

Of Airports and Architecture: Exercises in Public Form

by
Daniel James Fouad

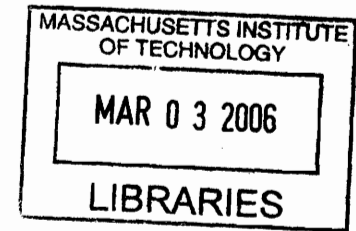
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Submitted to the Department of Architecture in
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ABSTRACT

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Airports as an architectural and urban typology typically lack physical and spatial integration with their urban context. Contrary to the city, airports have evolved into semi-autonomous spaces and products of political and economic conflicts between local and global constituencies, generating physical and spatial barriers, consequently denying the airport's role as a civic and public space. Boston, with its rich history of urban public space in the Olmsted tradition and Logan International Airport sited adjacent to downtown and the dense neighborhoods of East Boston, Winthrop and Chelsea, is representative of this problem. This thesis explores the point at which existing urban fabric and airport protocol/culture merge, where latent potentials for infrastructure and architecture become strategically urban, reconstituting the existing tensions between airport and city in the formation of new public space and productive dialogue.

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Introduction

This thesis' interests lie in the modes and methods by which Architecture can function as an urban strategy in finding potential for urban transformation within existing local and global infrastructures. In the face of ever increasing globalism, the need for architects and architecture to address such issues is greater now more than ever. It is my conviction that although, typically, small in scale (compared to the urban master plan, for instance) architecture has the ability to reach and influence further than its inherent scales may imply on a cultural and cosmopolitan level. As in acupuncture, architecture deployed through a series of independent and interdependent networks may achieve compounding effects.

The airport presents itself both locally and globally as one of these independent and inter-dependent nodes within a network of many points. As noted by many, airports have evolved into massive, quasi-urban entities, independent in many ways from the cities which they serve and the places in which they are sited. Many have become destinations in and of themselves, especially among specific constituencies, such as business people. This autonomy is the primary characteristic of a heterotopia. Defined by Michel Foucault in his text, *On Other Spaces: Utopias and Heterotopias* as places where deviant or non-everyday behavior was subjected to a regime and technology of normalization. Distinguished from utopias by their disparate and concrete existence within reality, they represent counter-arrangements that are 'other' with respect to society and as such potentially liberative in their contestation of the space in which we live¹. In many cases the airport's 'otherness' goes unquestioned, is replicated ad infinitum. Usually located in low-density, suburban or ex-urban situations, in the process of "normalization," airports have been isolated from the communities around them for reasons of pollution, security and technological logistics. Several critical problems arise from this process. As airports continue to urbanize and grown, the interconnection between city and airport becomes more tense, as they compete rather than integrate with one another. Secondly, to become truly urban, the airport must define spaces that are truly public (accessible to everyone without precondition, the non-flying public for instance). Finally, this thesis hypothesizes that in exceptional situations where major airports co-exist in close proximity with existing densely populated local urban conditions, as is the case at Boston Logan, that the space between airport and city become a hybrid zone in which to destabilize existing definitions of city and





airport in the form of public space.

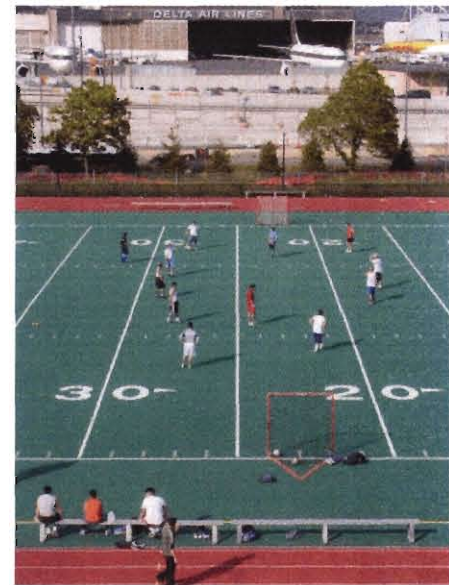
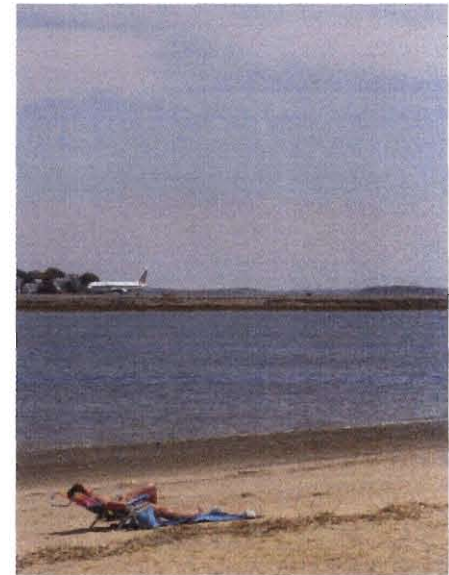
The modern airport has evolved into a contradiction. On the one hand it must serve as a civic space, a vital link with the rest of the world, supported in part by public financing from the cities they served. On the other hand, once an organic outgrowth, the city has grown to reject the airport as too problematic to be fully integrated into a condition of everyday urbanism, hence the airport as heterotopia. The airport can be re-interpreted as a point of condensation and compaction of urban infrastructures and programs. Historically, charged as the venue for technological innovation and revelry, programmatic and typological invention and a significant symbol of entry and departure from the city, the contemporary airport has become a site for continuous architectural exploration in the constitution of urban identity. Today, with over a century of development, the airport has unfortunately come to symbolize a necessary evil of contemporary society, a means of getting from point A to B. It seems that just at the point of its popularization the airport had lost its novelty, and flight itself had become banal. As noted by Martha Rosler in her writings on airports and the public, she notes, "The possible euphoria of actually flying, of being in flight, is not capitalized on by those whose business it is to keep us from excessive curiosity or from panic while passengers in commercial aircraft. The illusions that are provided in midair replicate the banalities of everyday life or worse, the experience of institutionalized infancy in an imperfect womb. The dignity of both passenger and attendant is left at the gate. Confined in spaces so small no one in control of their circumstances would willingly endure them."² This, coupled with economic, political and technological transformations and constraints render the airport architecturally uneventful and mute.

Airports are in need of architectural and urban re-evaluation in their potential as sites of collective identity, social and cultural exchange and sites for the phenomenal experiences of flight itself. Now, almost entirely the byproduct of technocrats, developers and bureaucrats the airport has been reduced to a series of predetermined diagrams, political and economic templates and internationally established protocols. In this equation, it seems the role of architect and architecture has been reduced to the design of a swooping roof, the glorified shed, gestures eventually subsumed, collaged, and adapted for larger capacities and newer technologies. The airport is a species of bigness, to use Koolhaas' term. An architecture that, "Beyond a certain critical mass, becomes a big building. Such a mass can no longer be controlled by a single architectural gesture, or even by any combination of architectural gestures. This impossibility triggers the autonomy of its parts, but that is not the same as

fragmentation: the parts remain committed to the whole."³ In its push to urbanism or city-ness, the airport currently establishes a tense balance of dependence and autonomy from its host city. In Koolhaas' rumination on bigness, the airport as an architectural endeavor has reached this critical mass. Shopping has invaded most terminals as a form of "emergency survival tactic,"⁴ now rivaling air transport as the airport's primary income generator and M.O. It has become the architecture of parts, of information, of program and of time. To quote Keller Easterling in her book *Organization Space, Landscapes, Highways and Houses in America*, "To truly exploit some of the intelligence related to network thinking, an alternative position might operate from the premise that the real power of many urban organizations lies within the relationship among multiple distributed sites that are both collectively and individually adjustable. This architecture is not about the house but rather about house keeping. It is not about triangles and tauruses or motion trajectories, but about timing and patterns of interactivity, about triplets and cycles, subtractions and parallelism, switches and differentials. Architecture, as it is used here, might describe the parameters or protocols for formatting space."⁵

This thesis, currently focusing on Boston and Logan airport is not to propose a new airport as has been already pre-determined. Instead, it is a thesis that proposes the re-reading of both city and airport through their reciprocities and contingencies through a series of interventions in and around the airport. By examining existing constraints one becomes aware of a series of loopholes, happy accidents, and escape diagrams. Initial instincts in the potential for this re-interpretation is both locally and globally situated within the areas of East Boston and airport land that overlap and abut as well as those mechanisms that have extended the space of the airport into both a non-fixed fluid space and non-physical presence, the airplane itself. Here the seeds of programmatic hybridization and invention are still alive with the potential for a new middle landscape, one in which the inherent tensions of place and identity can be reconstructed and re-identified through specific architectural mechanism.

The existing linear process of airport processing is a seemingly familiar and identifiable diagram. This thesis takes those elements that constitute process and circulation and examines potential for architectural invention. By examining the existing system as well as those specifics related to Boston's Logan Airport, the thesis will propose a series of interventions to reconstitute the airport as more than a socially accepted compromise. As a vehicle for testing these tensions between place and non-place I will extrapolate on existing programs of recreation, health and fitness already found between airport and city. By architecturalizing





these latent programs into a new form of hybridity with airport and transport infrastructures, the thesis can be tested.

As defined in his book *Non-Places, Introduction to an Anthropology of Supermodernity*, Marc Augé distinguishes airports as archetypical non-places, stating "If a place can be defined as relational, historical and concerned with identity, then a space which cannot be defined as relational, or historical, or concerned with identity will be a non-place. The hypothesis advanced here is that supermodernity produces non-places, meaning spaces which are not themselves anthropological places and which, unlike Baudelairian modernity, do not integrate the earlier place: instead these are listed, classified, promoted to the status of 'place of memory', and assigned to a circumscribed and specific position...A world thus surrendered to solitary individuality, to the fleeting, the temporary and ephemeral, offers the anthropologist (and others) a new object, whose unprecedented dimensions might usefully be measured before we start wondering to what sort of gaze it may be amenable. The distinction between places and non-places derives from the opposition between place and space. An essential preliminary here is the analysis of the notions of place and space suggested by Michel de Certeau. He himself does not oppose 'place' and 'space' in the way that 'place' is opposed to 'non-place'. Space for him is a 'frequented place', 'an intersection of moving bodies': it is the pedestrian who transforms the street (geometrically defined as a place by town planners) into a space. This parallel between the place as an assembly of elements coexisting in a certain order and the space as animation of these places by the motion of a moving body is backed by several references that define its terms."⁶

In its re-reading the city through the ubiquitous infrastructures of air transport, the thesis provokes questions regarding architecture as an form of urban strategy. This thesis is posited in anti-thesis to the notion of master planning and sees the creation of urbanism as small scale, accumulative temporal rather than over-arching, instantaneous and static. My intentions are to examine local notions of place, people, demographics and the everyday in relation to these seemingly universal infrastructures. In the past, the projects that have given me the most pleasure and those I see as most relevant are those that are based on a multi-scalar reading of a place and the various phenomena that characterize it and consequently formulate architecture of critique and/or reinterpretation. Perception or urbanity and architecture's role in the molding of people's physical and psychic environments has become a consistent preoccupation in my work. My conviction is that architecture's potency lie

in its ability to expose latent urban potentials of both a public and private nature.

The critique of globalism and its defining networks has been launched, theory has posited everything from the end of place (i.e. Non-Places as defined by Marc Augé) to the strange sense of liberation found within them (Terrain Vague as defined by Ignasi de Sola-Morales). This thesis will examine, through critique and theory in a form of architectural specificity, the re-reading of Boston through Logan International Airport as both place and non-place. Thus the thesis hopes to contribute one of many solutions to the expanding field architecture's synergistic role within the infrastructures that envelope our daily lives. This tension between definition of airports as both place and non-place is exemplified in Rosler's text, "Flying intimates that there is no journey, only trajectory. Look at the maps at the back of the airline guide. Arrows dominate the featureless shapes on the map."⁷

Existing local and global conditions will be mapped in relation to Boston, relating the airport to local and global networks. A series of sites for intervention are identified through field analysis, photography and the analysis of urban structures and contexts of existing areas surrounding and inside Logan. Existing modes of transport interface with the airport will also be examined, also through photography and diagram, mapping points of interface, overlap and exchange between existing transport systems as they feed into the airport. My aim in doing so is to more qualitatively understand how one perceives the airport and the city through various modes of transport and to find any potential spatial siting for architecture as mediator. Answering questions about how one perceives of the airport and city through the senses.

Conversely, I will examine the airport as it is diagrammed as a quantified and regulated machine for processing passengers. In researching, one comes across various diagrams as they relate to the airport, each presented as semi-autonomous sets of rules. In comparing and relating these diagrams I will reconstruct the airport in its ideal state. In their abstraction these diagrams become a kind of virtual site to be probed for potential architectural invention. Ultimately these architectural pieces will test the urban nature of both city and airport, and in this process realize a point or series of points within a larger network of these so called non-places in which notions of place, identity and specificity manifest.



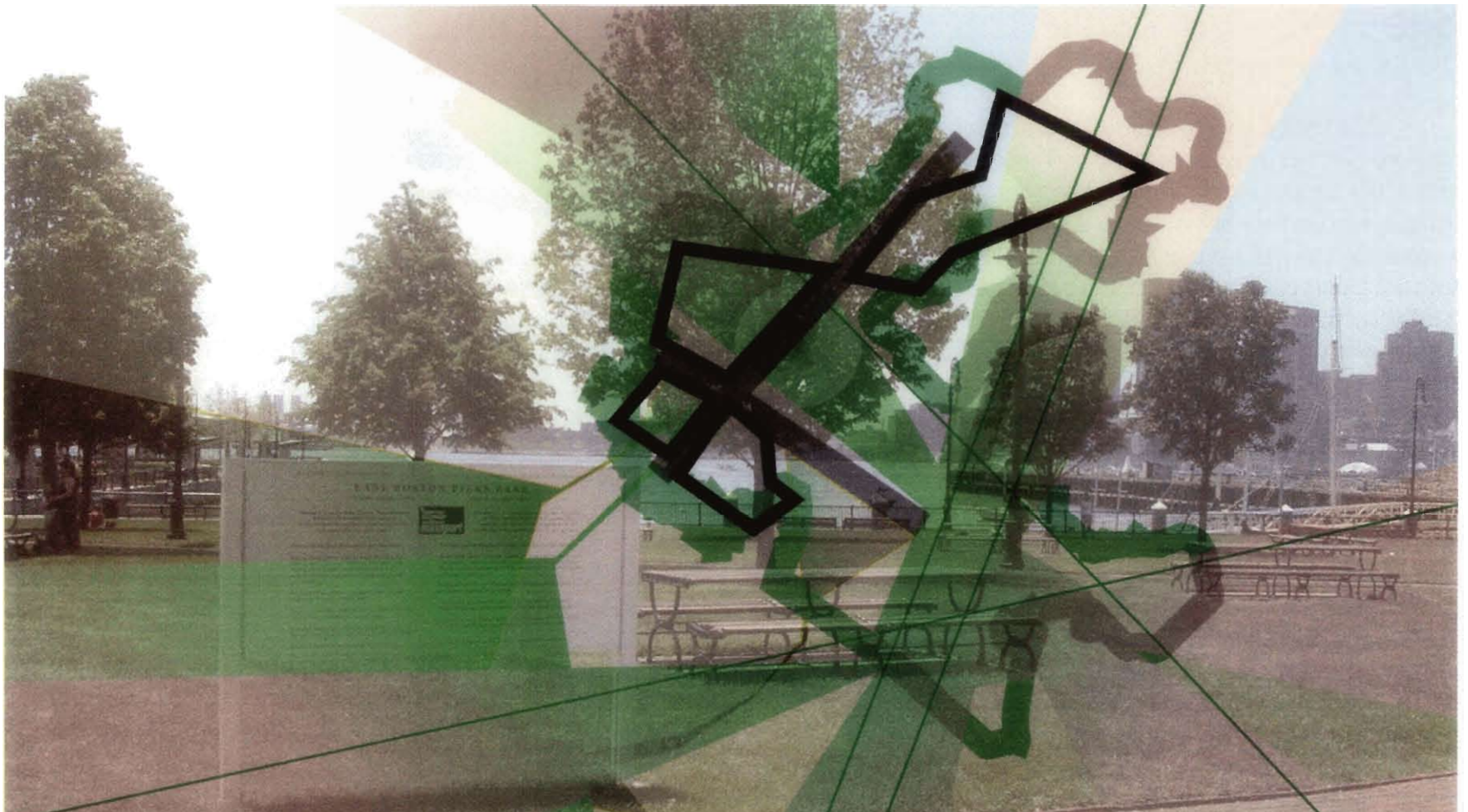


Boston, East Boston and Logan Airport

Site

East Boston, originally consisting of five harbor islands: Noodles, Hog, Apple, Governor's and Bird was largely uninhabited until development of its coasts into port lands in the early 1800s, about a century and a half after the founding of the city. Commercial investment brought more development, under the auspices of Williams Sumner's East Boston Company, a population took root and eventually the marshlands that separated the five islands were filled and reclaimed, as was common in other parts of Boston. East Boston became home to diverse, immigrant communities with the opening of a trans-atlantic route. The Cunard Line terminal which opened in 1840 brought with it an influx of largely Irish, Jewish and then Italian immigrants into the twentieth century. In recent years East Boston has welcomed a growing Latino population. Today, the population of East Boston is approximately 39,000 people (the population of Boston proper is about 590,000). The district consists of 4.5 square miles, around 10% of Boston's total area (48.4 square miles). East Boston's population density, 8500 people per square mile is less than Boston's overall density (approximately 12,170 people per square mile). All of these statistics, however, do not account for the fact that approximately two-thirds of East Boston is occupied by the airport. Today, much of the commercial activity in East Boston is centered on Logan International Airport, which opened as Boston Airport in 1922 and began to expand rapidly after World War II.⁸

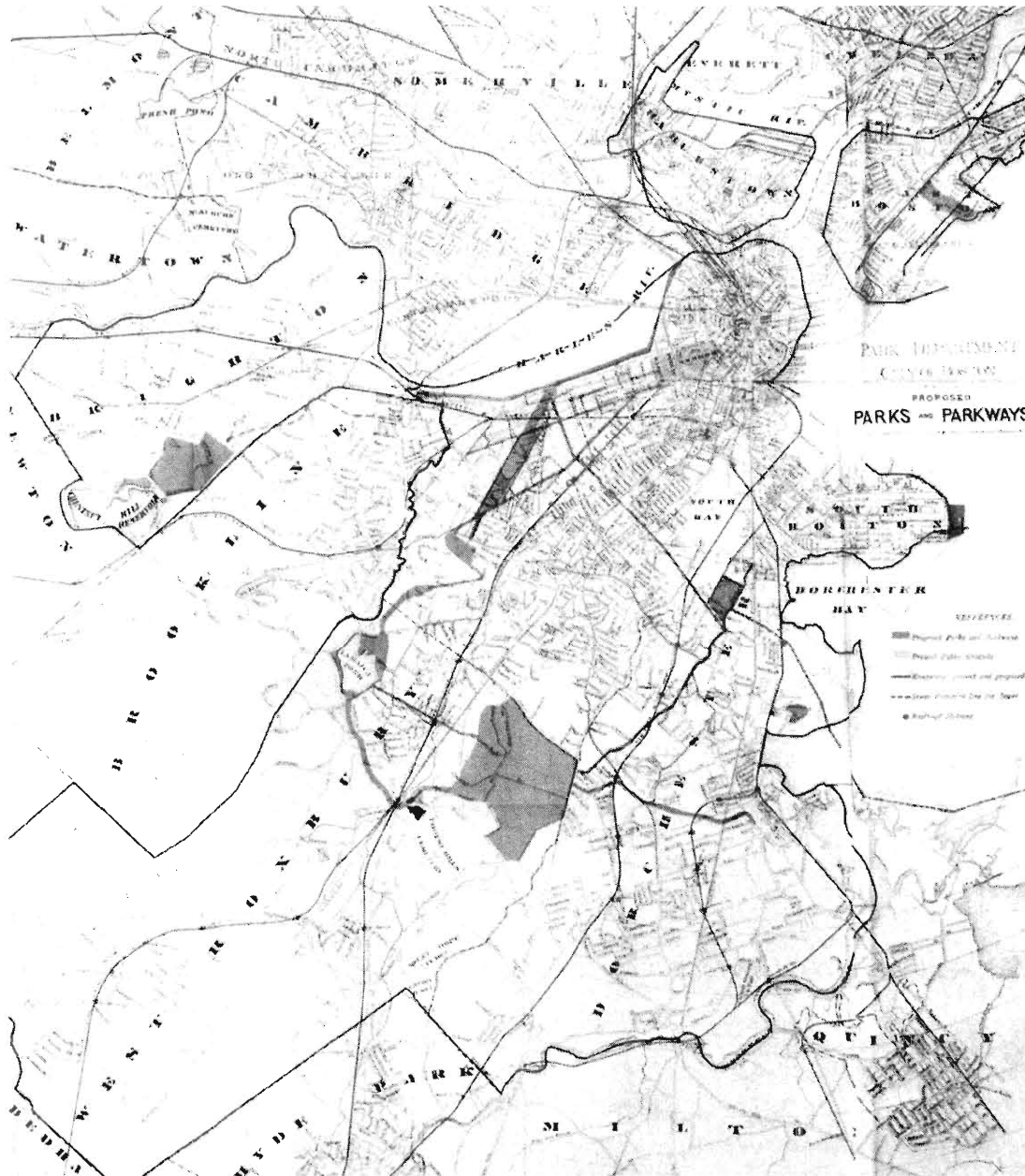
In many ways East Boston remains an island even to this day. Although located within sight of the center of the city, the neighborhood's continued separation is made palpable, not only by the harbor surrounding it, but by the limited and isolated means for accessing it. For many years East Boston was linked to the rest of the city only by ferry services. Construction of the country's first underwater subway tunnel (in 1904), and the opening of the Sumner (1934), Callahan (1961) and the Ted Williams (1995) Tunnels have provided practical means for inter-connection with Boston's center and the city at large, but have resulted in spatially and architecturally mute expressions of civic ambition.



Once an Island, always an island. Like much of Boston, East Boston is largely reclaimed from the ocean. Unlike much of Boston, however, East Boston remains largely an island isolated from the rest of the city by the harbor, and its lack of physical connection. East Boston's separation also has to do in large part with over half of its land mass being owned by two state run corporations, Massport, which oversees almost the entire perimeter of East Boston in its control of all harbor land as well as the airport, and the Massachusetts Turnpike Authority, which over the years has along with those operations of the airport drawn and quartered the area with high speed interstate highways. The politics since the 60s have now shifted, after a long term of litigation, both regional interests have adopted a strategy in which to maintain growth a series of consolations are offered in the form of the neighborhood park. These spaces seem no more than an attempt to placate local constituencies, creating dispersed spaces that have no public or civic identity and speak nothing of the surrounding context.

An Island

Today an overwhelming majority of Bostonians (East Bostonians included) use private automobiles as their primary mode of transport, however, East Boston is well serviced by the MBTA Blue and Silver lines, as well as several bus routes, which provide access to both Logan Airport as well as the residential neighborhoods of East Boston. To this day one can still take a public water taxi from Long Wharf to the pier at Logan Airport. Despite these connections, however, modes of access are limited and many of these channels of transportation are spatially as disconnected from the city as those of the airport. Perceived distances increase as most connections are subterranean, hence perpetuating one's sense that East Boston is in fact still an island, far away from the city center. Surrounded and divided by Massport and the Massachusetts Turnpike Authority, much of the local constituencies of East Boston have only been further separated from the rest of the city over the past fifty years.



Park and parkways proposed by the Boston park commissioners in 1876.

Public Space

The notion of public space in the city of Boston has long been rooted in the design and establishment of its open spaces, parks and transportation systems. As early as the time the city incorporated, there was a strong belief and investment in the creation of spaces that serve a public good and remain accessible to a majority of the population. The Boston Common, originally functioning as a collective space for the grazing of livestock, is one of the first examples of public open space in Boston and the United States. It was established just four years after the city was incorporated in 1634. By 1830 the Common was transformed into the city's first public park. As a public space it exemplifies the creation of a public realm driven by civic initiative and private development in the promotion of democratic ideals. The Common is also a precedent of public space embedded within the city's infrastructure, providing a space of functional and symbolic malleability over time. It is also no coincidence that around 1830, the population of the city began to expand rapidly. With increasing growth and density the establishment of public open spaces became all the more significant.

By 1859, the city council organized a special committee to oversee the future of Boston's open spaces, the Boston Park Commission. With its increasingly dense population the city realized it must establish a comprehensive plan for a system of open spaces and parkways that would provide space for recreation and transportation throughout the city. The plan was not without opposition. Many argued that the city should only invest public money on infrastructures that would produce direct financial returns for the city, such as roads, bridges and sewer systems. This argument, often heard to this day, was also supported heavily because the city had just suffered the ravages of the Great Fire of 1872. Opposition soon subsided with the appointment of Frederick Law Olmsted as the chief designer for the Parks Commission in 1875. His reputation for extensive park planning in cities like New York and Chicago generated the necessary shift in public opinion. Olmsted's convictions about the value of open spaces and his rebuttal to these arguments were made evident when he explained, "The highest value for example of civic buildings...of sewers, and bridges is realized while they are new. Afterwards, a continual deterioration must be expected. As to a park when the principal outlay has been made, the result may under good management...be increasing in value at an advancing rate and never cease as long as the city endures"⁹.



Boston has a BEAUTIFUL park system.

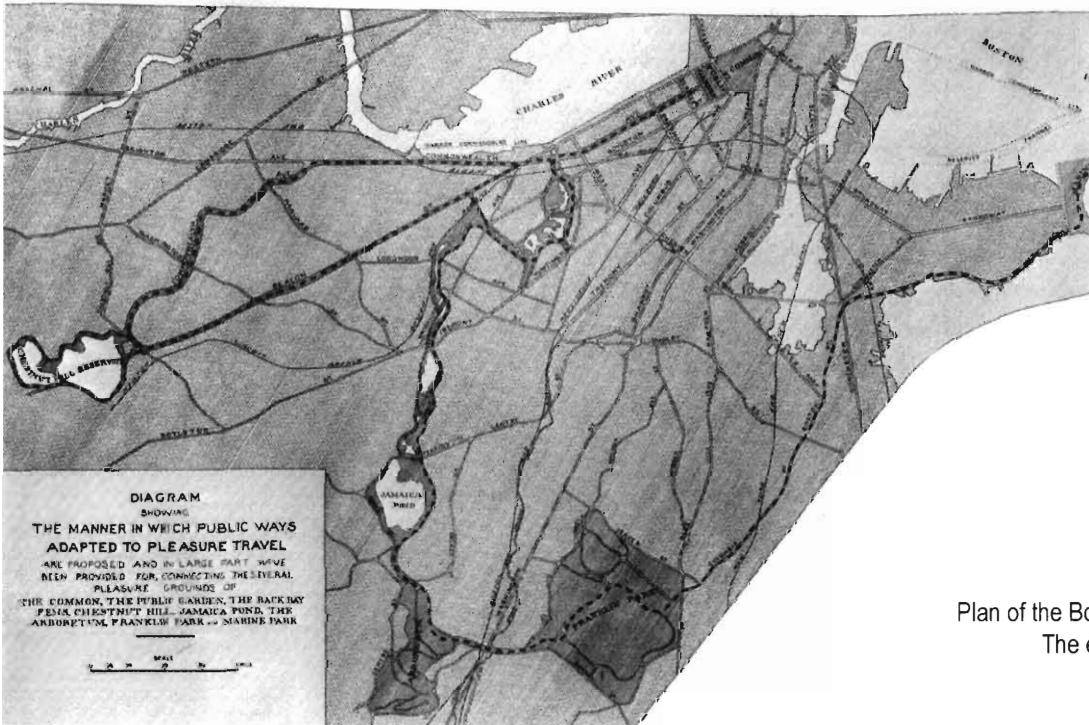
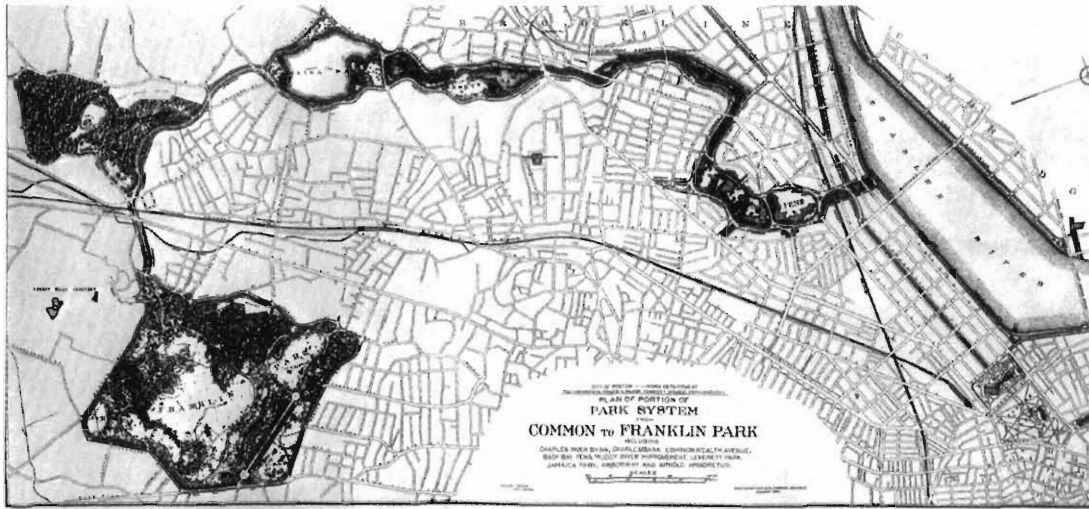
In 1878 the city of Boston commissions Fredrick Law Olmsted to design a comprehensive system for a burgeoning metropolis. His proposal, The Emerald Necklace, is a physically continuous network of parks surrounding, defining and connecting the city. The BEAUTY of his solution is one, not only of pastoralism or nostalgia, but one of urbanity and metropolitanism. Stretching from the Boston Common to East Boston's Wood Island Park, a linear sequence of parks, boulevards, and parkways would also be coupled with a multitude of larger metropolitan infrastructural networks of roads, rail, mass transit and water management systems. The synthesis generates an effect of BEAUTIFUL INFRASTRUCTURE, the whole, greater than the sum of its parts.

The 1875 Revised Parks Act outlined the methods by which open spaces would be designed and developed through a series of reports that offered a plan for the cities future parks, parkways, neighborhood parks and playgrounds, such that “all classes of citizens by walking, driving, riding, or by means of horse or steam car could access rural character and natural beauty”¹⁰.

The core of the park system was its five-mile-long, continuous portion, the “emerald necklace,” as it has come to be called, consisting of five major parks (Back Bay Fens, Muddy River Improvements, Jamaica Park, Arnold Arboretum, and Franklin Park) and their connecting parkways (Fenway, Riverway, Jamaicaway and Arborway). Commonwealth Avenue, already laid out as part of the Back Bay residential district, connected the new park system with the existing Common and Public Garden.¹¹

The beauty of the Commission and Olmsted’s solution is one, not only of pastoralism and nostalgia, but one of urbanity and metropolitanism. Stretching from the Boston Common to Marine Park, a linear sequence of parks, boulevards and parkways would also be coupled with a multitude of larger metropolitan infrastructural networks of roads, rail, mass transit and water management systems. I argue that this synthesis generates an effect of beautiful infrastructure, the whole greater than the sum of its parts. More than simply an economy of means, in designing these systems in parallel and in dialogue with one another, public space of a higher quality is generated. What, as an independent system, such as roads or water ways, could be seen as simply expedient and functional is simultaneously made more efficient and more complex. Ultimately leading to a public space in which a multitude of diverse constituencies can coexist and perhaps come together in meaningful dialogue and negotiation.

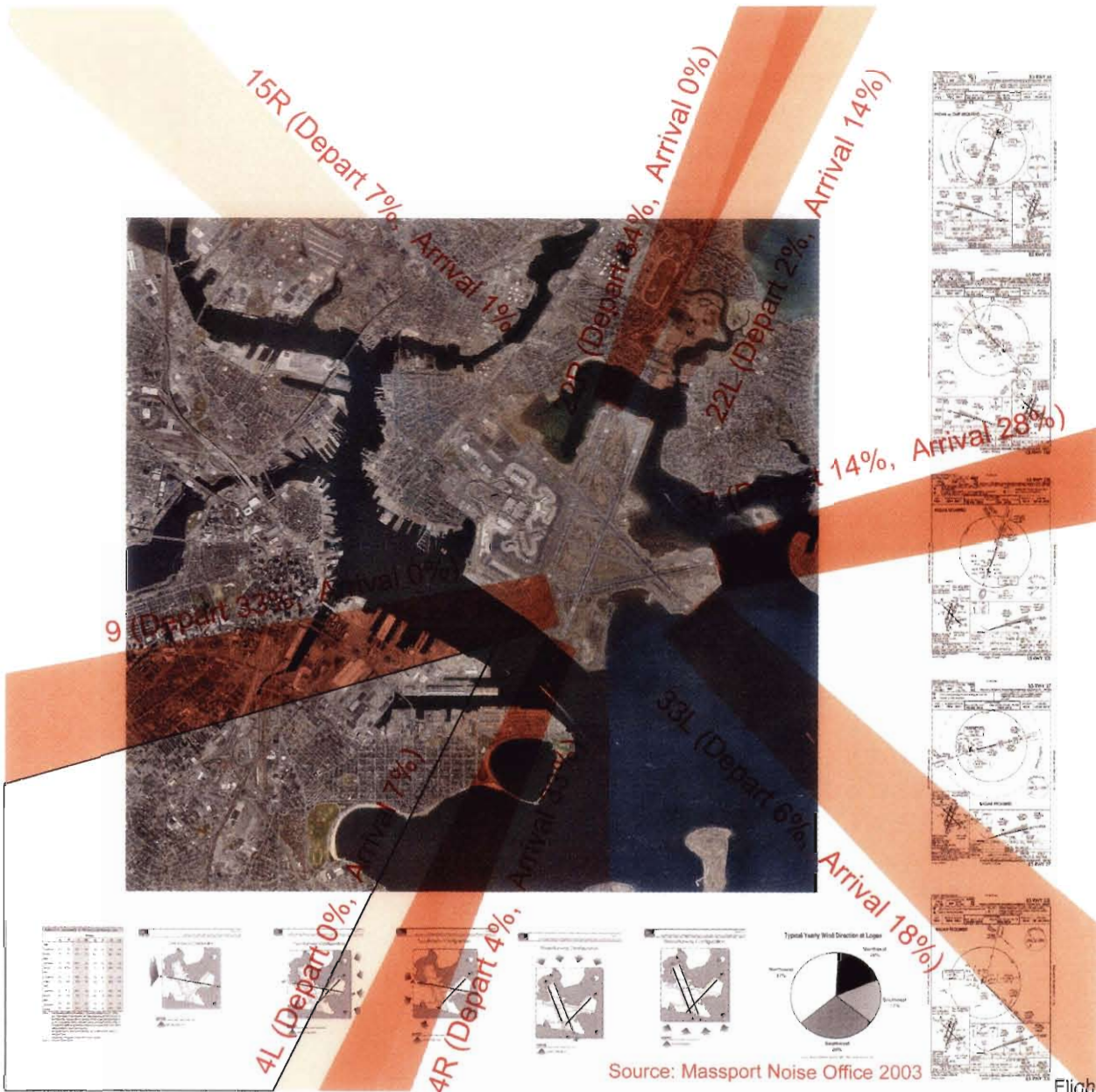
Today, just as in Olmsted’s day, public space is equated as much with the space of transportation as that of the city’s park system. Many of Boston’s most prominent squares are in fact the intersection and interchanges of transportation networks, whether they be roads, rail or subway lines, or even waterways. Spaces like Kenmore Square, Dewey Square, and Day Square in East Boston are examples of nodes in the city in which transit intersections and interchanges which by their shear activity, programmatic complexity and necessity to city life have become essential civic spaces in Boston. Common throughout Boston and Cambridge, even tiny intersections will have signage designating the intersection as a square, typically named as a memorial to people of civic importance. The signification of a civic character engenders even small intersections, alluding to a larger notion of public life and local identity.



Plan of the Boston Park System from the Common to Franklin Park, 1894, above.
 The emerald necklace parks, with links to the Common and Marine Park.
 A comprehensive plan that strategically links a series larger urban parks with the existing fabric and each other, below.

By understanding the nature of public space in Boston, the thesis proposes a continuation and exploration of these permutations of public space which are characterized by the beauty of their coordination and intersection of infrastructure, and their provision for public welfare. It is made evident by the fact that the very act of naming an intersection a square, suggests that public space in Boston is as much an idea as it is a physical place. In fact, many of these squares are experienced only in transit and suggests that as designers we must conceive of public space that is not only inhabited by the body in a static nature but that is inhabited by the eye and mind. Olmsted's coupling of the riverway with the MBTA Green Line exemplifies this idea. Even people who are not exiting the train in the Fenway have the opportunity to access the space visually. Olmsted referred to this as "pleasure travel." It may provide a refreshing outlook on the city for the many people who commute that way daily, yet never actually inhabit the parkway system.

In his book, *The Image of the City*, Kevin Lynch suggests that the way that we conceive of and remember the city is in fact just as important as the physical nature of its spaces. The core of his thesis is that as a public, we create both highly personal but also commonly held images of the city, through "the consistent use and organization of definite sensory cues from the external environment"¹². It is both the physical environment and our past, current and anticipated experiences that provide means for orientation and the construction of the city's image. As designers, architects or planners, Lynch suggests that our interests and study should focus on city form in the creation of places within the city that can function as generators of what Lynch terms "public images, the common mental pictures carried by large numbers of a city's inhabitants: areas of agreement which might be expected to appear in the interaction of a single physical reality, a common culture, and a basic physiological need"¹³. The primary reason for this is not only to create some sense of order and means for orientation among the common public, but ultimately to allow the public to create images that embody abstract notions with public significance. As Lynch's objective, the role that city form plays in the imageability of the city leads him to focus on five classifications of urban elements, all of which are central to the proposals of this thesis, they are: paths, edges, districts, nodes and landmarks.

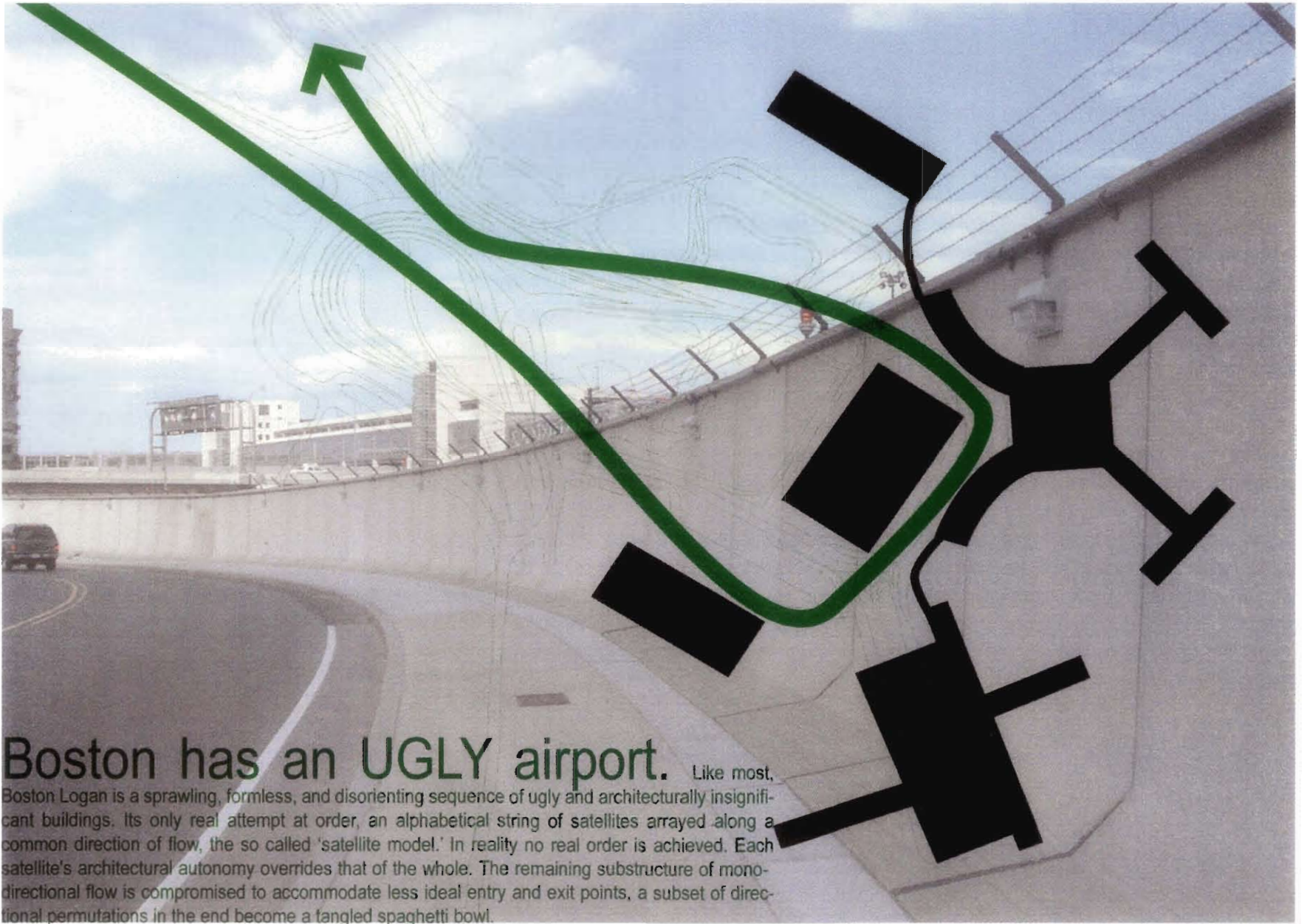


Flight paths and frequency of use, www.massport.com.

Logan Airport

Logan International Airport is New England's largest transportation center. It covers 2400 acres of mostly reclaimed land in Boston Harbor, directly across from downtown Boston. In 2003 Logan served as a gateway to 22,778,495 passengers, the nation's nineteenth busiest airport. Described as "a city within a city," Logan provides 16,000 jobs and stimulates the local Boston economy by 6 billion dollars a year. Logan International Airport also has its own State Police Troop, Fire-Rescue Unit and non-denominational chapel, Our Lady of the Airways, in addition to commercial restaurant and shopping facilities, there are also two major hotels, car rental, limousine, taxi, bus and subways services. The MBTA Blue and Silver lines provide Logan with public transportation links to much of greater Boston and provide convenient access to downtown in a matter of minutes.

As one of the few major international airports located within the city, Logan has exceptional negative and positive urban potentials. Founded in 1922, before Boston expanded outward, the airport is now enveloped by a variety of residential, industrial, commercial and public uses, making Logan's proximity to downtown and densely populated areas both convenient but also generating many problems. Noise, air and light pollution as well as the "external costs" this pollution has on local land value, and an overall degradation of the urban fabric and its open spaces over the course of the airport's history, characterize the airports tenuous relationship with its surrounding context. The primary goal of this thesis is to begin attempt to find solutions to existing problems regarding the airport in its relation to the local urban context, by exploring potential hybrid formal and programmatic architectural potentials that have yet to be capitalized upon.



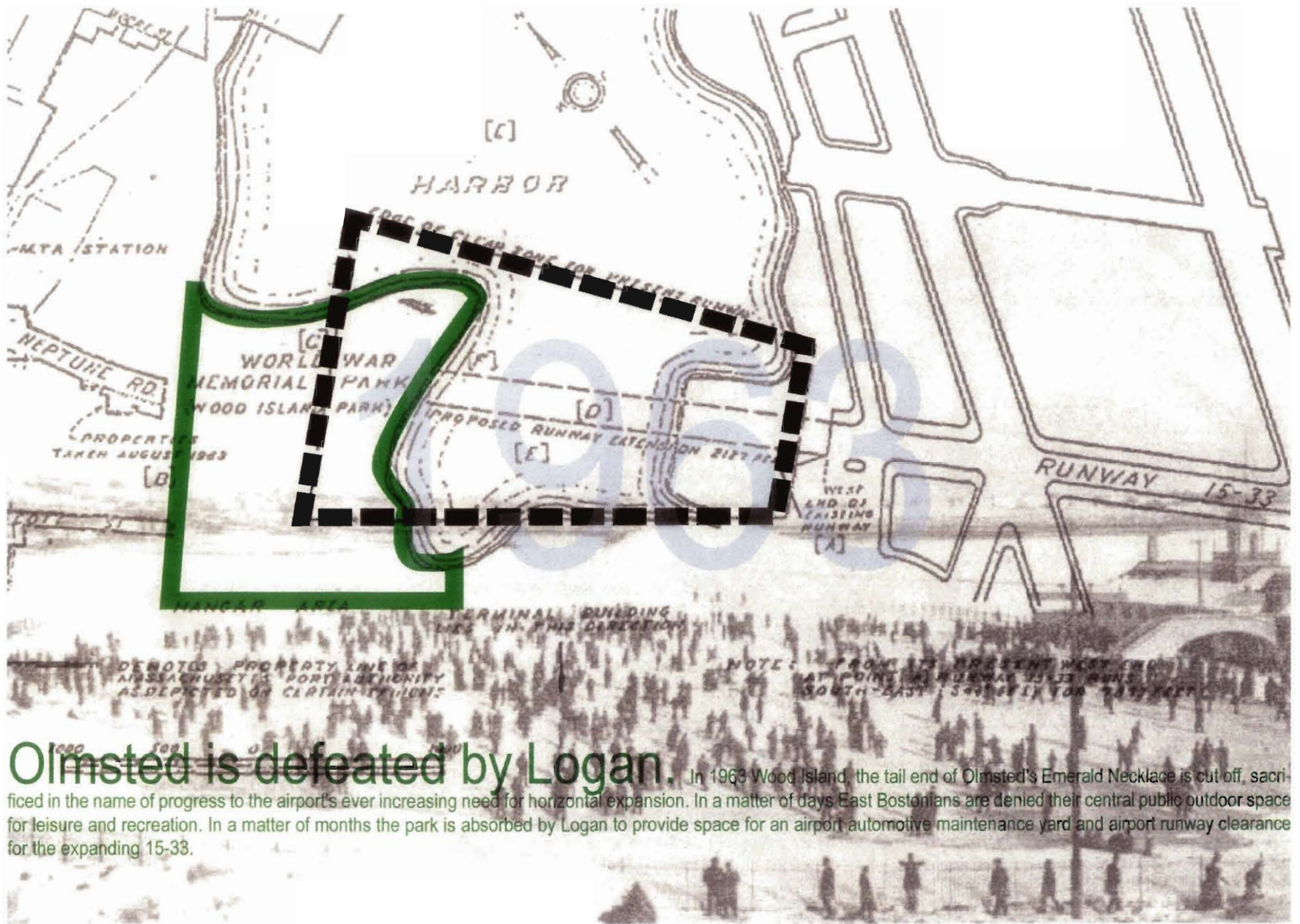
Boston has an UGLY airport. Like most, Boston Logan is a sprawling, formless, and disorienting sequence of ugly and architecturally insignificant buildings. Its only real attempt at order, an alphabetical string of satellites arrayed along a common direction of flow, the so called 'satellite model.' In reality no real order is achieved. Each satellite's architectural autonomy overrides that of the whole. The remaining substructure of mono-directional flow is compromised to accommodate less ideal entry and exit points, a subset of directional permutations in the end become a tangled spaghetti bowl.

Issues and Conditions

Boston has an ugly airport. Like most, Boston Logan is a sprawling, formless and disorienting sequence of ugly and architecturally insignificant buildings. Its one attempt at an overriding order, an alphabetically ordered string of satellites arrayed along a common direction of flow, the so-called 'satellite model.' In reality no real order is achieved. Each satellite's architectural autonomy overrides that of the whole. The remaining substructure, a mono-directional flow is compromised to accommodate less than ideal entry and exit points, a subset of directional permutations in the end become a tangled spaghetti bowl of access roads, ramps, feeder roads, drop-offs and parking lots. Rather than initiate newcomers to Boston with a sense of clear orientation, one enters the city lost. Instead of isolating itself from the rest of the city and disorienting its users, the airport and its associated spaces should become civic spaces, landmarks within the city, creating a greater sense of orientation and clarity with the city at large.

Logan is ugly for the exact opposite reasons that Olmsted's emerald necklace is beautiful. As a major gateway to and from Boston it functions almost autonomously from the city which surrounds it in a sequence of mono-functional spaces and programs. It fails to synthesize the various urban components that so readily feed and surround it into spaces and programs that benefit the local constituencies as well as fully satisfying those of a global constituency. It is the conceit of this thesis that by its very physical embeddedness and proximity to the city, that Logan produce public spaces as accessible, functional and beautiful as those produced for its open spaces and other transport systems. By doing so the airport can be looked upon as an integral part of the city, rather than competing with it. The goal of the proposals in this thesis are to ameliorate tensions so readily described by Dorothy Nelkin in her treatise on the social and political problems related to airport noise in Boston:

"Its stark, spacious, modern architecture is striking in its densely populated urban setting full of old triple-decker wood-frame homes. The contrast is symbolic and important in understanding the intensity of community opposition. The airport is a sort of city within a city; a subculture of mobile, middle-class citizens who thrive on the conveniences of a facility that is devastating to a community that shares few of its benefits. That is not to denigrate the airport's economic contribution to Boston. It employs about 16,000 people and uses an average of 1,750 construction workers each year. Its operations contribute 6 Billion dollars a year, mostly in wages, construction and maintenance costs and purchases. However, its jets release some 84,000 pounds of contaminants each day, and the negative impact of noise effects some 100,000 people in East Boston, Revere and Winthrop"¹⁴.



Olmsted is defeated by Logan. In 1963 Wood Island, the tail end of Olmsted's Emerald Necklace is cut off, sacrificed in the name of progress to the airport's ever increasing need for horizontal expansion. In a matter of days East Bostonians are denied their central public outdoor space for leisure and recreation. In a matter of months the park is absorbed by Logan to provide space for an airport automotive maintenance yard and airport runway clearance for the expanding 15-33.

Global Over Local Interests

“With forty-six acres, this was by far the largest neighborhood park. It was located directly on Boston Harbor and was reached by Neptune Road, a parkway also designed by the Olmsted firm. Originally a bare and windswept piece of marsh and upland, the site was enlarged by fill and planted with hardy native trees. The plan included outdoor gymnasiums for men and women, a beach, and playgrounds...In 1949 an act was passed authorizing Logan Airport to seize both Wood Island and the neighboring Amerina Park for additional runways; in exchange, East Bostonians were to get a new beach at Orient Heights.”¹⁵

In 1963, political tensions surrounding airport expansion would come to a head as Wood Island Park is sacrificed in the name of progress to the airport's ever increasing need for horizontal expansion. In a matter of days East Bostonians are denied their central public outdoor space for leisure and recreation. In a matter of months the park is absorbed by Logan to provide space for an airport automotive maintenance yard and proper airport runway clearance for the expanding 15-33. What is infamously referred to by Bostonians as the “taking of Wood Island Park” can be traced back to 1949, the year in which the city of Boston relinquishes its rights to the park, as well as Amerina Field (East Boston's largest in-door sporting facility) to the state of Massachusetts and in turn Logan Airport's governing body, Massport, the state-run corporation. In exchange, the city is promised a new stadium, Municipal Stadium, and a beach in Orient Heights, Constitution Beach. Both projects are eventually realized. Today, the spaces of Municipal Stadium and Constitution Beach are engulfed by airport roads and noise, and prove seemingly insufficient substitutes for Wood Island Park and Amerina Field. These spaces embody globally determined politics of airport (economic) development as much as they are opportunities for localizing potentials within a global network of airports. They are vital islands of local activity among the eddies of global flow.

Conflicts with Logan and Massport over Wood Island and the continuous problems with noise, light and air pollution, coupled with other equally insensitive and invasive infrastructural projects has left lasting damage, alienating East Bostonians from one another and the city at large. In addition to the loss of Wood Island Park, East Boston was essentially drawn and quartered by freeway expansion in the 1960s when the Massachusetts turnpike authority built

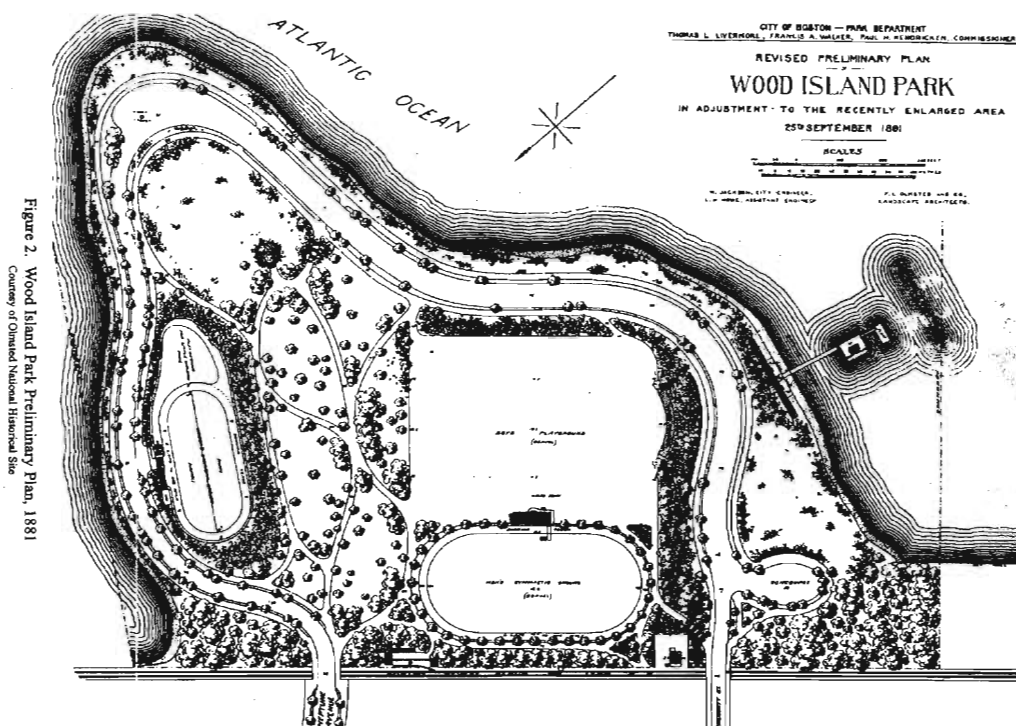
Boston Metro Park System = 10.7sqr.mi. = 22.1% total area = 504 sqr.ft./person
East Boston Park System = .447sqr.mi. = 1.9% total area = 324sqr.ft./person



A Bitter Trade Off. What is infamously referred to by Bostonians as "the taking of Wood Island Park" can be traced back to 1949, the year in which the City of Boston relinquishes its rights to the park, as well as Amerina Field (East Boston's largest in-door sporting facility) to the state of Massachusetts and eventually Logan Airport's governing body, Massport a state run corporation. In exchange, the city is promised a new stadium, the Municipal Stadium, pictured above and beach, Constitution Beach. Both projects are realized. Today, the spaces of Municipal Stadium and Constitution Beach area engulfed by airport roads and noise seemingly insufficient substitutes for Wood Island Park and Amerina Field. These spaces embody globally determine political tools of airport (economic) development as much as they are potentials for localizing potentials within a global network of airports. They are islands of local activity among eddies of global flow.

the McClellan Freeway and the Callahan and Ted Williams tunnels. What was one community was separated into four quadrants by a cruciform swath of land which constitutes much of the zone between the airport and the residential areas of East Boston. Ironically, events of the 60s only galvanized community opposition to state-run, corporate shareholder interests and brought the community together in spirit if not in form.

The fact remains, however, that East Boston is significantly under-served in terms of open public spaces. Statistics show that the entire Boston Metropolitan Park system is comprised of 10.7 square miles of land, which is almost a quarter of its entire area and allots 504 square feet of park space for each citizen, based on census 2000 data. When considering East Boston alone, however, the statistics are much lower. Of its 4.5 square miles, .447 square miles consists of open space, this is only one tenth the land area of East Boston. Based on East Boston's population in 2000, each person is allotted 324 square feet, and many of East Boston's spaces are not recreational parks, but come in the form of squares or intersections.



Site Analysis

LOCAL

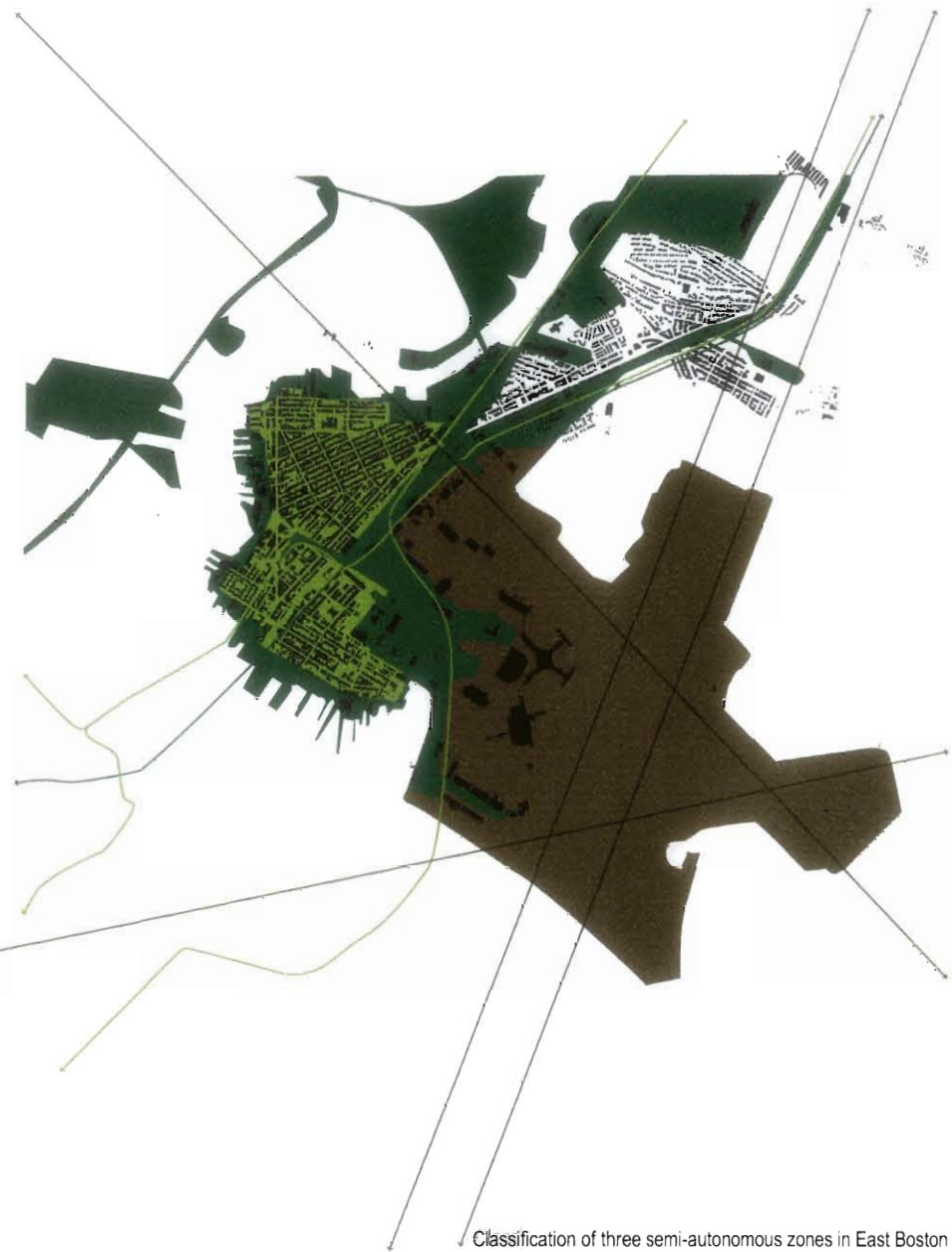
Spanish, Italian and Portugues
Houses, Schools and Shops
Urban neighborhood, city blocks and
playgrounds
Between airport and seaport
Isolated, secluded, insular

REGIONAL

Terrain vague, in-between, no-man's land
Highway, mass transit lines, transportation and
industrial Infrastructures
Interconnection, mobility, space of contingency
Pollution producing, barrier and border creating
Drive, ride, bike, run, and walk
Ports, refineries, parking, storage, vacancy
Underground, on grade, above ground.
Cemeteries, rave venue, gambling at the track.

GLOBAL

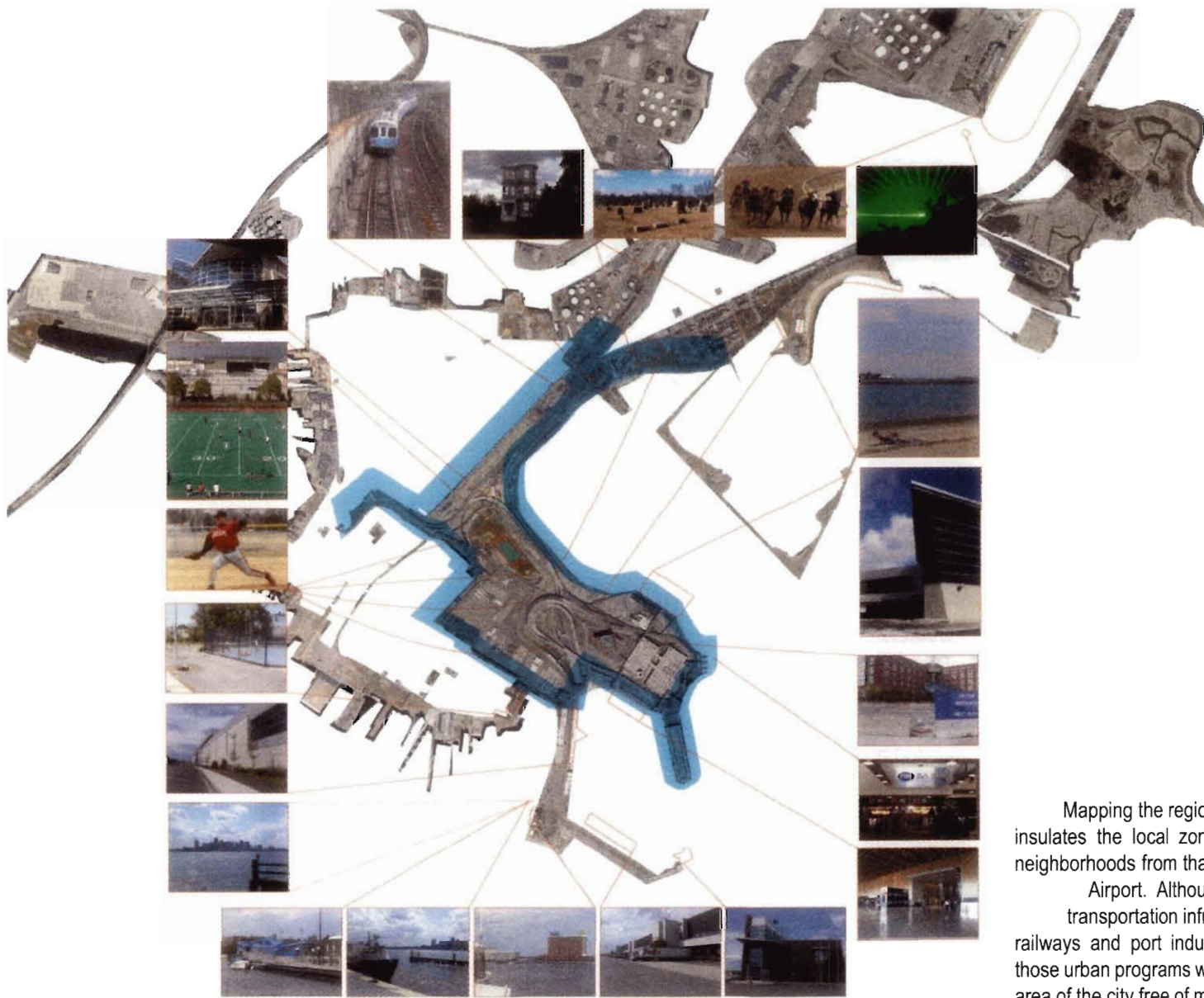
Airport, node of international exchange, gateway
English, english, english
Noise, air and light pollution
Sealed, self-contained, autonomous
Shop, worship, sleep, eat, wait
Disperse space, open space, airspace



Flows and Zones:

East Boston's local, regional and global conditions

The airport and its context can be categorized into three distinct zones: local, regional and global. Each zone has clearly defined boundaries, constituencies and uses, which produce coexisting but stratified urban identities. This system of classification is perhaps universally applicable to urbanism surrounding non-places like airports. Boston Logan's unique urban condition of proximity to the city, however, render these classifications much more pronounced and identifiable. The airport and its related program, already described constitute the global zone. As the international space of arrival and departure, the global zone is characterized by a highly regimented and controlled linear sequence of semi-autonomous, mono-functional spaces. The terminals, which process passengers through ticketing, security, waiting rooms, and gates, lead to car rentals, taxi ranks, bus stops, hotels etc. The people who inhabit the global zone are highly mobile, typically having little or no prior engagement with areas surrounding the airport or perhaps Boston itself. Surrounding the airport is the regional zone. It acts as a buffer or interstitial space, separating the global zone from the local zone. Interstate, state and county highways make up the majority on this zone, these are spaces of predominantly regional flow and are populated predominantly by a semi-local constituency that are perhaps vaguely familiar with the areas of East Boston as well as Logan. A heterotopia in its own right, the regional zone also supplies the space for those "undesirable" programs deemed deviant by society, such as gambling, raving, and industrial processing. However, also within this zone, of particular interest in this thesis are the spaces/functions that allow a breach of use and inhabitation from the local to the global. Existing examples of this nature can be found in the Municipal Stadium, parks, beaches, subway stations, cemetery and in some cases, homes. These spaces suggest programmatic and formal potential for developing a greater integration and mixture of use between local and global zones. Site analysis has lead to the identification of these existing points of hybridization and are located on the diagram included on the following page. Finally, what I will call the local zone, consists primarily of residential use, but also includes commercial and civic uses such as parks, stadia, schools and libraries. This area is more or less permanently inhabited by local residents of East Boston, who rarely use the airport but are, nevertheless, constantly aware of its presence.



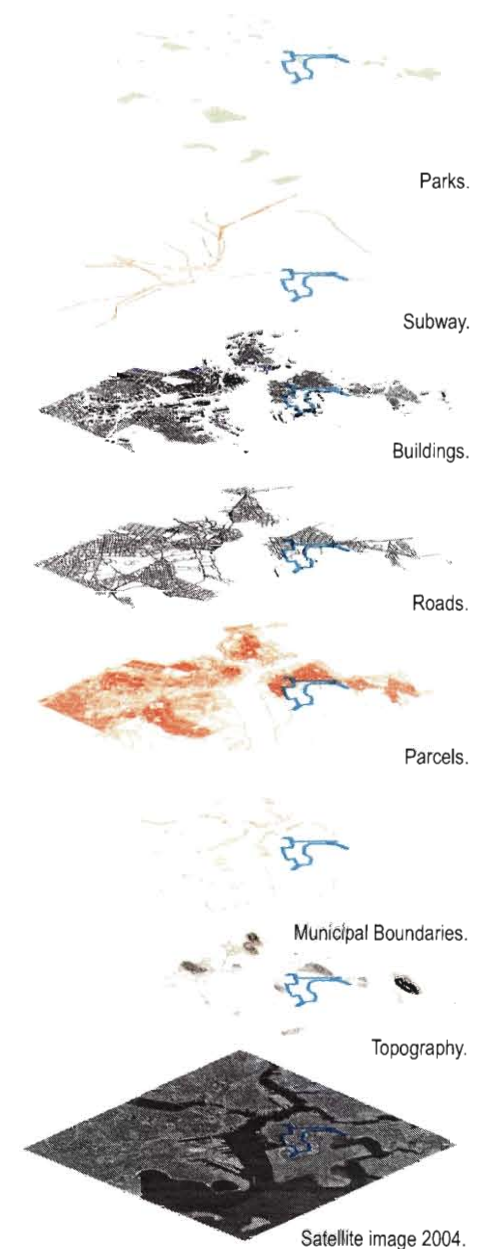
Site of architectural/urban intervention and existing programmatic elements

Mapping the regional zone which separates and insulates the local zone of East Boston residential neighborhoods from that of the globally biased Logan Airport. Although predominantly occupied by transportation infrastructures such as freeways, railways and port industries, of interested here are those urban programs which are allowed to thrive in an area of the city free of many of the legal and economic constraints limit their development.

A Word on Method

By focusing primarily on the regional zone, the buffer that separates local and global, city and airport, the thesis attempts to create spaces in which constituencies and qualities of both zones can benefit from one another, within a newly defined public sphere. By examining the existing context of local and global in relation to the regional, latent potentials are capitalized upon, spaces of mono-functionality become the sites for architectural interventions and anchoring for a newly proposed hybrid landscape. The working method of the thesis is consistently working from a macro to a micro scale. An attempt was made to comprehensively situate the problem within the larger context of Boston, while continuously adopting a very pragmatic approach to urbanism, in which a maximum amount of effect or change can be generated through the minimum intervention, i.e. an architectural project. The thesis begins with the understanding of the airport as a crucial point of transition between the global and local networks and constituencies, and through analysis of urban infrastructural systems continues to hone in on sites with the most pregnant possibilities to enact change in the formation of public space.

After considering three highly differentiated zones within East Boston, focus was shifted from the airport itself to that of the zone of space which separates and insulated the local communities of East Boston from the globally biased constituencies of the Airport. With increase security and post-911 paranoia, the airport has now become, more than ever a distillate of the police state. After much consideration, it seemed that any intervention within the airport itself would be doomed to suffocate under the security measures of the state. Instead, the thesis posits public space as the bridging element external yet integral to the performance and perception of space in and around the airport. The purpose of this thesis was never to propose public space in complete ignorance of security concerns, nor was it naive enough to suggest a reversal of these post 911 realities. A more pragmatic and urban approach seemed to present itself in the introduction of public space in between, allowing for a breaching of zones external to the airport itself.





Open space system in Boston.



Open space and building footprints of Boston.



Logan Airport, situated just east the center of Boston.



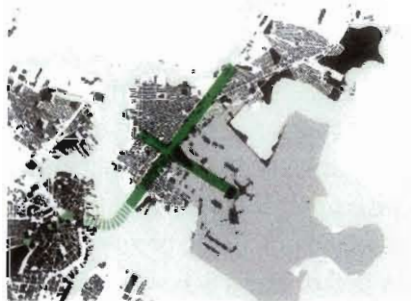
Boston's emerald necklace today.



East Boston and Logan Airport in relation to the existing systems of parks, buildings and water.



Reconnecting East Boston back to the city and the airport.



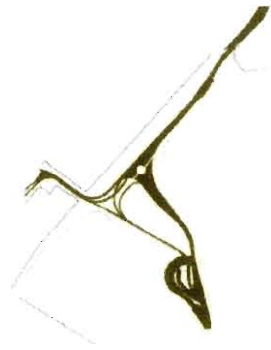
Existing open space in East Boston organizes itself along a series of existing functional and defunct infrastructural lines, this continuity of space can be positively transformed into an extension of the emerald necklace.



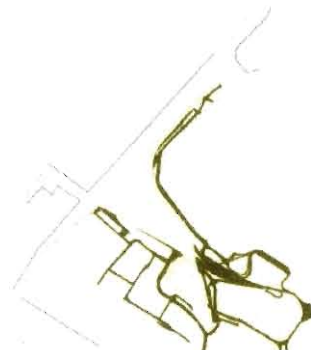
Sites of intervention are numbered and denote places within the new system in which architectural intervention can be used strategically to anchor the new system into its existing context, generating new forms of public space and reconnecting the local and global within an under-utilized territory or regional transportation systems, defunct, post-industrial spaces and undesirable yet necessary programmatic components of the city (such as cemeteries, dance clubs, race track gambling, etc.).



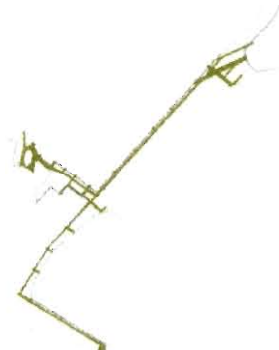
Comprehensive open space plan, continued into East Boston



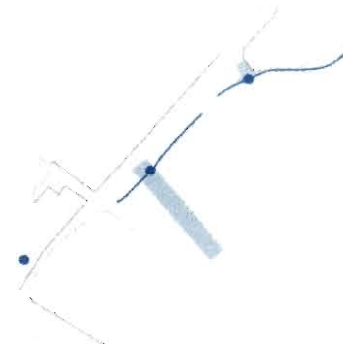
Elevated freeways.



Airport access road system.



Local roads on grade/street grid.



MBTA Blue Line.



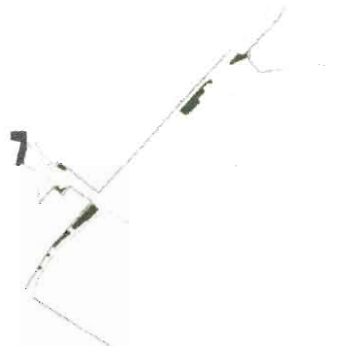
Airport terminal buildings.



Open space and park.



Residential lots at Neptune Road.



Commercial surface parking.

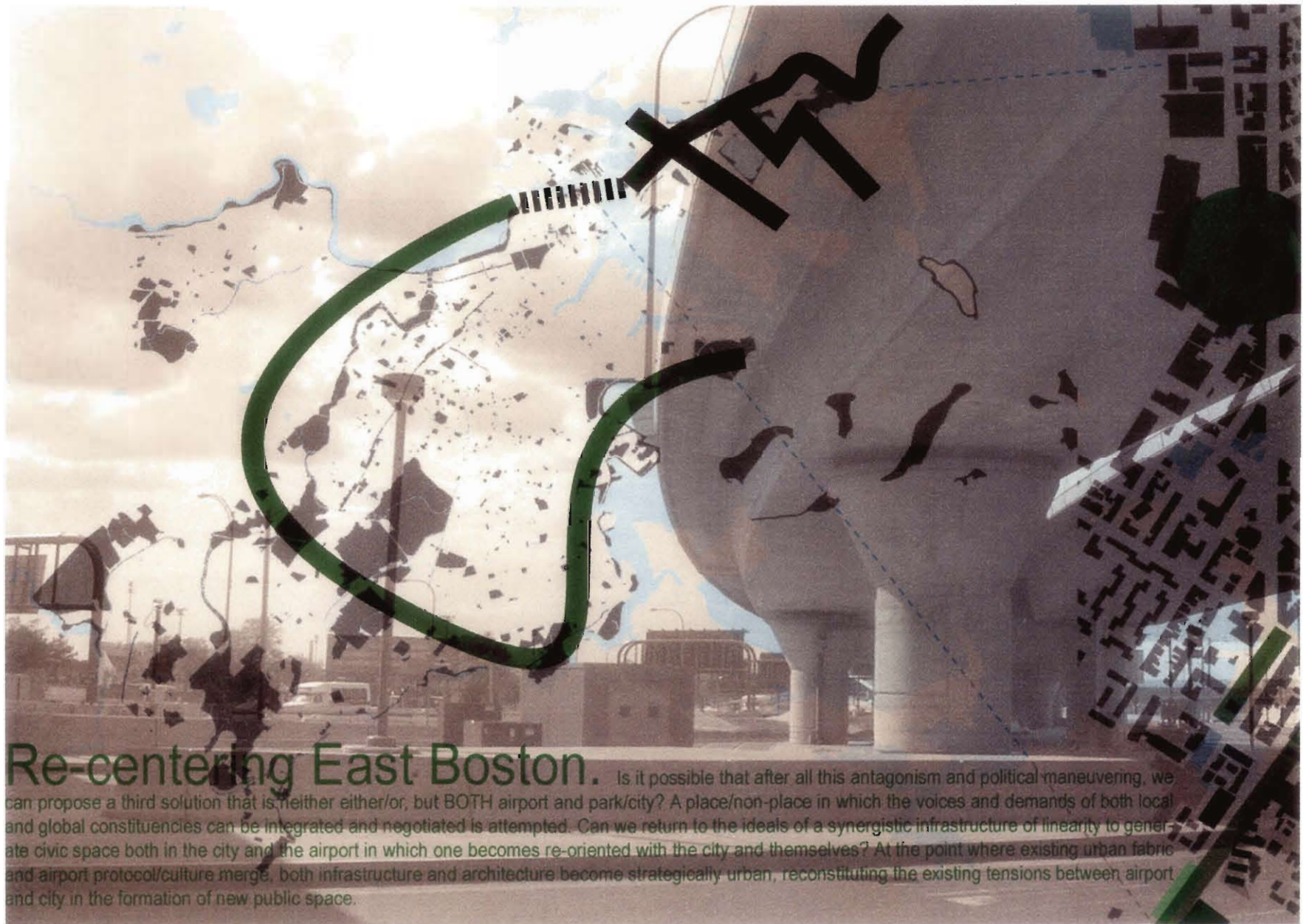


Airport surface parking.



Aerial photo.

Propositions



East Boston Open Space Plan,

Reconstituting the Space of Infrastructure.

Is it possible that the space that now divides East Boston could be the very element that reunites it? By focusing on the territory which divides East Boston and insulates global and local communities as separate and disparate, the thesis proposes a reconstitution of the existing cruciform swath of land that currently occupies the center of East Boston. Instead of seeing the bi-product of urban renewal and modernization as a blight or scar, the thesis provokes us to think of this space and spaces of this type as opportunities for the reconstitution of the non-places of infrastructure into local, as well as, global assets and viable means for the creation of civic space and identity.

Taking cues from the successful legacy of Olmsted's open space plan, the spaces currently occupied by the McClellan freeway, state highways, the MBTA blue line and other defunct or undesirable programs are reinterpreted as a linear park system. Envisioned as a continuation of the emerald necklace into East Boston, the open space plan connects East Boston with the central city through the design and integration of its constituent transportation networks. By selectively adding a series layers to the existing infrastructural network, open space can be colonized for purposes of recreation as well as transportation.

At the urban scale four layers are introduced to the regional zone: a system of green spaces, a system of pedestrian paths, a system of bicycle paths and four key architectural projects. All four of these systems, excluding the final one, exist in isolated instances throughout the space. The proposal here is to integrate them on a larger scale with one another and the neighborhoods of East Boston which surround it. Bike and Pedestrian paths function both as elements which reconnect existing residential blocks separated by the free way as well as a means to connect Municipal Stadium to the Bremen Street Park. Where possible existing defunct infrastructure are reused for new purposes, for example, the disused rail cut in the northern portion of the plan is recycled as a bike path. As a continuous landscape the open space plan unites the four architectural projects which are the focus of the thesis.

By introducing projects with public programming, new means for interchange and systems for pedestrians and cyclists the thesis creates the opportunity for local constituencies as well as regional and global groups to inhabit and adopt the space which has long divided a once united local community.



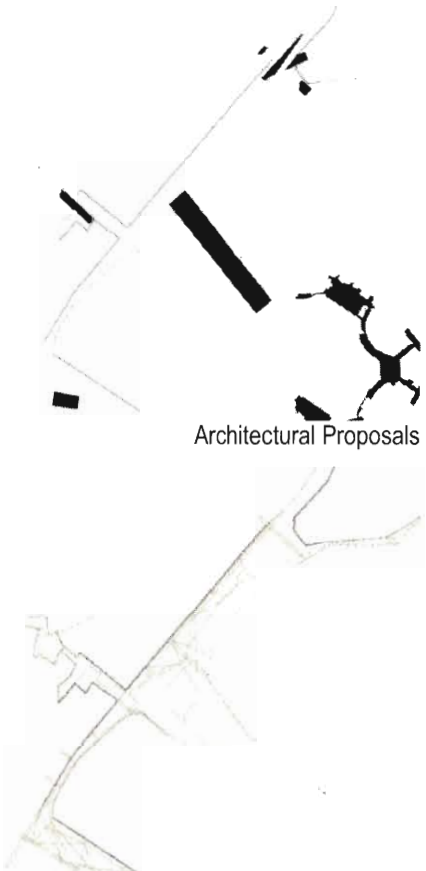
Proposed bicycle path network.



Proposed and existing opens spaces.

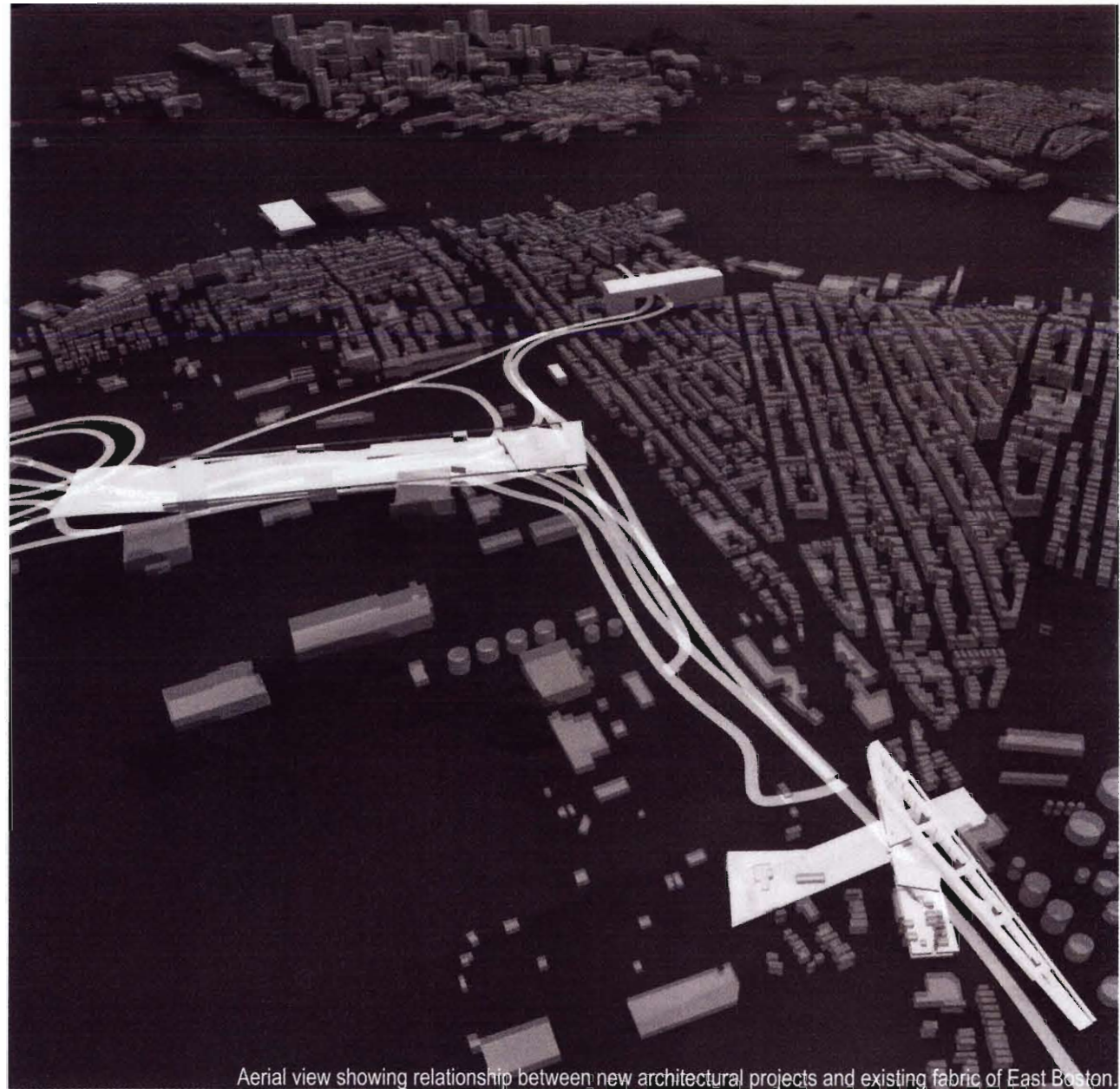


Proposed district site plan, coupling park and recreation space with open land and transportation infrastructure, with a new network of pedestrian and bike paths and four architectural interventions.

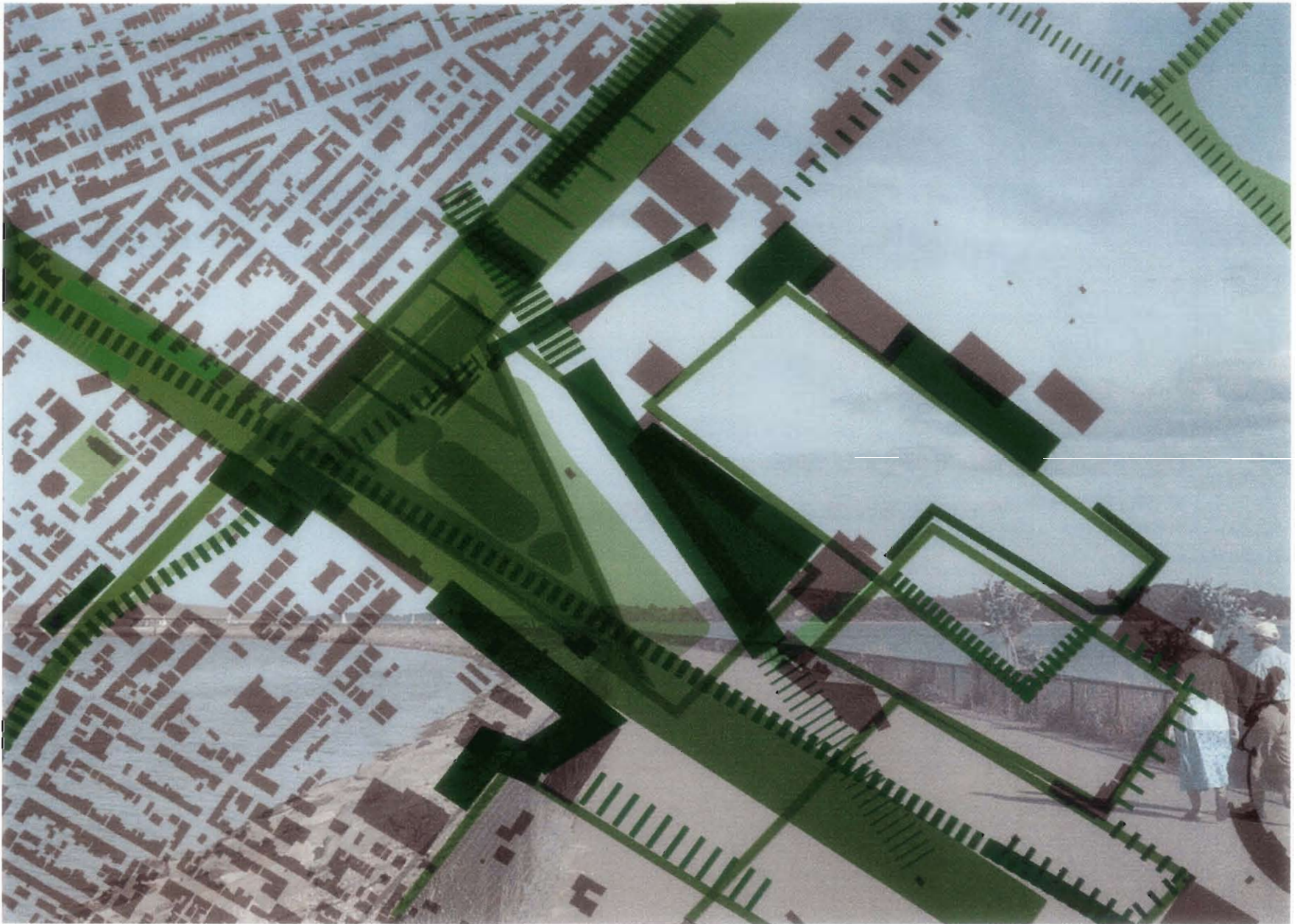


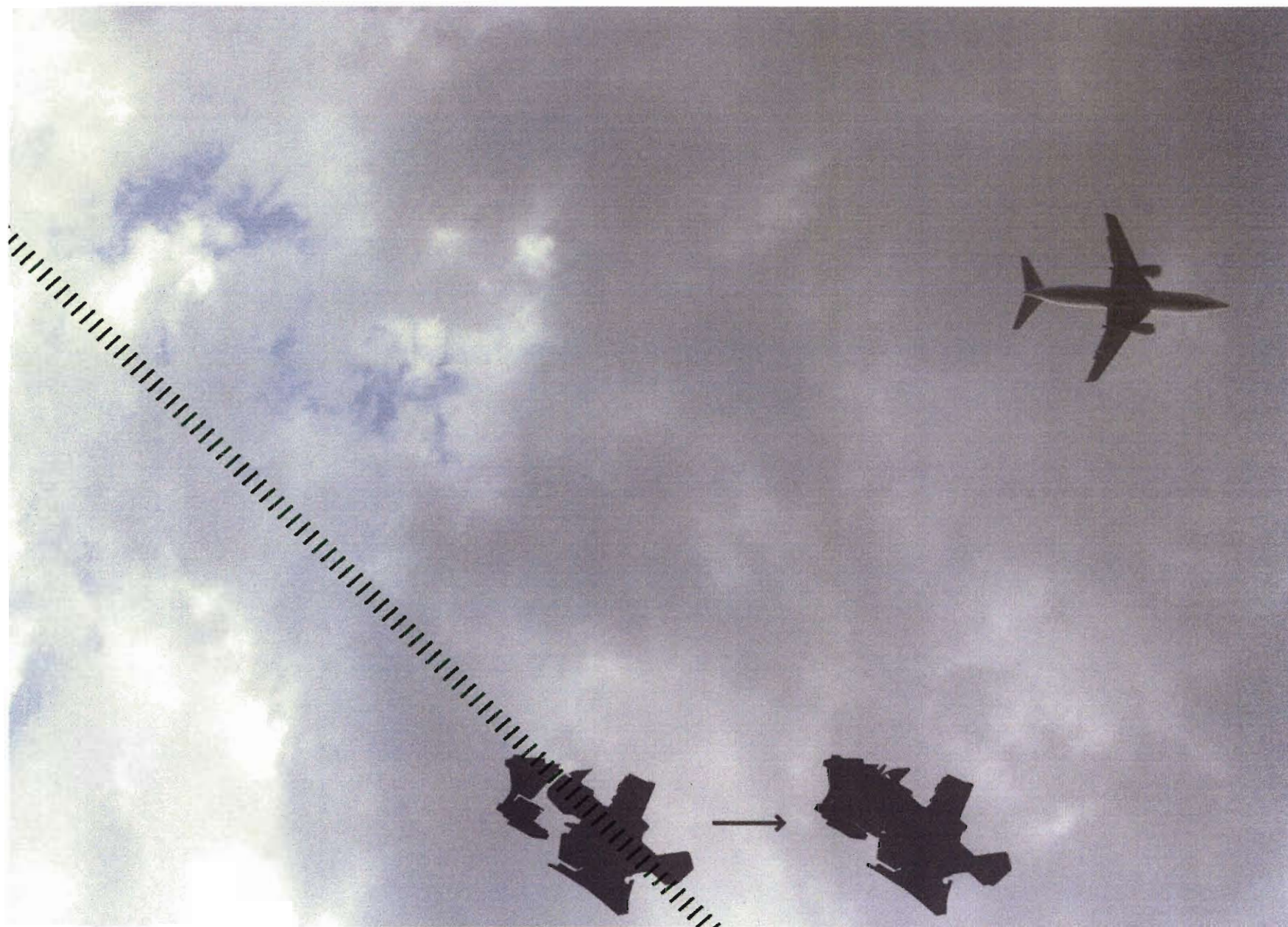
Architectural Proposals

Proposed pedestrian path network.

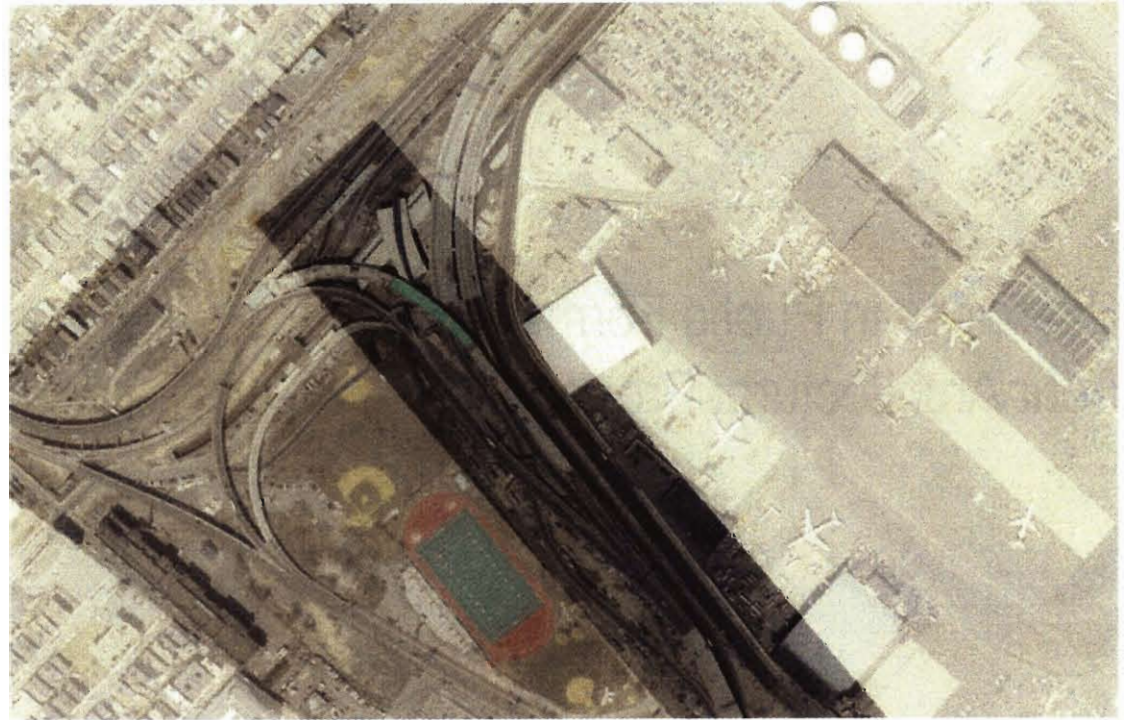


Aerial view showing relationship between new architectural projects and existing fabric of East Boston.





Exercises in Public Form,
Four Architectural Proposals



Aerial photo of Central Site

Central Site

The first site was selected because of its central location and after urban analysis has proven the most pregnant with possibilities in the restructuring of public space with regard to East Boston and Logan Airport. This first site which I have coined Central for its location within East Boston and in reference to the proposed urban landscape is a rectangular site straddling the airport access road system as it exits the airport and divides into the McClellan Freeway. The site also incorporates the Airport MBTA transit stop. Strategically located for its potential to accommodate both visual and physical connections between the existing Municipal Stadium and the airport's main approach road and service areas and the terminals, as well as its potential to bridge the freeway connecting the stadium and recreational areas in the new Bremen Street Park to the northwest. The site also allowed me to conceive of one monumentally scaled building at the center of the new open space system which could simultaneously function as a gateway and multi-use building. The proportions of the site were chosen based on the edges which it was to address and in turn define with its facades. The shorter end facing the residential areas of East Boston was scaled large enough to address the open space of the Bremen Street Park to the northwest of the freeway but small enough to relate to the dimension of a typical East Boston block. The long south and north facade which bounds the Municipal Stadium would define the edge between the playing fields and track and the access roads and hangars beyond.

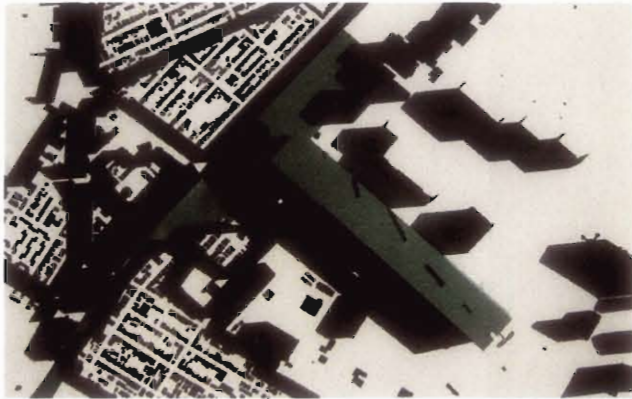
Abstracted contextual information was also critical in every site selection process. Diagrams shown here from the top left hand corner to the bottom right hand corner are as follows: 1. Site aerial photo within new open space plan, 2. Open space, 3. Land Use, 4. Urban Sight Lines, 5. Topography, 6. Rail, 7. Roads and Freeways, 8. Parcels, 9. Building Footprints, 10. MBTA Blue Line. Siting was made to maximize potential influence on the multiple infrastructural lines that pass through the existing open space. The land use and building foot print diagrams also suggest that the Central Project address the shift in urban fabric from the small regularly aggregate of residential homes to that of the large scale, more figurative scattering of Hangars and Airport buildings. By selecting the site the thesis proposes both a built edge to address these issues but a site that still allows the building to be read as a gesture or figure within the open space system. This reading is dependent on the scale of speed and mode of transport. For plane passengers the site will read more object like while those on foot in the park will read it more as an edge.



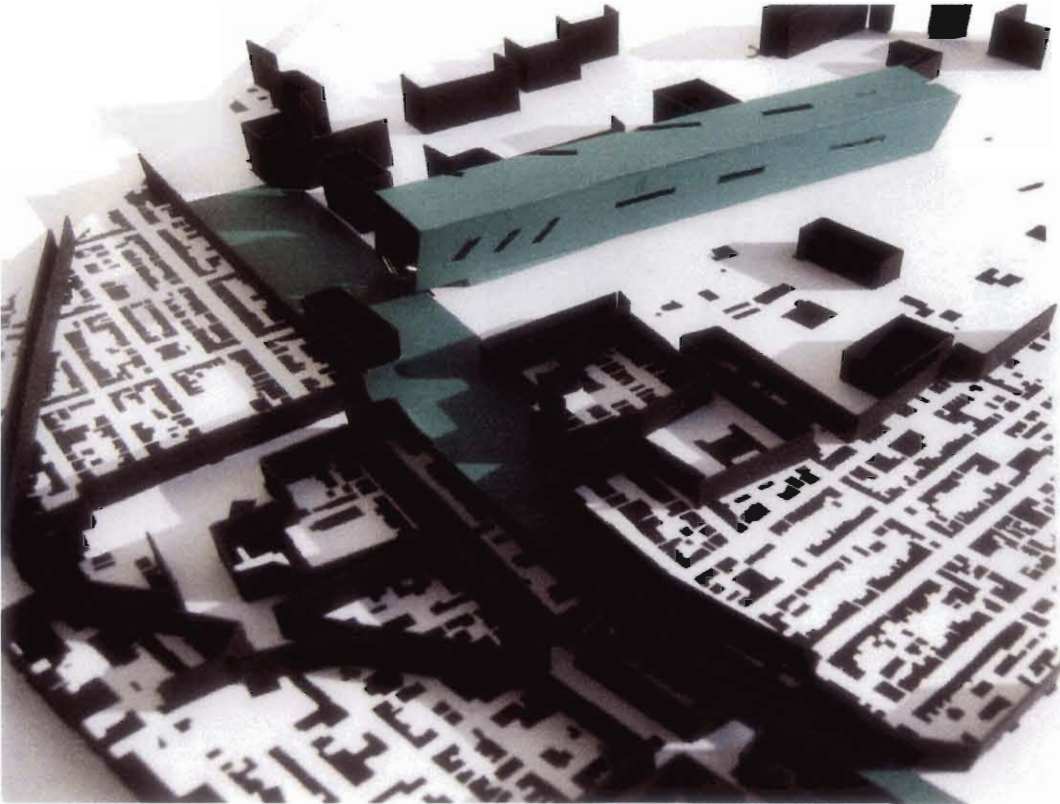




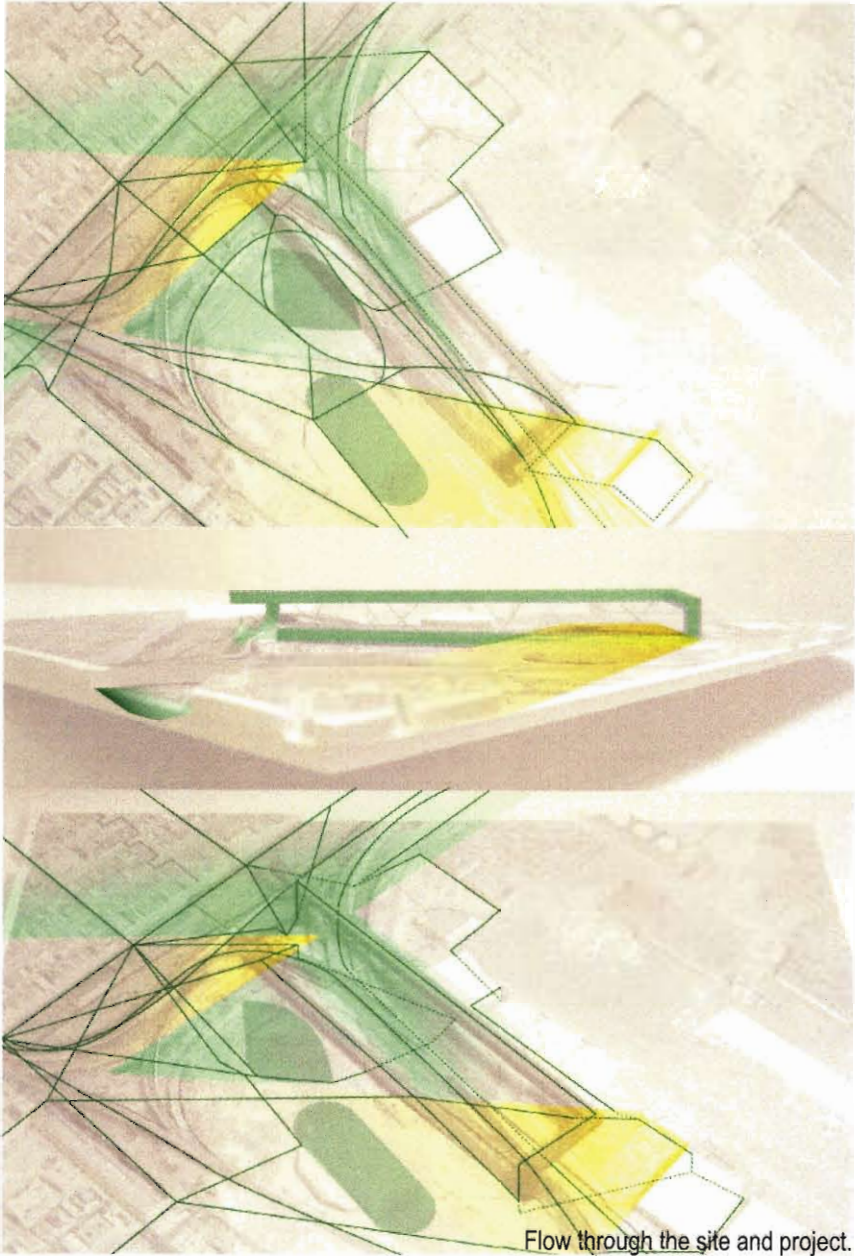
Panorama of Central Site, Taken at the corner of Bremen and Brooks St.



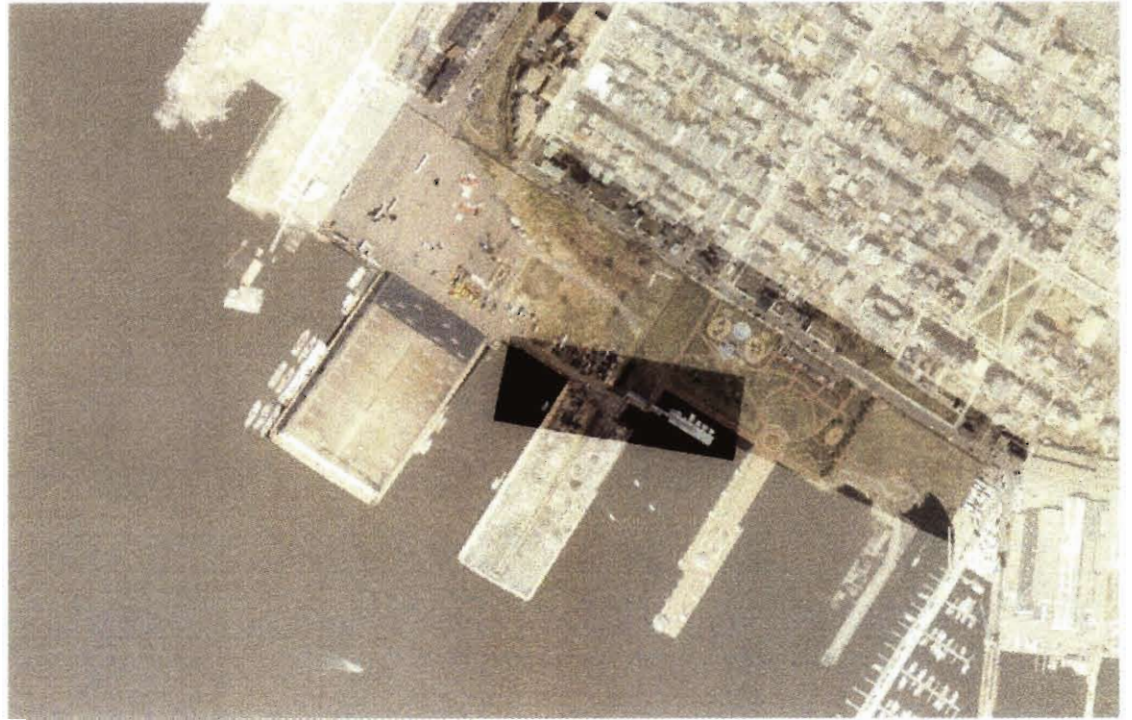
First study model of Central Site, isolating the site of intervention to a conduit of movement along airport access roads, an existing boundary between Municipal Stadium and the airport hangars and runways.



Aerial view of first study model of Central Site, after having isolated the most effective place within the vast central site, the first impulse was to generate some architectural device to edit the surrounding urban condition, one in which there was a real lack of definition and little sense of orientation. A tube encloses exiting access and freeway ramps, framing views of both downtown Boston, the Bunker Hill Memorial and arriving and departing aircraft. By editing experience for what would be perhaps only a matter of seconds, the project attempts to generate some civic notion of arrival for outgoing drivers.



Flow through the site and project.



Aerial photo of Float Site

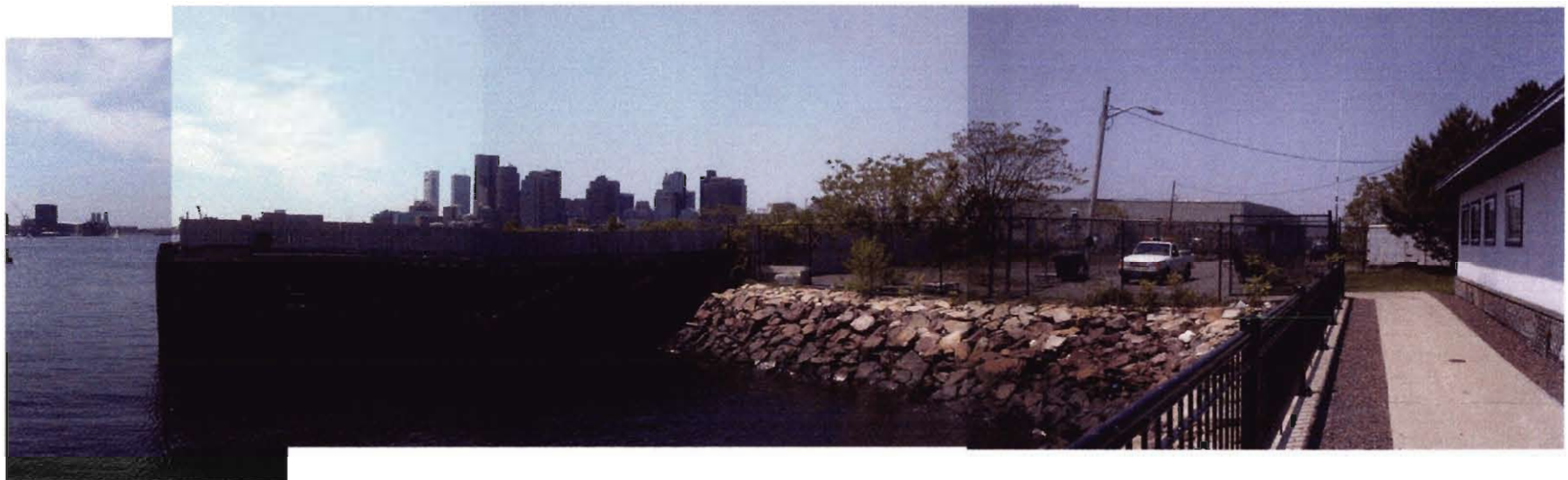
Float Site

Float is located at the southern end of the new open space plan. As an architectural intervention, the site was selected primarily for its potential to link the neighborhood of East Boston with the central city, both visually and physically through the harbor front. East Boston's existing harbor edges consist of a mixture of remaining maritime industries, Massport owned and operated harbor facilities, derelict and vacant sites and new residential and public housing projects. As a mitigation technique the harbor has also become instrumental in the contemporary political atmosphere surrounding the airports operation and expansion policies. After decades of outcry over the mishandling, or as some have said, disregard, for local interests, the state and Massport now find that the only way to continue operation and improvement is through a series of exchanges. By forfeiting portions of Massport owned properties in the construction of parks, such as piers park, that are of marginal importance along the harbor and else where, the airport operators gain leverage to focus on intensified development on land central to airport operations. What has been dubbed the airport "buffer program" is in many ways a tactic to appease a still embittered local constituency while at the same time, attempting to alleviate pollution problems.

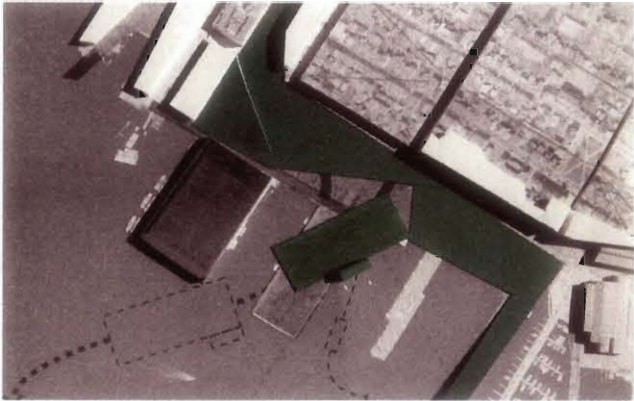
This thesis is in large part a response to the dispersed and piecemeal construction of new public space under the stewardship corporate entity like that of Massport. The Float site is proposed as an alternative to one of these parks, Piers Park. As part of the larger open space plan, the project would function as both a floating park and operable commuter ferry, the project will connect East Boston's water front to that of Greater Boston. As a precedent, there are currently a series of MBTA water buses and privately run water taxis which connect downtown Boston to the airport and south Boston via water. By combining the program of transport and recreation, the project provides an alternative means for arriving and departing from East Boston, one which is more visceral, allowing constant visual and physical connection to the surrounding environment, as opposed to the existing condition, requiring one to travel underground. Contextual diagrams found on this page show the sites definition as the edge condition between water and land, residential and industrial and its openness to the view of the city.



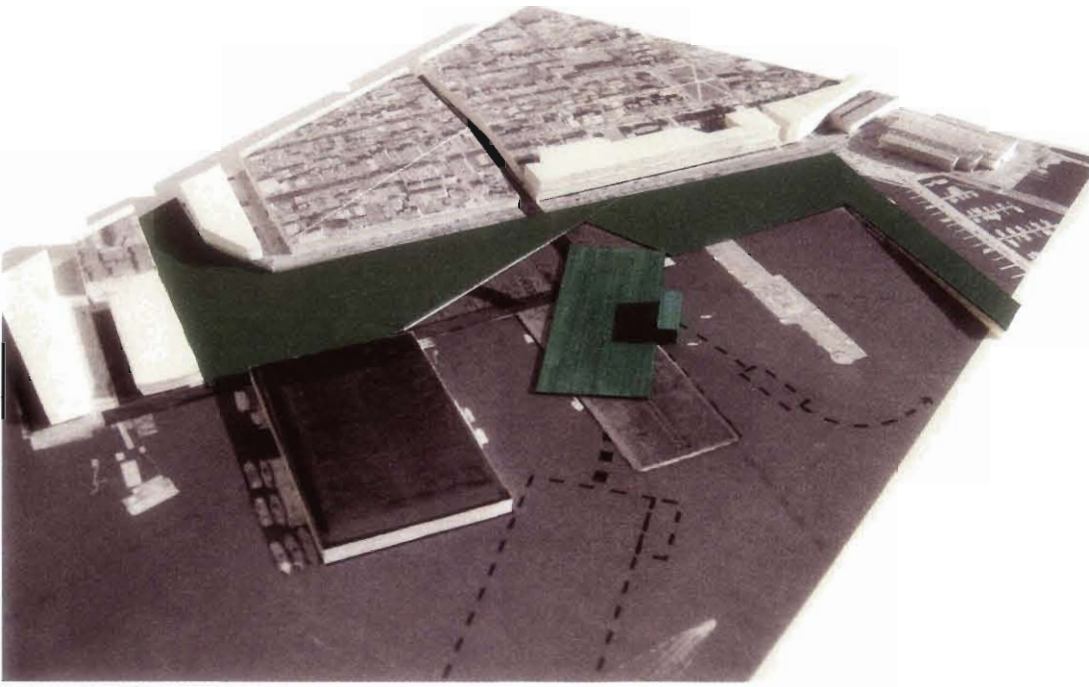




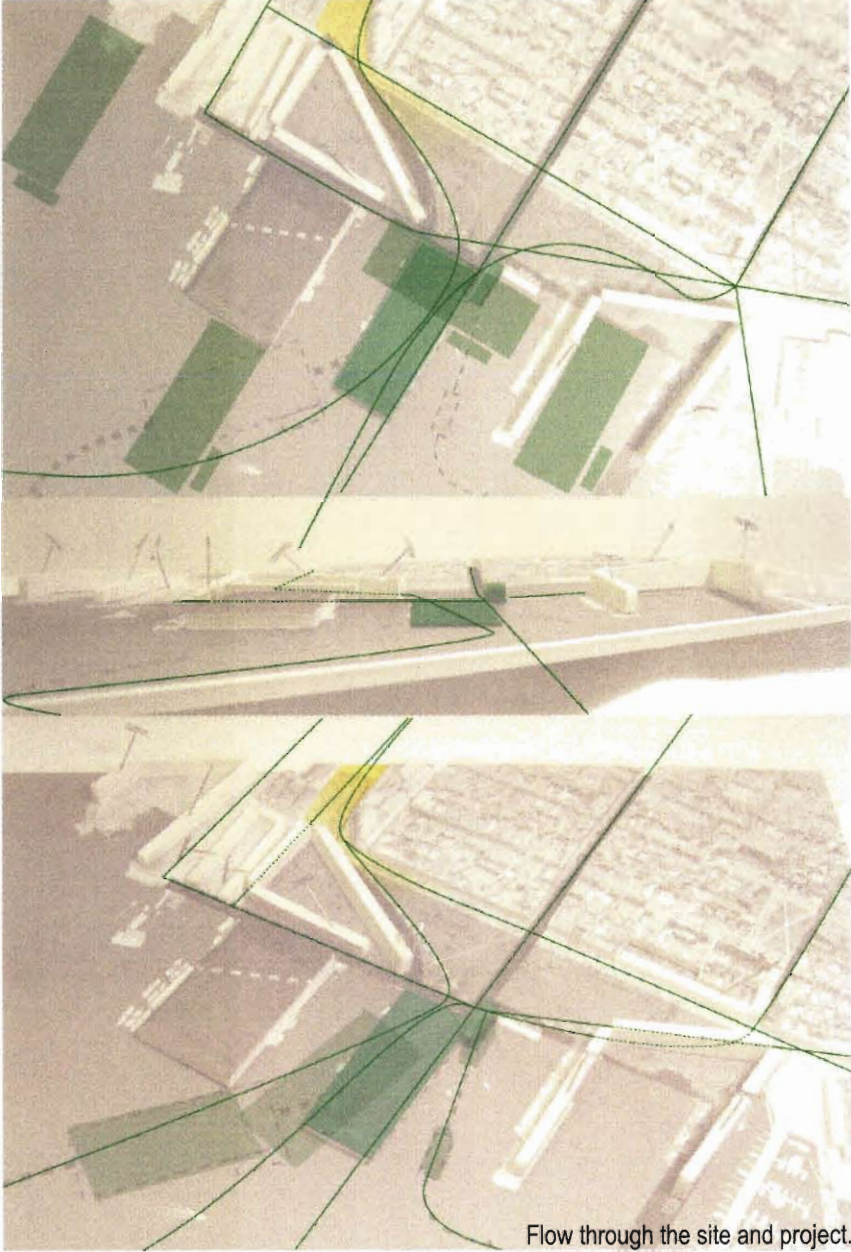
Panorama of Float Site, taken at pier adjacent to Piers Park looking southwest to downtown Boston.



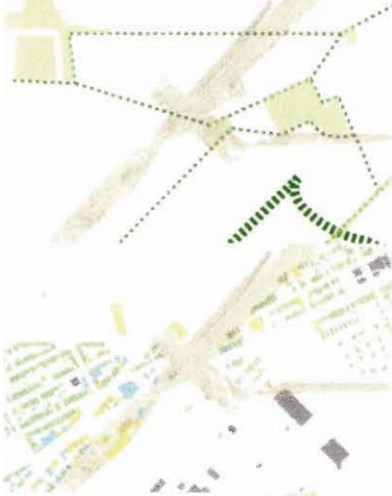
Plan of Floating park/ferry site.



Aerial view of first study model for Floating Park/Ferry site, by combining recreation and transportation a new event driven space can arise, on in which arrival and departure can take on more visceral experience than entering and exiting a series of tunnels and conduits.



Flow through the site and project.



Aerial photo of Funnel Site

Funnel Site

Located at the northeast portion of the open space plan, this site gets its name from the concentration and shift in infrastructures that define it. Dominated by the crossing of the elevated McClellan Freeway and Bennington Avenue, one of the main roads into East Boston, the site is also coincident with shifts in the area's topography, and street grid. In addition the site incorporates the Wood Island Station which also connects to MBTA Bus routes that provide service to other major public spaces in East Boston, such as Central Square and Maverick Square. Diagrams of open space reveal that although once adjacent to Wood Island Park, this area of East Boston is severely lacking in public open space. As with the other project sites, there is a significant shift in land use and building morphology. To the southwest and north east are residential neighborhoods bound by major commercial streets, while, to the northwest is an oil storage plant and to the southeast, Logan airport and runway 15-33. A dis-used rail cut also passes through the site.

The site presents itself as a series of stratified layers of infrastructure with little or no connection to one another or the surrounding built fabric. By creating meaningful links between existing systems and framing views to the rest of the city, the Funnel project's primary goal is the untangling of these flows into a legible series of inter-linkages and a public open space and the creation of a civic gesture or gateway to East Boston and Boston.







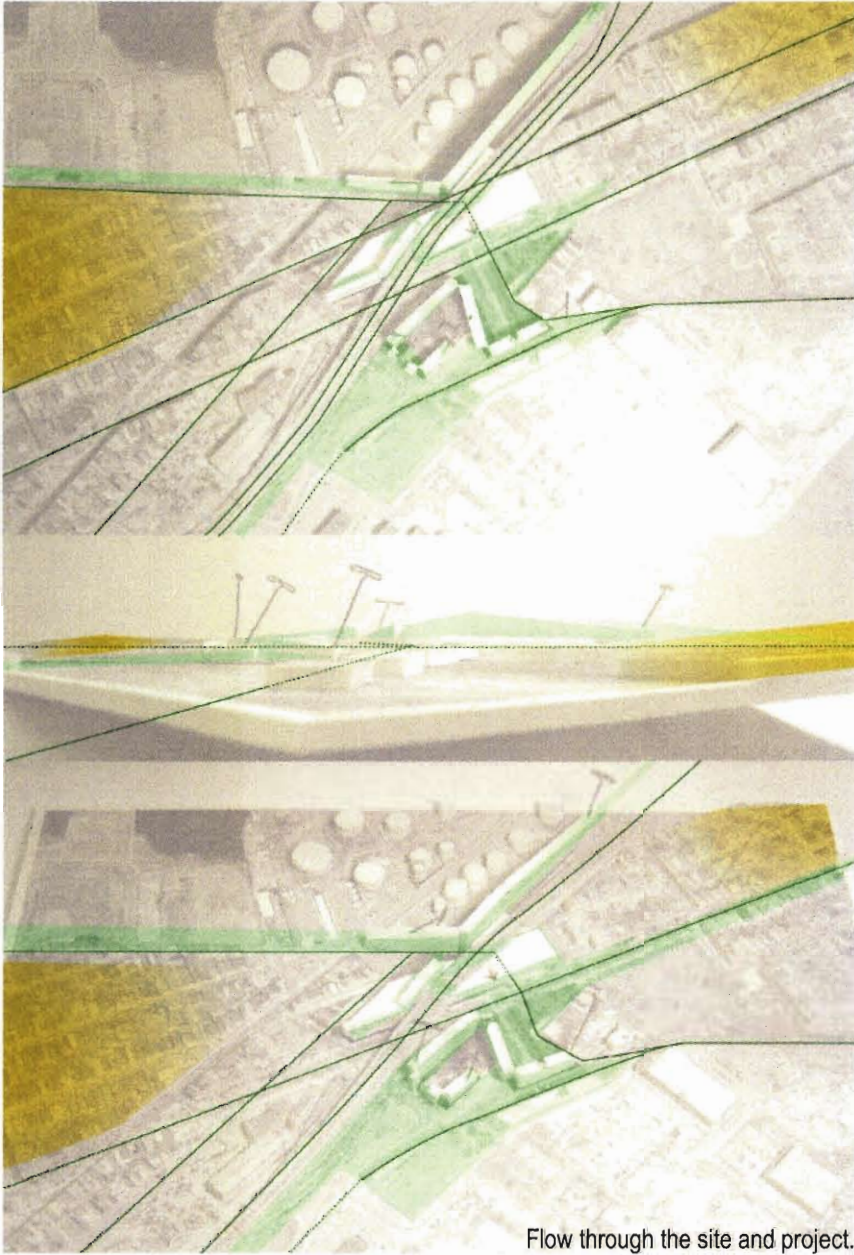
Panorama of Funnel Site, taken at the exit from Wood Island T Stop on Bennington Avenue ,looking south.



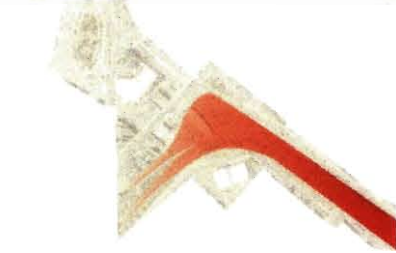
First study model of Funnel Site, form is used to define and make evident existing urban geometries and shifts in scale from the industrial to the residential, from the free way to the street.



Aerial view of first study model of Funnel Site, building massing is used to define space and frame views to downtown, redefining this currently non-descript site into one of four significant civic gestures of arrival and departure to Boston.



Flow through the site and project.



Aerial photo of Toll Housing Site.

Toll Housing Site

At the far western end of the open space plan is the toll housing site. Throughout its history, East Bostonian residents have suffered multiple displacements in the name of progress and the insertion of modern infrastructure. The McClellan freeway emerges from the Sumner Callahan tunnels, cutting a path west toward the airport, severing a once tightly joined residential neighborhood. The toll housing site and project was conceived as a means to amend the situation. Is it possible that we could conceive of housing and a freeway tunnel entrance as coexistent, even mutually benefitting from one another? Historically it seems that people have coexisted in the wake of these large scale urban moves, albeit uneasily.

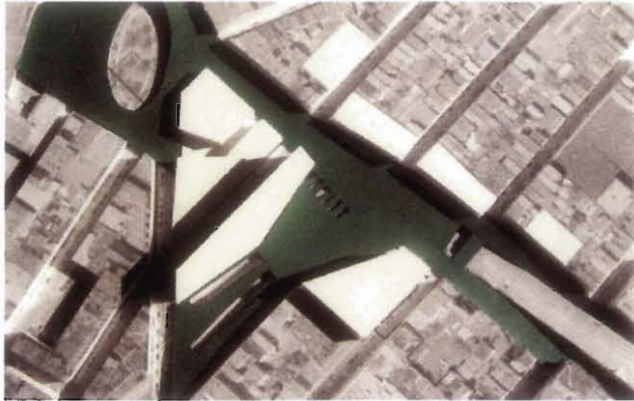
Toll housing as a project is envisioned as a monumentally scaled residential building that straddles the freeway. Function as both bridge and gateway, the housing project would re-invigorate the image of public housing by incorporating it into a constellation of civic icons. In addition, by increasing the gradient of the freeway as it ramps from east to west, two major problems can be alleviated. First, it allows the freeway to be submerged sooner, therefore, allowing us to create a plaza over the existing tollbooth and tunnel entrances. Simultaneously, it allows a great enough clearance to create underpasses and pathways, reconnecting residential blocks to the north and south.



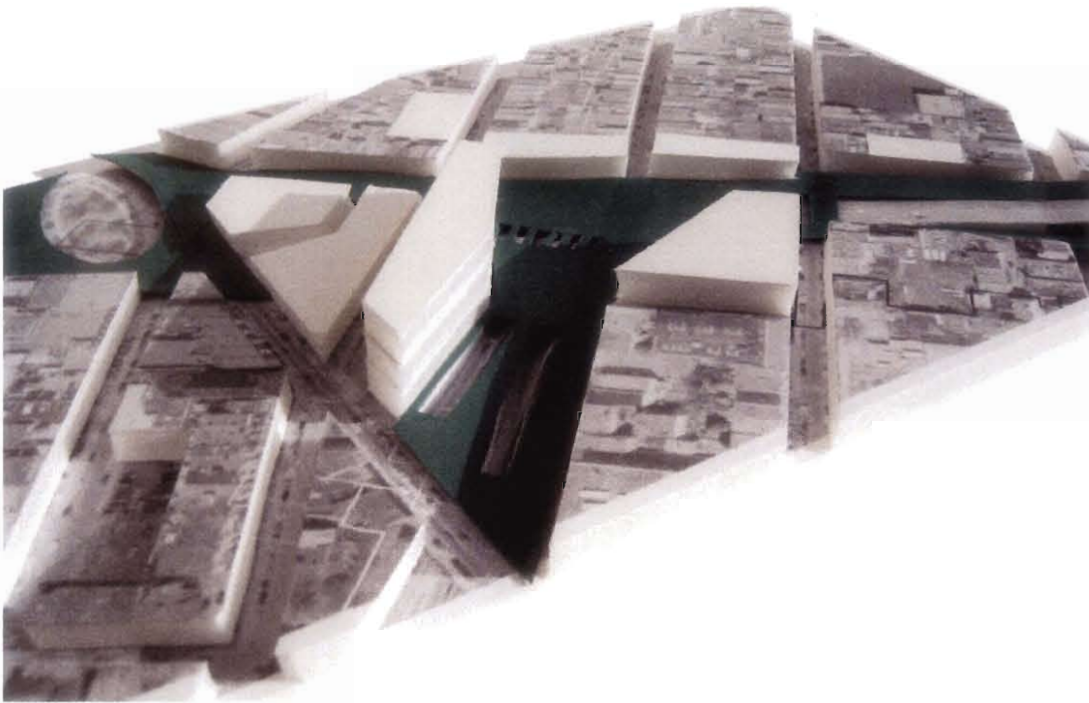




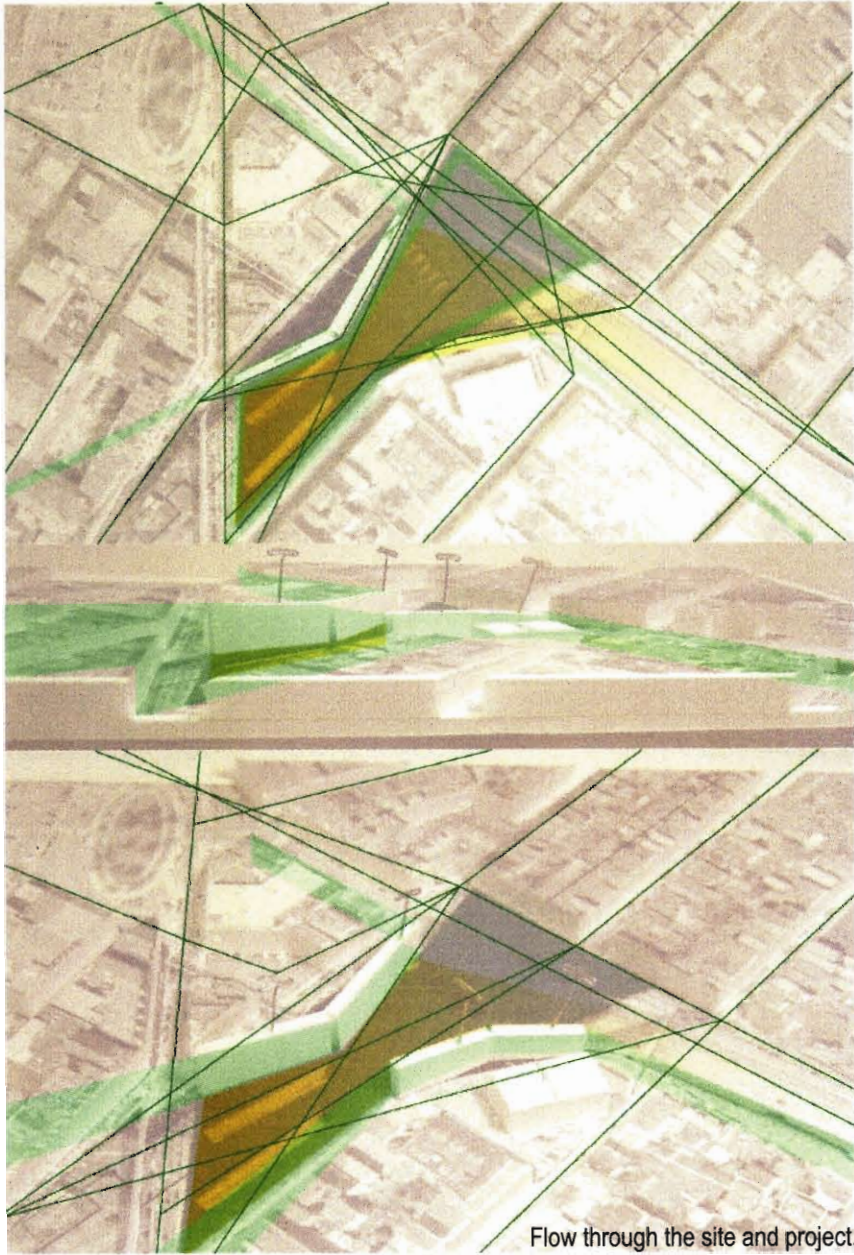
Panorama of Toll Housing Site, taken at London St. and the entrance to the Sumner/Callahan Tunnel.



First study model of Tollhousing Site, building masses are used to define a new public space above the existing Sumner/Callahan Tunnel entrance, reconnecting pedestrian routes from north to south street grids.

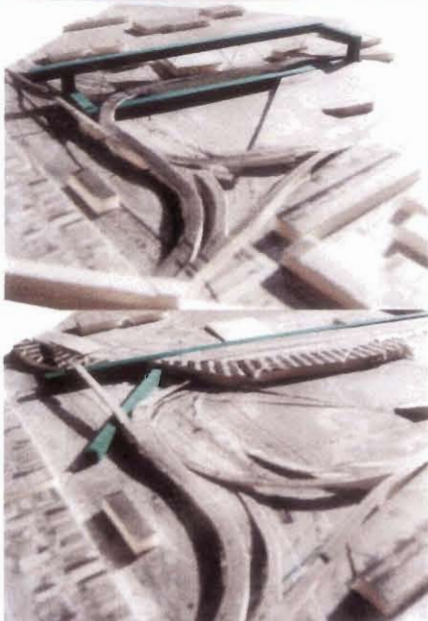
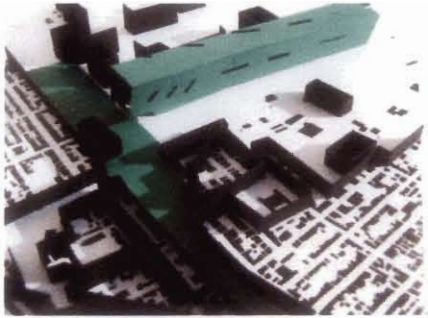


Openings are cut into the plaza to allow vehicular traffic daylight and views out, as well as maintaining some connection between those on foot and those in cars.



Flow through the site and project.

Two Projects in Detail:
Airport Central Park and
The East Boston Funnel



Study models.

The four schemes pictured here are exercises in creating singular urban gestures that could accommodate various civic, programmatic and circulation/transportation needs. The primary focus of the first study was to generate an architecture that could act as both public icon or landmark but also conversely be used to re-frame views from the interior out, orienting one to other Boston Landmarks. After having isolated the site of the most effective place within the vast central site based on vehicular flow, the first impulse was to generate some architectural device to edit the surrounding urban condition, one in which there was a real lack of definition and little sense of orientation. A tube encloses exiting access and freeway ramps, framing views of both downtown Boston, the Bunker Hill Memorial and arriving and departing air craft. By editing experience for what would be only a matter of seconds, the project attempts to generate some civic notion of arrival and departure for everyone exiting the airport.

The second study attempts to accomplish what the first does but attempts to incorporate inhabitable spaces in kind of "building as giant frame." A single continuous band of program is used to delineate the form of a massive prism/arch. The elevated portion that bounds the hangar and airport runways provides views out to arriving and departing aircraft, a public program that was once an essential public space within most early airports but is now only found in some smaller airports. The formal integrity of the scheme also insures that no matter how banal the interior programming, whether it be hotel, offices, gymnasium or shops that the exterior projects the singular notion of a portal or frame will remain intact. As a civic structure, the form addresses the primary open public spaces onto which it fronts. Consequently the scheme is lower along the southern edge where the building meets the municipal stadium and allows people to bridge the MBTA tracks from the Bremen Street Park to the north bound trains and the municipal stadium.

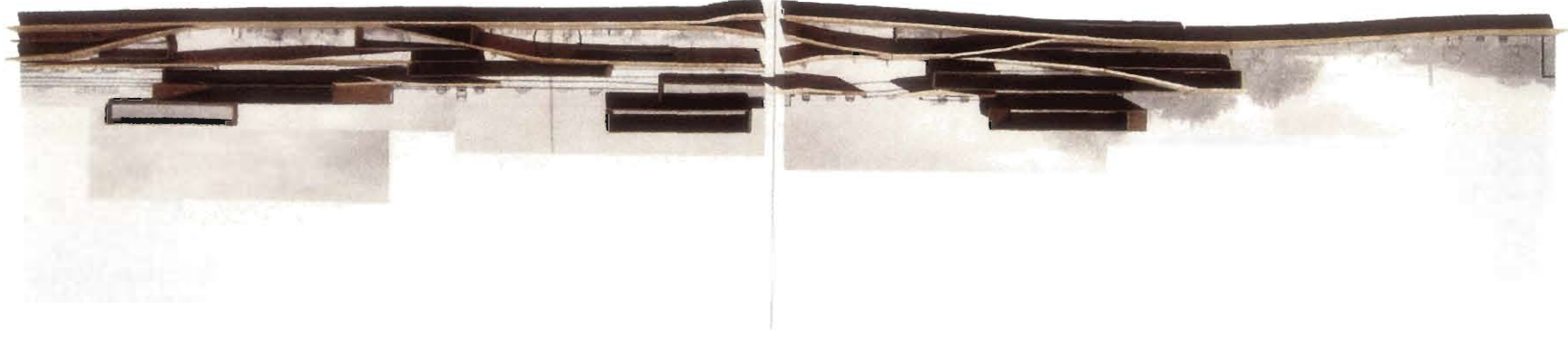
The third scheme limits the scale and number of architectural moves even further. The building is envisioned more as part of the park landscape, being subsumed by its horizontal surface, only to appear as a series of cuts in the ground plane, forming public entries to the airport subway station on Bremen Street and a horizontal band along the playing fields. Like the first scheme, thought was given the cutting of openings into the surface to allow the public in transit views to key landmarks in Boston and the airport itself. These cuts create a series of interruptions in the otherwise smooth formal and programmatic content of the interior spaces.

The previous scheme was somehow unsatisfying in the sense that it had not generated a formal landmark that could be seen by the public on a larger urban scale. I returned to the notion of the site as building. This time working in a subtractive manner, starting with a monumentally scaled prism and carving out spaces of program, view shed, light, and transport interchange. As in the first two schemes it became possible to address the larger urban contexts of East Boston and Boston within a single architectural gesture.

Short section through Central Project, intermediary spaces are united by a continuous second ground plane which functions as a bridge from the park edge to the airport edge but also as a means of vertically connecting access road to subway and interiorized private spaces.

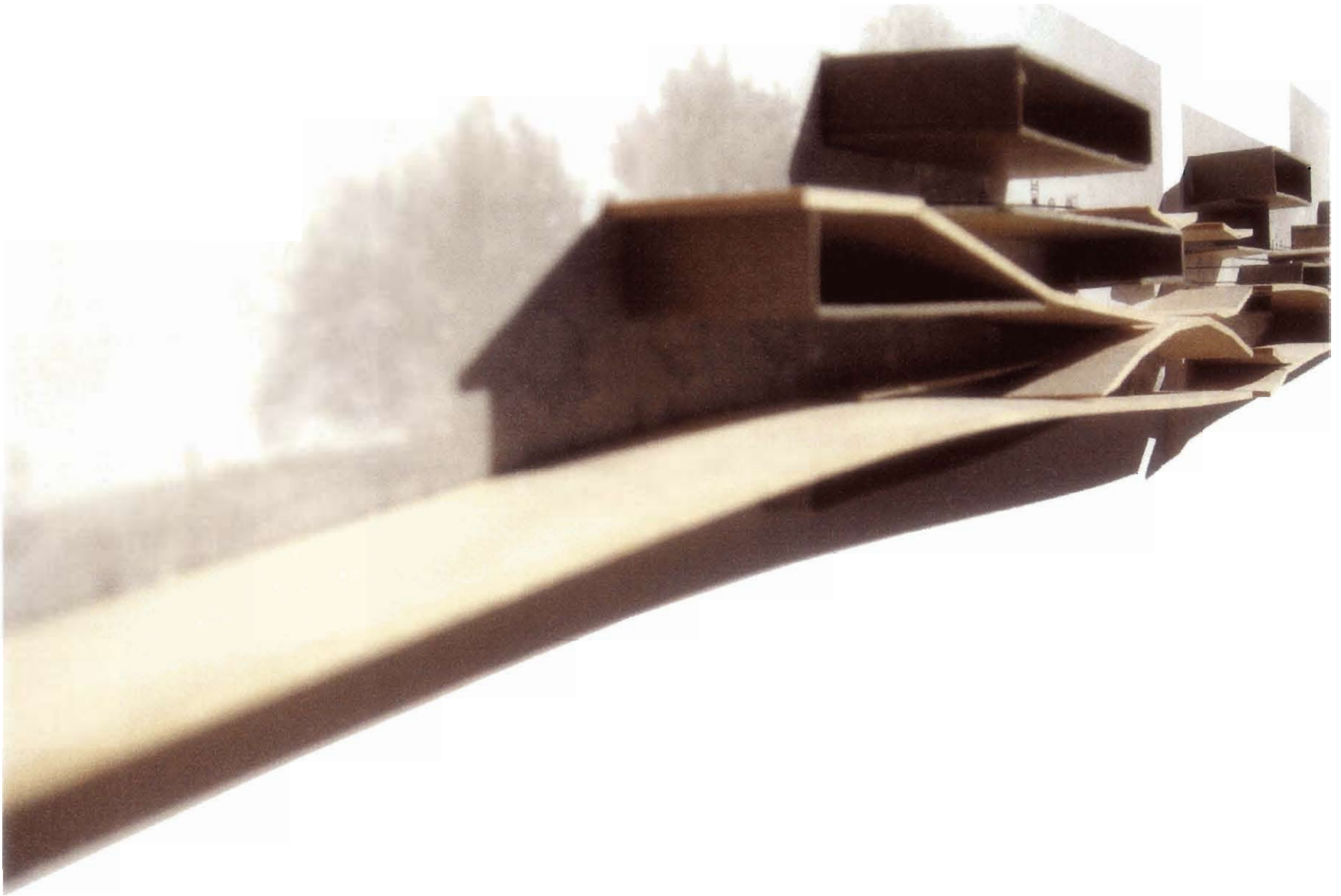


Partial longitudinal section through Central Project. The most critical connection between the Central Project occurs at the bridge between the Bremen Street Park and Municipal Stadium Park and the MBTA train tracks. Building mass is lofted to create a monumentally scaled entry canopy for the subway station and to frame views from the freeway to Boston. Form is used to address the multitude of scales and speeds passing through the site and ultimately to allow for a more seamless and experientially exchange between transport modes.

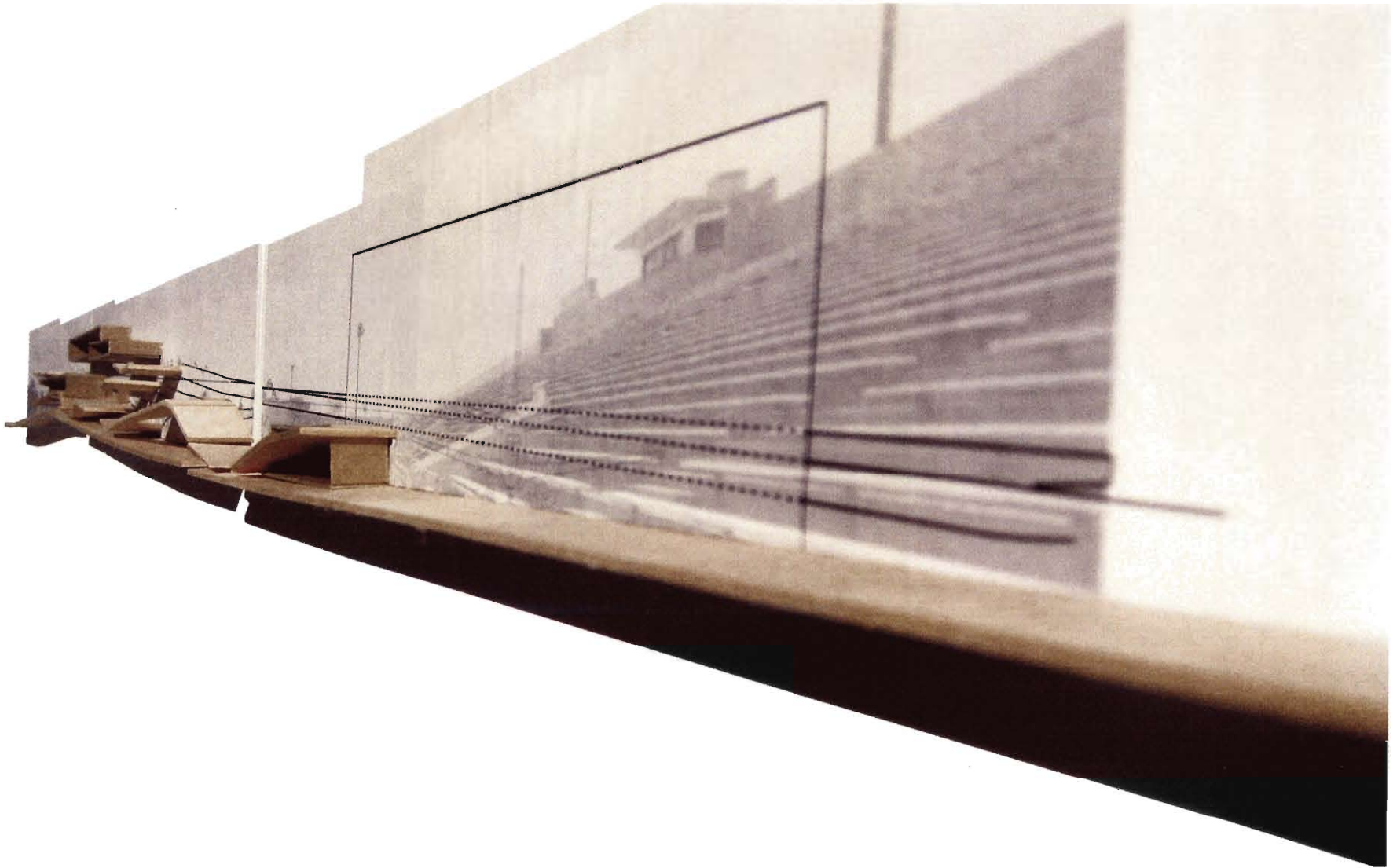


Sectional Study Models

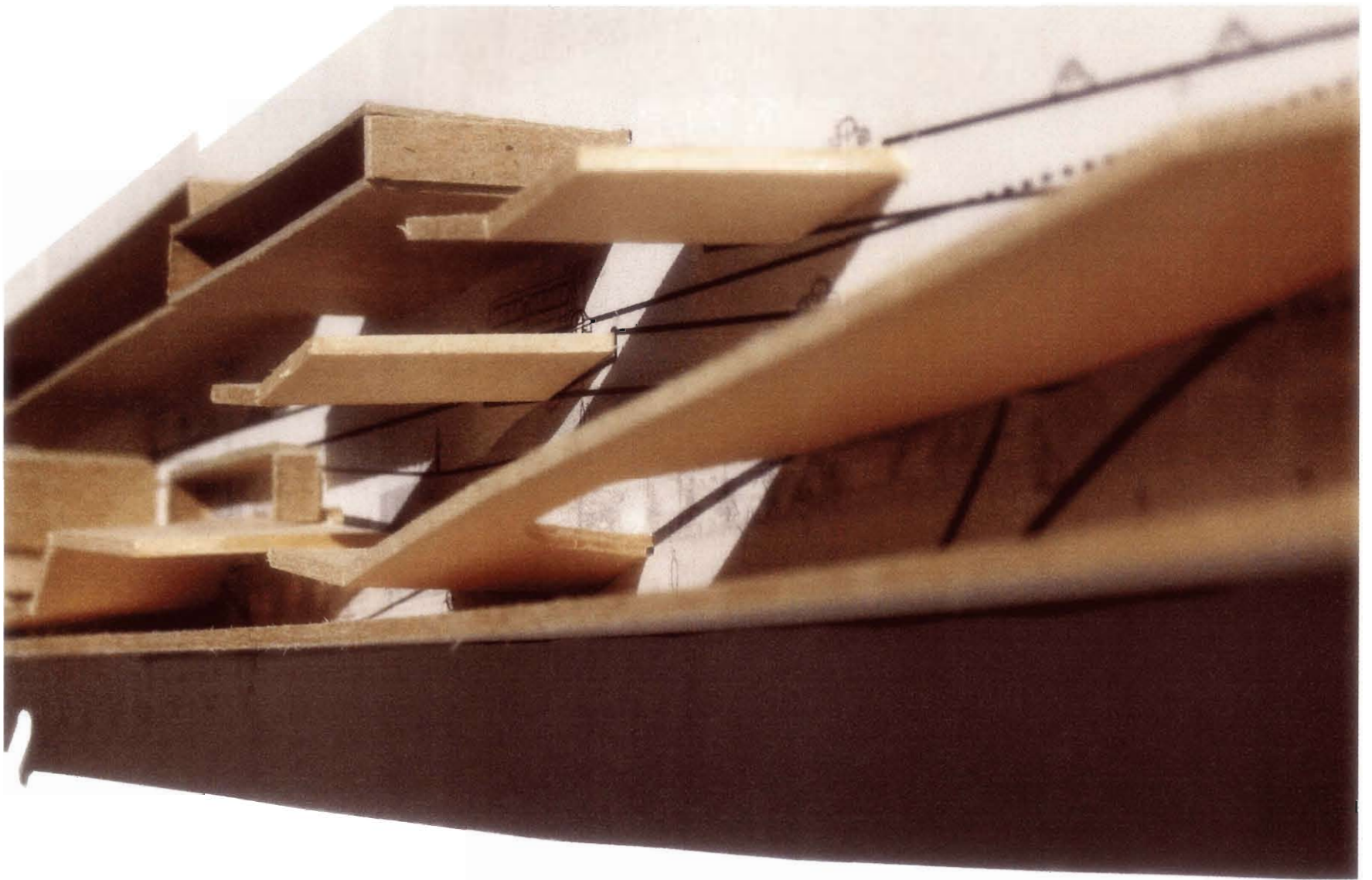
Sectional models were used to further the understanding of the dynamic between public and private spaces. If we think of each project as a an initiative to shape private development in concert with a public domain, delimiting the conditions for both become crucial. The sectional models pictured here articulate the relationship between the larger public architecture of each project, its infrastructural nature and the potential for privately developed programs within. The primary characteristic driving this distinction between public and private were enclosure and opacity. Each project establishes a language for the communication of what is exterior and public (bass wood) and what is interior and private (chipboard). By developing this language it is also possible to begin to define each project in a series of apparent layers and interpenetrations. The superposition and exposure of layers of privately developed public spaces such as shops, restaurants, etc., existing transportation lines, and the connections between these layers generates a complexity and consciousness of the city and the systems that constitute it. By mixing and colluding the two each project exemplifies the potential complexity and richness which can be achieved when public and private spaces are designed in concert.



View of Central Project from Bremen Street Park entry canopy.

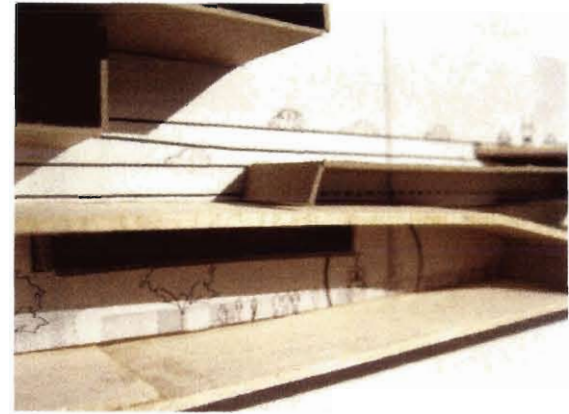


View Central Project elevation facing Municipal Stadium.
Ground plane lifts to provide space for new Fitness center and indoor swimming pool.

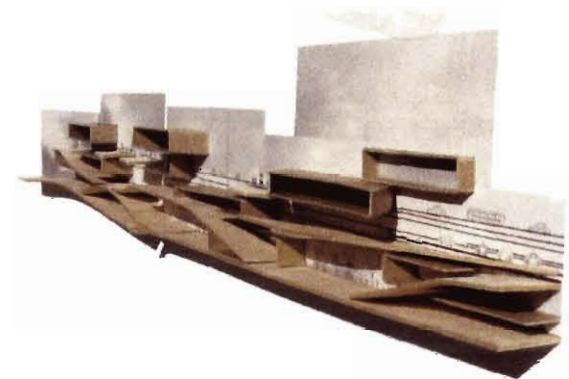


Interior view of Central Project. The surface is cut to allow light and access to the lower level.

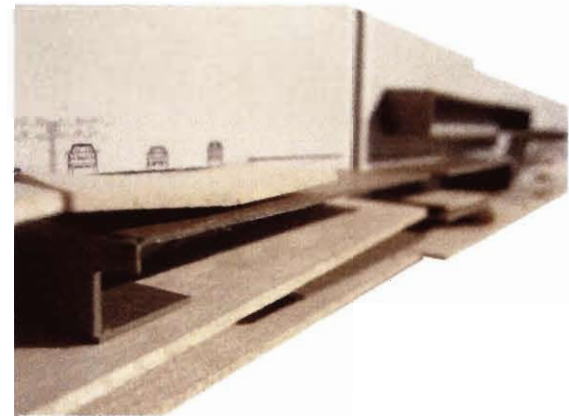
The subway line is incorporated into a larger field, as the project breaks down the discreetly formed transit interchanges in exchange for a larger more fluid series of interchanges and surfaces.

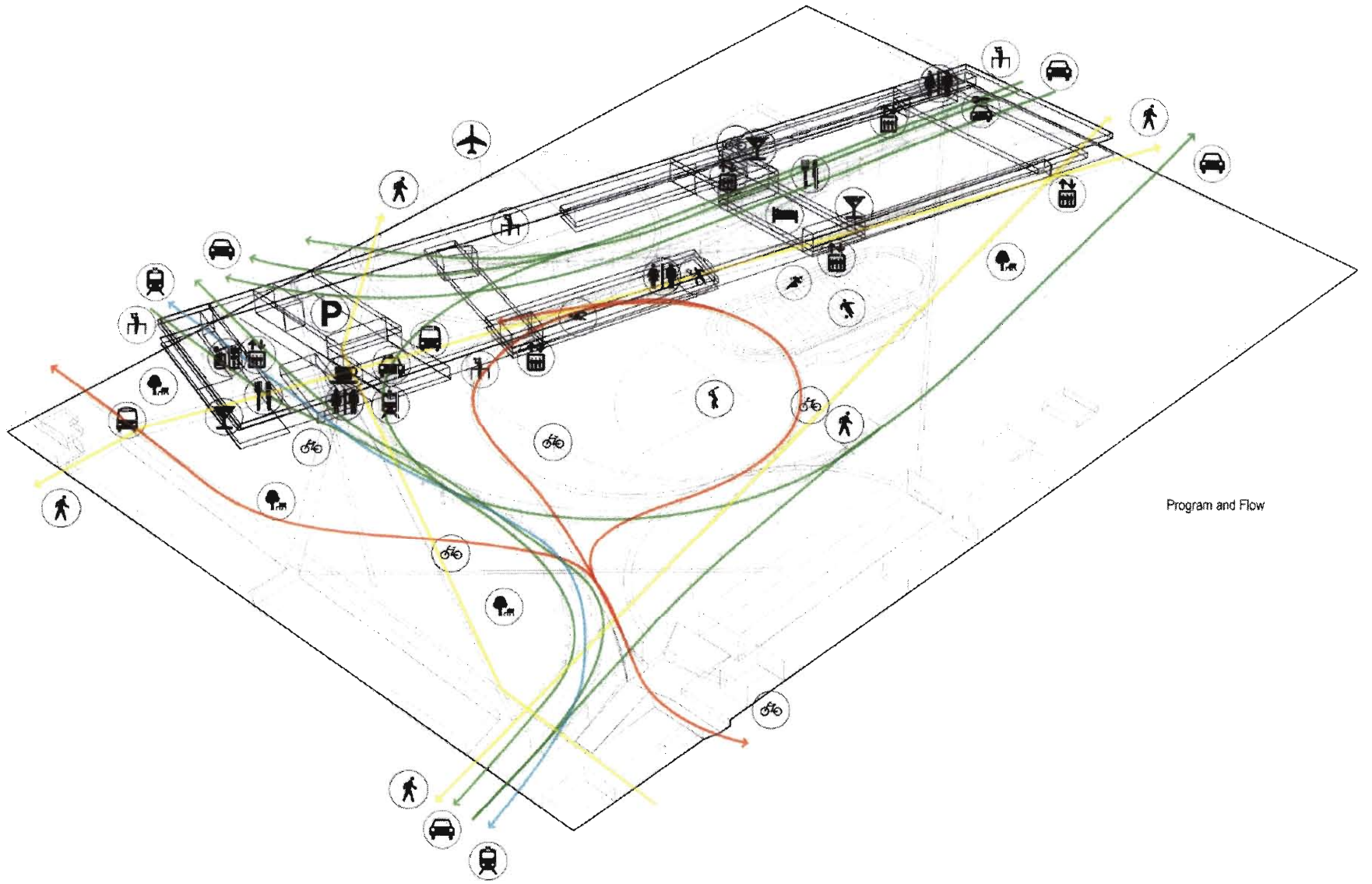


Side view of partial long section through Central Project. Interiorized, enclosed privately developed spaces disperse through the project provide moments of stasis within an otherwise dynamic system of transport networks.

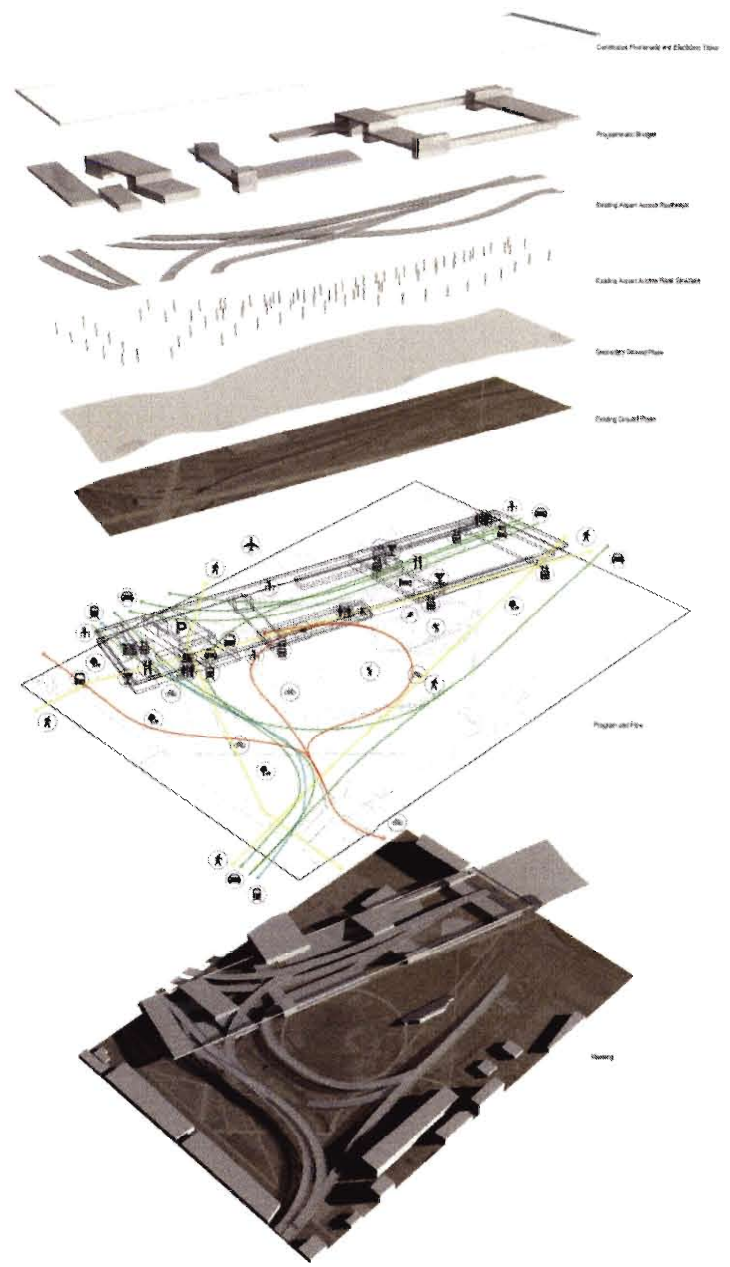


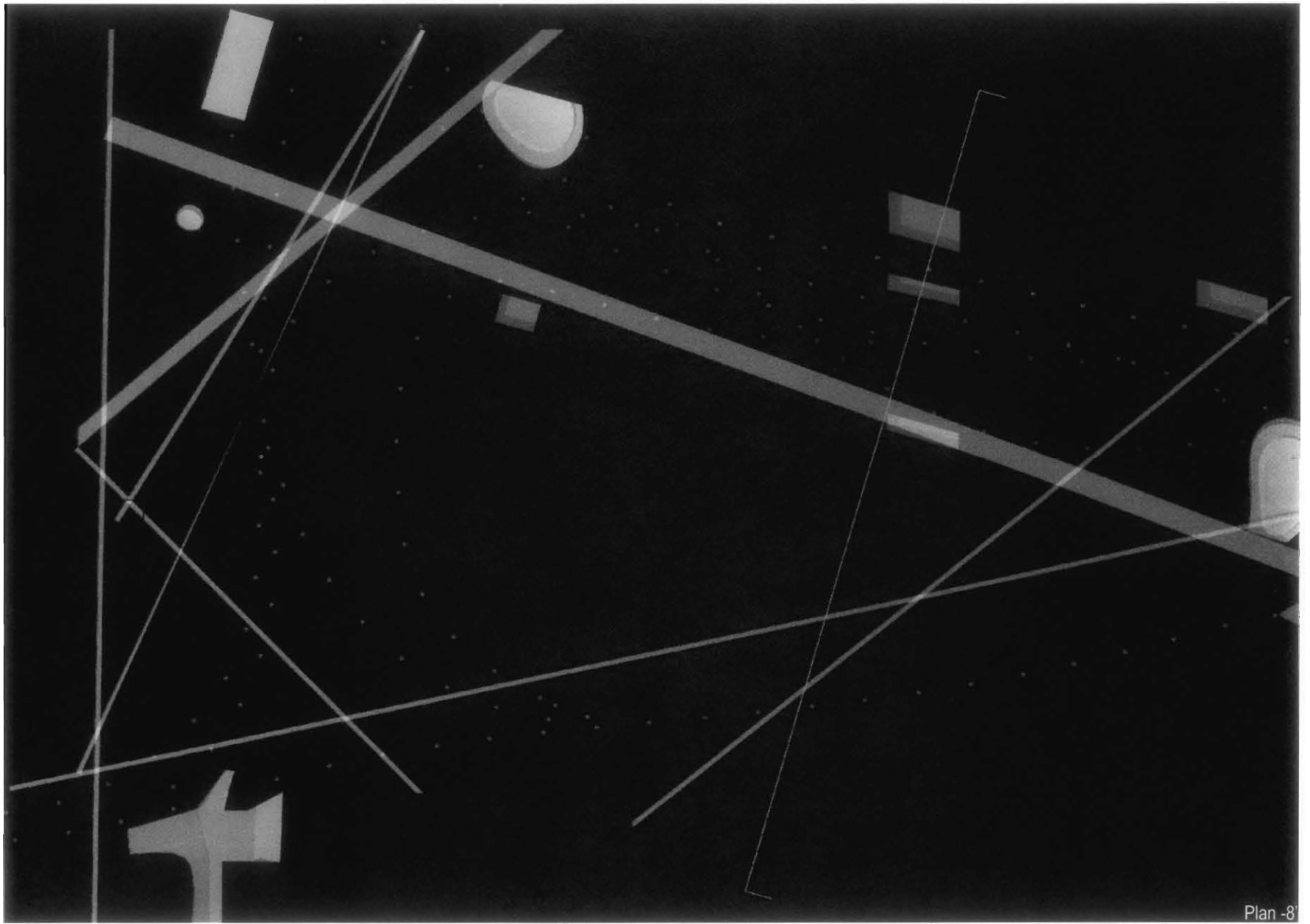
What was once under utilized or viewed as wasted space can be occupied and function to bridge between three large civic open spaces, Bremen Street Park, Municipal Stadium and the airport's fields.



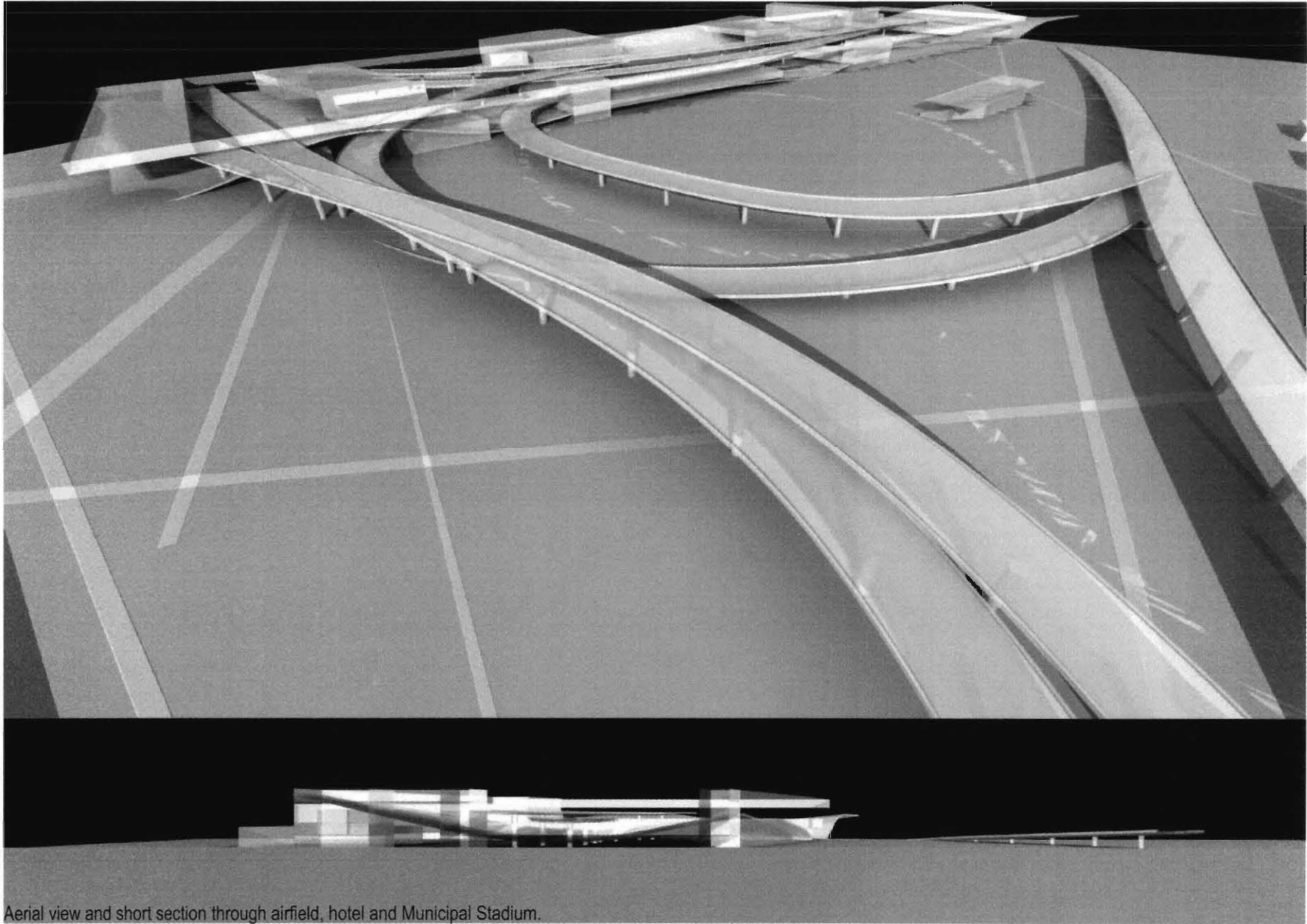


Program and Flow

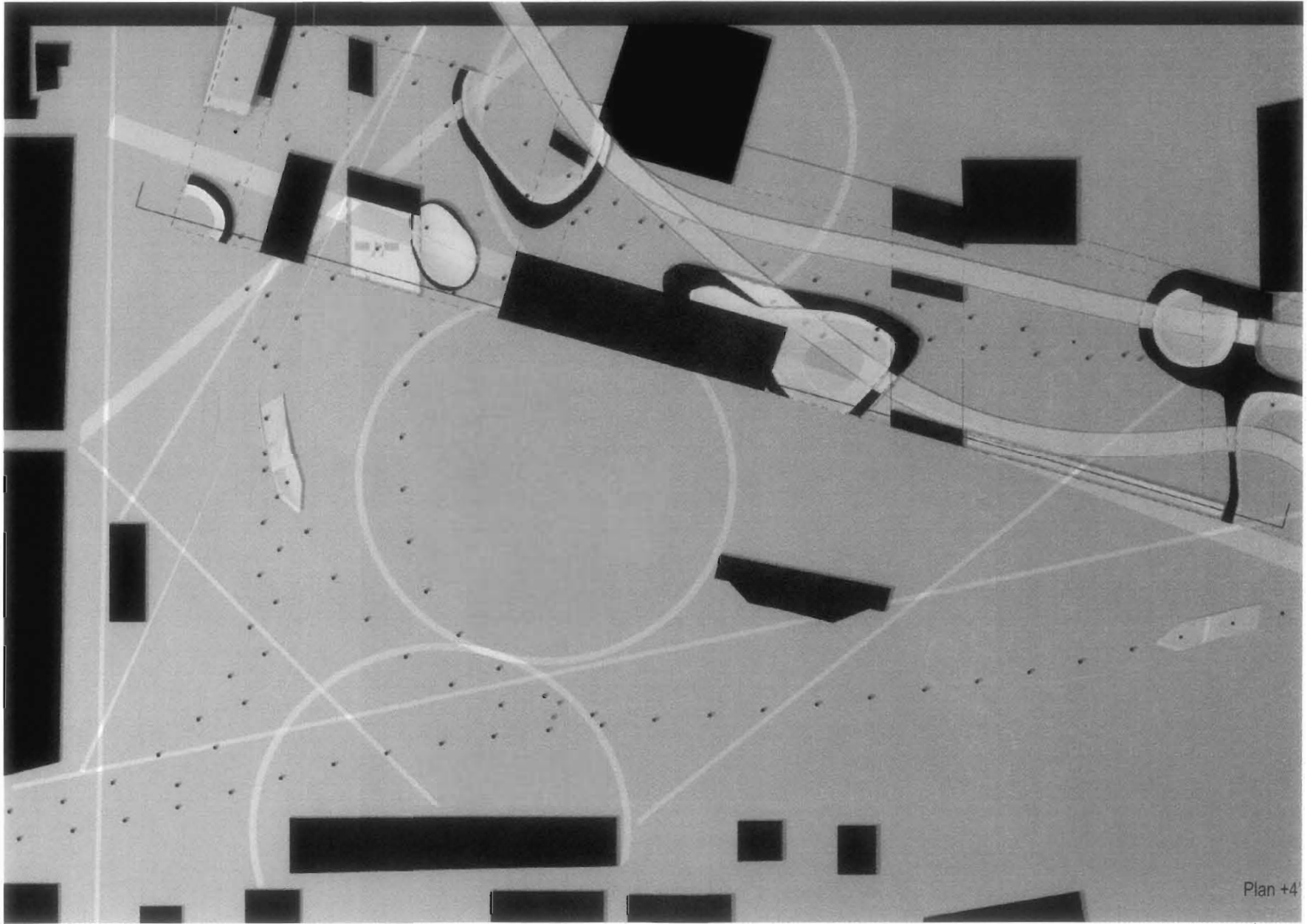


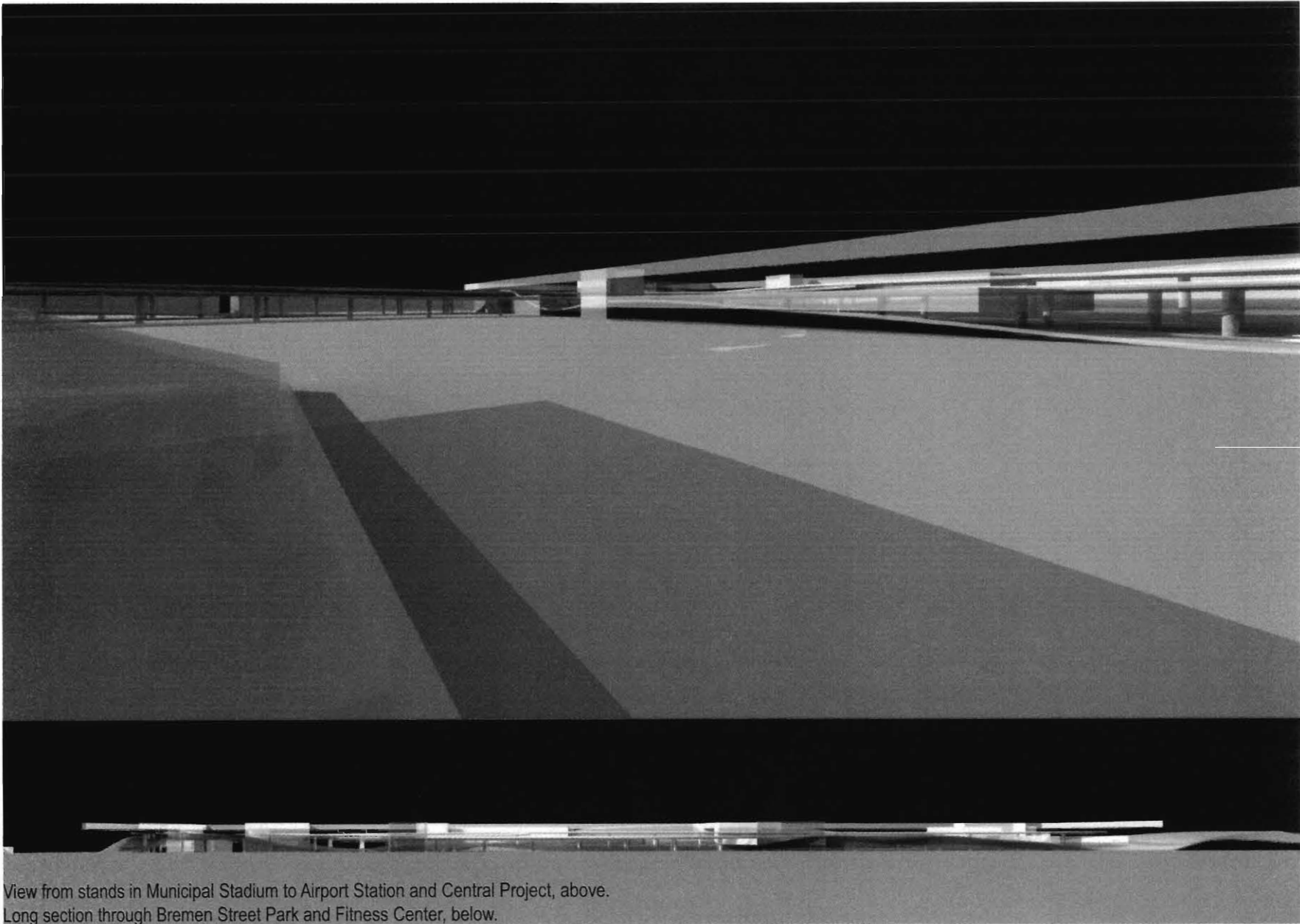


Plan -8'

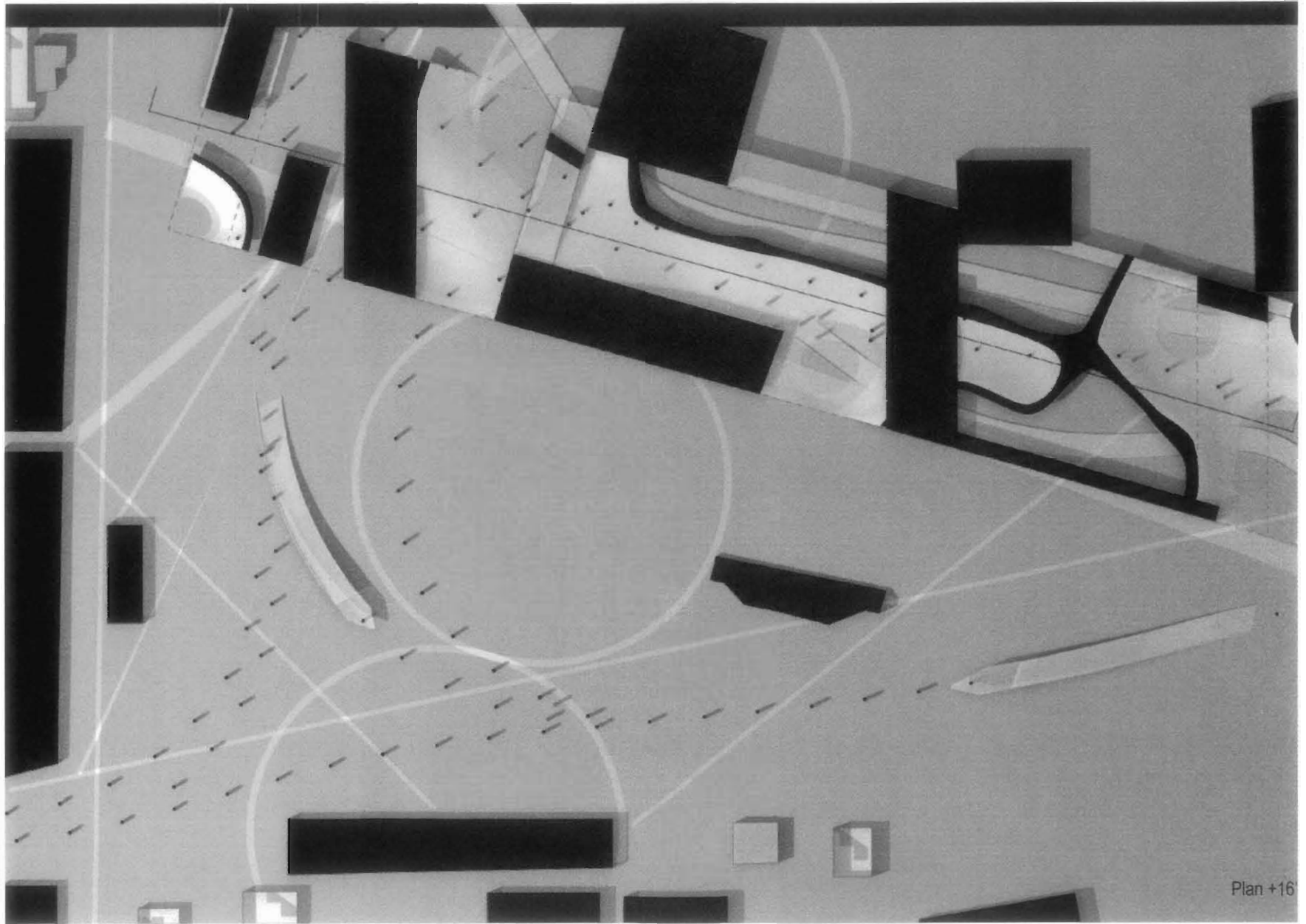


Aerial view and short section through airfield, hotel and Municipal Stadium.

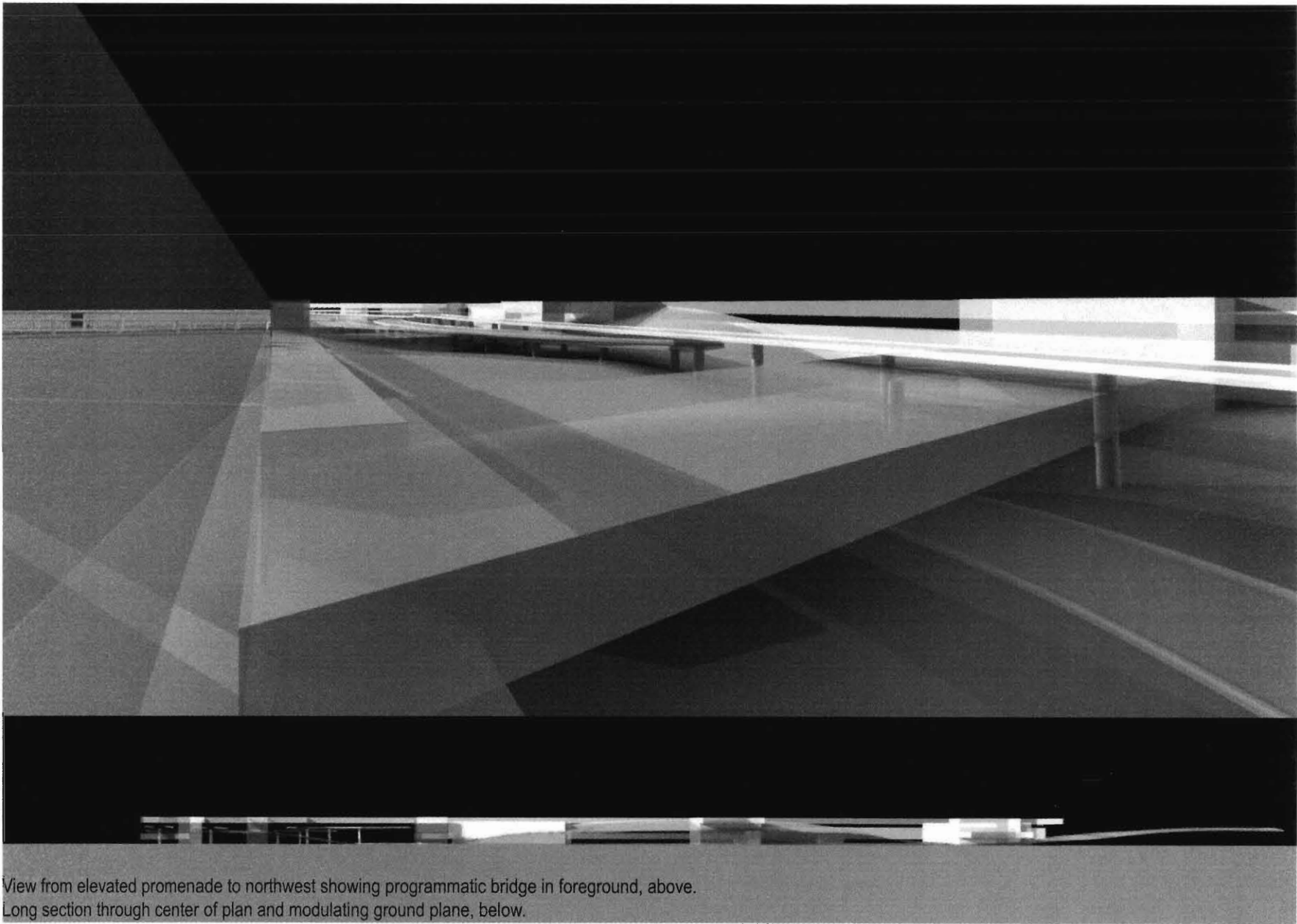




View from stands in Municipal Stadium to Airport Station and Central Project, above.
Long section through Bremen Street Park and Fitness Center, below.



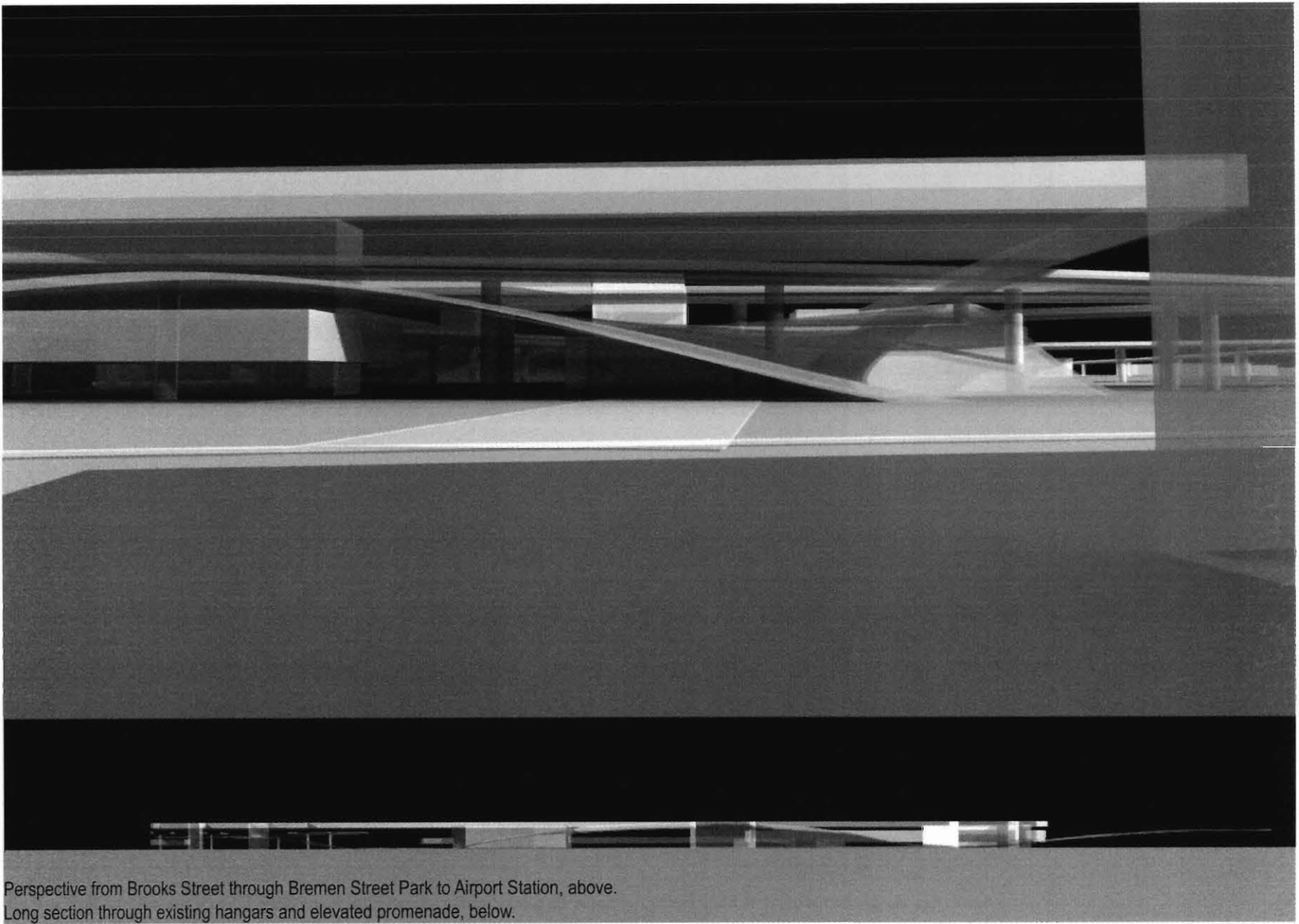
Plan +16'



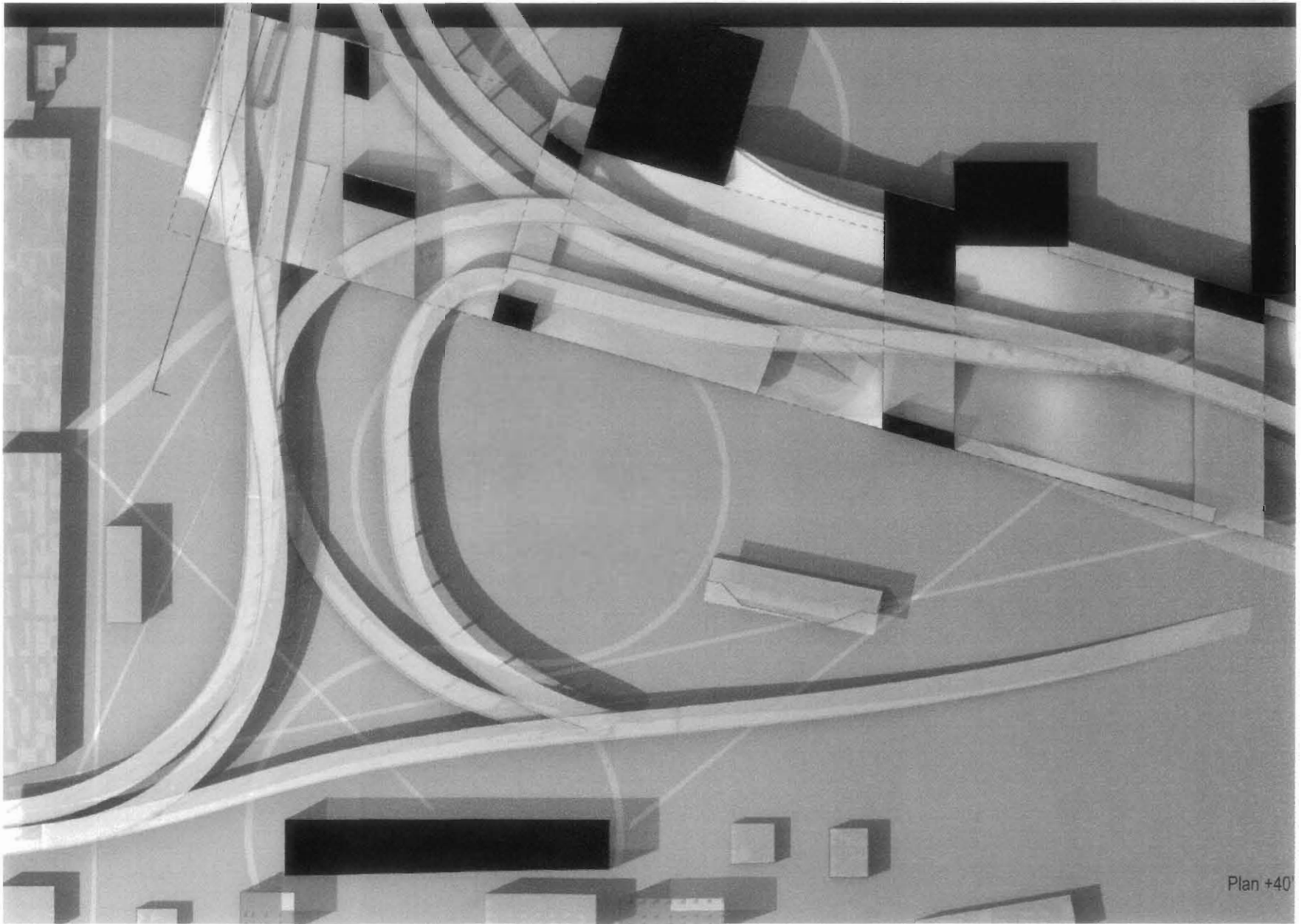
View from elevated promenade to northwest showing programmatic bridge in foreground, above.
Long section through center of plan and modulating ground plane, below.

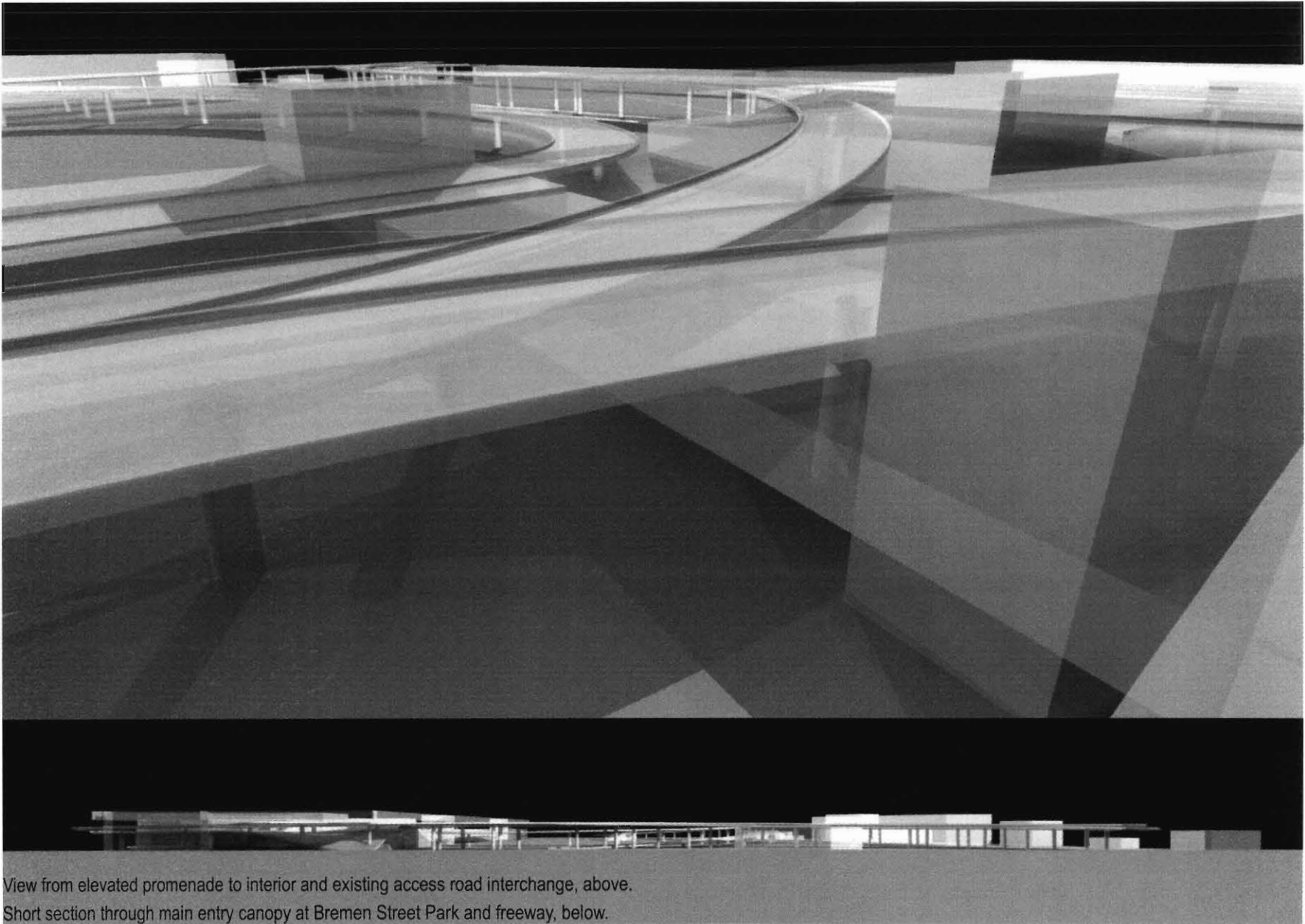


Plan +28



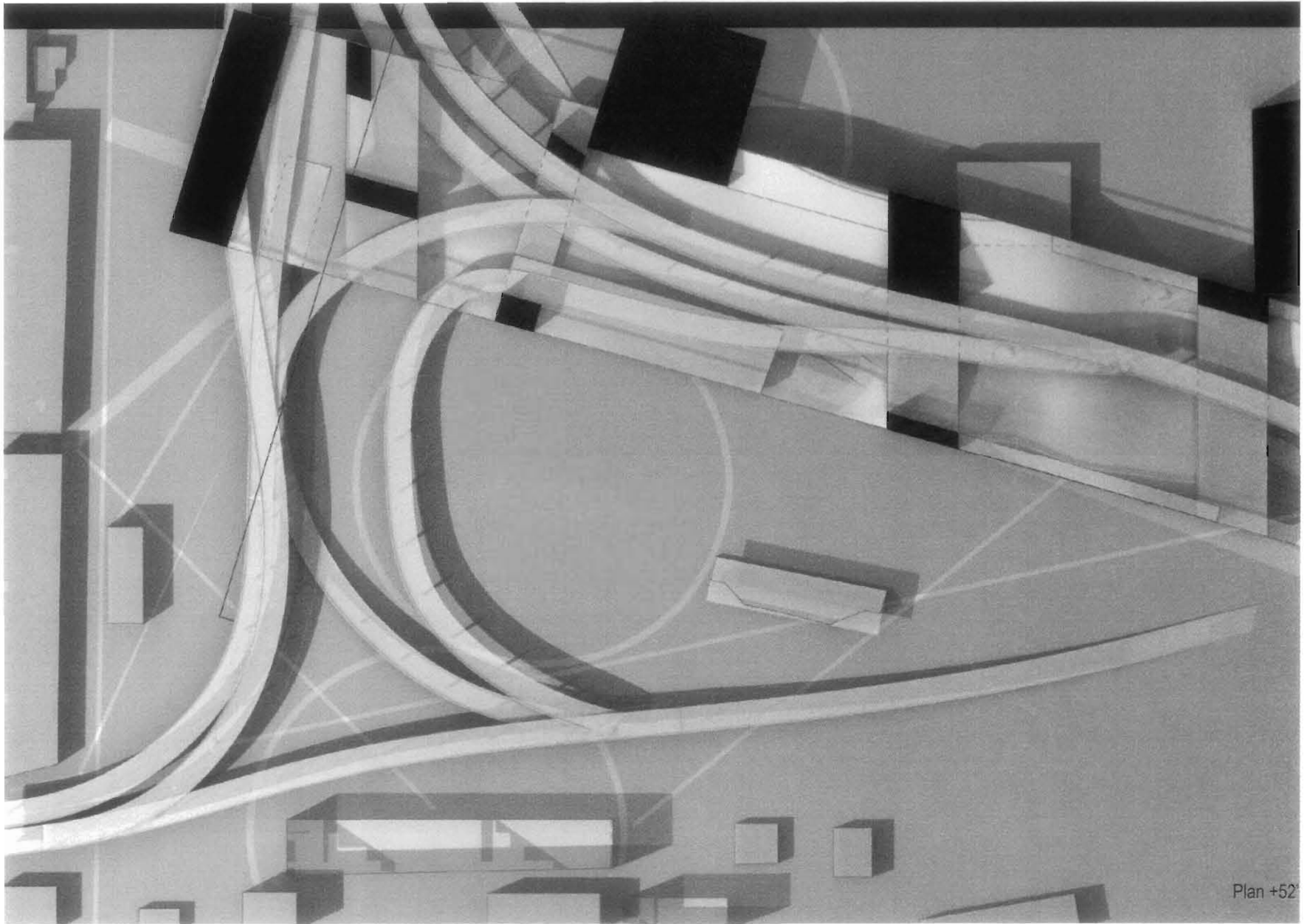
Perspective from Brooks Street through Bremen Street Park to Airport Station, above.
Long section through existing hangars and elevated promenade, below.





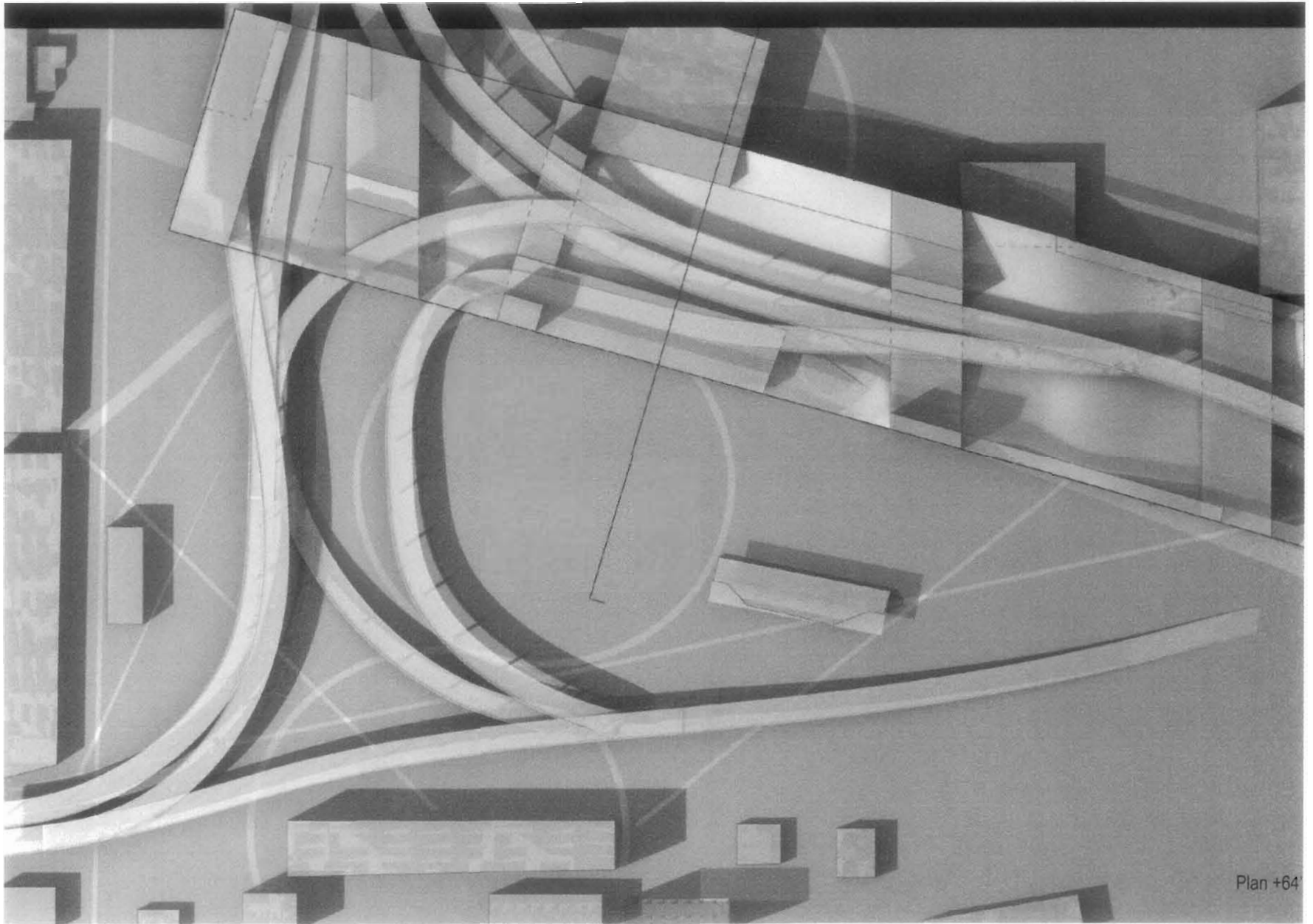
View from elevated promenade to interior and existing access road interchange, above.

Short section through main entry canopy at Bremen Street Park and freeway, below.

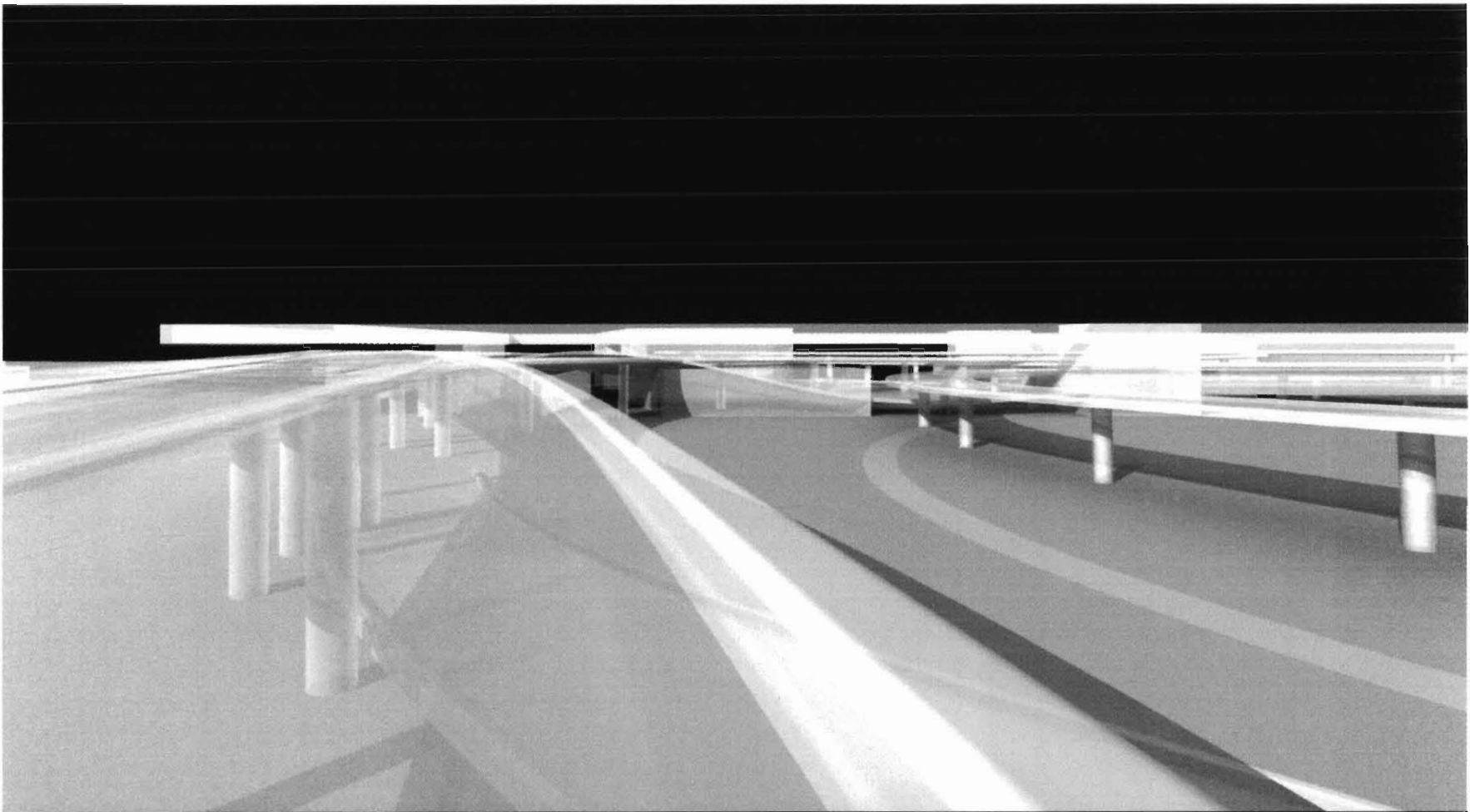




View from BlueLine Car as it approaches Airport Station from the south, above.
Short section through subway station and commercial program, below.



Plan +64



View looking north, along McClellan freeway toward entry canopy, Municipal Stadium is to the right, above.

Short section through existing hangars, fitness center and Municipal Stadium, below.



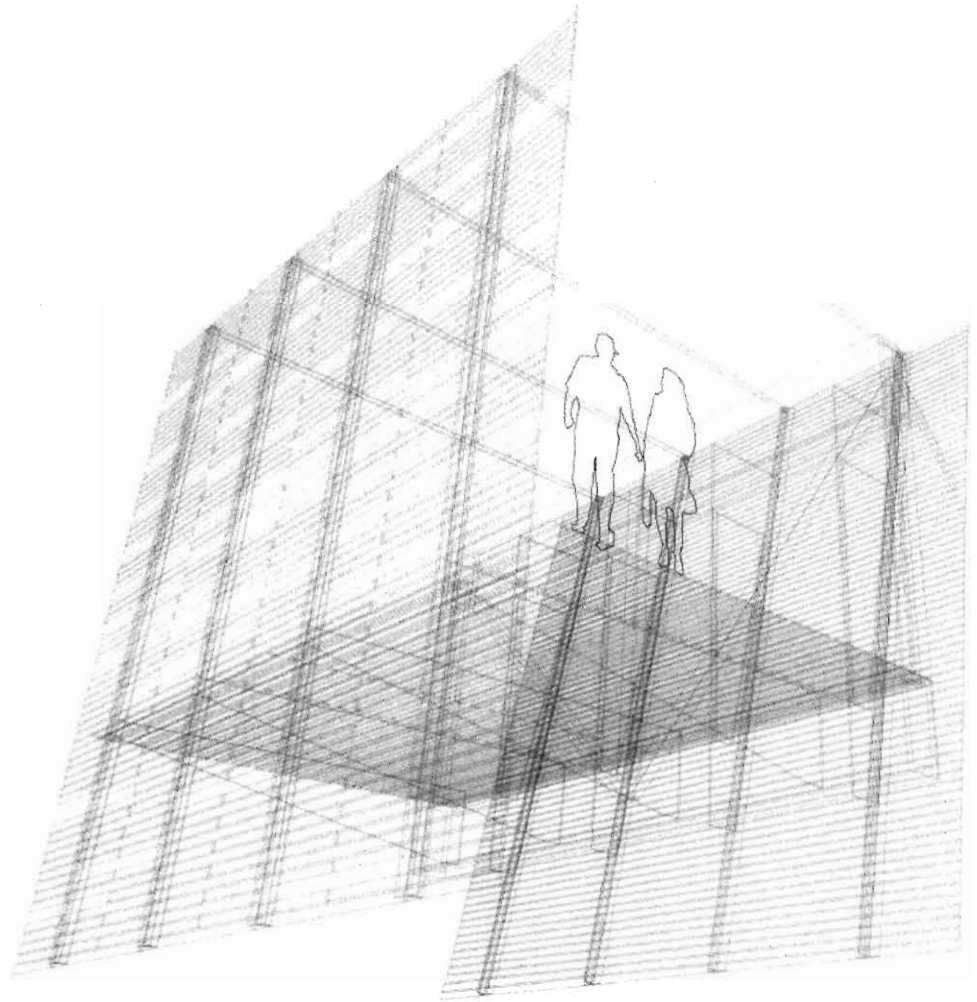
View from access roads to promenade above.



Interior perspective at night.



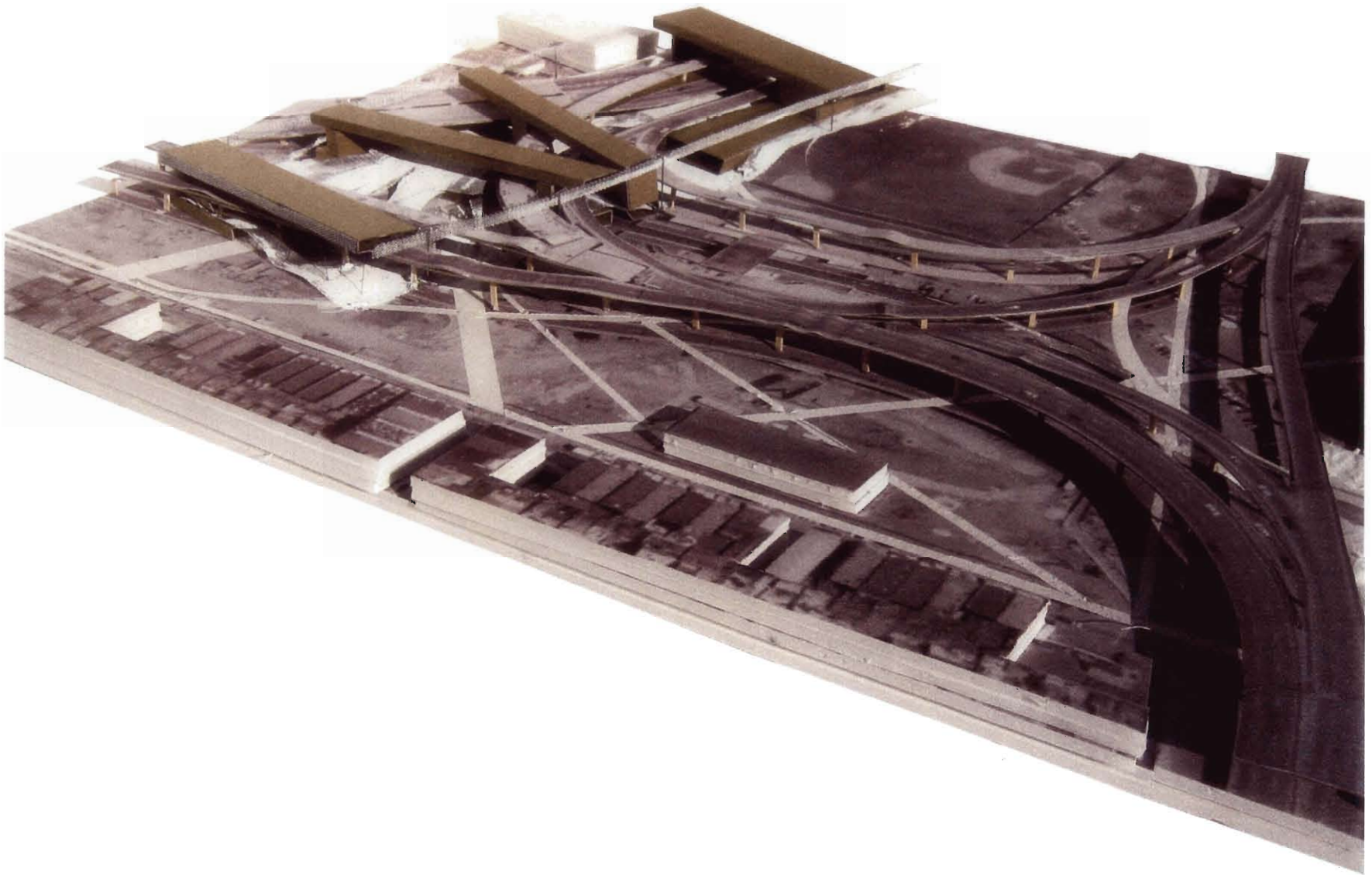
Structural module and concealed lighting.



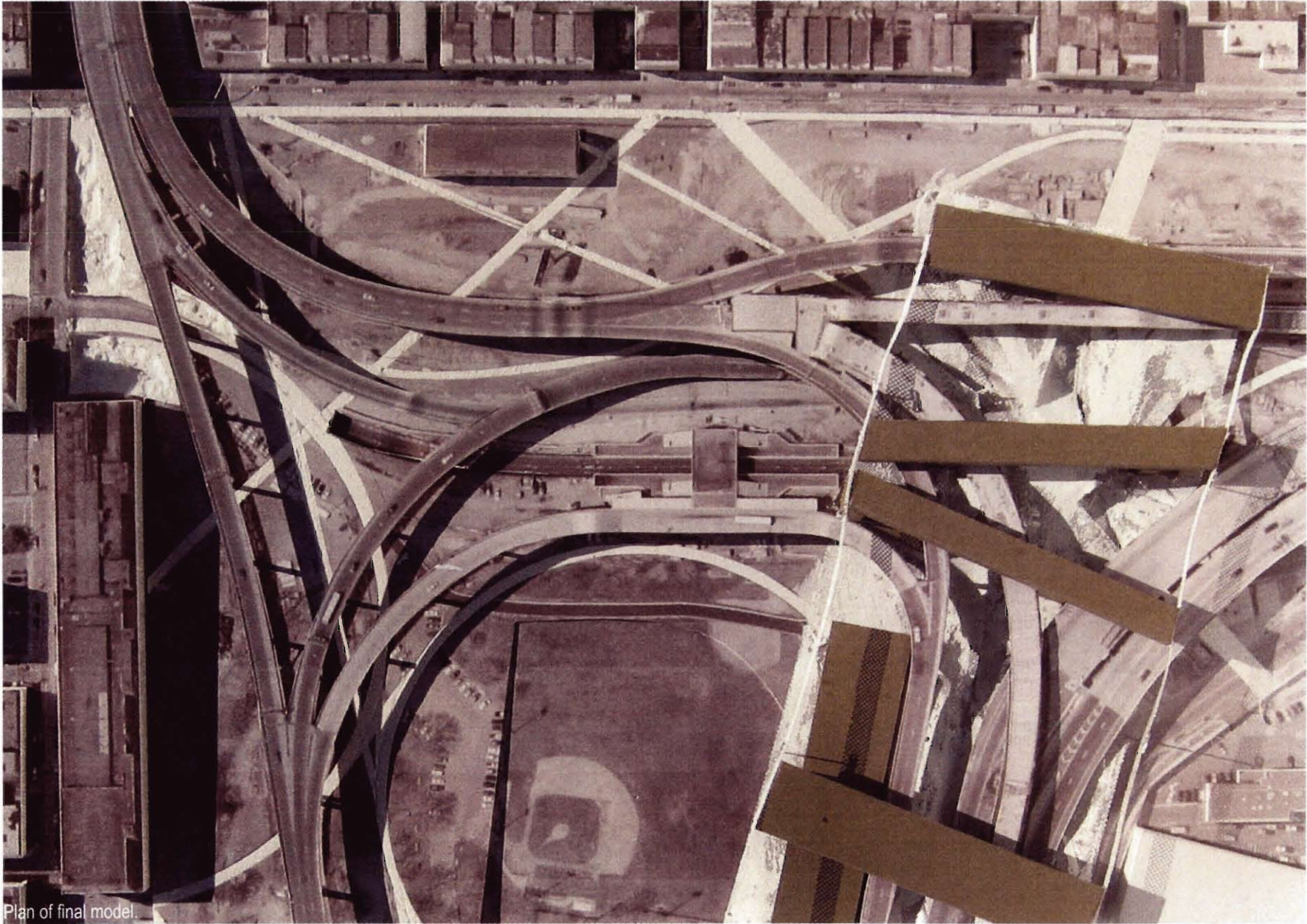
Details of elevated promenade. An architectural device which links programmatic elements and frames views at multiple scales and speeds (i.e. for pedestrians within and the driving public below). The promenade is envisioned as a space for the reintroduction of spectacle once embedded within air transport culture. As an intermediary space, a series of screens provide shelter but also create selectively placed openings through which both the airport and Boston are recontextualized. Like the catwalk above a stage, the promenade also functions as a scaffold from which lighting and electronic signage are hung, generating shifting, temporal spectacles, live news media and a memorable place within East Boston.



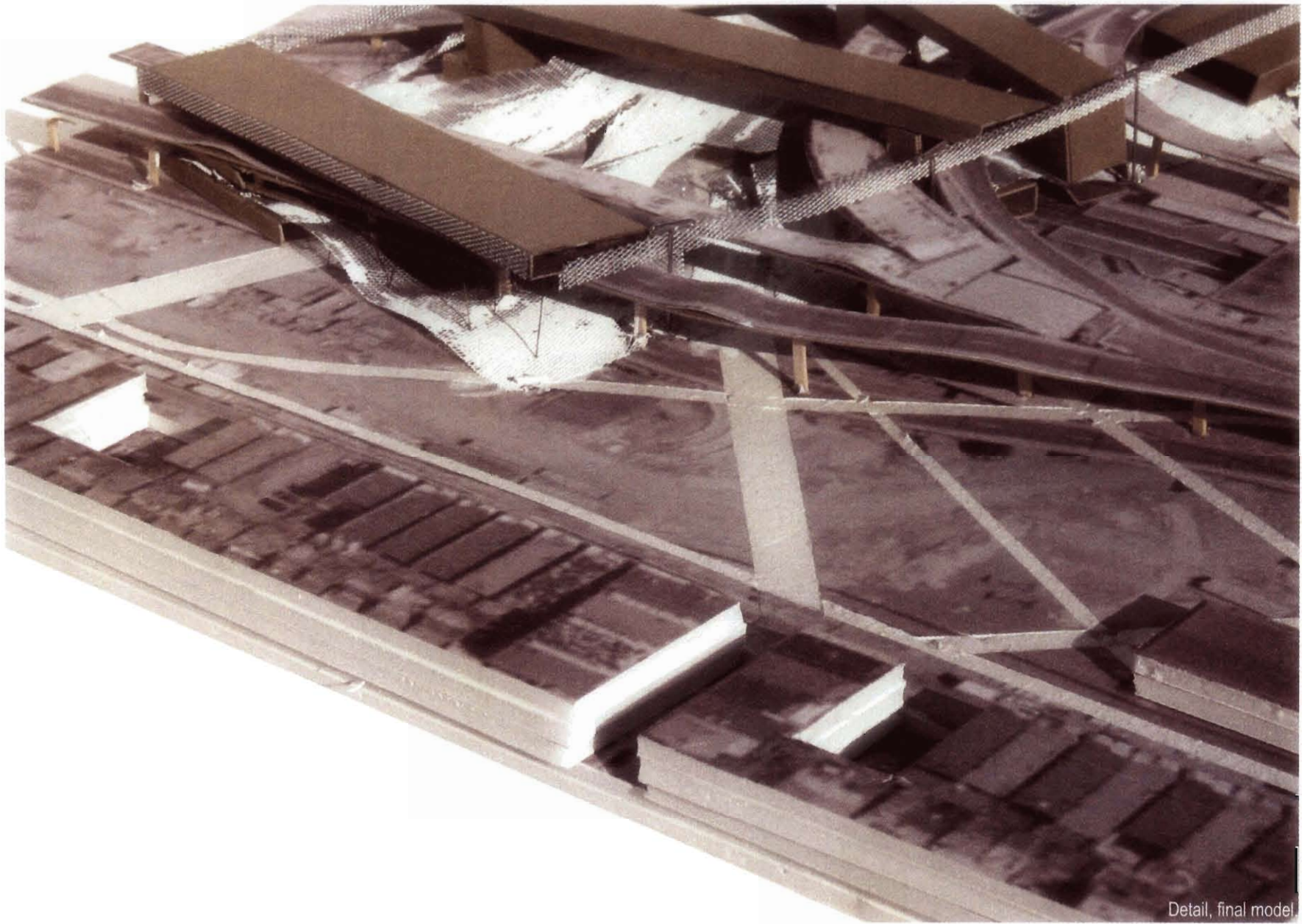
Interior perspective of promenade during midnight soccer tournament.



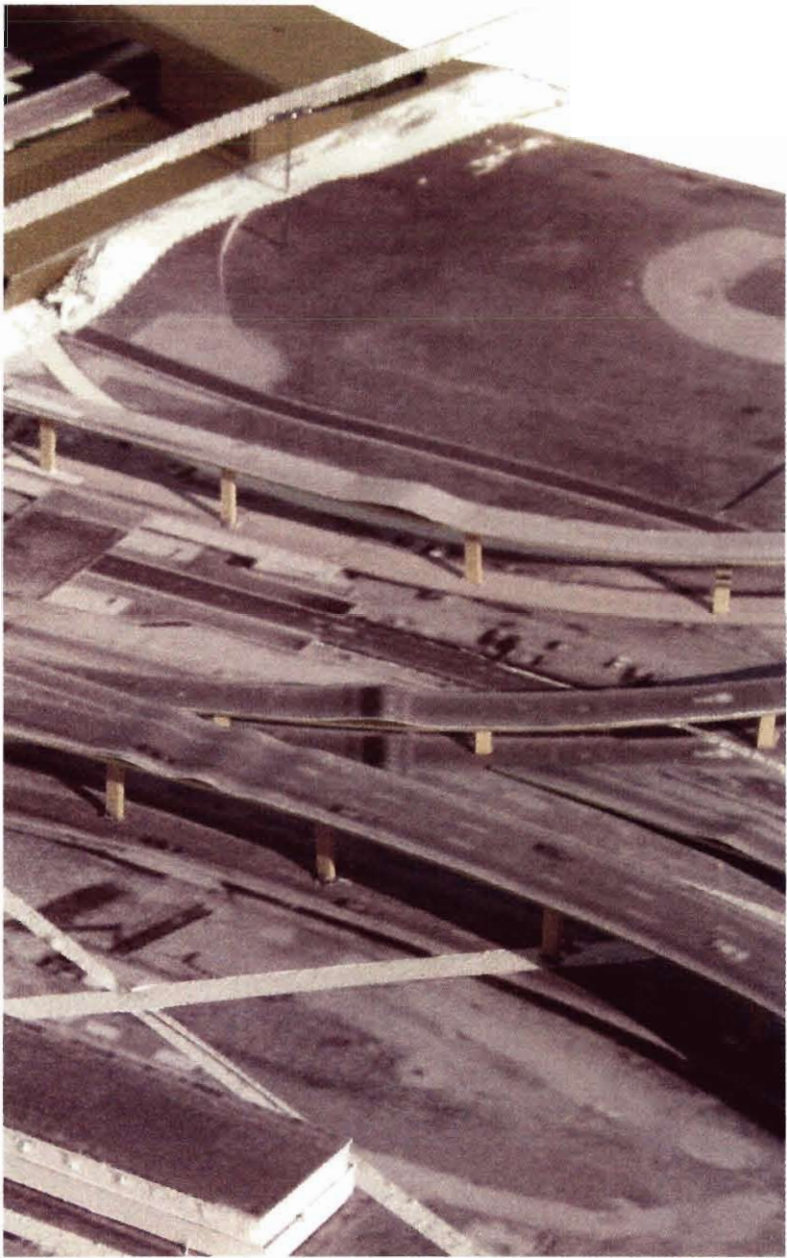
Final model, aerial view of Central Site, Bremen Street Park in foreground, Municipal Stadium beyond.

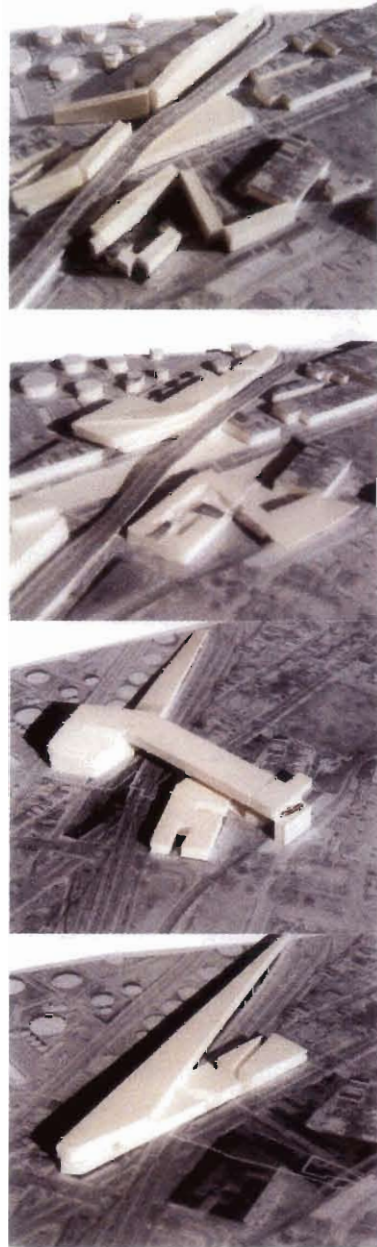
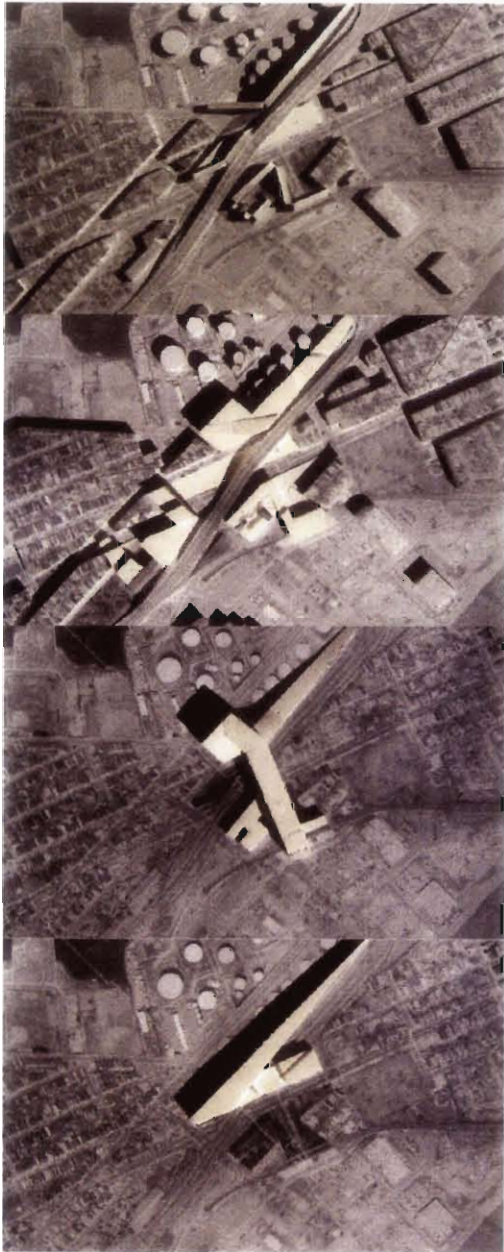


Plan of final model.

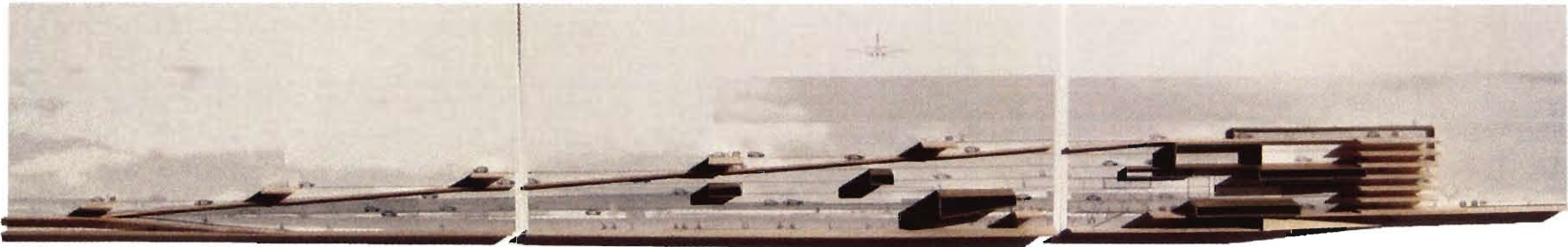


Detail, final model

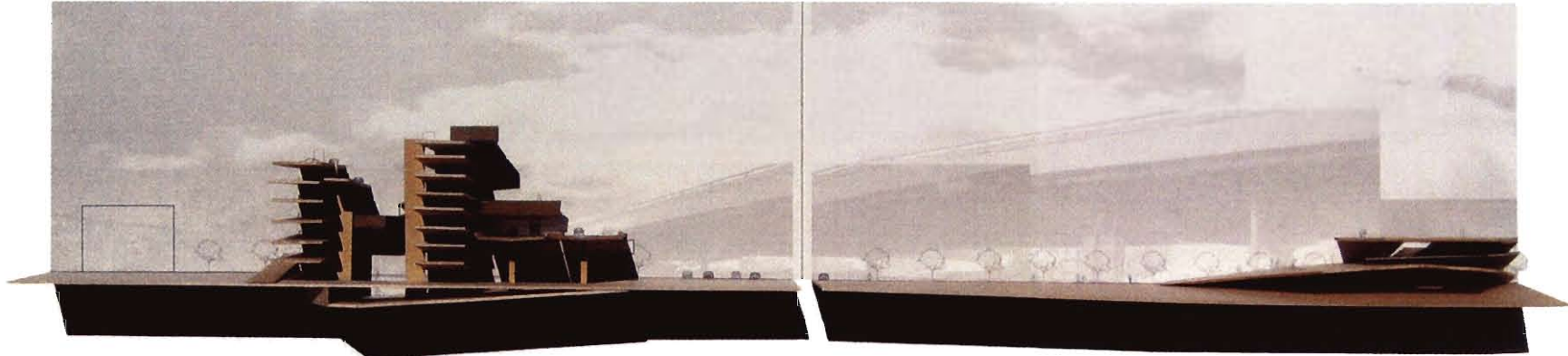




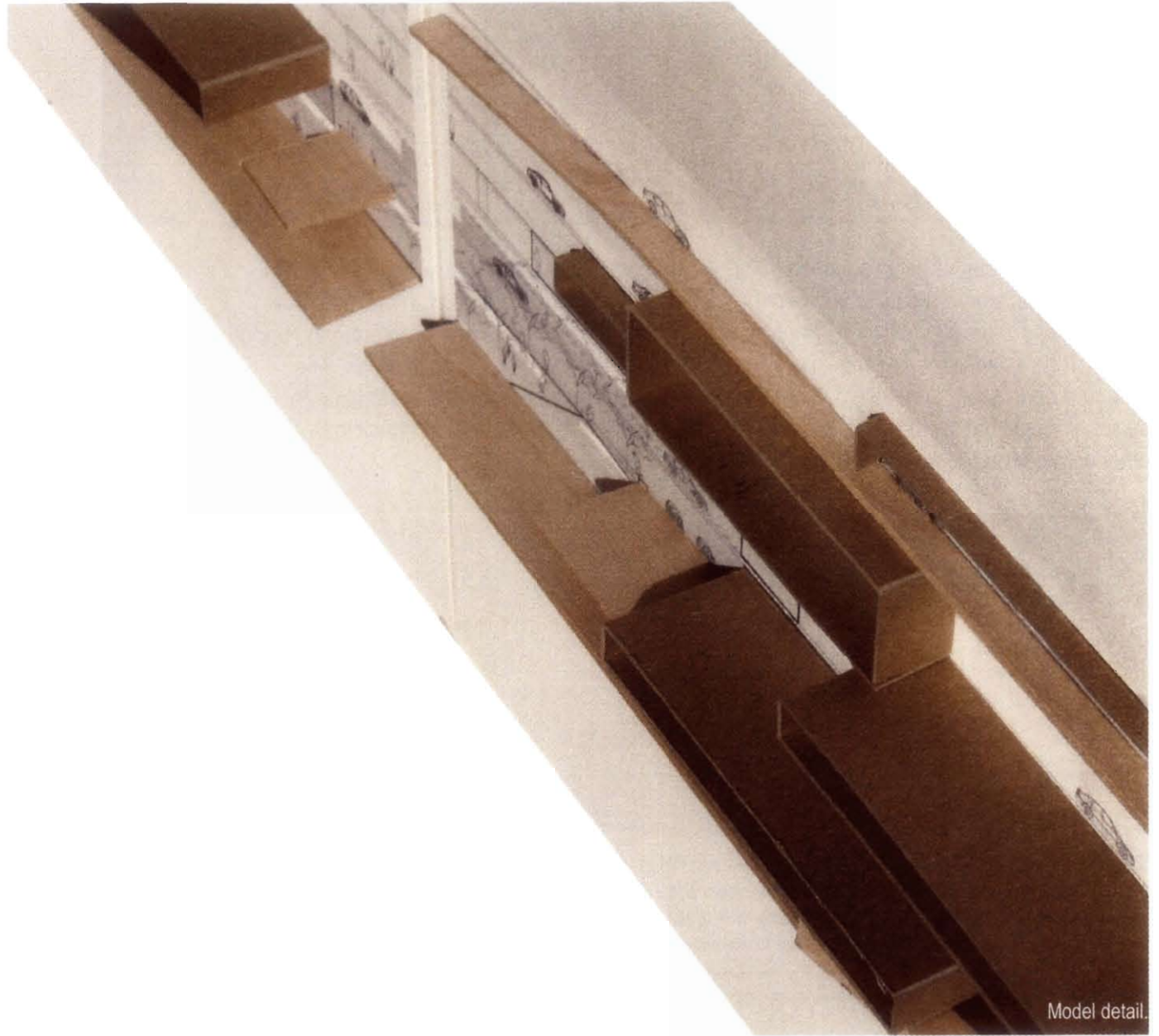
Study models.



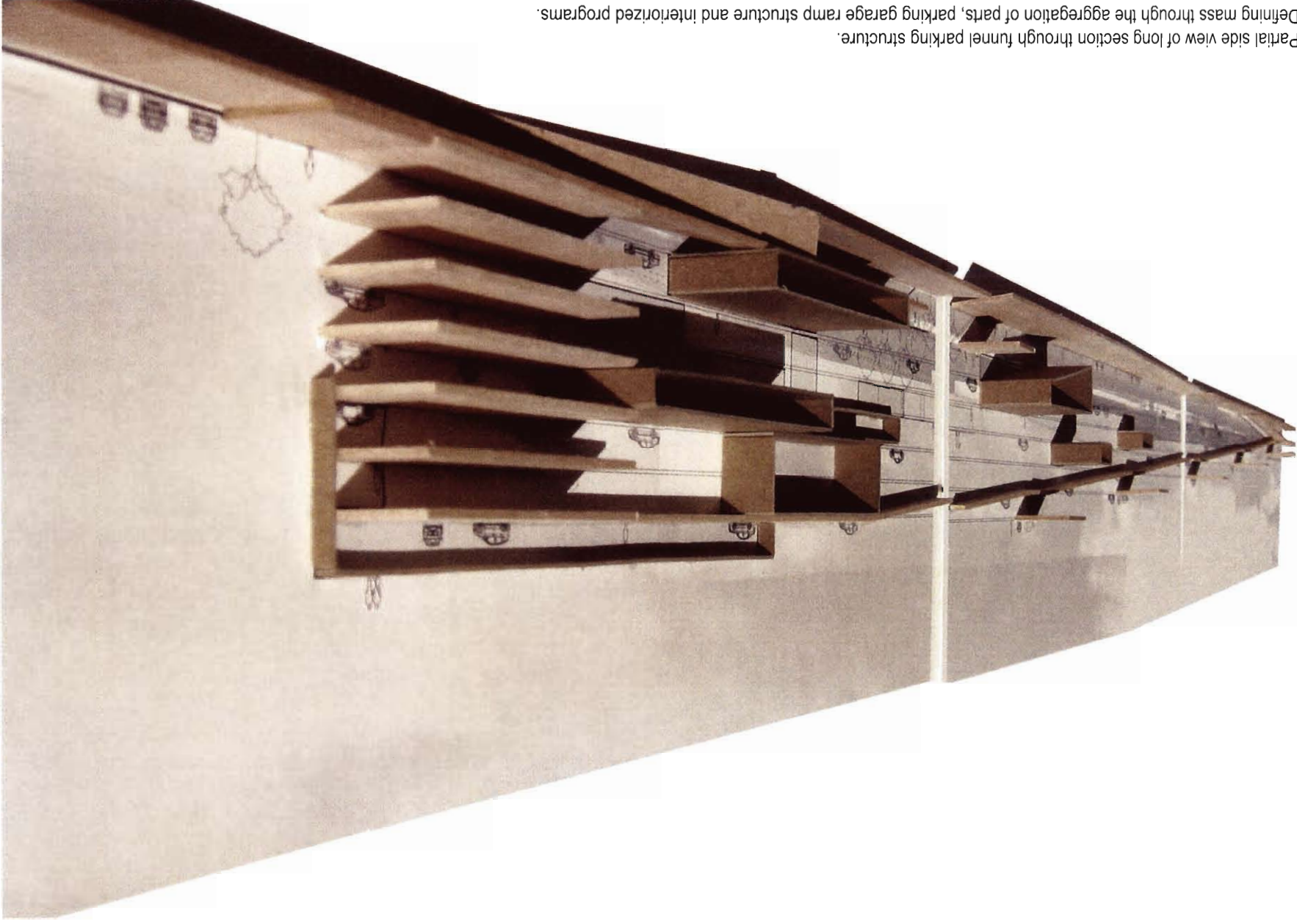
Long section through Funnel parking structure. The continuous spiral of the parking ramp is used to act as an intermediary between the McClellan Freeway, the bike path and the new plaza leading to the Wood Island T stop. The project creates a formal and programmatic bridge between the scale of the freeway and the regional to that of the more local at grade. The garage is seen as a permeable public space which double functions as the scaffolding for a series of more privately developed programs of car wash, car rental, airport check in desk and other commercial programs such as cafe and restaurant.



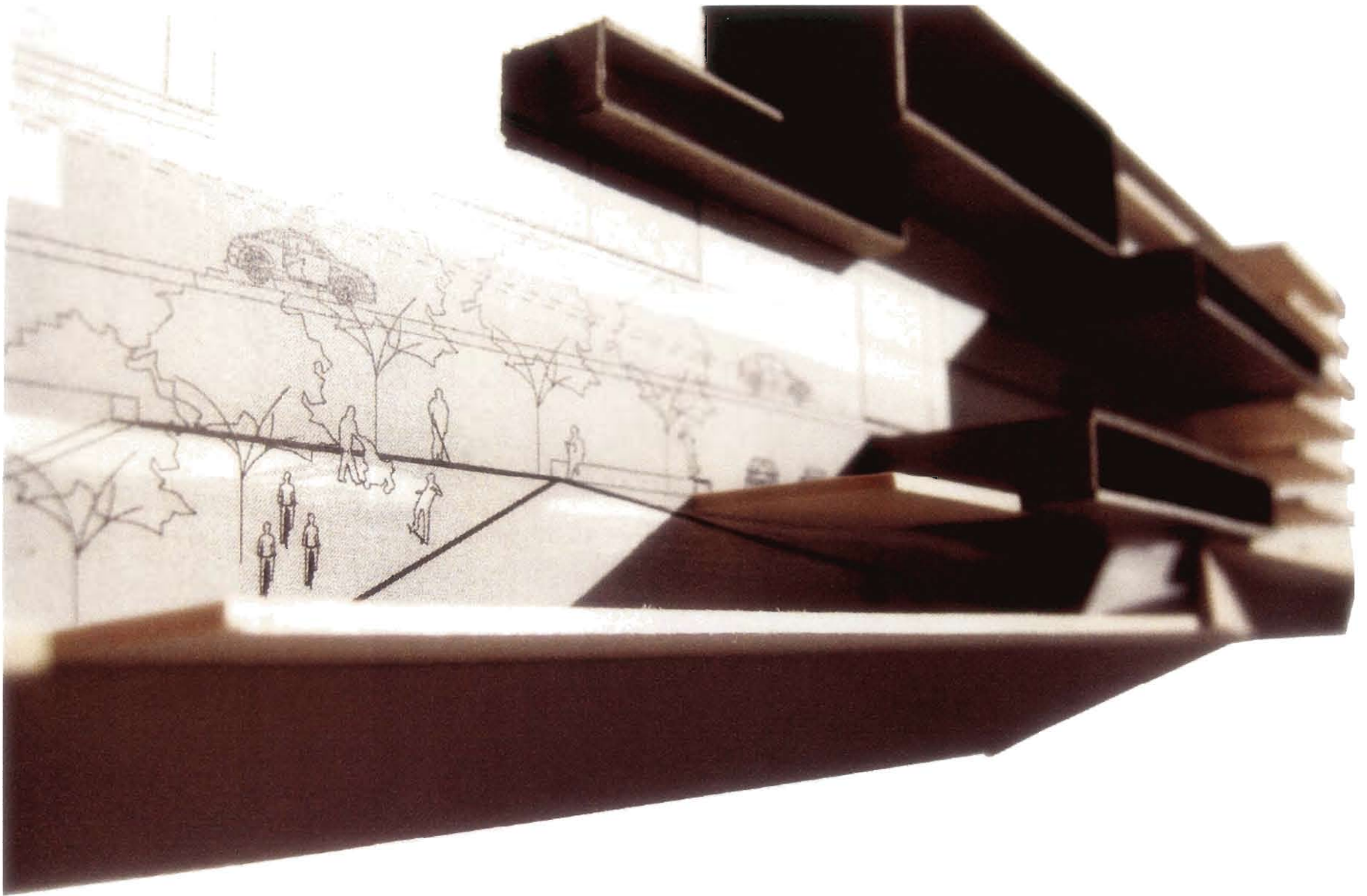
Short section through Funnel parking structure, plaza and Wood Island T station. The Funnel parking structure is used simultaneously as means for defining the freeway's edge as well as bridging the proposed bike path which occupies the abandoned rail cut. At grade the freeway is appropriated as an entry canopy and provides shelter for the ramping plaza which connects the plaza to the bike path below. Also shown is the vertical opening within the parking structure which allows daylight to filter down to the bike path. Enclosed private programs are used to compress space along the freeway, generating the effect of a transition for a public that may or may not ever enter the project physically.



Model detail.

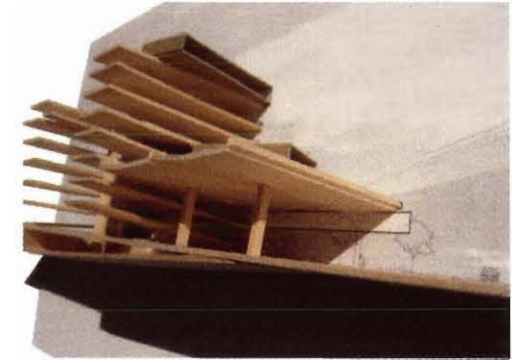


Partial side view of long section through funnel parking structure.
Defining mass through the aggregation of parts, parking garage ramp structure and interiorized programs.

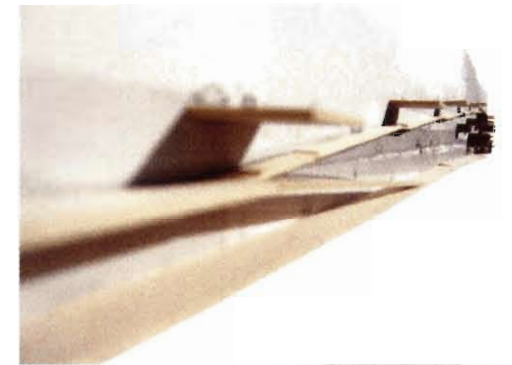


Perspicive from Bike path toward ascending plaza space atrium above.

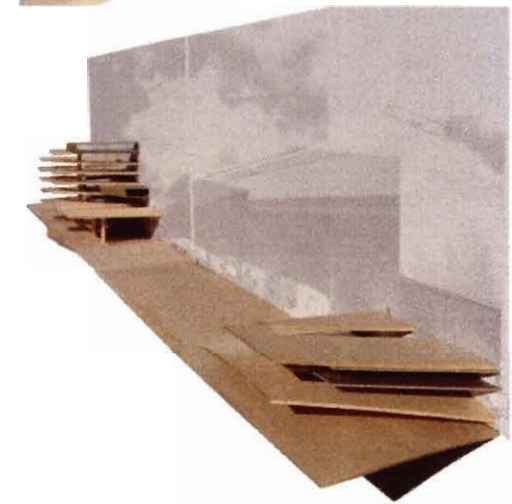
Perspective entering bike path. The freeway is appropriated as entry canopy and provides shelter to the ramped plaza below. The parking structure double functions as a kinda of programmatic shelf for the restaurant above.

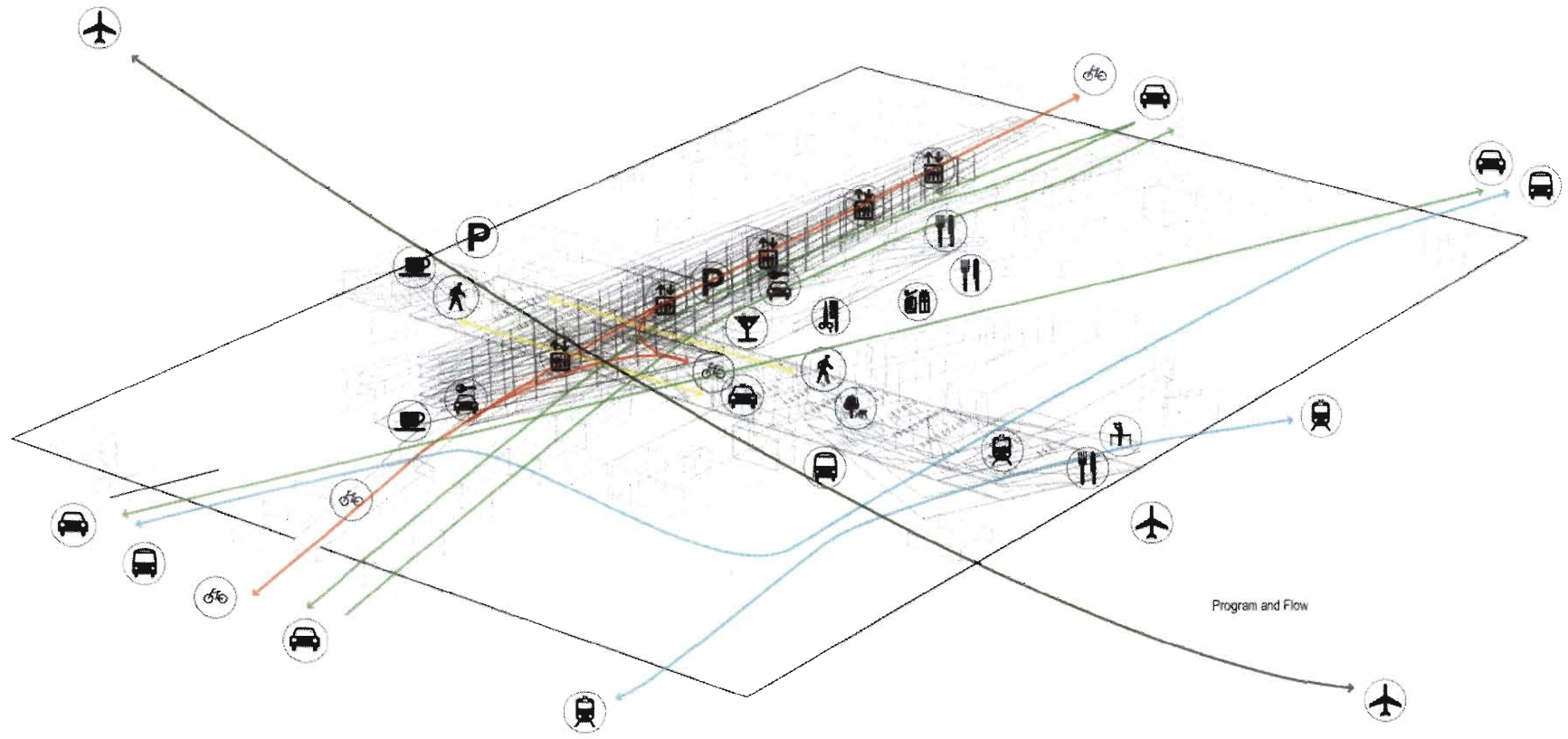


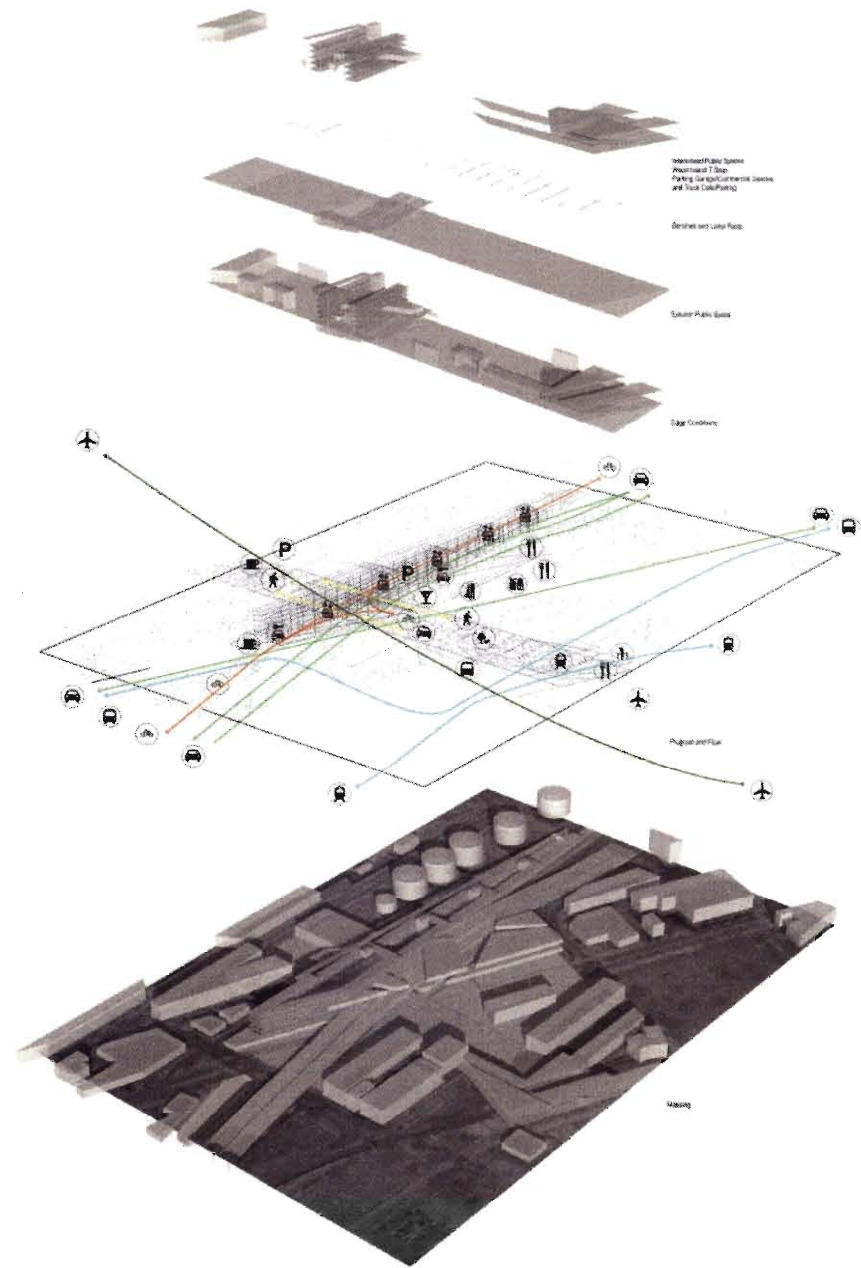
Ramp system provides means of interchange between the regional flows of adjacent freeway and local flows of bikers pedestrians and drivers on city streets.

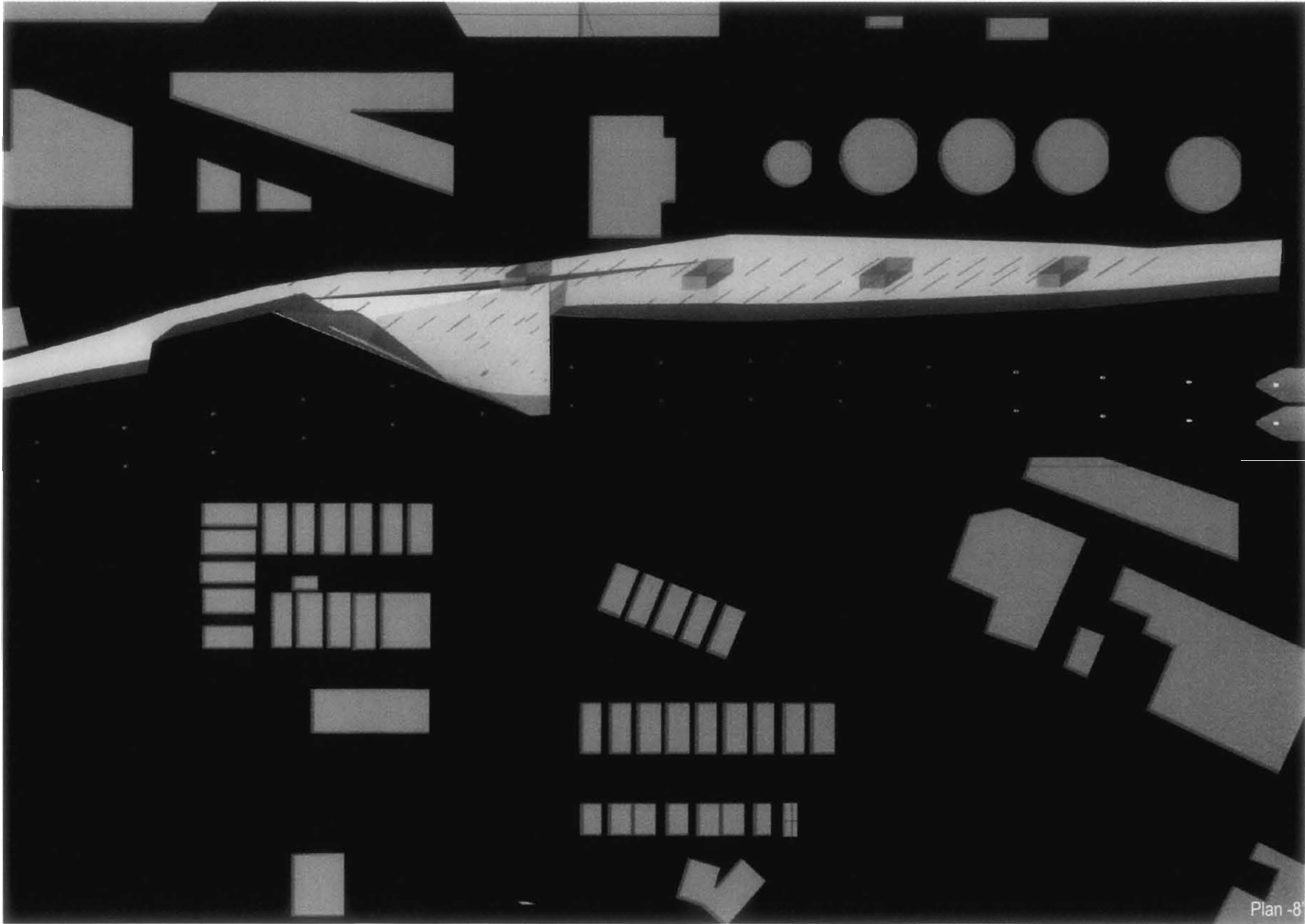


Continuous surface of plaza slopes and folds to provide a seamless connection at Wood Island T Stop.

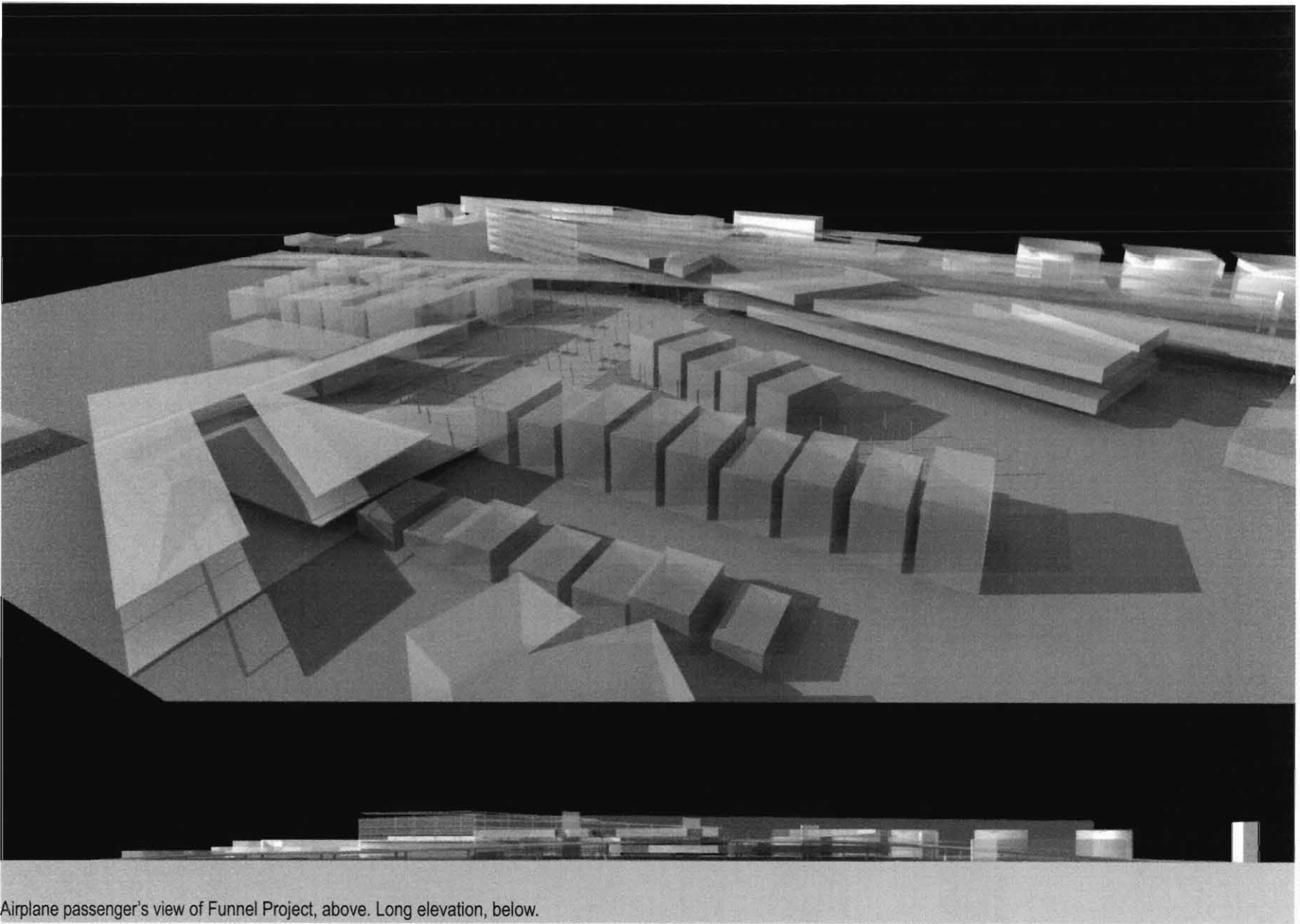




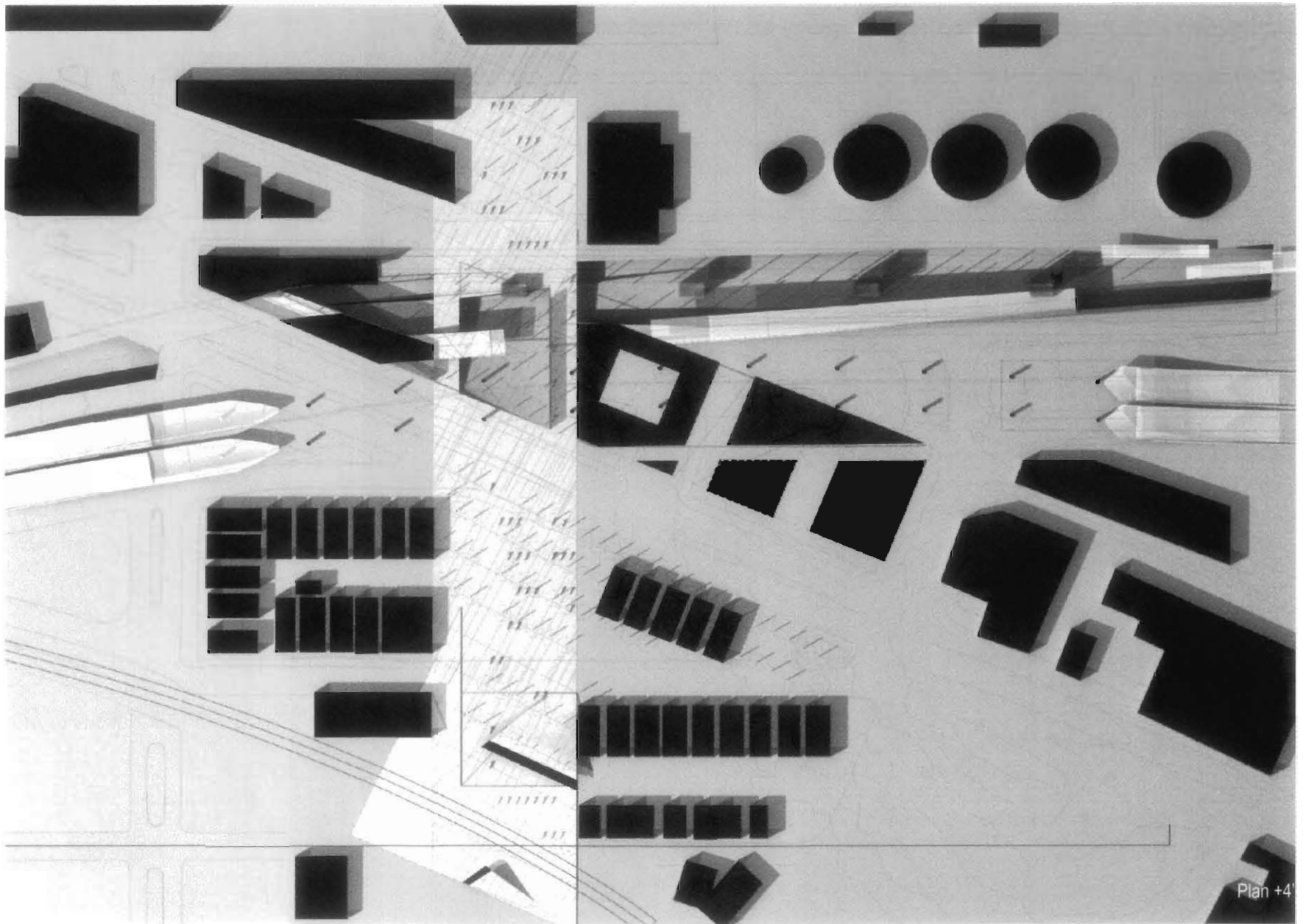




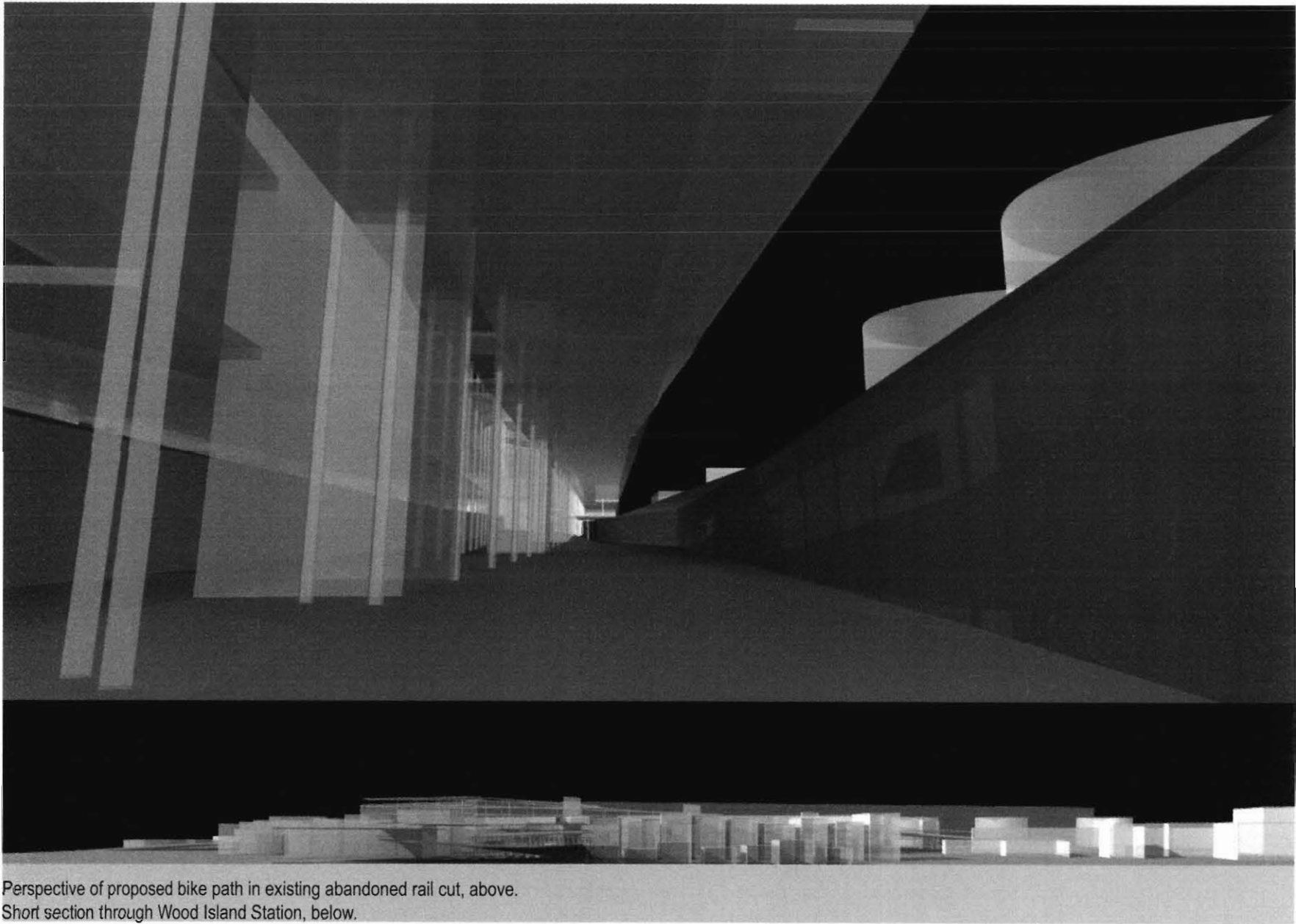
Plan -8'



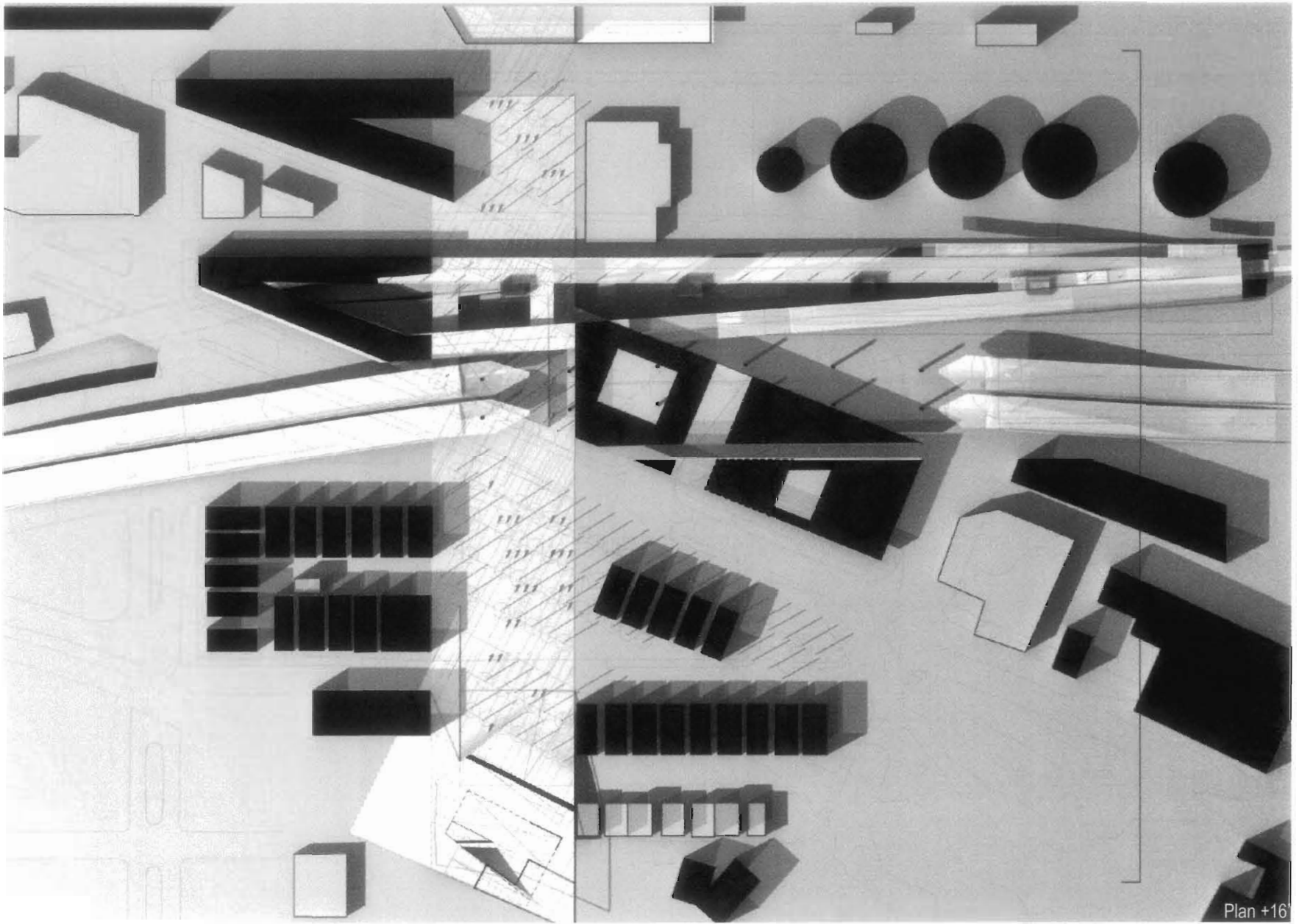
Airplane passenger's view of Funnel Project, above. Long elevation, below.

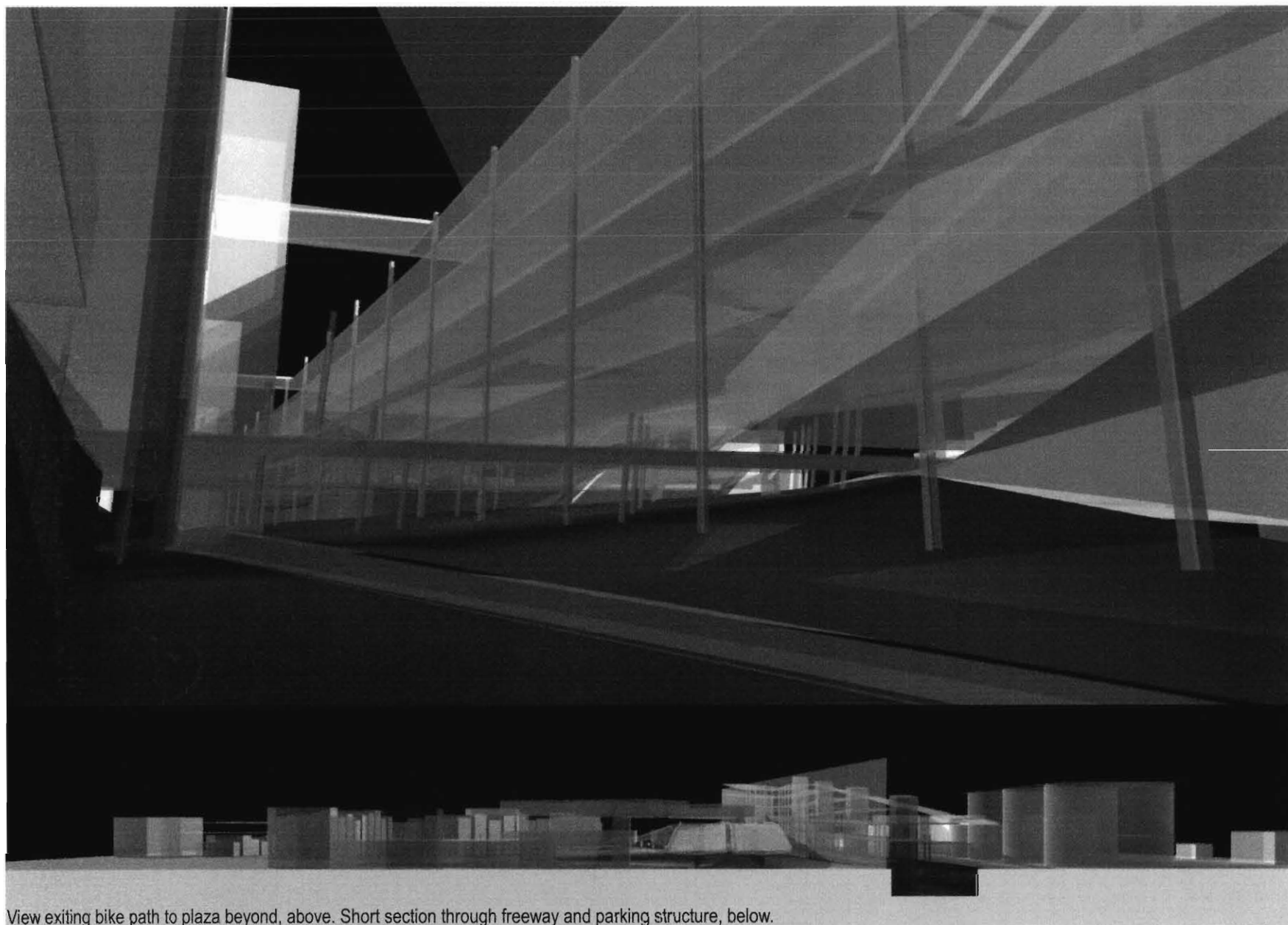


Plan +4'

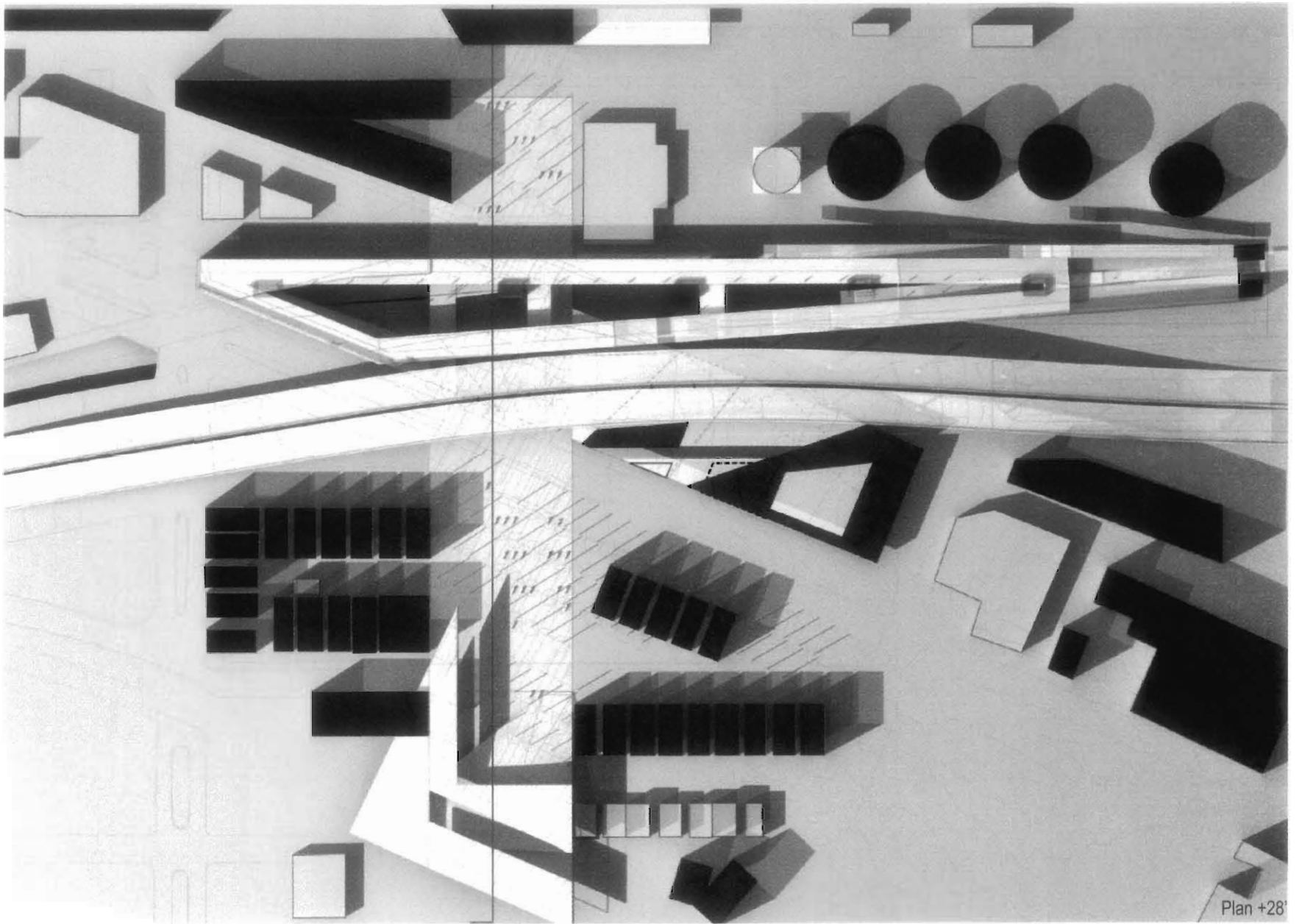


Perspective of proposed bike path in existing abandoned rail cut, above.
Short section through Wood Island Station, below.

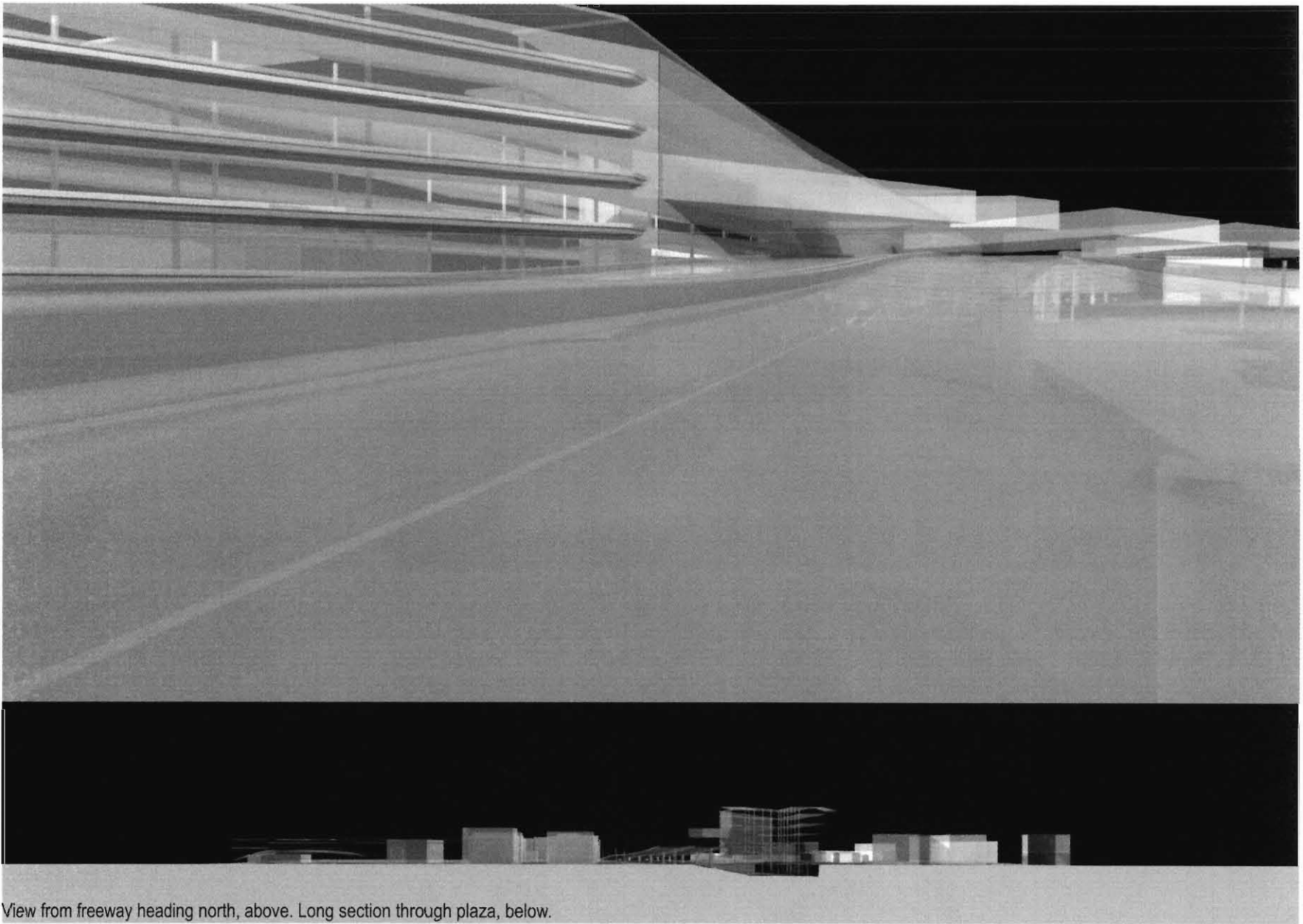




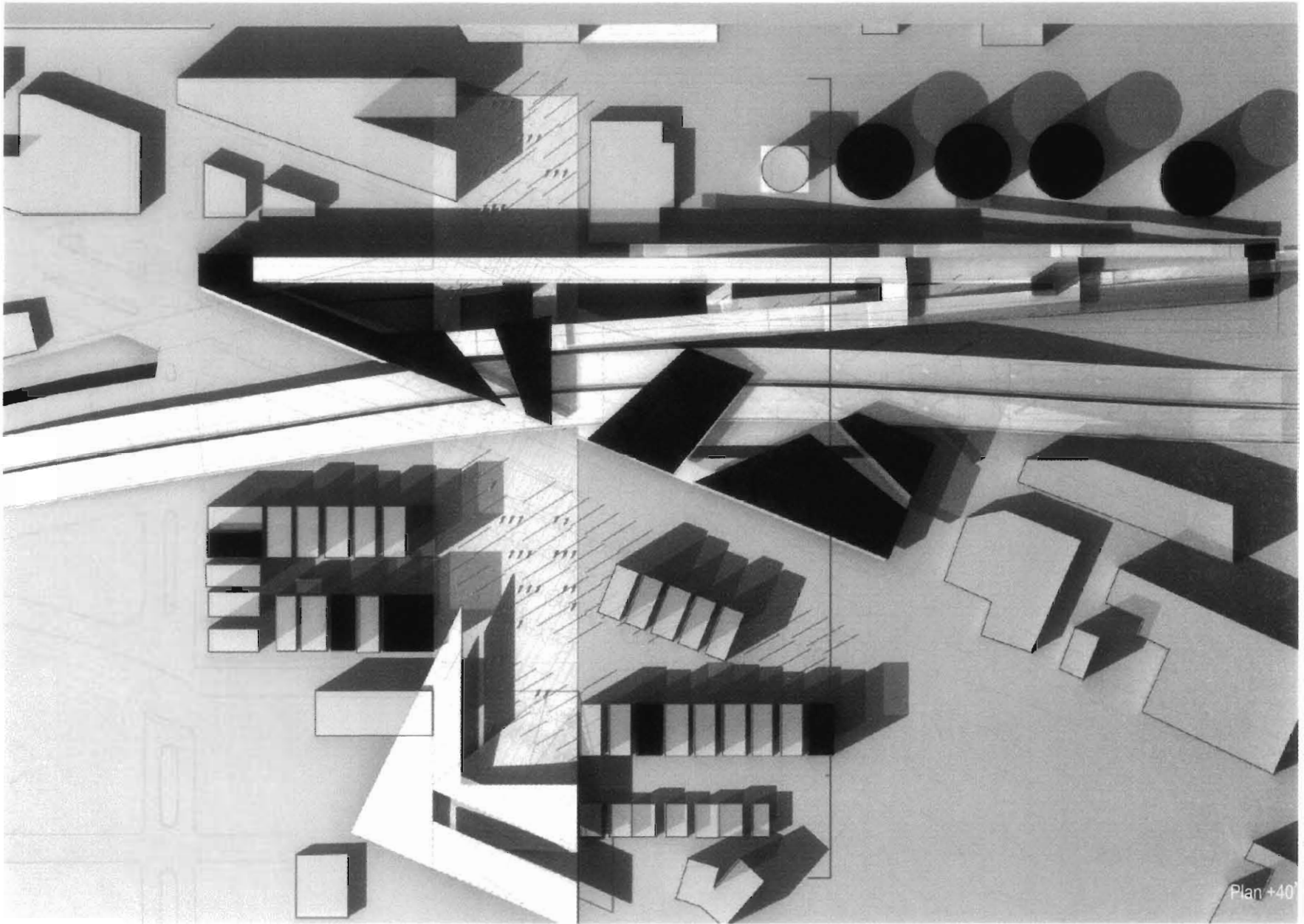
View exiting bike path to plaza beyond, above. Short section through freeway and parking structure, below.

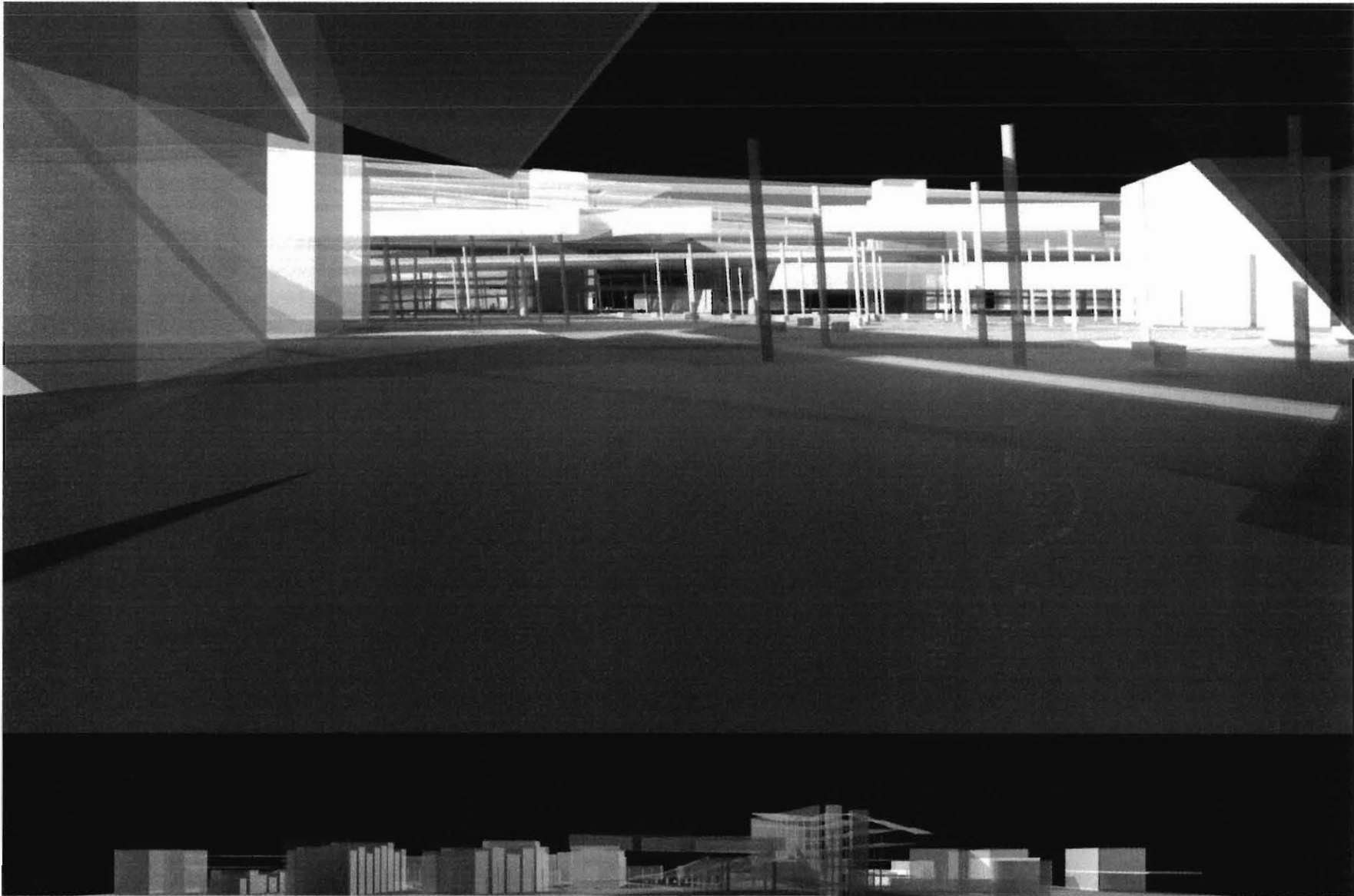


Plan +28'

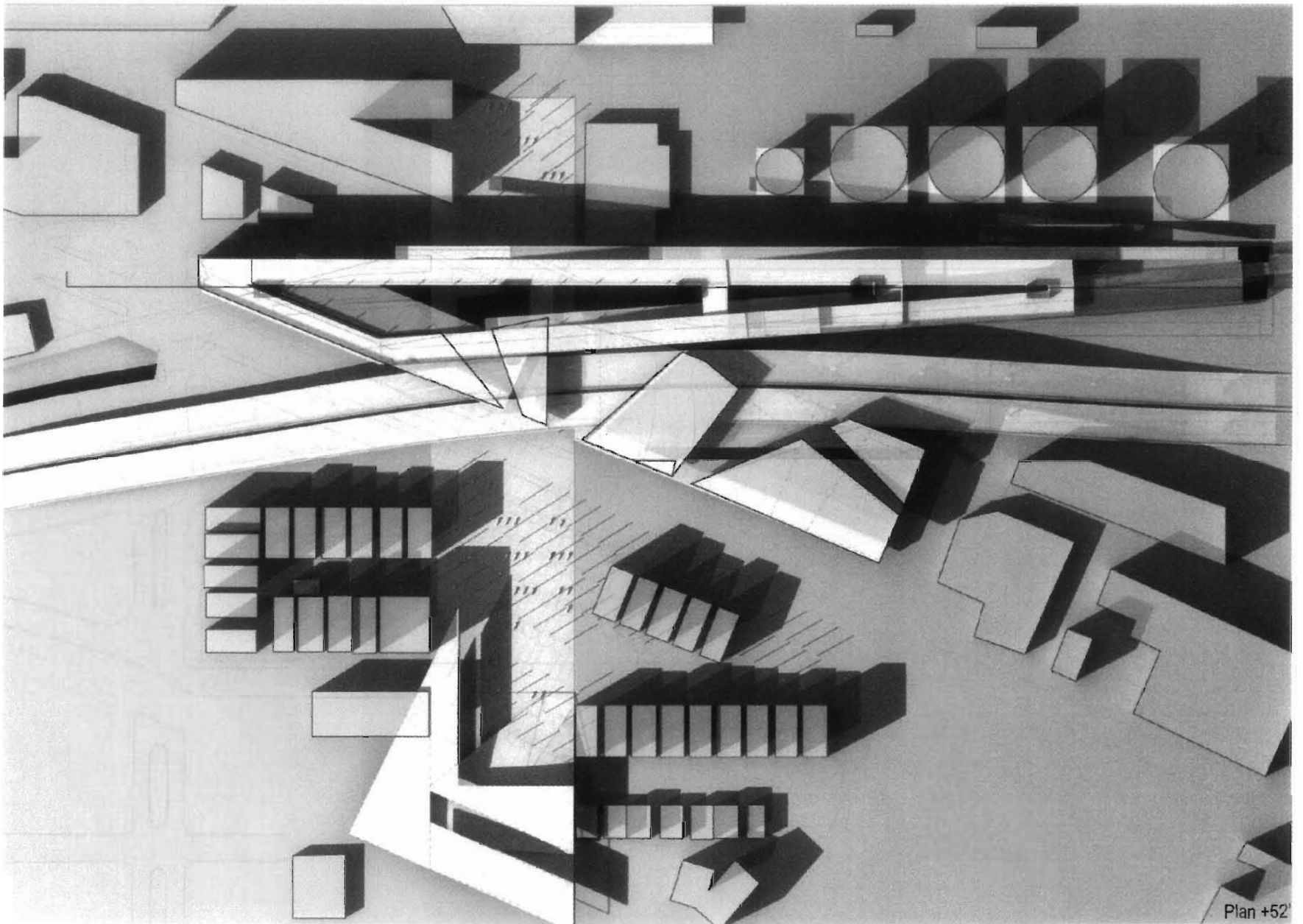


View from freeway heading north, above. Long section through plaza, below.

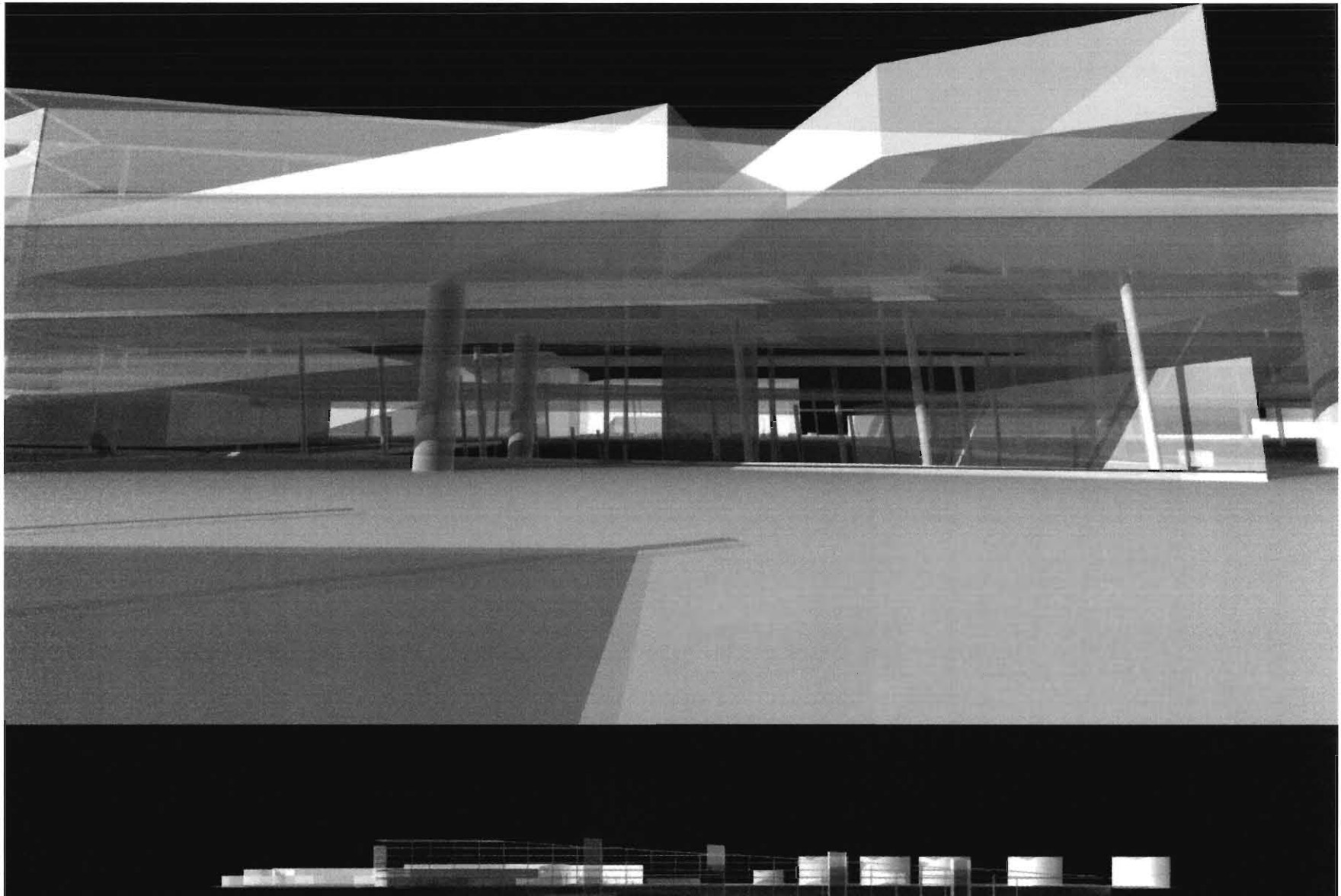




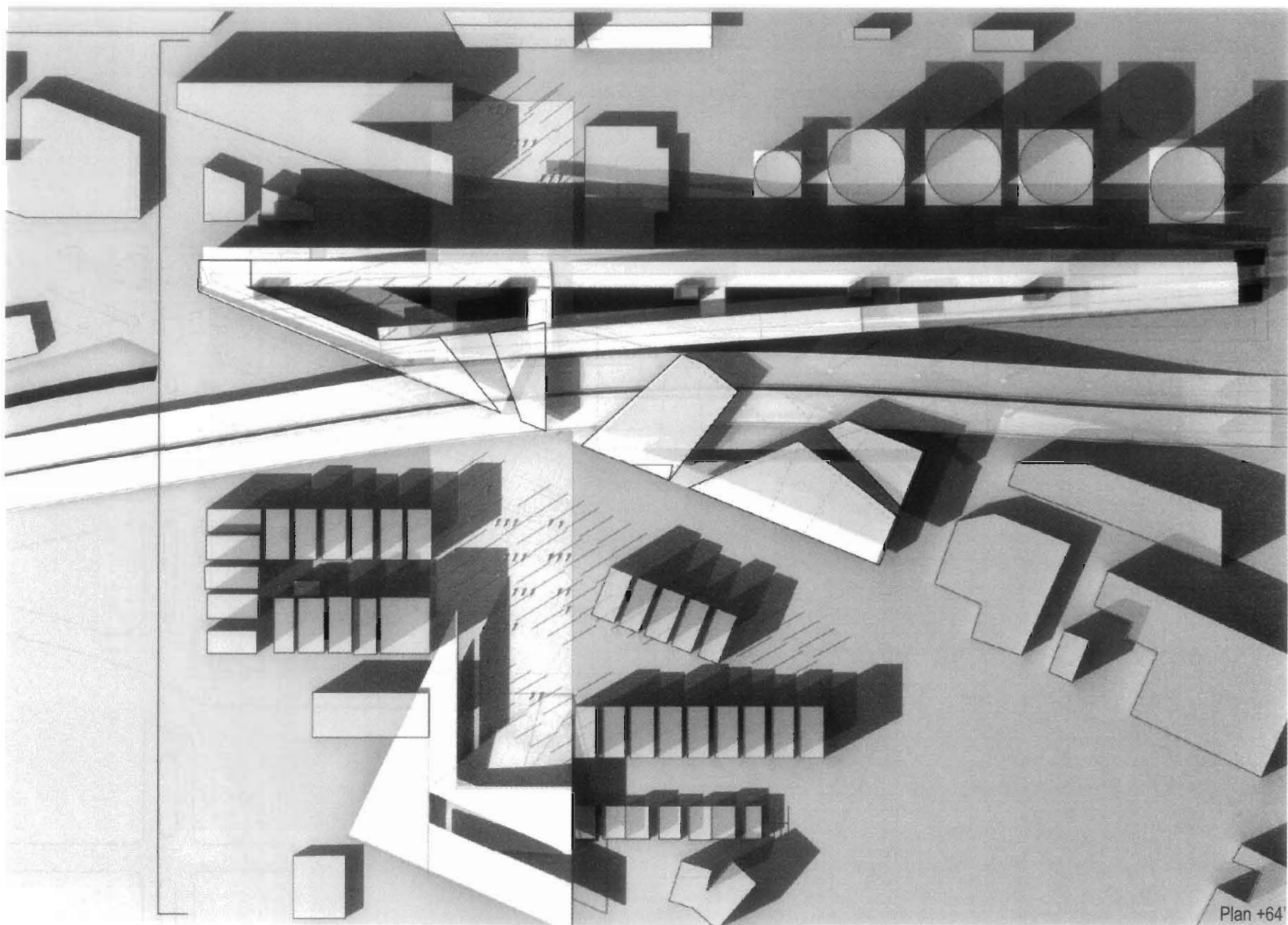
View exiting Wood Island Station to plaza beyond, above.
Short section through commercial bar along Bennington Avenue, below.



Plan +52



View entering bike path, above. Long section through bike path and parking structure, below.

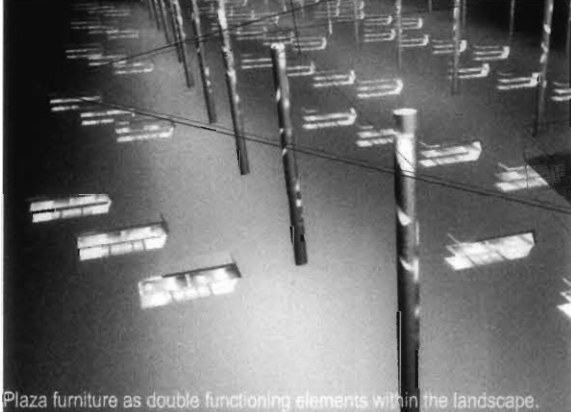




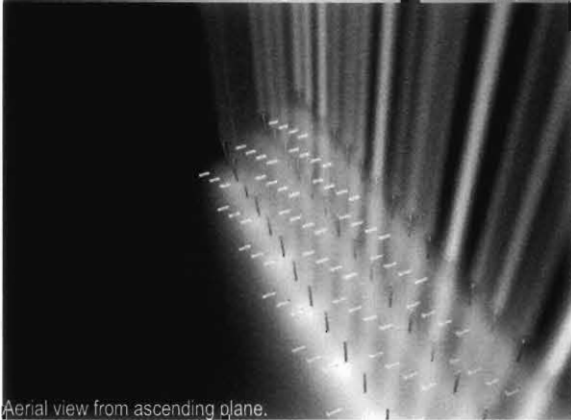
View from interior upper levels of parking structure out to Wood Island Station, above. Short Elevation, below.



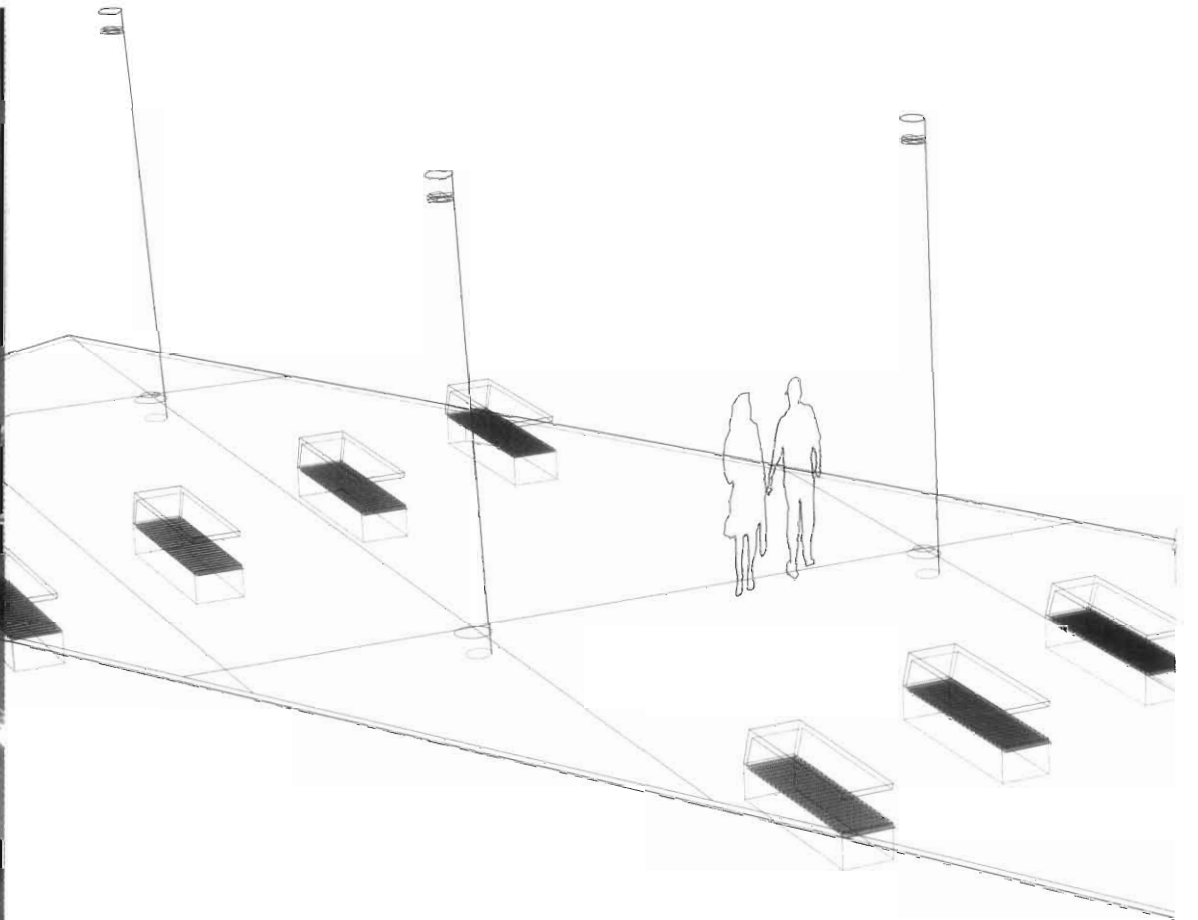
Seated view of plaza at night.



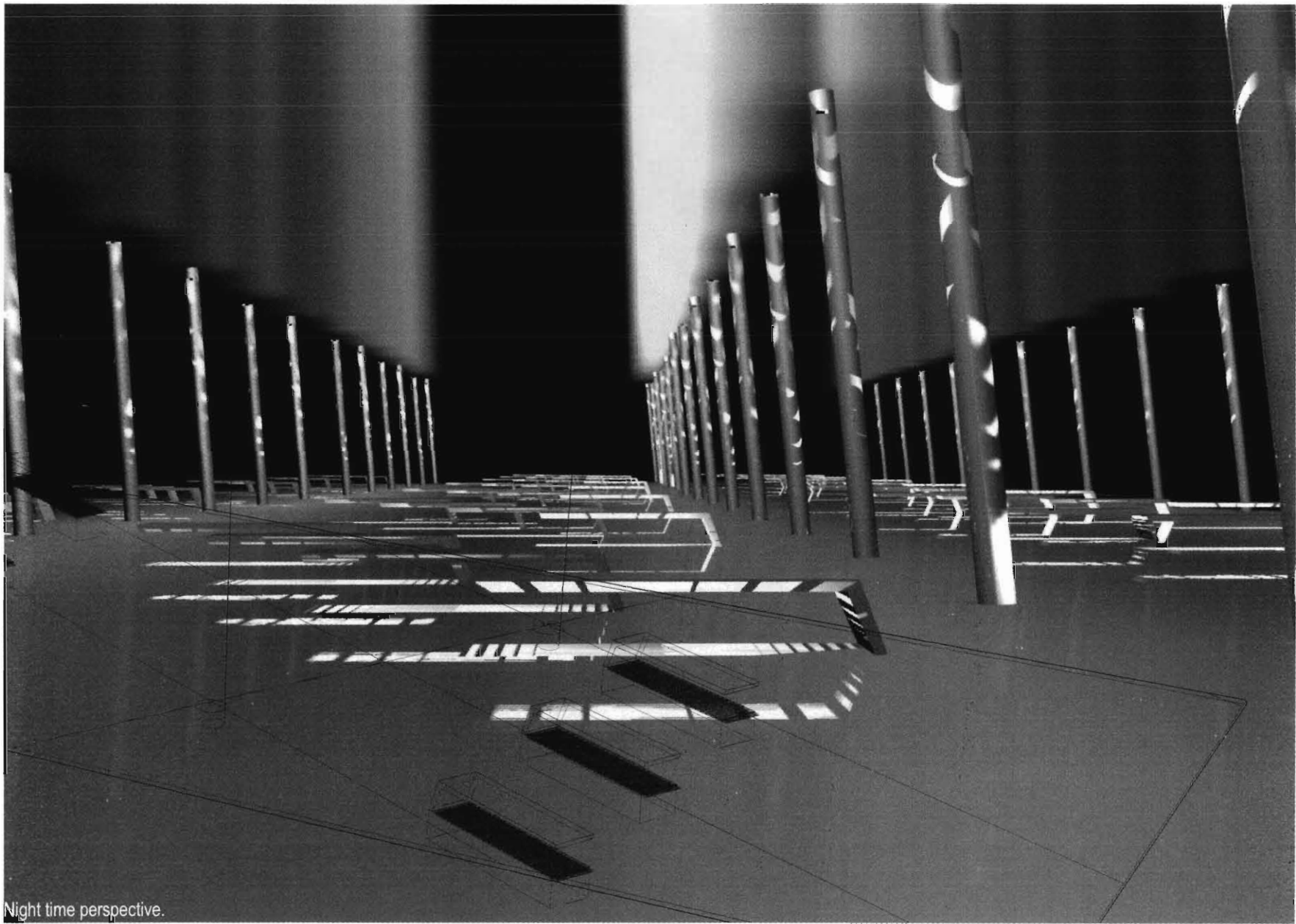
Plaza furniture as double functioning elements within the landscape.



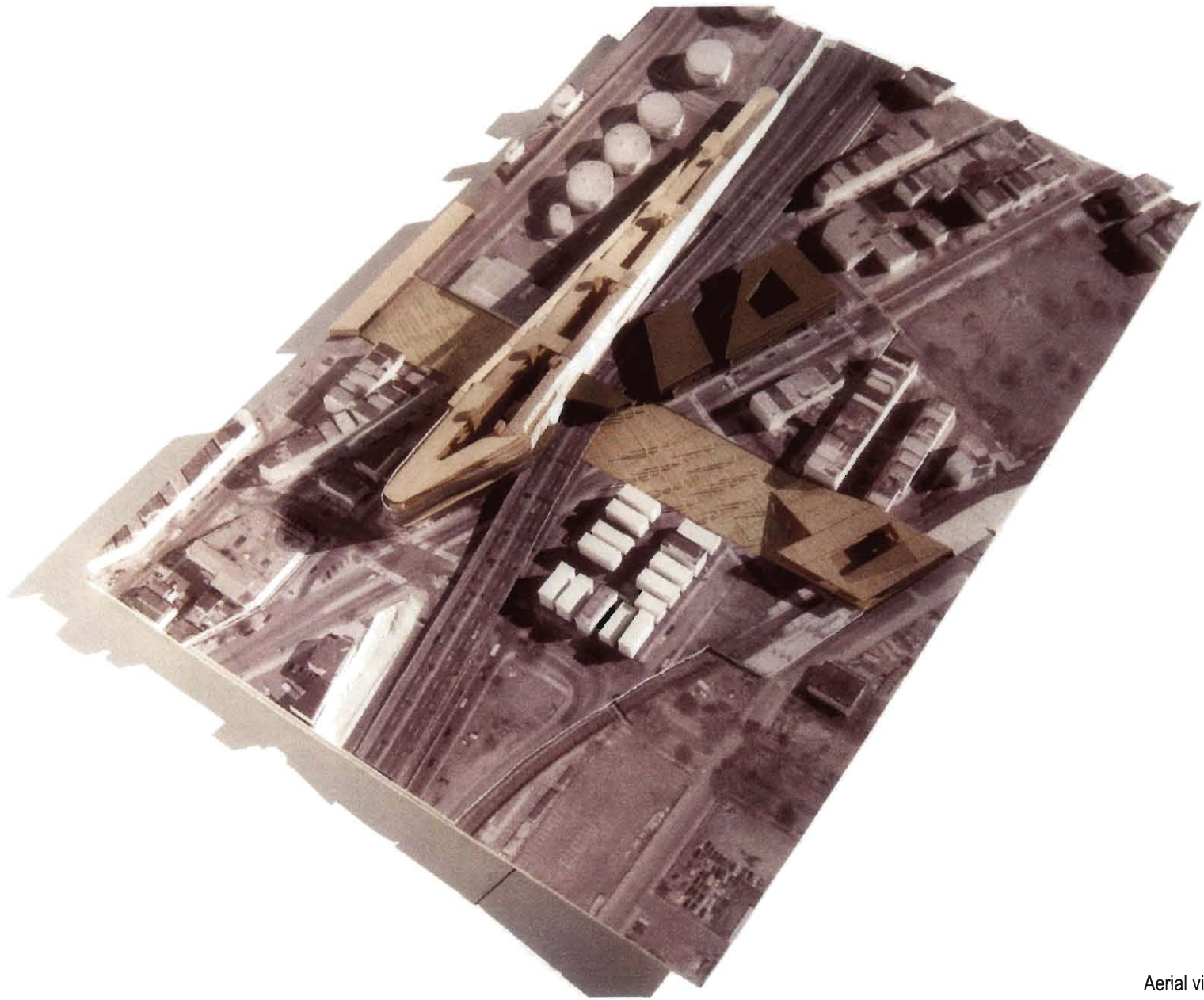
Aerial view from ascending plane.



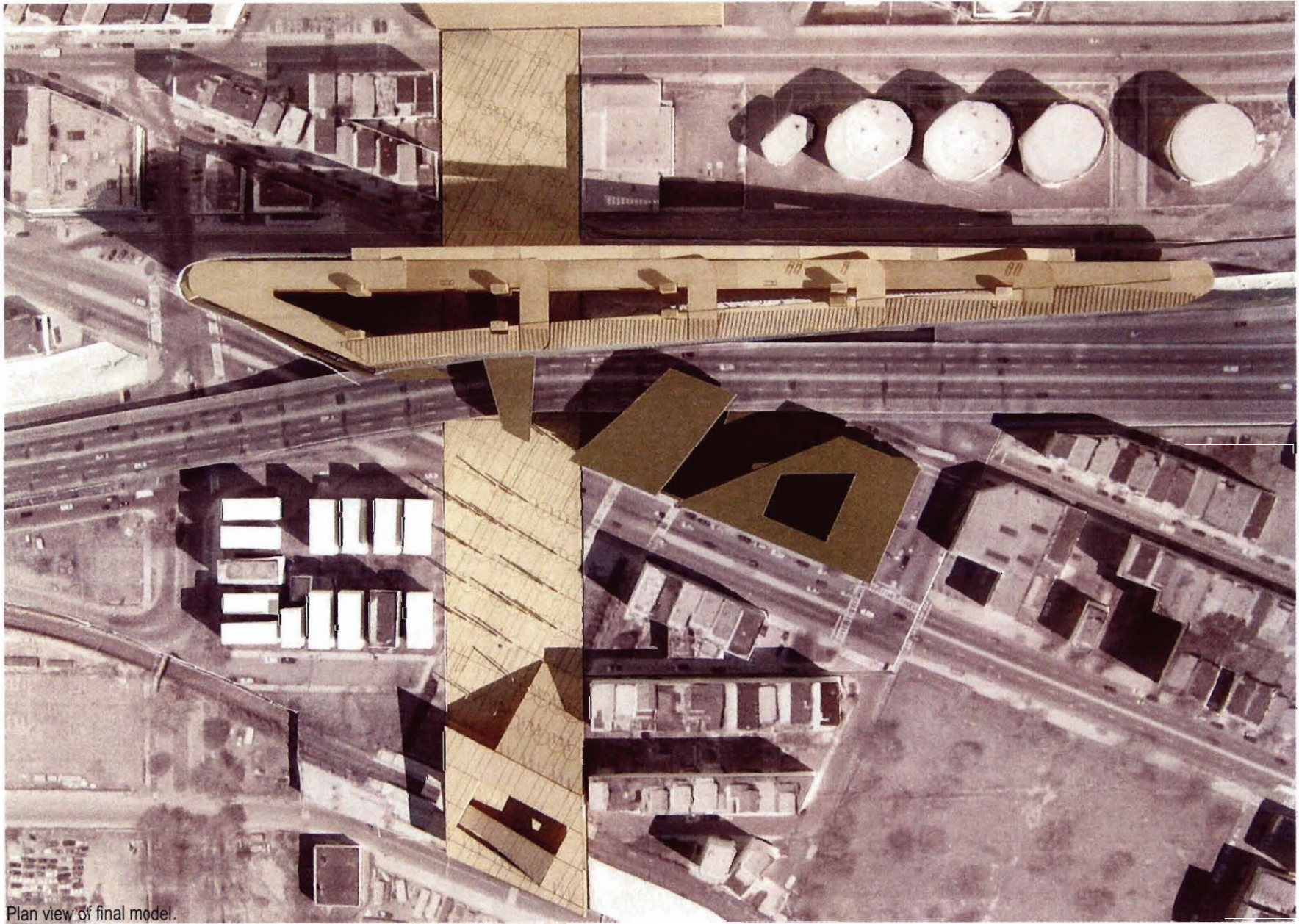
Details of plaza lighting and furniture. Emphasis in detailing the public space for the Funnel Project was made on creating a space of inhabitation. Unlike many of existing and proposed public spaces within the realm of this thesis, this plaza was envisioned as a collector of people from the fragmented surrounding local, regional and global zones. The primary goal was to create a visual language and aesthetic for plaza furniture which allow people to sit, linger and relax. Like the promenade detailing in the Central Project, these pieces were designed with night in mind. Light torches function to illuminate the ground as well as the sky, and generate landmarks for the planes arriving and departing from 15-33 over head. Benches double function as light sources and drains as their concrete material peels away from the plaza floor to create a reveal for indirect light sources.



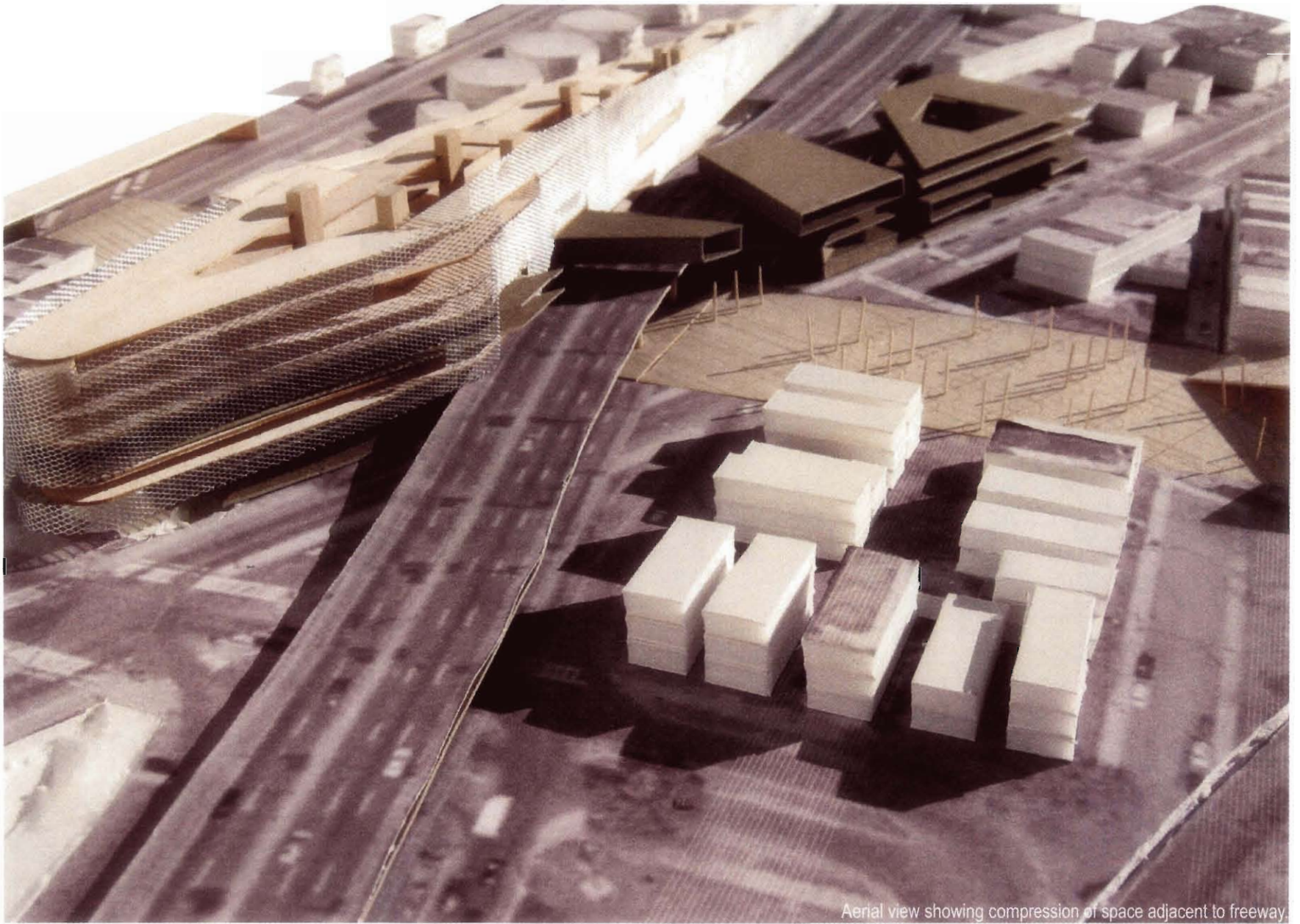
Night time perspective.



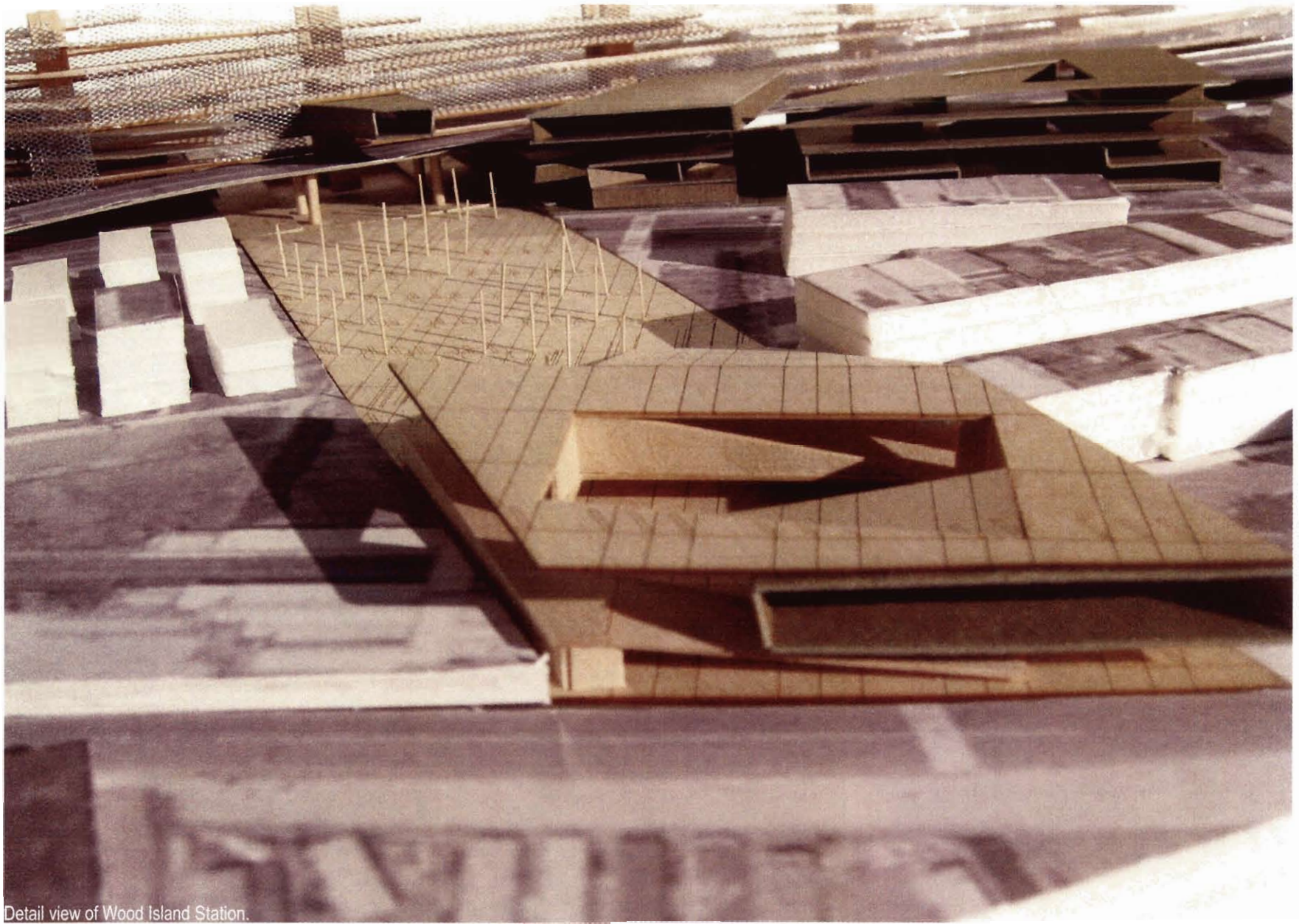
Aerial view of final model.



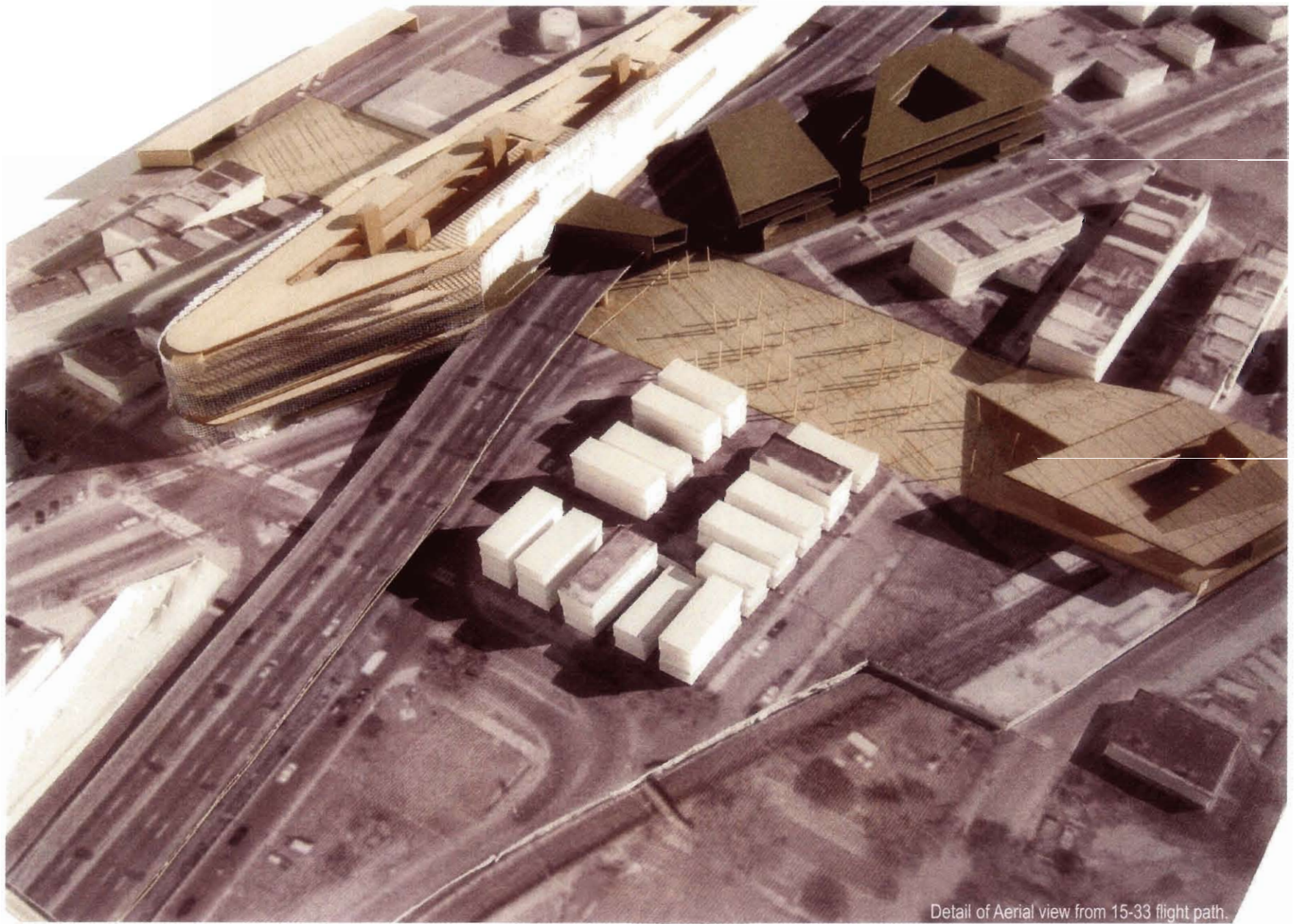
Plan view of final model.



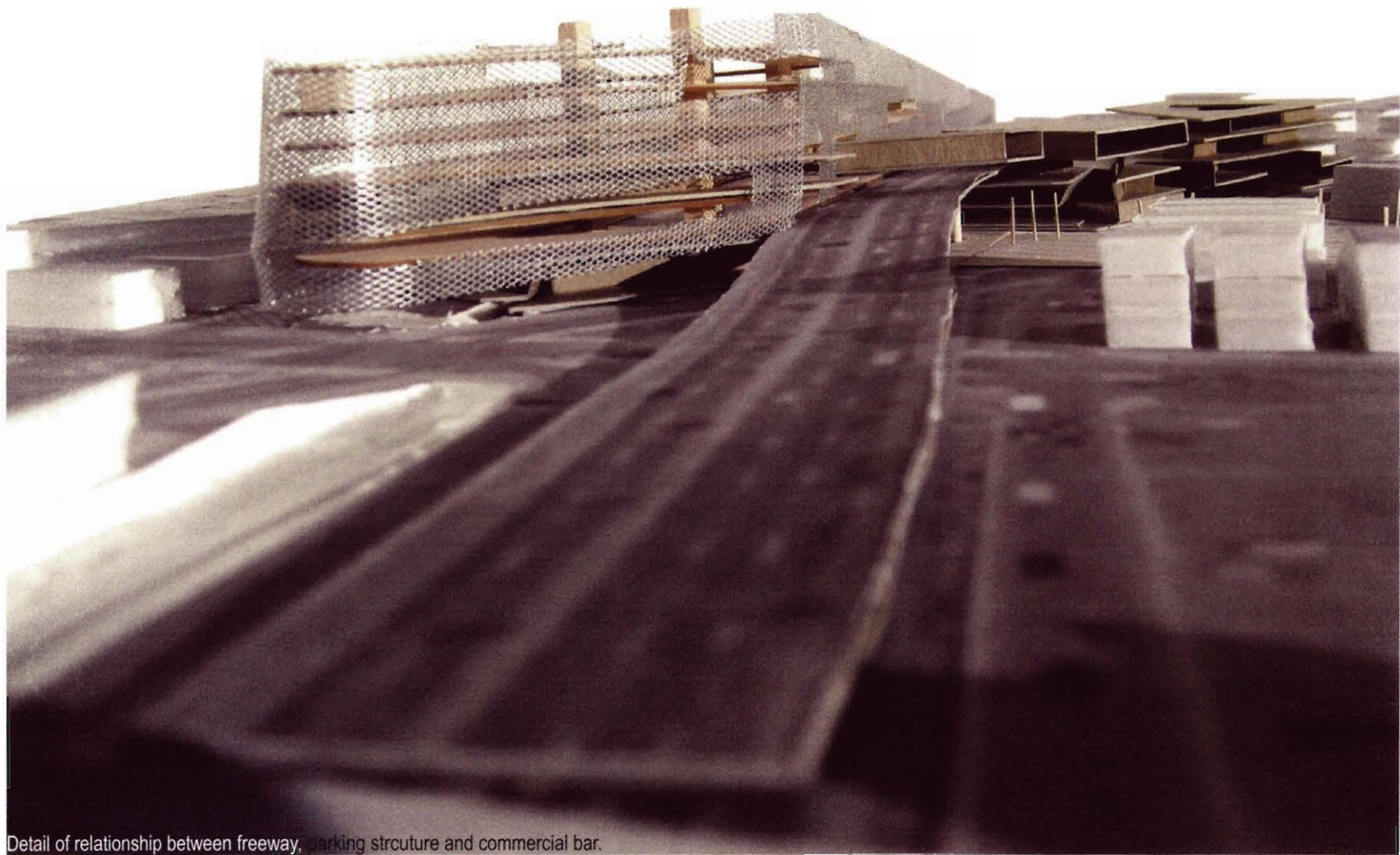
Aerial view showing compression of space adjacent to freeway.



Detail view of Wood Island Station.

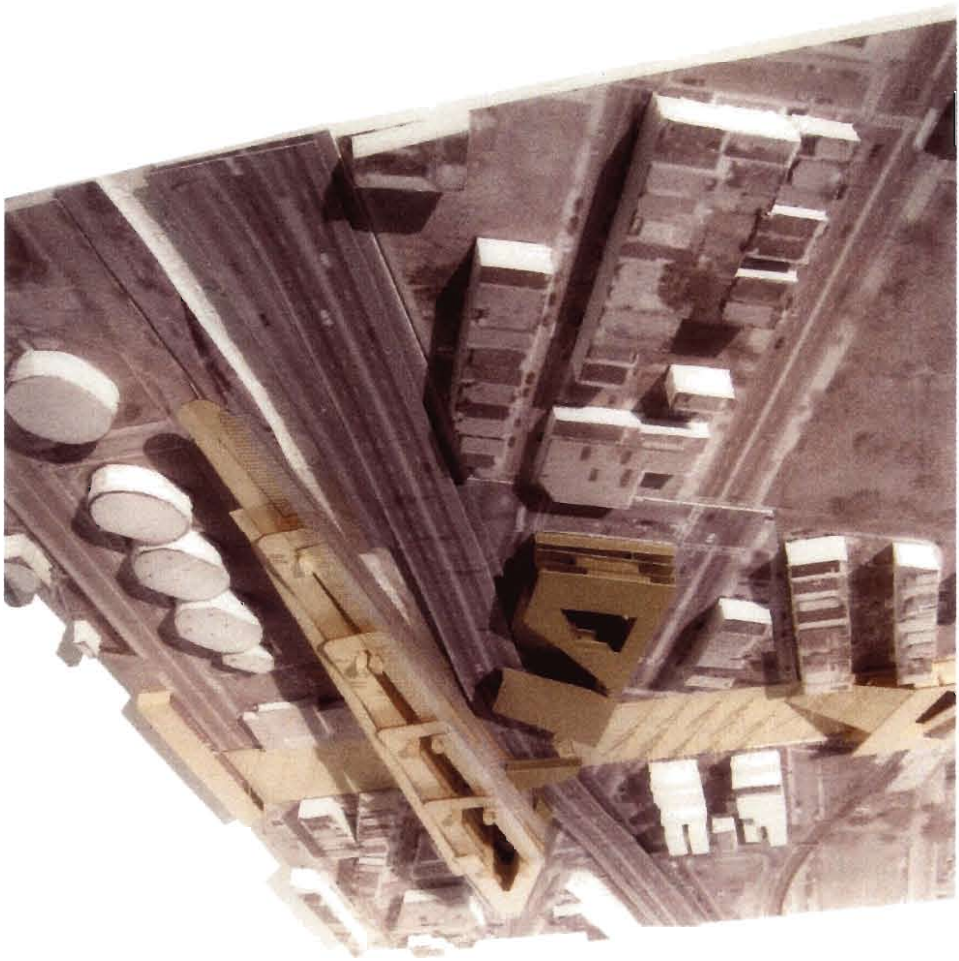


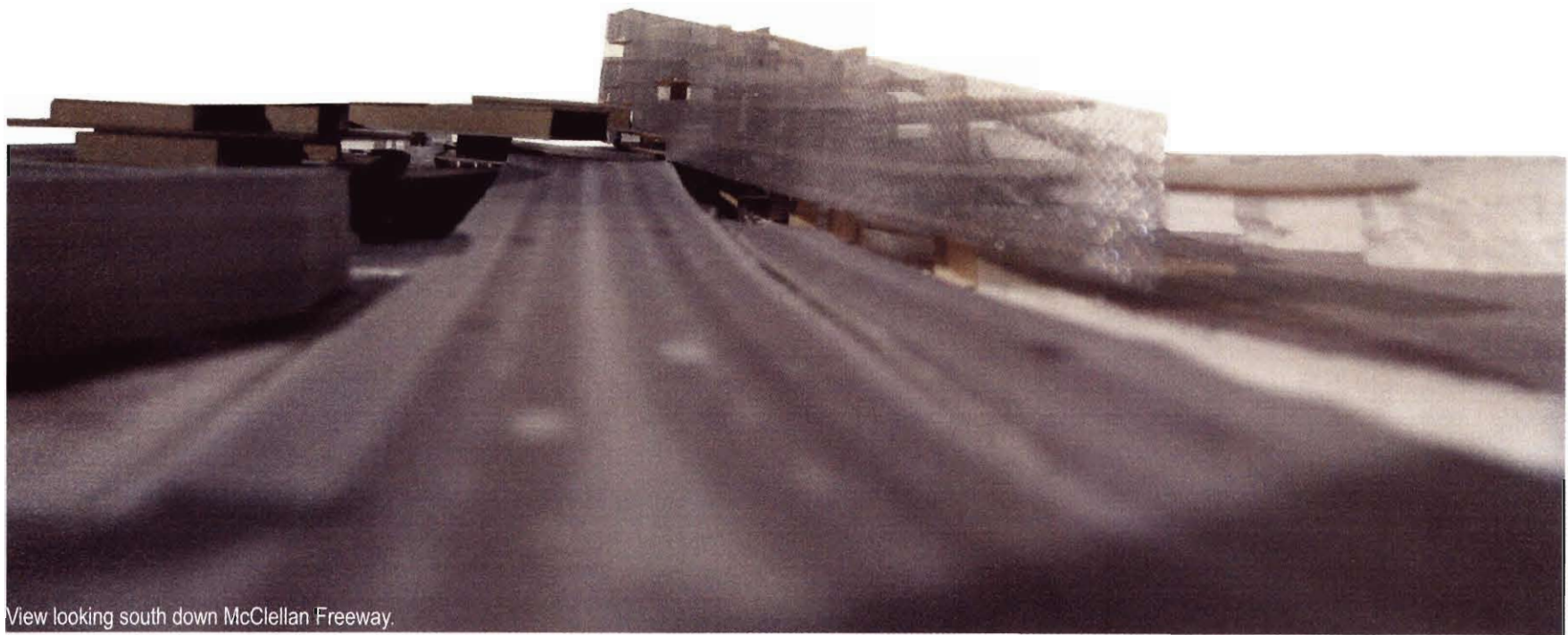
Detail of Aerial view from 15-33 flight path.



Detail of relationship between freeway, parking structure and commercial bar.

Aerial view showing the formal expression of the shift in city street grids and infrastructure that characterize the Funnel Site.





View looking south down McClellan Freeway.

Appendix:

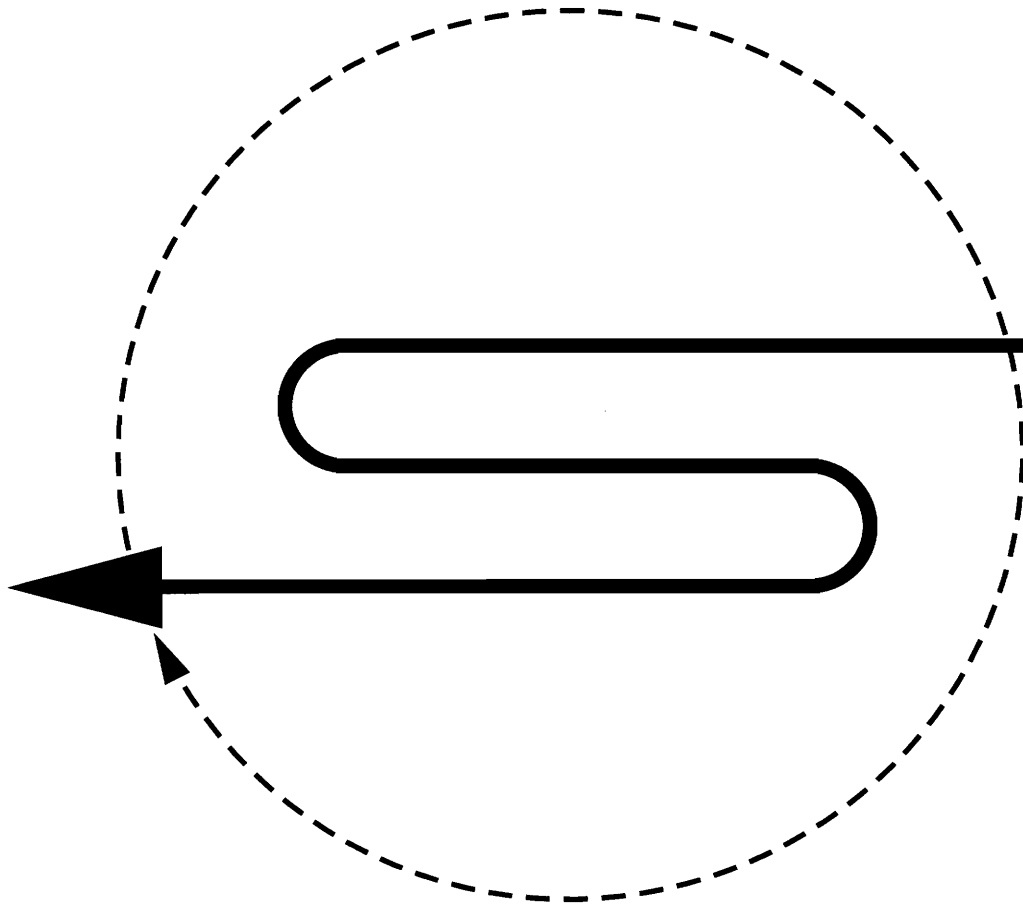
Precedents/Extrapolations, Airports and Public Space

Precedent

I will begin by studying and comparing four architecturally and historically key projects. These are (in chronological order) Norman Bel Geddes' Rotary Airport for the city of New York City, 1930; Eero Saarinen's TWA terminal at Idlewild (now JFK) in New York City, 1962; Paul Andreu's Terminal 1 at Paris CDG, 1974; and finally, Sir Norman Foster's Stansted Airport terminal just outside of London, 1991. These four precedents were chosen as representative of inventive architectural manifestations, responding to pertinent technological, social, economic or political events at the time of their conception and/or construction. It is only by examining each project in its formal architectural innovation and evolution, as well as in its shortcomings and naivete, that one can begin to understand the history of the airport and its potential futures as one of the most rapidly transforming architectural typologies.

Formally, the airport has always been one of the penultimate engines of the Modern project, one that began so radically as nothing but man and his urge to liberate himself both from the constraints of gravity and those traditional notions of how society and man identifies one's self. In the beginning the airport was the ideal idiom of Modern architecture: man, machine and an open field. The first airport in fact was formless! Both in terms of its earthbound manifestation (the airport itself) as well as the sky above. The first airport was completely malleable, radically temporal and extremely charged with risk and spectacle.

In his many references to aircraft, this was the era which Le Corbusier would later realize as perhaps the most pure form of airport architecture, that of the aircraft itself, which by 1946, he would note in his sketch book, "Only one form of architecture seems tolerable and perfectly admissible: it's that of the magnificent aircraft which have carried you, or which you are going to take, and which take up all the visible space in front of you. Their biology and their form are in such harmony that no architecture seems appropriate beside them, no building seems suitable."¹⁶ For Corbusier, the perfect airport was almost non-existent, a minimal infrastructure that emphasized the aircraft and the expansiveness of space itself. Also in 1946, at the French Congress of Aviation, he would emphatically state, "Airports must be two-dimensional architecture! The beauty of an airport lies in the splendour of its space! An airport should be naked."¹⁷

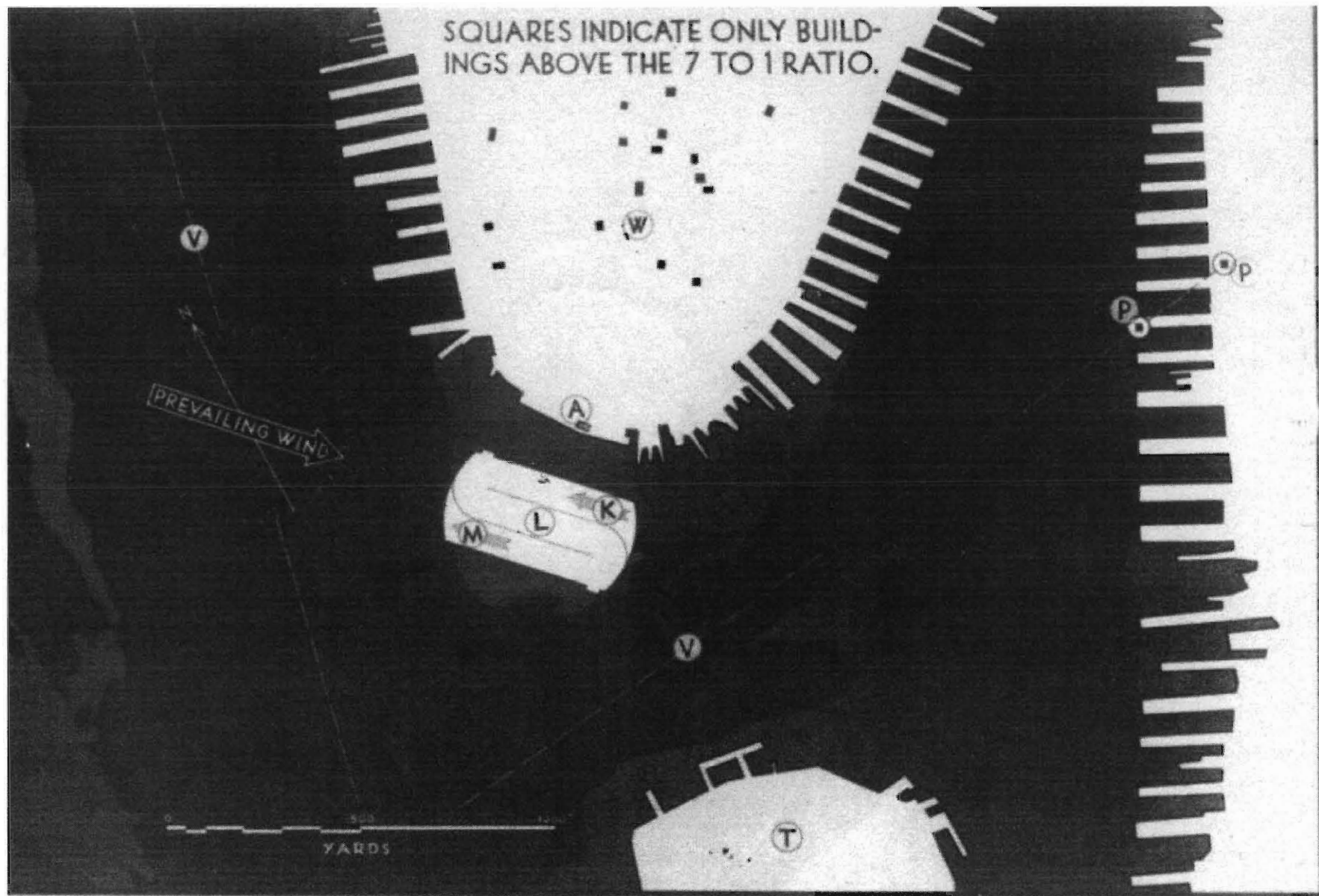


RAM

Rotary Airport Manhattan
by Norman Bel Geddes, 1931

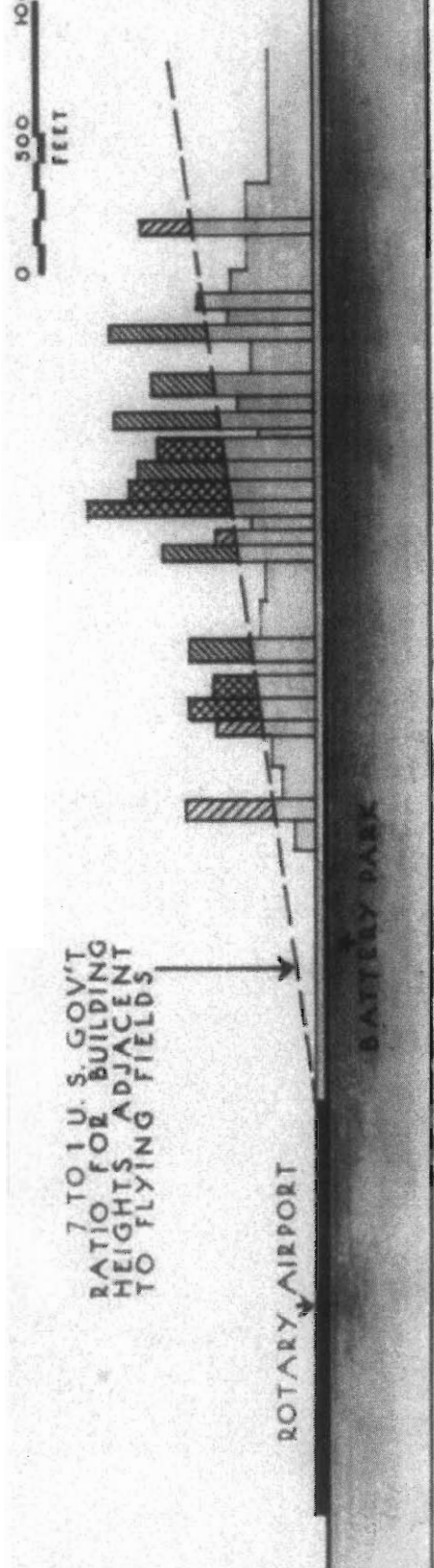


Aerial view of The Rotary Airport showing the airports proximity to Manhattan.

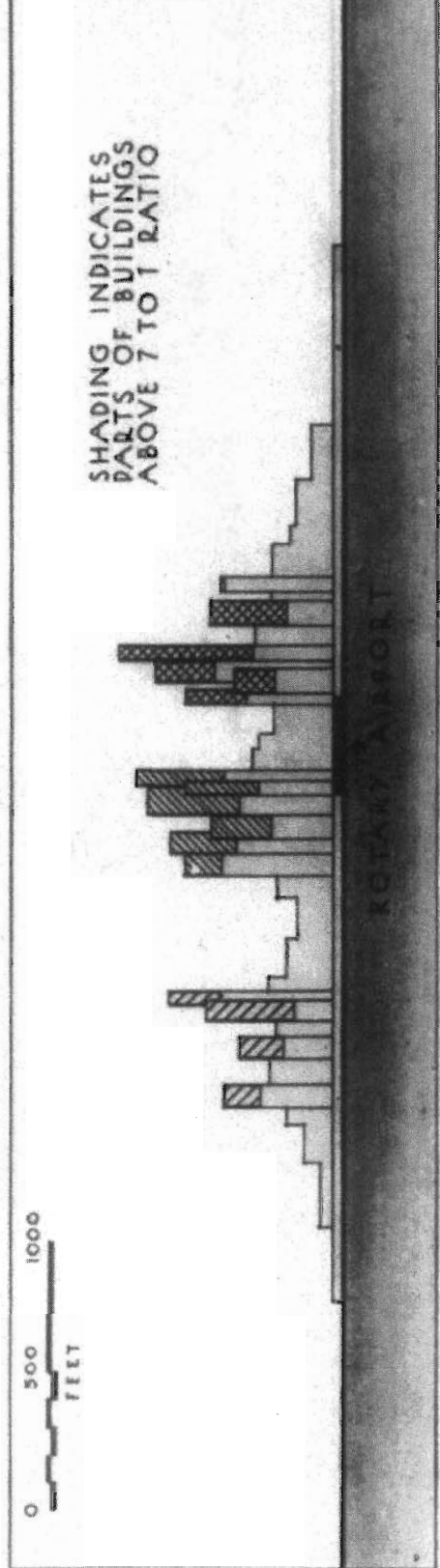


REPORT: HARBOR PLAN

DESIGNED BY NORMAN BEL GEDDES 1930

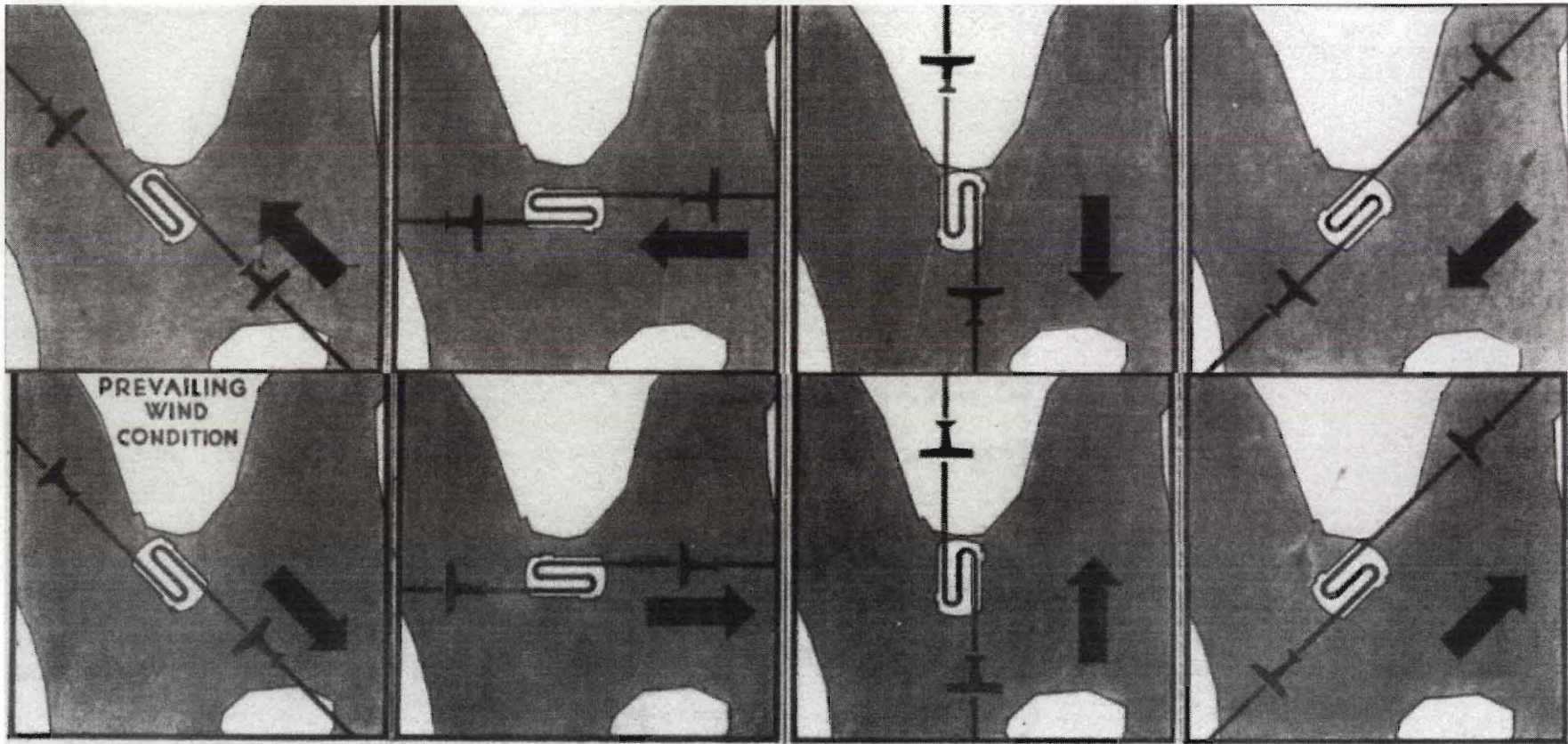


· ROTARY AIRPORT: CLEARANCE DIAGRAM OF TALL BUILDINGS (SIDE ELEVATION)



79 · ROTARY AIRPORT: CLEARANCE DIAGRAM OF TALL BUILDINGS (FRONT ELEVATION)

Additional Diagrams illustrating restricted airport access based existing protocol. The slope of 1in7 has not changed and is used to this day in calculating built mass in relation airplane access.



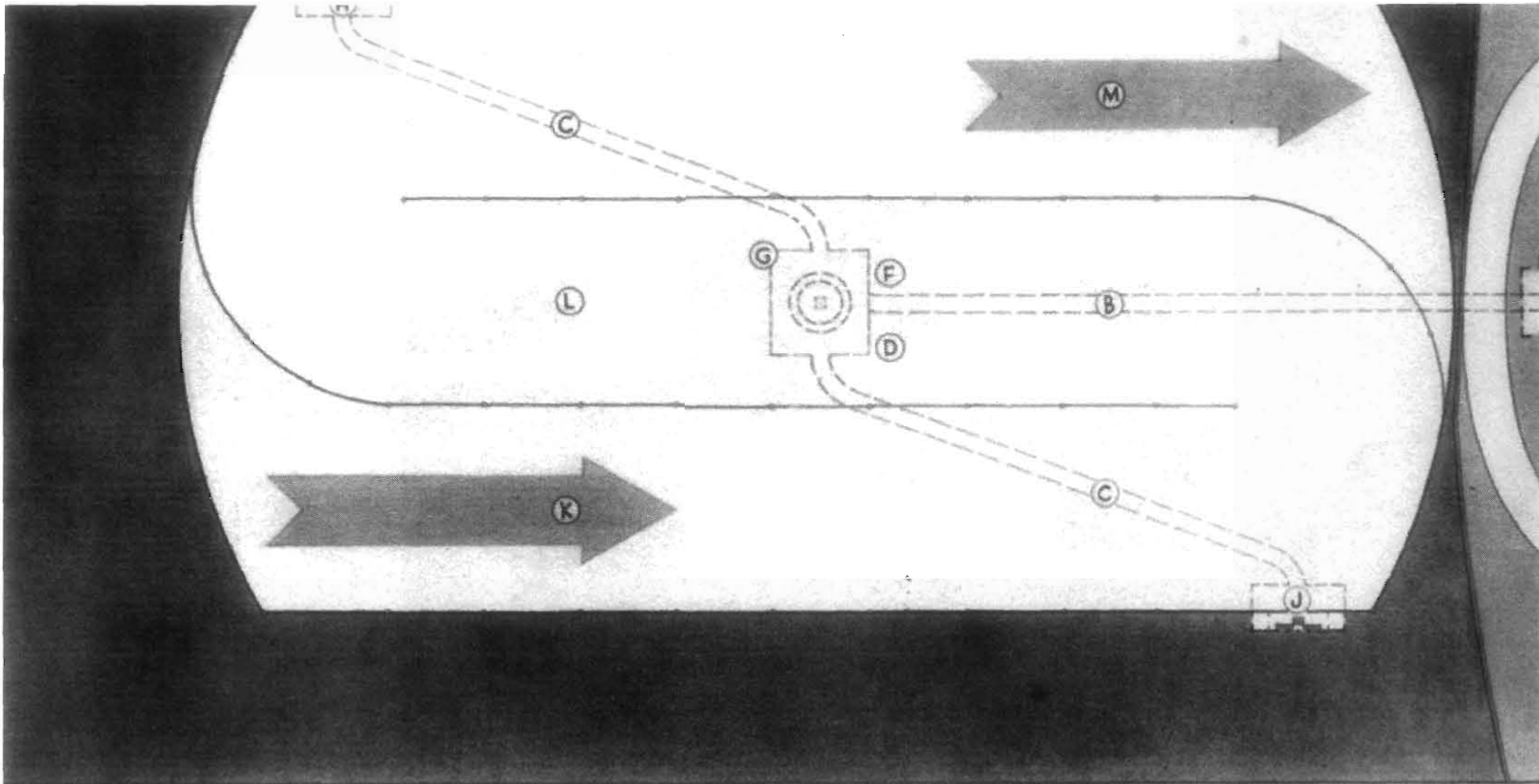
80 · ROTARY AIRPORT: WIND DIAGRAM

DESIGNED BY NORMAN BEL GEDDES 1930

ROTARY AIRPORT

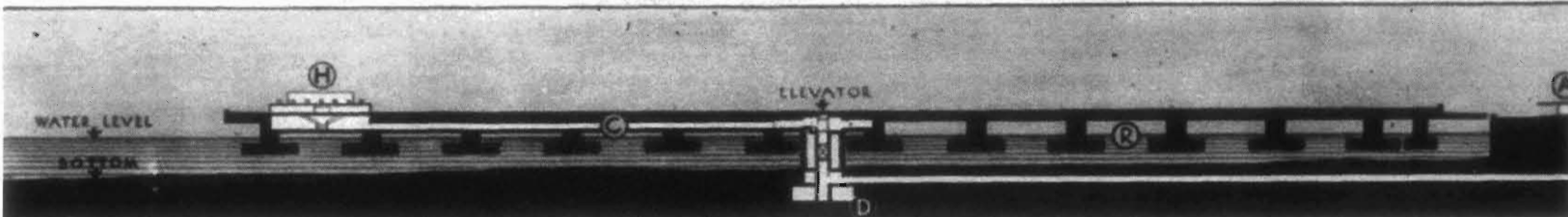
- | | | | |
|-------------------------------|-------------------------------|-------------------|----------------------|
| A. Tunnel Entrance Building | E. Elevator | K. Landing Strip | R. Buoyancy Tanks |
| B. Shuttle Tunnel | F. Tide Compensating Platform | L. Taxi Strip | S. Battery Park |
| C. Suspended Passenger Tunnel | G. Terminal Hall | M. Take Off Strip | T. Governor's Island |
| D. Deck Pinion | H. Departing Station | N. Boundary Light | V. Center of Channel |
| | J. Arriving Station | P. Beacons | W. Manhattan |
| | | Q. Wind Indicator | |

Plan diagrams illustrating the flexibility of airport usage based on prevailing winds and a single rotating runway deck.



I - ROTARY AIRPORT: TRAFFIC DIAGRAM

DESIGNED BY NORMAN BEL GEDDES



Detailed plan and section show that Geddes designed this airport almost literally as a diagram, form and function are completely intertwined and a minimum of infrastructure provides for a maximum of performance. The airport is more impressive in its sheer lack of form and monumental in its effect.

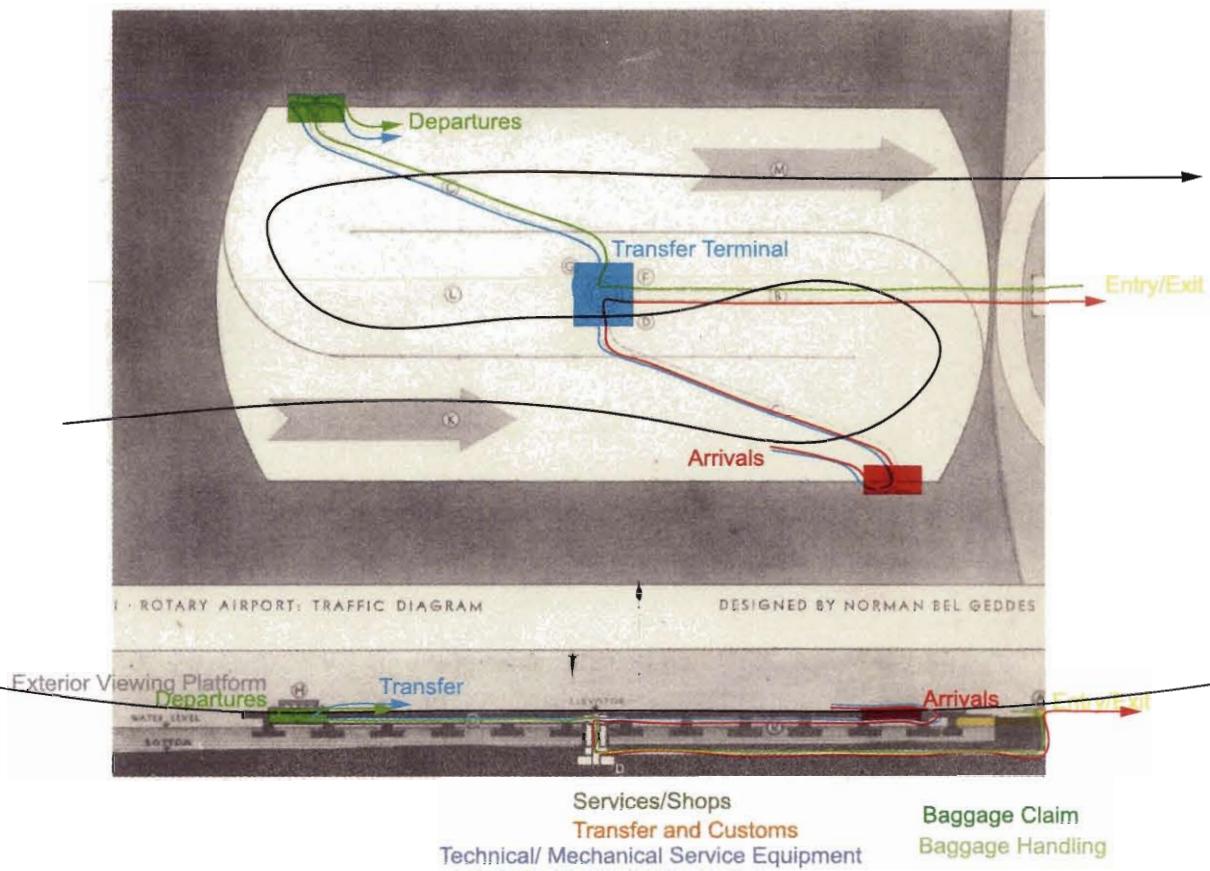
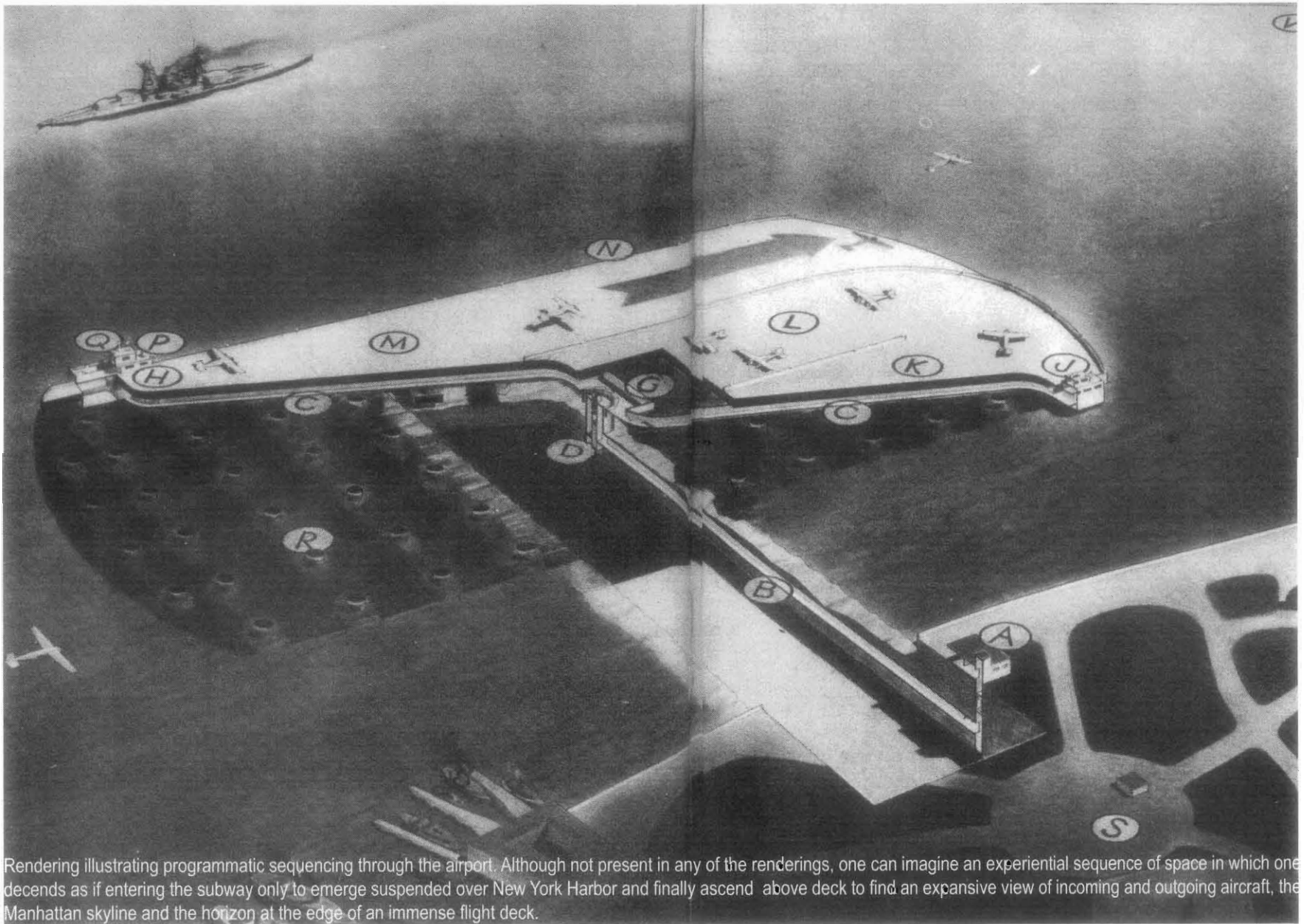
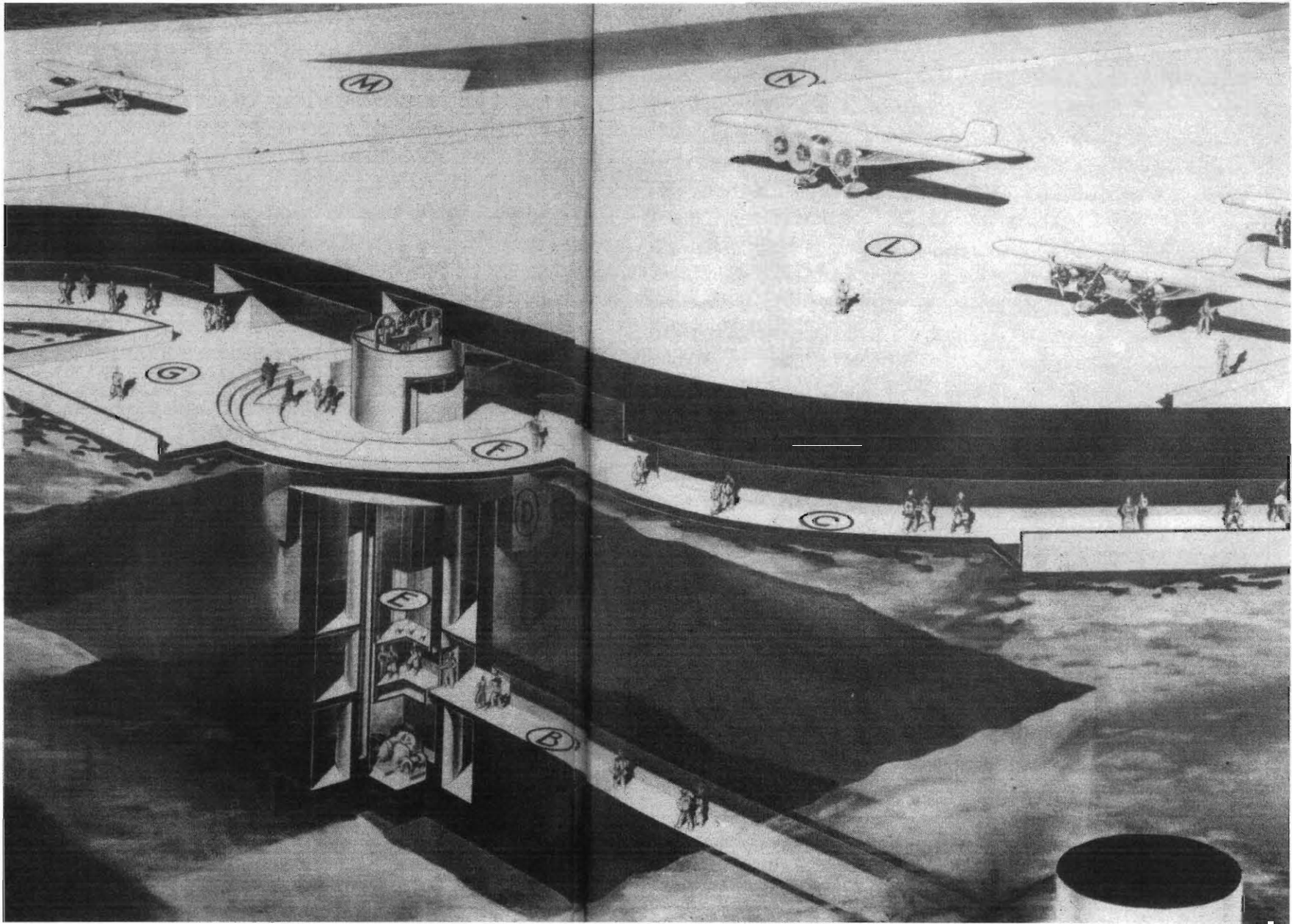


Diagram illustrating circulation and program.



Rendering illustrating programmatic sequencing through the airport. Although not present in any of the renderings, one can imagine an experiential sequence of space in which one descends as if entering the subway only to emerge suspended over New York Harbor and finally ascend above deck to find an expansive view of incoming and outgoing aircraft, the Manhattan skyline and the horizon at the edge of an immense flight deck.

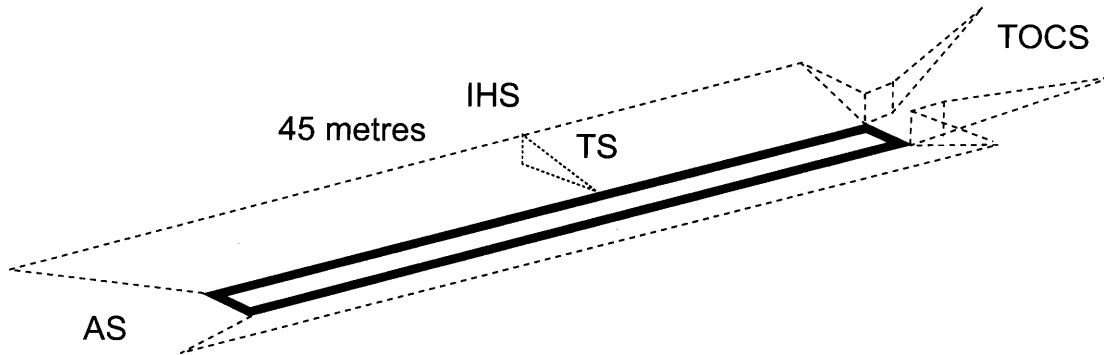


Somewhere between the birth of flight and Le Corbusier's proclamations, the American industrial designer, Norman Bel Geddes would envision one of the most architecturally and urbanistically sophisticated of airport plans. By 1930, the city of New York had already become America's pre-eminent city, but had limited infrastructure in place for air travel. Instead of proposing an airport on the city's periphery, Bel Geddes opportunistically suggests locating an airfield adjacent to downtown Manhattan's main business district at the tip of Battery Park, the very historic center of what was originally New Amsterdam. As the project title suggests, the rotary airport was a massive platform which rotated, allowing for maximum efficiency in air trafficking, allowing planes to take off and land into the prevailing wind at all times. It was a robust piece of civil engineering/architecture. Perhaps, functionally inspired by the modern aircraft carrier, it would be both formally nonexistent and monumental all at once. Almost imperceptible from the ground, the airport becomes a massive two-dimensional landmark from the sky, a wonderfully modern synthetic means for experiencing the entry and exit from Manhattan.

Dismissed by critics as science fiction, Geddes' well illustrated renderings and operative diagrams of flight paths with regard to wind and obstruction from the neighboring skyscrapers would suggest an earnest proposition. The airfield was situated to minimize impact on the future development of Manhattan's skyline, but maximize air passenger safety while clearing the nearby obstructions of downtown. By locating the rotary airport in close proximity to existing mass transit and densely populated areas, there was a minimum need for automobile parking. Flows of aircraft and passengers are separated in section, with passengers below the level of the platform and aircraft above. As if entering the subway passengers enter from Battery Park and descend to a subterranean tunnel, which then emerges as a suspended path under the flight deck leading to a main transfer terminal. Located under the center of the airfield the transfer terminal wraps around the rotating axis, a mammoth turning pinion, connecting passengers to departure and arrival terminals located at opposite ends, at the periphery of the flight deck. Above the deck the flow of airplanes is envisioned as a non-stop one way path of arrival, maintenance and departure. In minimizing and suppressing the entry space, arrival and departure halls, Geddes is suggesting a de-emphasis on form and monumentality from the point of view on the ground. One could envision the sequence of experience as one leaves the city and enters the park to enter the humble entry pavilion, as if one is entering the New York Subway. Then after having passed through a dark and narrow passage one emerges

somewhat exposed to the elements, suspended above New York Harbor under an immense platform that looms overhead. Once through the central transfer hall one re-emerges above deck to find an expansive view of incoming and outgoing aircraft, the Manhattan skyline and the horizon at the edge of an immense flight deck. The rotary airport was envisioned as brute infrastructure, which would seem to lead to a sense of the sublime; what Le Corbusier had experience in 1946 at Nice, "a splendid space completely bereft of infrastructure."¹⁸ Indeed it is only by means of down-playing form that a sense of monumentality and grandeur can be achieved. The rotary airport becomes a field from which to experience the immensity of the metropolis. It is only from the air that one sees the airfield as a figure within a ground, a lasting memory of the great American city.

From today's perspective it would also be easy to discredit Geddes' design as incomplete or lacking in some fundamental airport program. For instance, one might argue that there were no regulations in place regarding safety and security, which are all too present in airports post 1970s terrorism and even more so now after September 11, 2001. The rotary airport functions much like a subway in that each passenger is granted a certain level of autonomy in his or her actions in the preservation and regulation of their own health and security. Of course there were no security check points and passengers were exposed to the elements in their procession to and from planes. This last point however could also be argued to be a virtue which has been lost or compromised over time. Aircraft technology was predominantly propeller driven, thus it also might be argued that with the development of jet engine technologies, the airport would have become obsolete both because the runways would become too short and because the additional pollutants created by jet engines would have had too great an impact on the neighboring densely populated areas. This, also another factor which Geddes should not be held accountable for as a designer, is also questionable when considering that many airports are indeed located adjacent to densely populated areas, as is Boston's Logan Airport. But also one must question the very role of the rotary airport itself. This design was obviously proposing a sort of airport "lite," one which serviced small planes in rapid succession, with no hangars or massive facilities for either enplaning or maintenance of aircraft; the Rotary Airport was obviously envisioned as a micro switching point within a larger network of airport networking. Form in Geddes' proposal is subdued, reduced to two dimensions. The airport instead emphasized the experience of air travel itself, about the aircraft which stood alone on the deck, and the city which stood beyond.



BOSTON, MASSACHUSETTS

AL-58 (FAA)

LOC I-MDC
110.7
Chan 44

APP CRS
150°

Rwy Idg
9201

TDZE
17

Apt Elev
19

ILS RWY 15R

BOSTON/GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)

⚠ CAT C and D circling not authorized west of Rwy 4L and 15R
For inoperative MALSR, increase S to 3000 ft. For RVR 5000, DME REQUIRED.

MALSR MISSED APPROACH: Climb to 3000 via BOS
4-22R, 4-22L, 15R, 15L, 15-33L and 15-33R

ATIS
136.0

BOSTON APP CON
120.6 263.1

Rwy 4L I-MDC 110.3
Chan 40

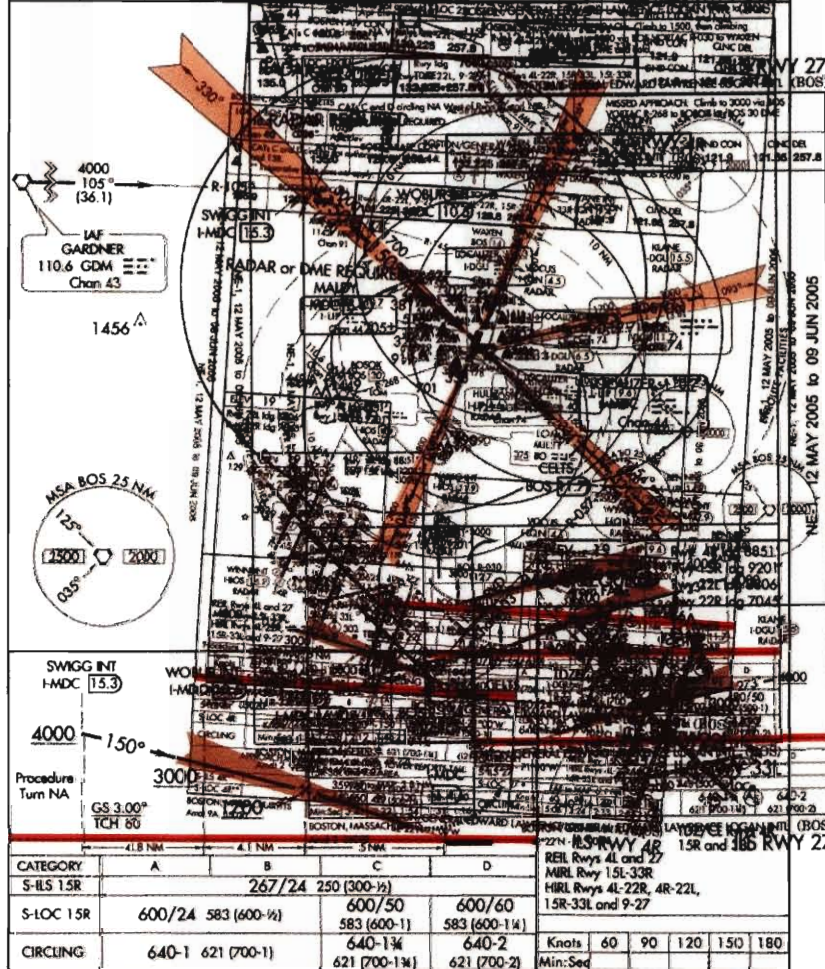
Rwy 4R I-MDC 110.3
Chan 40

Rwy 15L I-MDC 110.3
Chan 40

Rwy 15R I-MDC 110.3
Chan 40

Rwy 27L I-MDC 110.3
Chan 40

Rwy 27R I-MDC 110.3
Chan 40

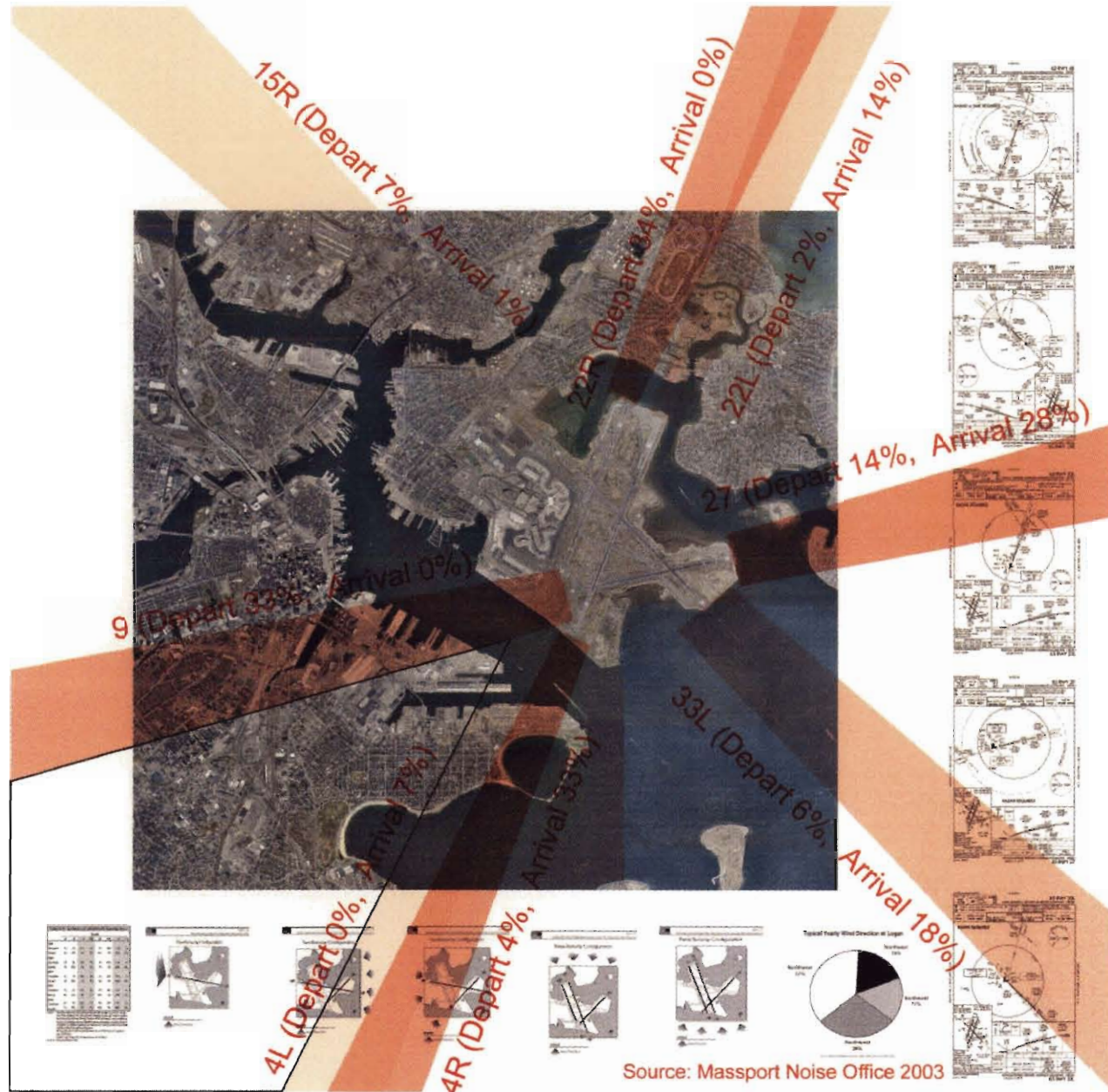


BOSTON, MASSACHUSETTS
Amdt 1A 05020

BOSTON/GENERAL EDWARD LAWRENCE LOGAN INTL (BOS)
42°22'N · 71°00'W

ILS RWY 15R

Flight arrival and departure parameters





Airport at grade.



Class B airspace.



Glide paths.



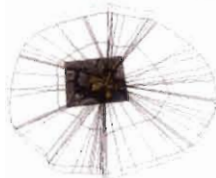
Generates a funnel like ceiling.



The inverse of Fuller's Dome?



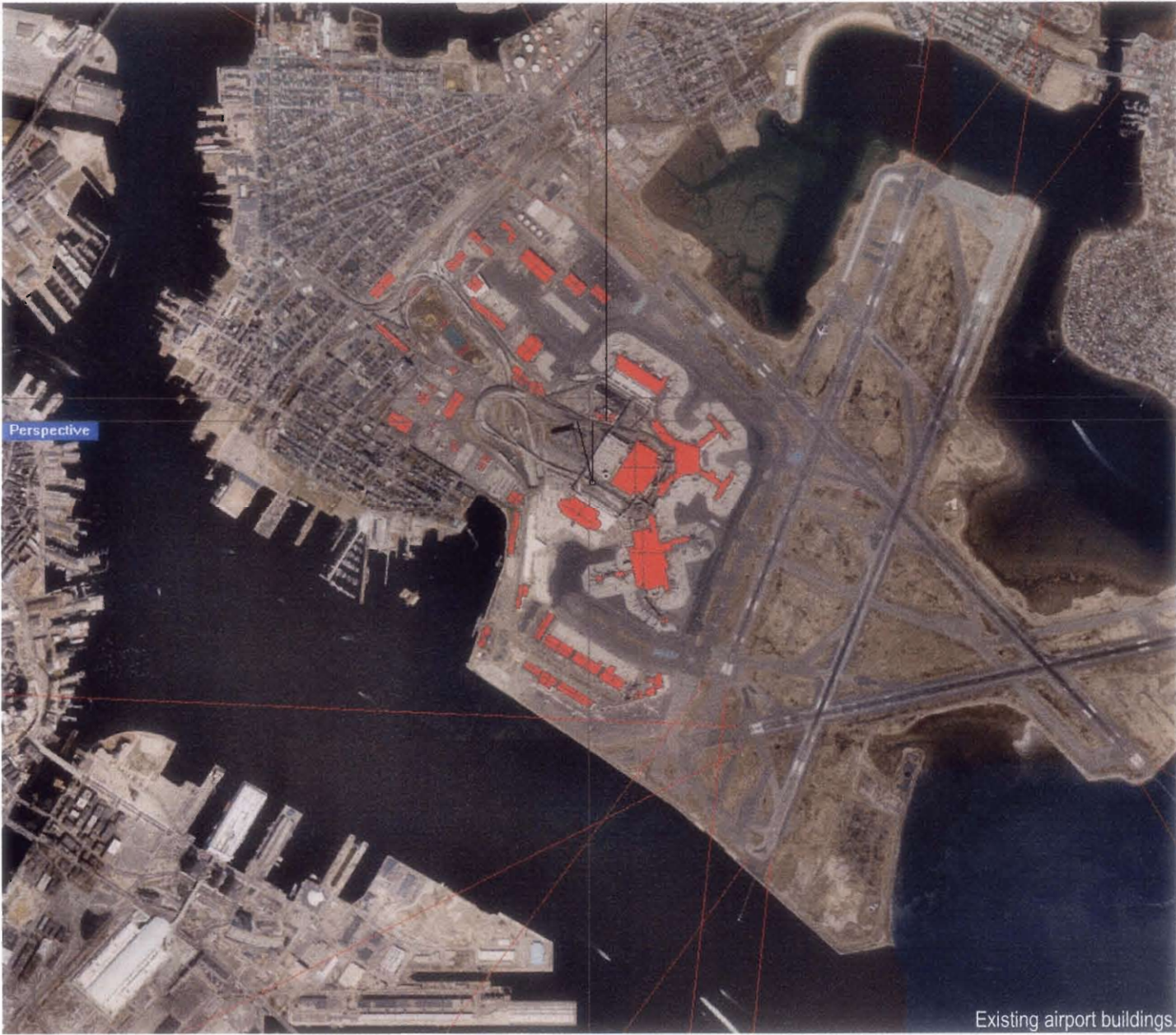
Account for Logan's Site boundaries.

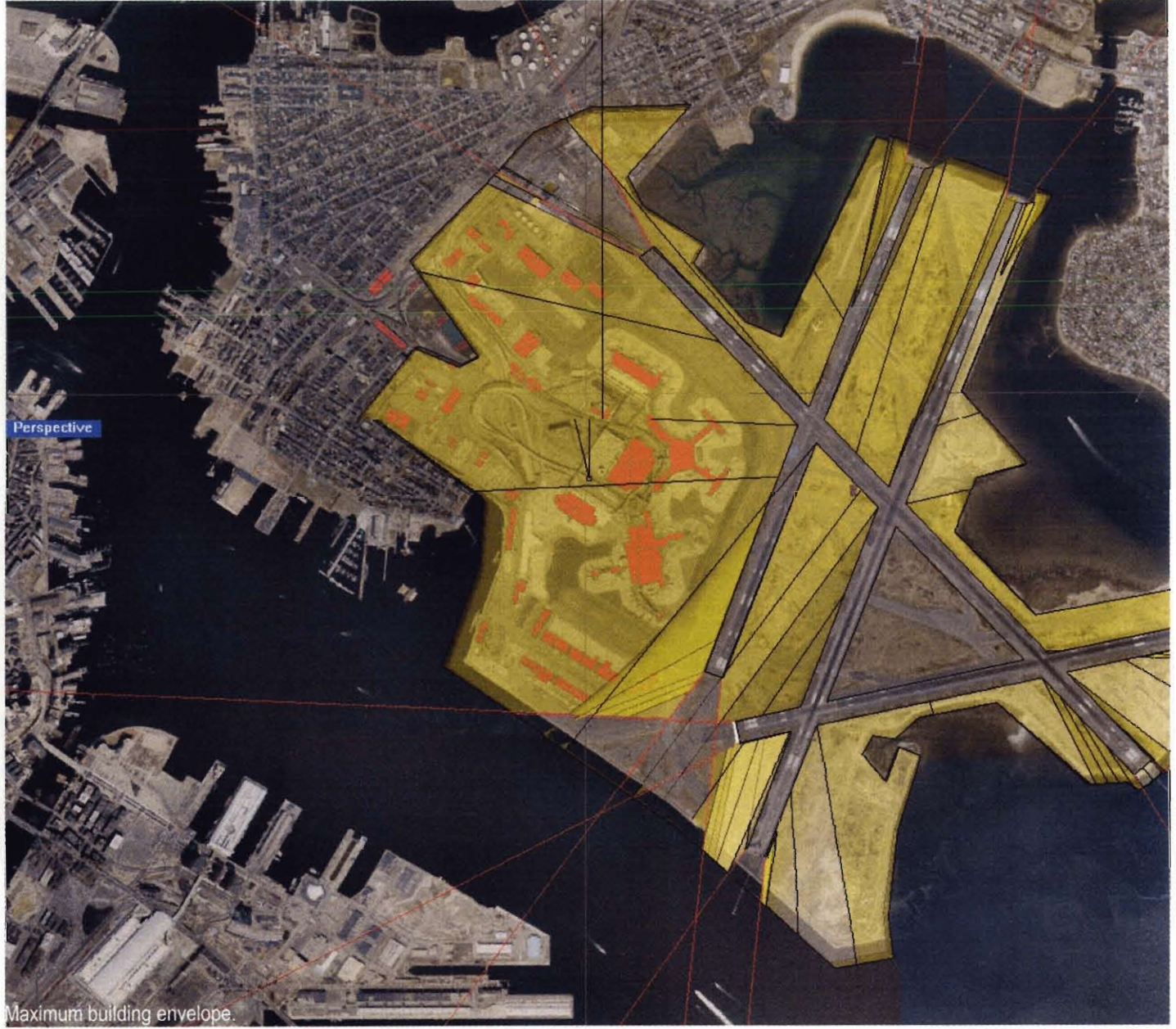


The airport's maximum density

The Form of Formlessness

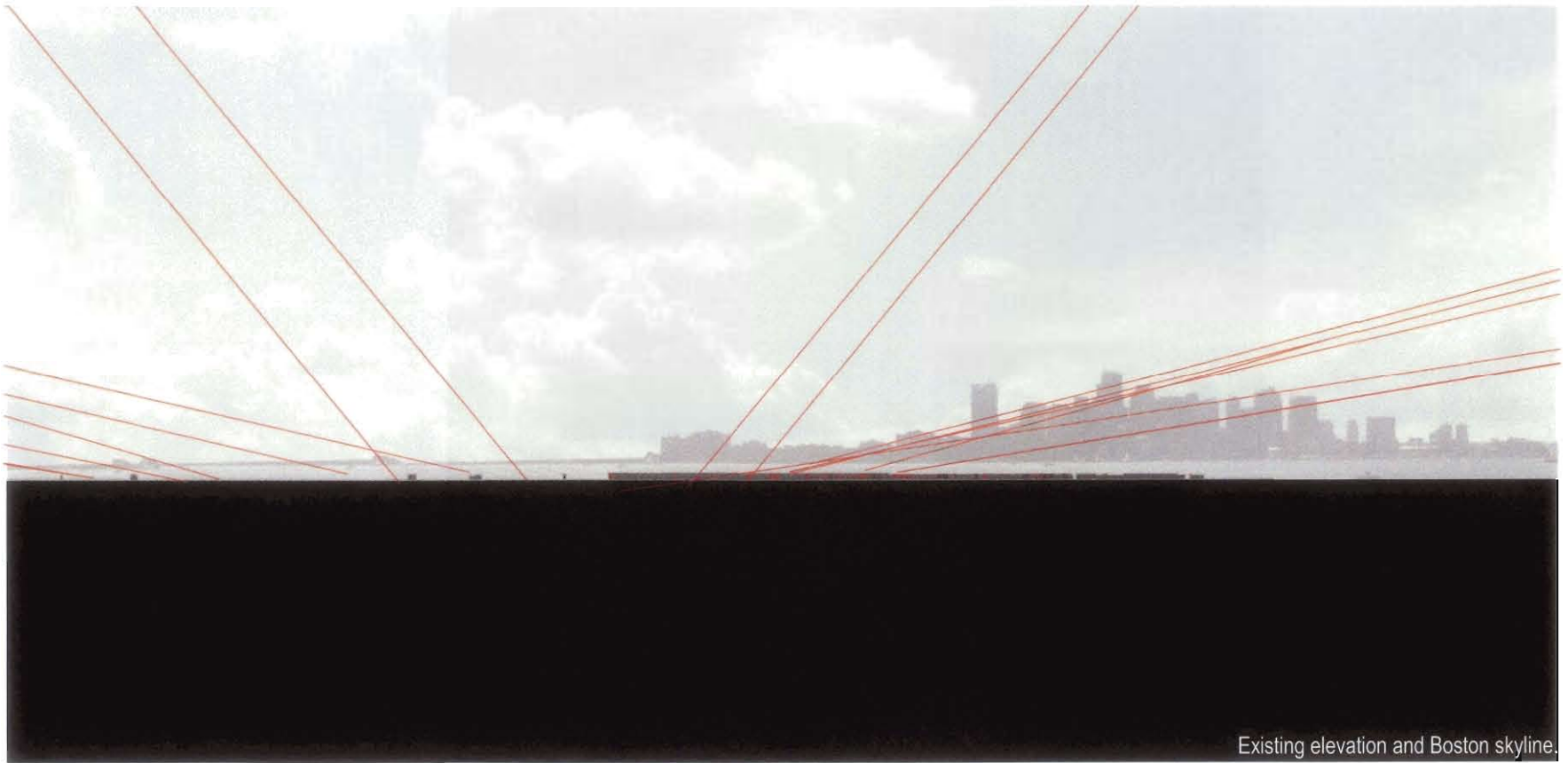
What if diagrams that are used to prescribe what cannot be done at the airport are used to describe what can be done? Architects throughout history, from Le Corbusier to Sir Norman Foster have exalted the aircraft as a form of ideal architecture. As discreet entities aircraft constitute a formal architecture, but as moving particles, they create a more fluid and formless architecture. By diagraming where planes cannot go, we formalize where the airport can go. What results can be called the form of formlessness, the airplane's uncanny doppelganger. As single object, the new mass suggests the densification and urbanization that are inevitable at urban airports such as Logan. Seen from the air, its scale and monolithic nature create an auto-monument, yet from the ground, it suggest the continuous urban fabric of the cities edges. It's silhouette on the horizon suggest a man-made landscape urban or geological perhaps (?), so close and so far from that which the first planes would take-off and land a century ago. Like Geddes Rotary airport, this strategy sees the airport as operative, formally derived by examining the aircraft and its parameters, it is a kind of two-dimensional architecture.



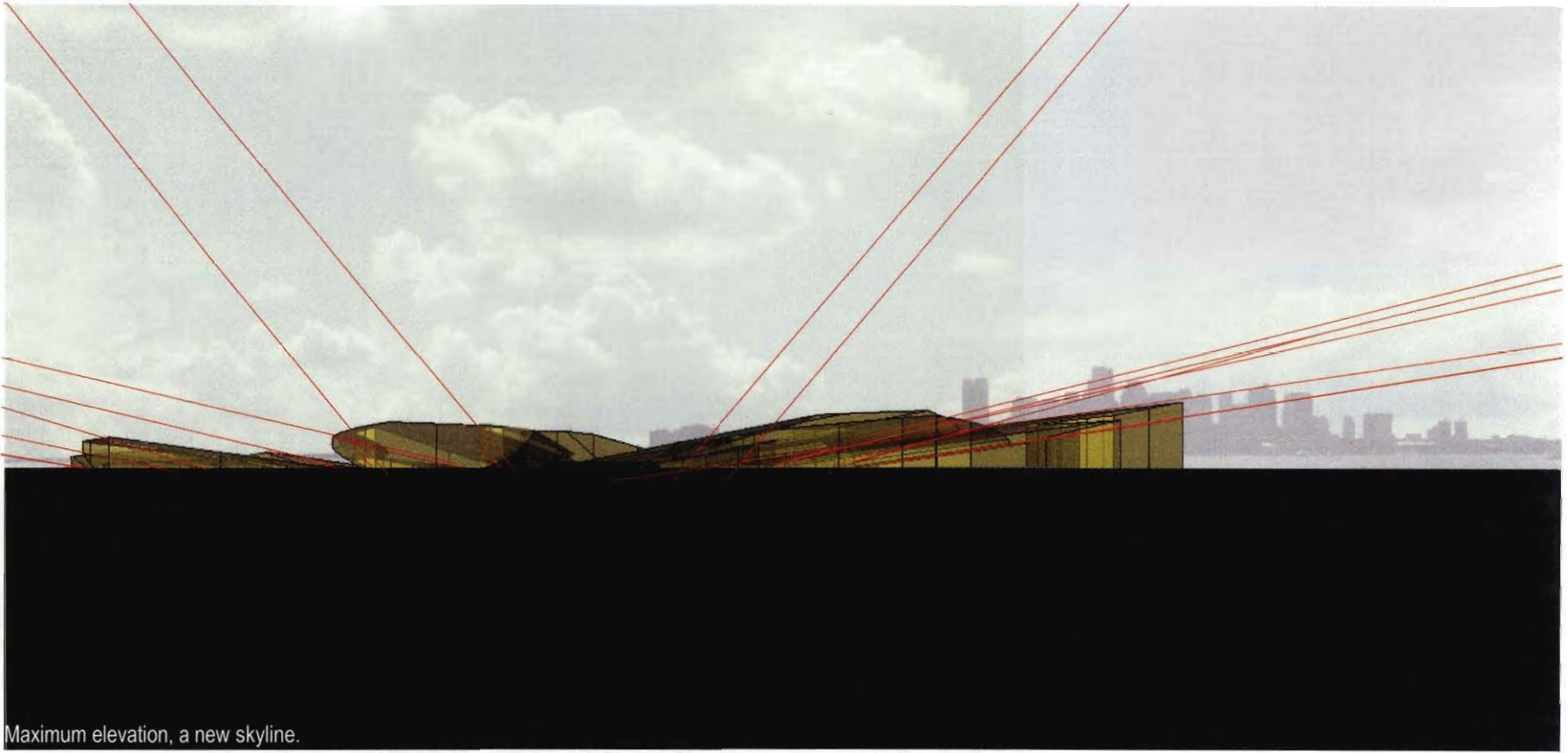


Perspective

Maximum building envelope.



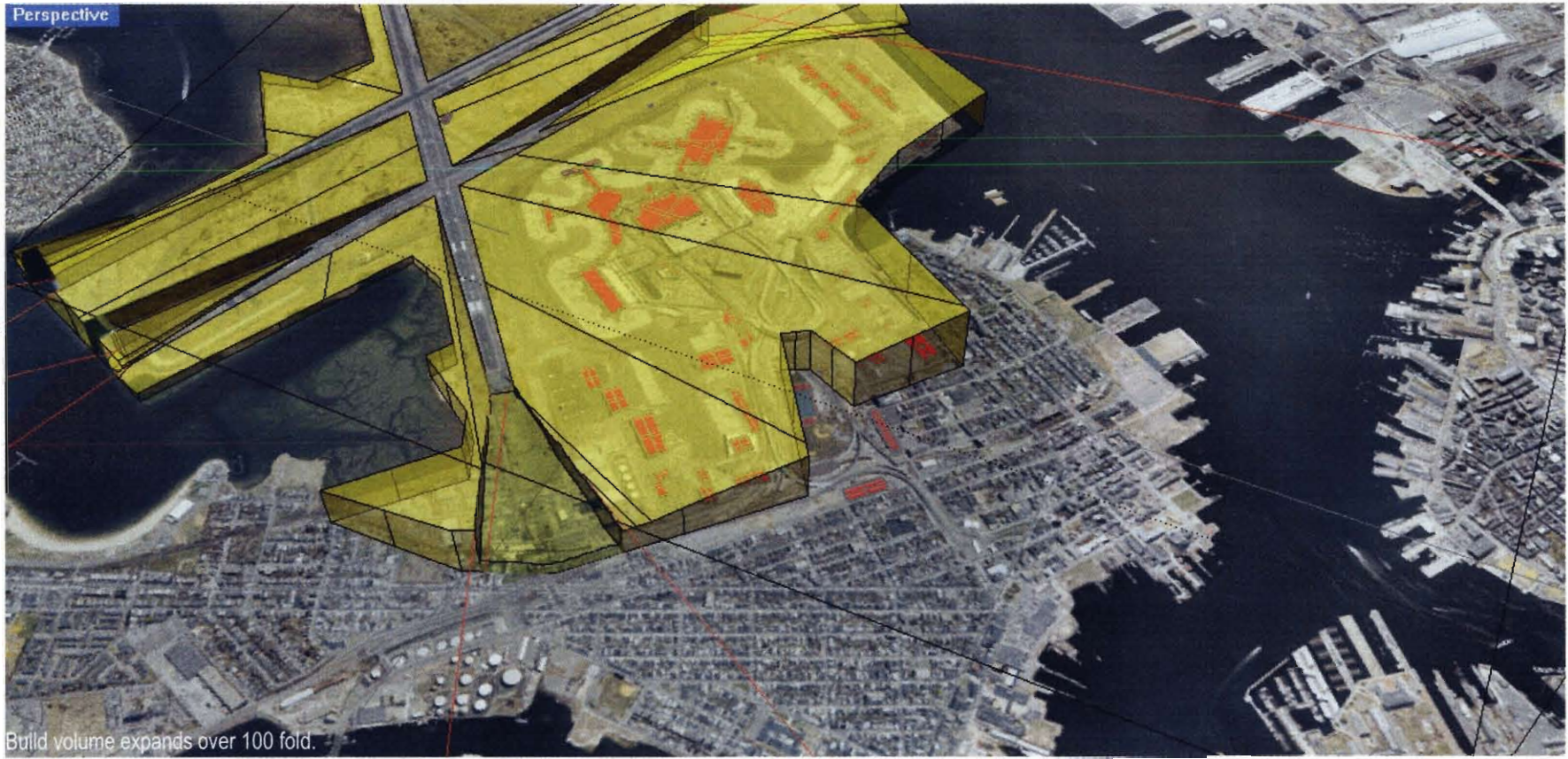
Existing elevation and Boston skyline.



Maximum elevation, a new skyline.



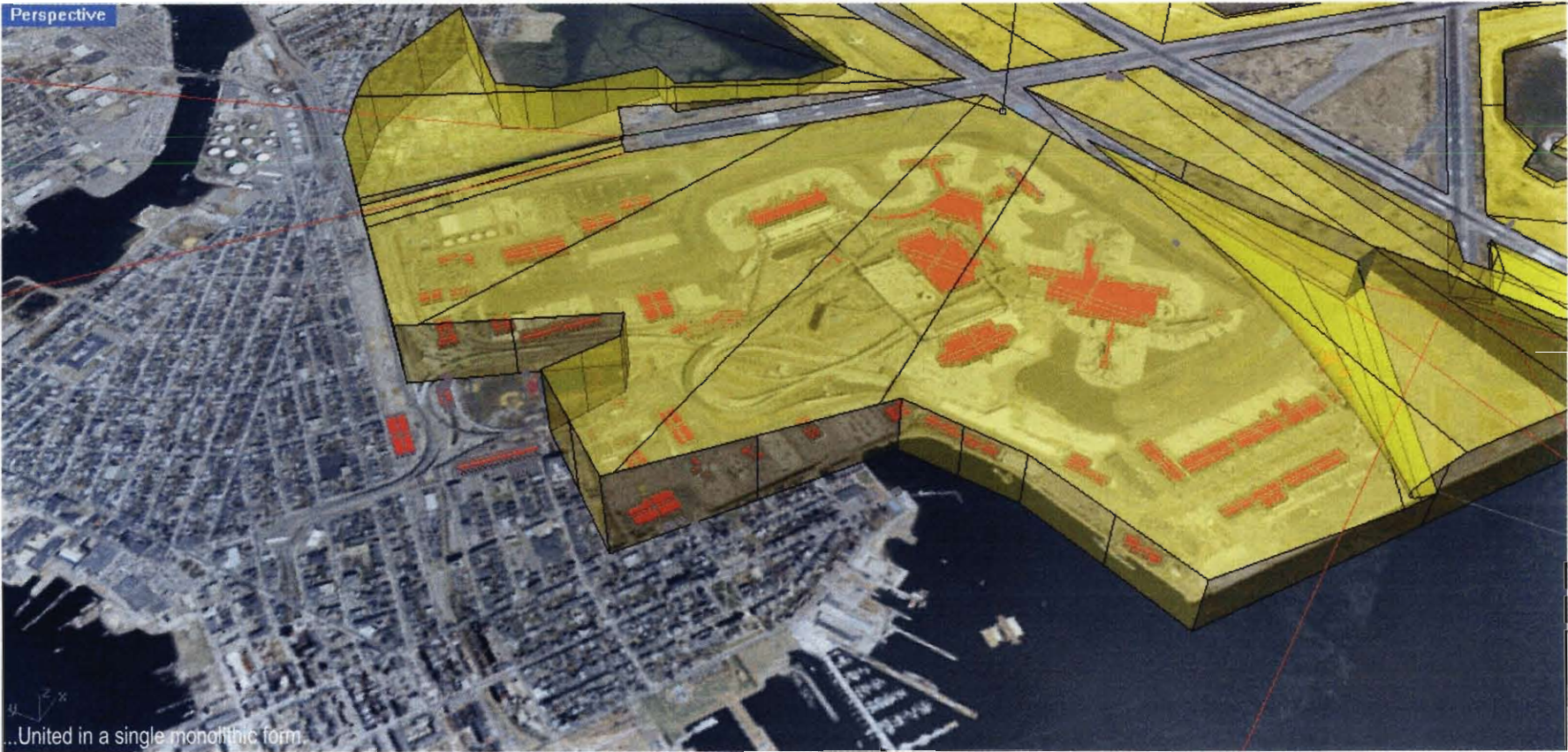
Perspective



Build volume expands over 100 fold.



Perspective



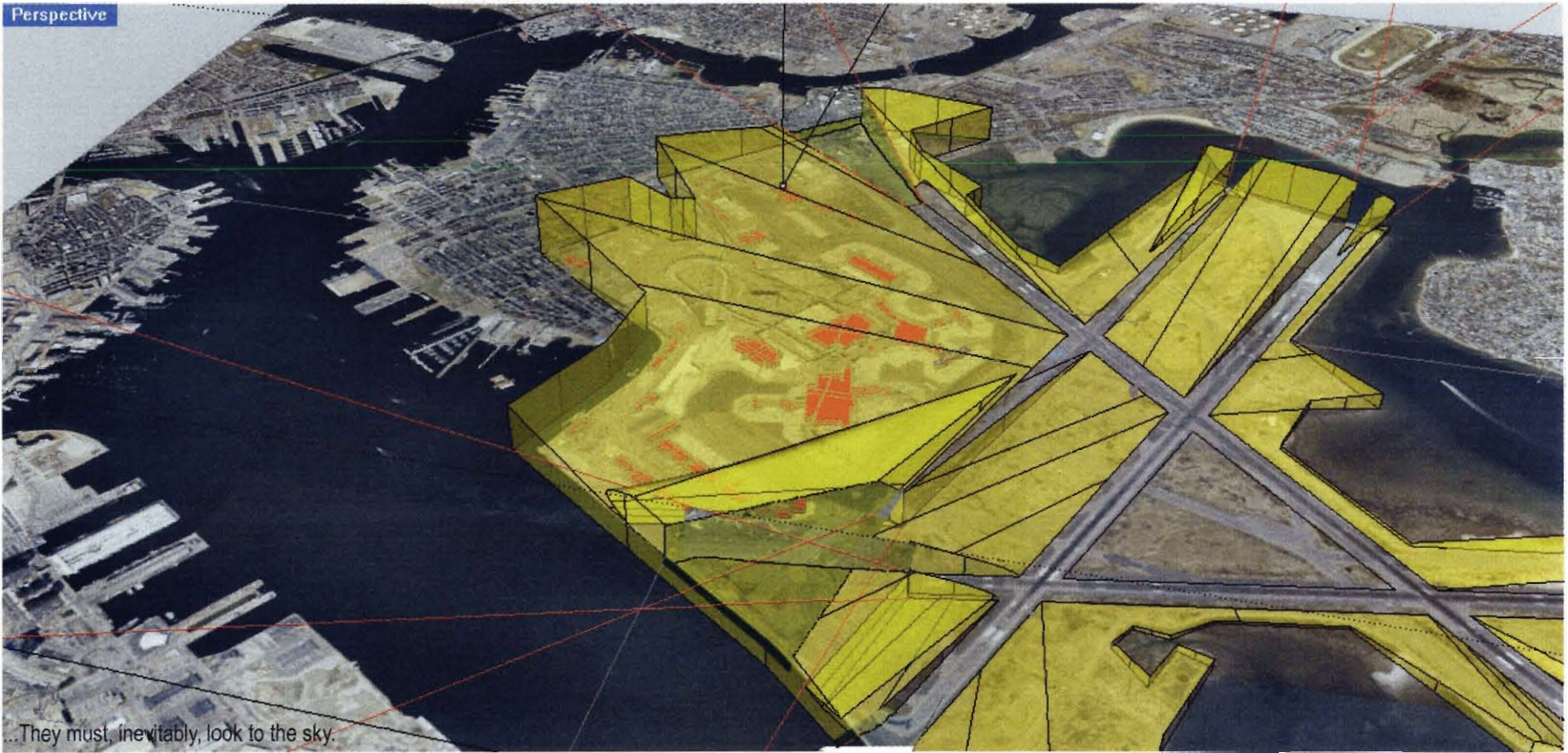
...United in a single monolithic form.

Perspective



Surrounded by the city, airport officials are unable to expand horizontally...

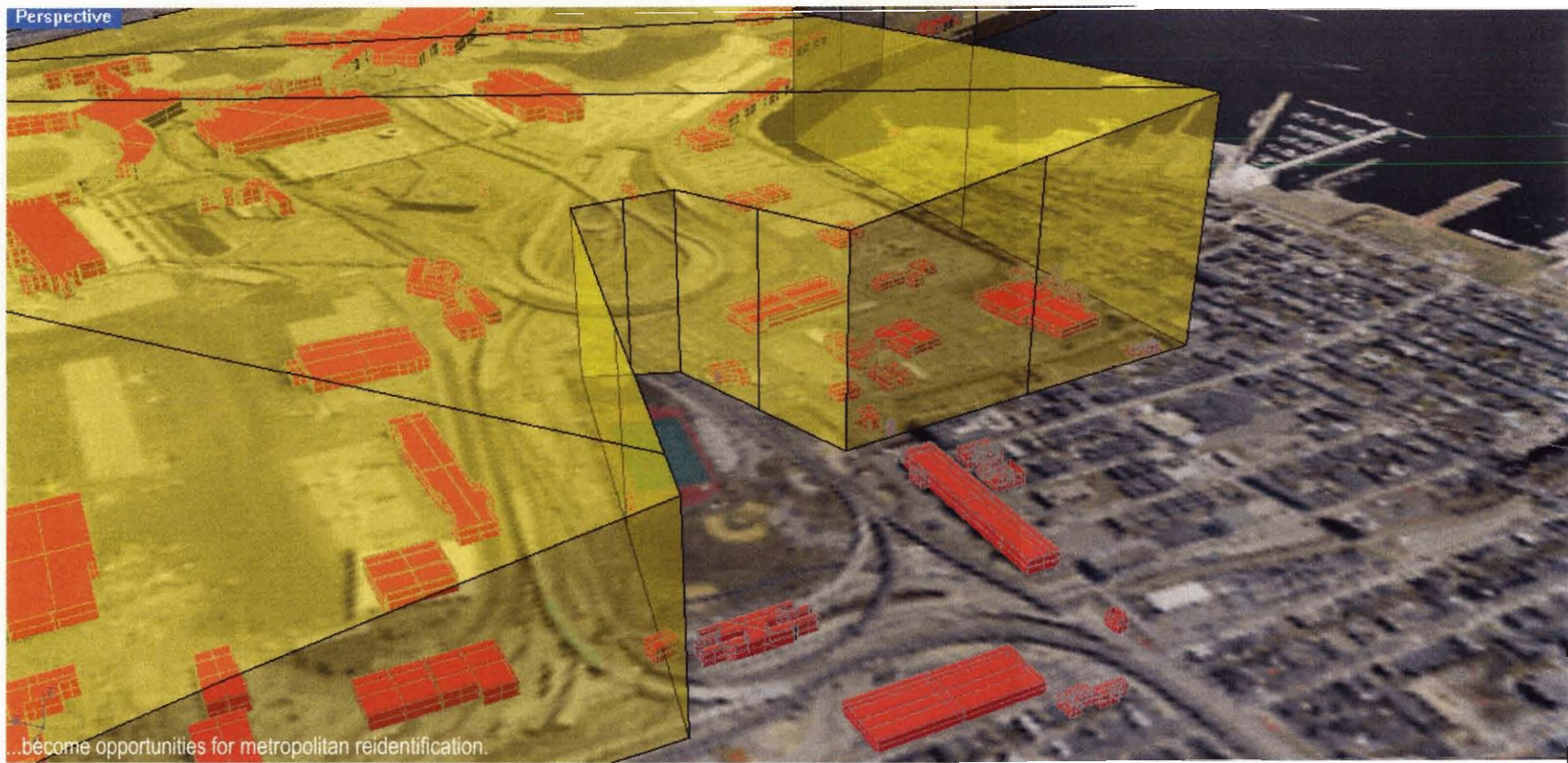
Perspective



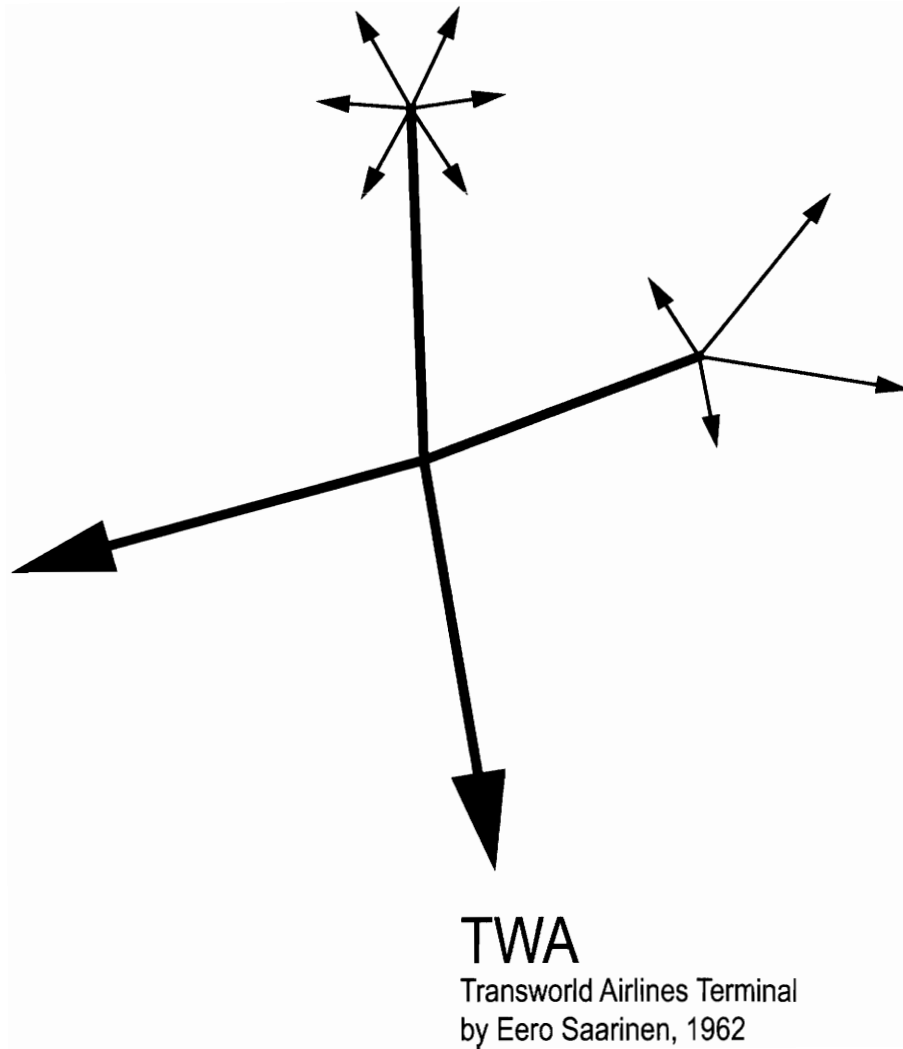
...They must, inevitably, look to the sky.



Perspective



...become opportunities for metropolitan reidentification.



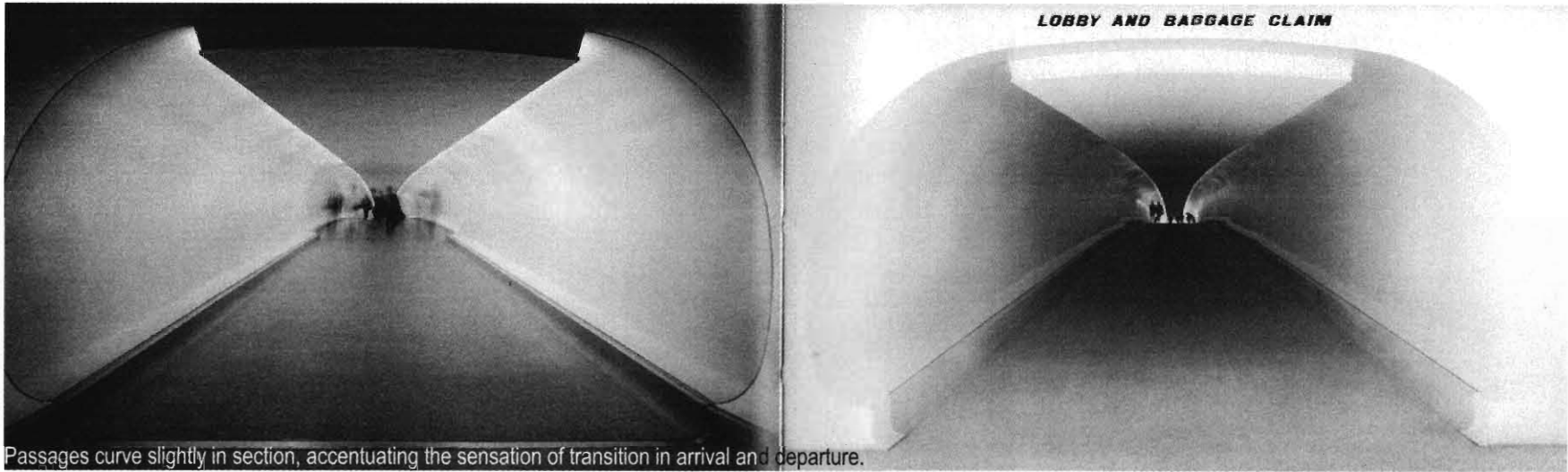


Building becomes logo, eventually Saarinen's TWA terminal becomes inseparable from the image of the jet set.



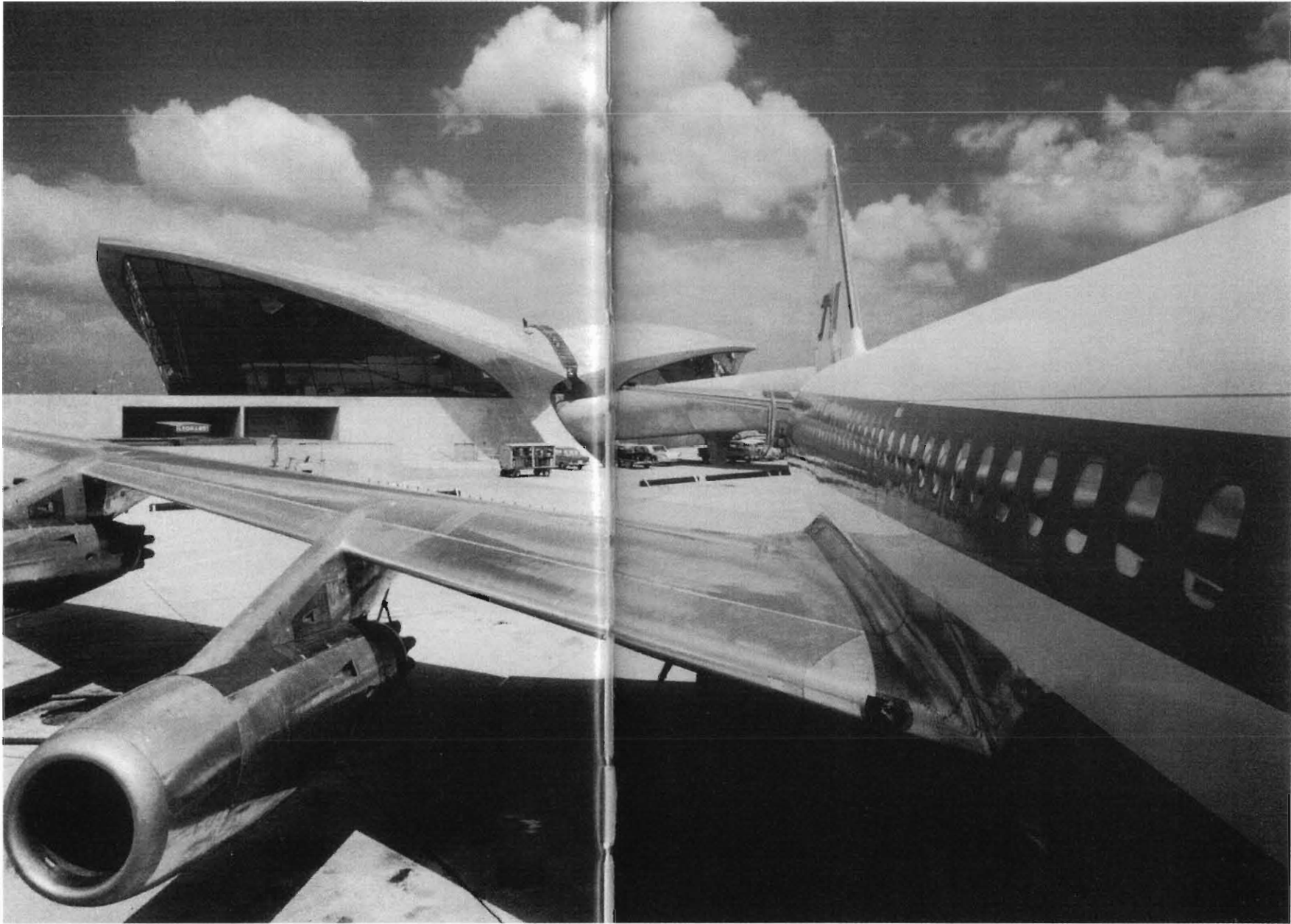
A monument to the airport as a point of arrival and departure.



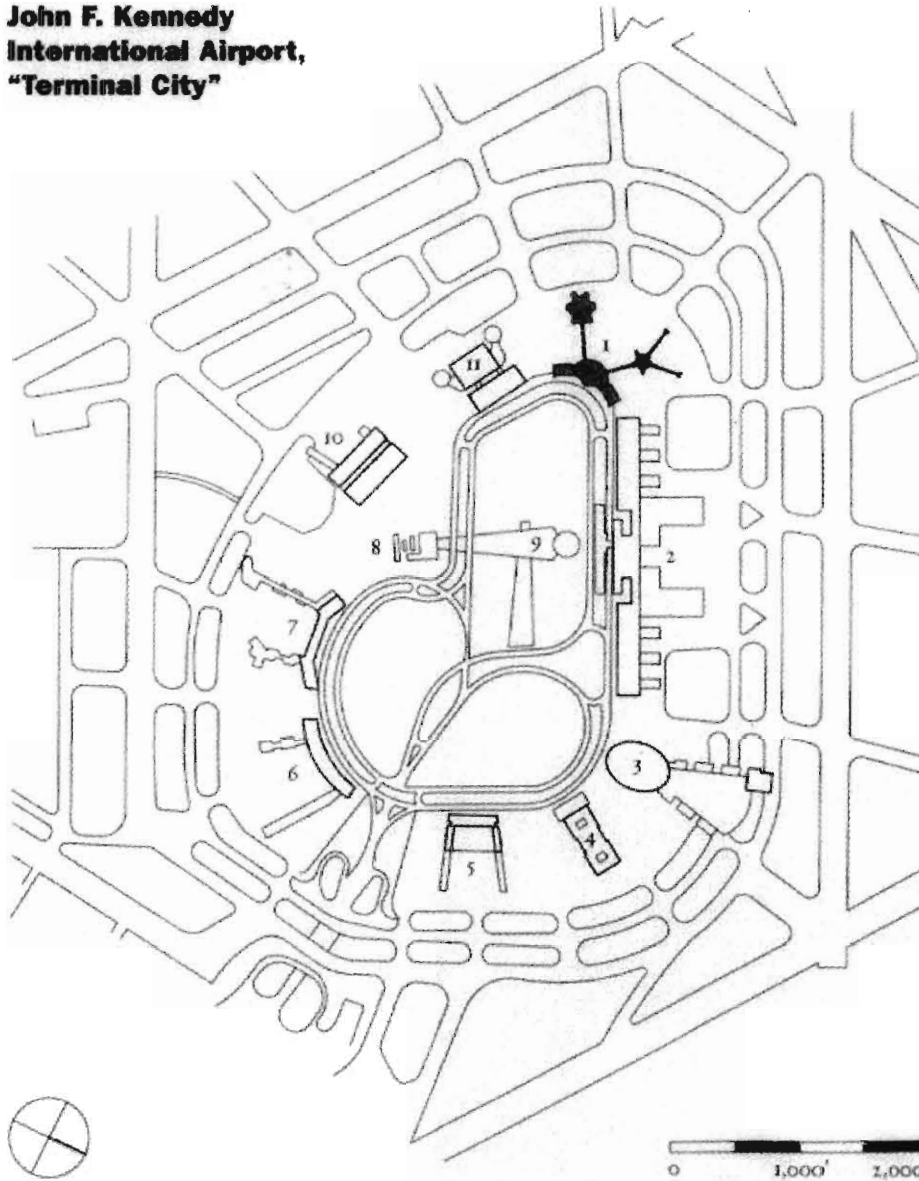




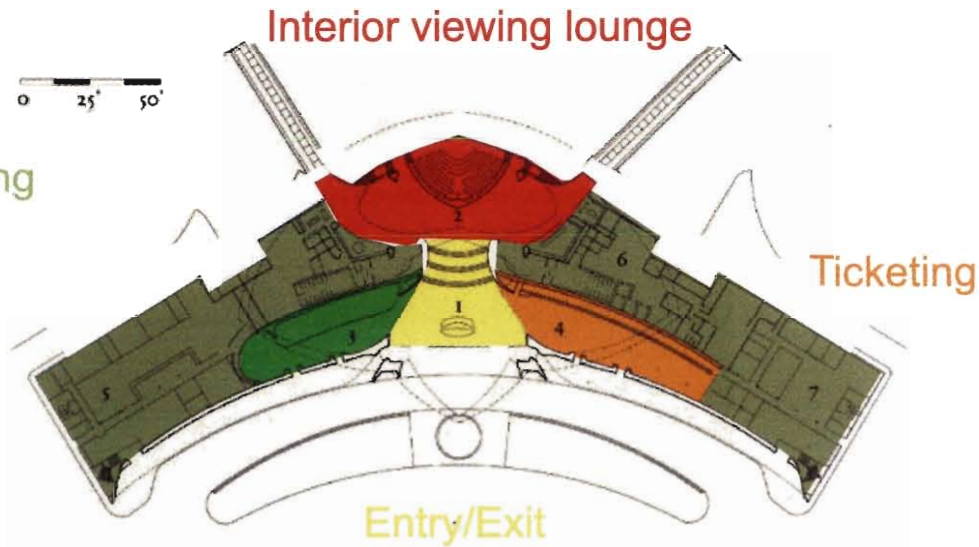
Fluid almost baroque formal quality.



**John F. Kennedy
International Airport,
"Terminal City"**



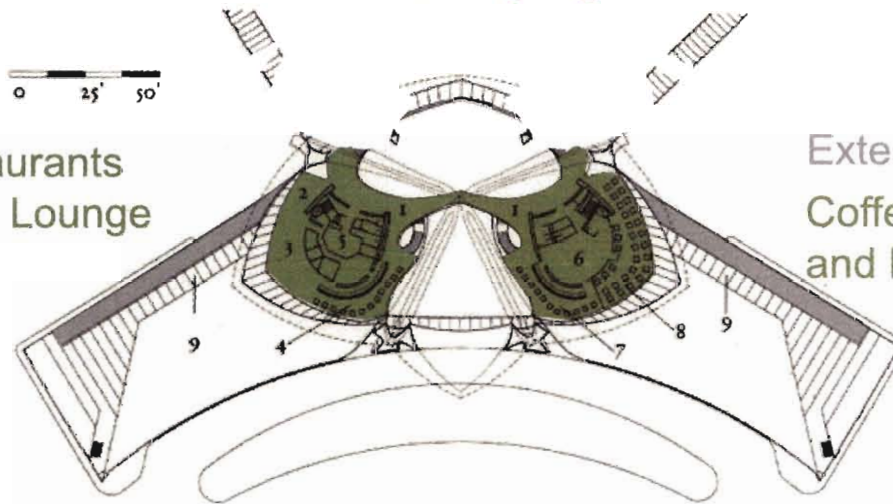
Departures
 Arrivals
 Baggage Handling
 Baggage Claim
 Services/Shops



- | | | |
|---------------------|------------------|---------------|
| Main level | LOUNGE PIT | 5. OPERATIONS |
| 1. INFORMATION DESK | 3. BAGGAGE CLAIM | 6. KITCHEN |
| 2. MAIN LOBBY & | 4. TICKETING | 7. OFFICES |

Parking

First Class Restaurants
 and International Lounge



Exterior Viewing Platform
 Coffee Shop, Dining Area
 and Kitchen

Program and flow diagrams.

By 1962, airports had already evolved into highly controlled and delineated sequences of prescribed processes. No longer simply an open field upon which to land and take-off, the airport had evolved into a self contained architectural object. The TWA terminal by, Eero Saarinen, is perhaps the most popular airports ever designed and built. This is almost entirely because of its evocative, fluid form and associations with the beginnings of mass access to affordable air travel and the evolution of what would later be called the jet-set culture. In his own words Saarinen explains, "We wanted the architecture to reveal the terminal, not as a static enclosed place, but as a place of movement and of transition... We had committed ourselves to a family of forms and must carry the same integral character throughout the entire building. All the curvatures, all the spaces and elements down to the shape of signs, information boards, railings and counters, would have to a consistent character. As the passenger walked through the sequence of the building, we wanted him to be in a total environment where each part was the consequence of another and all belonged to the same form-world."¹⁹ In its formal fluidity and sculptural quality, the TWA terminal has become a monument to the airport as terminal. Far from the ideas proposed in Bel Geddes' Airport, Saarinen's "bird in flight" (as it was coined by the public) became an instant icon, a recognizable figure within the open fields of Idlewild (now New York's JFK airport) and a magnificent gateway between earth and sky. For air travel, TWA is in many ways what the great train terminals were for the age of rail travel, providing a grand civic gesture for the traveling public as well as the public at large. Much of contemporary critique of airports is that they have lost this notion of civitas, no longer public spaces, but spaces of economic exploitation, private interests and authoritarian control. Saarinen's design was predominantly accessible to the public, providing a central space for gathering and witnessing the spectacle of flight. The entry and ticketing terminal was the most significant space in the terminal and is embodied by most of the famous images taken by Ezra Stoller shortly after the terminal opened in 1962. Stoller's images are seductive encapsulations of a startling and new architecture. They suggest an image, if not a reality of a point in time in which airports and the architecture that constituted them was not only about commercialism and getting from point A to point B, but also about the grandeur and civic importance of flying and the acts of arrival and departure. After proceeding through the main entry terminal, passengers bid farewell to friends and family and proceed through connection tunnel that slightly arcs in section. As Paul Andreu, architect of Paris Charles de Gaulle Airport points out, "The effect being that when you go in, you cannot see the end of the tunnel. Instead of this

horrible impression of a fixed perspective, you genuinely get the feeling that you are going somewhere."²⁰ Once on the other side, departure and arrival lounges connect passenger to planes through some of the first loading bridges ever in use, thus making air travel a completely hermetic experience, sealed off from the exterior,

TWA was created to convey this notion of "the drama of flight and the excitement of travel, an abstraction of spatial liberty, expressed in continuous movement beneath the soaring roof."²¹ Saarinen was able to create a successful civic space; however, he was also able to design a building that would act as a massive logo for the TWA Corporation. Often derided for his allegiances with corporate America, the TWA building was in many ways one of the first brand spaces. "Saarinen outlined two primary objectives for the project: first, to create a 'distinctive and memorable' signature building for TWA; and second, to 'express the drama and specialness (sic) and excitement of travel.'"²² By eliminating any graphic logos other than TWA and its signature red within the interior, Saarinen is able to accomplish both goals.

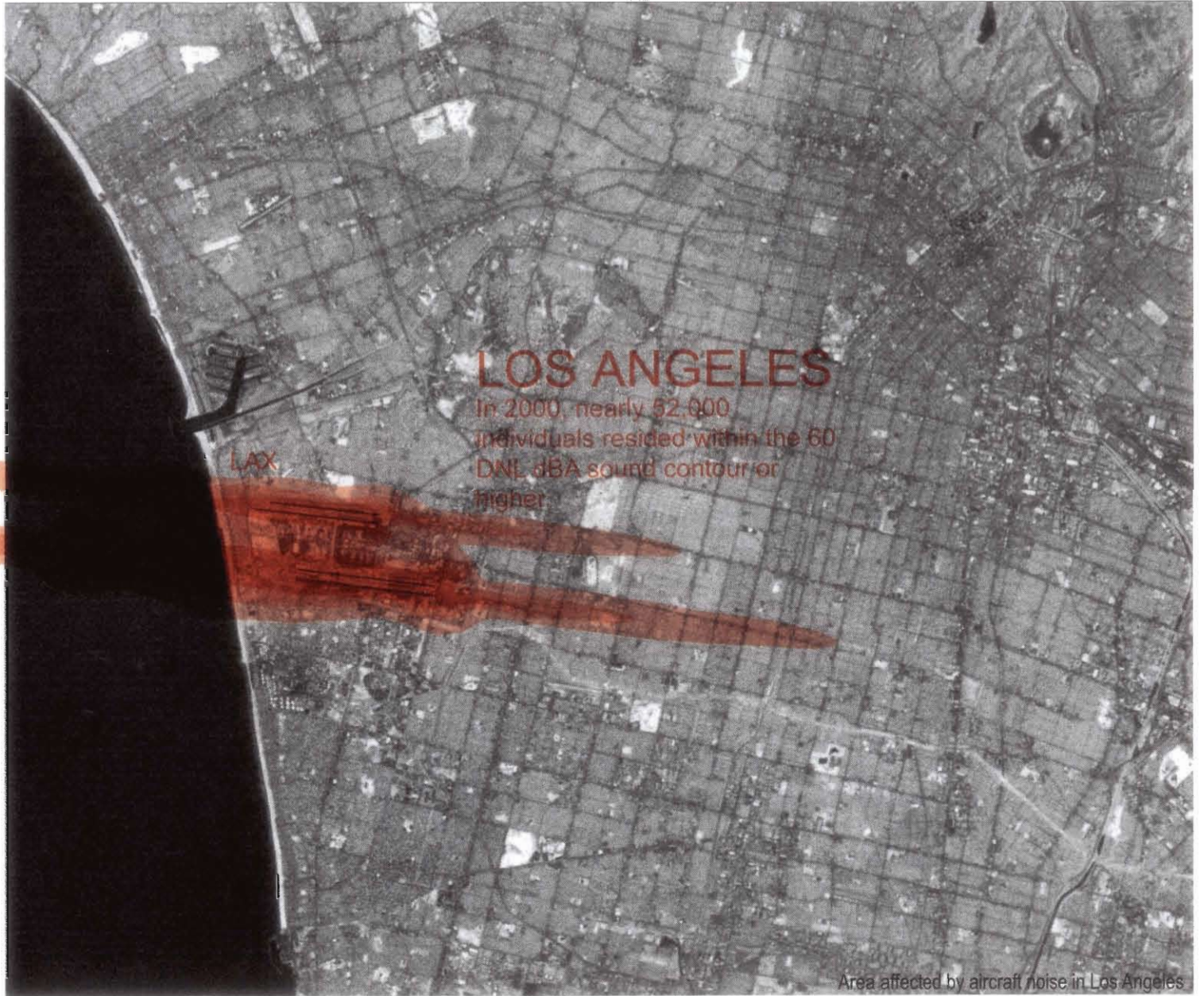
If Geddes' Rotary airport represents the Corbusian idiom of "the naked airport," then Saarinen's terminal is its extreme opposite. The TWA terminal is architectural form; the creation of space and form as spectacle. The TWA terminal envelopes the inhabitant, alluding to the abstract idea of flight and the fluid form of the aircraft which are only just visible beyond carefully framed openings. Perhaps within its context far beyond the reaches of the city and its image, Saarinen understood that his terminal must be the generator of image and an utterly unique and alien context in and of itself. As Bosma notes, "The dominant architectural motif was no longer egalitarian transparency but a distinctive silhouette."²³ The creation of a "whole and complete" architecture is creating but flexibility and adaptability for future changes is sacrificed. An instant landmark, its fluid form is in actuality anything but fluid. Saarinen's formal universe locks in on itself and is unable to change over time. If anything, Saarinen's charismatic terminal is a reminder of the importance of form and architectonic space for its own sake, as the TWA terminal was already deemed obsolete by the time it opened.

Public Space Without

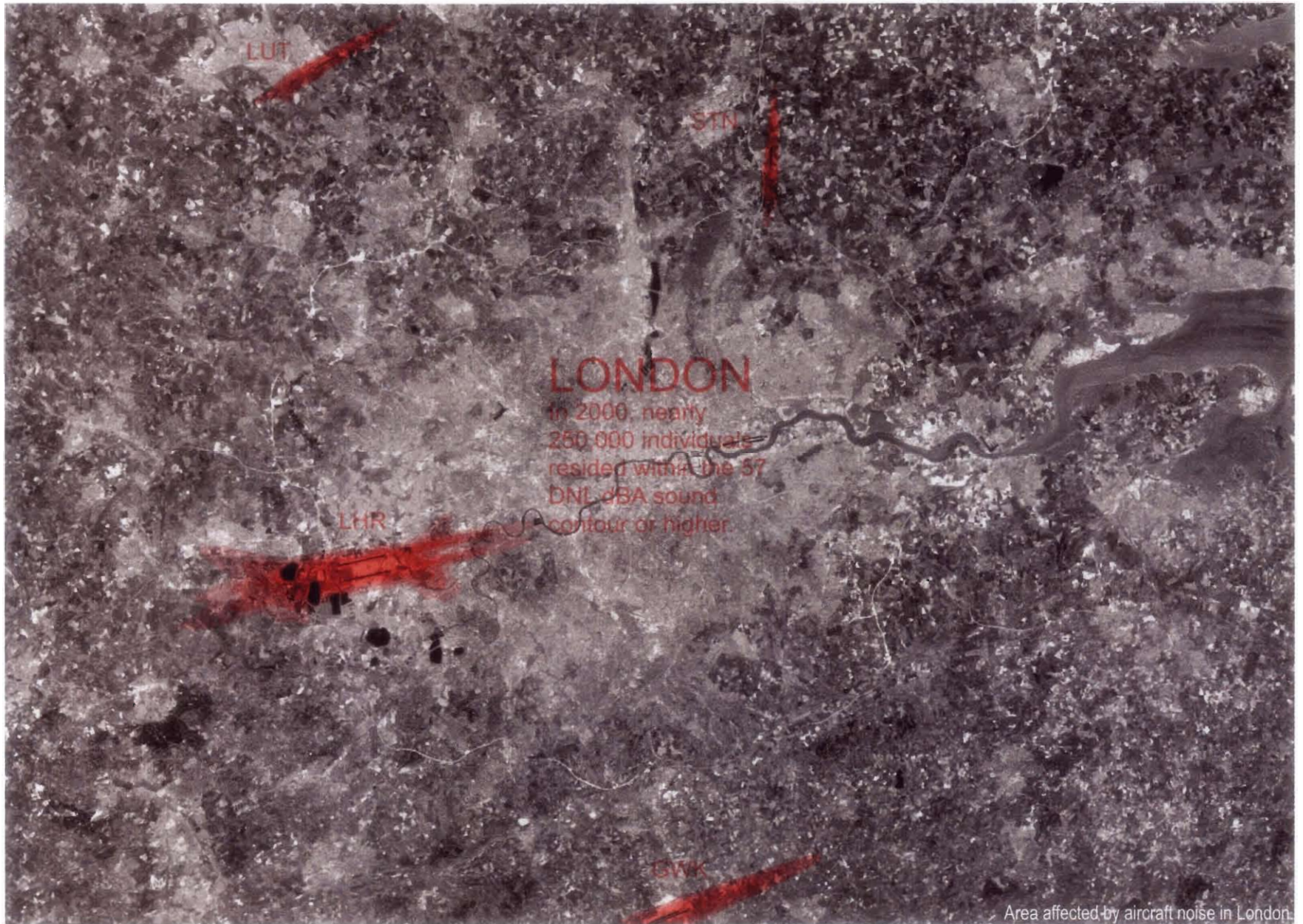
Thus far, the airport has been unable to produce truly public space and thus can only simulate true urbanity. I argue that over the course of its history, the airport has become increasingly less accessible and less public, this is supported by evidence found in a study of historical precedent. Today, within the confines of terminals, commercial programs constitute the bulk of what is considered public. Ironically, it is only in cases where the airport cannot regulate itself that a truly contentious and public space is generated.

Noise pollution produced by airports worldwide is a large problem. Airports' lack of ability to contain noise is highly politicized. Due to Logan's proximity to densely populated neighborhoods, noise effects over 100,000 people, 32,000 of which live in areas continuously exposed to noise levels that produce deafness and physiological trauma. Operators, torn between the conflicting demands of local and global constituencies strike uneasy compromises. What has evolved is a highly orchestrated effort to stave off litigation and political turmoil. Noise contour maps are generated in an effort control the escaping noise by classifying those within the contours as legitimately under serious health threat or simply suffering from ongoing nuisance. In its effort to control space, the airport atomizes and collects sound data from multiple spaces within the surrounding city (local zone, see page 39, Site Analysis). Locations are loosely related to major flight paths both near and far away, covering a large portion of greater Boston. Consisting of a minimal infrastructure of a microphone and recording device, these points locate themselves locally in diverse places: parks, schools, libraries, and residential neighborhoods.

Is it possible to turn this problem into the means for a solution in the creation of a formal public space outside of the airport? In a first attempt to integrate both local and global zones of the airport I will investigate the potential for the creation of the virtual/remote public space. By taking the existing network of sound monitors and exploring their architectural, programmatic and formal potential, they can become more than simple listening devices. As architecture, these devices can become about a two way dialogue, both listening and projecting. Programmatically, the architecture should communicate the inherent tensions generated by the adjacencies of local and global zones, in particular those relating to the airport.

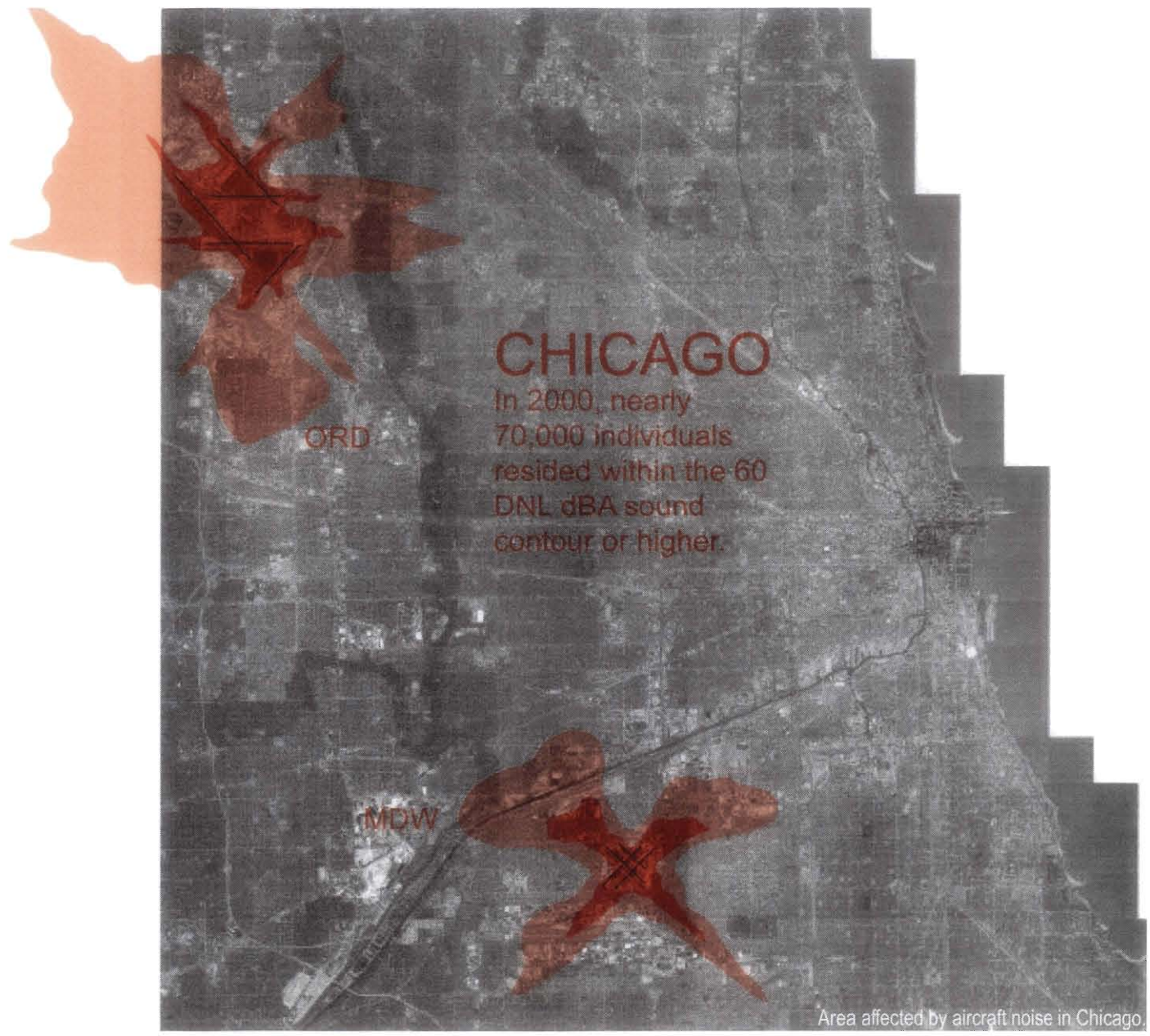








Area affected by aircraft noise in Paris.



CHICAGO

In 2000, nearly 70,000 individuals resided within the 60 DNL dBA sound contour or higher.

ORD

MDW

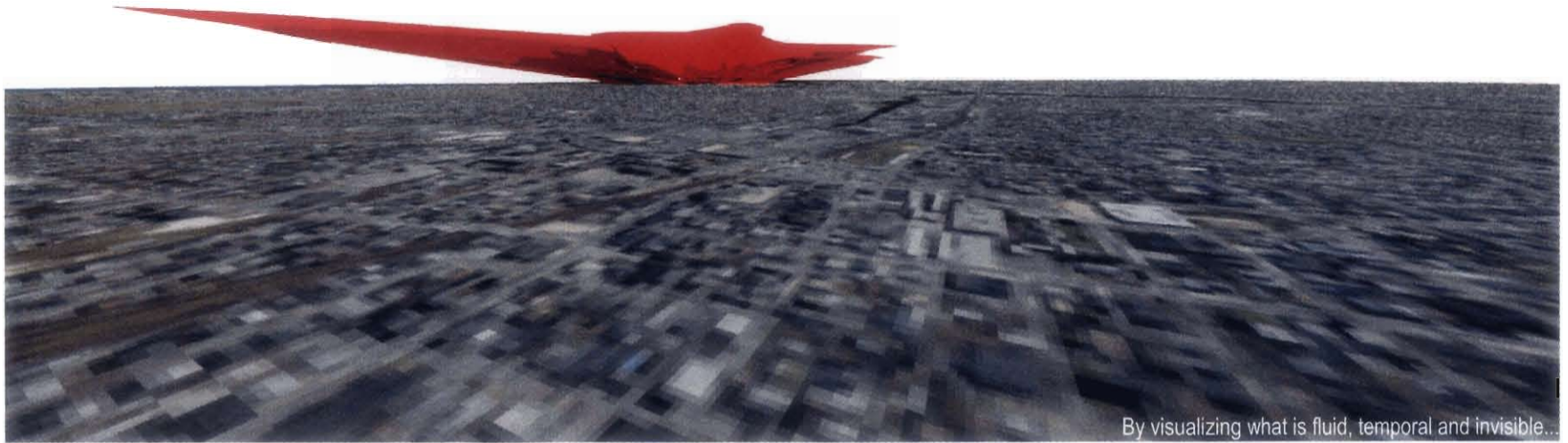
Area affected by aircraft noise in Chicago.







can begin to reveal the true dimensions of the airport in relation to the city.



By visualizing what is fluid, temporal and invisible...



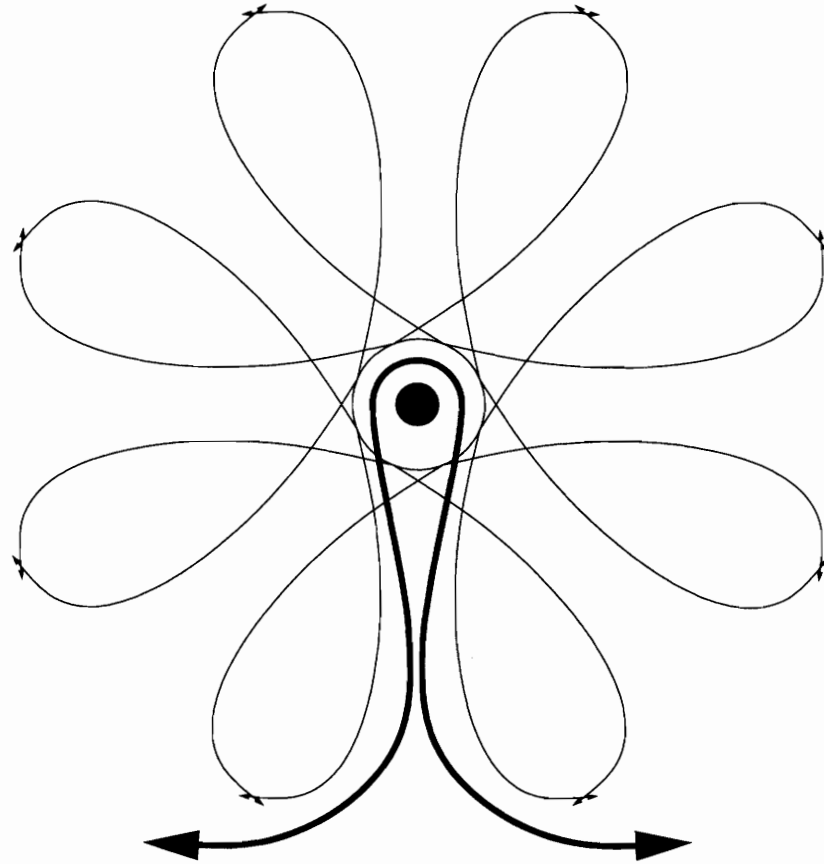
...we can begin to appreciate and understand the magnitude of the airport in relation to its local context.



Pollutions such as noise represent a space of contention, a kind of perverse public space...



...intangible, this space like its physical counterparts found in the city is driven by political and economic motives, but is currently the most public space related to the airport.

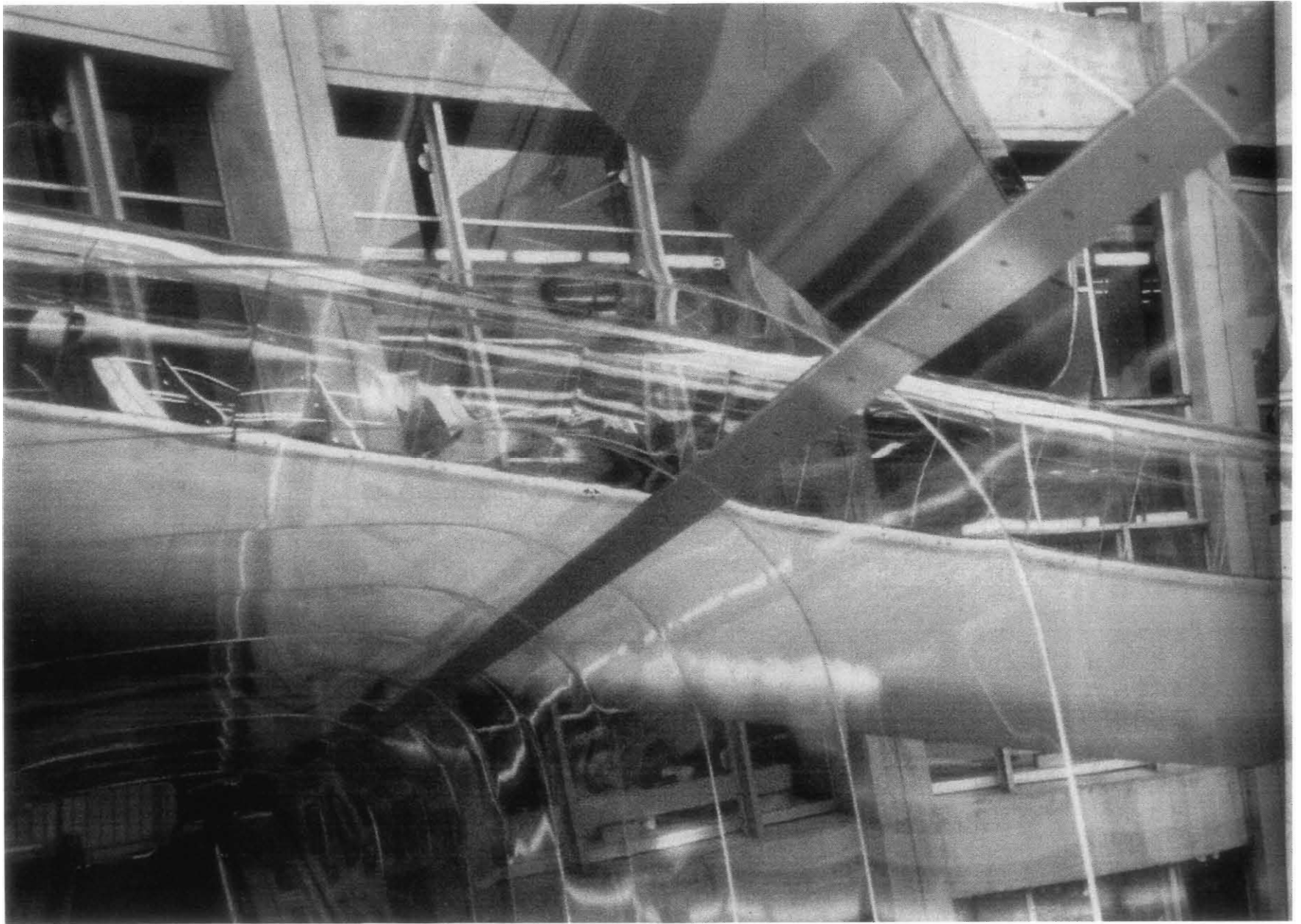


CDG
Charles de Gaulle 1
by Paul Andreu, 1974





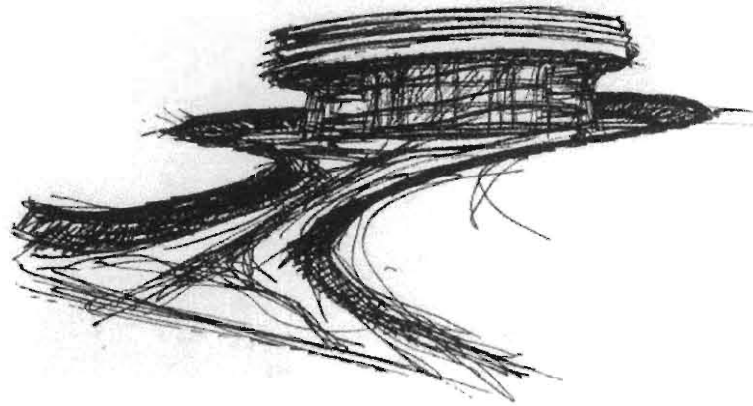
Interior void, flow frozen in space.



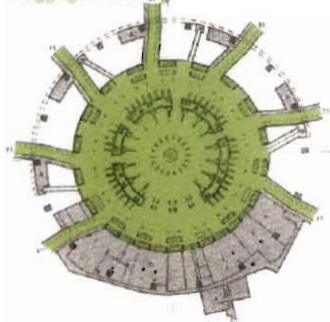




Airport approach.

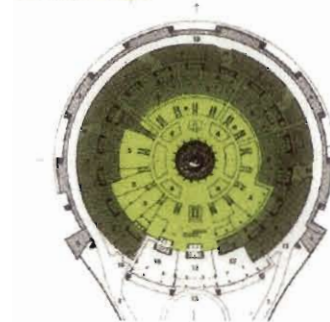


Baggage Claim
Baggage Handling



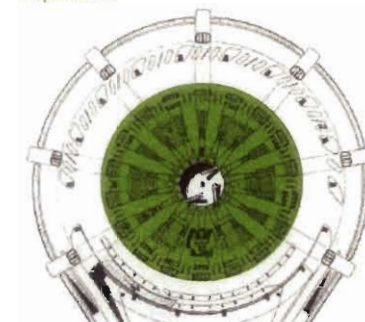
Niveau 1, tri bagages

Services/Shops



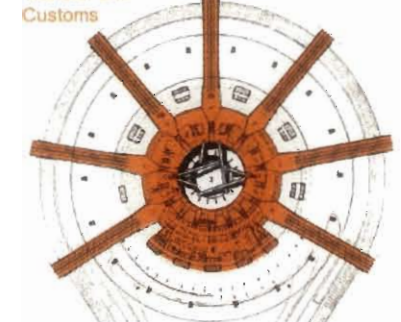
Niveau 2, services.

Departures



Niveau 3, depart.

Transfer and
Customs



Niveau 4, transfert

Arrivals



Niveau 5, arrivés.

Technical/ Mechanical Service Equipment



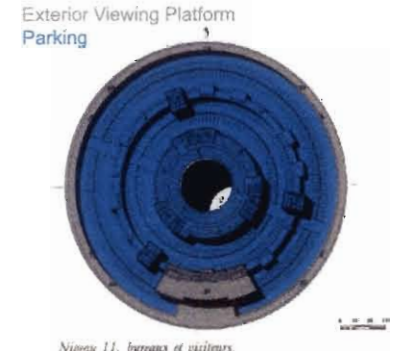
Niveau 6, étage technique.

Parking



Niveaux 7, 8, 9, 10, park.

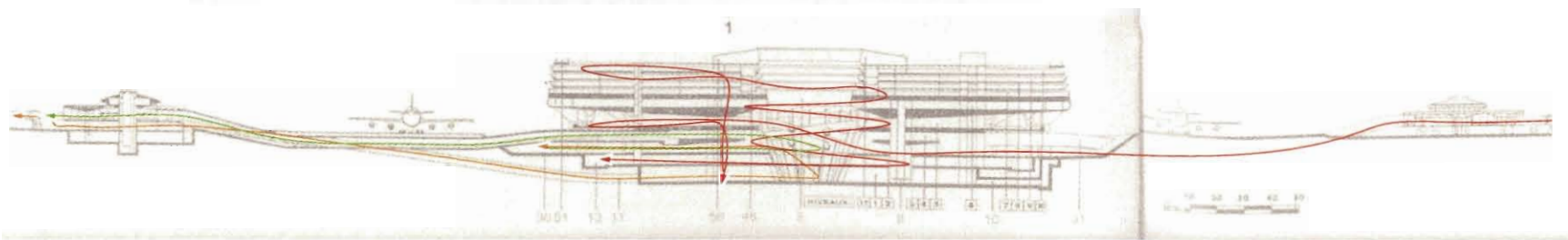
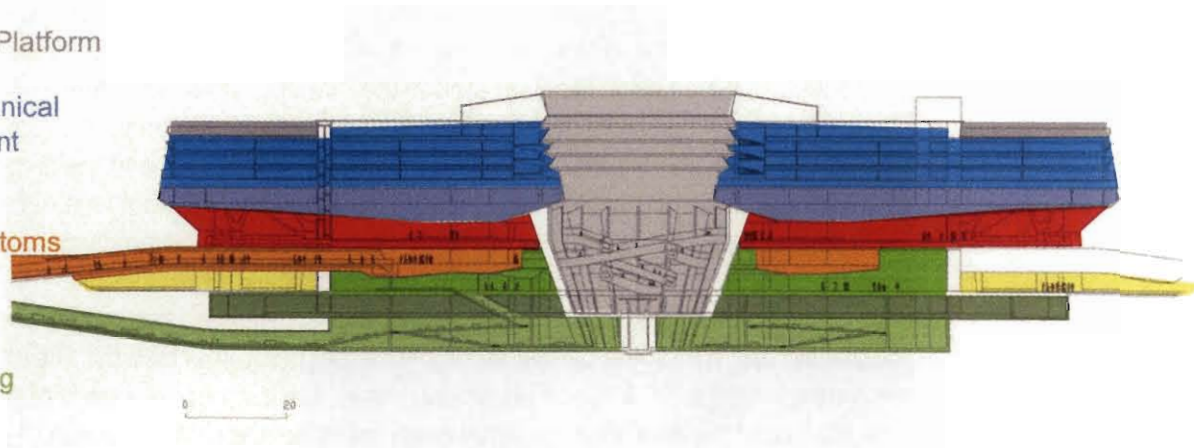
Exterior Viewing Platform
Parking



Niveau 11, bureaux et visiteurs.

Program and flow diagram.

- Exterior Void
- Exterior Viewing Platform
- Parking
- Technical/ Mechanical
- Service Equipment
- Arrivals
- Baggage Claim
- Transfer and Customs
- Entry/Exit
- Departures
- Services/Shops
- Baggage Handling



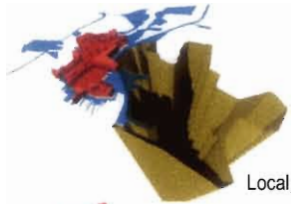
By 1974, air travel had become a part of many people's lives, and therefore more everyday. Similar formally to Saarinen's terminal, CDG 1 is a self-containing and iconic form; however, its form does not attempt to suggest flight and makes no allusions to aircraft. Instead it seeks to manifest the linear processes of air travel into a condensed micro-universe; transforming the banal and everyday processes of parking, riding the escalator and enplaning into the sublime. Pragmatic problems become engines for architectural splendor and spatial invention; Andreu states, "As we wanted to reduce the distance the passengers had to walk, we needed to find a way of arranging the aeroplanes. After a few attempts, we came up with a sort of double wrap around arrangement, whereby aeroplanes were wrapped around the satellites, and these satellites were wrapped around the terminal. This meant that 28 aeroplanes could be arranged at a minimum distance from the centre of the terminal."²⁴ Program at CDG 1 is stacked vertically, with parking decks occupying upper floors and the programs of arrival, transfer and departure tucked underneath. Interestingly, even in a time of heightened security with new threats of terrorism in the 70s there is still public programming in the form of a visitors center and 360 degree viewing deck on the top floor.

Circular in plan, the building risks stasis, an endless imploding of space. The introduction of circular void at the center, an uninhabitable heart, reverses the final outcome. The circle becomes a doughnut, a space of passing, never static, a gear or switch of global proportions. "As the airport terminal represents an intersection between cars and aeroplanes, both the aeroplanes and the car park had to be visible. I did not find it embarrassing that, at long range, the terminal could be mistaken for a car park surrounded by aeroplanes. On the contrary I found it gratifying."²⁵ In 1974, international terrorism had already become a perceived threat to the functioning of airports everywhere. The brutally solid and heavy perimeter of CDG is as much a symbol of security and containment as it is about the creation of what has become the archetypical heterotopia of the 20th century. Conceptually, the void at the center of the building represents a sense of omni-present deferral of desire, the ideal center never attainable. Significantly, in its attempt to architecturalize the airports condition as an in-between space, one that is constituted by trajectories and flow or in CDG 1, by transparent tubes; the non-place, in the words of Marc Augé. By opening up the centre of the concrete cylinder in this way, the team claimed to have created a 'primordial place, a place for breaking off with old traditions, for moving on.' Following this interpretation, Michael Serres has sought to present the great void at the heart of Terminal 1 as the 'focal point of messages in transit.': In this

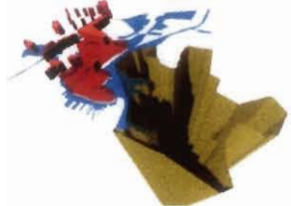
place of parting and reunions, the architecture echoes the ways in which messages transit and circulate in space; it has diagonals traversing a circular intersection, in the shape of transparent tunnels, travelators and baggage conveyers...While it mimics the circular form of the world and the universe, this miniature model also seems to represent the flight paths of the aircraft which the passengers are waiting to board."²⁶ Andreu's hyper-rational approach aiming at maximum efficiency in time/distance is a catch twenty-two; the rotary plan and lack of visual connection to the exterior as well as the diagonally bisecting tubes that traverse the void create an immense sense of disorientation. It is this contradiction that becomes the buildings downfall. A feeling of procession and arrival- however vacuum-sealed- was reconstituted within an otherwise blinded sequence."²⁷ Also problematic, as was the case with TWA, Andreu's formal solution was non-expandable over time as surrounding satellites prevented further expansion.

Public Space Within

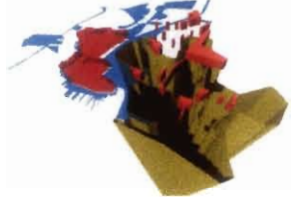
Existing local, regional and global zones are formally defined (see page 39, Site Analysis). The local zone, characterized by highly coherent form and a dense massing is an island of traditional urban Boston, surrounded by the regional zone, which serves as a permeable boundary of freeway overpass, on-ramps and feeder roads, to the global zone of the airport beyond. Like most airports, Logan is made up of a series of monolithic terminals with little architectural or formal cohesion. Public space within East Boston is constituted by urban form, mass is used to create a public void. A lack of formal clarity within the airport is one of many factors contributing to the lack of public space. Once mono-functional, the airport has become a multi-functional, quasi-urban phenomenon, still lacking a space for the public. What if we invert the paradigm? Where mass is used to create void in East Boston, Voids can be inserted into the airport to organize mass. Programmatically these voids become an archipelago of public spaces, liaisons between the airport and its local mainland of East Boston. Some voids serve cultural programmatic needs such as performance spaces, while others are simply open. Similar to Paul Andreu's the void at the heart of terminal 1 CDG, this strategy resituates public identity to the interior, while reconnecting the airport to it's exterior context.



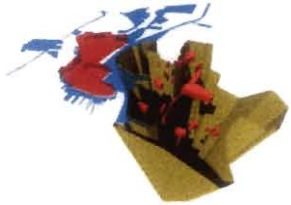
Local, regional and global zones of East Boston



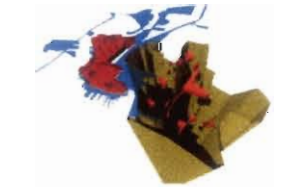
Existing voids within East Boston...



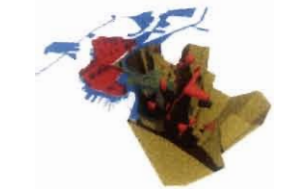
...become solids

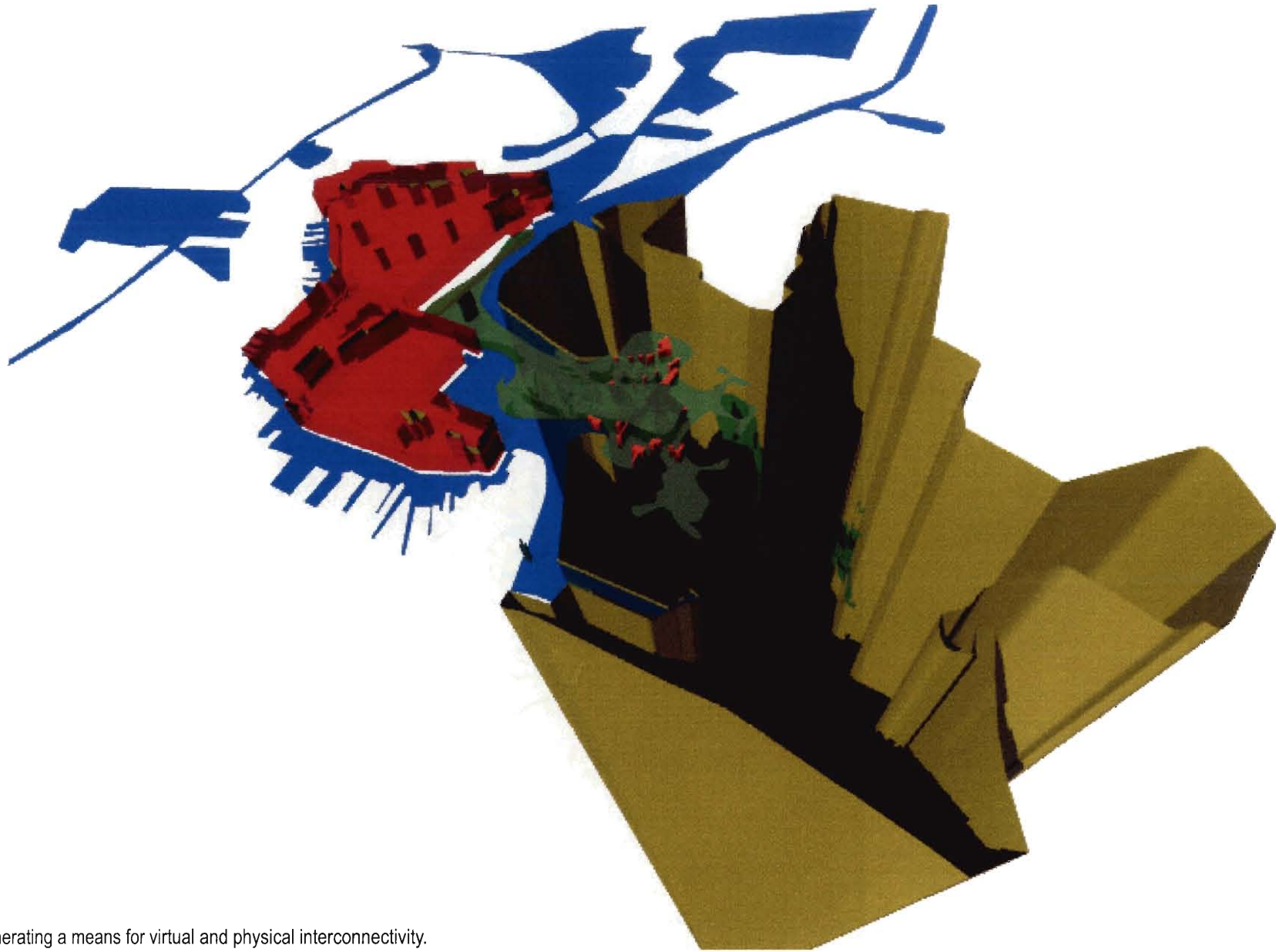


Monumental forms...

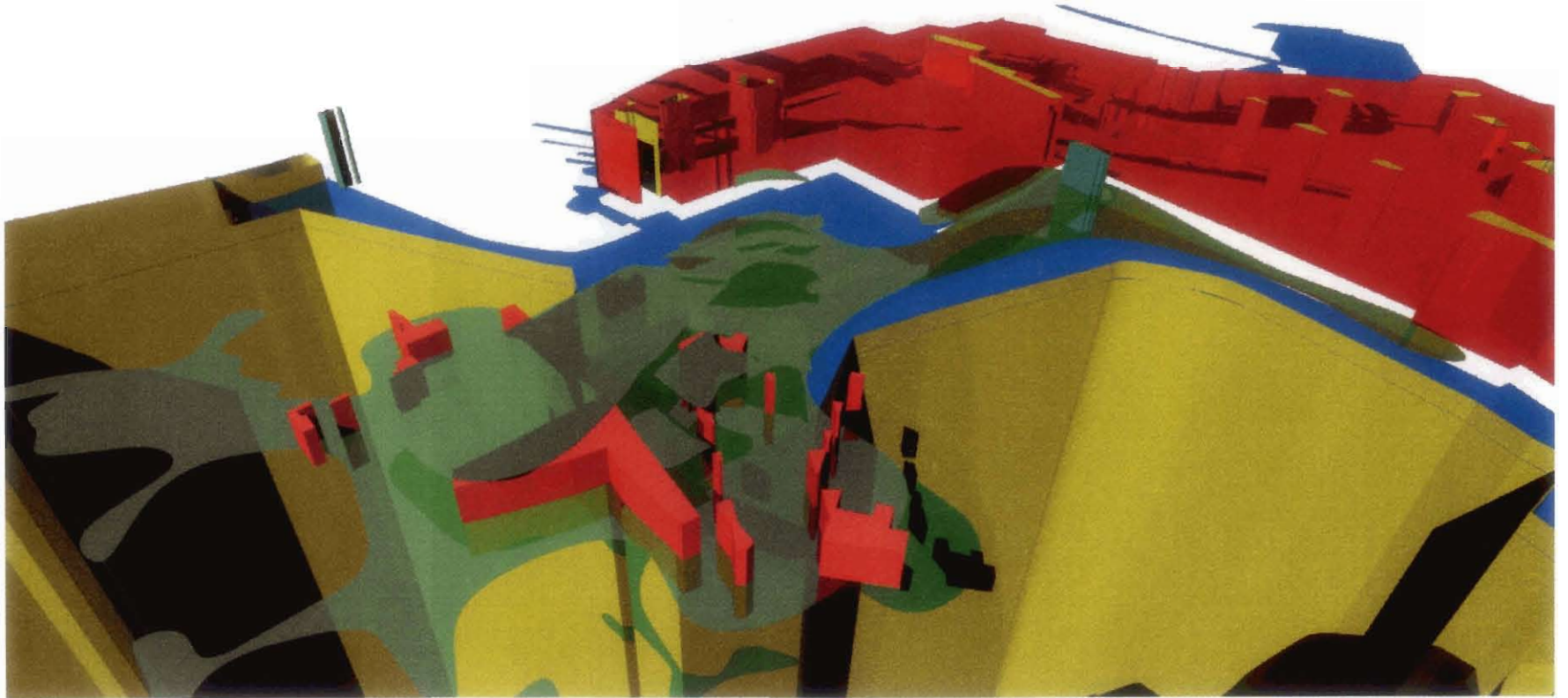


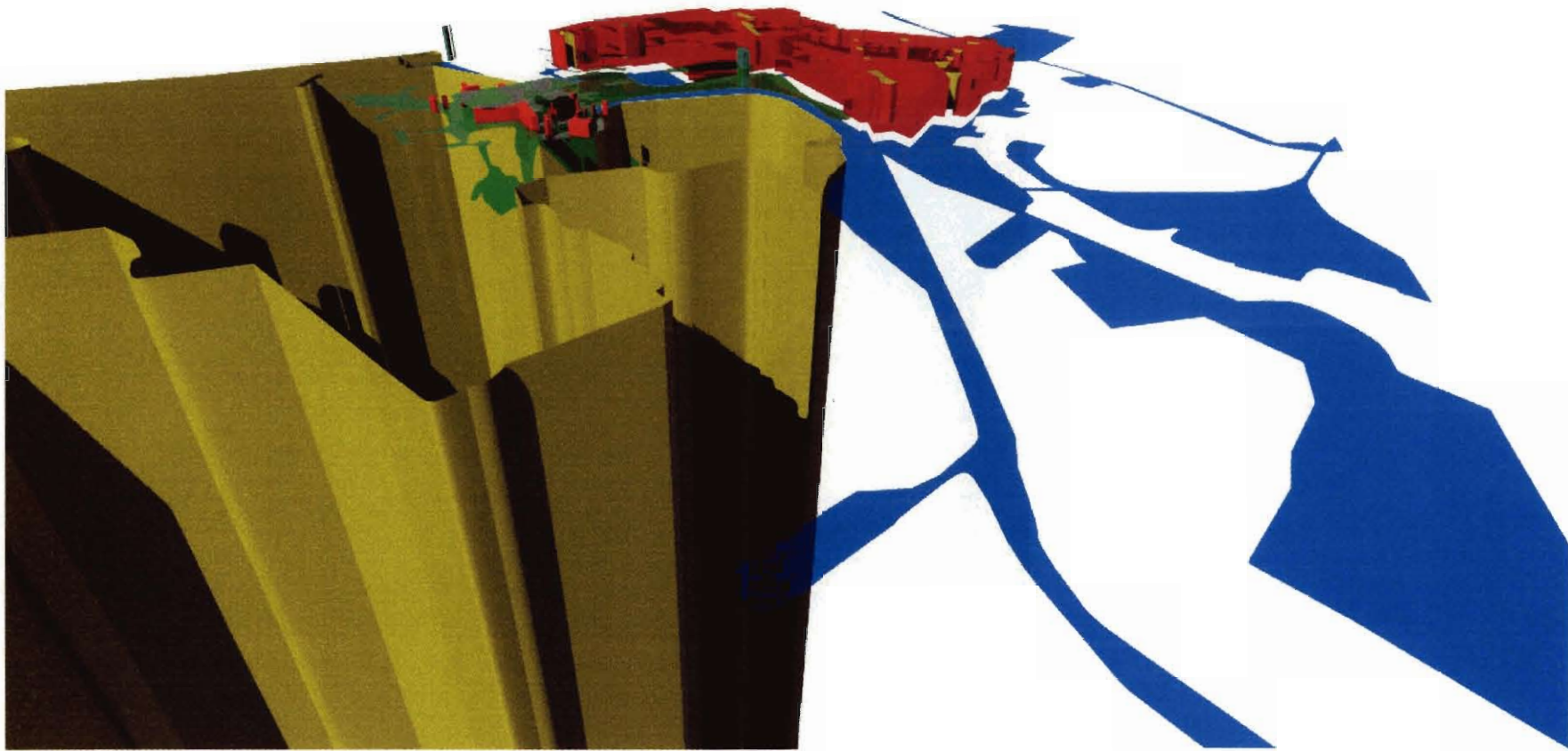
...hollowed to produce...

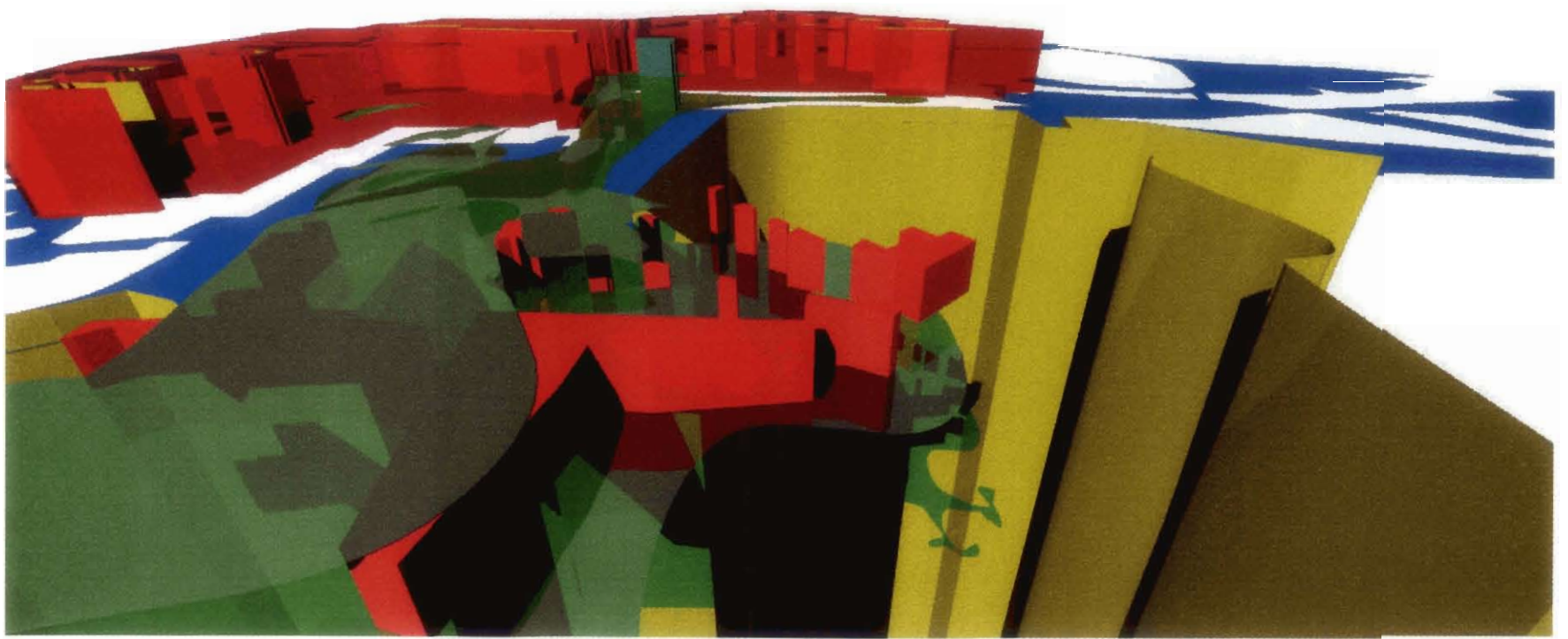


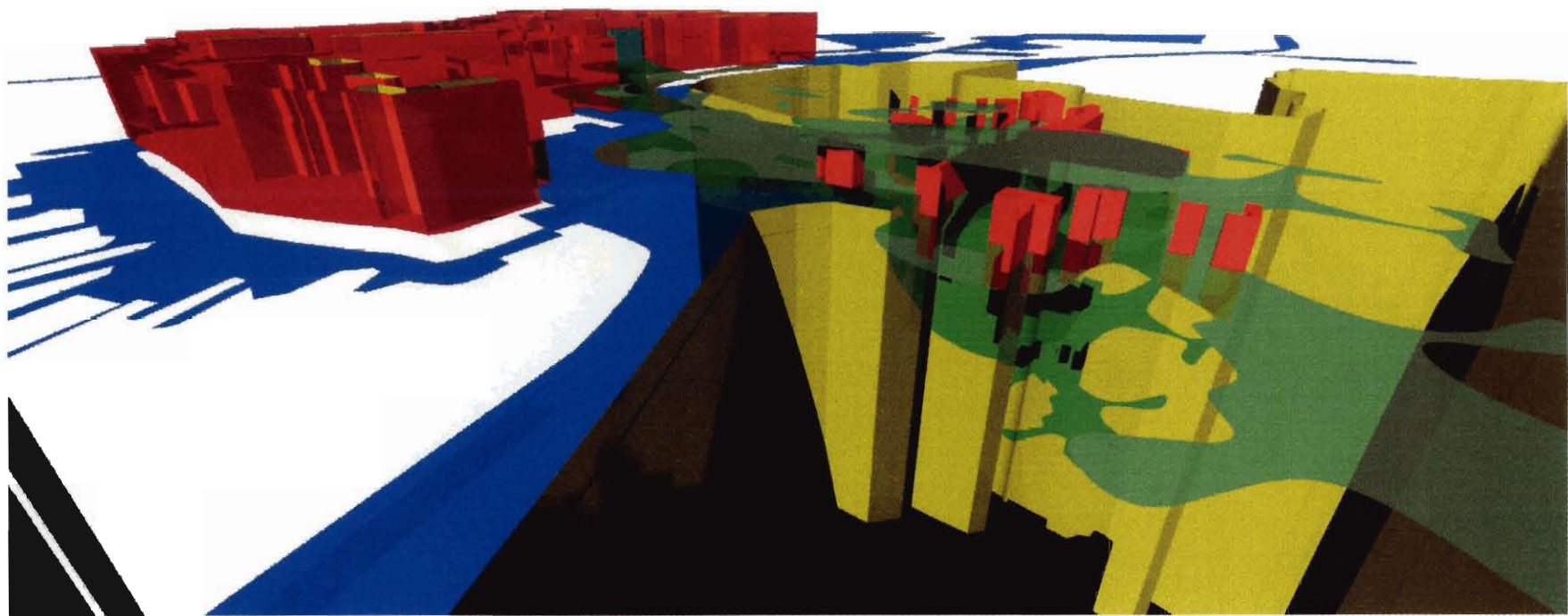


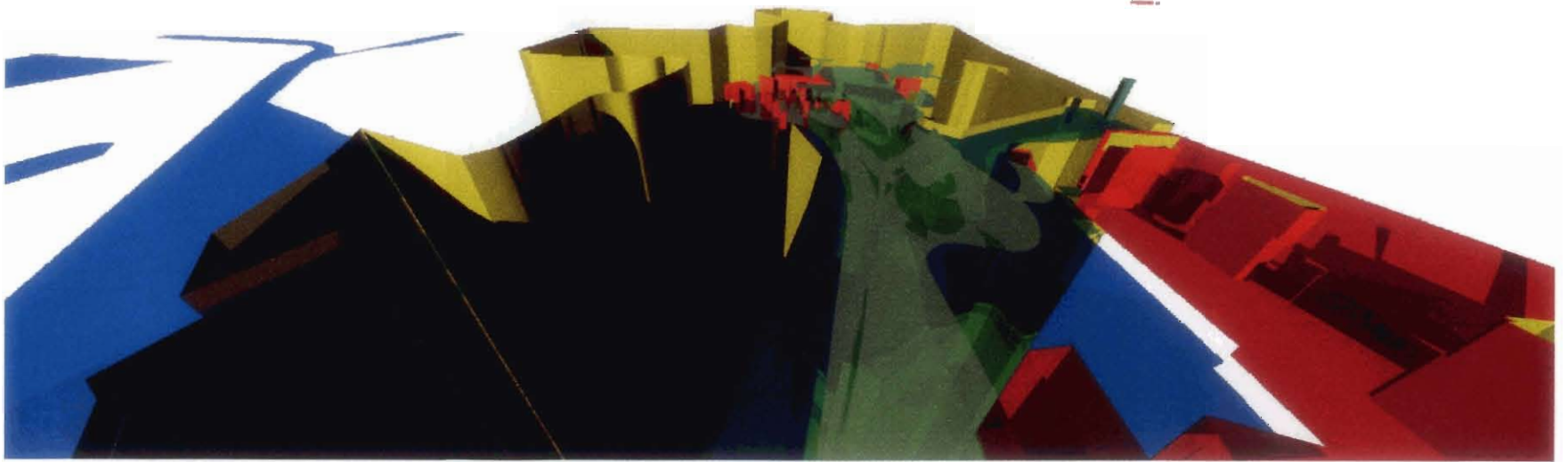
Generating a means for virtual and physical interconnectivity.



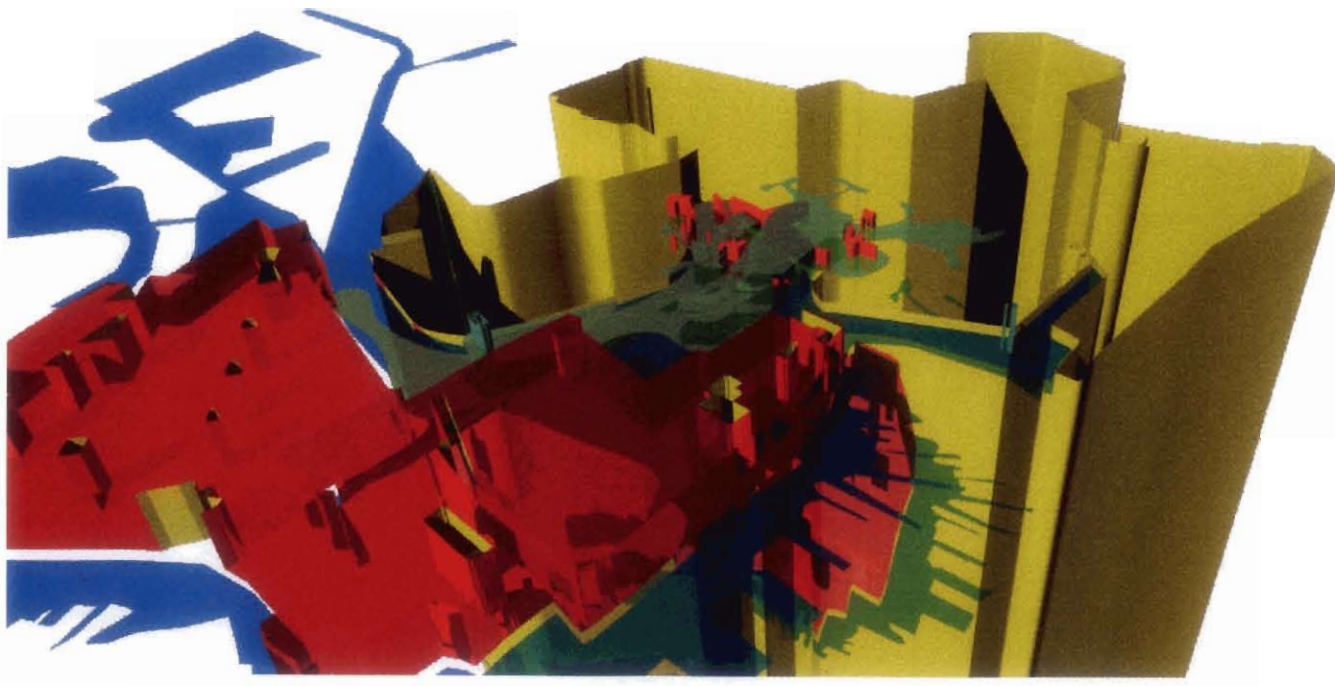


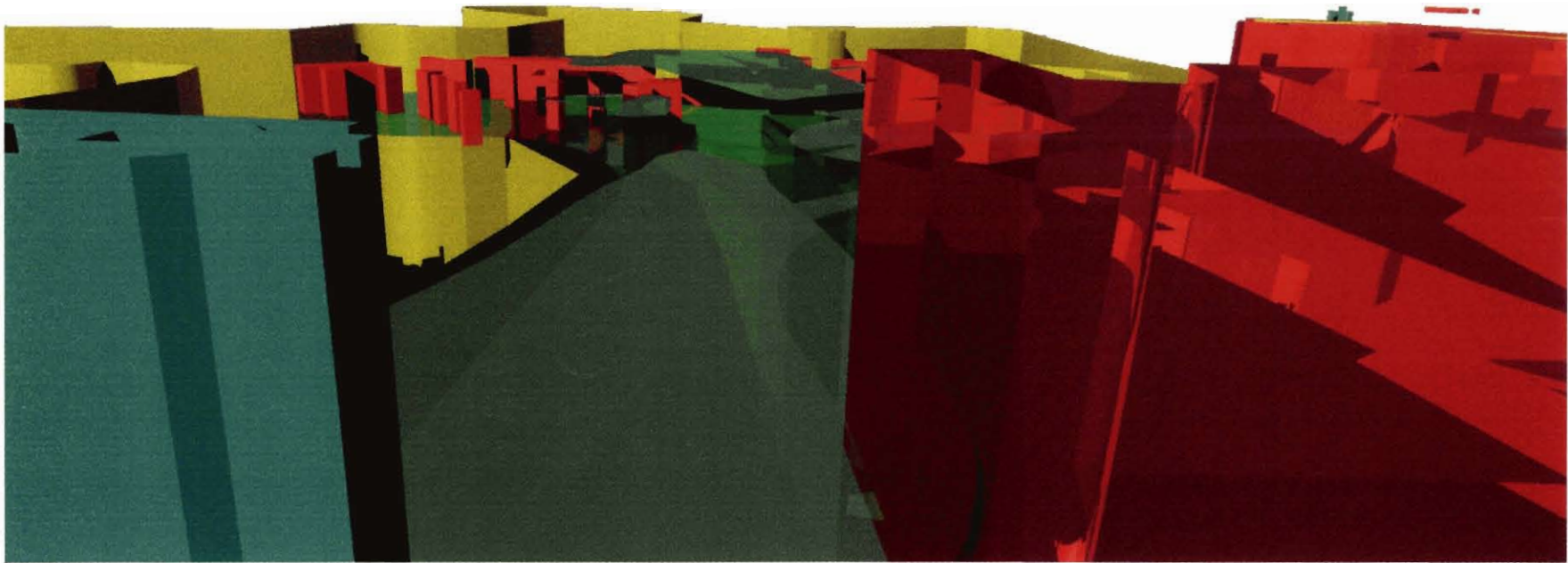


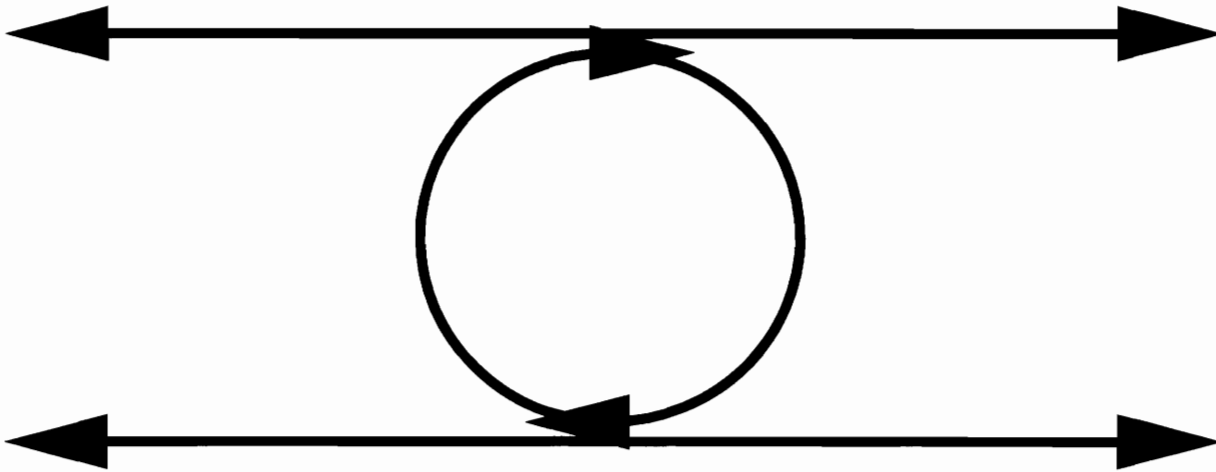












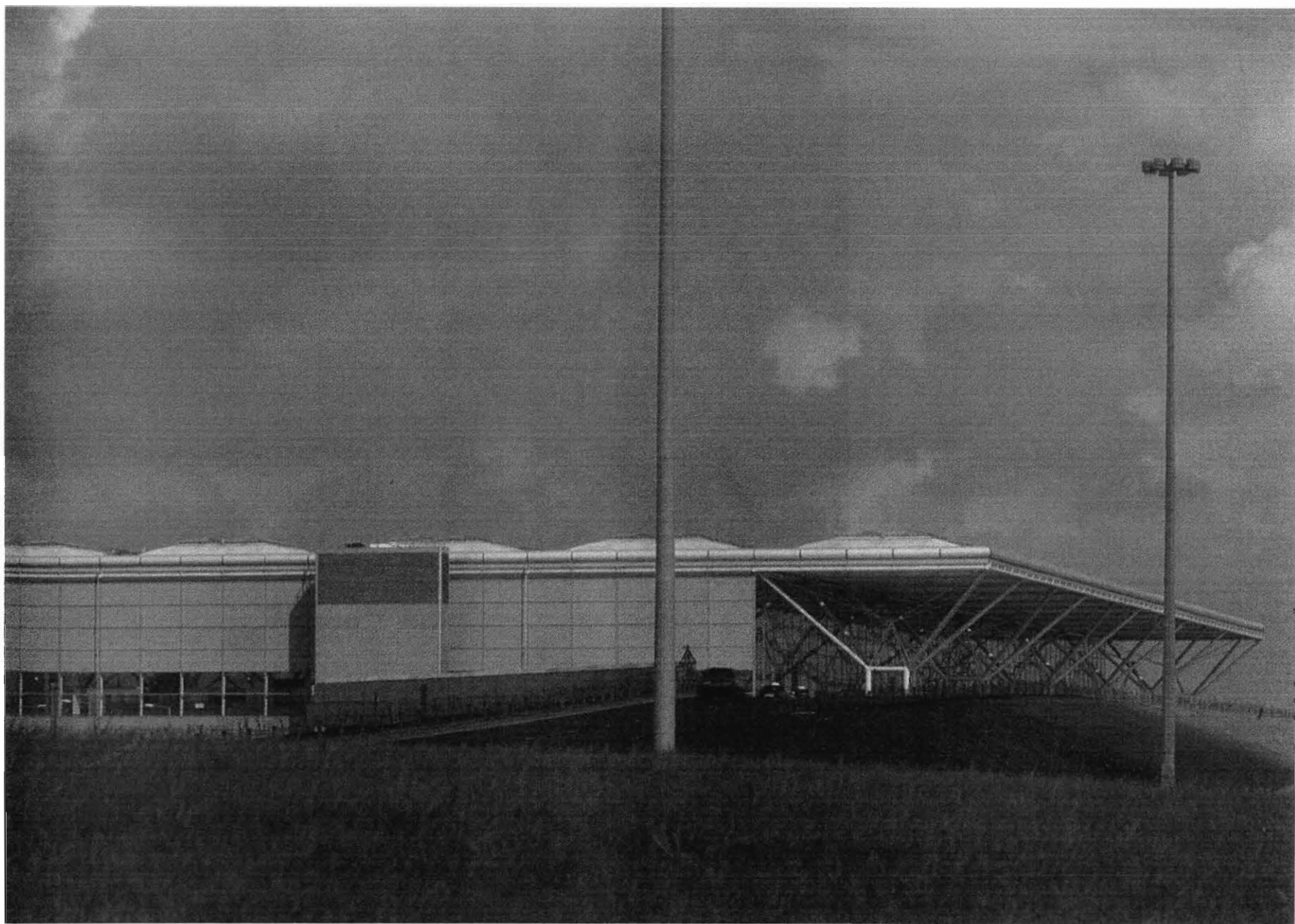
STN

Stansted Airport

by Sir Norman Foster, 1991



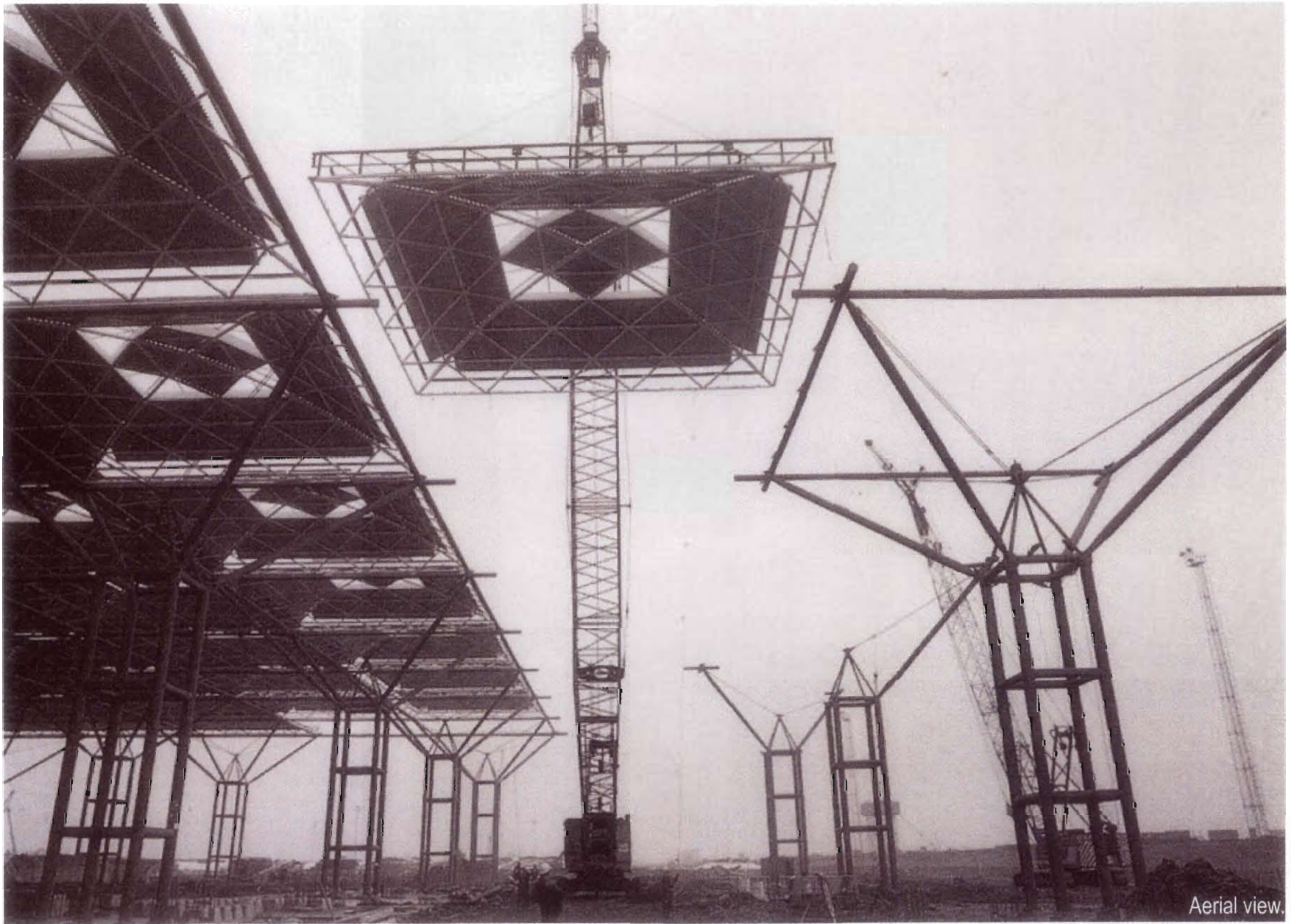
Exterior view.



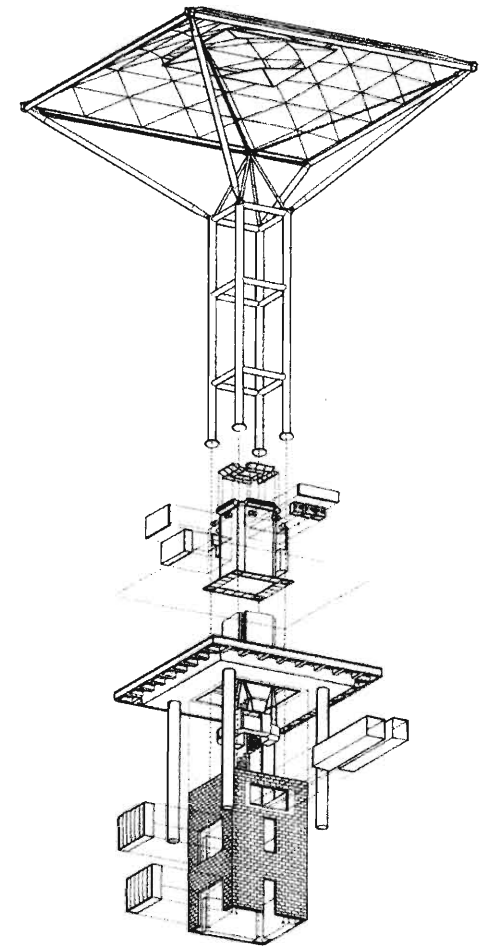


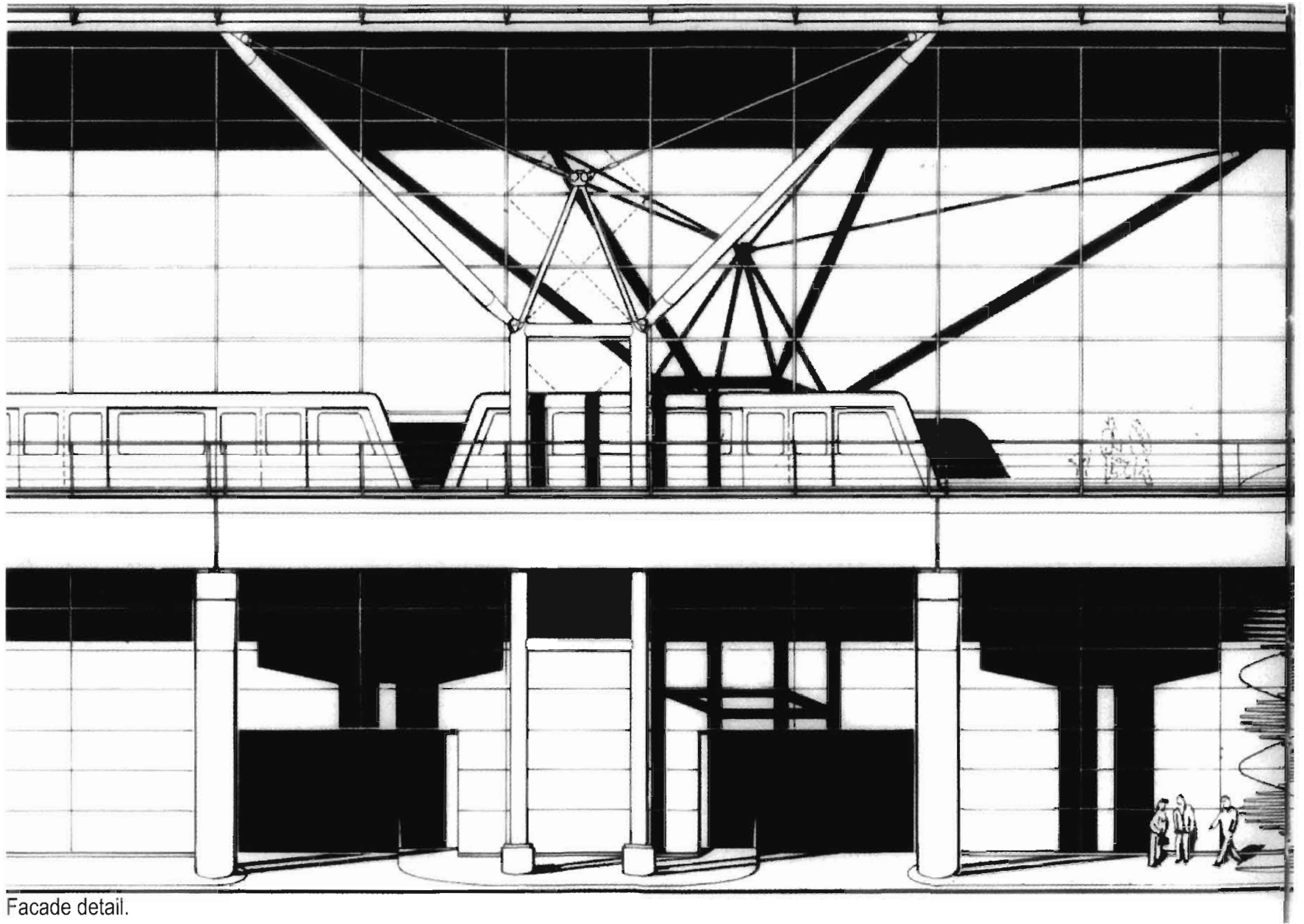
Interior view showing lightness of roof structure and abundance of natural light.





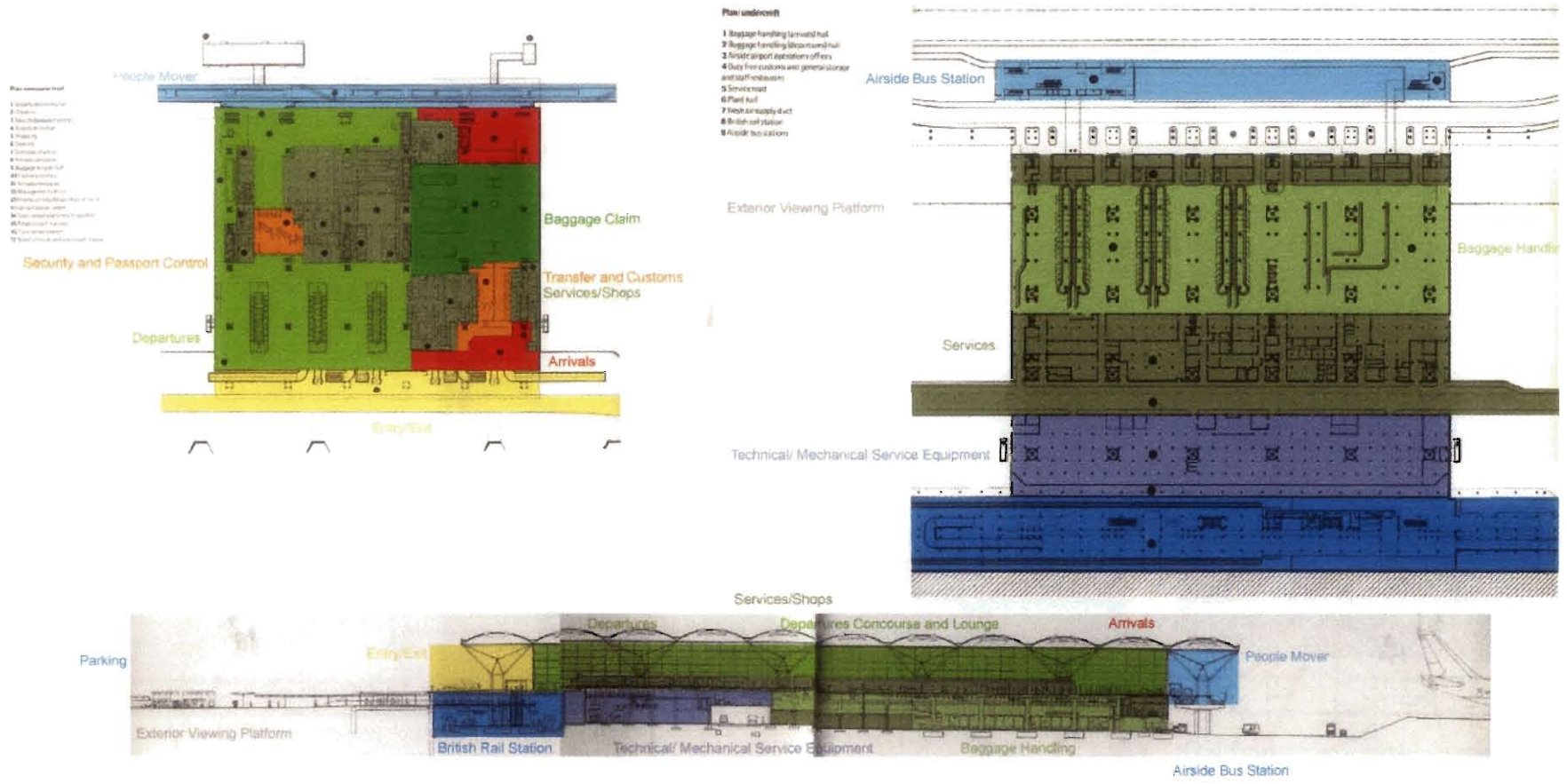
Aerial view.





Facade detail.





Program and flow diagram.

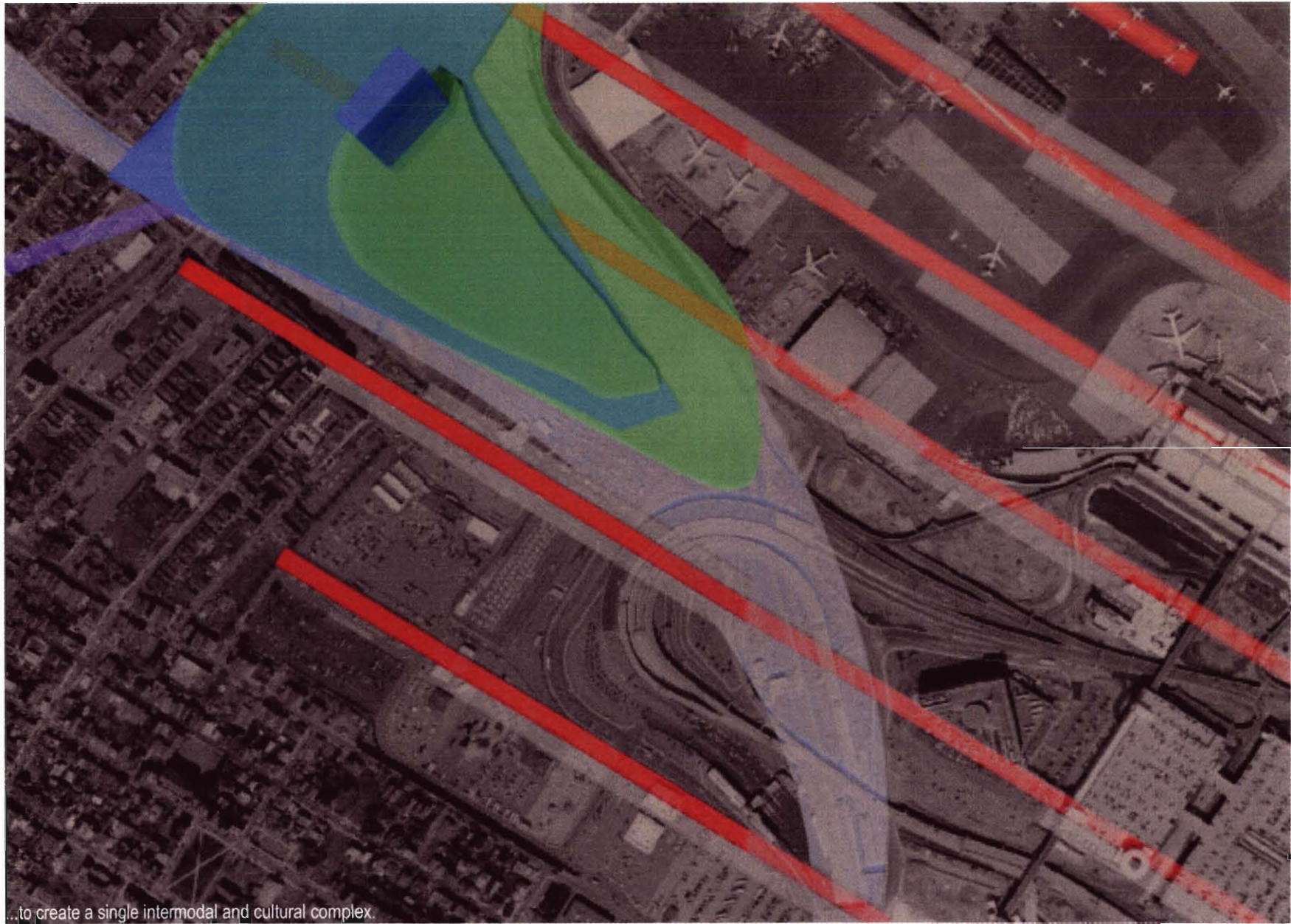
With Sir Norman Foster's first terminal at Stansted, an attempt is made to return to the transparent or "naked airport." Stansted's relatively small size and programmatic requirements allows Foster to position ticketing, departure and arrival terminals and baggage claim in parallel on the same floor under one roof. By locating all mechanical services below the main level of the airport, Foster is able to render the roof at Stansted as thin and lightweight as possible. Coupled with floor to ceiling glass and an array of skylights, Foster's airport attempts to simulate an exposure to the exterior environment that has been lost at most airports. The terminal is also notable as an inter-modal transport hub. These central program are book-ended by the British Rail terminal at the entrance to the terminal and the people mover at the opposite end, creating a space highly rational and functionally interconnection between air, rail and other modes of transport. Architectural form is de-emphasized at Stansted in exchange for spatial flexibility and clarity. Architecture serves as a machine for transport as do the aircraft which are made visually accessible and dominant through a transparent skin. Formal ingenuity is applied instead to the detailing of the building, especially in its modular structure and mechanical pod system. Modular structural steel trees together form the large square plan of the terminal, allowing for future expansion in two directions. Stansted falls short of its goals in some instances. Shopping and service programs occupying the center of the terminal, largely obstruct views to the exterior, making the terminal anything but transparent. Also, formal clarity is emphasized over efficiency of circulation as people must use a people mover to reach the satellites to enplane. Stansted's main significance lies in its attempt to return to an airport of openness and transparency, even in a world of skepticism and paranoia regarding security.

Airport as Intermodal Space

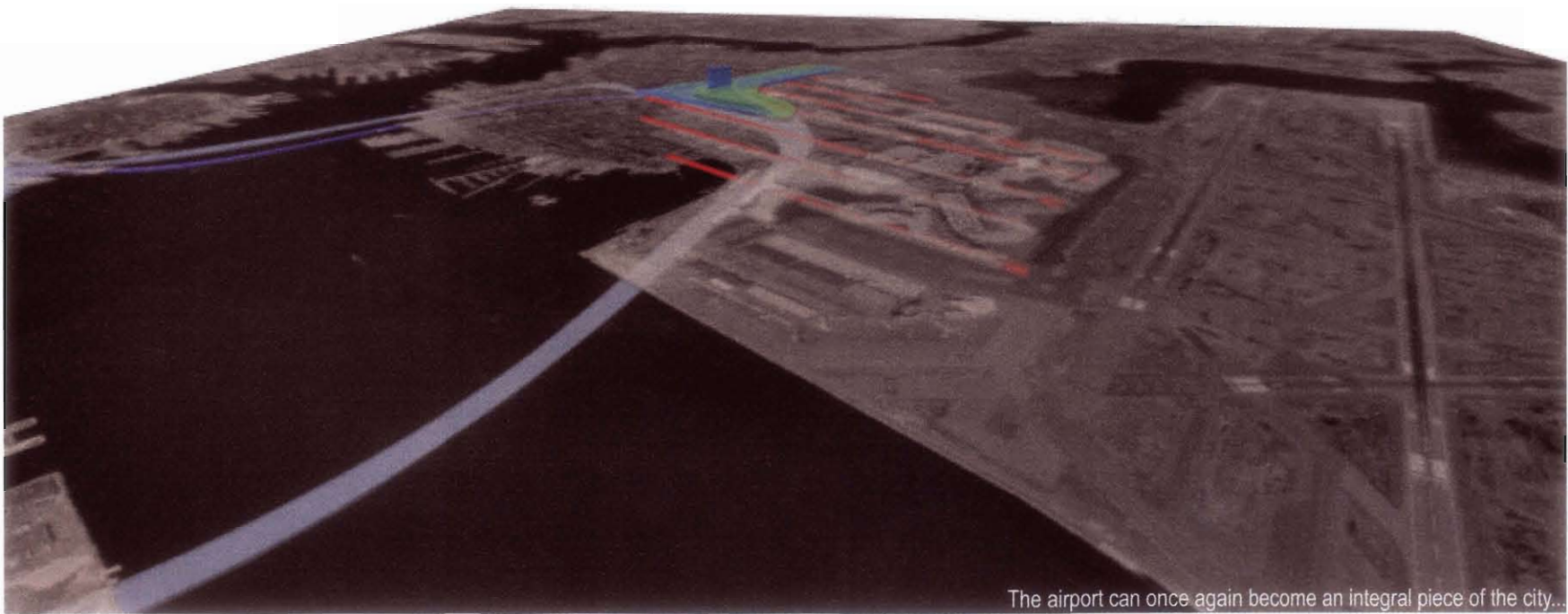
The zone surrounding the airport can be re-envisioned as the space of transportation interface between pedestrians, cars, subway trains, buses, taxis and ferries. Much of the current public space in Boston defined by spaces of intersection in transit. The airport turned intermodal terminal could provide such an opportunity. If for a moment we speculate on what form this new intermodal terminal and how it could integrate with the process of transport, we see a return to the ideas of the terminal. The integration of these mode of circulation as well as typical commercial and recreational programs found at the airport generate a massive or “BIG” building (to use Koolhaas’ term). The airport becomes an intermodal station, air transport simply one of many functions of the building. All traces of the existing airport terminal are erased, except for the runways, which the new terminal facilitates in a new configuration. The roof a doubling of landscape provides a central park for East Bostonians as well as station dwellers. Recreational program and a viewing platform are also part of the new terminal.



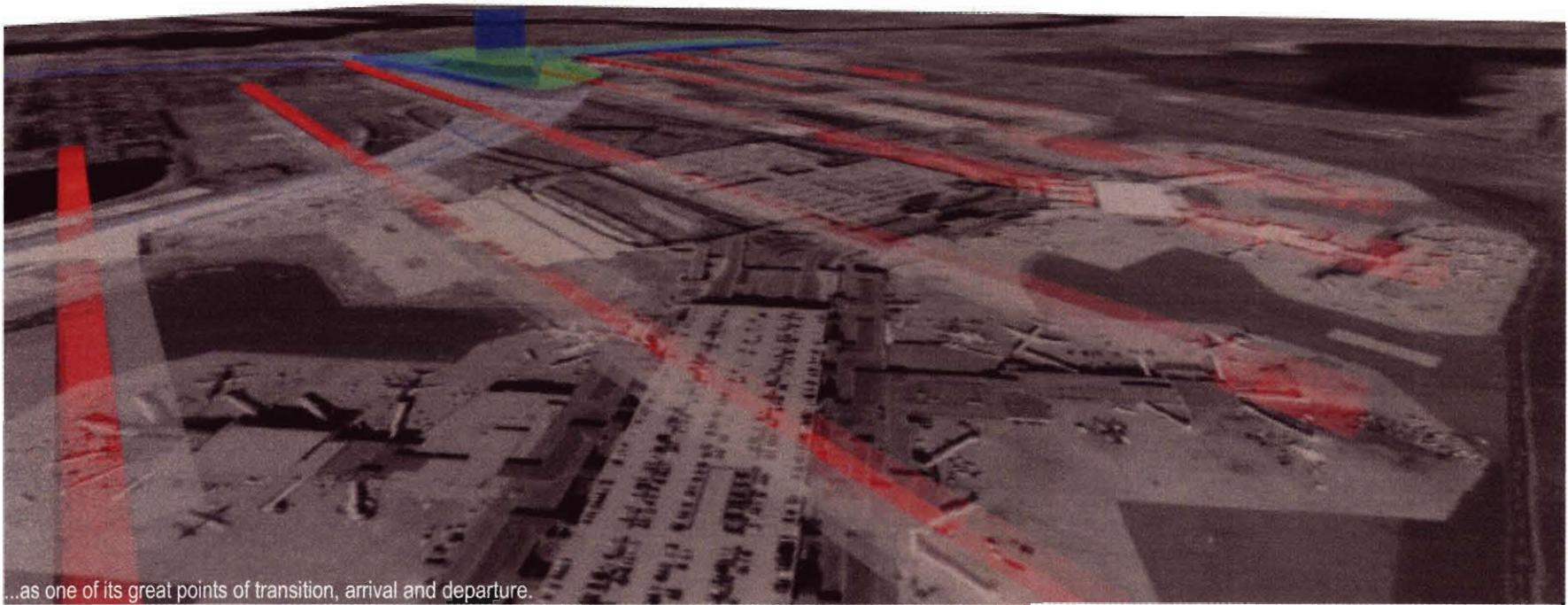
What if we completely rethink Logan Airport...



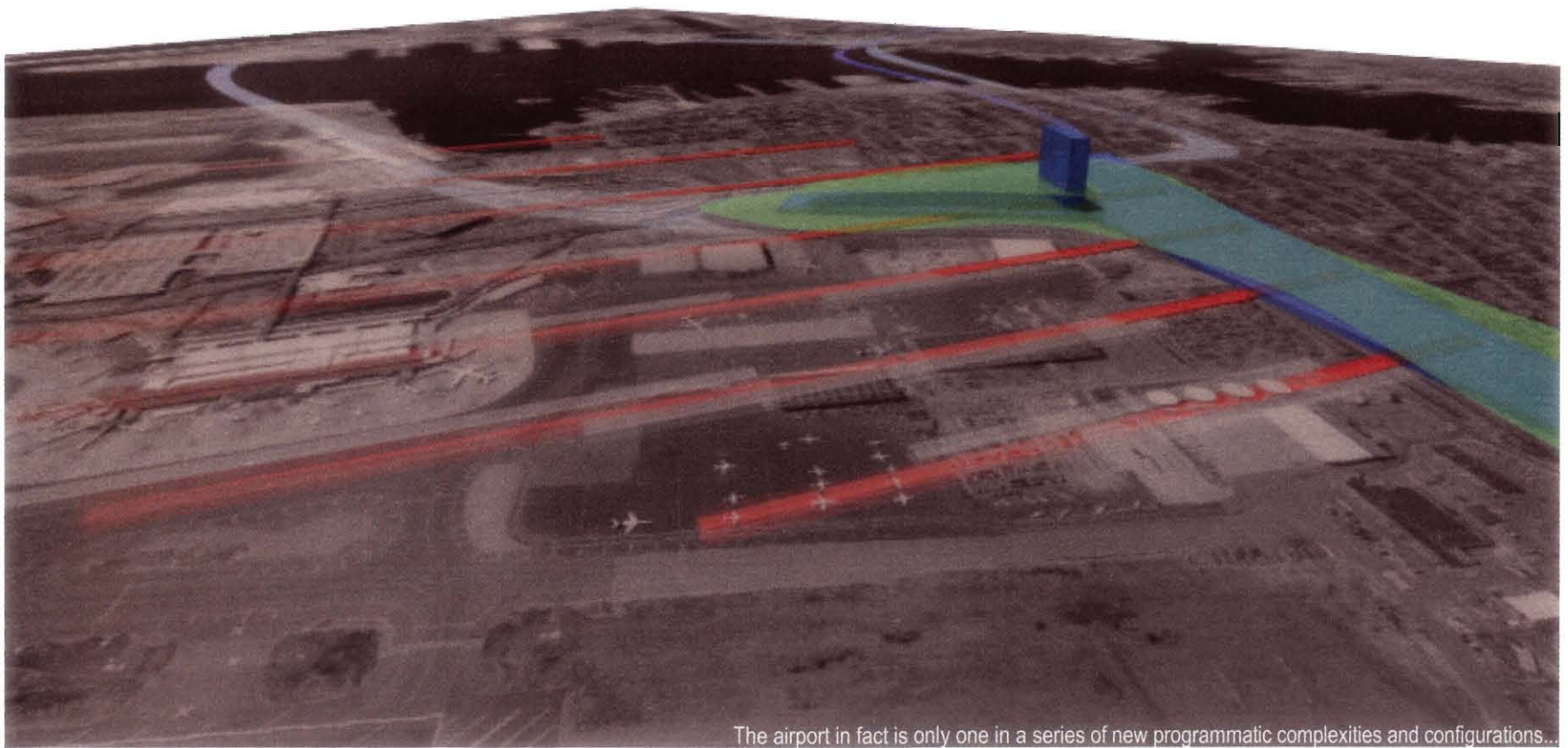
...to create a single intermodal and cultural complex.



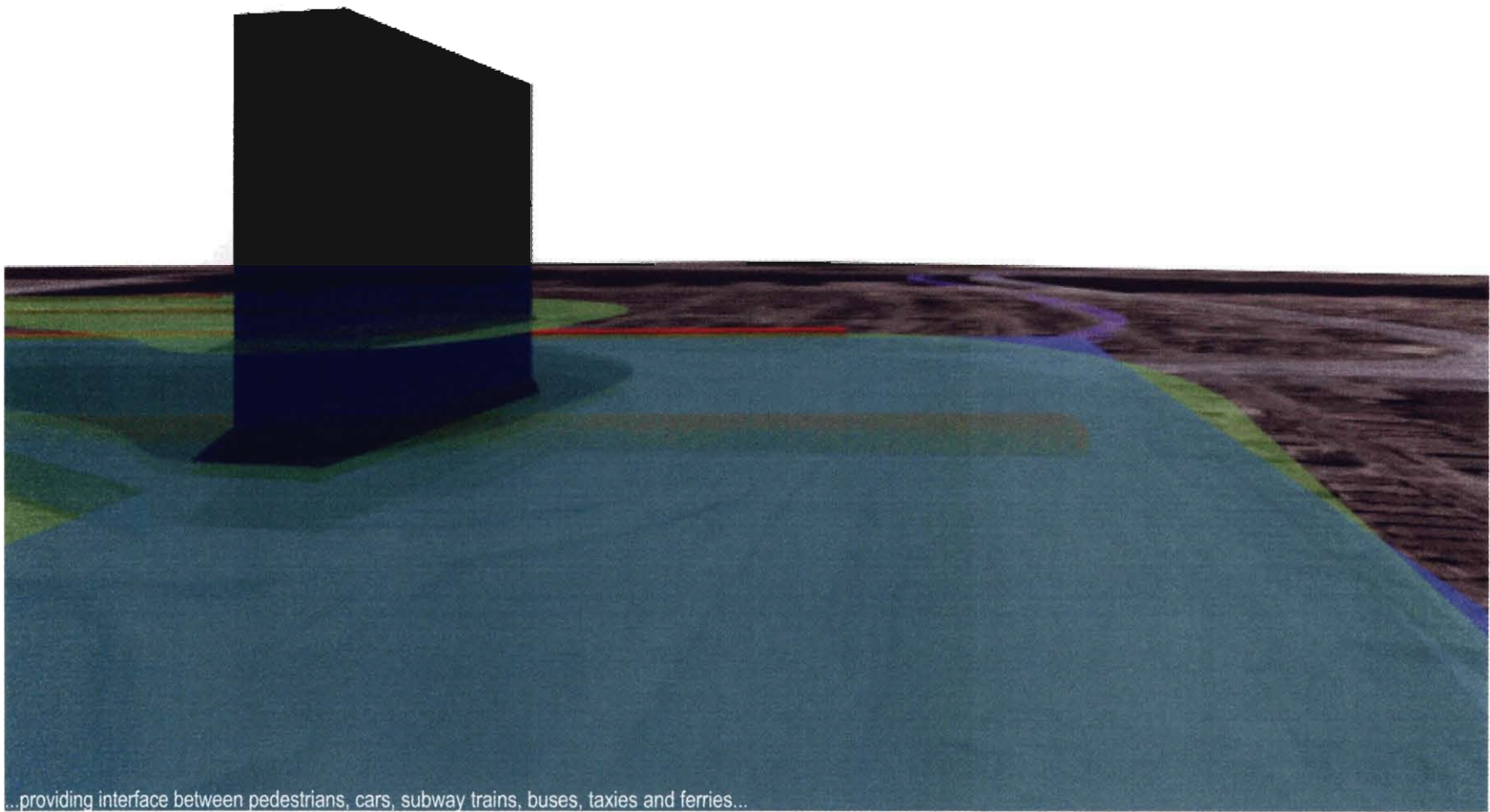
The airport can once again become an integral piece of the city...



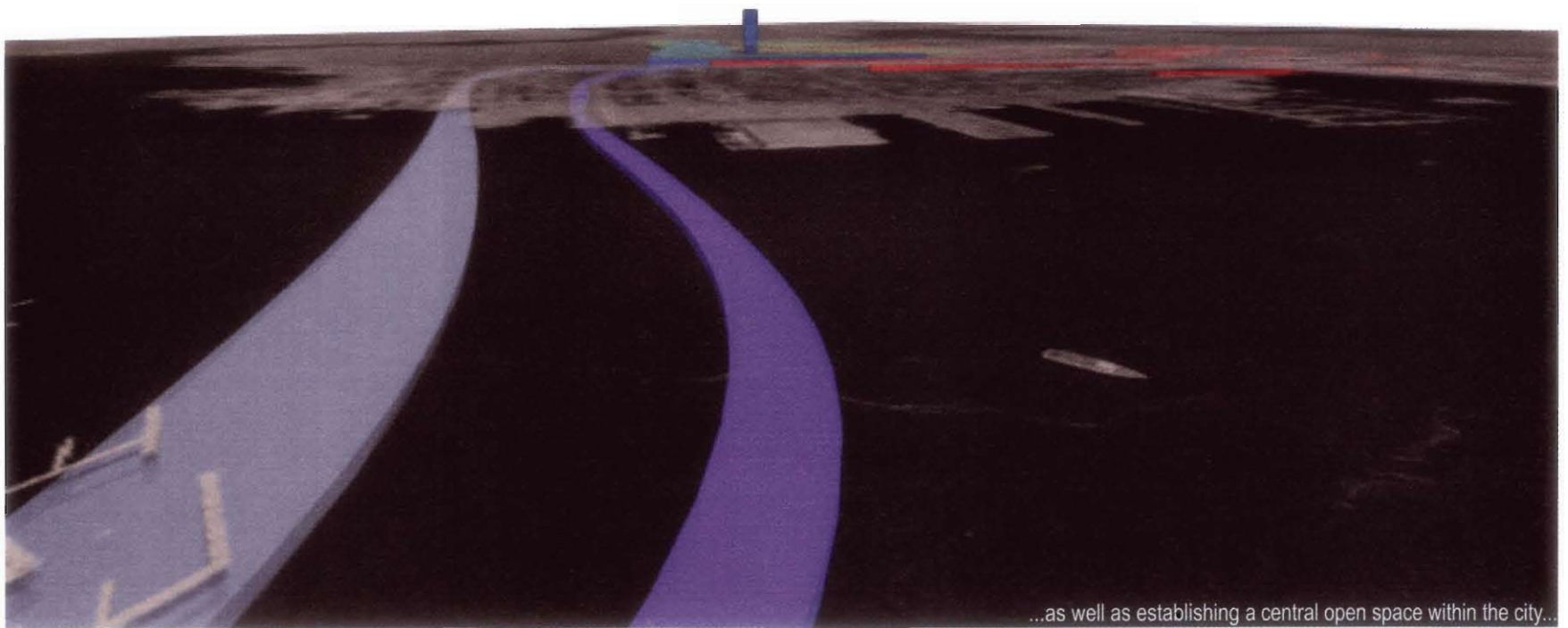
...as one of its great points of transition, arrival and departure.



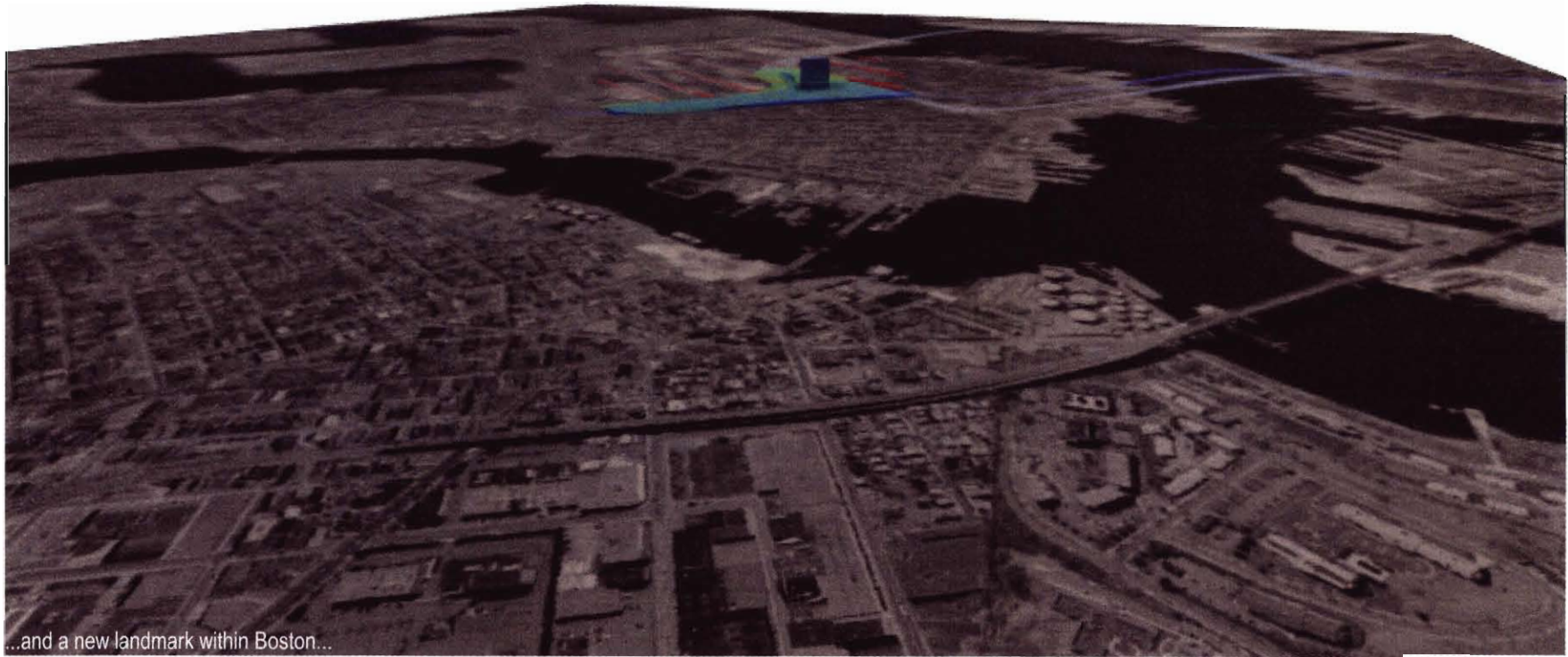
The airport in fact is only one in a series of new programmatic complexities and configurations...



...providing interface between pedestrians, cars, subway trains, buses, taxis and ferries...



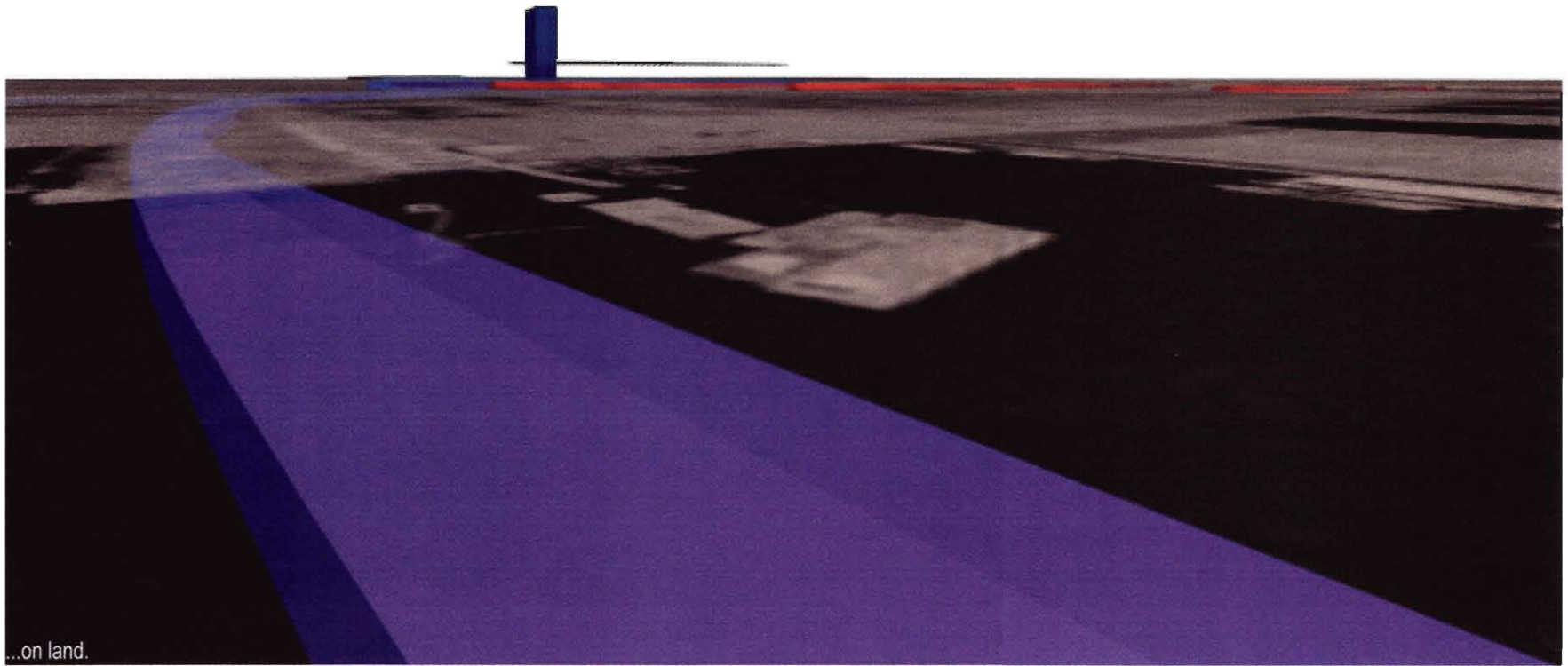
...as well as establishing a central open space within the city...



...and a new landmark within Boston...



...from the air as well as...



...on land.

Conclusion

After a century of development, it would seem that contemporary architecture is once again turning to the formless, or in Le Corbusier's words, "the naked airport." Today completely new airports are relatively scarce, the far east's thriving economy is seeing a mass of new design and building of airport architecture, most of which attempt to satisfy the complexities and heterogeneities of contemporary air travel by rendering themselves as open and transparent as possible. In its inevitable cycles of growth, technological evolution, social/political change and eventual obsolescence, looking at historical precedents strongly emphasizing both form and lack of form will lead to new solutions of a hybrid nature. This has already been alluded to in Koolhaas' theory of Bigness, stating "Beyond a certain critical mass, a building becomes a Big Building. Such a mass can no longer be controlled by a single architectural gesture, or even by any combination of architectural gestures. This impossibility triggers the autonomy of its parts, but that is not the same as fragmentation: the parts remain committed to the whole."²⁸ In conclusion to this research into architectural precedent in airport architecture, it becomes clear that there are two pre-eminent theories regarding architectural form. The first is that of formlessness and the other is that of the self-negating monument. The un-realized rotary airport for Manhattan by Norman Bel Geddes and Norman Foster's Stansted exemplify this model of the formless, they emphasize the expansion of space and the sequencing of events within a single overarching infrastructural systems. In Manhattan it is the flight deck, in Stansted it is the roof. Eero Saarinen's TWA terminal and Paul Andreu's monolithic terminal at Charles de Gaulle are exemplary of the self-negating monument, a building that by its overwhelming formal presence and scale automatically becomes a recognizable icon but also one in which the vacuity of space, instability of program and imminent systemic collapse are omni present. In the case of the airport these buildings sacrifice their longevity by becoming whole or complete. This is readily apparent in both TWA and CDG 1 where both are struggle to avoid their places in the world of sculpture, grappling to remain architecturally viable. Finally, one trend that is doubtlessly evident is that over time, terminals are becoming increasingly less public and more programmatically complex. From the very first flights where all that was needed was a flat field and some airplanes, perhaps some stands for the many spectators that came to marvel at the novel act of flight, to the contemporary airports of Asia, hermetically sealed, and remotely located off shore, on artificial islands. This thesis begins where this research leaves off in the proposal of a third typology, a hybrid of public and urban definition of the airport and its surrounding development. Boston provides an apt testing ground for proposition with both public and private, global and local significance.

End Notes

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- ² Rosler, Martha. "In the Place of the Public: Observations of a Frequent Flier." (Cambridge,1994), p.64.
- ³ Koolhaas, Rem. "What Ever Happened to Urbanism?" & "Bigness: Or the Problem of Large". S,M,L,XL. (New York, 1995). p.499.
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- ⁵ Easterling, Keller. Organization Space, Landscapes, Highways, and Houses in America. (Cambridge, 1999), p.2.
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- ⁸ Selvarajah, Eswaran. East Boston 2000 Census of Population and Housing Report #571. (Boston, 2003), introduction.
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- ¹⁰ McLaughlin, Charles C. ed. The Papers of Fredrick Law Olmsted. (Baltimore,1977), p. 514.
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- ¹² Lynch, Kevin. The Image of the City. (Cambridge, 1960), p. 3.
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- ¹⁴ Nelkin, Dorothy. Jetport: The Boston Airport Controversy. (New Brunswick, 1974), p. 52.
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- ¹⁹ Saarinen, Eero. Eero Saarinen on his own work. (New Haven, 1962), P.60.
- ²⁰ Pascoe, David. Airspaces. (London, 2001), p.31.
- ²¹ Temko, Allan. Eero Saarinen. (New York, 1962), p.45.
- ²² Lamster, Mark. The TWA Terminal. (New York, 1999), p.2.
- ²³ Bosma, Koos. Vitra Design Museum Air World. (Weil am Rhein, 2004), p.56.
- ²⁴ Pascoe, David. Airspaces. (London, 2001), p.146.
- ²⁵ Pascoe, David. Airspaces. (London, 2001), p.145.
- ²⁶ Pascoe, David. Airspaces. (London, 2001), p.148.
- ²⁷ Gordon, Alastair. Naked Airport. (New York, 2004), p.237.
- ²⁸ Koolhaas, Rem. S.M.L.XL. (New York, 1995), p.499.

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p.22: Fredrick Law Olmsted and the Boston Park System, "Figure 27: Park and parkways proposed by the Boston park commissioners in 1876." p.45.

p.26: Fredrick Law Olmsted and the Boston Park System, "Figure 1: Above, plan of the park system from the Common to Franklin Park, 1894, Figure 2: Below, the emerald necklace parks, with links to the Common, Chestnut Hill Reservoir, and Marine Park, 1887." p.5.

p.32: Courtesy of Society for the Preservation of New England Antiquities, "Wood Island Park Skating Rink (Inner Field of Running Track), 1895."

p.32: From Mary Loschi and Others vs. Massport 234 N.E. 2d901, "Wood Island Park and Proposed Runway 15-33 Extension, 1968."

P.35: Courtesy of Olmsted National Historical Site, "Wood Island Park Preliminary Plan, 1881."

p.150-154, 156-157: Horizons. p.97-104.

p.180-186: The TWA Terminal. p.2-101.

p. 206-209: p.212-213 Paul Andreu. p. 6,76,158.

p.210-211: Paul Andreu, Architect. p. 34.

p.230-238: Stansted, Norman Foster and the Architecture of Flight. p. 5,44,74,93,98,100,109.

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