# A City Full of Holes:
# Exploration and Experimentation in the Terrain Vague

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## Abstract

A City Full of Holes:

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Architecture

*A City Full of Holes* explores the design potential of the left over spaces within the urban landscape left over by city planning, architecture and civil engineering. Through a tactical engagement with the built environment aimed at leveraging the unique spatial and social characteristics of these spaces instead of traditional strategies of reincorporation by erasure this thesis advocates an opportunistic approach to the creation and design of diverse public spaces.

To investigate this position, the thesis project applies strategies aimed at environment-crafting to amplify the unique characteristics of these spaces through the development of dynamic and ephemeral forms of design intervention within the 420,000+ sf I-5 Colonnade located between the neighborhoods of Eastlake and Capitol Hill.

# A City Full of Holes

## Exploration and Experimentation in the Terrain Vague

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## CHAPTER 1: A City Full of Holes

"Every city… will inevitably produce some left-over or abandoned places, spaces which were once useful and now are not. They wait in darkness and silence, 'free' of content, poised for some re-occupation, some re-definition in human terms, or for the wrecking-ball that will abruptly end their latency and potential. " (Woods, "No Mans Land", 199)

### Introduction

In his article, "Finding Lost Space: Theories of Urban Design," urban planner and theorist Roger Trancik articulates what he describes as the problem of lost space within the urban landscape (Trancik, 64). These lost spaces are the residual, marginal areas created, left behind, or forgotten by the apparatus of city planning and design. Other terms that have been applied to these spaces include, wastelands, dead zones, voids, border vacuums, SLOAP's (Spaces Left Over After Planning), terrain vague, and derelict areas (Doron, "Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 16). They are interruptions within the otherwise continuous urban space defined by the design intentions of architects and planners. While these spaces may present themselves as "problems" to the professions of city planning and design, they often exist as spatial assets to local inhabitants and opportunities for marginalized populations. The difficulties and negative attributes assigned to these spaces by the fields of architecture and urban planning are more reflective of these professions' limits and oversight in the design and planning process than inherent spatial deficiencies in these sites. Accordingly, the generic response in regards to these voids within the urban landscape is one form or another of urban infill or reincorporation through

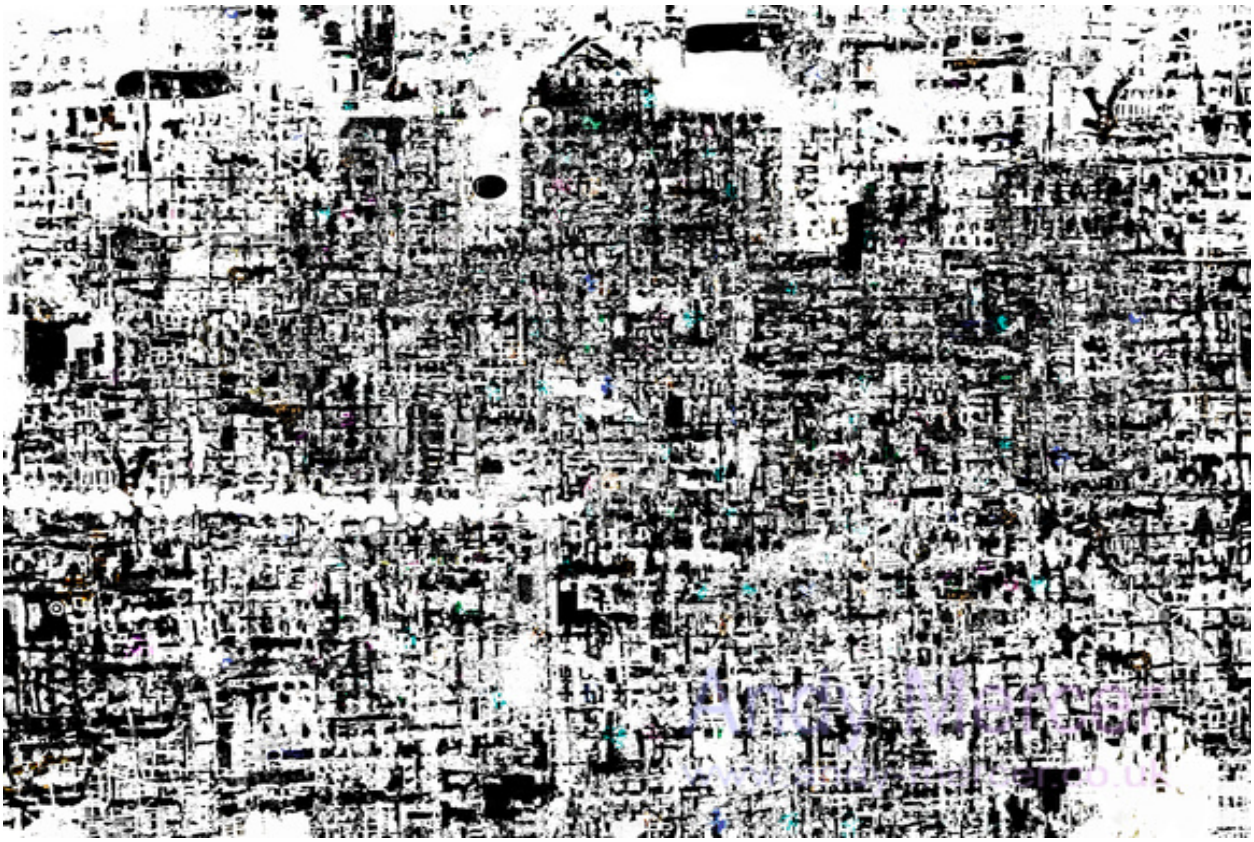


*Figure 1: "White Noise," Andy Mercer, http://andy-mercer.artistwebsites.com/featured/white-noise-andy-mercer.html*

erasure. While this strategy may often be appropriate based on the specificities of the site and its surrounding context, if universally applied to all leftover spaces in the city it would fail to leverage the unique opportunities inherent to their spatial and social characteristics and qualities.

Instead of approaching these sites from the paradigm of problem solving, this thesis argues that the fields of architecture and planning should take an opportunistic and tactical approach to these sites addressing their disadvantages while amplifying the spatial and social assets they provide. Though the professions of planning and architecture have generally approached such sites as a colonizing force of reintegration into the formalized processes of the city, many untrained and unlicensed designers (the people that use these spaces) have already begun to shape them according to their potential for human use and occupation. Accordingly these spaces have become homes for the homeless, venues for transgressive and

recreational activities, as well as a means of escape and respite from the totalizing presence of the urban realm and its associated activities of work and labour. They are the smooth spaces found within the most densely striated space of the city. While theses spaces may appear as leftover voids requiring infill on the maps of architects and planners, they are often centers of activity and habitation pertaining to systems and orders outside that of formalized urban processes. Instead of abruptly ending their "latency and potential" as Lebbeus Woods warns against, architect and theorist Ignasi de Sola-Morales challenges designers with the question, "how can architecture act within the terrain vague without becoming an aggressive instrument of power and abstract reason?" (Sola-Morales, 7)

As demand for public space increases with rising urban population levels and density, how we take advantage of these left over spaces by answering the question Sola-Morales

*Figure 2: Unattributed, https://s-media-cache-ak0.pinimg.com/736x/5c/6d/91/5c6d91e8077b0146508ef0b-91b1ecb2b.jpg*

*Figure 3: JCFO's High Line project, http://blog.ocad.ca/wordpress/envr4c03-fw2011-01/2011/09/introduction-yvonne-kwack/*

poses becomes ever more critical. The informal design interventions already present in many of these sites provide a precedent and a reminder that only through design and human use can the opportunities presented by these spaces be fully realized. JCFO's High Line project evinces how these forgotten urban spaces, considered ill-suited for design, investment, or habitation can be successfully converted into unique urban spaces through design intervention. When describing this project in his 2002 article, "Not Unlike Life Itself," Corner argues that the contemporary field of design requires a "design intelligence" defined by an approach to the built environment centered on "opportunism and risk-taking rather than problem solving" (Corner, 1). The left over spaces of our cities provide an excellent site for such an approach to design as the potential and opportunities they offer have been left untapped.

A City Full of Holes explores the design potential of the forgotten spaces within the urban landscape left over by city planning, architecture and civil engineering. Through a tactical engagement with the built environment aimed at leveraging the unique spatial and social characteristics of these spaces instead of traditional strategies of reincorporation by erasure, this thesis advocates an opportunistic approach to the creation and design of diverse, flexible public space. To investigate this position, the thesis project applies strategies aimed at amplifying the unique characteristics of theses spaces through the development of dynamic and ephemeral forms of design intervention on a representative site. This intervention seeks to amplify the social and spatial assets of these sites while removing barriers to a greater diversity of programmatic uses and adaptations.


*Figure 4: John Davies, "Runcorn Bridges," (1986), http://www.culture24.org.uk/art/photography-and-film/art341965*


*Figure 5: Different programmatic and design uses of the terrain vague*

It is the opinion of this thesis that the terrain vague presents unique opportunities for designers to expand their profession and further catalyze its discourse through the application of new programmatic, material and structural strategies to the niches of space in the urban fabric. To develop this design intervention, the thesis project will first review the existing body of scholarly literature on the subject of the terrain vague and its relationship to the fields of architecture and planning. Secondly, the project will identify representative sites within the urban landscape that share the characteristics identified in the literature review and, lastly, develop a design proposal on one of these sites that responds to both is general and specific attributes, conditions, and existing uses. The site selected for the intervention is the I-5 Colonnade located between the Eastlake and Capitol Hill neighborhoods of Seattle.

## CHAPTER 2: Defining the Non-Space of the Terrain Vague

"A precise definition is virtually impossible: whether a site in partial use or a building unused for a given amount of time is 'derelict' remains to some extent a matter of subjective judgment." (Doron, "Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 14)

### Voids, Wastelands, and Leftovers

The scholarly discussion surrounding the physical and psychical nature of the spaces referred to as terrain vague, among other terms, has been ongoing for the past several decades. Despite the extensive discourse on the properties of these spaces, there has been no consensus about their past, present, and future in regards to the fields of design and planning. This has lead to an array of various terms used to refer to these spaces, generally expressing negative or oppositional qualities like derelict, unsafe, or vacant. The diversity of opinions and language used to describe these spaces is due to the inherent subjectivity in judging a space that cannot be easily defined through some form of human use or an appeal to natural landscapes. The emptiness which characterizes these spaces eludes the standard categories and dichotomies by which spaces are often defined in architectural and planning terms. As Gil Doron points out, these spaces cannot be defined through terms such as public or private and lack a temporal and programmatic identity (Doron, "Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 17). In turn this requires one to look within themselves and their perception of the space, providing a more subjective definition of these spaces.

This becomes clear through a review of the numerous definitions that have been


*Figure 6: Various terms applied to leftover urban spaces*

applied to and the causes attributed to the creation of the terrain vague. In her seminal work, *The Death and Life of Great American Cities*, author Jane Jacobs describes the urban phenomenon of the "border vacuum" caused by the single-use sectors of a city and the dead zones that are created along their edges (Trancik, 64). Roger Trancik, referring to these spaces as lost spaces or antispaces, primarily attributes their creation to large-scale infrastructure projects that cut through the city:

> Every modern city has an amazing amount of vacant, unused land in its downtown core…this is especially true along highways, railroad lines, and waterfronts, where major gaps disrupt the overall continuity of the city form. (Trancik, 63)

Accordingly the response advocated by Trancik is infill aimed at reaffirming the continuity of the city in these lost spaces. Architect Lebbeus Woods, in a 2000 article, describes the lost, undefined spaces of the city as a "no-man's-lands" comparing them to the space to the space

sharing the same name that separarted the two lines of trenches during the First World War (Woods, 201). In his 2007 article "Drosscape: Wasting Land in Urban America," urban design professor Alan Berger coined the term drosscape, inspired by Lars Lerup's essay on the urban landscape "Stim & Dross," to describe areas "created by the deindustrialization of older city areas (the city core) and the rapid urbanization of newer city areas (the periphery), which are both catalyzed by the drastic decrease in transportation costs (for both goods and people) over the past century" (Berger). Gil Doron, on the other hand, argues that these spaces have accompanied cities since antiquity, and accordingly adopts the ancient Greek term *khora* (χώρα), referring to the land surrounding the city walls, to describe these spaces (Doron, "Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 19)

In his article "Terrain Vague," architect Ignasi de Sola-Morales discusses the meaning of the term used for the title and its implications. As he notes, terrain, in its French usage, connotes a space associated with a city, either inside or on the periphery of the urban landscape. It is an empty plot of land, but one that carries with it the expectation that it will be built upon (4). This use of term *terrain* contrasts with the English usage of the term, connoting a more rural landscape. *Vague*, as Sola-Morales notes, has a three part meaning based on its association to the Germanic root *wogue* and the two Latin roots *vacuus* and *vagus* (5). As he explains, the Germanic word *wogue* is the etymological root of the English word for wave and refers to the sea swell, signifying "movement, oscillation, instability, fluctuation" (4). The Latin term *vacuus* is the English root of vacuum, and vacant, clearly signifying empty or unoccupied space but also "free, available, unengaged" (4). The meaning of the second Latin root, *vagus*, is similar to the English word vague, meaning "indeterminate, imprecise, blurred, uncertain"


*Figure 7: Unoccupied leftover space along I-5 in Seattle, WA*

(5). This tripartite meaning of the term terrain vague begins to account for the experiential potential this spatial condition offers its occupants.

Though no single term appears capable of capturing the layers of meaning we attach to these spaces, certain themes and motifs do start to emerge from a review of the literature. The physical, and spatial characteristics of the terrain vague is the first point of general consensus on the issue. They are experienced as physical voids within the urban fabric of the city, often created by the insertion of large infrastructure projects or the border's between different zones of the city assigned for particular uses. Gil Doron generalizes this observation by noting that these spaces are the result of any act of demarcation, not in that they are the space on one side or the other, but the space of the boundary itself, extended in three dimensions ("Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 18) However, because the definitions generated to describe these spaces are subjective due to the lack of signifiers in the spaces themselves, authors have relied on their

perceptions of these spaces, which are unavoidably inflected towards their own biases and proclivities. Accordingly, not only is there a lack of consensus concerning how these spaces are perceived, there is additionally disagreement on the proper means for correcting or taking advantage of this unique spatial condition.

**Utopias, Heterotopias, and Dystopias**

An understanding of the way in which these lost spaces have been understood as a lived experience is essential for formulating a design strategy. Despite the lack of consensus on the definition of these spaces it is possible to categorize the way authors have conceived of and described theses spaces; as dystopic, utopic, and heterotopic. For example, Roger Trancik characterizes these antispaces as impediments to the mission of urban design; to create "outdoor environments as collective, unifying frameworks for new development" (63). For him these spaces are dystopic in nature, and impede the unifying mission of urban design, describing them as "the undesirable urban areas that are in need of redesign," that perforate the urban fabric at its intersections and edges (64). Accordingly, realizing the potential of these spaces means encouraging renewed investment in and development of the built environment, countering the migration to the suburbs and abandonment of the city center. This view is shared in degree by Jane Jacobs in her treatment and description of border vacuums. In their understanding, lost spaces exist as dystopic voids within the city that provide value to the built environment only through their colonization and reintegration into the continuity of the urban realm.

This dystopic view of lost space contrasts with Ignasi de Sola-Morales more utopian concept of the terrain vague. The utopian nature of these spaces, he argues, is evident in their

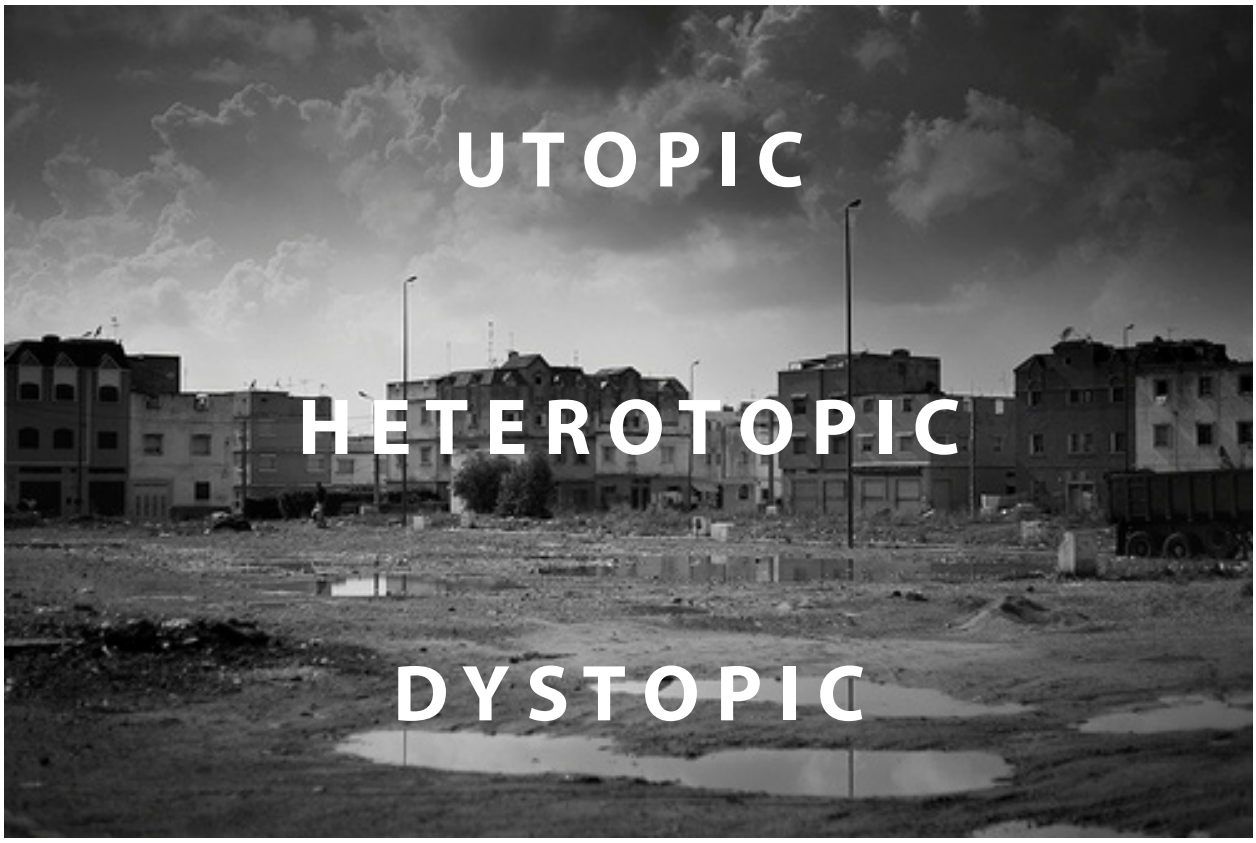



*Figure 8: Varying perceptions of the terrain vague*

aesthetic appeal to artists who began to turn their attention towards these spaces as a means of imaging the city following the modernist movement. The work of photographers John Davies, David Plowden, Thomas Strath, Jannes Linders, and Manolo Laguillo among others evince a fascination with these spaces and a corresponding aesthetic draw (Sola-Morales, 3). As writer and architect Sola de Morales claims, the aesthetic value of these spaces arises from the sociological implications they convey as both an alternative to and critique of the relentlessness of the urban realm in the late capitalist period.

> Strangers in our own land, strangers in our city, we inhabitants of the metropolis feel the spaces not dominated by architecture as reflections of our own insecurity, of our vague wanderings through limitless space which, in our position external to the urban system, to power, to activity, constitute at one and the same time a physical expression of our fear and insecurity and yet also the expectancy of the other, the Utopian, the future. (6)

According to Sola-Morales, the sense of expectation excited by terrain vague is predicated on

the totalizing presence of urban order set in place through the city planning apparatus (7). The ethical and aesthetic ideas posed by the photographs of terrain vague reflect both the anxieties and aspirations of this urban condition. Consequently, in contrast to Trancik's urban infill strategy, Sola-Morales argues that architectural interventions into the leftover spaces of the city ought to maintain the unique characteristics of sites possessing social and aesthetic value. However, how this is achieved becomes a difficult and nuanced challenge to parse out.

As mentioned earlier, Sola-Morales poses the question of how architecture can act within the terrain vague without becoming an "aggressive instrument of power and abstract reason" (7). It is important to note that the question he poses is conditioned by the modifier *aggressive* before *instrument*. Earlier in the essay, he describes the destiny of architecture as the "colonization, the imposing of limits, order, form, the introduction into strange space the elements of identity, necessary to make it recognizable, identical universal." An initial response to this statement could be that architecture has no place in the terrain vague if its character is to be maintained. However, in response to his own question, Sola-Morales answers, that architecture can find its place in the terrain vague through an attentive concern with continuity, "Not, however, the continuity of the planned efficient and legitimized city, but by listening attentively to the flows, the energies, the rhythms which the passing of time and the loss of limits have established" (8). This preservation of the terrain vague throughout the design process is further qualified by Sola-Morales statement that the intervention should have, "no intention of exemplifying the new city," but introduce a repeated void on the void of the city (8). Despite the expectancy of the utopian these spaces conjure in the observer, it becomes clear that they also poses a third characteristic, that of the heterotopian, the space of the other within the city.


*Figure 9: Ben Vuatier, "Terrain Vague," http://stoppingoffplace.blogspot.com/2010/10/ben-terrain-vague.html*

Terrain vague as a heterotopian space is a theme within the writing and work of Gil Doron. In his article, "Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…," Doron asserts that the terrain vague exists somewhere between the utopian and dystopian, occupying the boundary condition created by the demarcations present within the urban environment ("Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones… ", 18). The heterotopian quality of the terrain vague excludes these spaces from the standard categories and dichotomies we apply to space in the urban realm, as mentioned earlier. To describe them, Doron turns to the notions of transgression and spacing, as described by Derrida in Margins of Philosophy ("Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 19) These transgressive spaces are just as much psychical as they are physical. While their appearance is one of disorder, what they evince is actually an order of a different kind. Most importantly, the heterotopian nature of these spaces distinguishes them from the homogenizing spaces of the city, by which they are surrounded and contrasted.

**Between the Smooth and Striated**

One characteristic on which discourse concerning the terrain vague finds consensus on is that these spaces are experienced as exterior to the integrated space of the city. Consequently, terms such as void and vacant have been used to describe these spaces as they are not occupied by the formalized processes of the city, when quite often they are, in actuality, centers of activity, both natural and human, that are incommensurable with those of the incorporated spaces of the city. This double nature to their spatial status as being within and without the city is expressed within the term *terrain vague*. As suggested by the word terrain, these spaces exist within or next to the urban realm, but as vague connotes they remain unidentified, empty, and elusive. As Sola-Morales puts it, "In short, these are places that are foreign to the urban system, mentally exterior in the physical interior of the city, appearing as its negative image as much in the sense of criticism as in that of possible alternative" (6). As a space non-continuous with the urban system, they "invite one to escape from its totalizing presence; safety summons up the life of risk; sedentary comfort calls up shelterless nomadism; the urban order calls to the indefiniteness of the terrain vague" (6). The absence of a defined use associated with the terrain vague in turn excites a sense of freedom and potential within the inhabitant, becoming "the space of the possible, expectation" (6).

According to Doron, the perception of the terrain vague as empty spaces within the planning and architecture professions betrays an admission that these spaces are the result of a suspension of those professions' influence over the given space. As Doron writes,

> Reading or looking at something, we always, more than anything else, see our reflection in it. But something terrifying happened when architects and planners


*Figure 10: Sign posted along a fence restricting access to unused space along I-5 in Seattle, WA*

> were looking at the Dead Zones, voids, wastelands. Not only could they not see the transgressiveness of and in these places, i.e. the Transgressive Architecture, but they also could not see their 'self'… They saw their own disappearances in these places; the vanishing of the architectural subject from the architecture that still continues to exist in the Transgressive Zone. (Doron, "The Dead Zone and the Architecture of Transgression," 255)

Because they exist beyond the self-imposed limits of architecture and planning, Doron labels the forms of design that arise in these spaces as a result of human occupation and activity, *transgressive architecture*. By transgressive Doron does not means to imply that these spaces exist in opposition to the surrounding spaces of the city, but that these spaces exist in a space-time where planning and design have suspended their influence on the environment ("The Dead Zone and the Architecture of Transgression," 260) To describe this spatial condition, he refers to the Ancient Greek word, *khôra*, used in its original context to describe the space outside the walls of ancient Greek cities ("Badlands, blank spaces, border vacuums,

Brown fields, conceptual Nevada, Dead Zones…", 20). As he continues to explain, this space was "part agricultural land, part nature, and always militarized as it was the no man's land between the city state and its often rival neighbors" (Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 20) In the philosophical and theatrical works of antiquity this space was often associated with religious rites, the erotic and Bacchanalian, as well as transgression and dissent. In the works of Plato, the *khôra* is described as unique, generative space, a "receptacle in which things were formed." Like terrain vague, the *khôra* gains its significance through its relationship, proximity, and difference in regards to the space of the city. In the modern context, the walls which once defined the extent of the city have been taken down and the *khôra* has been reintroduced within the city; "In the age of late capitalism, when the frontiers have been brought into the heart of cities, the chora as a place of radical exteriority has become the total interior with no exterior" (Badlands, blank spaces, border vacuums, Brown fields, conceptual Nevada, Dead Zones…", 21)

This observation raises another important quality that becomes clear in the study of these spaces and their relationship to the incorporated spaces of the city. This is that their dichotomy is not defined by a static relationship between the two spaces, but a dynamic one. While we generally associate the qualities of the terrain vague with the leftover, lost spaces of cities, the temporal cycles in our use of urban space create islands of lost space within the city for different periods of time. As Doron explains, "Dead zones occur every night in the emptied office district, in parks, squares, and streets. They occur everyday in residence-only neighborhoods. All of these areas are abandoned and could be considered dead places, waste, or simply voids" ("The Dead Zone and the Architecture of Transgression," 256). For

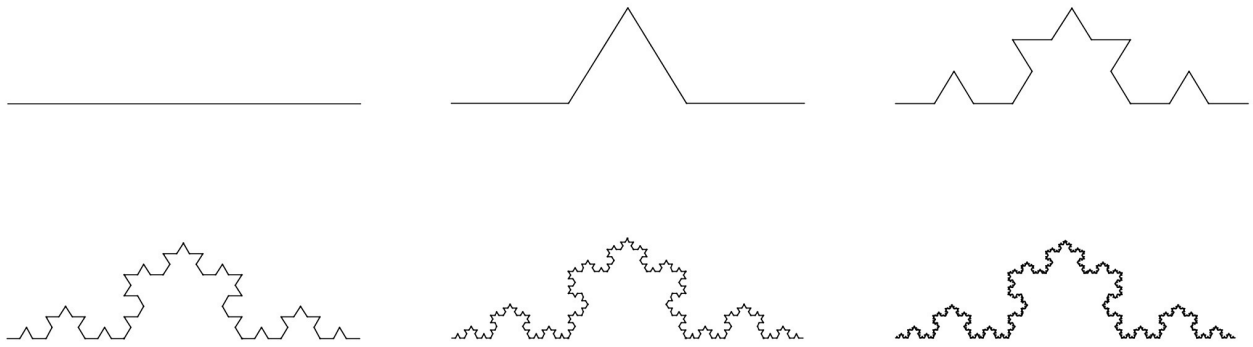


*Figure 11: Von Koch's curve, used by Deleuze and Guattari in* A Thousand Plateaus *illustrating how smooth space can arise from the inifite striation of space*

this reason, Doron emphasizes his concept of suspension as the means by which the dead zone or transgressive zone is created through the modern planning process. The suspension of planning's influence on these spaces creates a "double future, or what could be better understood as 'continuous present'; the present is stretched into an unknown future until the planning begins," allowing for the space of transgression within the urban realm ("The Dead Zone and the Architecture of Transgression," 261). The concept of spaces passing back and forth between the two realms parallels the distinction and relationship between smooth and striated space made by Deleuze and Guattari in their work *A Thousand Plateaus*.

The concept of smooth and striated space developed by the philosopher Gilles Deleuze and sociologist Felix Guatari closely reflects the spatial idea signified by the terms *terrain vague* and *khôra* and its relationship to the space of the city as discussed by Sola-Morales and Gil Doron. For Deleuze and Guattari, their concept of smooth and striated signify not merely different types of space, but different types of habitation, action, and thinking. As they describe them; "Smooth space and striated space – nomad space and sedentary space – the space in which the war machine develops and the space instituted by the state apparatus

– are not of the same nature" (491). This definition of smooth space (nomad space) and its relationship to striated space (sedentary space, space of the State apparatus) closely mirrors Sola-Morales definition of terrain vague as the setting for nomadic existence independent from, but located within the larger context of urban space. Additionally, Deleuze and Guattari describe smooth space as the setting for "free action" whereas "striated space" acts as the setting for work, an assertion mirroring Sola-Morales' claim that the terrain vague inspires a sense of freedom and potential (Deleuze and Guattari, 490).

While these two seemingly opposing spaces, the smooth and striated, are contrasted with one another they are also linked through a dynamic spatial relationship, where one shapes and emerges from the other over time; "the two spaces in fact exist only in mixture: a smooth space is constantly being translated and traversed into striated space; striated space is constantly being reversed, returned to a smooth space" (474) Consequently smooth space or terrain vague is not so much a spatial typology, but a spatial condition akin to a state of matter. This conclusion mirrors Doron's concept of suspension as the [in]active agent in the creation of the transgressive zone. While smooth spaces becomes striated through the imposition of formalized means of human habitation, smooth space is created by striated space being brought to its apotheosis:

> The more regular the intersection, the tighter the striation, the more homogeneous the space tends to become; it is for this reason that from the beginning homogeneity did not seem to us to be a characteristic of smooth space, but on the contrary, the extreme result of striation, or the limit-form of a space striated everywhere and in all directions. If the smooth and the homogeneous seem to communicate, it is only because when the striated attains its ideal of perfect homogeneity, it is apt to reimpart smooth space, by a movement that superposes itself upon that of the homogeneous but remains entirely different from it. (488)

*Figure 12: Mountain biking course installation in the I-5 Colonnade, Seattle, WA*

This integration of smooth space into the densely striated space of the city also resonates with Doron's description of the khora's contemporary role in the urban realm as a radical exteriority contained within the urban space in the period of late capitalism. Additionally, this provides a reminder that the dichotomy presented between the integrated spaces of the city and the terrain vague remains in a constant state of tension and flux as human activity begins to define one and abandon the other.

**The City and the War Machine**

With the myriad scholarly accounts of the terrain vague it is difficult to identify one answer concerning the role architecture should play in these spaces that adequately accounts for all positions and points of view. However, not all terrains vagues are the same and the myriad strategies posed in response to the problems or opportunities they present have generated a corresponding multiplicity of architectural solutions and interventions. The

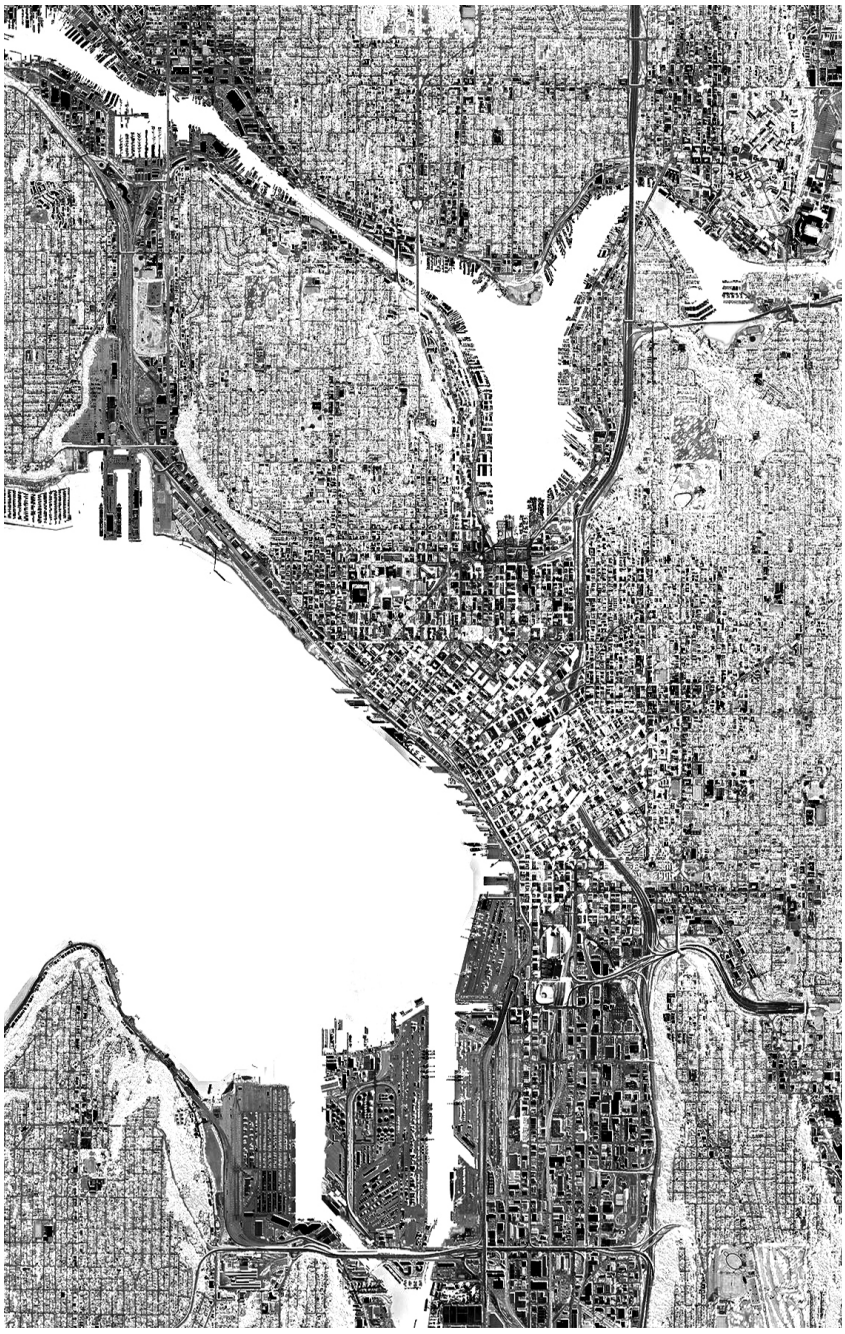
urban infill strategy advocated by Roger Trancik is a reasonable response to larger scale sites that can attract the interest of clients and investors and provide program-specific responses catering to the surrounding populations. This approach is well discussed by Alan Berger in his article "Drosscape." However, smaller, geometrically irregular sites often call for a different type of intervention that is not so directly linked to economic and planning interests. These marginalized spaces are often already the sites of informal interventions carried out by the marginalized populations that have occupied them to one degree or another. As mentioned before, Gil Doron labels this transgressive architecture because it takes advantage of the space created by the suspension of architecture and planning's influence over the site.

A similar response to this spatial condition, discussed by Deleuze and Guattari, is their concept of the war machine, defined as the instrument by which the nomad resists the State apparatus' striating forces upon smooth space (351). Architecture and its associated practices of urban planning and civil engineering are primarily tools of city planning, which effectively demarcate and striate space through their interventions. Sola-Morales effectively sums up the difficulty and danger that design poses to the unique character of these spaces, writing, "when architecture and urban design project their desire onto a vacant space, a terrain vague, it seems they are incapable of doing anything other than introducing radical transformations, changing estrangement into citizenship and striving at all costs to dissolve away the uncontaminated magic of the obsolete in the realism of efficacy" (7). However, it can also be asked whether architecture can reverse its traditional trajectory and play a similar spatial role to that of the war machine. In response to his own observations, Sola-Morales advocates an approach to design predicated on an attentiveness to the continuities preexisting on

*Figure 13: Drawing of a war chariot illustrating Deleuze and Guattari's concept of the War Machine from* A Thousand Plateaus *paired with a drawing of a shopping cart, often used by the urban nomad and inhabitants of the terrain vague*

site before the introduction of the architectural object. To realize this through architectural design, Sola-Morales calls for an architecture of dualism, difference and discontinuity within the continuity of time that posses an alternative to the homogenizing processes of the urban system (8). This, in essence, could be described as the architecture of the war machine.

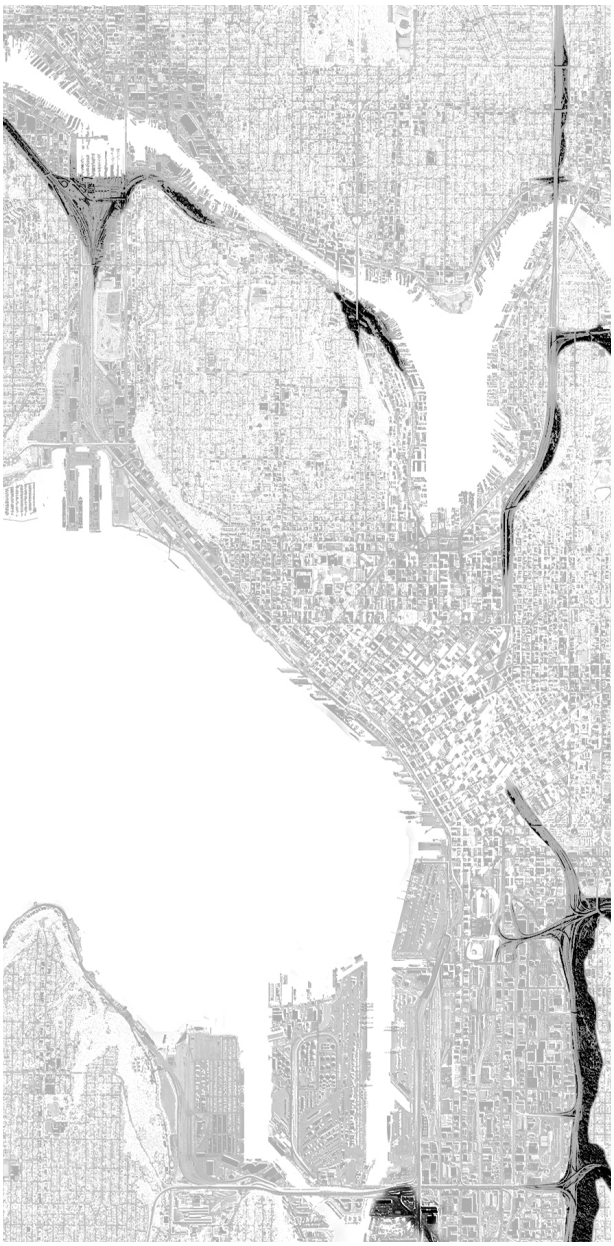
*Figure 14: The urban fabric of Seattle, WA*

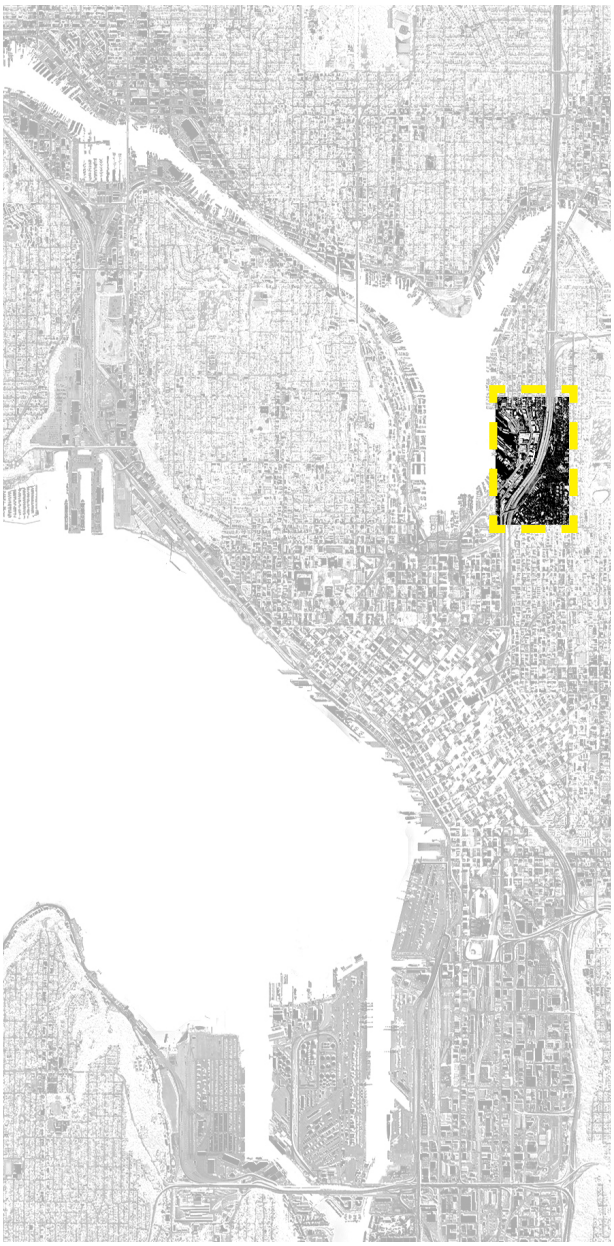


## CHAPTER 3: In Search of Terrain Vague

### I-5 Colonnade

To investigate the means by which design can leverage the unique spatial qualities and characteristics of the terrain vague, this thesis project identified several leftover spaces in the Seattle metropolitan area. Many of these spaces were associated with large infrastructure





projects, most notably Interstate 5, which cuts through the downtown area, running north to south. After a review of the various sites, the I-5 Colonnade was selected as the representative site on which to propose a design intervention. This site was selected on account of its scale (over 450,000 sf) compounded with its proximity to the industrial and commercial neighborhood of Eastlake and the dense residential neighborhood of Capitol Hill. The site also

*Figure 15: (far left) Map highlighting leftover spaces within the urban fabric*

*Figure 16: (left) Map highlighting representative sight of the I-5 Colonnade*


*Figure 17: Plan of the I-5 Colonnade*

evinces many of the characteristics discussed in the previous chapter regarding its use and character. The northern portion of the site ends where Newton Street comes into Lakeview Boulevard. and passes under the freeway structure. The site then extends roughly a quarter of a mile to the south. For the purpose of this project the southern end of the site is defined by the intersection of Galer Street and Franklin Avenue where the two easternmost freeway

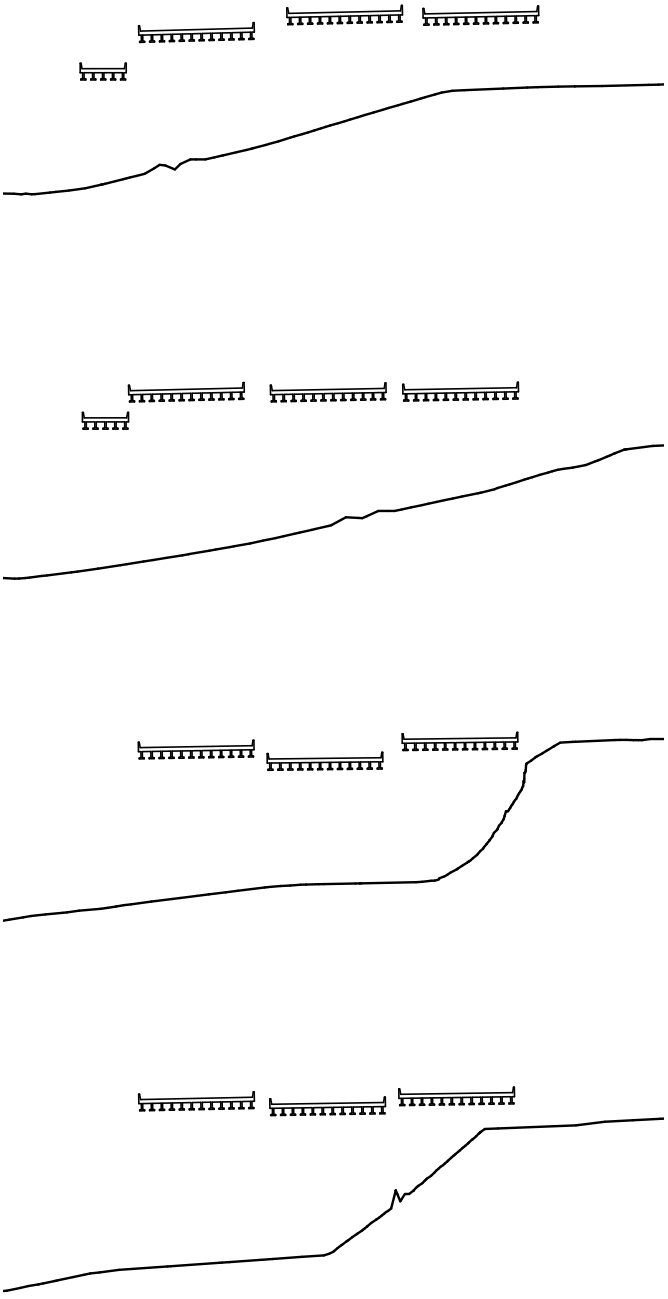


*Figure 18: Varying topographic changes throughout the I-5 Colonnade site*

structures connect with the ground plane. The westernmost lanes of I-5 continue for nearly half a mile south at approximately 15 feet to 20 feet above ground, creating a narrow corridor that is inhabited by scattered tent encampments.

The three highway structures above the site range in height from the ground plane between 10' and 90' and run from north to south. Their varying distance off the ground is

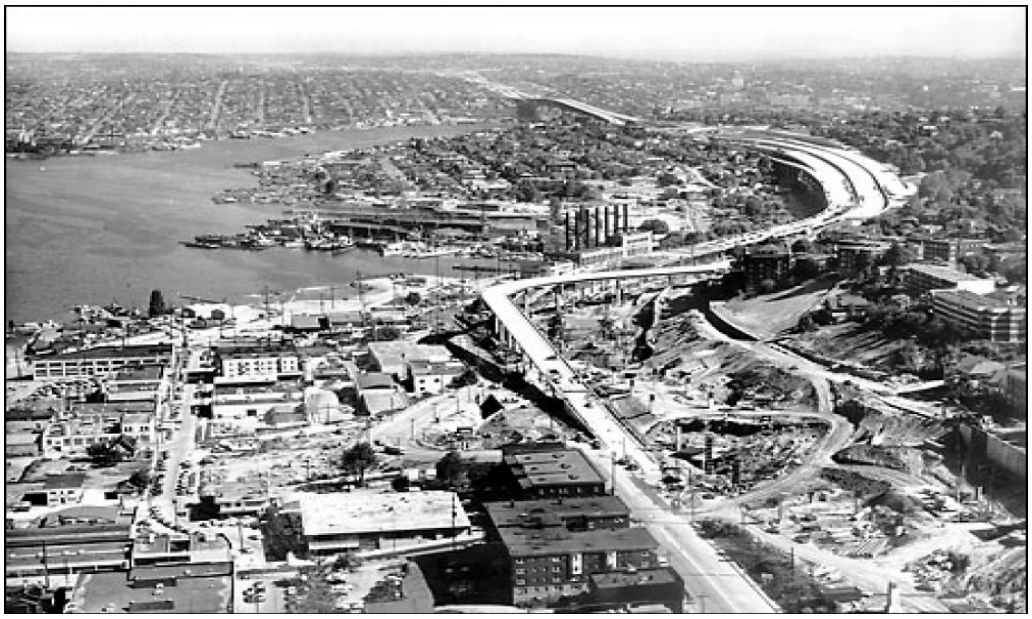


*Figure 19: Construction of I-5 spanning the I-5 Colonnade site*

*Figure 20: View from underneath the highway structure with spanning elements between columns supporting lighting and sprinkler features*

*Figure 21: Panorama of the site taken from north entrance to the site off Lakeview Blvd*


*Figure 22: Map of mountain biking installation on the I-5 Colonnade site, http://www.mountainbikebill.com/WA-Colonnade.htm*

primarily due to the severe topographical conditions of the west side of Capitol Hill as it slopes down to meet South Lake Union, but the highway structures also change in elevation with regard to one another as the central express lanes rise up in the south to north direction to meet the same level as the other two lanes. These structures are supported by east-west column bays occurring approximately every 90' feet with 14 feet between columns (the angle of the column rows shift with the curves of the highway structure's path giving them no precisely consistent span). Each column is 4 feet in diameter and there are five columns holding up each highway structure in every bay. The westernmost column in every row for

each of the three highway structures also supports a drain, which directs storm water from the road surface into the city's storm water system below grade. Over the entire course of the I-5 Colonnade there are 22 spatial bays created by the column grid.

As the site lies on the western side of Capitol Hill, there is a significant topographical change throughout the site in the east to west direction as the ground plane slopes down to lake union. In certain locations on the site, this difference is greater than 80 feet across the approximately 200 feet width of the site. The rate and of this topographical shift as well as its position relative to the highway structures changes significantly across the transverse section of the site. These shifts allow for a diverse array of spatial conditions defined by the two datums of the ground plane and shifting levels of the freeway structure above.

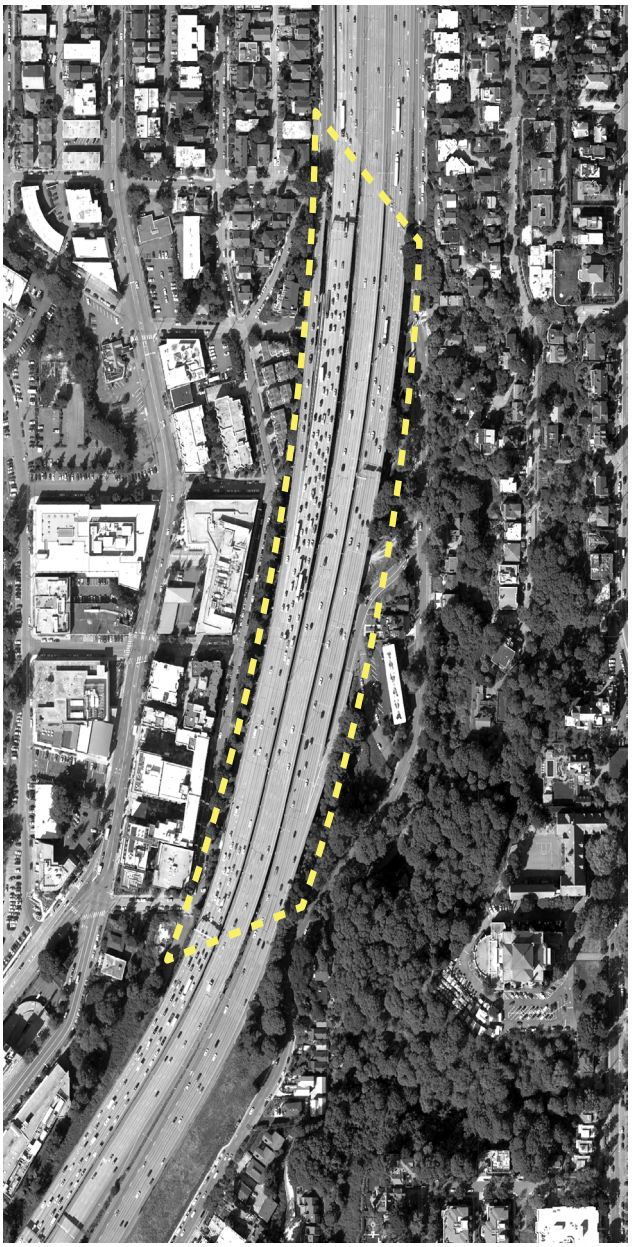
**Site History and Zoning**

Construction on the portion of I-5 spanning the colonnade was completed in 1964. Figure 19 provides an aerial view of the site from this time while the highway was still in the construction process. The introduction of this large circulation corridor effectively severed what had until then been a continuous neighborhood extending from the eastern shore of Lake Union up into Capitol Hill. Upon completion of this section of I-5, the area underneath the colonnade was fenced off, creating a no man's land that allowed the two neighborhoods of Eastlake and Capitol Hill to grow further apart in their character and building typologies. The southern portion of Eastlake, to the west of the site, has been zoned as General Industrial along the waterfront and then Industrial/Commercial and Mixed Use Commercial as one passes over Eastlake Blvd to the site. The portion of Capitol Hill immediately to the east of

*Figure 23: Outline of I-5 Colonnade site boundaries*

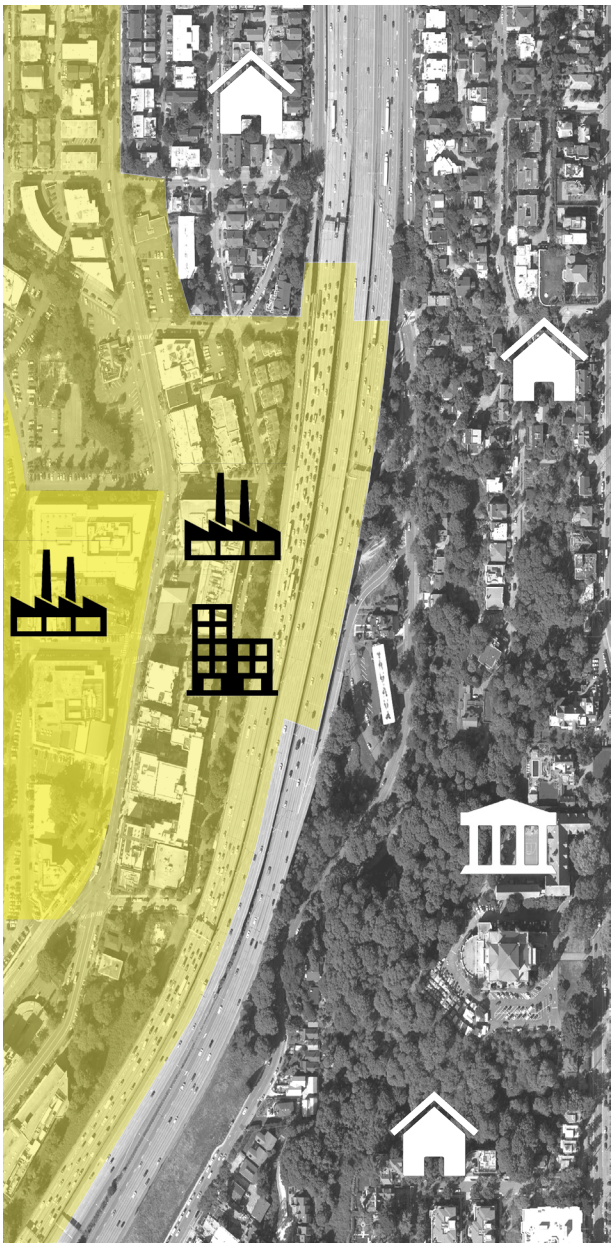
*Figure 24: (right) Different zoning areas surrounding the I-5 Colonnade site*

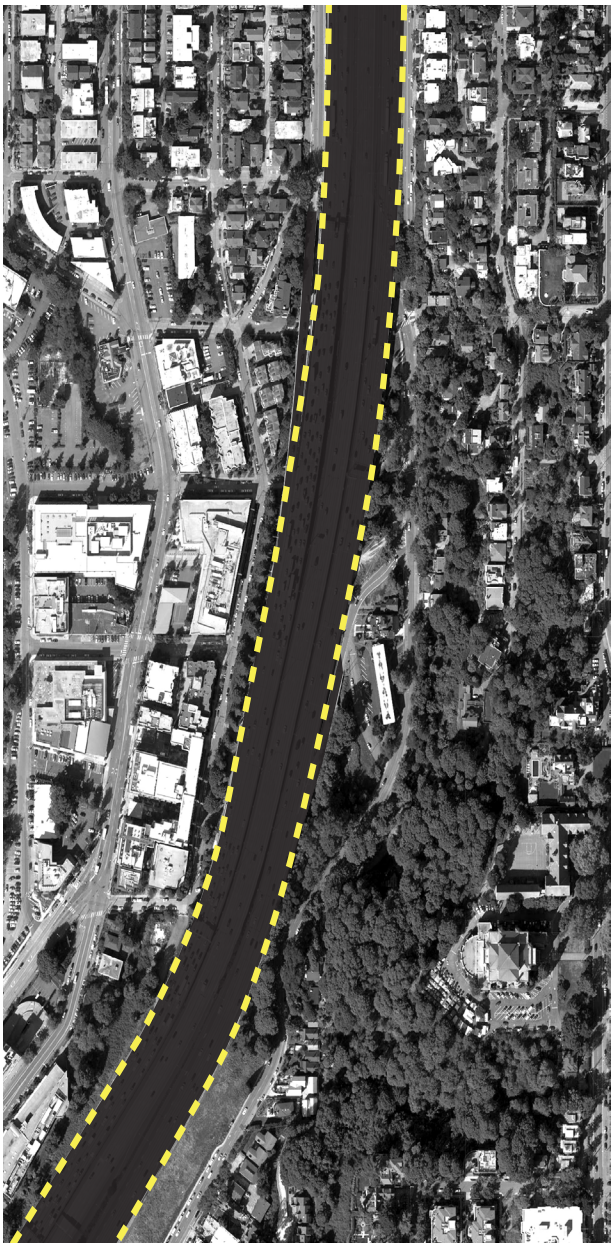
*Figure 25: (far right) I-5 Colonnade site as boundary condition between Eastlake and Capitol Hill neighborhoods*



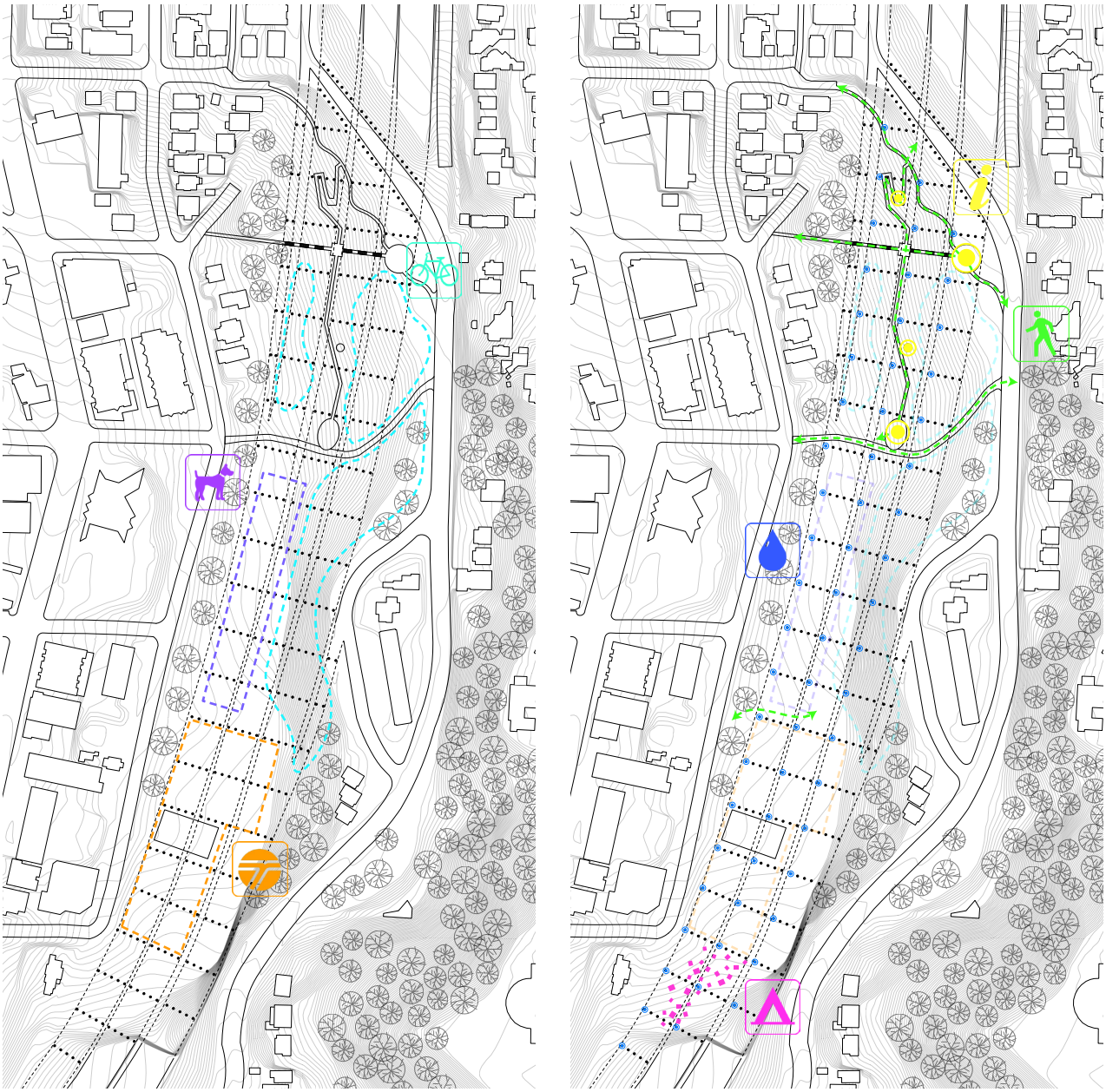
the site is zoned as low rise residential and differs significantly in character and building scale and typology from the area directly to the west even though they are separated by a space roughly the width of one city block.

Lying underneath an elevated portion of Interstate 5, which also serves as a buffer between the mixed industrial/commercial zone to the west and the residential areas to the





east, the site occupies a boundary condition and therefore does not relate programmatically to either of the two adjacent neighborhoods. Despite the area of the Colonnade being easily accessible to pedestrians, city zoning has appeared largely indifferent to the unique nature of the site, treating it in the same manner as the portions of I-5 to the north and south that lie directly on the ground plane; as a no man's land walled off with chainlink fences. While the fence was intended to block access to the site, for many years much the site was used as



tent encampment for the homeless. However, this population was driven out in 2005 when the northern portion of the space was converted into a city park featuring a mountian biking course and off-leash dog park. Despite the removal of the fence and the introduction of these program elements, the site continues to exist in the state of a boundary condition instead of acting as a transitional zone between the two portions of Eastlake and Capitol Hill. Its spatial attributes relate more to the space of the highway above than the industrial/commercial zone to the west or the residential neighborhood to the east.

*Figure 26: (far left) Existing program spaces*

*Figure 27: (left) Site systems, uses, and points of interest*

**Exiting Program, Systems and Interventions**

While interventions belonging to the park program occupy much of the site, the I-5 Colonnade remains largely vacant despite housing a mountain biking course that runs through some portions of the site. Existing design interventions on the site range from the informal settlements and modifications made by the populations living in the tent encampments at the south end of the site to the mountain biking course on the north end of the site. These modifications primarily consist of informal tent camps, but also include a communal kitchen area with seats, table, a fire pit for cooking and shelves holding condiments built into the south wall of the freeway where the northbound lanes meet the ground plane. The WSDOT parking lot occupying three bays enclosed by a chain link fence with barbed wire also houses a medium sized WSDOT building. Additionally, the south end of the parking lot lies above a below grade power sub station operated by WSDOT.

The first 13 bays house the majority of the mountain biking course and provide two primary pathways through the space from east to west. The mountain biking course and off leash dog park was constructed in 2007 and occupy approximately 320,000 sf on the site. This development of the landscape displaced a large amount of homeless people living in a tent encampment, serving as the landscape version of bench spikes to prevent the homeless form sleeping there. The mountain biking course includes 2,600 linear feet of trail made from a variety of materials including stonework, wooden framed structures, and the terrain found on site. A path running north to south also runs through the site below the gap between the southbound lanes and the express lanes. At the site's intersection with Blaine Street, a road end extends into the site, providing a place for trucks carrying equipment or WSDOT

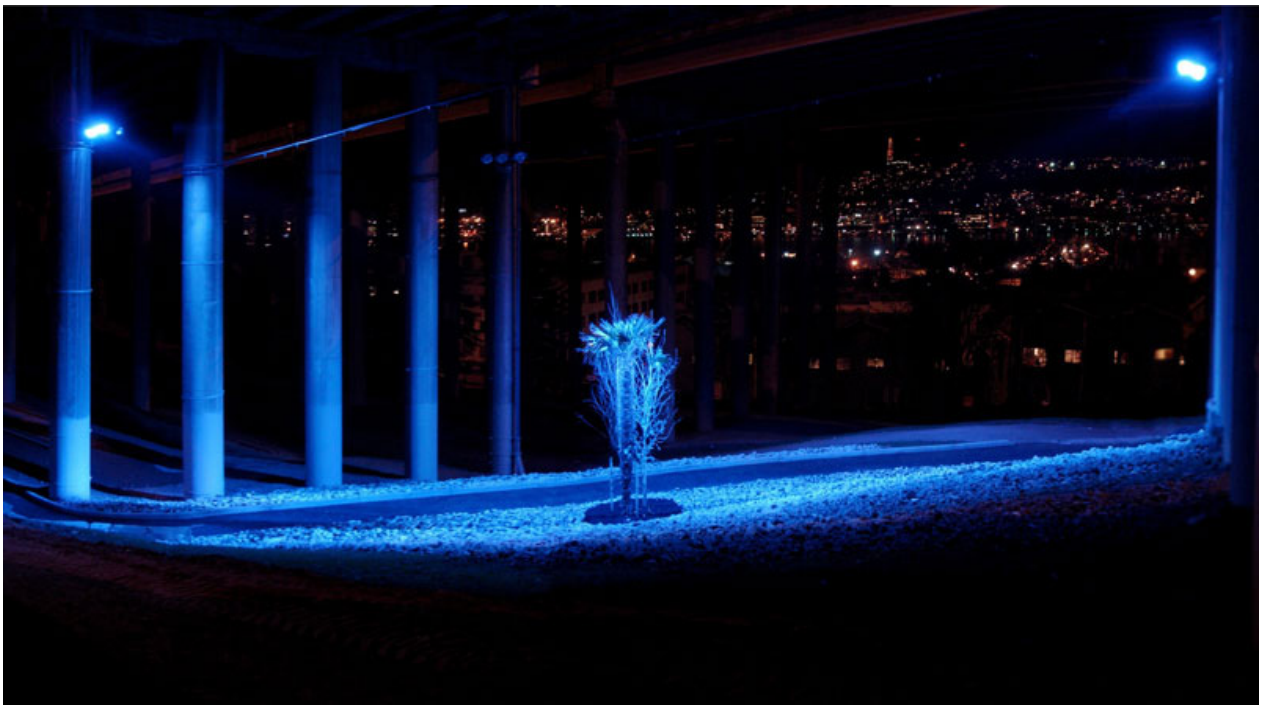


*Figure 28: Seventh Climate Installation by artist John Rololf located underneath the highway is watered by sprinklers suspended from the colmn structure, http://www.johnroloff.com/seattle_page1.html*

personnel to be dropped off. WSDOT parking lot occupies the majority of the three bays to the south. Beyond this parking area, the last two bays of the Colonnade, at the southern end of the site, are occupied by a tent encampment that houses a sizeable homeless population. This portion of the site includes tents for the various inhabitants as well as communal spaces like kitchens and designated areas for waste and refuse disposal. An art installation called The Seventh Climate (Paradise Reconsidered) lies in a bay between Howe and Blaine Street and consists of four planted trees from various ecosystems with a lighting element that is suspended on a wire stretched between two bays of columns meant to evoke a sense of the neighborhood that existed on the site before the construction of I-5 in 1960.

**Environmental Conditions:**

The large overhead structure spanning the site creates its own microclimate characterized by harsh environmental conditions pertaining to light, water, sound, and air quality. Much the area is untended and either overgrown or too dry to support plant life. However, the gaps between the highways create elongated openings for light and water to reach the ground plane. This creates a sequence of spatial corridors moving from east to west that transition between dry, dusty spaces and narrow portions that can support plant life. Together these site conditions combine for an experience of space similar to the ones discussed by several of the authors in the literature review. Despite lying below one of the most heavily travelled portions of highway in the state and housing a mountain biking course, the space evokes a sense of abandonment and being in ruins due to its unkempt aesthetic. While the naturally forested hillside of Capitol Hill does extend into the site at various points along the Colonnade's eastern edge, neither human nor natural activities have full reign over the space.

The large extent of the roadways above and the gaps in between their structures also create for difficult, contrasting light conditions within the space. Additionally the continuous drone of traffic is a ubiquitous presence on the site. The capture of rainfall on the road surfaces and its subsequent redirection to the city's storm water system also prevent plant life from growing on much of the site, leading large expanses of dry, dusty conditions. This dusty terrain has driven away many of the cyclists that used to use the park as the extremely dry

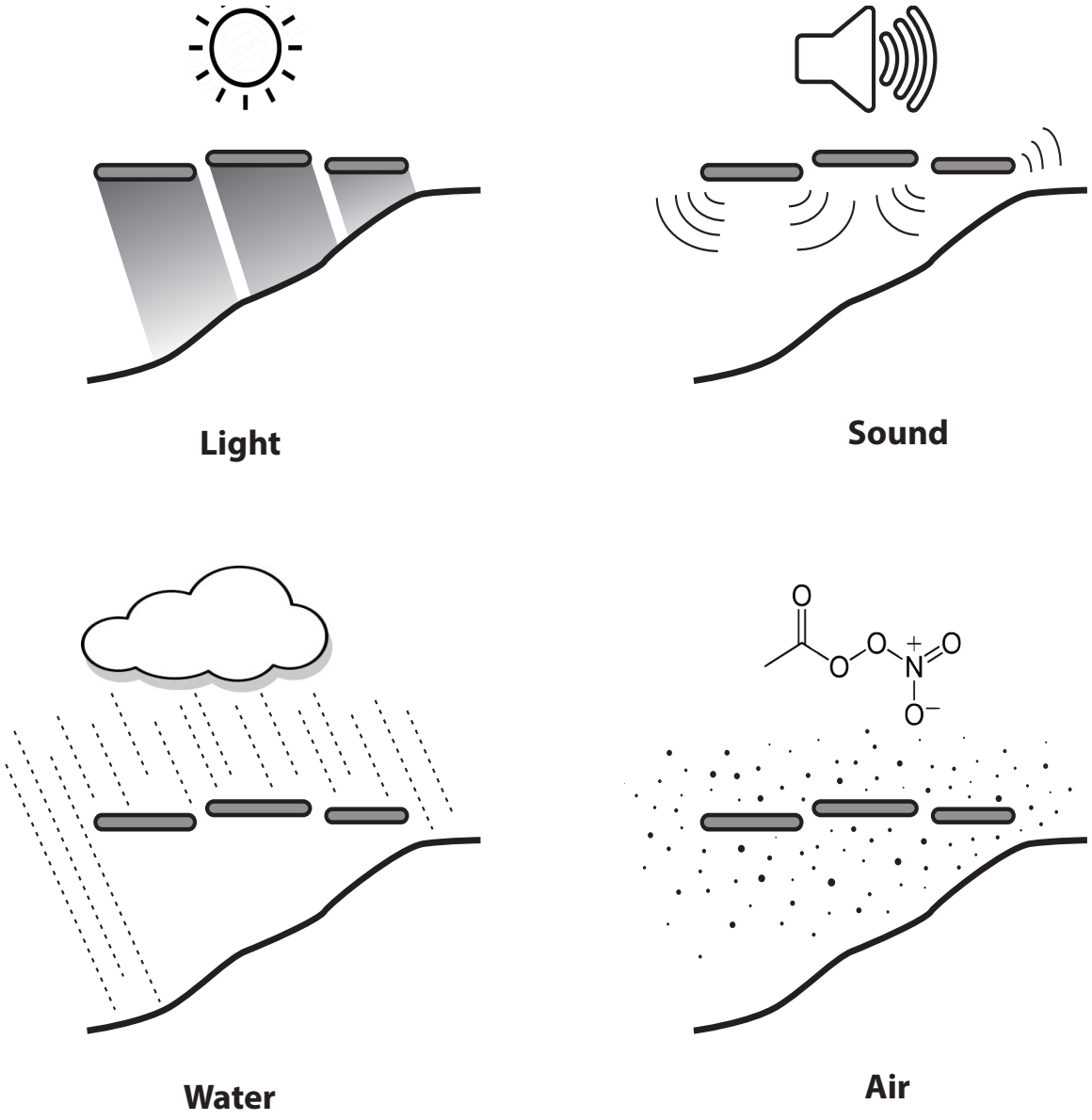



*Figure 29: Environmental conditions in the I-5 Colonnade*

soil created unsafe conditions for riding. Additionally, the proximity to the dense traffic of I-5 reduces the quality of air on the site. While the redwood trees planted along the western edge of the site help reduce some of these negative attributes caused by highway traffic, they also create a visual barrier, blocking off much of the site to the Eastlake neighborhood. However, where road ends like Howe and Blaine intersect the site, views extend to Lake Union and Queen Anne Hill.

## CHAPTER 4: Exploration and Experimentation

### First Steps

As the site analysis revealed, the I-5 Colonnade in its current form posses certain spatial and programmatic assets and environmental liabilities that can be resolved or leveraged through design. The space is unique, and the road surface above provides a degree of shelter, but on an unusually large scale for an outdoor space. However, the environmental conditions identified in the previous chapter have hampered efforts to activate the space by means of spatial and programmatic intervention. Accordingly, the primary goal of the design intervention is to focus on the environmental conditions, identified as limiting the programmatic performance and potential of the site. Concentrating on these factors will allow for enhanced use of the existing program spaces, while also creating a flexible public space that can be exploited for future programmatic use. This approach also falls in line with that advocated by Ignasi de Sola-Morales when he calls for an acute attentiveness to the continuities at work on the site. While more programmatically specific responses may be appropriate for sites that lack any form of spatial or programmatic intervention, this design intervention aims toward performative qualities that address and begin to craft the environmental conditions on site as a means for catalyzing further use.

Accordingly, the design intervention responds to environmental liabilities at work on the site to create opportunities for additional programing on the ground plane while also responding to existing activities found on the site. The environmental conditions of specific concern, discussed in the previous chapter, are the high contrast/low light on the site,

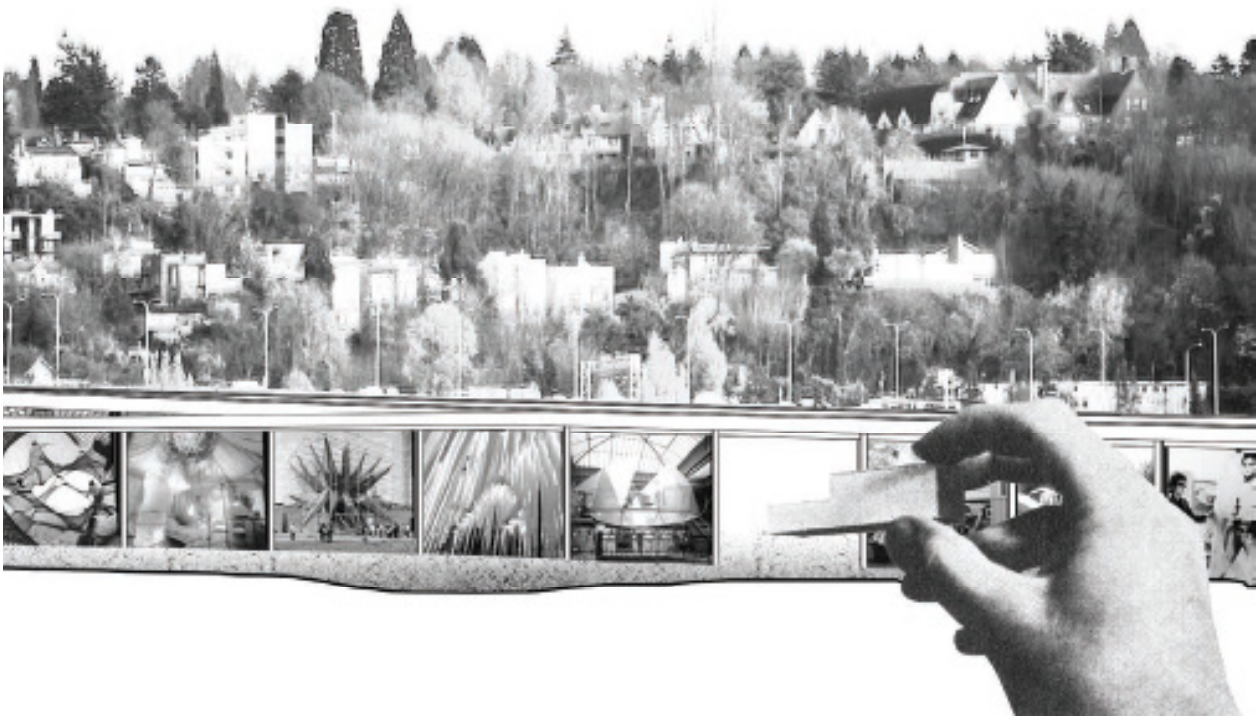


*Figure 30: Concept image*

excessive traffic noise form the roadway above, lack of water on the ground plane, and air quality. Additionally the design intervention will focus on strengthening existing pathways, points of interest, and program spaces on the site. These include the pathway on the north end of the site running east from the termination of Howe Street at Franklin Avenue, the primary entrance to the park along Lakeview Boulevard, The Seventh Climate art installation, the gathering/performance space near the Blaine St. entrance to the site, the mountain biking course, and tent encampment at the south end of the site.

While much of the southern end of the site is occupied by the fenced off WSDOT parking lots, the proposed intervention spans over this are as well with the intention of affecting the environmental conditions at play allowing that space to be converted into new program spaces. Proposals have already been made to expand the current park into these places by introducing community-level programming. This programming could include

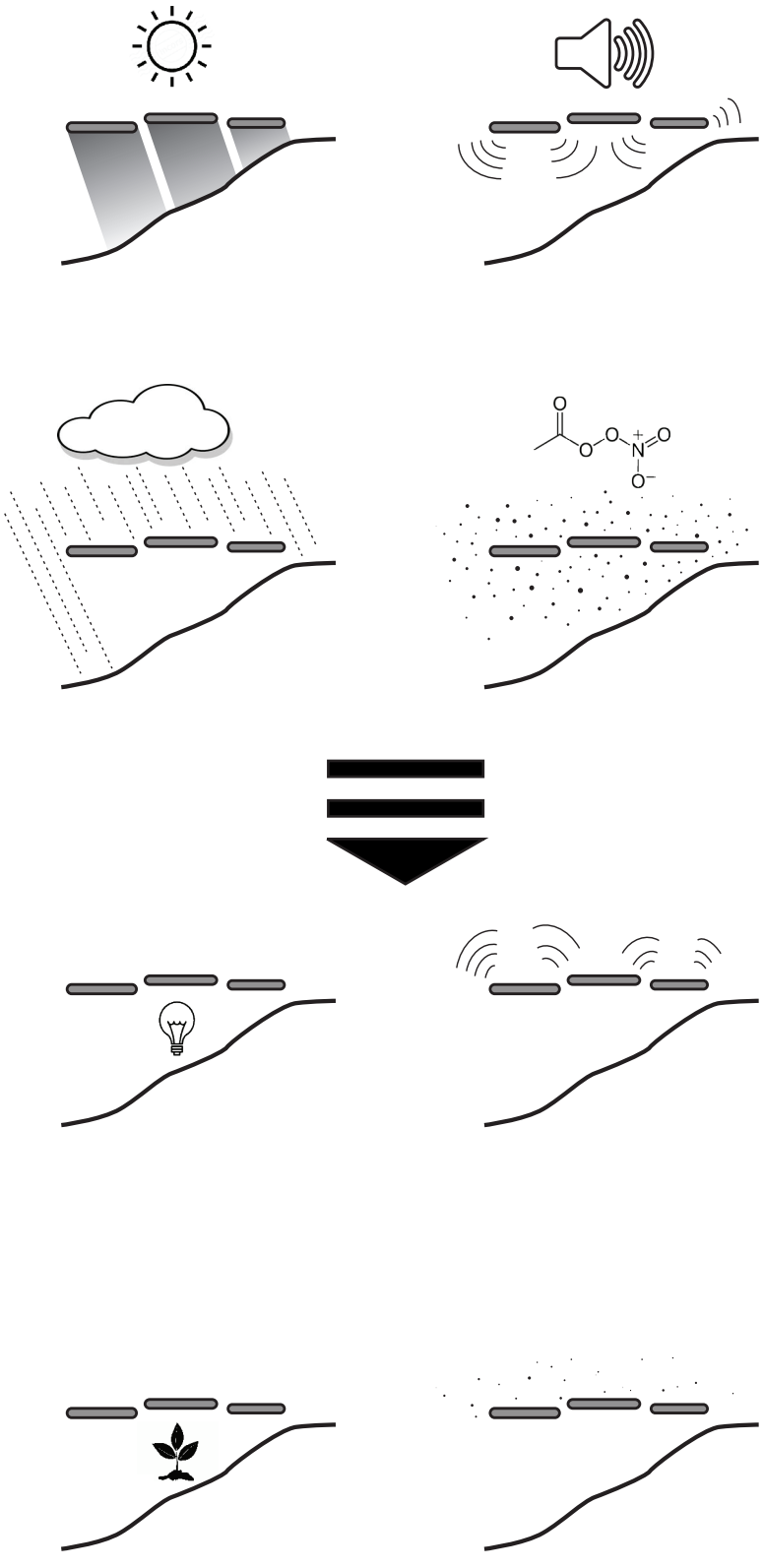


*Figure 31: Transformation of environmental conditions through design intervention*

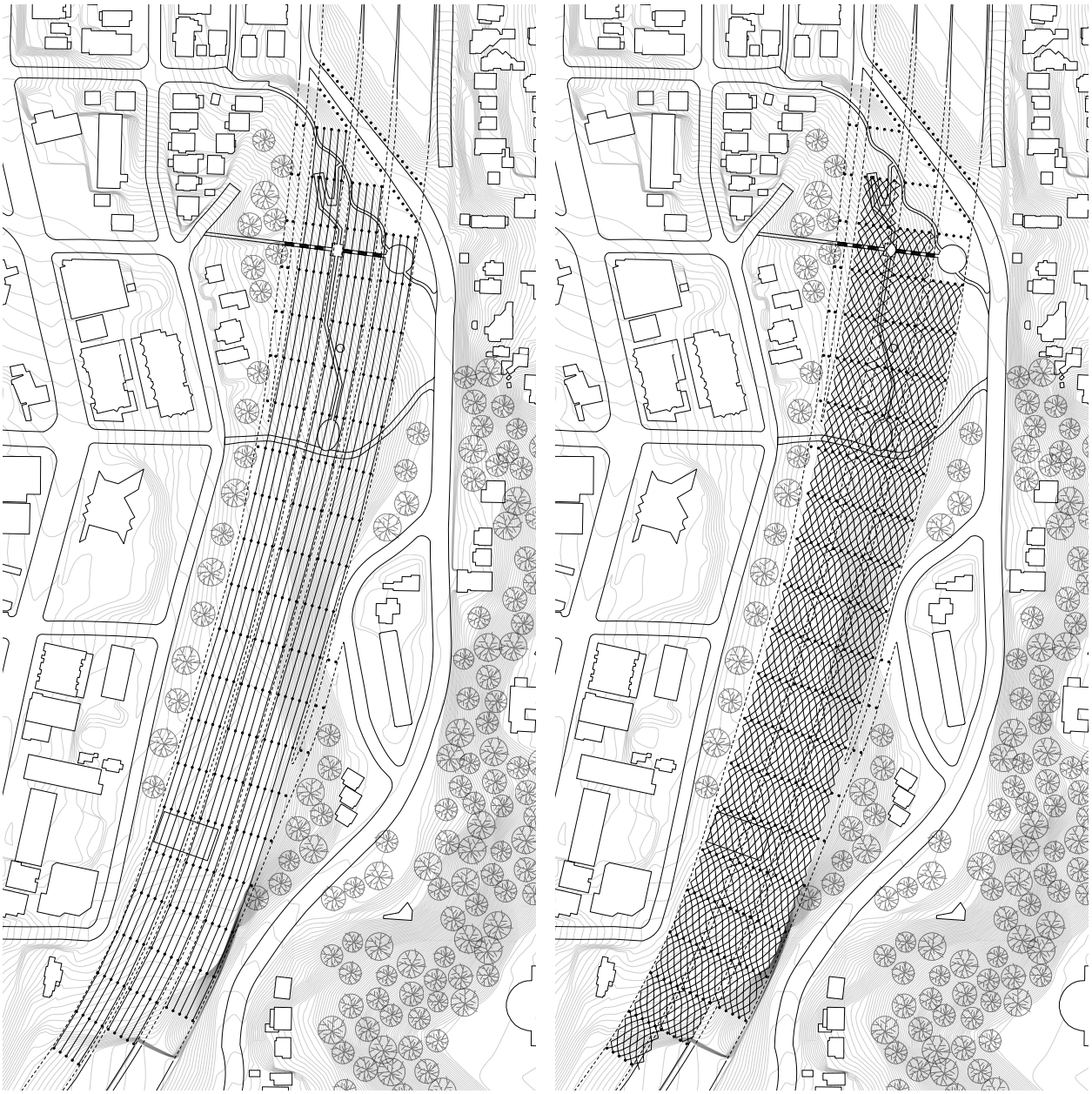
*Figure 32: (right) Application of simple structural grid over the site based on structure of support systems for The Seventh Climate installation*

*Figure 33: (far right) Structural web created by weaving grid lines together*

spaces for a weekend market as well as gathering and performance.

While east-west pathways exist on the site, they are not heavily utilized as thoroughfares by pedestrians or bicyclists. Joggers do frequently pass through the site, but the space exists more so as a destination than a crossroads and the proposed intervention seeks to strengthen that characteristic instead of proposing additional east-west pathways through the site. Accordingly, the design also emphasizes sculptural form to reinforce and respond to the unique spatial aspects of the site already at play on the site. The Fremont Troll in Fremont underneath the Aurora Avenue Bridge effectively utilizes a similar, but much smaller space as the setting for its sculptural intervention. This project has effectively converted the site into a destination and attraction in the area.

To begin responding to the environmental conditions at work on the site, the design focused on the existing precedent of the systems used to maintain the Seventh Climate installation. Because this installation is composed of living plant elements and lies underneath the structure of the freeway, a watering system was suspended above it between the two rows of columns on either side of the installation. The connection point to the columns also provided an armature for lighting elements that are turned on throughout the day and night. Based on this simple example, the design process first looked at extending a structural, tensile grid between the columns along the entire extent of the site, providing the most comprehensive, but also abstracted structural system. These grid lines were then woven together to create a continuous structural net, creating smaller spatial cells, which could then be as a framework for the intervention. Finally this structural web was then inflected to the site's topography and existing program, ceding ground where the ground plane comes



too close to the underside of the roadway to allow any space for a suspended structure and making sure to occupy it where modifications of the environmental conditions were most needed and where existing program could be enhanced through the intervention's formal qualities.

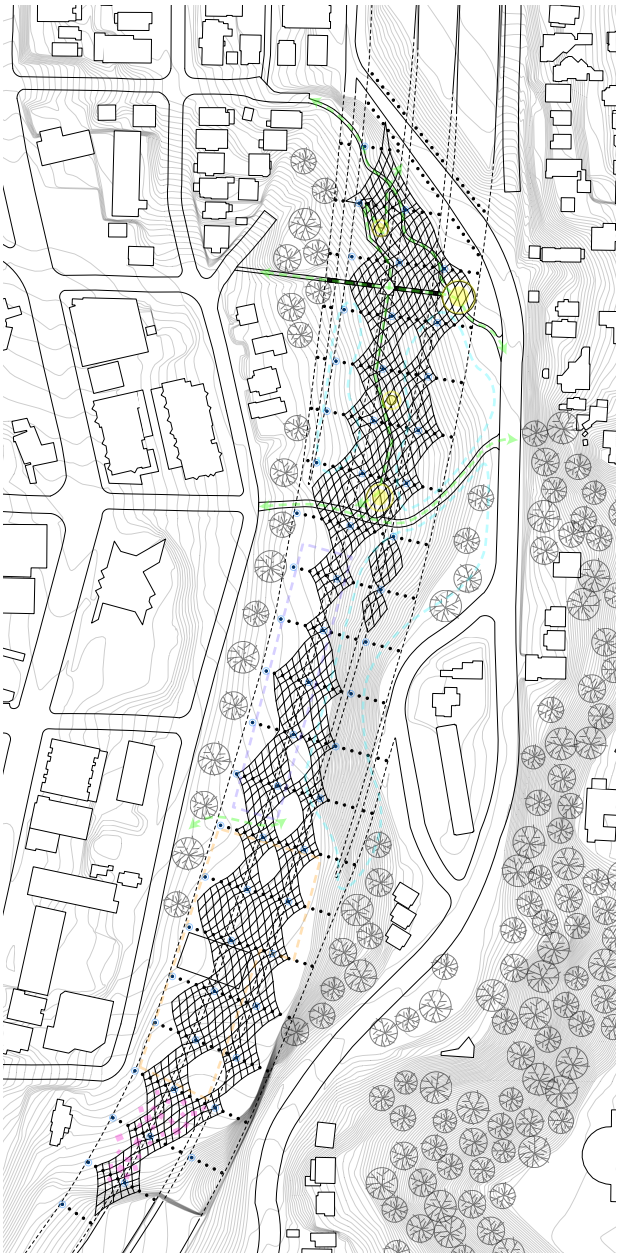


*Figure 34: Inflection of structure in reponse to site topography and existing programs, systems, and uses*

*Figure 35: Plan view of proposed design with fabric inflill panels*

**Structure + Systems**

The structure is composed of three primary components introduced to the site: two layers of structural spectra web, vertical compression struts, and fabric infill panels. This structure spans between the existing column grid and lies directly below the I-5 roadway structure. Spectra net has been used before in art installations spanning between existing structures. Most notably, the work of Julie Echelman reveals the possibilities a flexible material

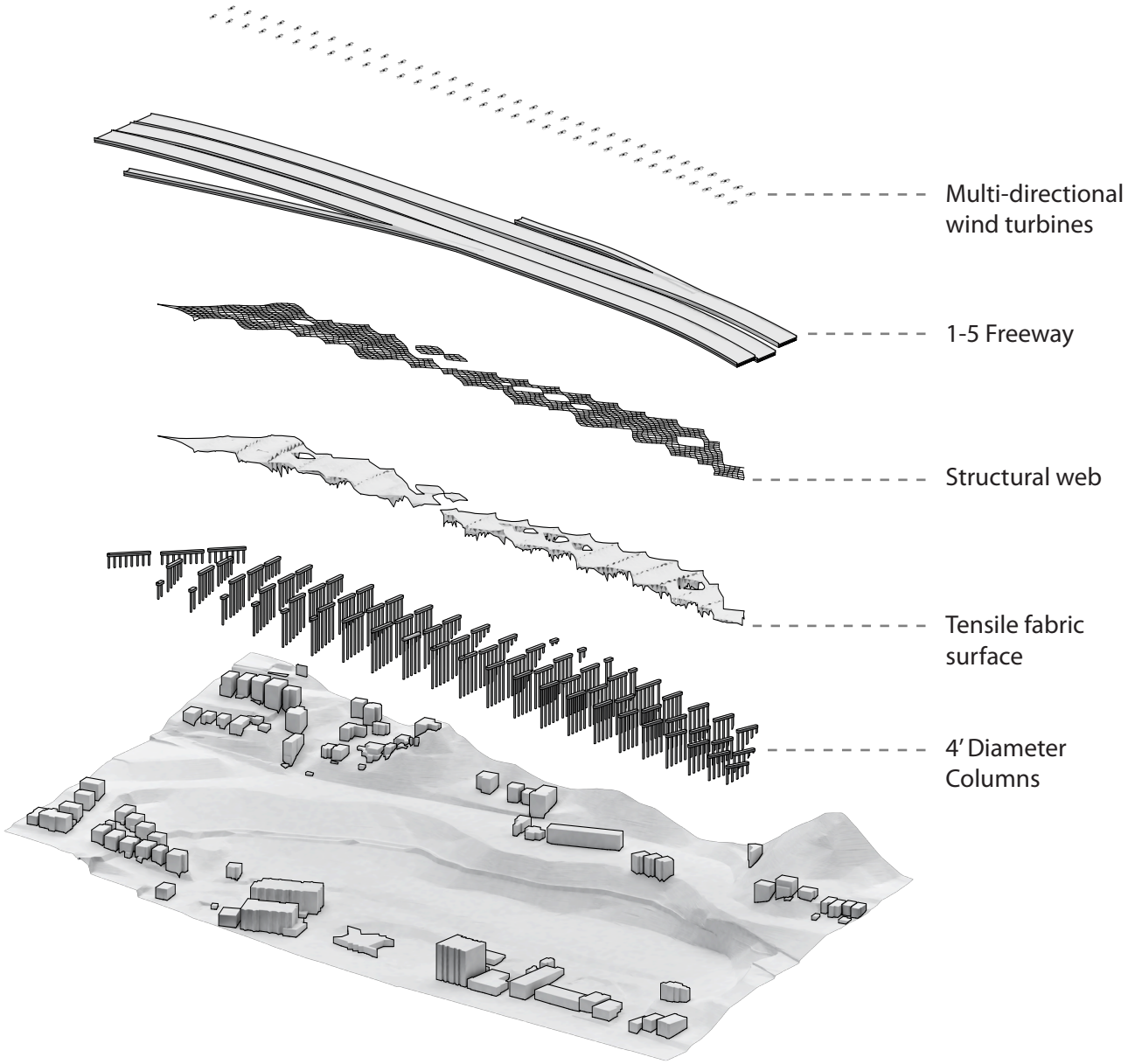



*Figure 36: Primary design components*

like spectra creates when used in tension, as its tensile strength is significantly greater than that of steel (*Ted Blog*, 1) At the roadway level, multi-directional wind turbines span between the freeway structures and generate power from natural wind patterns as well as the turbulence created by passing traffic. The existing ground plane and its associated program spaces also play an important part in the design as the intervention both responds to these

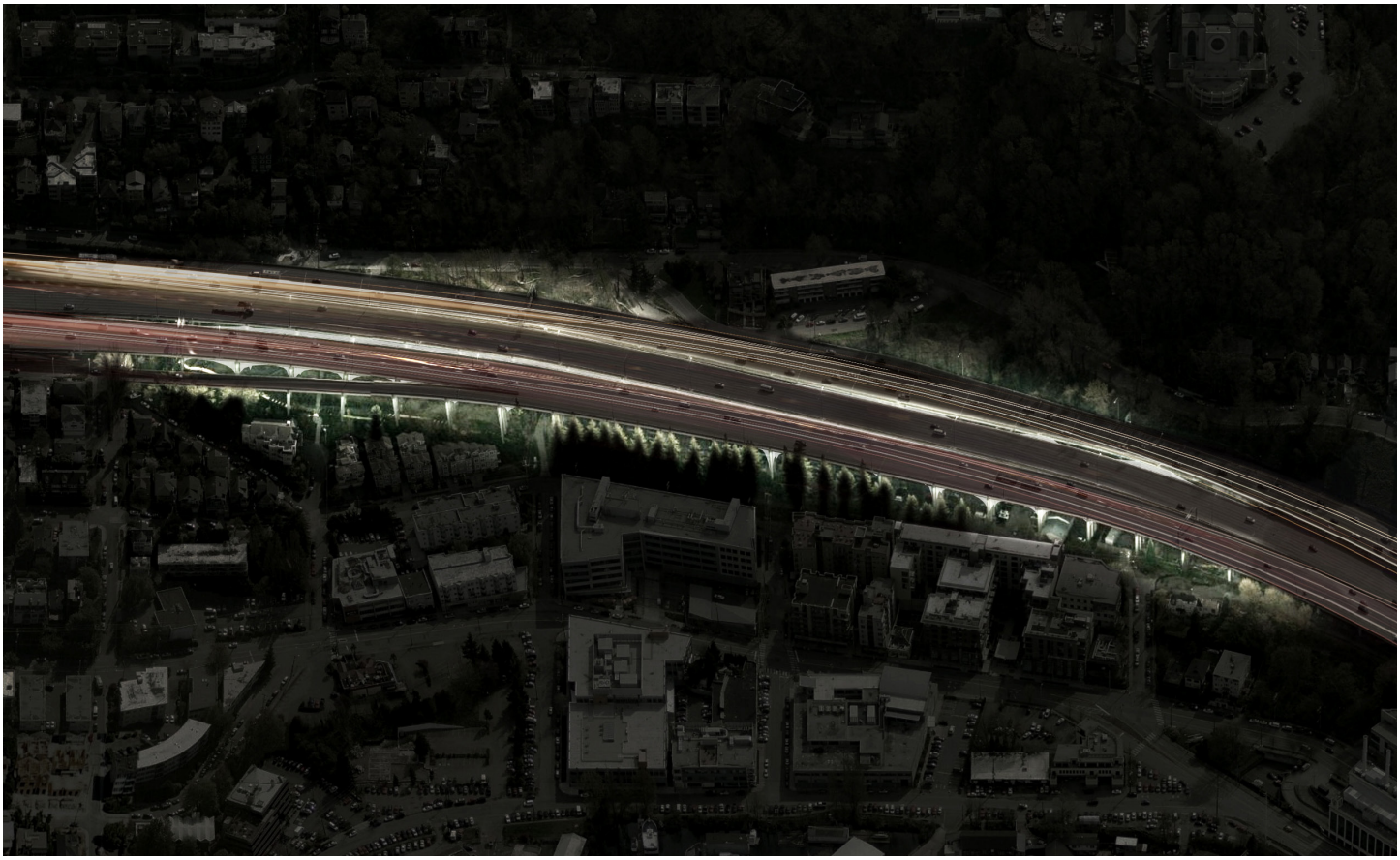
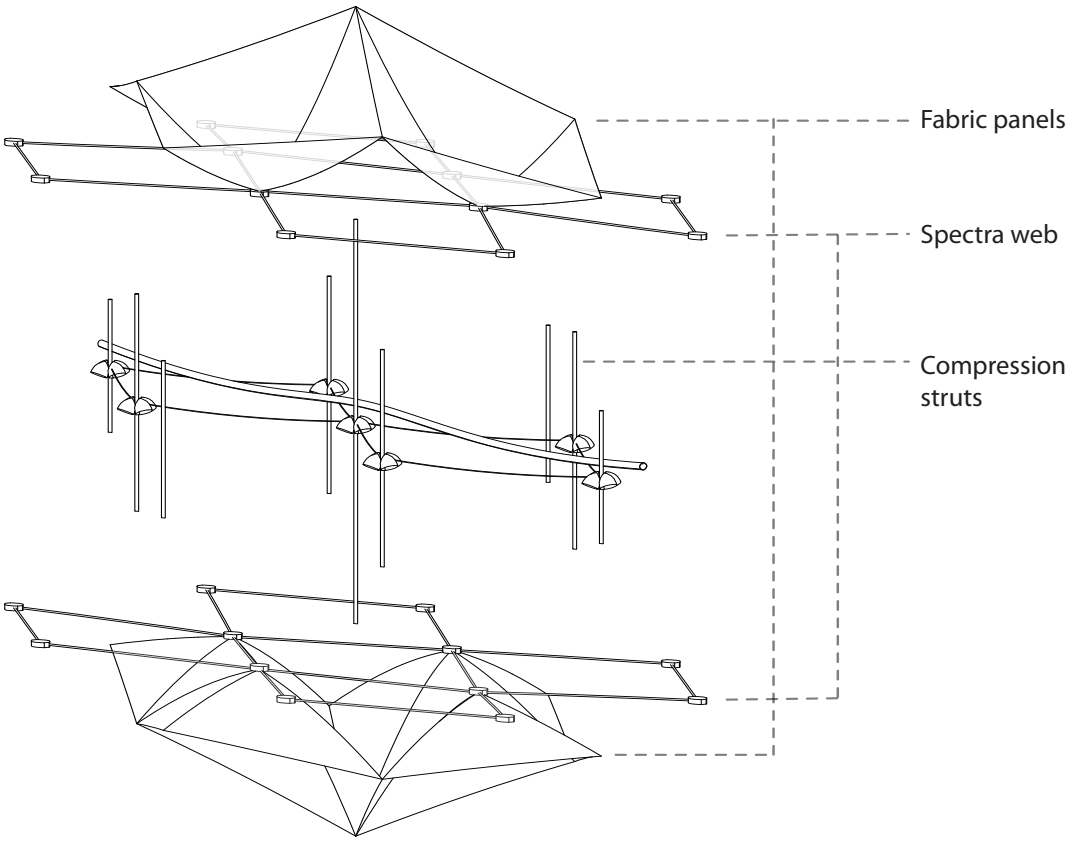
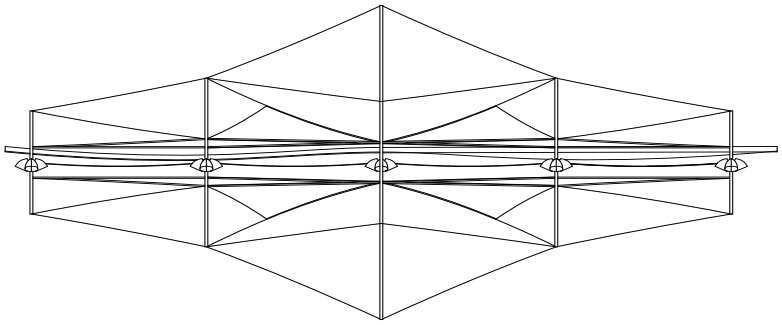


*Figure 37: Aerial view of design intervention at night*

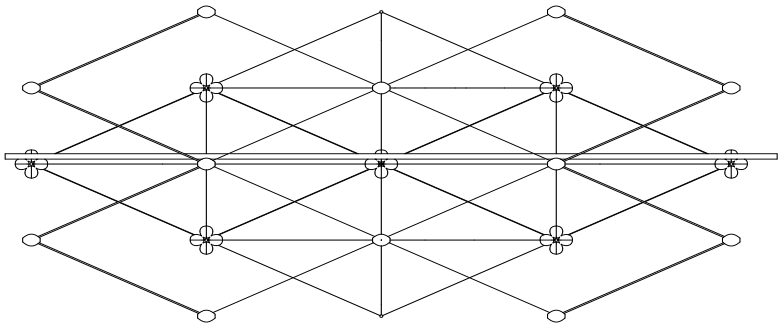
existing activities while also enhancing their spatial qualities and programmatic potential.

Structurally, the proposed intervention is connected to the 4' diameter concrete columns using steel braces that connect to the structural spectra net. This connection is based on the precedent spanning over the Seventh Climate installation, which utilizes steel braces as anchors for the tension wires holding up the art installation's watering system. The two layers of structural spectra netting are separated by vertical compression struts that hold apart the tensile structure through fabric infill panels, which enclose each structural cell of the spectra net. To keep the structure's weight to a minimum and thereby reduce the lateral forces acting on the columns, these compression struts could be made of carbon fiber. Used wind surfing masts would offer a potential low cost option for these components. The bottom and top of the compression struts are attached to the vertices of triangular fabric infill panels on top and bottom that connect back to the structural spectra net, providing a structurally active surface connecting the tensile net to the compression struts. The panels would be coated



Elevation



Plan

*Figure 38: Structural system and components*

with titanium oxide nanoparticles to extract particulate pollution from the air. The space in between the top and bottom layers of spectra net and fabric infill panels provide space for the structure's active systems, which utilizes the compression struts as an armature on which to attach.

The form of the fabric surface on the top and bottom is based on the formally-active qualities used in acoustic paneling. To reduce the amount of noise transferred from the freeway, the fabric infill panels create an undulating surface as they pass between the ends of each compression strut and the spectra net. This surface deflects sound waves and reduces both traffic noise from the highway as well as noise generated during performances or concerts that might escape into the surrounding neighborhoods. The undulating form of the top and bottom surface of the installation also significantly increases the overall top and bottom surface area of the installation from approximately 600,000 sf, if it had been perfectly flat, to nearly 1,000,000 sf. Because the fabric infill panels are coated with titanium oxide nanoparticles, the amount of air pollution they are capable of removing fro the freeway traffic is proportional to the surface are of the installation. Therefore this significant increase in material is justified by its performative ability to clean pollution from the air. Roughly 200 sf of fabric infill panels coated with titanium oxide is capable of removing the particulate pollution created by one car over the course of a year (Lawrence Berkeley National Laboratory, 7). Accordingly, the proposed design intervention would remove the particulate pollution from approximately 10,000 cars (Westcott, "Nanotech poster absorbs pollution," 1). A similar system was used by HWKN in their winning proposal for the 2011 PS1 Young Architects, which also utilized fabric panels coated with titanium oxide to remove particulate pollution from the air ("Wendy by HWKN," 1).

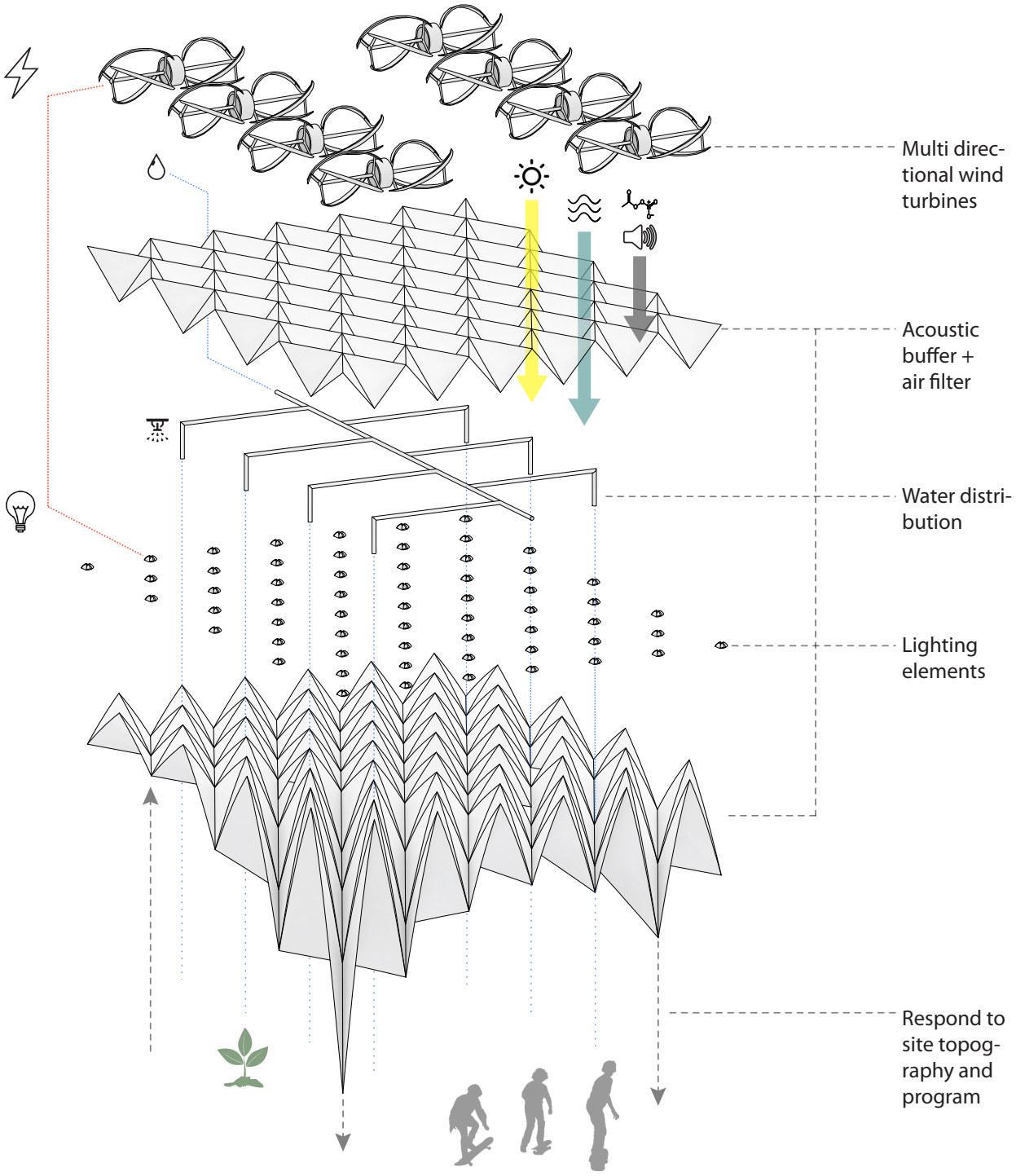

Multi direc-
tional wind
turbines
Acoustic
buffer +
air filter
Water distri-
bution
Lighting
elements
Respond to
site topog-
raphy and
program

*Figure 39: Design systems and reponses to environmental factors and site program*

The intervention's active systems are housed between the top and bottom fabric surfaces and are attached to the compression struts separating the two layers of the structure. Electricity generated by the multi-directional wind turbines located between the highway lanes is directed into the structure's lighting system. These lights are attached to the compression struts in the center of each structural cell and use the bottom fabric surface of the installation to direct diffuse light into the space of the colonnade. During the day, natural light is captured by the fabric and diffused into the space to more evenly distribute light. The lights also work to activate the photocatalytic properties of the titanium oxide so that the material will continue to remove pollutants from the air during the night hours. Electricity from the wind turbines is also used to power the design's water distribution system which collects rainwater from the roadway surface. Whereas this drainage system had before directed rain water to the city's stormwater system, the design intervention interrupts this system at the drains in the roadway, diverting a portion of the rain water during storm events and distributing it to points on the ground plane suffering from erosion or lack of use due to the extreme dryness of the soil. This water is filtered and then directed to the ground plane via pipes attached to the compression struts using sprinklers located at the bottom end of compression struts above the selected areas. A similar water filtration and distribution system was used in Andres Jacques' winning PS1 design titled, Cosmo, which diverted water form the city's stormwater system and filtered it over the course of a few days ("Andrés Jaque's giant water purifier unveiled in MoMA PS1 courtyard," 1)

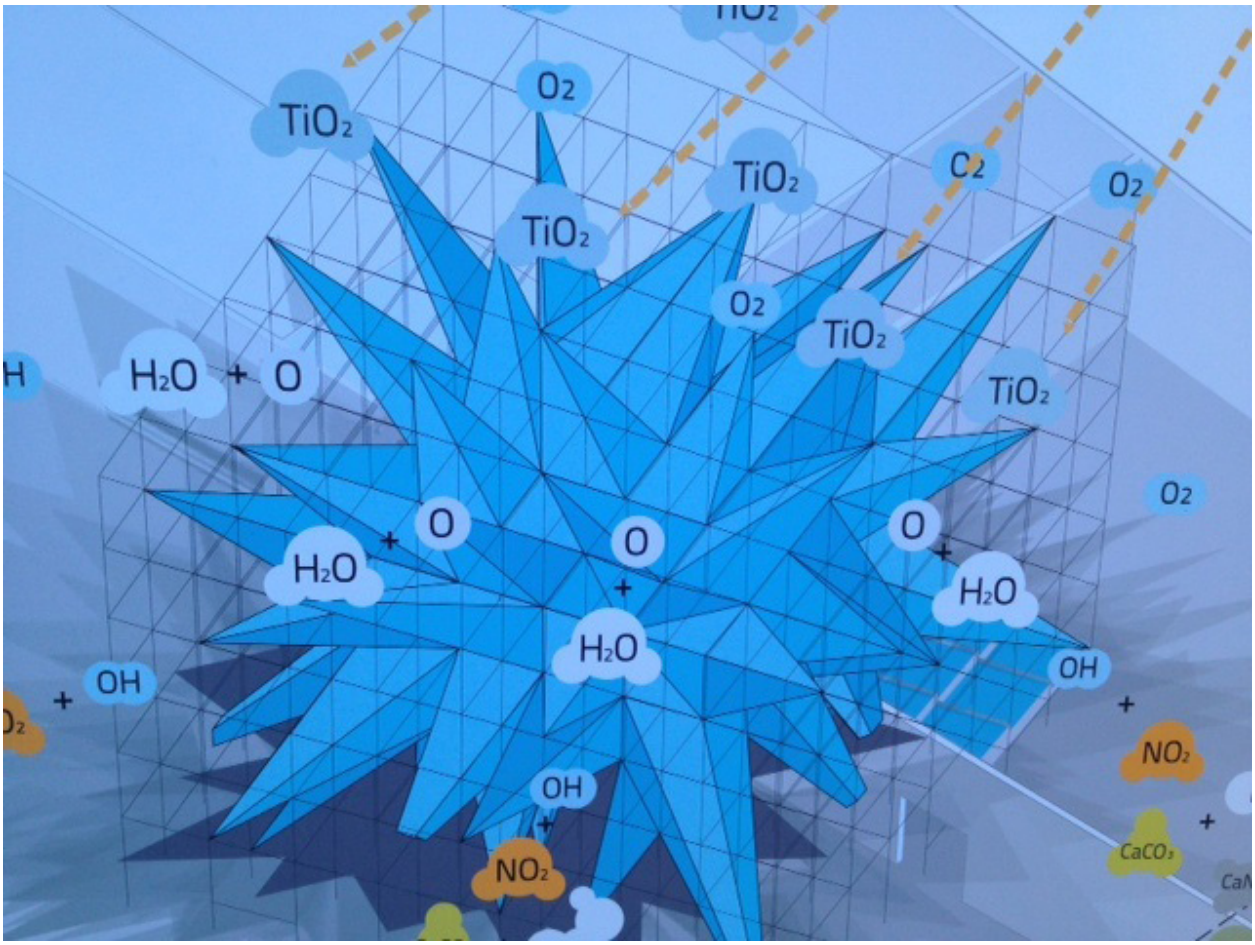



*Figure 40: Diagram highlighting air scrubbing abilities of HWKN's Wendy installation for the PS1 Young Architects competition, http://hwkn.com/projects/wendy/*

**Program Response**

The design intervention's response to existing program areas on site is focused on the north portion of the site which houses the majority of the I-5 Colonnade Park. Specifically, three transverse section cutting through three points of interest in this zone were selected as study areas to investigate how the suspended structure can begin to interact, inform, and improve both existing and potential activities on the ground plane. These areas are: the entrance and east-west stairway connecting to Howe Street on the west side of the site, the Seventh Climate art installation, and the gathering/performance space located

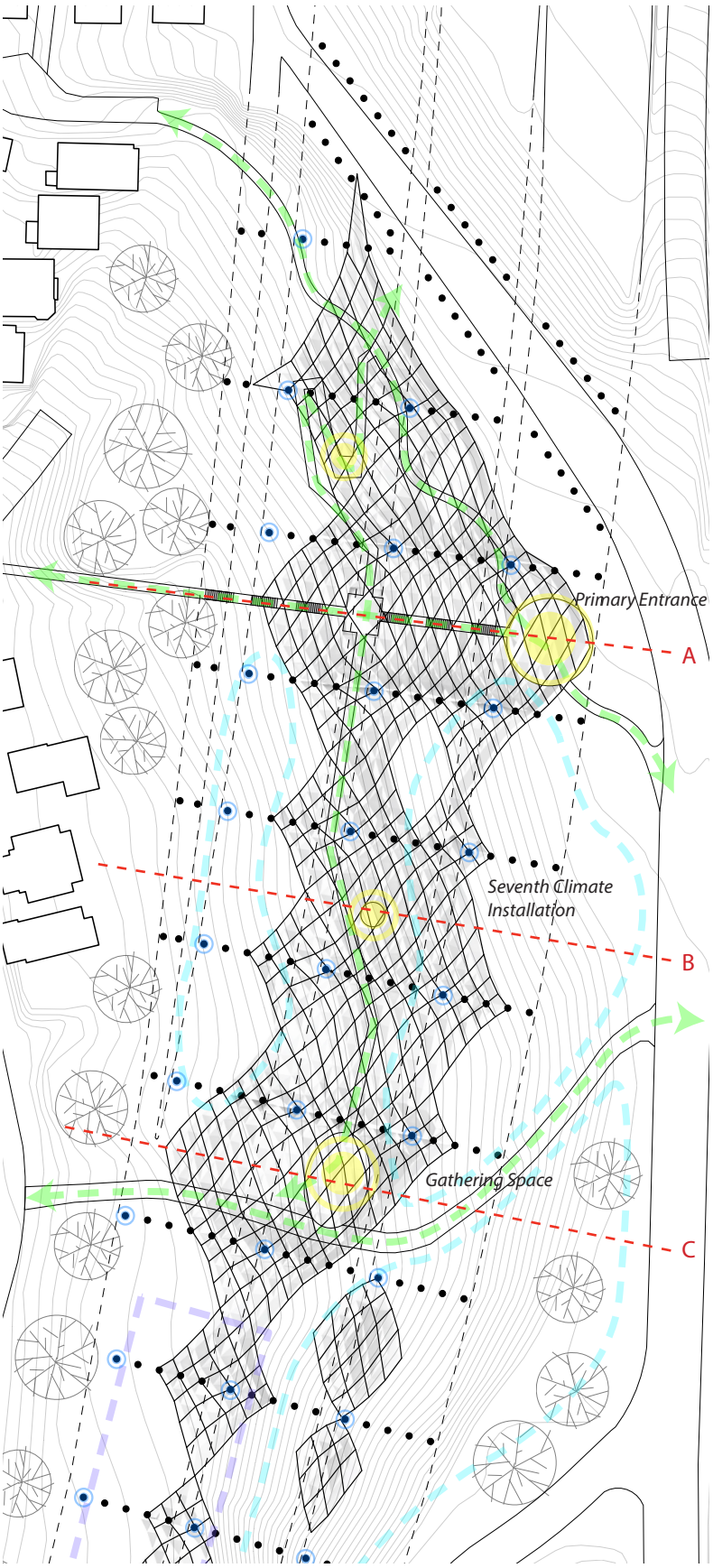
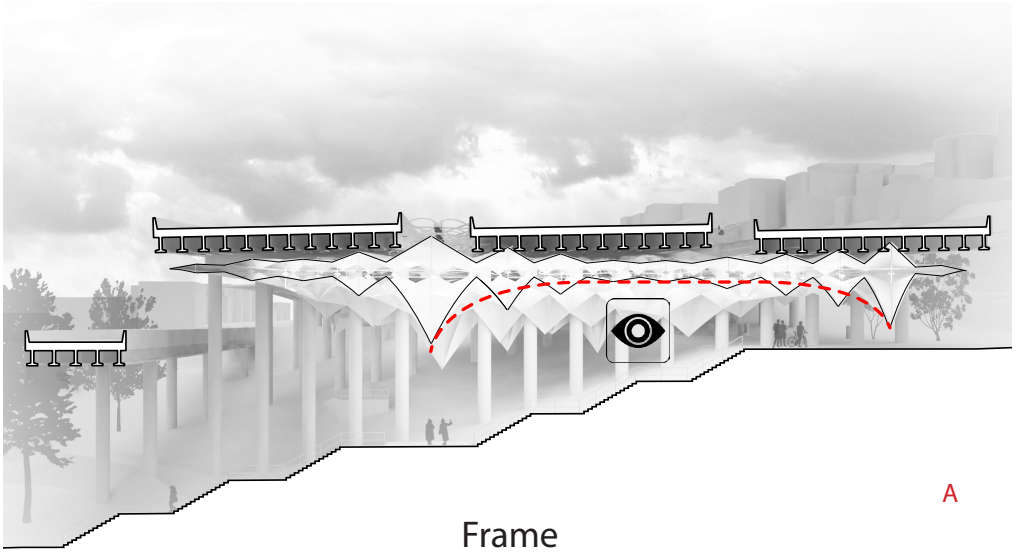
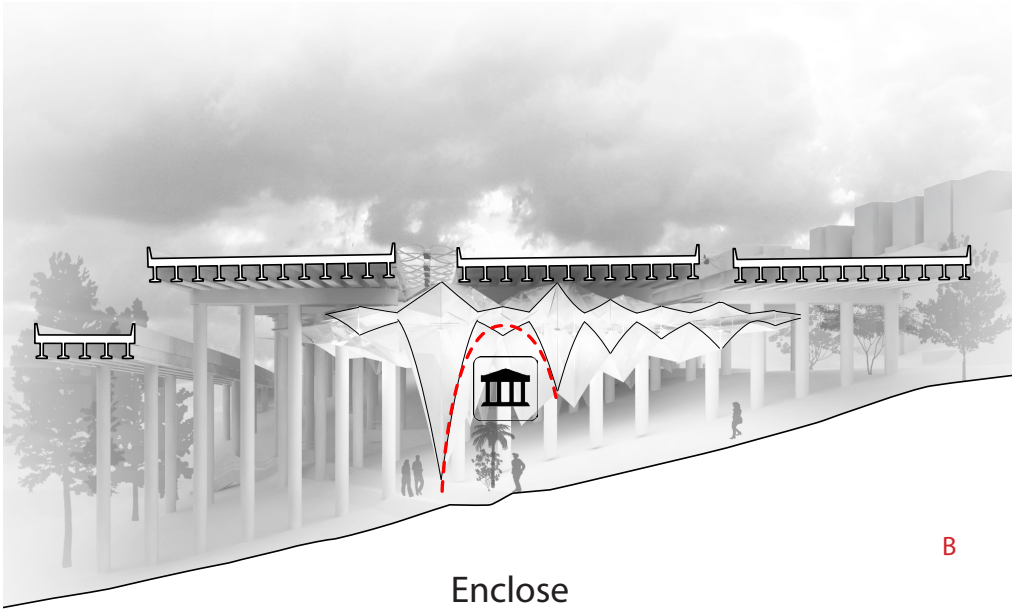



*Figure 41: Study area with section lines through specefic points of interest*



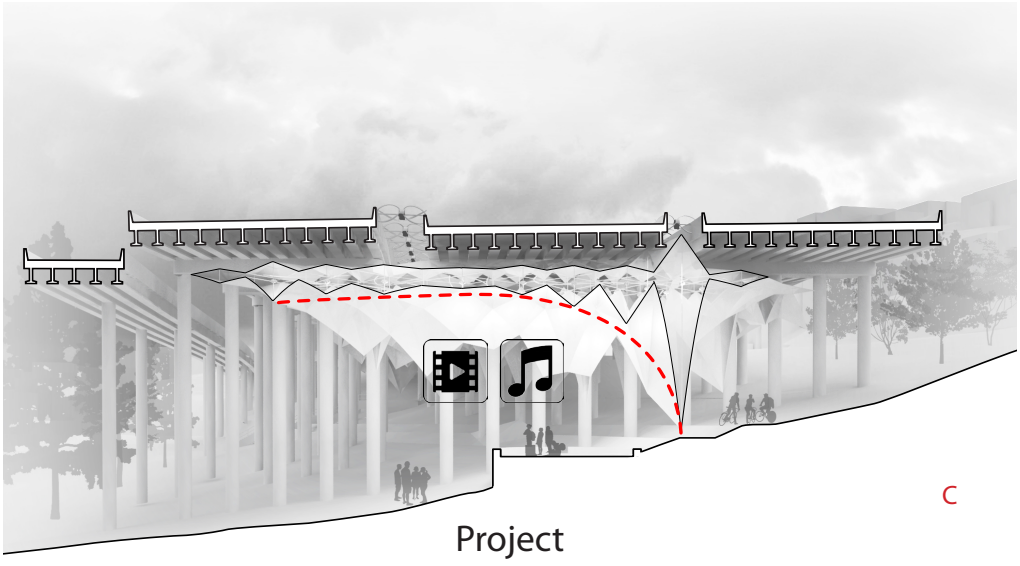
A

Frame



B

Enclose



C

Project

*Figure 42: (top) Section through primary entrance and stairway across site*

*Figure 43: (middle) Section through The Seventh Climate installation*

*Figure 44: (bottom) Section through the gathering/performance space*

near the Garfield Street entrance to the site. All of these spaces are unique in their spatial configuration and associated use. The first location at the primary entrance to the site provides a point of arrival and passage with views looking out to lake union and Queen Anne Hill beyond. The second location provides a moment for viewing art and reflecting on the unique qualities of the space. Finally, the third location provides a large open space with a gathering/performance platform located in the center of the bay connected to the Eastlake Neighborhood to the west by the Garfield St road end that comes onto the site.

Manipulation of the structure in the bay containing the stairs extending east from the termination of Howe St to the primary entrance space along Lakeview Blvd is focused on the concept of framing the passageway as well as the views out to the lake while moving west along the path. This is accomplished by pulling the structure further down towards the ground plane along the rows of columns on either side of the path while narrowing the vertical depth of structure along the middle of the bay, over the path. One structural cell in the spectra net located between the south bound lanes and express lanes and above the intersection of the east-west and north-south pathways is pulled down to create a light well in order to illuminate that intersection in particular as well as the space of the bay in general. The horizontal extent of the structure is carried to its maximum along its east-west axis in this bay in order to provide light and acoustic buffering to the entrances on the east and west side of the bay.

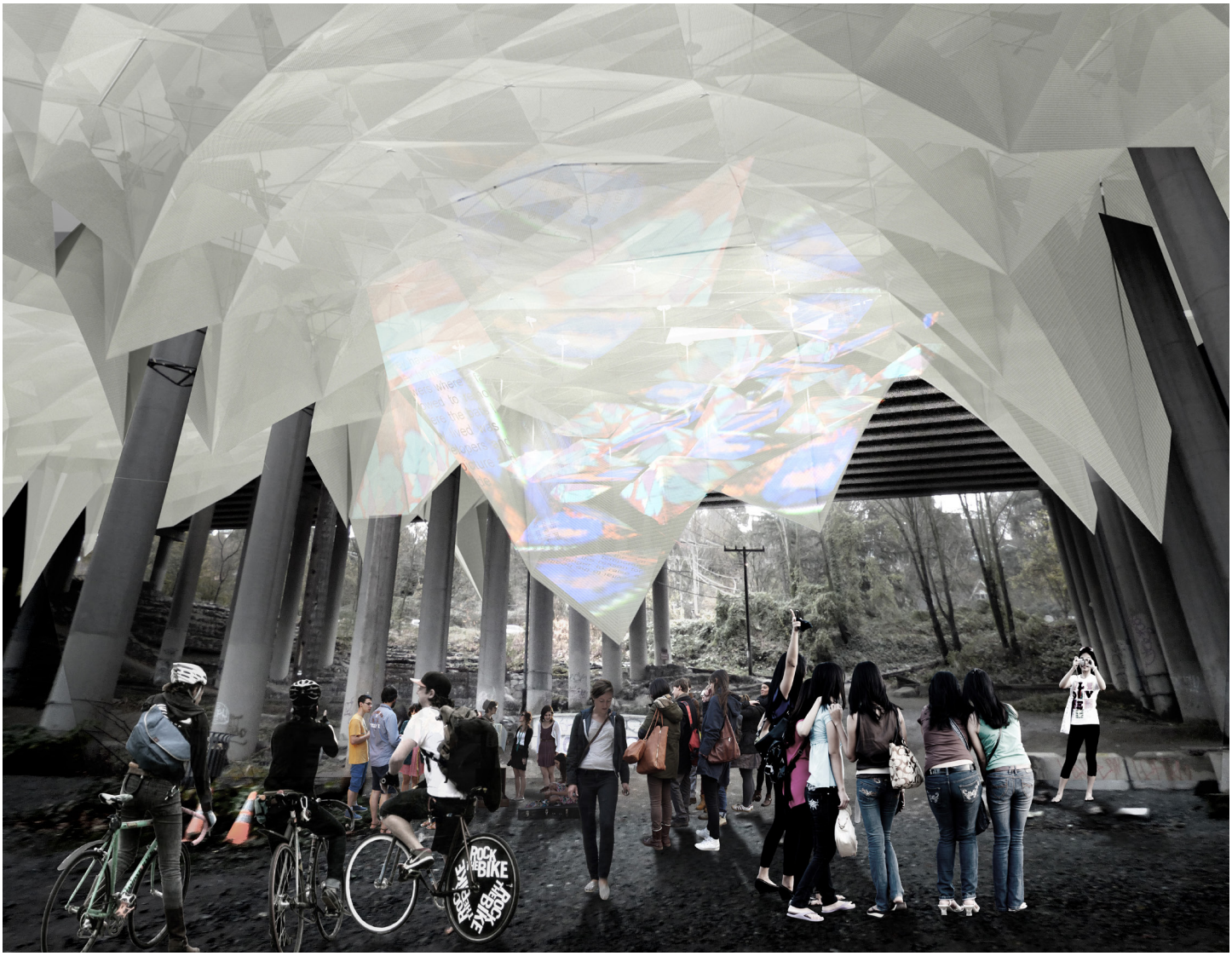
A different approach to the formal manipulation of the structure was used in the bay which houses the John Roloff's Seventh Climate Installation. Here the structural depth of the intervention is carried down towards the ground plane in the center of the structural bay in

*Figure 45: View of stairway from primary entrance off Lakeview Blvd looking west*

*Figure 46: (right) Structural response to The Seventh Climate installation*

order to provide a sense of enclosure around the art installation in order to provide the visitor with a more intimate experience with the piece. Bringing the structure down closer to the installation also allows for the water and light portions of the installation to be more precisely controlled. The structural cells directly above the installation have been pulled up, creating a recess and allowing for the surrounding structural cells to more clearly define a space for the art installation.

The gathering/performance space at the south end of the study area evinces another approach of how the intervention can interact with the ground plane and existing program spaces. Here the structure is brought down on own side of the performance platform in order to project that space and its associated activities outwards toward the open area in the bay




directly to the west, but also as backdrop on which images or movies could be projected during events and performances. Pulling down this portion of the structure also begins to distinguish the performance and gathering space on the west side of the bay from the mountain biking course on the east side thereby allowing for a greater clarity between these two spaces and their respective uses. With the steep terrain on the east serving users of the mountain biking course, the west transitions into a large amphitheater space providing the flexibility and acoustic infrastructure to house a variety of events and performances. Such flexible spaces are important for communities while also leveraging the undefined spatial characteristics of the terrain vague.

*Figure 47: View of the gathering and performance space from Blaine Street road end*

The extent of the intervention continues to much of the remaining spaces of the site save for those that are too close to the underside of the freeway structure due to the uneven nature of the topography. These areas primarily provide solutions to the environmental conditions identified earlier pertaining to light, water, air quality, and noise. However, as uses in these spaces evolve over time in response to the transformation of the space, the depth of the intervention in these locations and its interaction with activities on the ground plane could easily evolve. This evolution of the intervention's structural form would require fabric panels and compression struts in the affected structural cells to be modified and either shortened or extended as is appropriate for each program response. This process would also mirror the management and upkeep of the structure as panels became dirty or required additional coatings of titanium oxide. This process simply requires them to be removed piece by piece, modified or cleaned and then reinstalled. As use of the site expands, so too could the borders of the proposed intervention.

The proposed structure also provides a canvas, which could serve as the surface for large art installations using light as the medium that would be projected onto the fabric surface. Similar strategies have been used to create an interactive experience with Julie Echelman's suspended light sculpture with use spectra webbing as a surface on which to project light. Retaining this level of responsiveness to the various activities, desires, and interventions that the site can support is necessary in order to preserve the unique social and spatial characteristics of the space. Such an intervention also serves to highlight the existence of these spaces as well as the various factors and forces at work on the site without being overly prescriptive of its use.

*Figure 48: View of primary site entrance from Lakeview Blvd*

## Chapter 5: Conclusion

The investigation of this thesis through the development of a design intervention on a representative site has yielded as many discoveries pertaining to the qualities of the terrain vague as questions it raises about the role of design in these spaces. The processes of designing within the terrain vague with the intent of leveraging the unique assets of these spaces is a difficult challenge for architecture as the attributes which we ascribe to these sites largely result from the indifference or inability of architecture and planning to operate within these spaces. Therefore, a more severe version of Sola Morales' question regarding design's role within the terrain vague might ask whether architecture has any role to play within these spaces. However, an attentive review and analysis of these sites reveals that not only can design begin to interact with these spaces in way that does not strip them of there spatial assets, but that design interventions are already taking place on many of these sites. The most prominent example of this in the I-5 Colonnade site is the makeshift kitchen created by the inhabitants of the tent encampment at the south end of the site, which utilizes the enclosed space created by the northbound lanes' intersection with the ground plane.

Additionally, it is important to remind ourselves that the boundaries between the city and the terrain vague remain in a state of flux. An important characteristic of the terrain vague is therefore its ephemeral nature, reinforced by the fact that it is only a matter of time before these spaces are reincorporated into the formalized spaces of the city, as Lebbeus Woods notes in "No Man's Land" and Gil Doron discusses in respect to the suspension of planning at work in the terrain vague. Exploiting the spatial potential of the terrain vague requires a


*Figure 49: Kitchen area created by inhabitants of the tent encampment at the south end of the site*

tactical approach to the site that recognizes design's invasive role, but in a way that does not attempt to permanently dictate form and use. This use of the terrain vague respects already established patterns of use in these spaces that transgress our traditional categories of public and private, as space becomes temporarily appropriated and shaped through human use and occupation. Efforts aimed at the preservation of these spaces which would restrict their use or the influence of design would inherently divert the inherent sense of potential and opportunism they inspire.

Initially *A City Full of Holes* had proposed to address multiple sites with specific strategies that could be inflected to the spatial constraints of the various locations. However, while the terrain vague is disassociated from the surrounding integrated spaces of the city,

its context does influence the patterns of use at play on the site, which a design intervention seeking to leverage these processes should respond to. Accordingly, the wide variety of these spaces calls for a similar number of responses that address both the general characteristics of the terrain vague while also resonating with the unique attributes of each site. As such, the terrain vague offers a discursive opportunity for designers interested in exploring formal, structural, and material strategies through a debate that can play out in the space of the terrain vague. In some cases the best response may be the reincorporation of those sites through more traditional forms of infill. However, many of these sites continue to exist because they offer little to no value to city governments or commercial developers. Despite this lack of interest among architecture and planning's traditional clients, these sites posses a social value to surrounding and marginalized communities, especially within a dense urban context, that can be further leveraged through design. Funding for such projects may come of the form of grants, or through engagement with community and neighborhood organizations.

The design approach to these spaces adopted by this thesis investigation also runs the risk of overly fetishizing these spaces, which are often correctly described as underused and derelict. This approach should be tempered by the fact that only through design can we begin to open up the full programmatic potential of these spaces despite the risk of extinguishing their unique qualities that the abandonment of these spaces has generated. Accordingly the most difficult question raised by this thesis was how to address architectural design's association with specific program activities. Being overly prescribed in the approach

to program would begin to hinder the programmatic potential of these spaces, instead of expanding it. However, an overly ambiguous approach to design intervention in these spaces runs the risk of impotence in its ability to elevate a visitor's experience of the space. On account of these concerns, this design investigation choose to focus on performative qualities that begin to address and craft the environmental factors on site in a way that promotes further use of the existing program spaces as well as the introduction of new program activities on the site. This can be understood as the inverse of Gil Doron's description of the expansion of the transgressive zone into the formalized spaces of the city during different times of the day. Ultimately, the fields of architecture and planning should approach these sites in much the same way the people that temporarily use or occupy these sites do; as spaces for recreational and transgressive activities that would be out of place in the integrated spaces of the surrounding city.

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