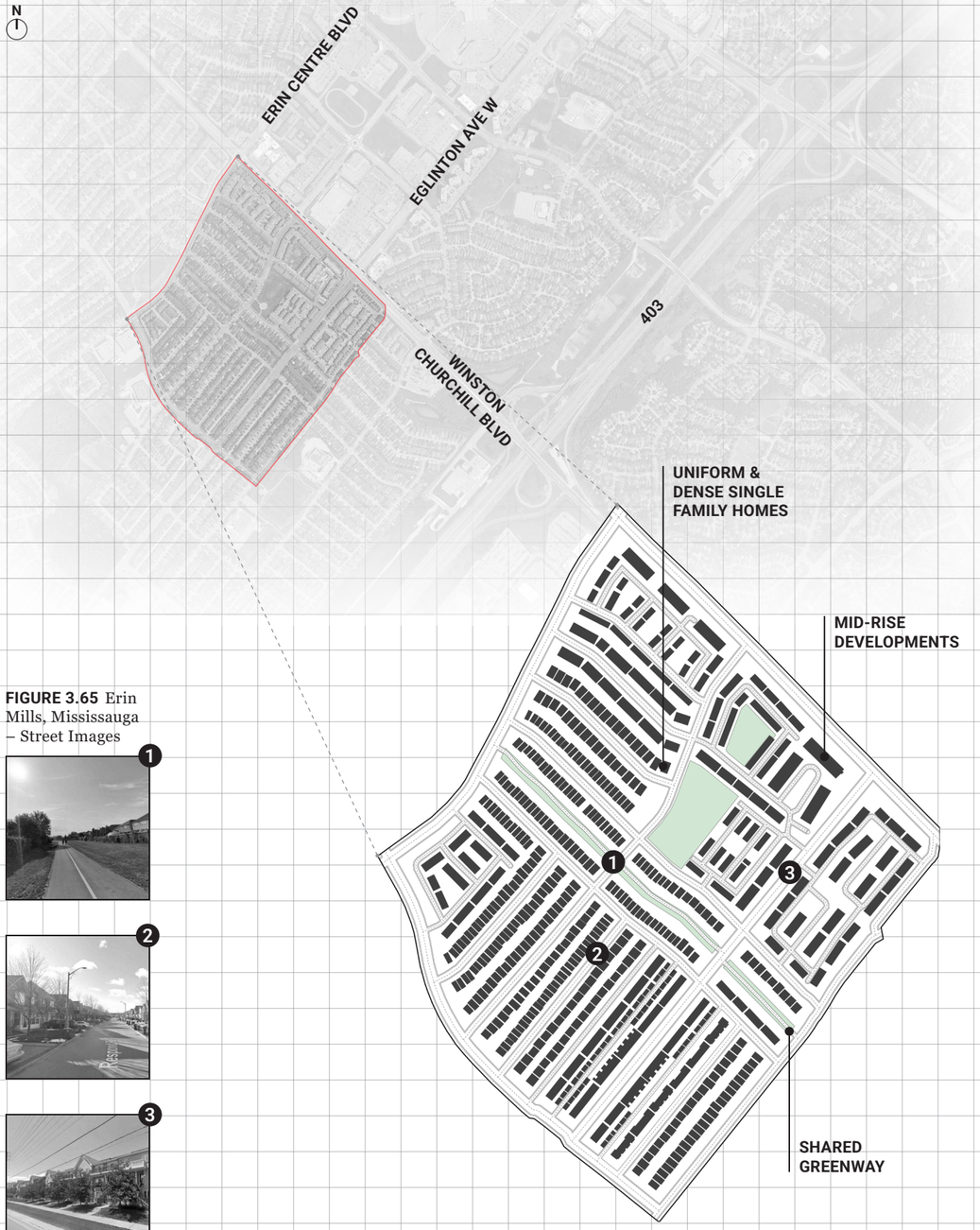


FIGURE 3.65 Erin Mills, Mississauga – Street Images

FIGURE 3.66 Milliken, Scarborough – Plan





FIGURE 3.67 Milliken, Scarborough – Street Images

FIGURE 3.68
Interactive Model Prototype



THE INTERACTIVE MODEL

THESIS EXHIBITION PREPARATION

This interactive model was developed for presentation and use during the Thesis Exhibition held at the University of Waterloo on April 1st, 2025.

Using QGIS, the roads, parks and lot lines were extracted and exported to scale for a 1:1000 model. The base was laser-cut from plywood in two parts, with additional components cut from the same material for efficiency. Simplified versions of the catalyst and stakeholder cards were produced, along with a legend to assist with reading the model and its components.

The steps to using the interactive model are simple:

1. **STAKEHOLDER:** The designer(s) select a stakeholder card at random. Each card assigns a set of priorities for the designer to consider during the design session.

2. **CATALYST:** The group selects a catalyst card at random. This card introduces a set of conditions and challenges for the group to grapple with in the design session.

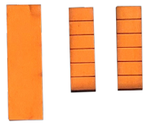
3. **TIME CONSTRAINT:** Designer(s) are given 10 minutes to reimagine the suburbs under these conditions.

While minimal in structure, these parameters establish a preliminary framework that grants users a degree of agency to generate outcomes for reflection and iteration.

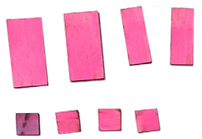
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PIECES USED











TEST #1: THESIS EXHIBITION TESTS

The following are a list of observations and feedback received from a limited number of tests conducted during the thesis exhibition:

1. **ZONES OF INTERVENTION:** Participants showed limited interest in engaging with the full model, instead preferring to design within a small fragment.

2. **CONSTRAINED BY RIGID ELEMENTS:** Interventions, if any, were confined within existing lot lines, avoiding parks, greenway, and roads.

3. **A TENDENCY TO STACK:** There was a tendency to ignore the rules of the game, focusing instead on stacking the physical pieces regardless of their representational meaning. The tactile quality of the components encouraged physical manipulation but not intellectual engagement.

4. **UNUSED COMPONENTS:** Several pieces, particularly the free form components meant to represent new or external programs, remained unused.

















FIGURE 3.69
Interactive Model Prototype – Thesis Exhibition Tests

FIGURE 3.70 Interactive Model Prototype – Personal Test


DAILY NEWS
NO.3 TODAY'S EDITION
CASUALTY EVENTS
AGING POPULATION RESHAPES SUBURBAN LIVING
A demographic shift sees 25% of households now consisting of single seniors. This creates a growing demand for accessible housing, healthcare facilities, and walkable neighborhoods designed for aging in place. How will you adapt suburban spaces to support intergenerational living and foster community connections?

FRAMING QUESTIONS

How might the suburban neighbourhood evolve to support all generations? What does it mean to age in a landscape designed primarily for cars and nuclear families? How can one build networks of mutual support through neighbours rather than institutions?

- Nearby Public Amenities
- ADU Hosts Additional Residents
- Improved Greenway Access




DAILY NEWS
NO.2 TODAY'S EDITION
CASUALTY EVENTS
AUTONOMOUS VEHICLES TRANSFORM MOBILITY
Self-driving cars become the dominant mode of transportation, drastically reducing the need for parking by 70%. Vast parking lots and garages now sit underutilized, creating opportunities to reimagine suburban spaces. How will you repurpose this newfound land to increase density, improve walkability, and enhance community life?

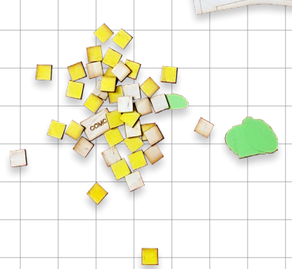
FRAMING QUESTIONS

How can transportation spaces (roads, driveways, garages) be reprogrammed to serve people instead of cars? Could front yards become plazas, and cul-de-sacs transformed into parks?

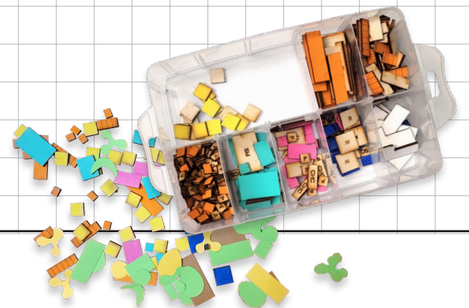
- Cul-De-Sacs Turned Into Parks
- Free Form Piece As Pickup Stops
- Reclaimed Garages for Work/Life
- Increased Density












DAILY NEWS
NO.4 TODAY'S EDITION
CASUALTY EVENTS
GLOBAL SUPPLY CHAIN DISRUPTIONS SPARK LOCAL FOOD REVOLUTION
Severe global supply chain disruptions cause food prices to soar, leading to a 50% increase in demand for locally grown produce. Suburban residents push for community gardens, urban farms, and innovative food production spaces. How will you transform underutilized land to support local agriculture and ensure food security?

FRAMING QUESTIONS

What might a food-secure suburb look like? Could food serve as a shared anchor for social and ecological interdependence? How might underused or unexpected spaces be reappropriated for food production?

- Productive Green Spaces
- Shared Kitchens & Markets
- Seed Libraries


DAILY NEWS
NO.4 TODAY'S EDITION
CASUALTY EVENTS
RISING TEMPERATURES BRING ANNUAL HEAT WAVES
Climate change has made severe heat waves a recurring challenge, putting pressure on suburban infrastructure and public health. Residents demand more shaded areas, cooling centers, and climate-resilient designs to combat extreme temperatures. How will you adapt the suburb to protect its community and create a more sustainable environment?

FRAMING QUESTIONS

Where are the climatic "hot zones" and how might these spaces be cooled? Can the suburb adapt to better support vulnerable populations? What would a climate resilient community look like in this context?

- Cul-De-Sacs Turned Into Parks
- Free Form Piece As Pickup Stops
- Reclaimed Garages for Work/Life
- Increased Density

TEST #2: PERSONAL TESTS

The following are a list of observations emerged from personal tests conducted after the thesis exhibition to evaluate the model's effectiveness from the perspective of a user rather than its creator.

1. **DIFFUSE INTERACTION:** To address the entire suburb within a limited time frame; there was a tendency to apply a single intervention strategy diffusely across the entire site.

2. **LACK OF ARCHITECTURAL THINKING:** Due to the scale and abstraction of the pieces, there was no architectural quality to the interventions.

3. **INABILITY TO "UNSEE" RIGIDITY:** The visible outline of the roads and lot boundaries became powerful mental barriers to subversion, making it challenging to envision interventions that broke away from existing spatial configurations.

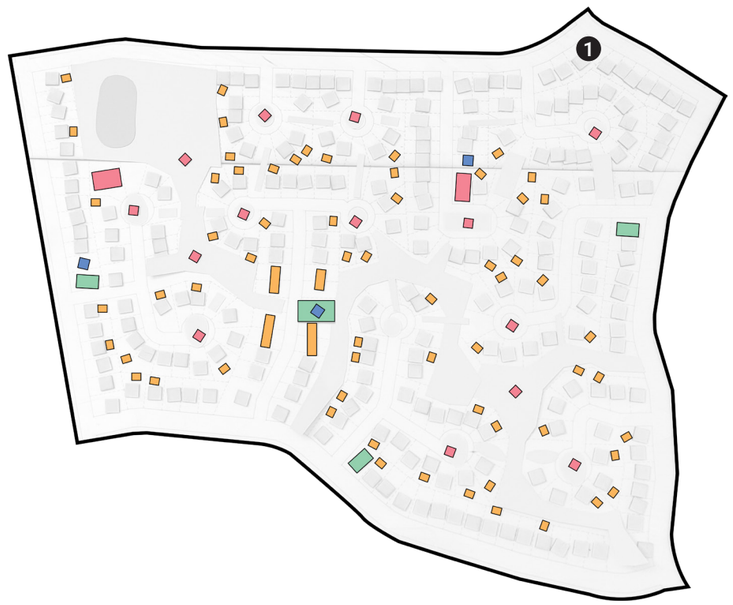


FIGURE 3.71 Interactive Model – Diffuse Interventions



FIGURE 3.72
Interactive Model – Reflection

LESSONS LEARNED

Based on observations made from both the thesis exhibition and subsequent individual tests, it became clear that the interactive model presented several challenges and shortcomings. Despite these limitations, its failure offers valuable lessons that can inform future iterations of the model.

THE PROBLEM OF SCALE

To represent an entire suburban neighbourhood, the model was built at a scale of 1:1000. While this scale captured design interventions at an urban scale, it limited the possibility of implementing many of the subversive rules developed in the earlier exercises such as those that specify architectural form, the placement of urban furniture, or zones of non-human occupation. As a result, the model primarily addressed land use and program distribution. This was reinforced by the representation of the components, which were shown as simple rectangles of varying sizes.

EXISTING RIGID FRAMEWORKS

The scale of the model introduced further challenges related to spatial representation. Roads and parcel lines, though useful for establishing scale and context, became rigid visual and cognitive frameworks that were difficult to ignore. Consequently, many of the outcomes failed to transform the suburbs in a meaningful way because interventions remained within suburban convention.

LACK OF COMPLEXITY

In terms of complexity, the model struggled to represent overlapping programs and synergies between uses. The flatness and the opacity of the components made it difficult to layer or hybridize programs, resulting in interventions that remained mono-programmatic and uniform.

Given these concerns, it becomes evident that the primary limitation lies in the model's scale and literalness. This is reflected in the tendency to work within a small fragment of the suburb or to apply interventions diffusely across the entire site.

WORKING WITH FRAGMENTS

Moving forward, the thesis could benefit from an approach that operates across multiple, different scales using a mode of representation that allow one to "unsee" urban rigidity. To support the complexity of such a model, I shifted my focus towards creating a design tool intended for use by trained designers rather than laypeople.

NEW CHALLENGES & QUESTIONS

1. What representational strategies can be employed to help "unsee" the rigid frameworks of suburbia: its buildings, lot lines, and roads?
2. How might interventions at large and small scales be reconciled within an interactive model?
3. Is it more productive to engage with an entire neighbourhood or to focus on a fragment of suburbia?

A TEST OF NOTATION

A SHIFT IN METHODOLOGICAL APPROACH

In the next experiment, the goal was to remove the roads and lot lines while also providing enough context for informed intervention. The initial approach involved modifying the existing model by simply omitting these elements. However, this strategy fails to address some of the other issues: namely, the scale of the model, the difficulty of implementing small-scale interventions, and the limited complexity of outcomes. To move beyond these constraints, the focus shifted towards abstraction and representation of space, allowing suburban elements to be examined as fields of notation.

ARCHIZOOM'S NO STOP CITY

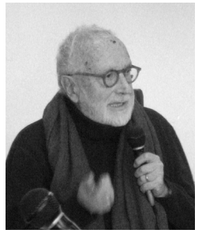


FIGURE 3.73 Andrea Branzi at the Domus Academy Academic Year Inauguration

Andrea Branzi and Archizoom's *No Stop City* provided a methodological framework for this study of notation. Developed between 1968 and 1972, *No Stop City* is a speculative model of a continuous, non-figurative metropolis in which architecture fades away as the city is entirely liberated from its external form and instead imagined as an infinite, interior environment.[83] The result is a "city without architecture", where formal elements are stripped down to industrial products and mechanical systems.[84] The project reframes the metropolis as a space of quantitative over qualitative construction.[85] In this model, the city is organized by its flows (i.e. of energy, products, information) rather than by its spatial quality.[86]

83. Andrea Branzi, *Weak and Diffuse Modernity: The World of Projects at the Beginning of the 21st Century* (Skira, 2006), 71.

84. Andrea Branzi, *Weak and Diffuse Modernity*, 70.

85. Kazys Varnelis, "Programming After Program: Archizoom's No-Stop City," *PRAXIS: Journal of Writing + Building*, no. 8 (2006): 89, JSTOR.

86. Andrea Branzi, *Weak and Diffuse Modernity*, 76.

87. Kazys Varnelis, "Programming After Program: Archizoom's No-Stop City," 89.

Within this model, the citizen is redefined as a user of industrial products and networks rather than an inhabitant of a spatial environment. To capture this framing, Archizoom used a language of grids, repetition and notation. In the *Homogenous Living Diagrams*, a series of drawings of the city produced using a typewriter, the city is depicted as a layered field of notational marks and intersections.[87] This anti-aesthetic, low fidelity mode of representation deliberately reduces the city into its quantitative systems, foregrounding the project's argument of the city's logic of production and exchange.

No Stop City's notational strategy serves as an effective precedent for this thesis. Just as its diagrams make the underlying systems of the city visible through the dissolution of form, this thesis seeks to expose, dissolve, and subvert the rigid structures of suburbia. By abstracting urban elements like roads, buildings and parks into fields and voids, the study reframes the suburb as a network of overlapping relationships rather than discrete forms. Through a language of notation, the hierarchy of urban elements is suspended, leaving only the relationship between these elements to be interpreted and reconfigured through design.

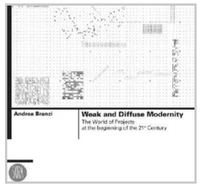
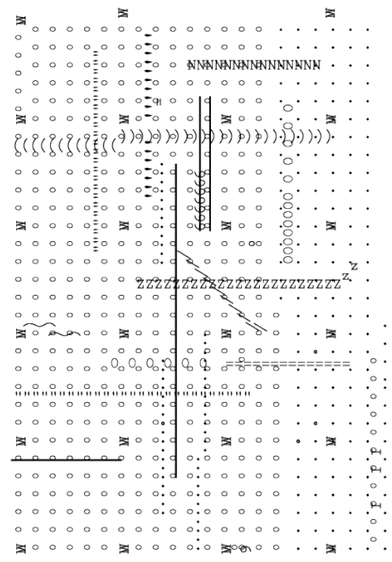


FIGURE 3.74 *Weak and Diffuse Modernity* by Andrea Branzi



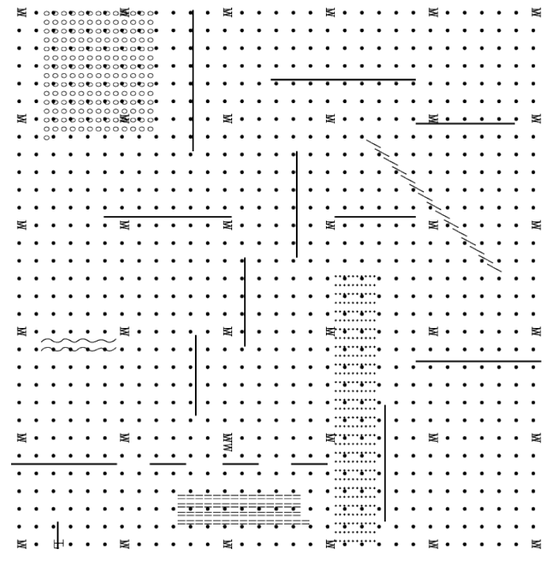


FIGURE 3.75 Archizoom's *Homogenous Living Diagrams*. Redrawn by Author.

CHOOSING A SITE OF INTERVENTION

DON MILLS AS A SITE OF INTERVENTION

Although the cul-de-sac heavy neighbourhood offered a compelling spatial condition for intervention, a new site was selected: the Don Mills neighbourhood in Toronto. Don Mills represents a more traditional suburban model, chosen for its influence and widespread replication across Canada. Its planning principles, spatial logic, and limitations have shaped suburban development for decades, making it the representation of the North American postwar suburb.[88]

THE SUBURBAN PROTOTYPE

Much like America's Levittown, Don Mills, constructed in the 1950s and 1960s, served as Canada's prototypical model of the suburbs. Often cited as the most influential development in Canada during the 20th century, its design became the blueprint for the residential communities that followed.[89] Its influence was so significant, that many designers came to the view that there was no better approach, effectively inhibiting subsequent innovation and experimentation.[90]

In *The Shape of the City*, John Sewell critiques this rigidity, noting that "[b]y the 1970s the planning of every Canadian city was dominated by the suburban form espoused by Hancock.

FIGURE 3.76
Don Mills Houses



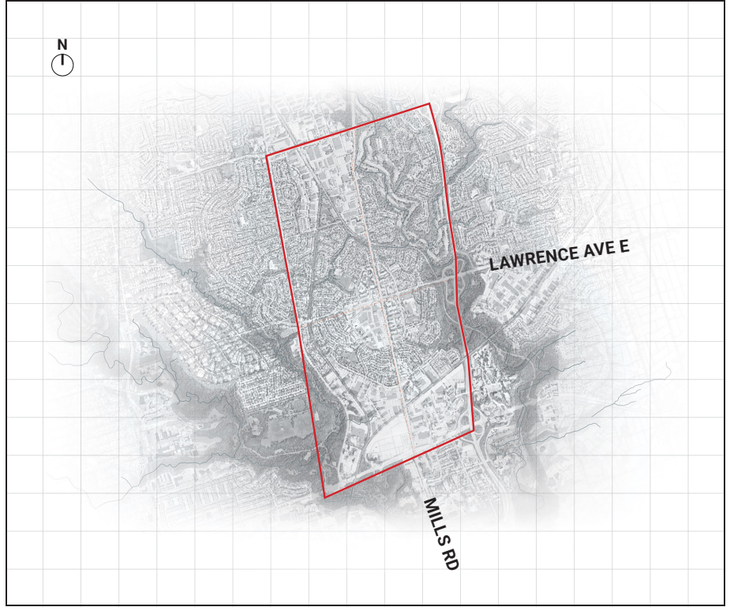


FIGURE 3.77 Don Mills, North York – Plan

With the success of Don Mills in the mid-1950s, the age of the modern corporate suburb had arrived."[91] Sewells further observes that while Don Mills was originally designed for half of its inhabitants to work within the neighbourhood, today fewer than five percent do so. The remaining ninety-five percent commute elsewhere for work, most notably to downtown Toronto, where majority of high-paying jobs are concentrated.[92]

By situating this study within Don Mills, the intent is to both engage with an existing site, but to also challenge the blueprint that has long defined suburban development in Canada. Addressing this framework provides an opportunity to derive broader insights applicable to suburban communities across the country.

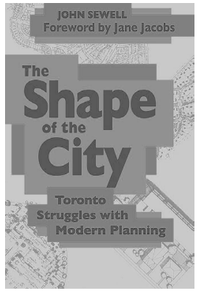


FIGURE 3.78
The Shape of the City by John Sewell

88. John Sewell, *The Shape of the City*, 96.
89. John Sewell, *The Shape of the City*, 80.
90. John Sewell, *The Shape of the City*, 80.
91. John Sewell, *The Shape of the City*, 96.
92. John Sewell, *The Shape of the City*, 177.

STEP #1: TRANSLATION INTO NOTATION

SUBURBAN FRAGMENTS

To reduce the scope of the drawing and to improve legibility, fragments of the neighbourhood have been extracted for closer study. Each fragment highlights a distinct suburban condition defined by prominent adjacencies or contexts:

1. **TYPICAL SUBURBAN // FRAGMENT:** A fragment of suburbia showing a conventional arrangement of single-family homes organized along winding streets and cul-de-sacs.

2. **SEPARATION OF FUNCTIONS // FRAGMENT:** A fragment of suburbia showing the adjacent relationship between commercial and institutional zones, large parkland, and single-family housing.

3. **DENSIFICATION // FRAGMENT:** A fragment of suburbia showing the adjacent relationship between high density housing, single-family housing, and parkland.

A corresponding set of notations was developed to represent common suburban programs, expanded to include alternative forms of intervention. At this scale, notations are broad, capturing larger programmatic categories such as parks, housing types, commercial, and community spaces.

Using a combination of GIS data and Rhino Grasshopper, these fragments were translated into grid space, where buildings, zones, and single-family homes are conveyed as fields of notation rather than explicit outlines of zones and building footprints. Roads and lot lines are implied through the absence of notation rather than defined as fixed boundaries.

Several observations emerged from these notational translations. First, the mono-functionality of the suburbs becomes visible through the separation of the fields of notation, suggesting a lack of complexity. Second, the outlines of buildings are blurred, with the fields of notation suggesting only size and approximate form. This is made evident by the representation of single-family homes as continuous chains of notation that suggest their organization without individualizing each building as separate elements. Together, these drawings establish a foundation for both comparative analysis and design exploration.

FIGURE 3.79 Don Mills, North York – Satellite & Notational Suburban Fragments



[1] A fragment of suburbia showing a typical arrangement of single family homes amongst winding streets and cul-de-sacs.

[2] A fragment of suburbia showing the adjacent relationship between commercial and institutional zones, large parkland, and single family housing.

[3] A fragment of suburbia showing the adjacent relationship between high density housing, single family housing, and parkland.

STEP #2: SUBVERTING SUBURBIA // COARSE

Building upon the notational drawings of existing suburban conditions, the same fragment was reimagined through notation. The notational legend includes several alternative programs, representing economic, cultural, and social interventions alongside several potential residential typologies. With the intent of introducing greater complexity, these programs could overlap and synergize to create new opportunities for social interaction.

COMPLEXITY AS OVERLAPPING NOTATION

If the existing suburb can be read as visually simple, defined by a clear separation of uses and an absence of overlapping notations, then a suburb that promotes complex relationships of built form and social interaction would be represented through a dense overlapping of notation. This step of the experiment focused on the deliberate layering and intersecting of interventions to provoke complexity.

When comparing both existing and redesigned fragments, the difference is visually legible. The designed version exhibits greater spatial and social complexity expressed through an overlapping of programs, and the use of a variety of notation.

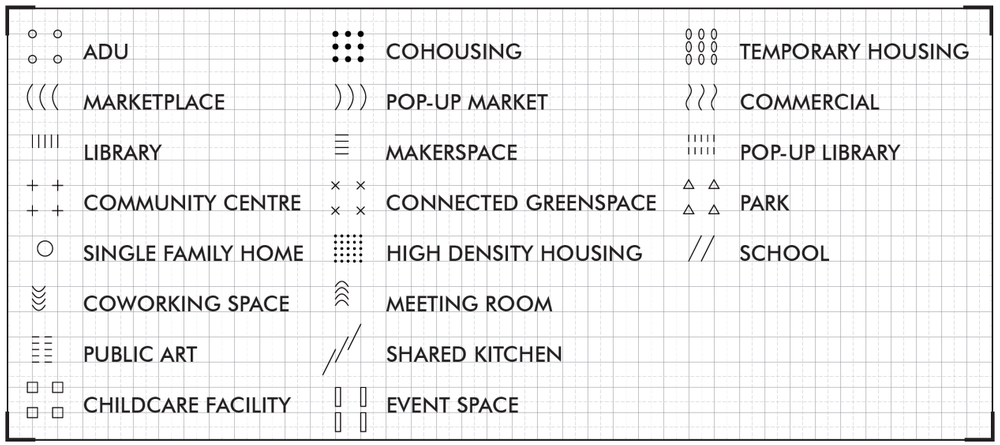


FIGURE 3.80 Notation – Coarse Scale

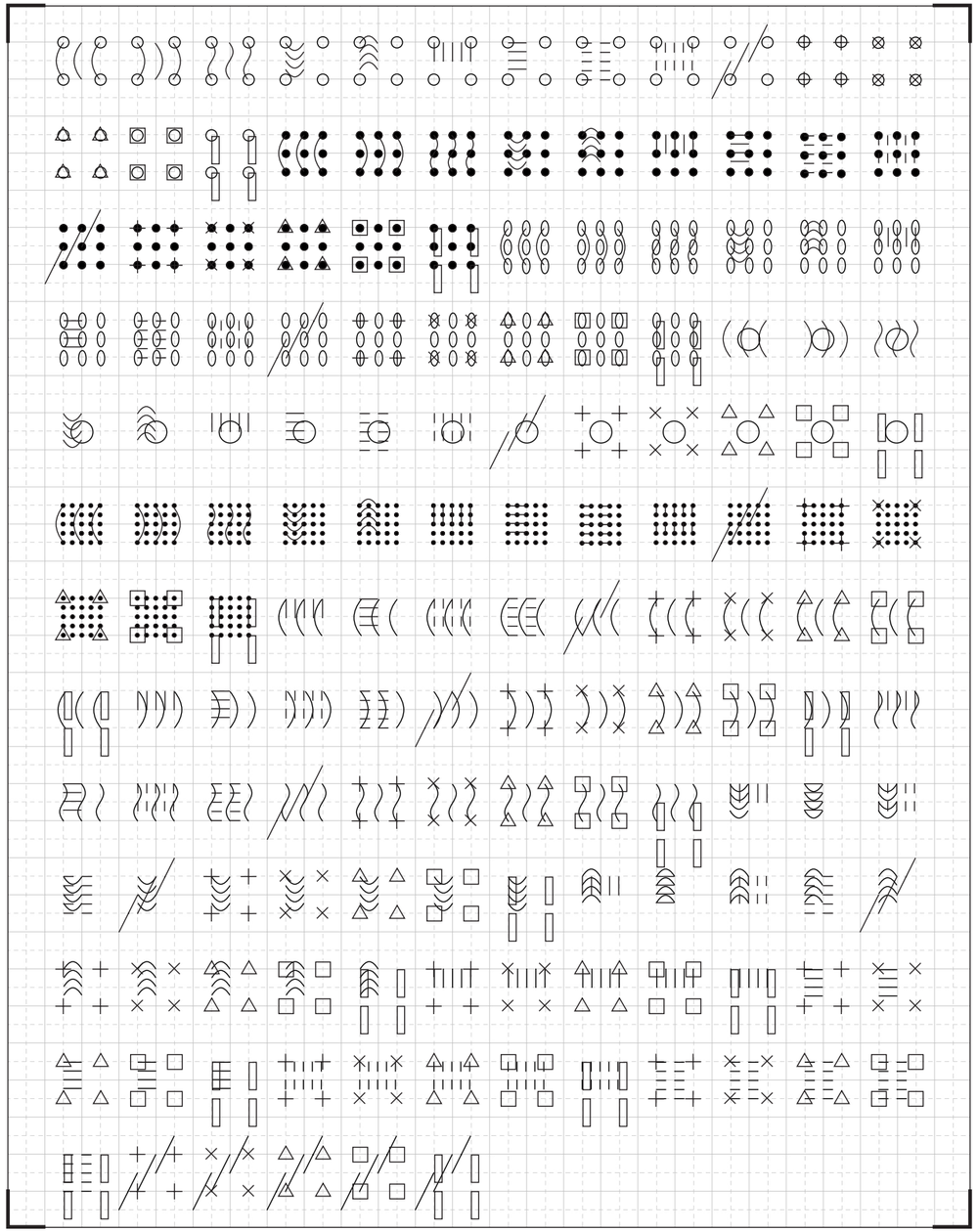


FIGURE 3.81 Overlapping Notation – Coarse Scale

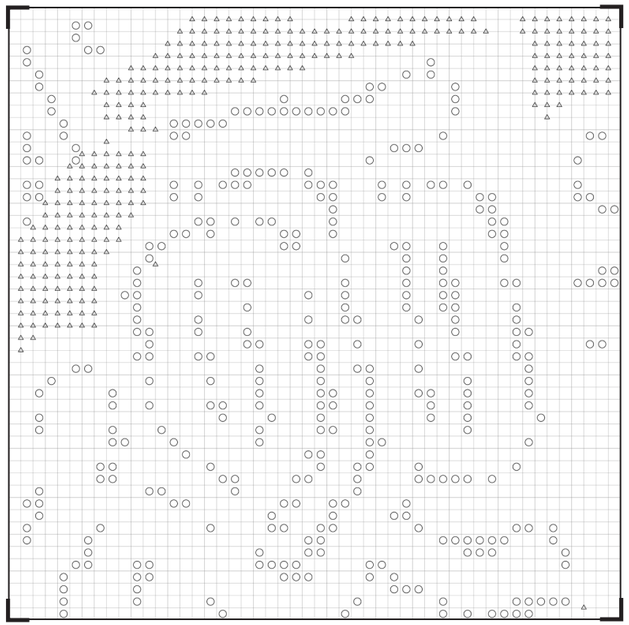
LEGEND

- ADU
- COHOUSING
- TEMPORARY HOUSING
- MARKETPLACE
- POP-UP MARKET
- COMMERCIAL
- LIBRARY
- MAKERSPACE
- POP-UP LIBRARY
- COMMUNITY CENTRE
- CONNECTED GREENSPACE
- PARK
- SINGLE FAMILY HOME
- HIGH DENSITY HOUSING
- SCHOOL
- COWORKING SPACE
- MEETING ROOM
- PUBLIC ART
- SHARED KITCHEN
- CHILDCARE FACILITY
- EVENT SPACE

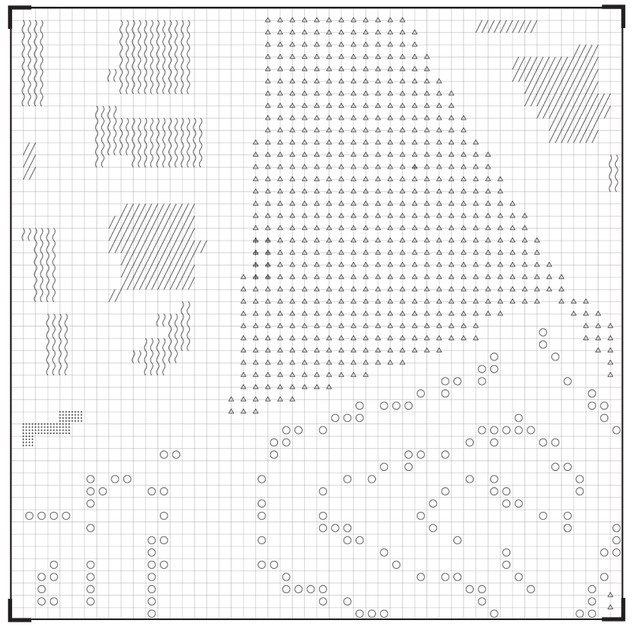
☐ *10m x10m*

Using a language of notation, how might one recalibrate the suburbs to foster social complexity and diversity?

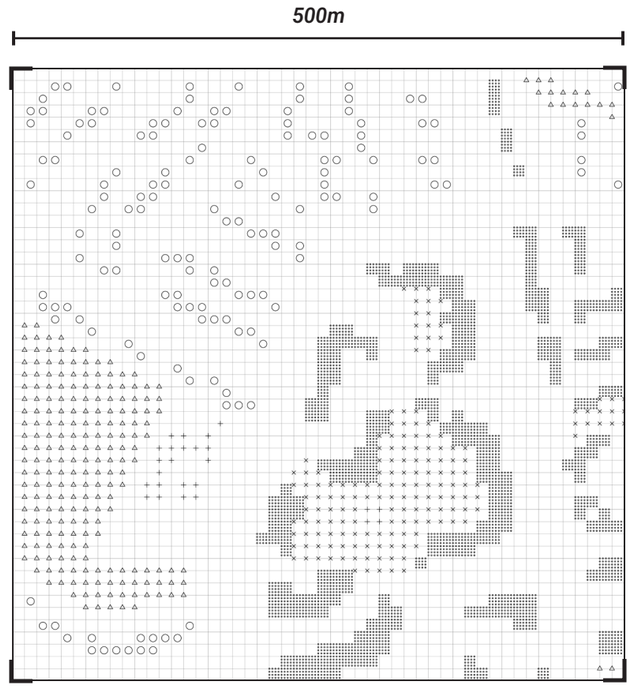
FIGURE 3.82 Don Mills Notational Fragments: Existing & Designed



FRAGMENT #1: Fragment Representing Typical Suburban Condition With Single Family Homes



FRAGMENT #2: Fragment Representing Commercial/Park/ Single Family Housing Adjacency



FRAGMENT #3: Fragment Representing Single Family Housing / Mid Rise Adjacency

STEP #3: SUBVERTING SUBURBIA // GRANULAR

GRANULAR INTERVENTIONS

I extended the analysis by identifying instances of overlapping notation to be further examined as a fragment within a fragment. Zooming in further and working with a smaller 2m x 2m grid, I crafted a new set of smaller-scale interventions and their corresponding notation to capture more granular interventions. Each grid unit represents a possible zone where an intervention might occur. The grids do not suggest a precise location for elements but rather a loose suggestion of their location. To reinforce this idea, at some points, notation intentionally breaks away from the grid, suggesting a blurred, ephemeral boundary.

LAYERS OF INFORMATION

Together, these nested fragments communicate two levels of information: the coarse layer encodes spatial programming, representing the intentional layering and distribution of programming, while the granular layer articulates how these broad, overlapping spaces might be experienced with respect to the placement of zones, facades, urban furniture, and boundaries.

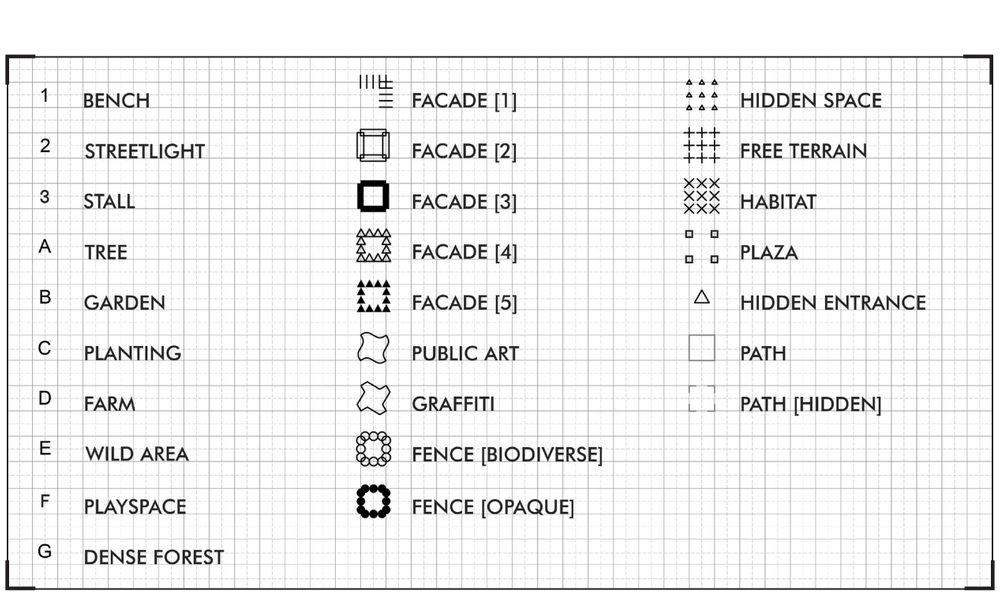


FIGURE 3.83 Notation – Granular Scale

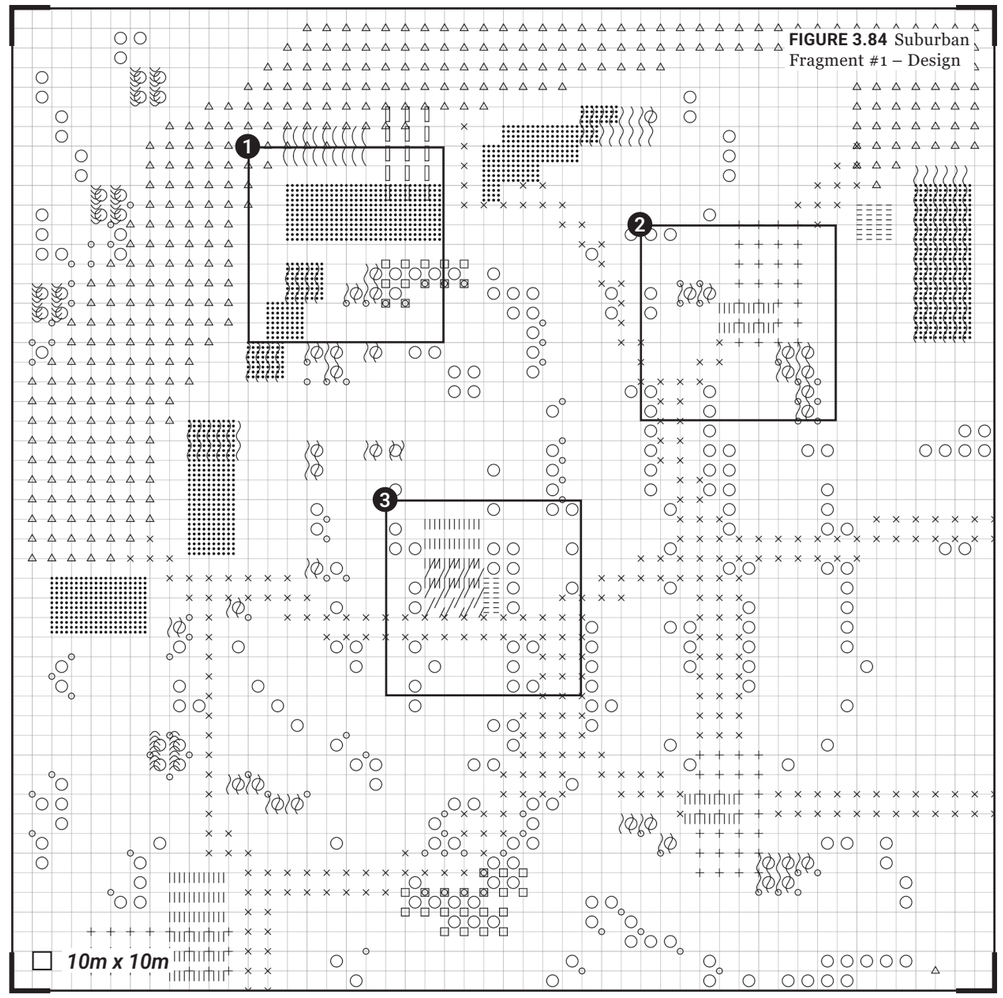
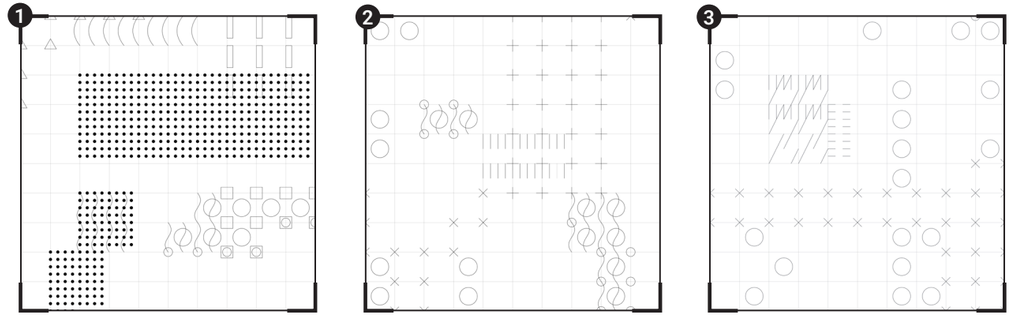


FIGURE 3.84 Suburban Fragment #1 – Design



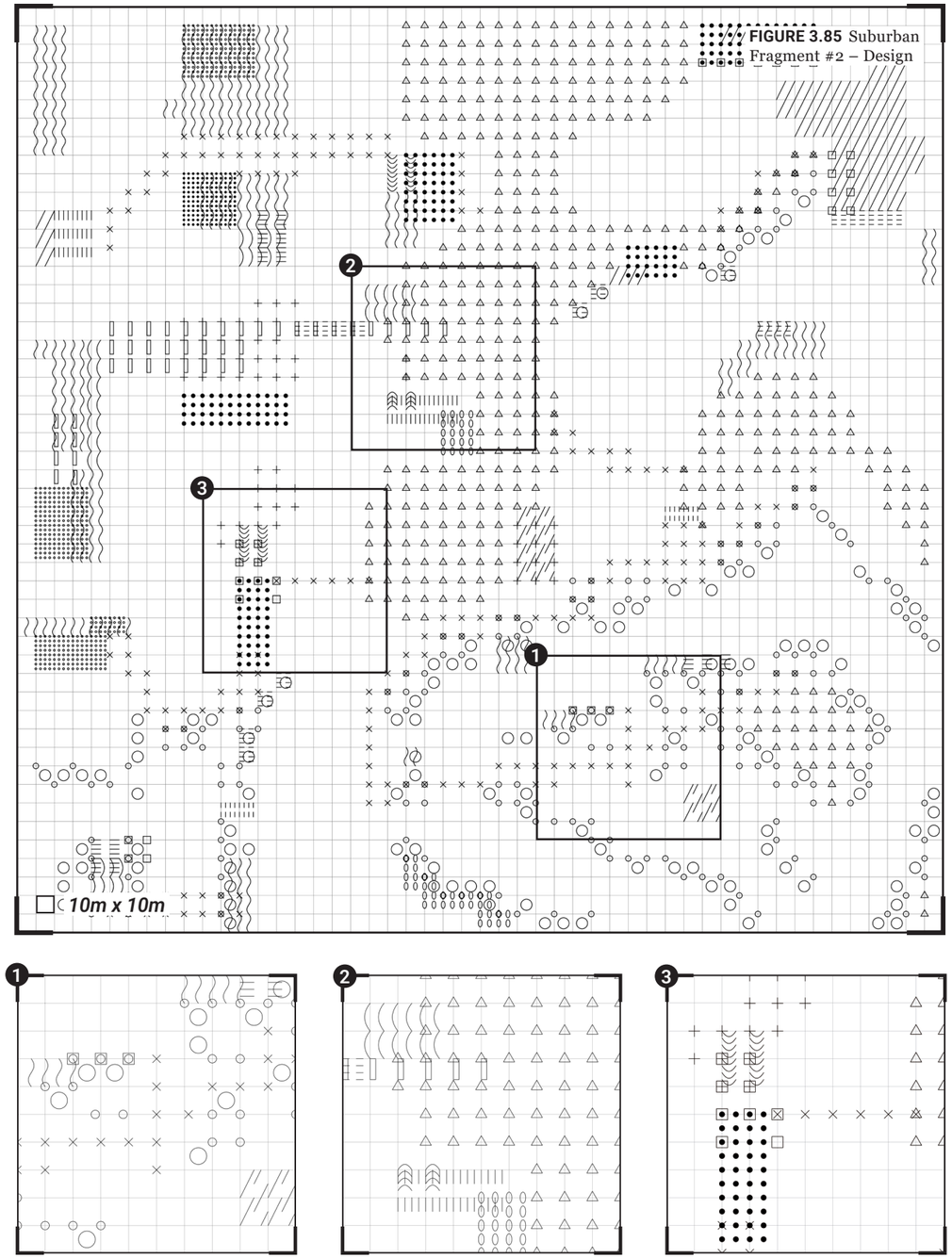


FIGURE 3.85 Suburban Fragment #2 – Design

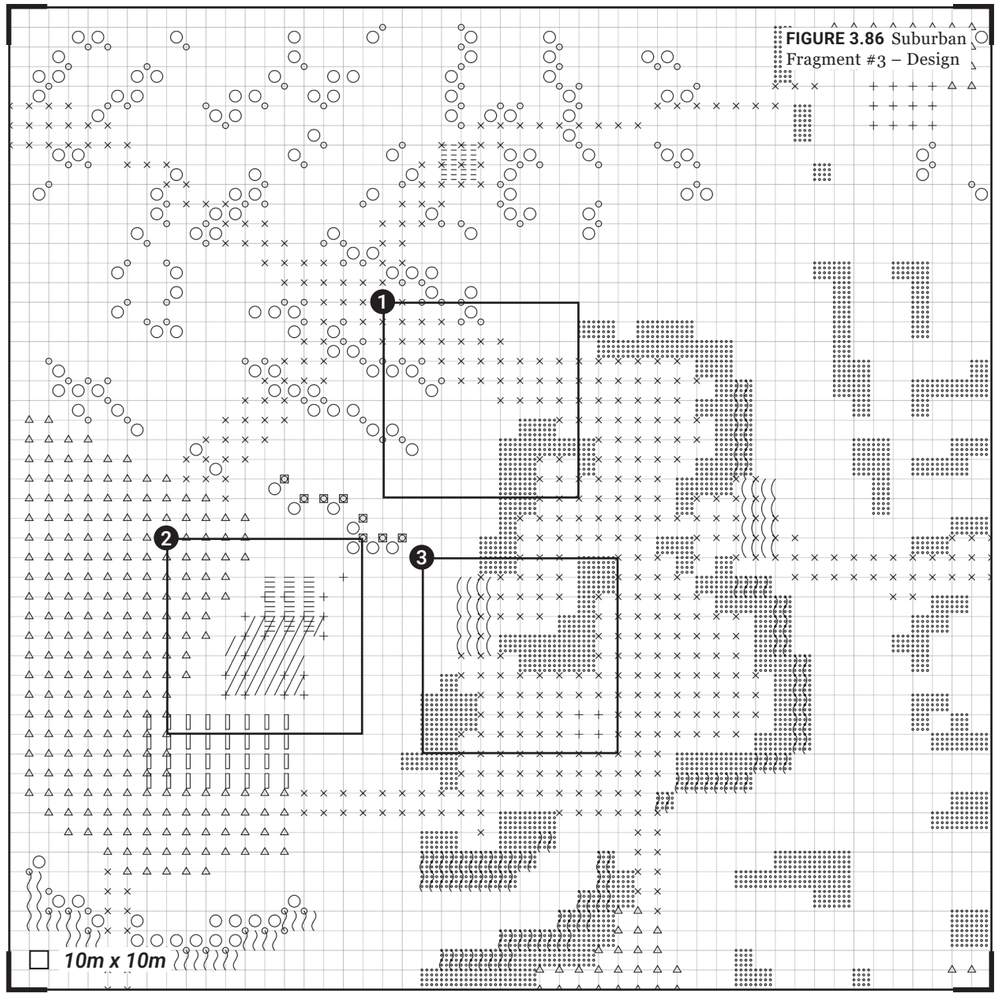
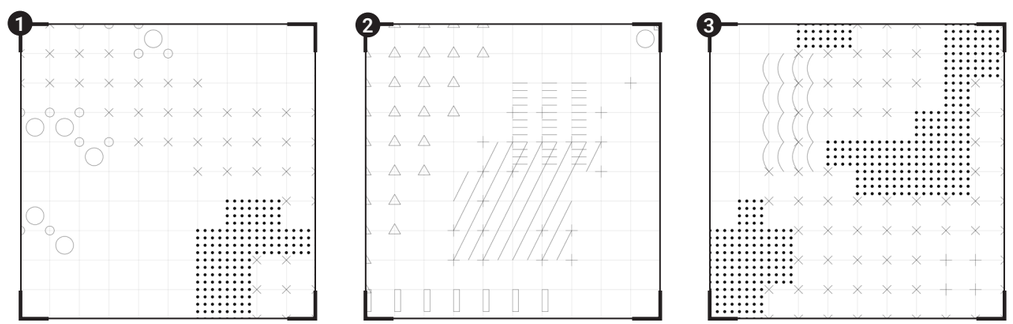


FIGURE 3.86 Suburban Fragment #3 – Design



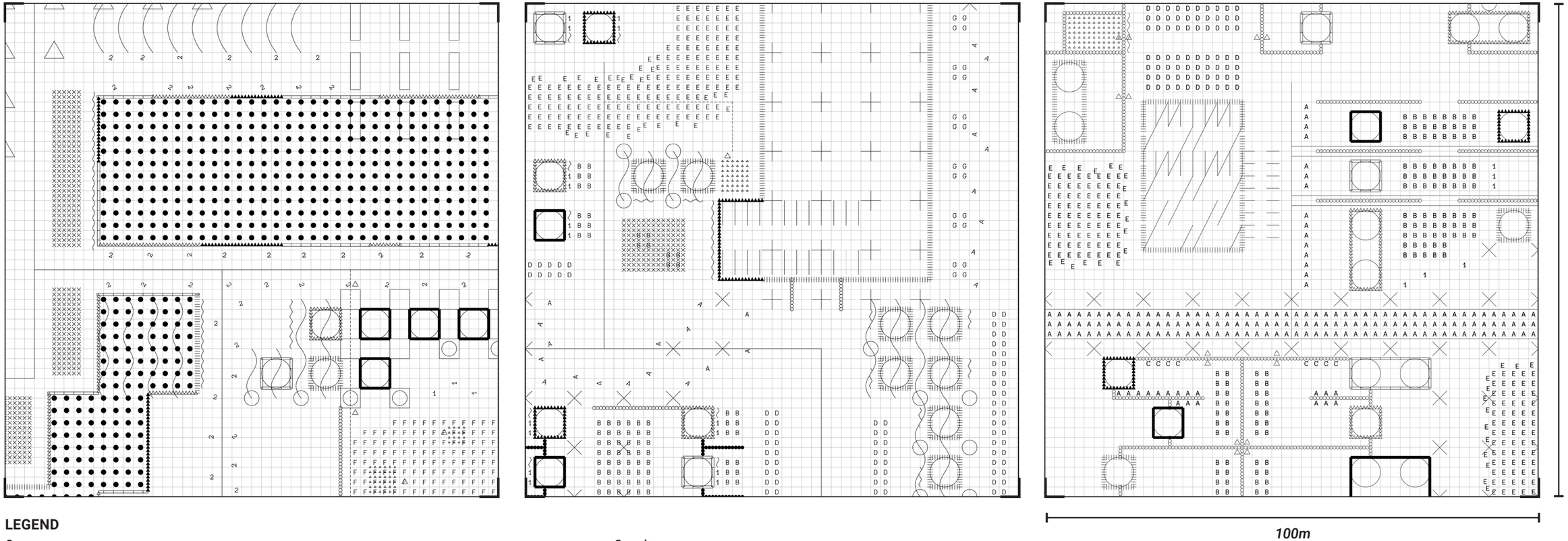
FRAGMENT #1

FIGURE 3.87
Zoomed In Suburban Fragment #1.1/1.2/1.3

#1.1

#1.2

#1.3



LEGEND

Coarse

ADU	LIBRARY	SINGLE FAMILY HOME	SHARED KITCHEN
COHOUSING	MAKERSPACE	HIGH DENSITY HOUSING	CHILDCARE FACILITY
TEMPORARY HOUSING	POP-UP LIBRARY	SCHOOL	EVENT SPACE
MARKETPLACE	COMMUNITY CENTRE	COWORKING SPACE	
POP-UP MARKET	CONNECTED GREENSPACE	MEETING ROOM	
COMMERCIAL	PARK	PUBLIC ART	

Granular

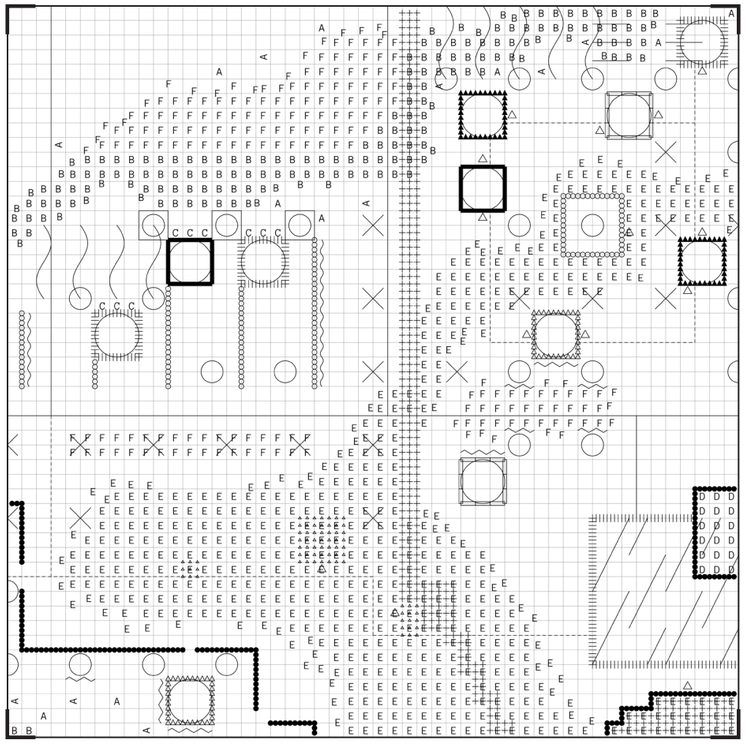
1 BENCH	D FARM	FACADE [3]	FENCE [OPAQUE]	PATH
2 STREETLIGHT	E WILD AREA	FACADE [4]	HIDDEN SPACE	PATH [HIDDEN]
3 STALL	F PLAYSPACE	FACADE [5]	FREE TERRAIN	
A TREE	G BIODIVERSE FENCE	PUBLIC ART	HABITAT	
B GARDEN	FACADE [1]	GRAFFITI	PLAZA	
C PLANTING	FACADE [2]	FENCE [TRANSPARENT]	HIDDEN ENTRANCE	

These zoomed in fragments utilize a granular set of notations that allow one to test out architectural interventions.

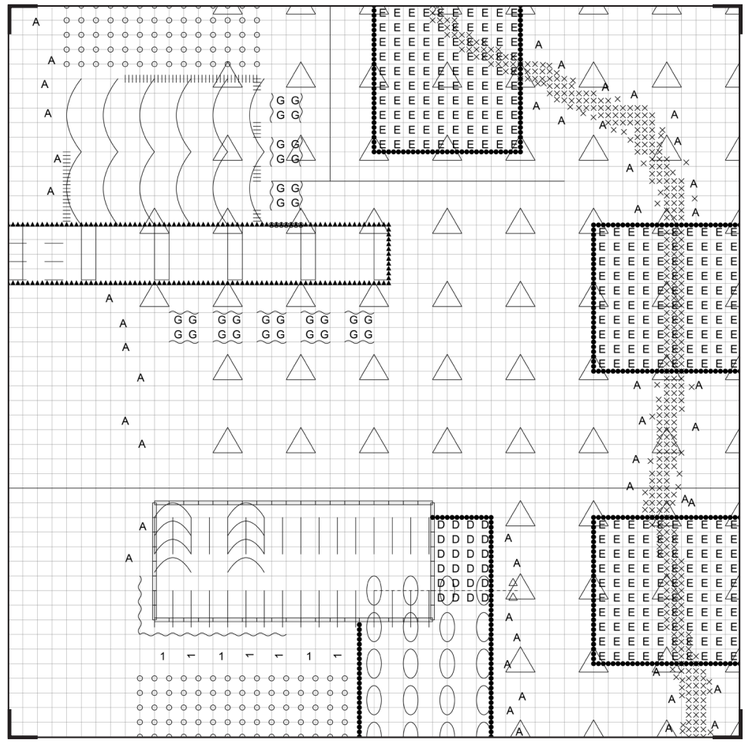
FRAGMENT #2

FIGURE 3.88
Zoomed In Suburban Fragment #2.1/2.2/2.3

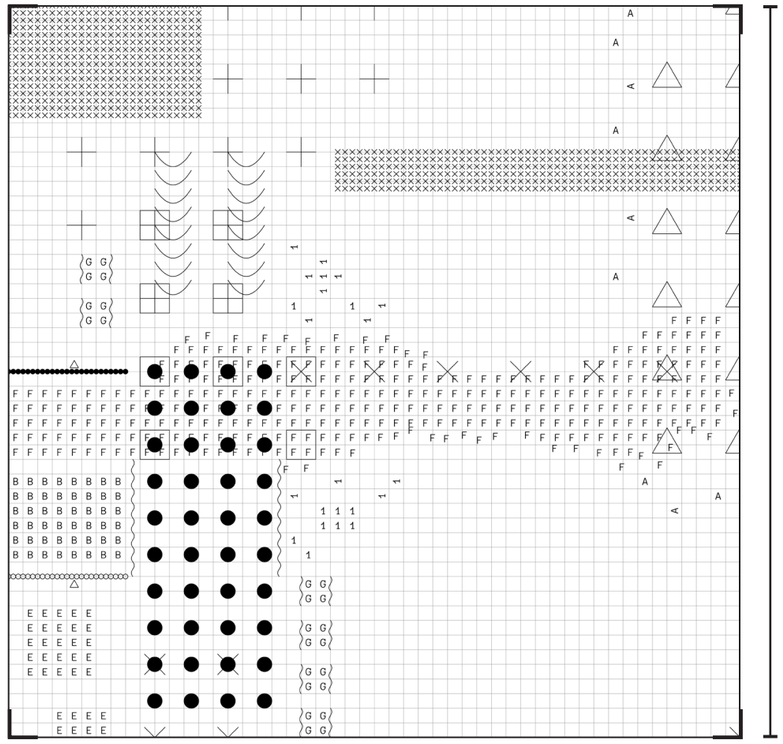
#2.1



#2.2



#2.3



LEGEND

Coarse

ADU	LIBRARY	SINGLE FAMILY HOME	SHARED KITCHEN
COHOUSING	MAKERSPACE	HIGH DENSITY HOUSING	CHILDCARE FACILITY
TEMPORARY HOUSING	POP-UP LIBRARY	SCHOOL	EVENT SPACE
MARKETPLACE	COMMUNITY CENTRE	COWORKING SPACE	
POP-UP MARKET	CONNECTED GREENSPACE	MEETING ROOM	
COMMERCIAL	PARK	PUBLIC ART	

Granular

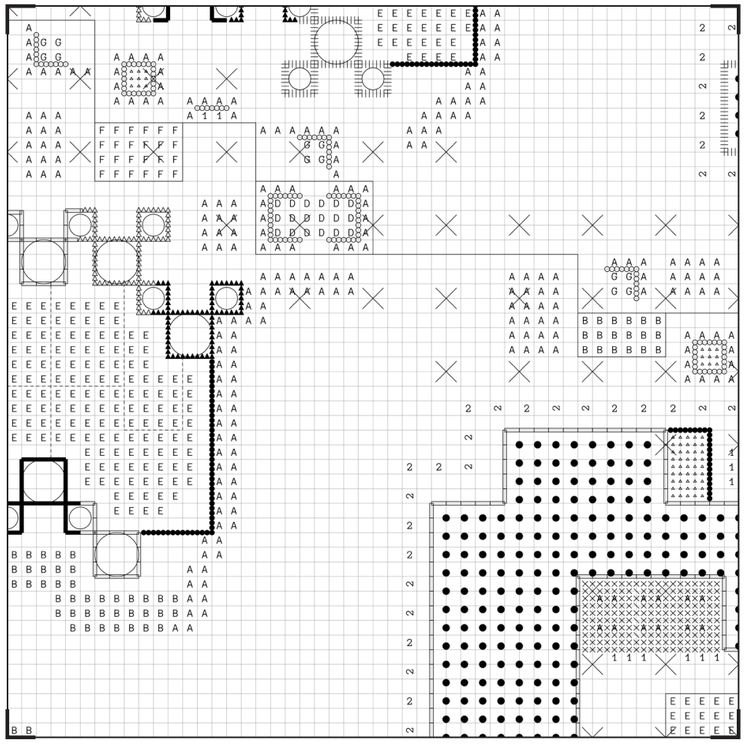
1 BENCH	D FARM	FACADE [3]	FENCE [OPAQUE]	PATH
2 STREETLIGHT	E WILD AREA	FACADE [4]	HIDDEN SPACE	PATH [HIDDEN]
3 STALL	F PLAYSPACE	FACADE [5]	FREE TERRAIN	
A TREE	G BIODIVERSE FENCE	PUBLIC ART	HABITAT	
B GARDEN	FACADE [1]	GRAFFITI	PLAZA	
C PLANTING	FACADE [2]	FENCE [TRANSPARENT]	HIDDEN ENTRANCE	

These zoomed in fragments utilize a granular set of notations that allow one to test out architectural interventions.

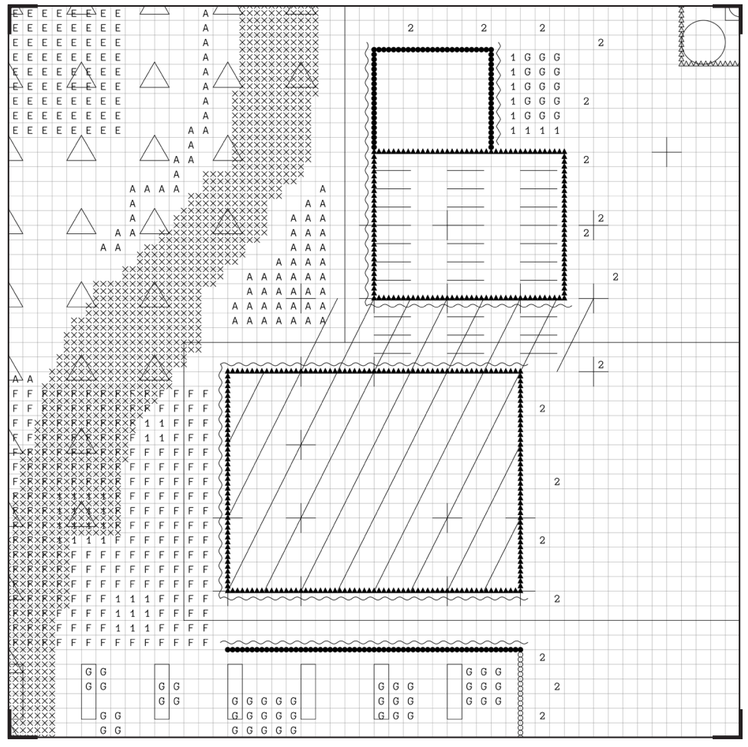
FRAGMENT #3

FIGURE 3.89
Zoomed In Suburban Fragment #3.1/3.2/3.3

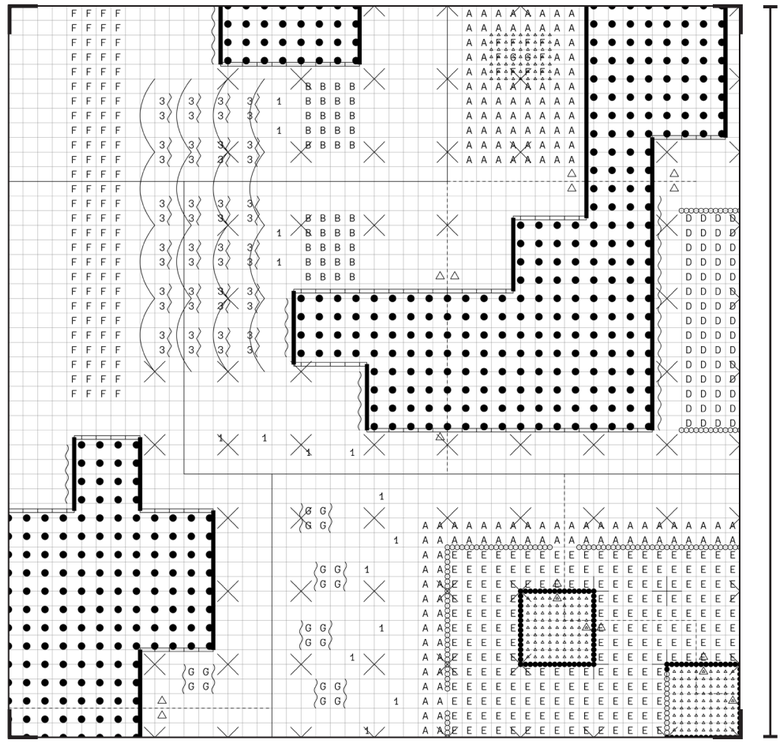
#3.1



#3.2



#3.3



LEGEND

Coarse

ADU	LIBRARY	SINGLE FAMILY HOME	SHARED KITCHEN
COHOUSING	MAKERSPACE	HIGH DENSITY HOUSING	CHILDCARE FACILITY
TEMPORARY HOUSING	POP-UP LIBRARY	SCHOOL	EVENT SPACE
MARKETPLACE	COMMUNITY CENTRE	COWORKING SPACE	
POP-UP MARKET	CONNECTED GREENSPACE	MEETING ROOM	
COMMERCIAL	PARK	PUBLIC ART	

Granular

1 BENCH	D FARM	FACADE [3]	FENCE [OPAQUE]	PATH
2 STREETLIGHT	E WILD AREA	FACADE [4]	HIDDEN SPACE	PATH [HIDDEN]
3 STALL	F PLAYSPACE	FACADE [5]	FREE TERRAIN	
A TREE	G BIODIVERSE FENCE	PUBLIC ART	HABITAT	
B GARDEN	FACADE [1]	GRAFFITI	PLAZA	
C PLANTING	FACADE [2]	FENCE [TRANSPARENT]	HIDDEN ENTRANCE	

These zoomed in fragments utilize a granular set of notations that allow one to test out architectural interventions.

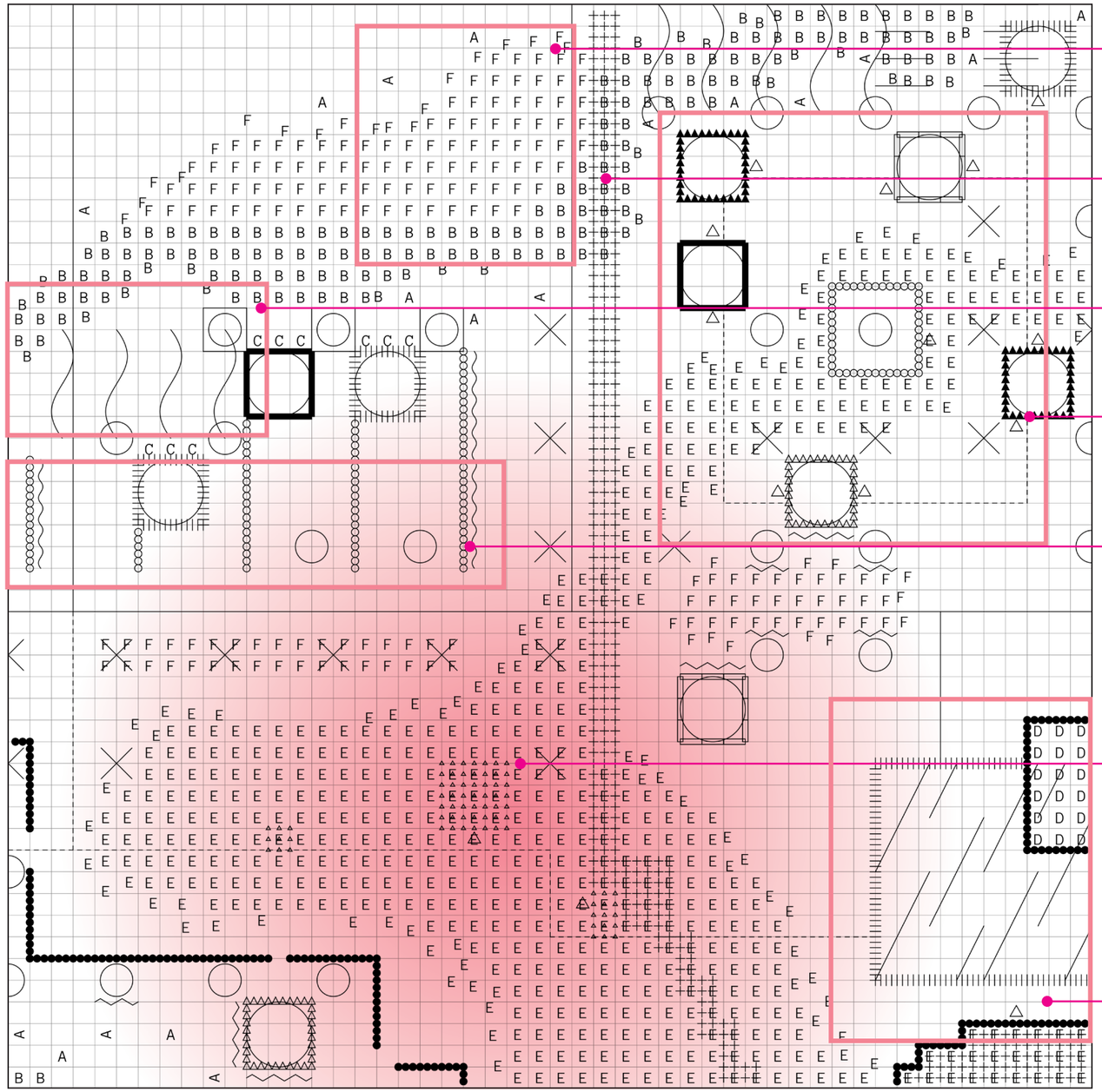
FRAGMENT #2.1

FIGURE 3.90 Design Rationale & Strategy for Fragment #2.1

- ADU
- COHOUSING
- TEMPORARY HOUSING
- MARKETPLACE
- POP-UP MARKET
- COMMERCIAL
- LIBRARY
- MAKERSPACE
- POP-UP LIBRARY
- COMMUNITY CENTRE
- CONNECTED GREENSPACE
- PARK
- SINGLE FAMILY HOME
- HIGH DENSITY HOUSING
- SCHOOL
- COWORKING SPACE
- MEETING ROOM
- PUBLIC ART
- SHARED KITCHEN
- CHILDCARE FACILITY
- EVENT SPACE

☐ *2m x 2m*

- 1 BENCH
- 2 STREETLIGHT
- 3 STALL
- A TREE
- B GARDEN
- C PLANTING
- D FARM
- E WILD AREA
- F PLAYSPACE
- G DENSE FOREST
- FACADE [1]
- FACADE [2]
- FACADE [3]
- FACADE [4]
- FACADE [5]
- PUBLIC ART
- GRAFFITI
- FENCE [BIODIVERSE]
- FENCE [OPAQUE]
- HIDDEN SPACE
- FREE TERRAIN
- HABITAT
- PLAZA
- HIDDEN ENTRANCE
- PATH
- PATH [HIDDEN]



VISIBLE GARDENS

As backyards become shared space, private gardens, once hidden, are relocated to the front yard in public view, adjacent to zones of play.

WILDLIFE CORRIDOR

Cutting through the wild area is a dedicated wildlife corridor for non-human use.

MIXED USE SUBURBS

Single family homes dedicate a portion of their space towards other program. In this case, commercial.

CONNECTED HOMES

Homes becomes connected through hidden pathways and entrances between residences, shared between neighbours.

OPEN FENCES TO BACKYARD

Fences, once closed, open up to allow circulation from the street to the shared backyard. The surface of these fences become spaces for public art as a once private space becomes semi-public.

WILD AREA WITH HIDDEN SPACES DESIGNED FOR DISCOVERY

In opposition to the manicured lawn typical of the suburbs, a portion of the yards shared by neighbours becomes wild area, where nature is free to grow without human intervention. These spaces carry hidden spaces designed for discovery.

SHARED KITCHEN FOR COMMUNITY BUILDING

A shared kitchen and supplemental community garden for neighbours to share food and knowledge.

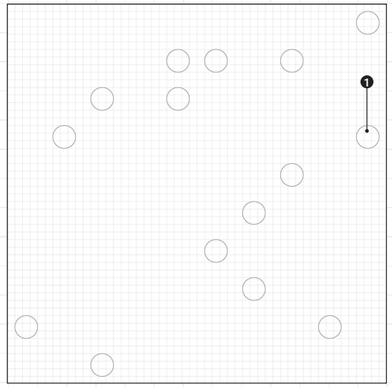
The drawing becomes a tool of subversion, where one might test new ways of living

FRAGMENT #2.1

FIGURE 3.91 Spatialized plan oblique of Fragment #2.1, capturing existing conditions and designed conditions.

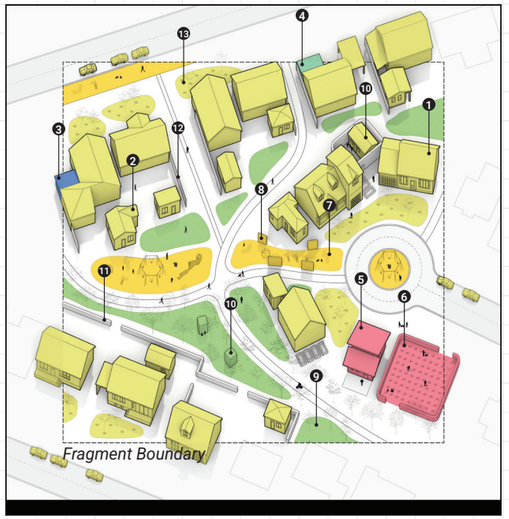
Fragment #2.1 (Existing)

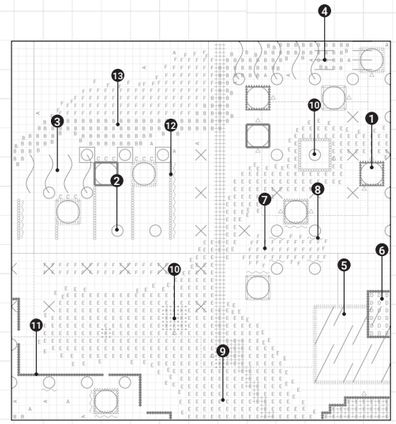




1 Single Family Home

Fragment #2.1 (Design)





1 Single Family Home
2 Accessory Dwelling Unit (ADU)
3 Retail+ Program
4 Community+ Program
5 Shared Kitchen
6 Urban Farm
7 Playspace
8 Public Art
9 Wild Area
10 Hidden Space
11 Biodiverse Fence
12 Open Fence
13 Frontyard Garden

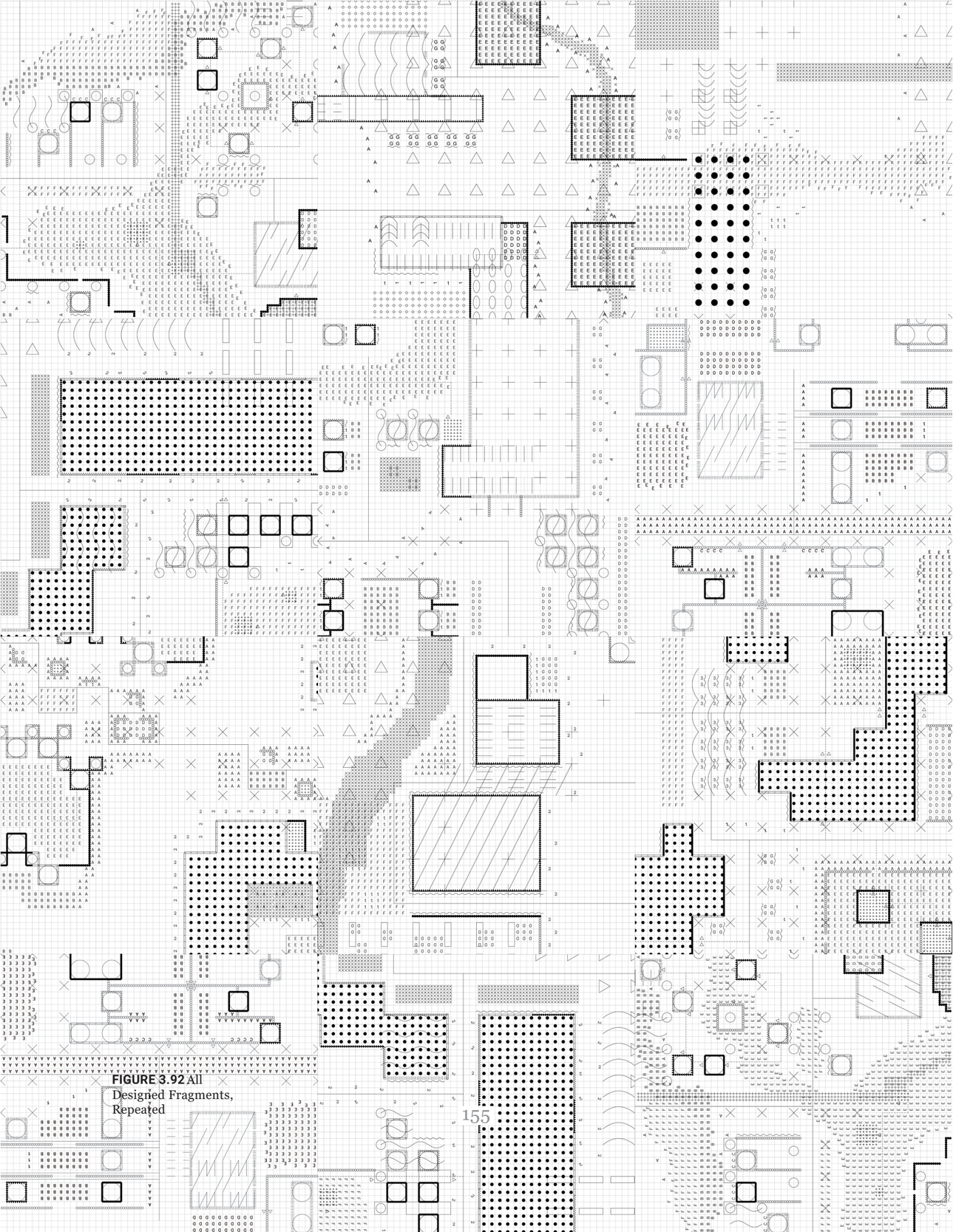


FIGURE 3.92 All Designed Fragments, Repeated

REFLECTION

In reflection, this notational methodology serves as a more effective design approach than the figurative method used in the test of agency for several reasons:

LOW FIDELITY REPRESENTATION

The translation of space into a grid of notation frees the designer from the need for precision. This freedom is further amplified by the dissolution of the roads and lot lines, which act as cognitive barriers to intervention. As a result, the drawing allows one to speculate on the placement of interventions, free from the influence of existing spatial rigidity.

LAYERING INTERVENTIONS

Unlike the solid components of the previous interactive model, the notational framework allows for the layering of interventions, where moments of overlap hint at moments of complex interaction.

A PROBLEM OF SCALE

The previous methodology carried issues with the scale. At a scale of 1:1000, the previous model was limited to interventions involving programmatic distribution. In contrast, this approach operates fluidly across scales, enabling the designer to engage with design on a large and small scale.

TRANSLATION INTO SPACE

As a culminating exercise for this thesis and as an evolution of the notational drawing methodology developed in the previous step, I translate this two-dimensional method into three-dimensional space in the form of an interactive model.

LOGIC OF ABSTRACTION

What distinguishes this model making exercise from the exercise conducted previously in the Test of Agency lies in its logic of abstraction. While the previous exercise sought to represent buildings as mono-functional built space (ex. single family homes, offices, and stores) using 2.5 dimensional flat pieces, this model instead represents additional, overlapping levels of information: small scale interventions, fields/zones, and surfaces expressed as layers of intervention. As an evolution of the drawing methodology, the model expresses levels of transparency/opacity, visual prominence/obscurity, and scale, pulling the notational drawing from its hyper abstraction into a realm of mild abstraction or an abstracted reality.

As visualized by the exploded axonometric drawing and model in [Figure 3.95], the notations introduced in the test of notation are placed into four categories: small-scale urban intervention, boundaries, built space, and fields.

AGENCY

In a similar manner to the notational drawing method, the freedom afforded by this method allows the designer to approach, visualize, and identify urban space as a potentially complex system for intervention and intensification. In the spirit of the interactive model produced in the Test of Agency, this model is interactive and its components movable. Given differing starting conditions and enough components to "shop" for, one could visualize and design any fragment of suburbia.

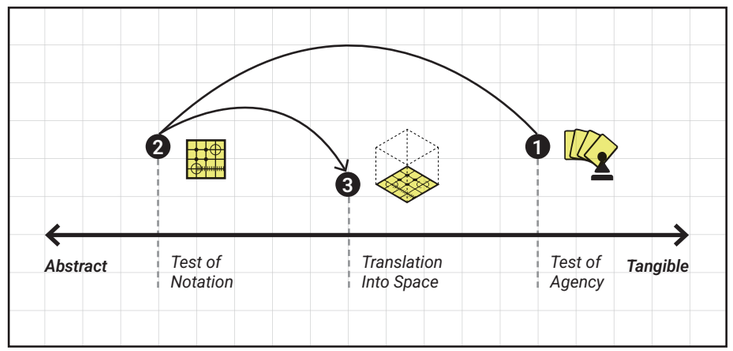


FIGURE 3.93 Methodological Approaches To Abstraction Diagram

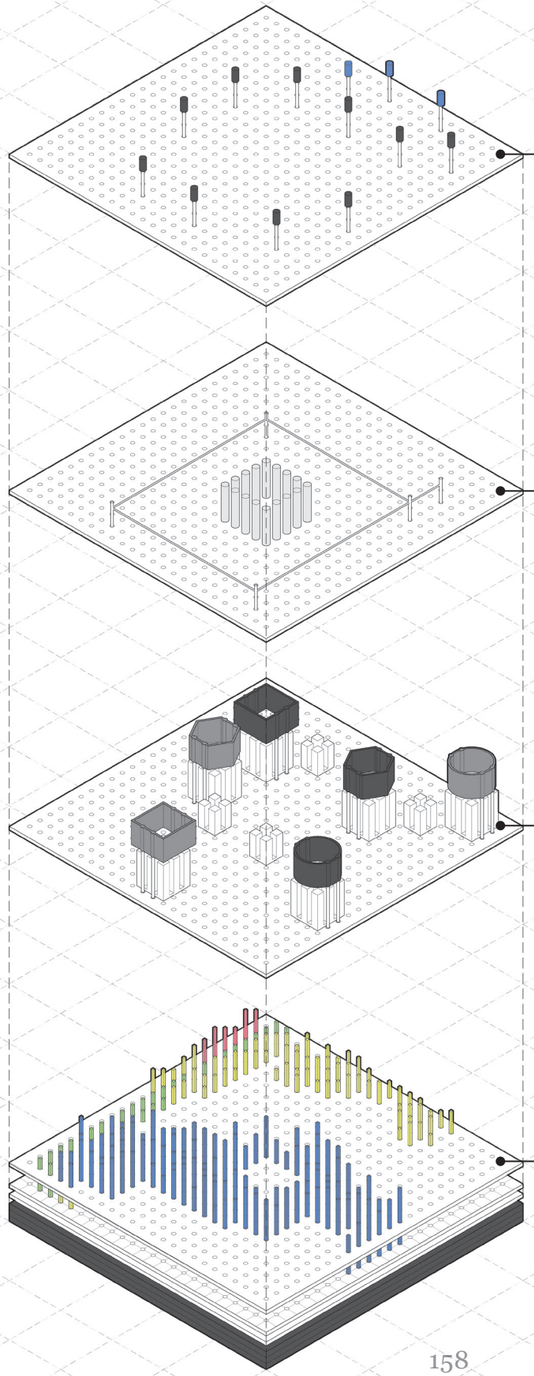


FIGURE 3.94 Notational Interactive Model – Exploded Isometric

URBAN FURNITURE

Represented as points to suggest approximate location relative to other elements. Ex. Streetscape elements: trees, benches, streetlights.

BOUNDARIES

Both symbolic and physical, often demarcated by fences and walls to suggest zones of private property, paths to suggest areas of public circulation, etc.

BUILDINGS

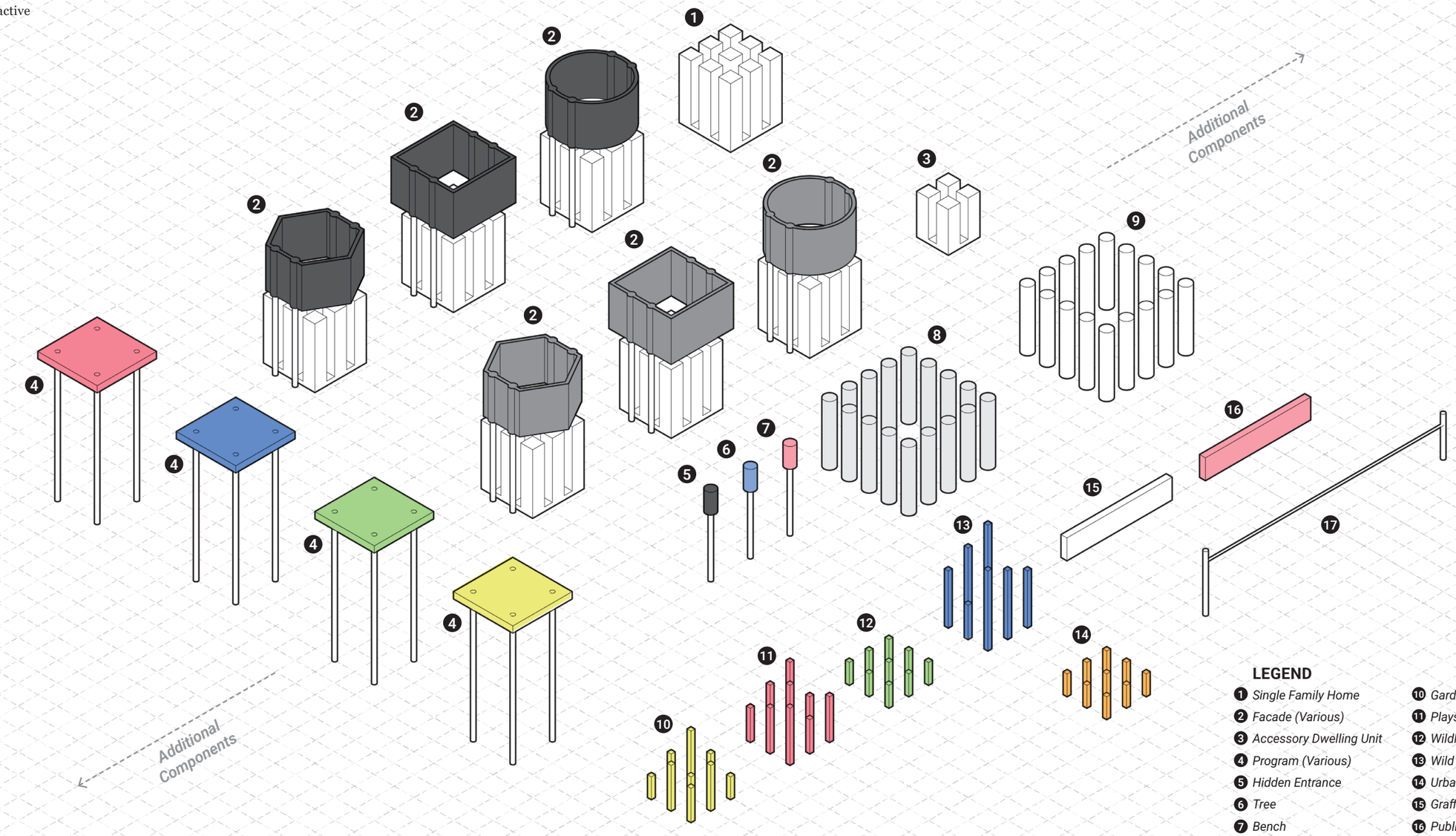
Built form and their associated facades, extensions, and program. Physical presence is suggested by height and footprint. Meanwhile, program or hybridized program is highlighted by translucent acrylic panels.

FIELDS

Zones of occupation: of people, children, and non-human forces. Ex. Playspaces, gardens/farms, wild zones, and wildlife corridors.

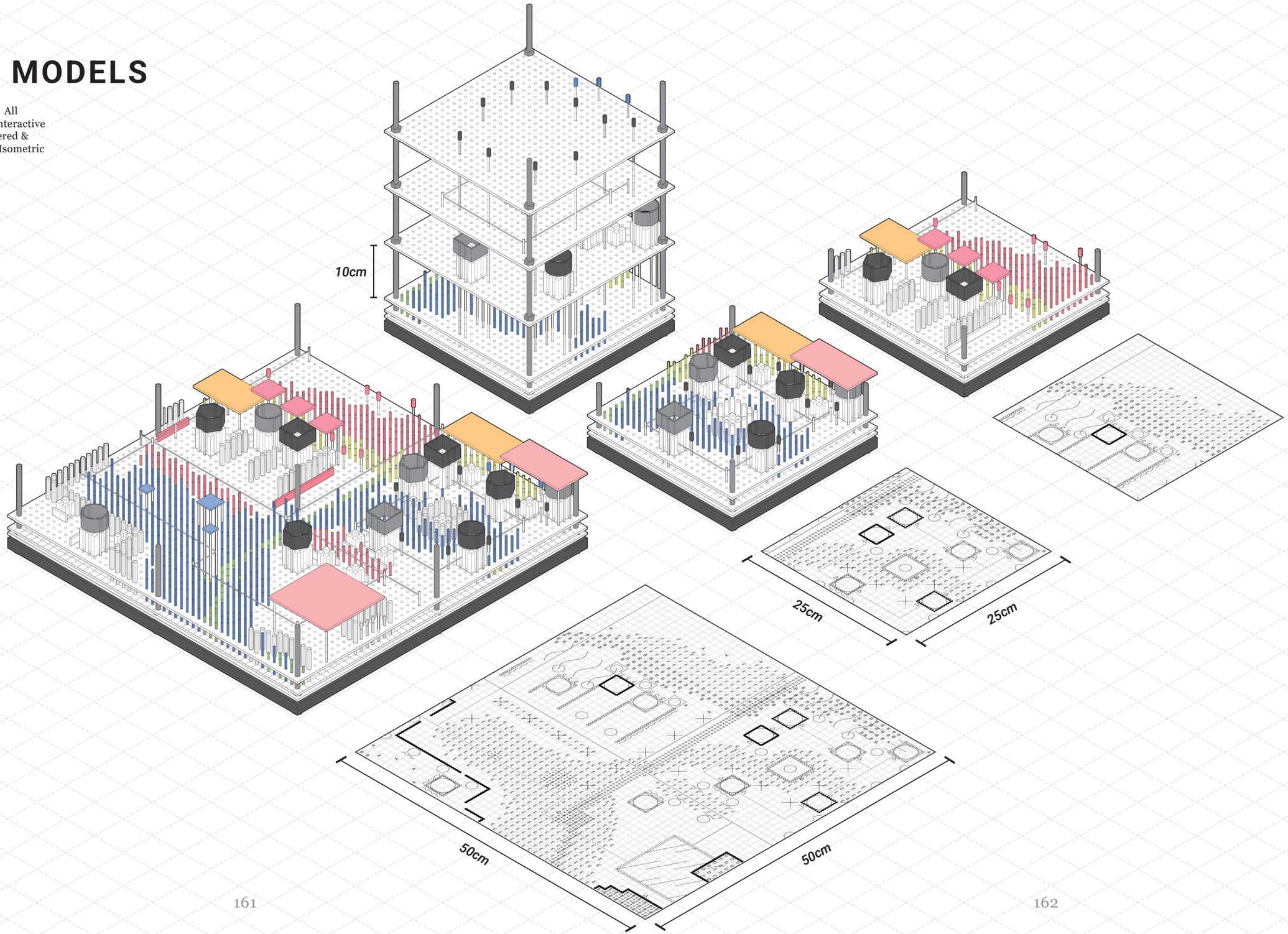
INTERACTIVE COMPONENTS

FIGURE 3.95 Proposed Pieces For The Notational Interactive Model



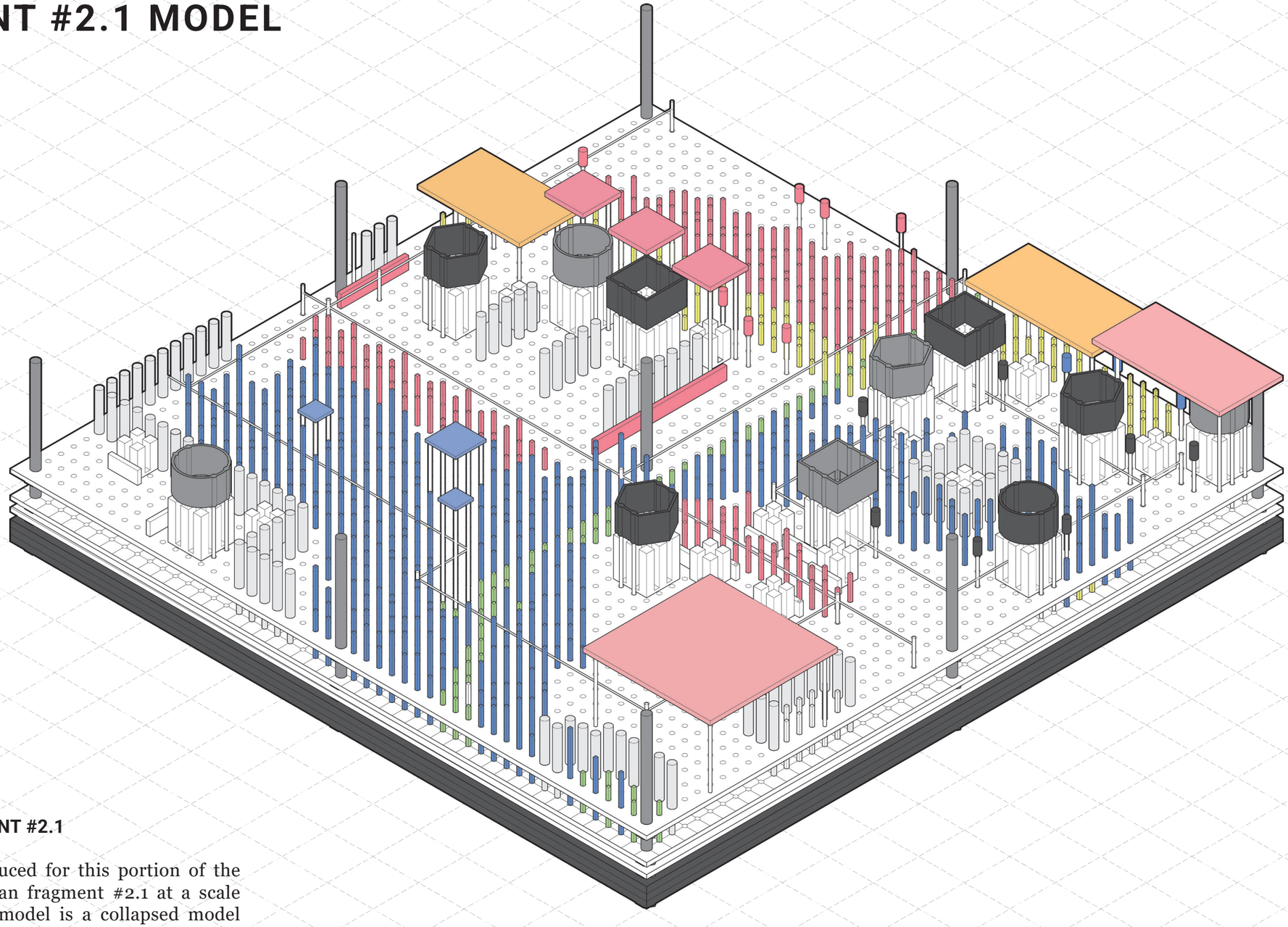
ALL MODELS

FIGURE 3.96 All Notational Interactive Models, Layered & Collapsed – Isometric



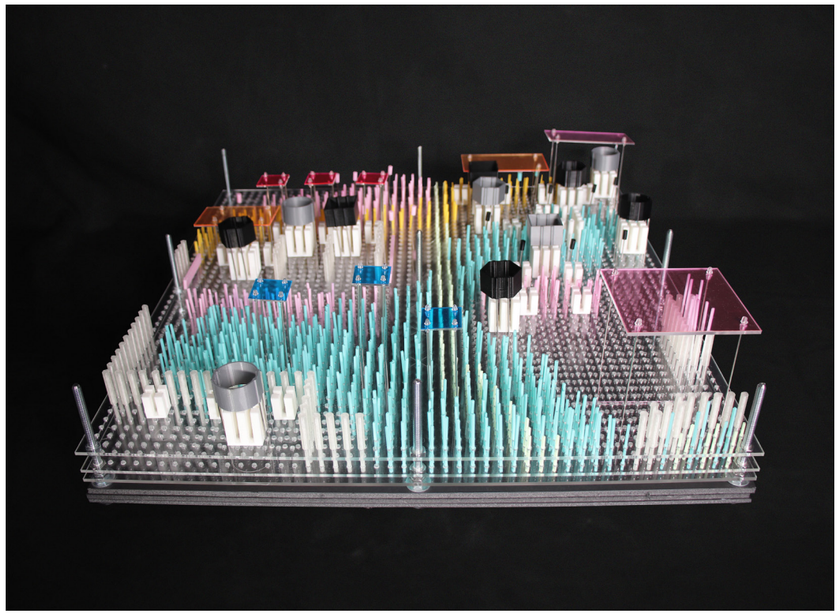
FRAGMENT #2.1 MODEL

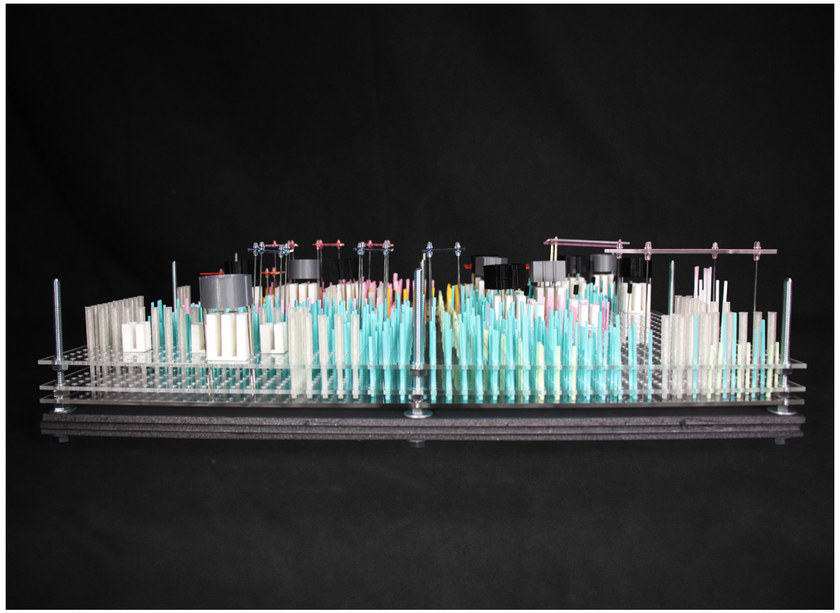
FIGURE 3.97 Don Mills Fragment #2.1 Model - Axonometric

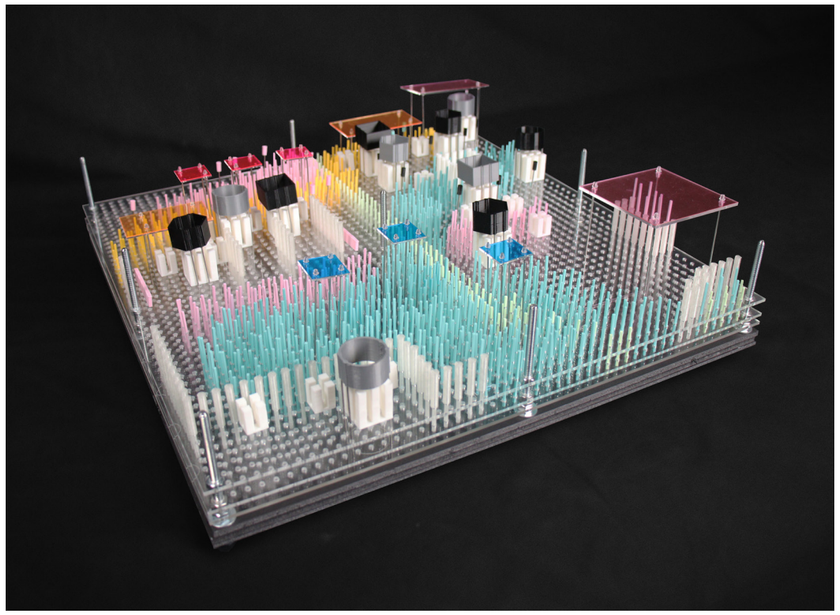


MODEL #1: FRAGMENT #2.1

All the models produced for this portion of the thesis are of suburban fragment #2.1 at a scale of 1:200. This first model is a collapsed model of fragment #2.1. At a scale of 1:200, the model carries a footprint of 50cm x 50cm.







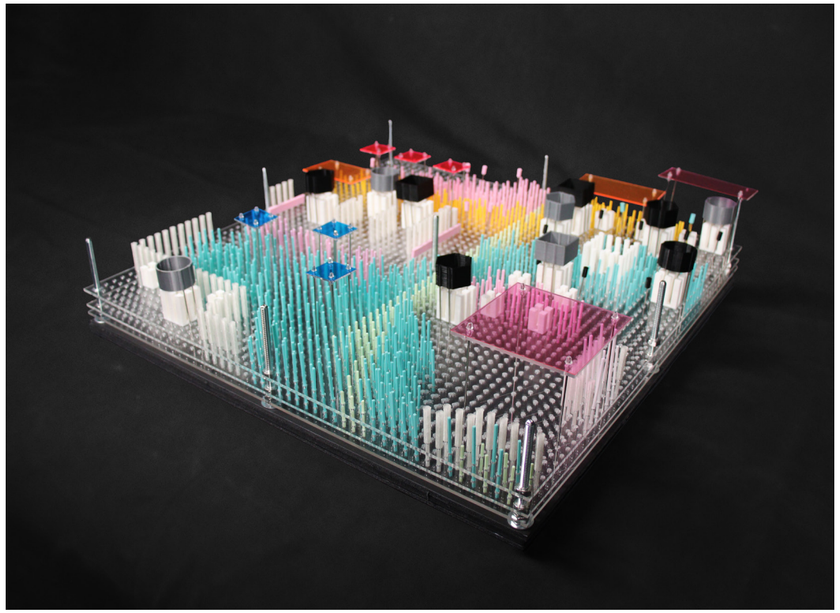


FIGURE 3.98 Don Mills Fragment #2.1 Model - Photos

LAYERED MODEL

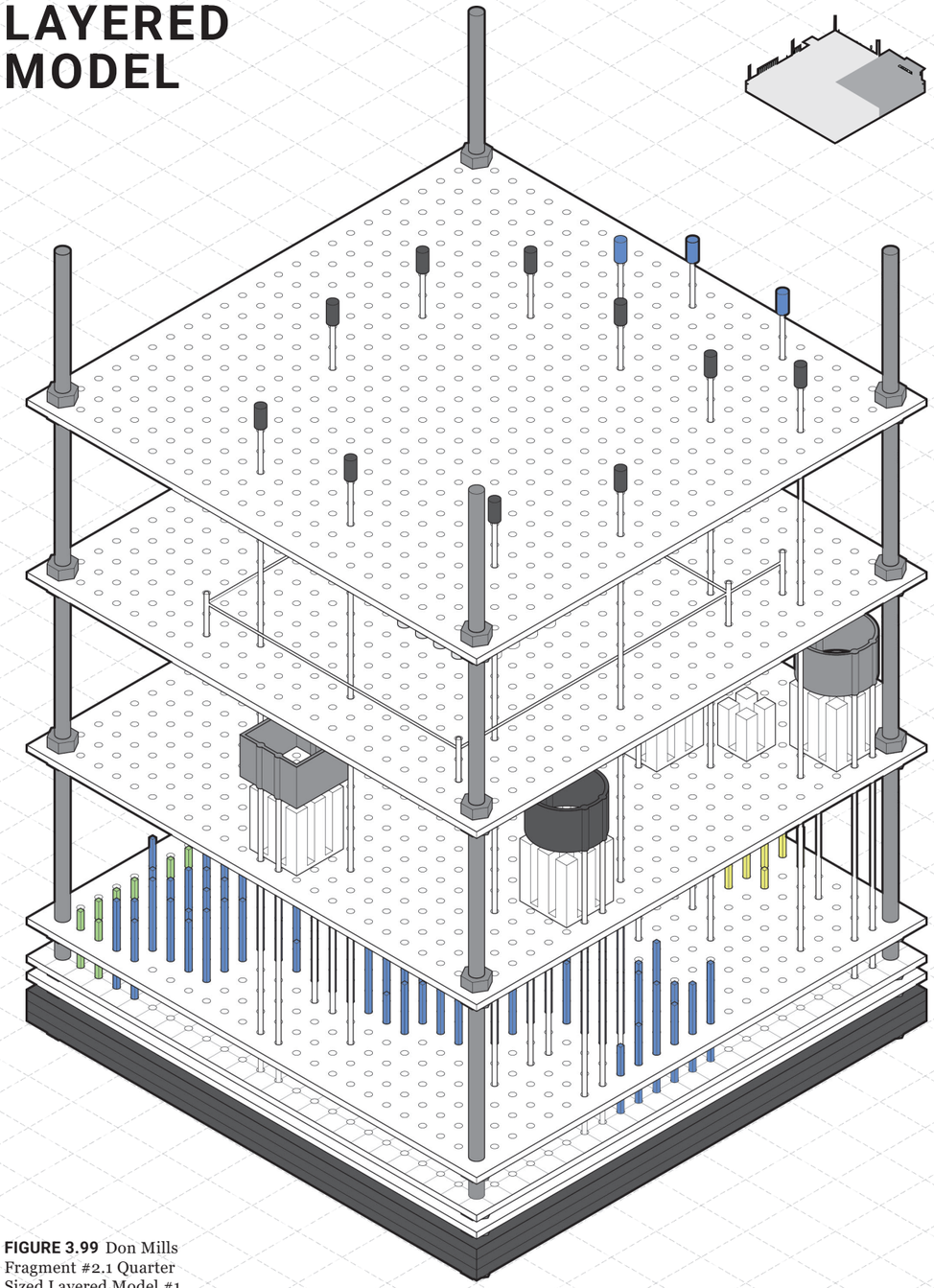


FIGURE 3.99 Don Mills Fragment #2.1 Quarter Sized Layered Model #1 - Axonometric

QUARTER SIZED LAYERED MODEL

The layered model represents a quarter of the footprint of fragment #2.1. At 1:200, the model is 25cm x 25cm with a 1cm x 1cm grid.

In this model, each of the component categories are shown as layers. With this configuration, one could design a fragment by layer, filtering out the other categories. In addition, components can skewer across layers to suggest a relationship between interventions across categories.

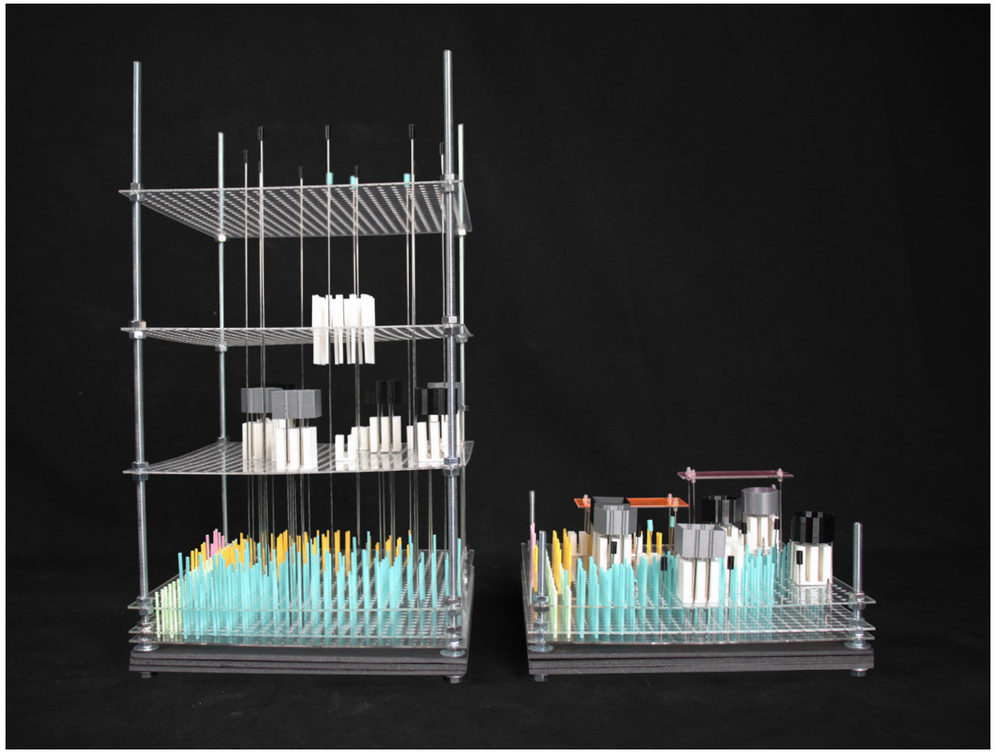
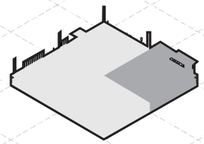


FIGURE 3.100 Don Mills Fragment #2.1 Quarter Sized Layered Model #1 - Photo

COLLAPSED MODEL #1



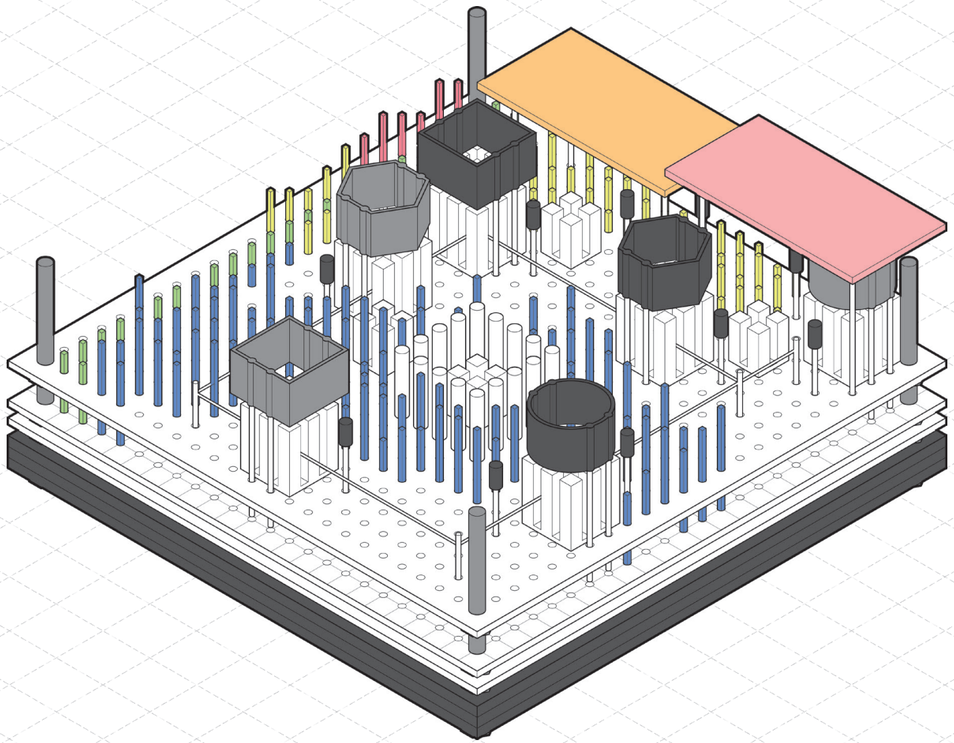


FIGURE 3.101 Don Mills Fragment #2.1 Quarter Sized Collapsed Model #1 - Axonometric

QUARTER SIZED COLLAPSED MODEL

The following two models are collapsed quarter footprint models. The collapsed configuration captures both the complexity and interaction of the interventions as well as its spatialized form.

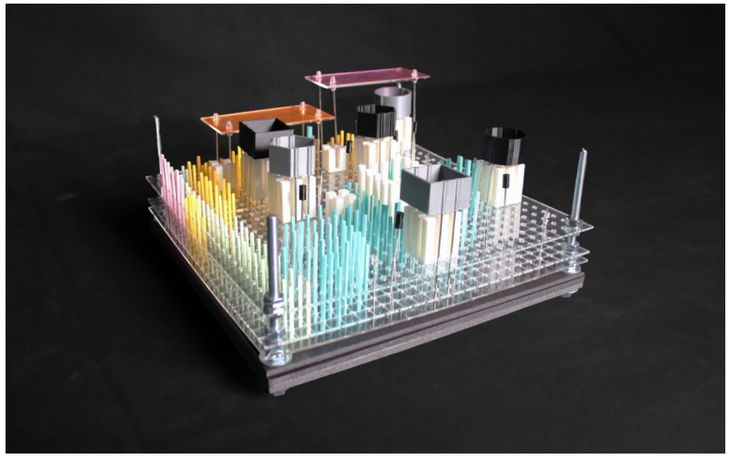
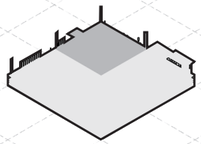




FIGURE 3.102 Don Mills Fragment #2.1 Quarter Sized Collapsed Model #1 - Photos

COLLAPSED MODEL #2



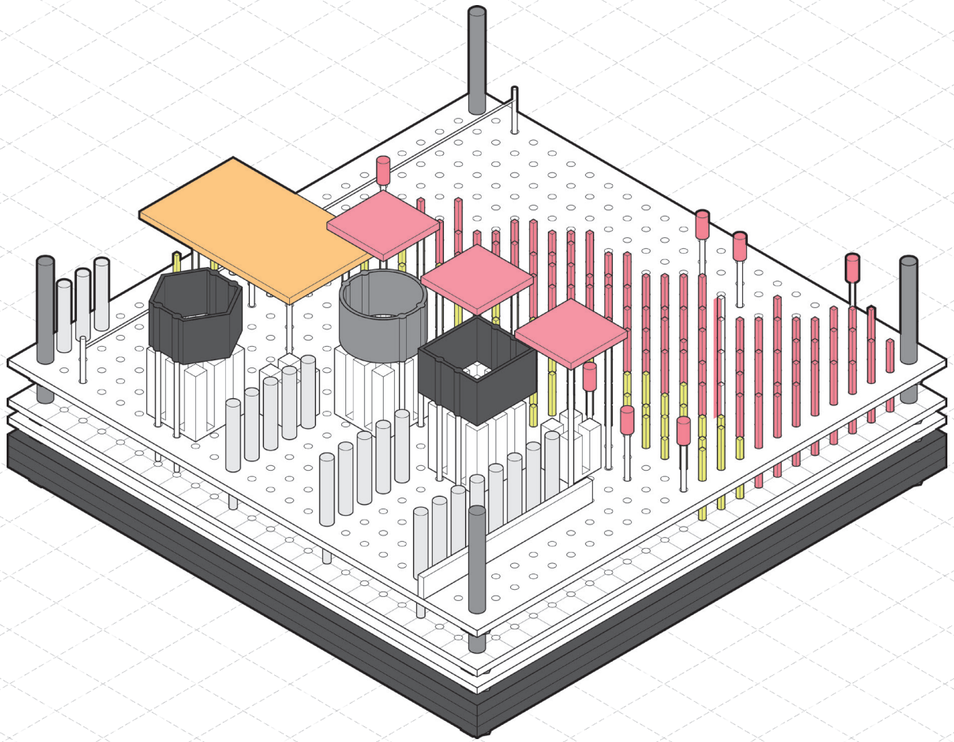


FIGURE 3.103 Don Mills Fragment #2.1 Quarter Sized Collapsed Model #2 - Axonometric

QUARTER SIZED COLLAPSED MODEL

The following two models are collapsed quarter footprint models. The collapsed configuration captures both the complexity and interaction of the interventions as well as its spatialized form.

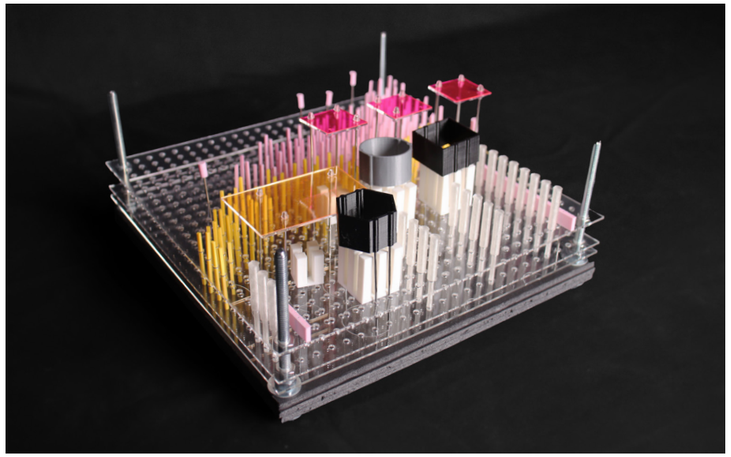
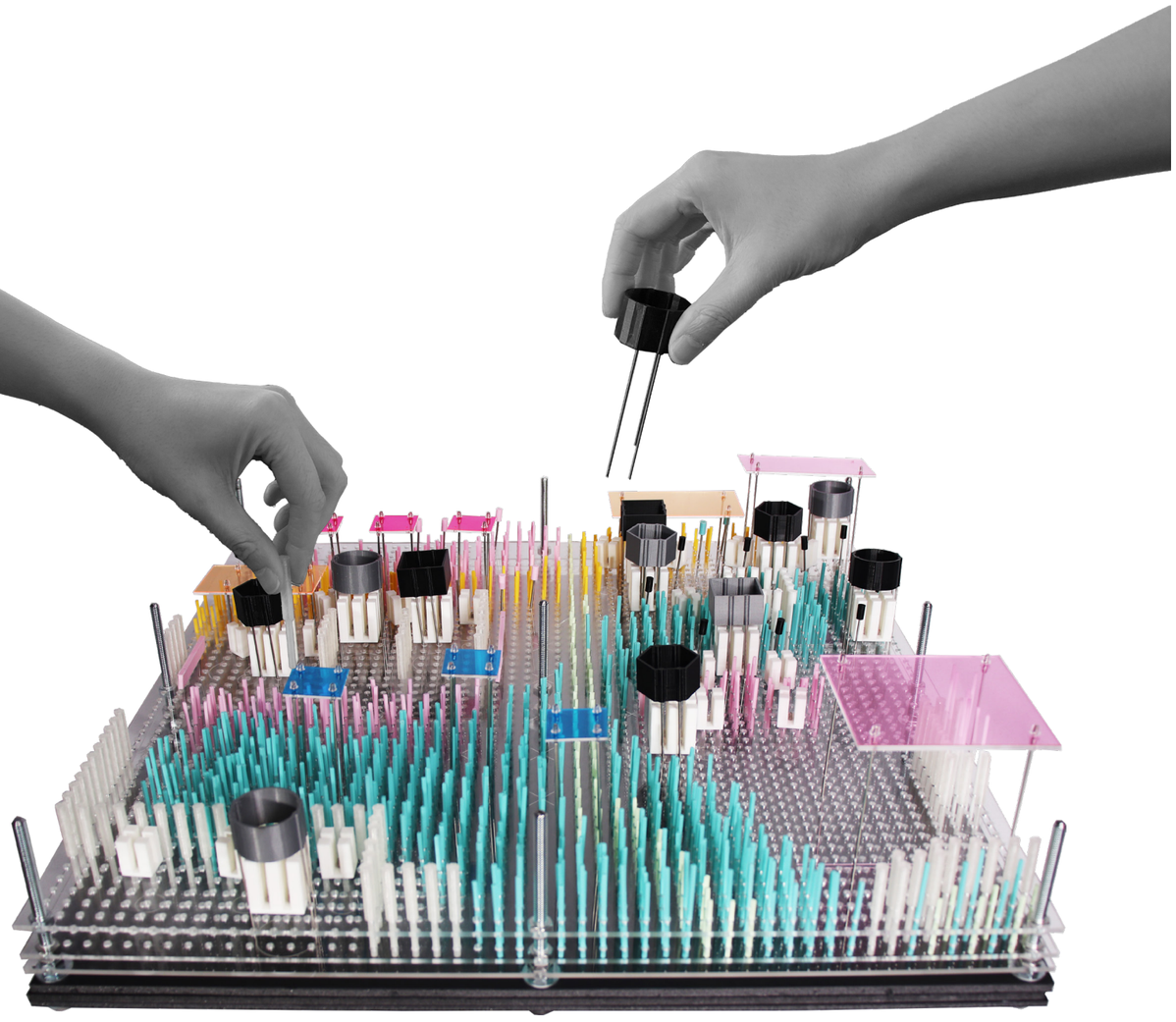




FIGURE 3.104 Don Mills Fragment #2.1 Quarter Sized Collapsed Model #2- Photos

FIGURE 3.105
Components are not fixed and can be moved freely for design iteration.



REFLECTION

LEARNING FROM PREVIOUS EXPERIMENTS

As a three-dimensional evolution of the Test of Notation, the models produced for this thesis carry many of the same strengths of the abstract, notational approach introduced previously in its two-dimensional form. Namely, the use of the grid allows for a low fidelity approach to design as well as the use of abstract notation to separate urban elements from spatial rigidity. By combining the lessons learned from this drawing exercise alongside the lessons learned from the interactive model introduced and tested in the Test of Agency, the models produced in this exercise serve as an effective design tool for testing subversive configurations for suburban complexity.

LAYERED VS. COLLAPSED MODEL

The original intent of the models was to produce a layered model for interaction and iteration, and a collapsed model for a representation of complexity. Upon creation of the models, it is revealed that the purpose of these models is inverted. The layered model instead proves to be more effective as a demonstrative model that shows layers of intervention, while the collapsed model proves to be a more effective interactive tool. The implied grid created by the holes of the acrylic is useful in moderation. When presented as multiple layers in the layered model, the transparency of the acrylic combined with perspective of the holes obfuscates the placement of components. Given these reasons, the collapsed model presents itself as a simpler and clearer tool for use.

EXPANDING THE COMPONENT LIBRARY

Preliminary versions of this model used all white components where three-dimensionality of the components provide a layer of information through spatial hierarchy. Later iterations of the model used colour as an additional layer of information to suggest the relationship between components, to display the level of transparency of interventions, to suggest variation, and to clarify differences between similar interventions. Only a portion of the notations introduced in the drawing exercise were translated into model form. Future iterations of this model, especially in fragments of different urban conditions, will require the design and production of additional components. Thus, the model is not a finished model, but one whose library can expand over time to allow for more complexity, freedom, and creation.

CONCLUSION

CONCLUSION

FINAL THOUGHTS

In conclusion, across the preceding chapters detailing the thesis' theoretical work, precedent and case studies, and design experiments, the work presented in this thesis demonstrates that it is possible to work within a framework of control to stage conditions of overlapping program and propinquity to generate socially complex and diverse spaces.

CHAPTER 1: THE DNA OF THE SUBURBS

The first chapter traces the emergence of suburban homogeneity from its origins in early unplanned development, its evolution through scientific management and urban planning movements, into its contemporary condition as a rigid, regulatory framework. This historical and regulatory reading establishes the framework of control within which the rest of the thesis operates as well as the conditions against which later experiments in complexity and agency are positioned. Thus, this chapter shows suburbia as a product of deliberate choices of control, order, and exclusion.

CHAPTER 2: CONTROL VS. AGENCY

The second chapter develops the theoretical framework of control versus agency, drawing upon complexity theory as well as examples of both institutional mechanisms of control (i.e. codes, standards, and/or local democracy) and small-scale subversive acts to argue that suburbia operates as a complex system of interacting agents. The chapter repositions the suburbs as a potentially complex system where functional overlap, diversity of form and use, and propinquity operate as key mechanisms by which social, economic, and cultural benefits might form. The theoretical framing presented in this chapter provides the rationale for the methodological and design experimentation that follow as a mode of critical inquiry into concepts of control, agency, and complexity.

CHAPTER 3: METHODS OF SUBVERSION

The thesis culminates in the third chapter, which details a series of design experiments that examine how rules can be reframed, how agency can be tested, and how notational methods can represent and work with controlled agency in suburbia.

Within this chapter, the Study of Rules identified how existing regulations shape suburban form, and how they might be adjusted to foster complexity. Rules are reframed as design tools that can mediate control and agency through language. Through subtle shifts in language, the subversive rules present how the suburbs might allow for controlled unpredictability in a timeless and siteless environment.

Following this exercise, the Test of Agency explores how interactive design tools can allow designers to test out these subversive rules within an existing site. Drawing upon the work of Ekim Tan, a model was produced of an existing suburban neighbourhood, complete with cards and pieces representing common stakeholders, conditions, and programmatic interventions. Through trial and error, it is revealed that although simple and quick to use, such an approach is limited in its capacity to represent and encourage complexity due to both its scale and its level of abstraction.

Using these observations as a point of departure, the final exercise, the Test of Notation furthers the Test of Agency using representational methods for thinking and designing beyond suburban rigidity. Drawing inspiration from the preliminary drawings of Archizoom's *Homogenous Living Diagrams*, a drawing methodology was developed using a similar language of abstract notation, representing interventions of a variety of scales. When applied to fragments of suburbia, this methodology proves itself to be an effective means of both generating and visualizing complexity, where zones of overlapping notation suggest both spatial and social complexity. When spatialized into an interactive model, such an approach serves as a more effective design tool for testing subversive design strategies than its previous iteration in the Test of Agency.

FINAL THOUGHTS

Together, these design experiments culminate in a flexible methodology for experimenting with spatial and social complexity inside a landscape that is historically defined by predictability and uniformity. The drawing-based and model-based methods proposed can be used to negotiate control and agency within rigidity by allowing one to calibrate thresholds, adjacencies, and shared programs in a risk-free environment. They suggest that controlled agency offers an effective lens for rethinking suburban planning and design in North America, from rigid conformity towards unpredictable social complexity. The methodology proposed in this thesis points towards the role of drawing and modelling as tools for testing subversive design strategies, offering planners, designers, and communities a way to negotiate with the forces of control and agency in a manner that expands the imagination of what is possible.

IMPLICATIONS, CHALLENGES, AND FUTURE DEVELOPMENT

Having established the thesis' methodological framework and its capacity to generate complexity within structures of control, the conclusion now turns to the implications of this work with regards to audience, agency, and future development of these tools.

Despite the formal conclusion of the thesis, it must be considered that these experiments are part of an ongoing process of curiosity and inquiry. In much the same way that these explorations were informed by previous experiments, one could easily imagine ways in which the thesis could evolve.

The final design methodology, while useful for visualizing urban intervention, lacks the nuances and complexity of a real site, meaning that the tool itself is agnostic. Rather than cast a net and suggest that the model could apply to any urban fragment, future iterations of the model could benefit from the opposite approach. While capturing formal complexity, it lacks the historical and cultural context to introduce social complexity in a meaningful and convincing way. In addition, the introduction of a site would allow for the inclusion of topography, adding a new layer of ecological complexity that is lost in its current iteration. Therefore, the questions become: who is this complexity in service of, and who has agency in this process? If the thesis' methodological tool was created within the context of an existing site, one could begin to answer these questions.

The thesis grapples with varying levels of abstraction. The cards the most abstract, lacking a real site, while the Test of Agency is the most tangible, representing real property lines and roads. The thesis' culminating design methodology, the Test of Notation sits in between these two extremities. To abstract or to not abstract, and to what extent, is an ongoing challenge of the thesis. While the abstraction of built space is useful for erasing the cognitive rigidity of the parcel line and the road, it runs the risk of turning the model into an interactive tool that encourages users to create visually compelling designs in model form with no consideration to its real-world impact.

Therefore, future development of this methodology involves the ongoing transformation and expansion of its library of notation and components, in order to turn the model into a truly useful tool for design.

Ultimately, this thesis argues that even within rigid frameworks of suburban control, designers and communities can cultivate forms of controlled agency that open up new and complex ways of living together. By foregrounding rules and representation as tools, it proposes a way of practicing architecture that treats complexity not as a problem to be eliminated, but as a condition to be deliberately negotiated.

In doing so, the methodologies explored in this thesis call for a new architectural practice: to treat the suburb not as a finished and polished product, but rather an unfinished project of continuing spatial and social possibility.

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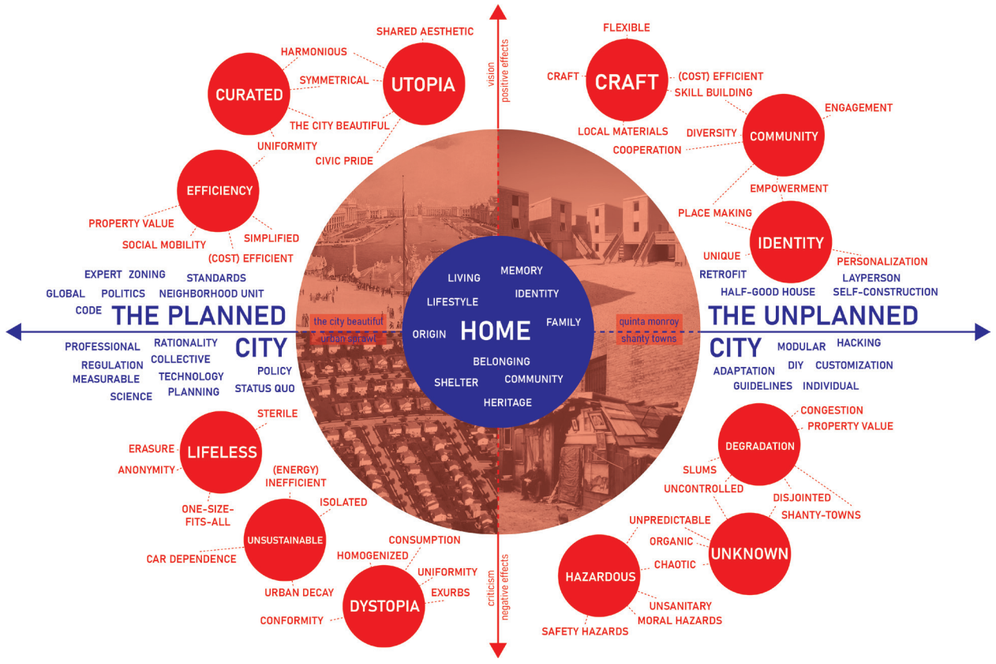
Win Win Board Games. Urban Works Agency, n.d. https://www.urbanworks.cca.edu/win-win-board-games.

APPENDICES

APPENDICES

APPENDIX A

THESIS RESEARCH AND DEVELOPMENT



P1 Word Diagram
September 9th, 2024

A word diagram describing the preliminary ideas of the thesis



P1 Zine
September 18th, 2024

A zine describing and expanding upon the provocation, major ideas, books, and authors of the thesis.

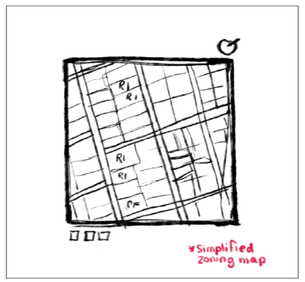
APPENDIX B

URBAN RULE CARDS: Below are the rule cards crafted for the "A Study of Rules" experiment, scaled for legibility.

1.1A ZONING DISTRICTS

L

Land Use, Accessibility, Public Realm



The city is to be divided into zones based on land use: residential, commercial, industrial, mixed-use, and public space. Each zone operates under their own guidelines specifying building height, type and density.

A tool for governing bodies to regulate the development of land into various use categories from a top down perspective.

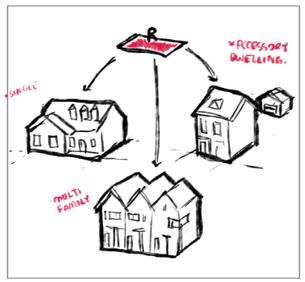
●●○ SEMI-PREDICTABLE

DESIGNING TOGETHER

1.1B RESIDENTIAL ZONES

L

Land Use, Construction, Quality of Life



Lands designated for residential use via the Zoning Bylaw (1.1A). Residential zones allow for the construction of single-family homes, multi-family homes, accessory dwelling units, etc. Density and height limits vary by zone.

The purpose of residential zones is to control urban growth by regulating the spread of low and high density housing. In addition, residential zones are located near compatible zones to promote neighbourhood harmony.

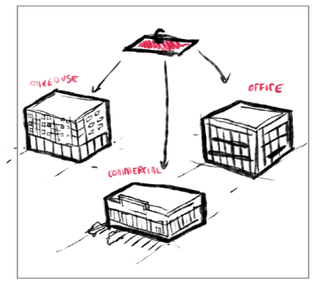
●●○ SEMI-PREDICTABLE

DESIGNING TOGETHER

1.1C COMMERCIAL ZONES

L

Land Use, Public Realm



Lands designated for commercial use via the Zoning Bylaw (1.1). Commercial zones allow for the construction of mixed-use, retail, office spaces, etc. Density and height limits vary by zone.

To accommodate retail and commercial uses within the city, an provide a space for economic growth. Proper commercial zoning may create a space that allows for businesses to succeed.

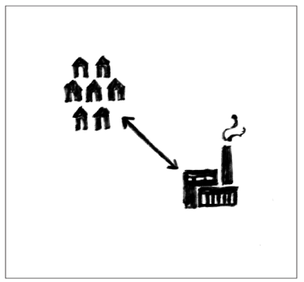
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DESIGNING TOGETHER

1.1D INDUSTRIAL ZONES

L

Land Use, Quality of Life, Sustainability



Lands designated for industrial use via the Zoning Bylaw (1.1). Industrial zones are reserved for heavy industry with controls over environmental impact.

Industrial zones allow for economic growth for a city but they are often filled with disruptive activities (traffic, noise, pollution, etc.) Therefore, industrial zones are important for separating industrial from residential zones.

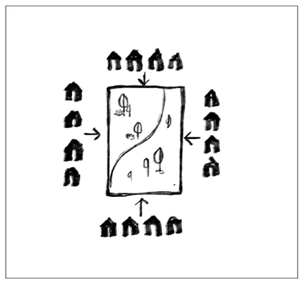
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DESIGNING TOGETHER

1.1E PUBLIC SPACE ZONES

L

Land Use, Public Realm, Quality of Life



Lands designated for public space via the Zoning Bylaw (1.1). Park zones are reserved for parks, plazas, and other community spaces.

Zones created for public use throughout the community. These zones promote a sense of community as well as healthy living for residents.

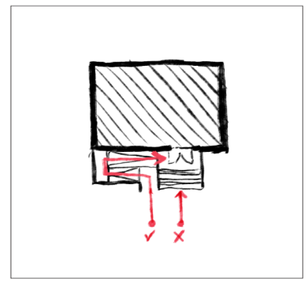
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DESIGNING TOGETHER

2.1 CONTINUOUS ACCESSIBLE ROUTES

A

Accessibility



All routes must be continuous and unobstructed, with slip-resistant surfaces used wherever possible.

Creating paths free of obstruction will allow all people to move safely and efficiently through space. In addition unobstructed paths allow for ease of egress in case of emergency.

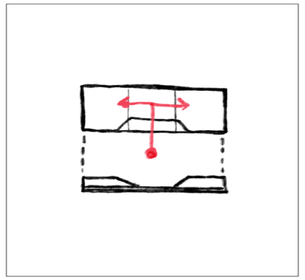
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2010 ADA STANDARDS FOR ACCESSIBLE DESIGN DESIGNING TOGETHER

2.2 CURB CUTS

A

Accessibility, Mobility



Accessible curb cuts must be installed wherever intersections occur. Residents have the ability to apply for new curb cuts in their neighbourhood.

Curb cuts are short ramps from the sidewalk to the street. This allows people operating mobility devices to get on and off the sidewalk. This also allows vehicles such as cars and bikes to drive into driveways, garages, parking lots, etc.

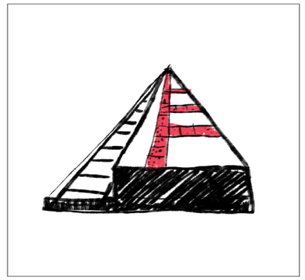
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2010 ADA STANDARDS FOR ACCESSIBLE DESIGN DESIGNING TOGETHER

2.3 TACTILE PAVING

A

Accessibility, Mobility



Tactile ground surfaces are to be installed wherever intersections, staircases, and platform edges occur.

Tactile paving is a tool that individuals with visual impairments can use to navigate their surroundings. Installing them in areas of concern such as platform edges will allow people with disabilities to safely navigate the public realm.

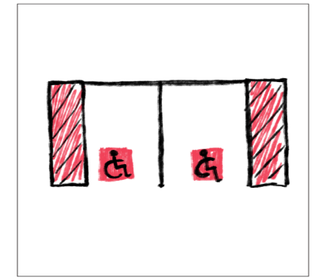
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2010 ADA STANDARDS FOR ACCESSIBLE DESIGN DESIGNING TOGETHER

2.4 ACCESSIBLE PARKING

A

Accessibility



X% of all parking must be allocated for accessible parking. These parking spots must be located as close as possible to an accessible building entrance. These parking spots are of adequate size for mobility devices such as wheelchairs.

Accessible parking spots allow people with disabilities and mobility issues to complete their daily tasks with dignity and ease.

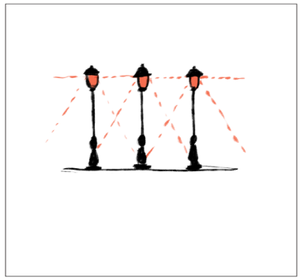
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2010 ADA STANDARDS FOR ACCESSIBLE DESIGN DESIGNING TOGETHER

3.1 STREET & ROAD LIGHTING

P

Public Realm, Quality of Life



Public spaces should be well-lit using street lights with clear sightlines between the hours of sunset and sunrise.

Well lit streets deter crime by creating an environment where the actions of potential criminals could be perceived. In addition, proper lighting makes it easier for drivers to see pedestrians.

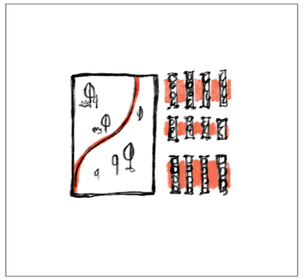
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DESIGNING TOGETHER

3.2 GREEN SPACES

P

Public Realm, Quality of Life, Sustainability



X% of all public realm developments must be designated as green spaces. This includes parks and community gardens.

Green spaces are promoted by the UN for their ability to promote health and well-being as they offer environments for physical activity, social contact, and stress reduction.

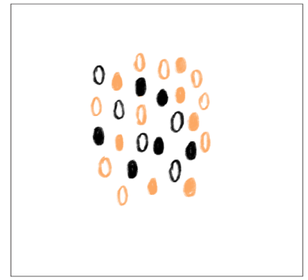
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DESIGNING TOGETHER

4.1A NO COLOUR REGULATION

A

Aesthetic, Diversity, Quality of Life



No restrictions are to be placed on the colours of visible elements.

To promote inclusivity and freedom of expression by allowing a diverse range of colours. Allows for cultural vibrancy.

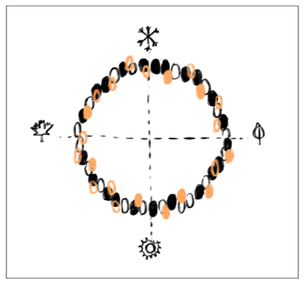
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LOCAL CODE BY MICHAEL SORKIN DESIGNING TOGETHER

URBAN RULE CARDS

4.1B SEASONAL COLOURATION (A)

Aesthetic



For buildings in special nature protection zones, the colors of the building and its outer parts must be compatible with the seasonal coloration of the surrounding natural environment.

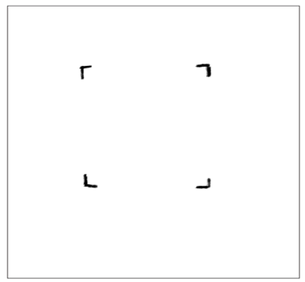
To ensure a level of harmony between the buildings and the natural environment while allowing for some colour variation and expression.

●●○ SEMI-PREDICTABLE

GRAND URBAN RULES BY ALEX LEHNERER — DESIGNING TOGETHER

4.1C WHITE FAÇADE STIPULATION (A)

Aesthetic



The color of all outside facades is as a rule white.

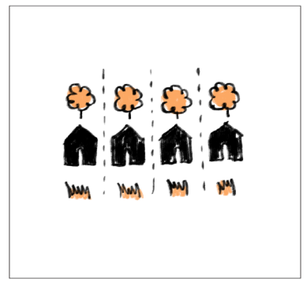
To maintain a uniform aesthetic appearance for buildings by assigning the colour white as the standard for all outside facades. To promote visual harmony.

●○○ PREDICTABLE

GRAND URBAN RULES BY ALEX LEHNERER — DESIGNING TOGETHER

4.2 YARD MAINTENANCE (A)

Aesthetic



Plants present in private gardens may not interfere with or disturb neighbours. The general appearance of the garden must be consistent with that of adjacent gardens.

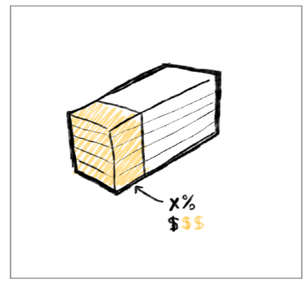
To maintain a uniform aesthetic appearance for private gardens, minimizing extensive plant growth.

●○○ PREDICTABLE

GRAND URBAN RULES BY ALEX LEHNERER — DESIGNING TOGETHER

5.1 INCLUSIONARY ZONING (D)

Diversity



A minimum of X% of residential units in new developments must be allocated towards affordable housing.

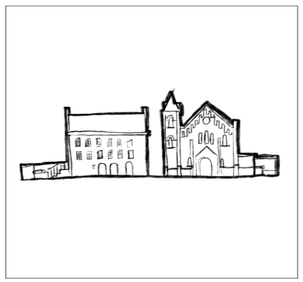
To turn mono-income housing into mixed-income housing. This policy is introduced to help address the housing needs of the city's low income households.

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DESIGNING TOGETHER

5.2 HERITAGE PRESERVATION (D)

Diversity



Any building or site designated as historically significant must be preserved in accordance with heritage conservation standards.

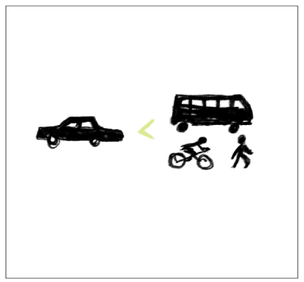
Identifying and protecting the cultural heritage of the built environment allows the city to preserve the messages and values of these places for future generations.

●○○ PREDICTABLE

DESIGNING TOGETHER

6.1 CAR DEPENDENCY REDUCTION (M)

Mobility, Accessibility, Sustainability



"Downtown will be less dependent on the private automobile. More space within the street network will be allocated to sustainable modes of transportation, prioritizing high-quality, accessible and safe networks for pedestrians, cycling and surface transit." pg.12

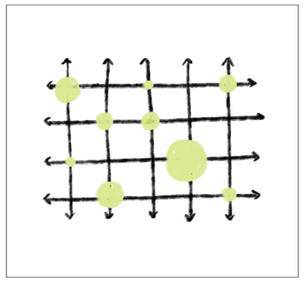
The purpose of this code is to promote sustainability and reduce traffic through the use of low carbon modes of transportation, as well as to promote urban vibrancy.

●●○ SEMI-PREDICTABLE

TORONTO DOWNTOWN MOBILITY STRATEGY — DESIGNING TOGETHER

6.2 CONNECTED PUBLIC REALM (M)

Mobility, Public Realm, Quality of Life



"A connected public realm with an expanded system of parks and open spaces linked together by a fine- grain network of streets, laneways, mid-block connections and pathways will provide the foundation for health, liveability and public life as Downtown grows." pg.12

By introducing an interconnected walkable network, this code encourages physical activity and community engagement, contributing to the wellbeing of the public.

●●○ SEMI-PREDICTABLE

TORONTO DOWNTOWN MOBILITY STRATEGY — DESIGNING TOGETHER

7.1 REUSABLE MATERIALS (S)

Sustainability, Construction, Quality of Life



To the maximum extent possible, all Materials used in the construction of the City shall be capable of re-use or recycling.

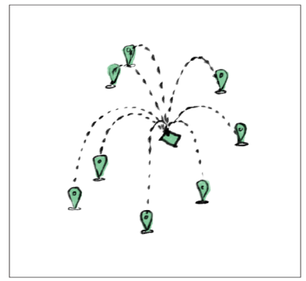
This code promotes sustainable construction practices by prioritizing the use of sustainable materials. In addition, it incentivizes architects to find creative solutions for the use of sustainable materials and processes.

●●○ SEMI-PREDICTABLE

LOCAL CODE BY MICHAEL SORKIN — DESIGNING TOGETHER

7.2 LOCAL MATERIALS (S)

Sustainability, Construction, Quality of Life



At least X% of building materials in new construction must be sourced within a X km radius from its site.

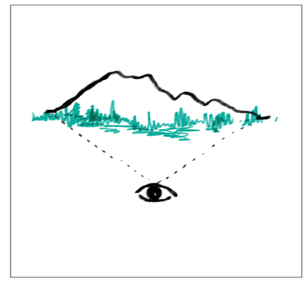
This code promotes the use of local materials, with the aim of supporting the local economy, preserving the local character of the region, and reducing the carbon footprint of new construction.

●○○ PREDICTABLE

LOCAL CODE BY MICHAEL SORKIN — DESIGNING TOGETHER

8.1 NATURAL HERITAGE VIEWS (V)

View Management, Aesthetic, Sustainability



"Natural heritage is an important contributor to the character of an area and influences the overall street network. Neighbourhoods should be designed to preserve or create views to natural heritage features and landmarks through lotting patterns, street patterns, or building placement." pg 63

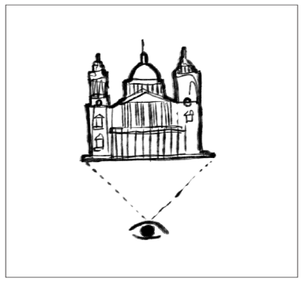
The purpose of this code is to preserve the unique natural environment of the region and strengthen its local character.

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LONDON OFFICIAL PLAN — DESIGNING TOGETHER

8.2 CULTURAL HERITAGE VIEWS (V)

View Management, Aesthetic, Sustainability



"Where a view or vista is identified as a heritage attribute of a property included on the Register or a property identified as a cultural heritage landscape, such a view or vista should be conserved." pg.139

Views and vistas are often components of a heritage site's identity and can influence the understanding of its historical function or significance. This rule ensures that the context surrounding the property is not altered by development or other interventions.

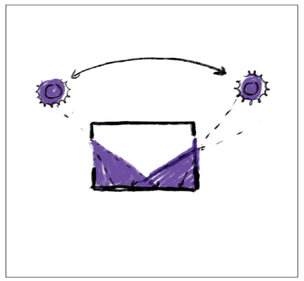
Maximizing natural daylighting promotes occupant wellbeing and enhances the quality of the indoor environment while also simultaneously reducing energy consumption.

●○○ PREDICTABLE

LONDON OFFICIAL PLAN — DESIGNING TOGETHER

10.1 DAYLIGHT ACCESS (Q)

Quality of Life, Sustainability



Views and vistas are often components of a heritage site's identity and can influence the understanding of its historical function or significance. This rule ensures that the context surrounding the property is not altered by development or other interventions.

Maximizing natural daylighting promotes occupant wellbeing and enhances the quality of the indoor environment while also simultaneously reducing energy consumption.

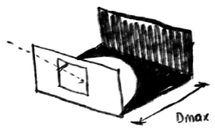
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DESIGNING TOGETHER

URBAN RULE CARDS

10.1 NATURALLY LIT OFFICE DEPTH

Quality of Life, Sustainability



Offices shall never be too deep to be illuminated by natural light.

Maximizing natural daylighting promotes occupant wellbeing and enhances the quality of the indoor environment while also simultaneously reducing energy consumption.

●●○ SEMI-PREDICTABLE

GRAND URBAN RULES BY ALEX LEHNERER DESIGNING TOGETHER

1.1 TWO+ PROGRAMS

Land Use



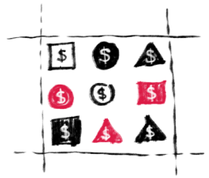
All new construction must be mixed-use with at least two different types of uses.

This policy encourages the development of multi-program buildings. Doing so will allow for more integrated urban environments where users of a variety of types can interact.

DESIGNING TOGETHER

1.2 BUSINESS DIVERSITY

Land Use



No block can have more than two of the same type of business.

This will ensure a mix of amenities available within a block, promoting diversity and preventing oversaturation of any one type of business.

DESIGNING TOGETHER

1.3 FREE TERRAIN

Land Use



1% of the area of the city must be dedicated to free terrain, whereby no structure can stand for more than twelve months.

This rule contributes to the fluidity and evolution of the city by creating opportunities for architectural and urban experimentation. These free terrains may allow for unexpected exhibitions of art.

DESIGNING TOGETHER

1.4 RESIDENTIAL-COMMUNAL SPACES

Land Use



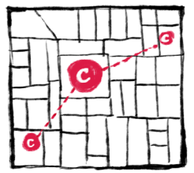
Every residential building must incorporate at least one communal space accessible to the public.

By opening up otherwise private residential buildings to the broader community, we can begin to blend and strengthen the partnership of public and private realms.

DESIGNING TOGETHER

1.5 COMMUNITY PARTS

Land Use



All community entities must be broken down into a minimum of three parts.

The method by which these community entities may break up (one large base with two stations, three medium sized community nodes, etc.) is determined by local conditions.

DESIGNING TOGETHER

1.6 FOOTPRINT PASSWORD

Land Use



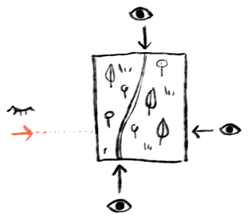
No building may occupy the same footprint as a previous structure.

This code ensures that architecture is diverse and in some cases, promotes the adaptive reuse and retrofitting of existing buildings rather than its demolition and reconstruction.

DESIGNING TOGETHER

2.1 HIDDEN PASSAGEWAYS TO PARKS

Public Realm



Every public park must have a hidden entrance or secret passage.

Hidden passageways promotes a sense of play and exploration within the city. This rule has the added benefit of fostering local pride and culture.

DESIGNING TOGETHER

2.2 VARIABLE STREETLIGHTS

Public Realm



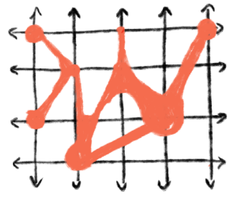
Streetlights must vary in height and style within each block.

The intent of this policy is to break the monotony of the streetscape in its physical form as well as its lighting conditions. When organized and distributed strategically, variable streetlights may enhance the character of a particular space or provide a method of wayfinding.

DESIGNING TOGETHER

2.3 CONNECTED PARKLAND

Public Realm



All parks must be linked and continuous.

By linking all of the greenspace within the city, this ensure that all of the city has access to green spaces. Doing so will provide a network for people to walk and cycle, but also for wildlife to move between spaces.

DESIGNING TOGETHER

2.4 HIDDEN SPACES

Public Realm



Each street must feature one ‘hidden’ space designed for discovery.

Much like the hidden passageways rule (2.1), hidden spaces promote a sense of play and exploration within the city. This rule has the added benefit of fostering local pride and culture.

DESIGNING TOGETHER

2.5 PEDESTRIAN FRIENDLY STREET

Public Realm



At least one major street in every neighborhood must be designated as a 'car-free zone'.

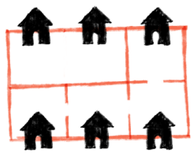
To encourage walkability and to reduce our dependence on vehicles.

DESIGNING TOGETHER

URBAN RULE CARDS

2.6 CONNECTED YARDS (P)

Public Realm



Backyards must be connected to at least one neighbor's yard

Connected backyards create safe, large areas of open space that allow children to easily move between yards and engage with neighbours and other children. These connected backyards may also provide a space for collaboration and community events.

DESIGNING TOGETHER

2.7 MUSICAL BUILDINGS (P)

Public Realm



Every building must include a feature that creates sound, such as chimes, water fountains, or sound art.

To simultaneously enhance the auditory experience of various areas of the city while also shaping its unique character and identity. Sounds may also prove to be a useful wayfinding and navigation tool.

DESIGNING TOGETHER

3.1 DELIBERATE ASYMMETRY (A)

Aesthetic



All buildings must be designed with at least one element that is deliberately asymmetrical or tilted.

To create visual interest through the production of unique structures and uneven facades.

DESIGNING TOGETHER

3.2 NON-PARALLEL FACES (A)

Aesthetic



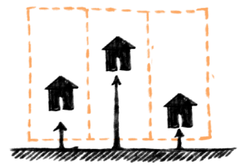
At least one wall must not be parallel to lot line.

This rule questions the uniformity of our street facades. It promotes the design of non-conventional site layouts, enhancing the spatial relationships between buildings.

DESIGNING TOGETHER

3.3 IRREGULAR SETBACKS (A)

Aesthetic



Buildings must be spaced irregularly, with no two buildings having the same setback from the street.

This rule questions the uniformity of our street facades. Varying the setbacks of buildings will create unique opportunities for landscape and architectural design.

DESIGNING TOGETHER

3.4 BUILDING HEIGHT VARIABILITY (A)

Aesthetic



No two adjacent buildings can be the same height.

Varying the heights of buildings allows for the creation of a more organic skyline and may reduce shadow impacts.

DESIGNING TOGETHER

3.5 WINDOW DIVERSITY (A)

Aesthetic



No two windows can have the same dimension within a given development

This rule promotes architectural diversity and critical thinking with regards to the choice of windows to frame certain views, provide ventilation, and daylighting.

DESIGNING TOGETHER

3.6 FAÇADE COLOUR (A)

Aesthetic



Houses must not be the same colour as its neighbour.

By mandating unique facade colours, individual expression and negotiation amongst community members and neighbours is promoted as well as it resulting visual diversity.

DESIGNING TOGETHER

3.7 LOCAL ART FAÇADE (A)

Aesthetic



Each building must incorporate at least one element of local art or craft in its facade

To foster and display cultural heritage and a unique sense of space while facilitating public art and community projects.

DESIGNING TOGETHER

3.8 COLOUR REFRESH (A)

Aesthetic



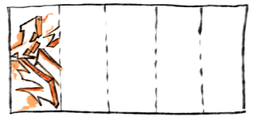
Public buildings must change the color of their exterior paint every five years.

Providing a different coat of paint every 5 years can encourage community involvement through its decision making process and it can reflect changing trends in the community.

DESIGNING TOGETHER

3.9 GRAFFITI MANDATE (A)

Aesthetic



20% of all exterior surfaces of buildings must allow for graffiti.

Urban landscape as a canvas for artistic expression.

DESIGNING TOGETHER

3.10 COLOUR-CODED BLOCKS (A)

Aesthetic



Each block is to be assigned a unique colour scheme.

Creates visual identities per block, and promote a more restrained level of cohesion within the urban fabric.

DESIGNING TOGETHER

URBAN RULE CARDS

3.11 FAÇADE NON-UNIFORMITY

Aesthetic



No building can have more than 70% of its facade made of the same material.

This rule promotes aesthetic diversity, preventing buildings from appearing monotonous throughout its design.

DESIGNING TOGHETHER

3.12 UNIQUE MATERIALITY

Aesthetic



No two adjacent buildings can use the same construction material.

This rule promotes aesthetic diversity, preventing buildings from appearing monotonous in relation to each other and the greater urban fabric.

DESIGNING TOGHETHER

3.13 BIODIVERSE FENCES

Aesthetic



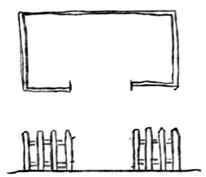
Yard boundaries must be marked by living plants instead of traditional fences.

Encourage biodiversity through the use of living plants over traditional fences while also contributing to the aesthetic quality of the neighbourhood. Some living fences provide a better means of noise reduction than the typical traditional fence.

DESIGNING TOGHETHER

3.14 OPEN FENCES

Aesthetic



Fences can not be enclosed.

To promote accessibility and mobility through neighbourhoods, and create a more welcoming environment.

DESIGNING TOGHETHER

4.1 NO 4-WAY INTERSECTIONS

Mobility



Intersections as a rule, can not be four way.

For aesthetic diversity in the shaping of blocks and roads.

DESIGNING TOGHETHER

4.2 NO STRAIGHT ROADS

Mobility



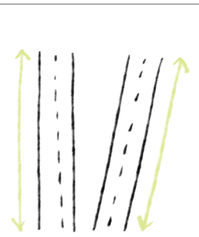
No street is allowed to be entirely straight; each must have at least one curve or bend.

For aesthetic diversity in the shaping of blocks and roads.

DESIGNING TOGHETHER

4.3 NO PARALLEL ROADS

Mobility



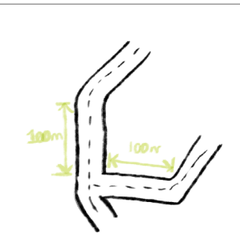
Adjacent roads can not be parallel.

For aesthetic diversity in the shaping of blocks and roads.

DESIGNING TOGHETHER

4.4 100m STRAIGHT ROAD CAP

Mobility



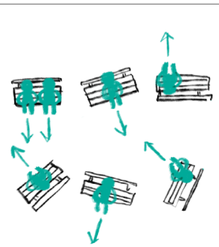
No street can follow a straight line for more than 100 meters

For aesthetic diversity in the shaping of blocks and roads.

DESIGNING TOGHETHER

5.1 BENCH ORIENTATION

View Management



Every public bench must face a different direction than the rest.

Benches facing different directions can be done strategically to highlight unique and interesting views.

DESIGNING TOGHETHER

5.2 VISIBLE PRIVATE GARDENS

View Management



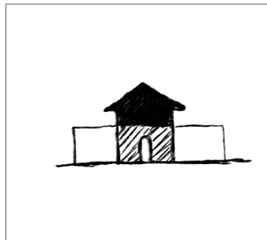
25% of private gardens must be visible from the street.

Revealing private gardens will enhance the visual character of residential neighbourhoods. In addition, by mandating that these spaces are visible, this will encourage the maintenance of such spaces.

DESIGNING TOGHETHER

5.3 TRANSPARENT FENCES

View Management



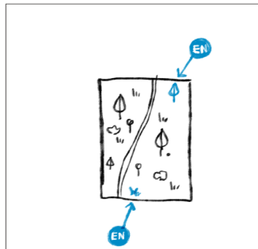
Fences or walls surrounding properties must be 50% transparent or semi-transparent.

This rule ensures the production of clear sightlines and visual connectivity between neighbouring buildings. Visual connection will also foster community interaction.

DESIGNING TOGHETHER

6.1 ENDANGERED BIODIVERSITY

Construction



Parks must have a minimum of two endangered species of planting.

To help preserve biodiversity and to ensure that endangered species have a chance to survive. These parks may also serve as an environmental education tool.

DESIGNING TOGHETHER

URBAN RULE CARDS

6.2 FRONT YARD GARDENS

Construction



At least 30% of the front yard must be dedicated to edible plants, such as vegetables, herbs, or fruit trees.

To promote alternate approaches to front yard landscaping while also promoting food security.

DESIGNING TOGETHER

6.3 RECYCLABLE MATERIALS

Construction



Buildings must be constructed with at least two (2) different recyclable materials

This rule encourages the sustainable use of materials, encouraging reuse and recycling over the discarding of materials.

DESIGNING TOGETHER

6.4 WILD VEGETATION

Construction



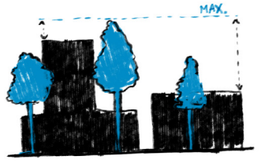
Each block must have one ‘wild space’ where vegetation is left to grow freely, with minimal human intervention.

To encourage the implementation of biodiverse yards, moving away from the homogenized use of grass for landscaping. Doing so will provide a habitat for various plant and animal species, contributing to the overall resilience of urban ecosystems.

DESIGNING TOGETHER

6.5 TREE HEIGHT RESTRICTION

Construction



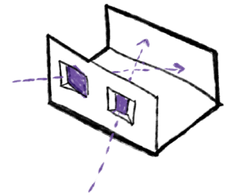
No building can be taller than the tallest tree on the block.

To mediate the rate of densification within blocks while promoting the planning of greenscapes. This rule also ensures that existing trees are protected.

DESIGNING TOGETHER

7.1 IRREGULAR ANGLED WINDOWS

Quality of Life



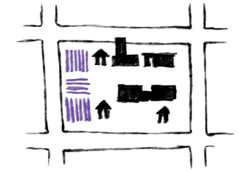
Windows on every building must be designed to capture or reflect the light at unusual angles.

To enhance the quality of daylighting in interior spaces.

DESIGNING TOGETHER

7.2 URBAN FARMING

Quality of Life



At least one space per block must be designated for urban farming, food forests, or community gardens.

This rule enhances and promotes local food production, minimizing reliance on imported food options. Community gardens provide a space of education as well as a space for community building.

DESIGNING TOGETHER

APPENDIX C

BOARD GAME RESEARCH

Research conducted at the beginning of *A Test of Agency*, speculating on the potential for board games to simulate complex systems.

MONOPOLY

Monopoly is about acquiring and investing in property, and using that property to build wealth over time. The goal of the game is to bankrupt opponents, simulating competitive markets and wealth concentration.

- **Capitalism**
- **Wealth Inequality**
- **Real Estate Economics**

RISK

Risk is a strategy board game about conquering territories and eliminating opponents in an effort to achieve world domination.

- **Military Strategy**
- **Diplomacy**
- **Imperialism**

SETTLERS OF CATAN

Players play as colonial settlers, competing to acquire resources, and establish settlements while participating in trade and negotiations with the end goal of becoming the most dominant society.

- **Settlement**
- **Trade**
- **Resource Management**

AGRICOLA

Agricola is a game where players are farmers who make decisions surrounding resources, food production, and family growth. The game challenges players to balance short term and long term planning within these contexts.

- **Family Dynamics**
- **Farming**
- **Pre-Industrial Society**

BOARD GAME CAFE OBSERVATIONS

November 30th, 2024

Observations made during a board game cafe outing with my siblings, testing out games that carry urban implications (Carcassonne) as well as games that encourage co-operation (Pandemic).

CARCASSONNE

A game that simulates feudal ownership, territorial expansion, and urban development.

KEY TAKEAWAYS

Competitive Interactions

Players compete for control of areas, strategically co-operating and/or disrupting when convenient.

Simple Rules, Complex Game

An example of simple mechanics with emergent complexity, leading to unpredictable results.

End Conditions

The game ends when all of the pieces are used. Players gain points based on an accumulation of points from owned land.

PANDEMIC

A game that simulates global health crises, multidisciplinary co-operation, and public health infrastructure.

KEY TAKEAWAYS

Co-operative Interactions

The game is purely co-operative. A type of board game that is less common in classic board games.

Environmental Algorithms

Without competition, players compete against the game itself, which increases in difficulty over time.

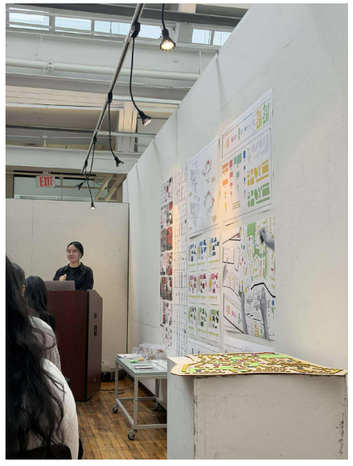
Hero Cards

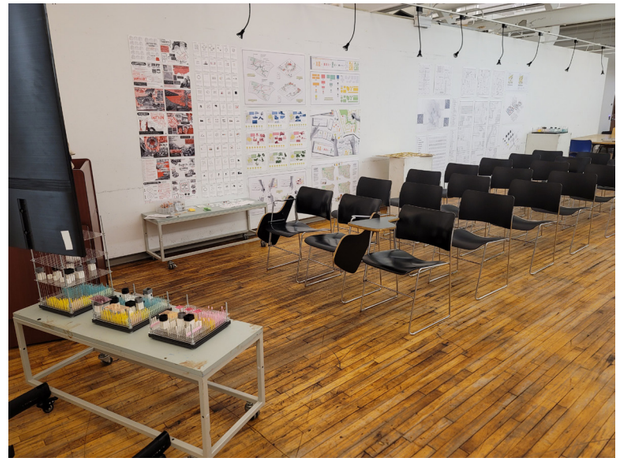
Unique role cards which represent a specific profession and their special gameplay ability.

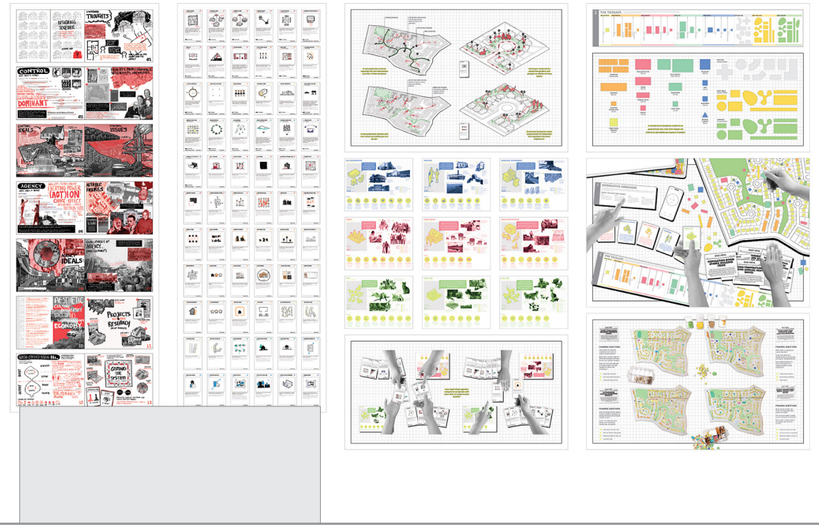
APPENDIX D

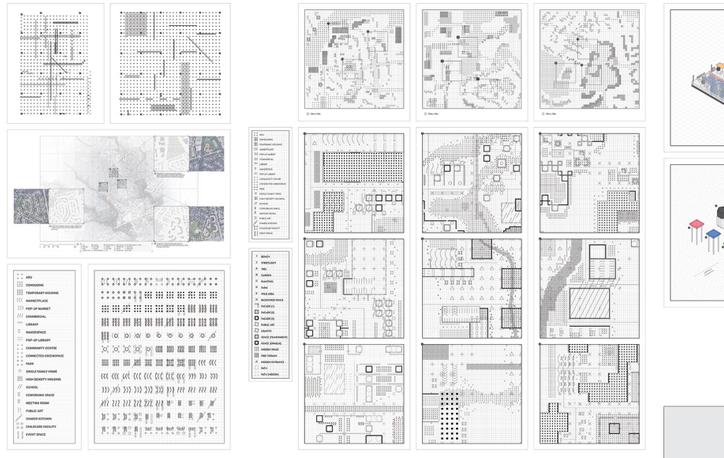
THESIS DEFENCE
February 25th, 2026

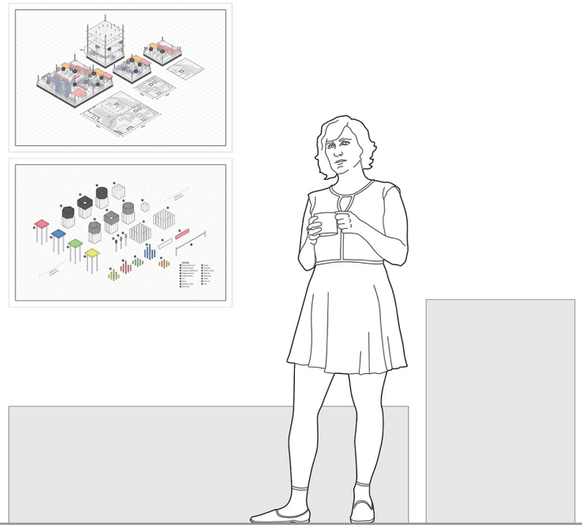
Panels and models laid out to fit across the wall of the Loft Gallery.











GLOSSARY

AGENCY
The capacity for individuals or groups to exert power through action or in other words, to “make a difference”.

CONTROLLED AGENCY
A condition in which the ability to act or intervene is intentionally bound by flexible constraints. It describes the ongoing negotiation between control and agency to allow for complexity to emerge within a system.

FUNCTIONAL PROPINQUITY
The likelihood of chance encounters among people enabled by the shared use of spaces or activities.

HETEROGENEITY
The quality or state of variation or diversity within a population or environment.

HOMOGENEITY
The quality or state of uniformity or similarity within a population or environment.

PHYSICAL PROPINQUITY
The likelihood of chance encounters among people enabled by closeness or proximity in physical space.

SPATIAL DETERMINISM
The belief that physical form directly determines social behaviour in predictable ways.

TRUST
A social mechanism that allows cooperation and negotiation amidst unpredictability

URBAN COMPLEXITY
The notion that urban environments are dynamic and adaptive systems composed of many diverse, interacting agents.