

Over the Mass Pike: private life + public space

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Fig. 1 Urban Bridges proposal, Boston, MA, Crisman+Petrus Architects



Familiar territory—part of the public realm and engaged on a daily basis by a multitude of city residents, but unseen and uninhabited in a significant way. Designers rarely address the edges and leftover spaces between one thing and another, where urban and architectural scales and uses collide. This paper discusses research into ever-present, but unacknowledged spaces or *site(s) out of mind*.¹ Zones of high-speed movement, their edges (right-of-ways), and the non-existent sites above highways and railways (air rights) are a compelling condition through which to question contemporary conceptions of the public realm. How does one construct a public realm in a site that has yet to exist—specifically in conjunction with spaces of high-speed movement? Highway air rights discussions often search for all-purpose “solutions” to the “problem,” but there is nothing generic about such conditions. These (non)sites have specific histories and characteristics that must be examined and understood during the design process. The *Urban Bridges* project, our winning entry in the international *Designing for Density Competition* for Massachusetts Turnpike air rights in Boston (fig. 1),² will be used to elucidate a position on both the necessity of design research, and how one might construct a public realm within private dwellings on unseen sites.

HIGHWAY AIR RIGHTS

An urban edge or interstice, “a space that intervenes between one thing and another,”³ may result from intentional incisions or unorchestrated processes of urban change. Interstices produce both fortuitous seams and problematic discontinuities in the physical and social fabric. This paper focuses on leftover mobility spaces *within* the morphological continuity of the central city—a condition found within dense North American cities largely developed prior to extensive 1950’s highway construction. These sites present opportunities to simultaneously invigorate negatively impacted adjacent spaces, increase physical engagement through urban density, reduce rural development pressures through urban infill, and support design exploration at the intersection of architecture, landscape and urbanism. Although the twentieth century produced compelling speculative projects for layered architecture and transportation infrastructure, recent rising land values can finally support construction initiatives. In addition to economically

viable air rights above depressed or at grade arteries, the leftover spaces beneath and around elevated highways, rail lines and other immense infrastructural elements offer “found” land. Reconceptualization and inhabitation of these “compromised” sites with dense and sustainable urban infill is a potent alternative to greenfield development and sprawl. Their (un)common nature, pervasive but atypical, allows an uninhibited investigation of formal and programmatic typologies that combine public space and architectural density in innovative ways.

DESIGN RESEARCH

This design research is supported by historical research, speculative projects and studio explorations. For instance, figure 2 depicts a proposal for spaces beneath and along the Central Artery highway extension in Cambridge, Massachusetts.⁴ The Mass Pike competition, sponsored by the Boston Society of Architects and the AIA, presented an opportunity to further this work and participate in a public forum that could impact major decisions by the Boston Redevelopment Authority and the Massachusetts Turnpike Authority. The *Urban Bridges* entry is an example of how academic scholarship and design inquiry become a reciprocal means of investigation.

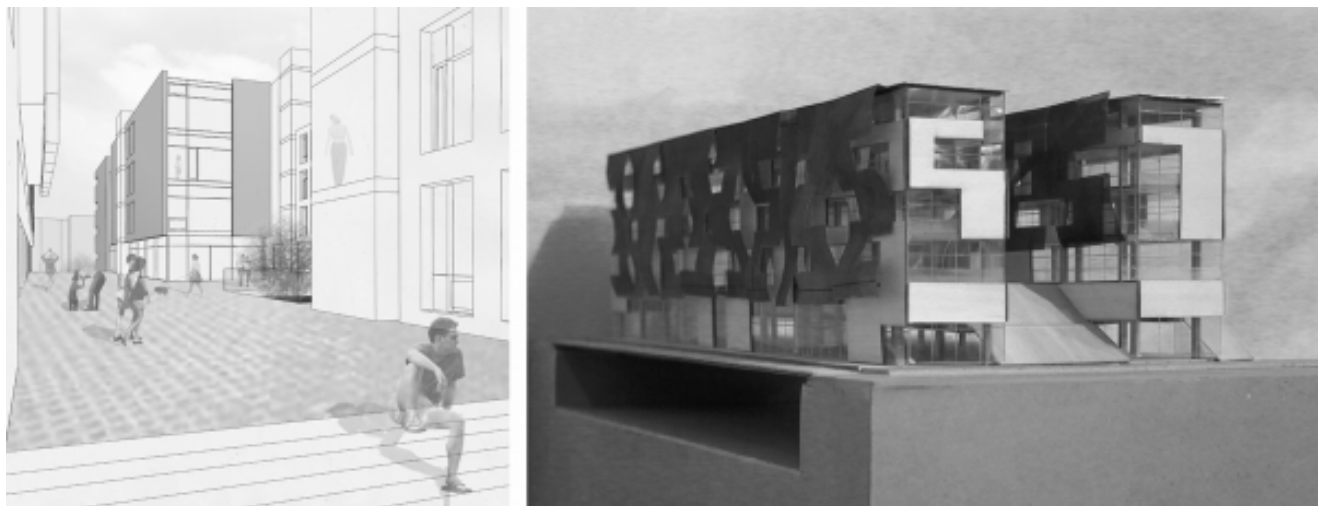
DESIGN EXCLUDED

In the United States, design has been largely excluded from spaces of movement. An engineering mentality that optimizes speed and vehicular safety rarely considers the qualitative and cultural issues of place, time and tradition. In the essay “Generica,” Sanford Kwinter and Daniela Fabricius described the entire American landscape as a product of short-term efficiencies. “What emerges more and more is a developmental ethos that does not hesitate to declare itself a kind of new mathematical sublime: this landscape, with its engineered berms, boxes, piles, glacis, and equipment parks, offers itself as the pure, one-dimensional result of numbers, algorithms, and protocols crunched. . . elsewhere.”⁵ They would argue that no attempt is made to conceive of a public realm. Highways spaces are an extreme case of this mentality, and contemporary cities bear the physical consequences of what Joan Busquets calls the “fatal dualism between infrastructure and architec-

Fig. 2 North Point proposal, Cambridge, MA, Crisman+Petrus Architects



Fig. 3 View of pedestrian street & model of two bridge buildings



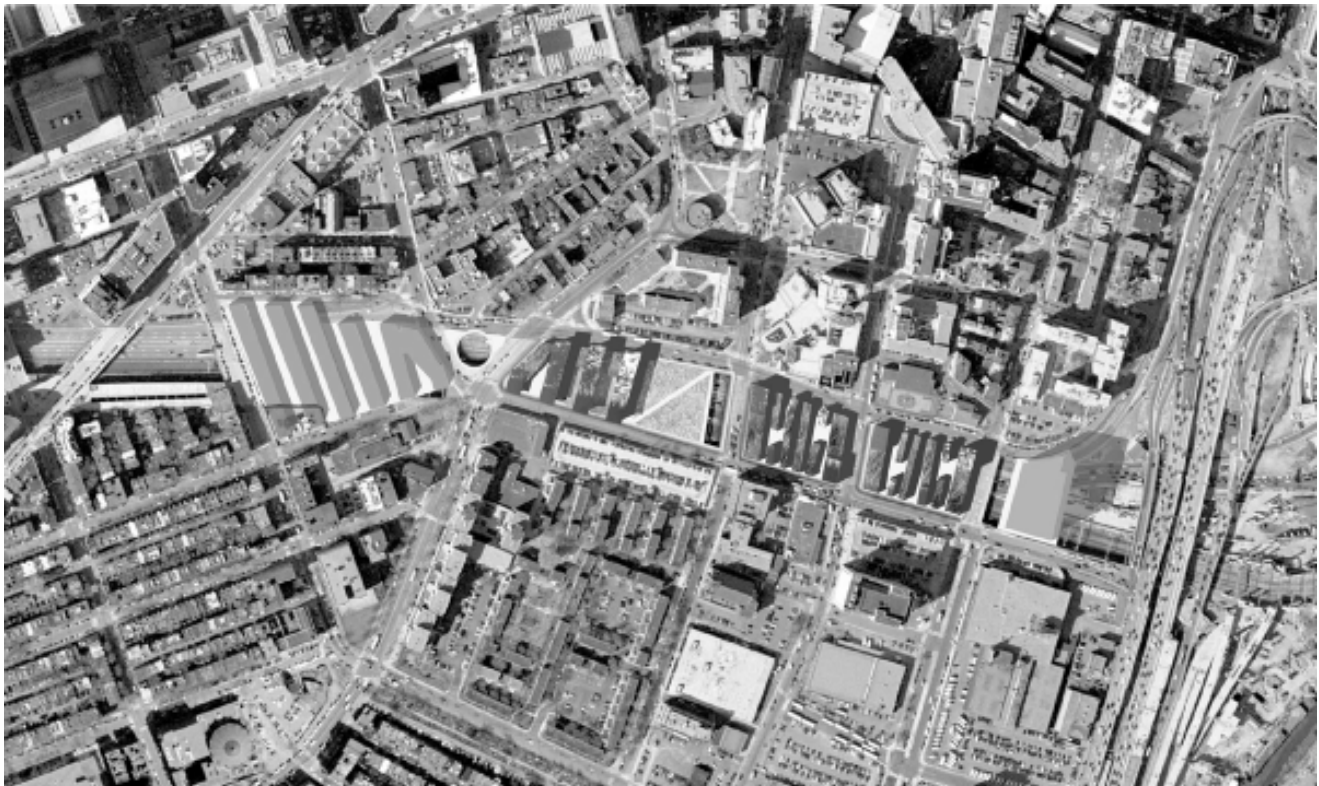
ture.”⁶ The emergence of the traffic engineering profession contributed to the increasingly independent, purely functional design of transportation systems. Complex urban issues were optimally “solved” by separate disciplinary specialists. The roles ordinarily filled by planners and traffic engineers are starting to include architects, landscape architects and artists, due to Federal highway legislation such as the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21). Possibilities exist for new urban typologies in a more complex spatial, environmental and functional layering, but getting designers involved is not easy. Open competitions provide the greatest opportunity for designers to influence both public policy and civic imagination.

DENSITY, DWELLING + THE PUBLIC REALM

Although spaces of mobility have become a recent focus of architectural investigation, most work excludes that more private element of life: dwelling—an essential component of the public realm. For instance, the 2003 International Architecture

Biennale Rotterdam publication, *Mobility: A Room with a View*, considered transportation spaces as “not only space for traffic but also public space, space to spend time in.”⁷ This approach challenged the placelessness that French anthropologist Marc Augé described as a “non-place.” Augé argued that increased mobility has led all space to be perceived as a transit zone—a mere interval in our state of continuous movement. These non-places change the way we experience the physical environment and condition our expectations.⁸ The Biennale displayed work of design teams from around the globe who analyzed the highway culture of world cities and proposed interpretations, design interventions and new roles for the design disciplines in these spaces. Teams worked from the position of the automobile, however, and largely excluded those “on land.” Asymptote’s exquisite Steel Cloud submission for the West Coast Gateway Competition⁹ is another provocative highway air rights proposal, but that project is also primarily designed to be viewed from a moving automobile. The relationship between multiple levels of the city is not exploited and the “at grade” street layer is neglected.

Fig. 4 District plan



By introducing dense mixed uses and plentiful housing into these mobility spaces, a new ground connection can be activated. Urban housing demand and costly air rights construction require a high density to make the development numbers work and more importantly, to generate vital urban life. The crucial linkage between housing typology and urban morphology—the street network and its specific sectional configuration—establishes the formal strategy for the Urban Bridges project (figs. 3 & 4).

URBAN BRIDGES

Site Palimpsest

Boston is a geographical palimpsest with a complex history of land creation and layered infrastructure. An analysis of historic maps reveals that this urban fissure, now occupied by the Mass Pike and Amtrak, has existed since at least the eighteenth century when a fortification crossed the original Neck beneath parcels 21 and 22 (figs. 5). Present day Marginal Street runs along that original mar-

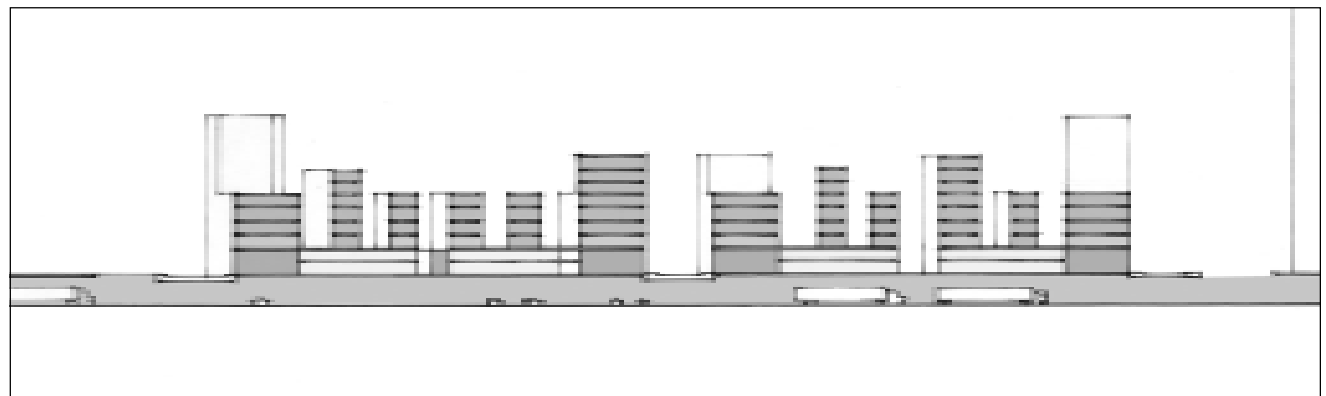
gin, but few city residents are aware of this history. Nineteenth century railway lines and the twentieth century turnpike followed the same alignment and generated the three distinct districts found today—Bay Village, Chinatown and the South End. Design proposals commissioned by the Massachusetts Turnpike Authority¹⁰

and the Boston Redevelopment Authority both erase an urban edge in existence since Boston's settlement. We have refused to create artificial terra firma conditions, and have instead designed a conceptual and structural bridge of urban fabric between Chinatown and the South End. Twelve bridge buildings spanning the Mass Pike cut are linked by parallel streets (secondary spans between bridge trusses) and the turnpike is strategically revealed in two locations (figs. 4 & 6). In this way, a sectional strategy simultaneously connects the surface condition to enhance pedestrian and local vehicular movement while acknowledging the complex high speed vehicular and rail infrastructure below. Related to Carol Burns' description of "con-

Fig. 5 Comparison of Boston maps: 1775, 1826, 1954, 1995



Fig. 6 E-W site section through Mass Pike & twelve bridge buildings



structing the site,"¹¹ our strategy reads the apparently non-existent site by considering the existing layers, surrounding texture and unseen history embedded in the site.

MAKING HISTORY VISIBLE

Strategic North-South voids at the location of the original Neck shorelines physically manifest that earlier condition and open visual connections between the two realms of turnpike and city "ground." Natural light and geographic orientation is provided for Turnpike travelers, while the multi-layered site history is revealed to those at all levels and speeds of movement. By making this history visible, focus is redirected from the contemporary "problem" of the infrastructural cut to an understanding of its' lineage as an ever changing marginal space. This insistent urban seam is an excellent of example of what Aldo Rossi has described as "the persistence of urban form."¹² This edge began as a colonial era fortification, before successively becoming a railway causeway across the Back Bay, a rail line on "solid ground" when the Bay was filled in, and fi-

nally a concrete channel containing both the Mass Pike and Amtrak lines. For comparison, figure five shows four maps presented at the same scale and overlaid with the current street pattern. This historical site analysis supports a belief in the necessity for urban edges. Theorists ranging from Kevin Lynch to Linda Pollak have written about the importance of edges. In the essay "Partially Open Space, Boundary Events, and Transitional Objects," Pollak discusses the negative status of boundary in the modern city and argues for a reconsideration of a boundary's critical power. "Boundaries can function as thresholds as well as barriers, to support and enable difference in social space...Because boundaries are where things meet, they have the potential, when approached and represented from different sides, to function as spaces of debate and ambiguity, where it is possible both to call identities into question and to reveal their interdependence, whether these are identities of subjects or of spaces."¹³ The turnpike cut is conceived as a thick edge—a spatially complex and inhabited threshold that bridges and still allows the cut to

Fig. 7 N-S section through typical bridge building



remain in a transformed state. This strategy accepts that new architecture in this turnpike band cannot be instantly assimilated into adjacent districts, and nor it should. It will remain—"another thing" until it is slowly altered by new built form and human memory.

PUBLIC REALM + URBAN STRUCTURE + ARCHITECTURAL TYPOLOGY

This thick edge results from a formal and spatial design strategy that integrally conceives of the public realm, urban structure and architectural typology. A series of thin bridge buildings parallel to Washington Street are modeled on the traditional block scale and rowhouse typology of adjacent Bay Village, Chinatown and the South End. The bridges link these neighborhoods, while emphasizing and recalling movement through the Neck on Washington Street. Two city blocks flanking Washington Street are each subdivided into six mixed-use blocks by one new local street at grade and four pedestrian streets above two internal parking levels (figs. 7 & 8). These new streets and courts,

edged by retail and small-scale commercial uses with residential above, will create active public spaces integral to the city structure.¹⁴ Unlike the commissioned schemes that designed streets scaled to vehicular movement and a singular

"Public Square," the Urban Bridges project established a taxonomy of street sections linked to diverse public and private activities. Rejecting the equation "green space = public space," the streets themselves are the public space of the city.

STREET = PUBLIC SPACE

The *Urban Bridges* project argues that the street intersection, and hence the street, is the true exemplar of the contemporary urban condition. A product of visions resulting from cultural, industrial, political or electronic revolutions, the city street has reflected and abetted these changes. Once perceived as an integral component of the urban body, the street has been recently criticized as a problematic network that simultaneously connects and undermines public life. The "public space"

Fig. 8 Housing plan



described as lost by these physical transformations, however, is rarely questioned or sought out in alternative form. Some critics insist that although the street has lost its public significance with the declining importance of physical presence and place, unprecedented contemporary modes of publicness have emerged instead.¹⁵ While recent electronic forms of exchange have certainly expanded the range of interactive possibilities, direct bodily interaction is unavoidable until we cease to physically move about the city. This paper posits a reading of the street, and particularly the street intersection as the space in which publicness is forced into action by virtue of the various modes of mobilization (motorized vehicles, bicycles, pedestrians, skateboarders, etc.) that are compelled to coexist and assert their rights, or literally *intersect* there. Public space—the space where human beings speak to each other, construct society, and engage in debate in which no one can seek the support of an external judge¹⁶—comes into being from the absence of a singular power. At this site of intersection the democracy of publicness is played out endlessly as multiple publics encounter, wait for, or challenge one another—a space of *action*.¹⁷ The project's carefully configured and intimately scaled series of streets form a rich and varied public realm in which publicness may unfold (figs. 9 & 12).

DENSE + LIVABLE HOUSING

The narrow, serial block structure perpendicular to the turnpike cut is inextricably linked to the housing typology itself. Each block was designed as a structural truss spanning the 200' gap (fig. 10 & 11), thereby avoiding the construction of a uniformly heavy concrete deck and its' *tabula rasa* surface. According to the Boston Redevelopment Authority report, *A Civic Vision for Turnpike Air Rights in Boston*, the cost of building a deck over the Mass Pike "consistently increases with the height of buildings to be supported...In 1999 dollars, these ranges translated into deck costs as low as \$175 to \$225/sf for buildings of five or fewer stories and...as high as \$400 to \$600+/sf for 35-story buildings."¹⁸ Given the direct relationship between deck cost and building height, quality of life considerations, and the intimate scale of surrounding neighborhoods, the mixed use, low and mid-rise buildings balance density and livability. Unlike most highrise buildings, the proposed typology gives residents greater contact with the

"ground" and street life, contains diverse uses and live/work opportunities, reduces the number of units that share vertical circulation, and provides each dwelling with light and ventilation from at least two directions. Buildings are aligned along the North-South axis so that all dwelling units receive daily direct sunlight. Green roofs provide a recreational "backyard" for residents, and photovoltaic panels on the upper roofs take advantage of solar income. Ranging from 20' to 50' in width and 6 to 12 stories in height, the blocks provide a range of unit types of varying area, configuration and cost. The lower two floors contain retail, office and community uses with two levels of concealed mid-block parking (fig. 7). This programmatic and spatial layering will establish a vibrant density of people living, working and playing, while balancing communal and private life.

CONCLUSION

This research direction began a few years ago with the desire to generate a design primer as an educational device for mayors, planning officials, transportation engineers, architects, developers and citizens. By generating provocative design evidence and translatable strategies, it was intended that the published results could be a direct impetus for change in the interstitial spaces of transportation infrastructure. Such a comprehensive and simple primer no longer seems valuable, even for the seemingly similar condition of highway air rights. The combined design research and social science-based research model initially employed ultimately conflicts with the conviction that architecture and cities are inherently site specific. In the end there is nothing generic about these sites. Some were sliced through a dense and continuous urban fabric, such as the Cross Bronx Expressway, and other cuts were always there as discovered in the Mass Pike research, but whatever the origins the city has developed and changed in response. Each location has a specific and significant history that generates unique characteristics and suggests particular design possibilities. Primary ideas explored in the *Urban Bridges* project will be useful to consider in the next air rights investigation, but only as ideas—not strategies.

NOTES

¹ *Site out of Mind* is the title of a forthcoming book and March 2004 symposium at the University of Virginia organized around this topic.

² The Boston Society of Architects and the American Institute of Architects sponsored the Designing for Density Competition. The Boston site was 5.9 acres of air rights above the Massachusetts Turnpike between Chinatown and the South End. More information on the competition may be found on the BSA website at <http://www.architects.org>

³ Interstice is derived from the Latin word *interstitium*: "to stand still or stop in the middle of

something." *Webster's Third International Dictionary*, unabridged edition.

⁴ For the North Point project and other speculative design work, see Phoebe Crisman, "Interstices: the Architectural Appropriation of Transportation Infrastructure in the City Center," *Proceedings of the 88th ACSA Annual Meeting* (ACSA, 2000): 74-80.

⁵ Sanford Kwinter and Daniela Fabricus. "Generica," *Mutations* (Barcelona: Actar, 2000): 525.

Fig. 9 View of pedestrian street with shading screen

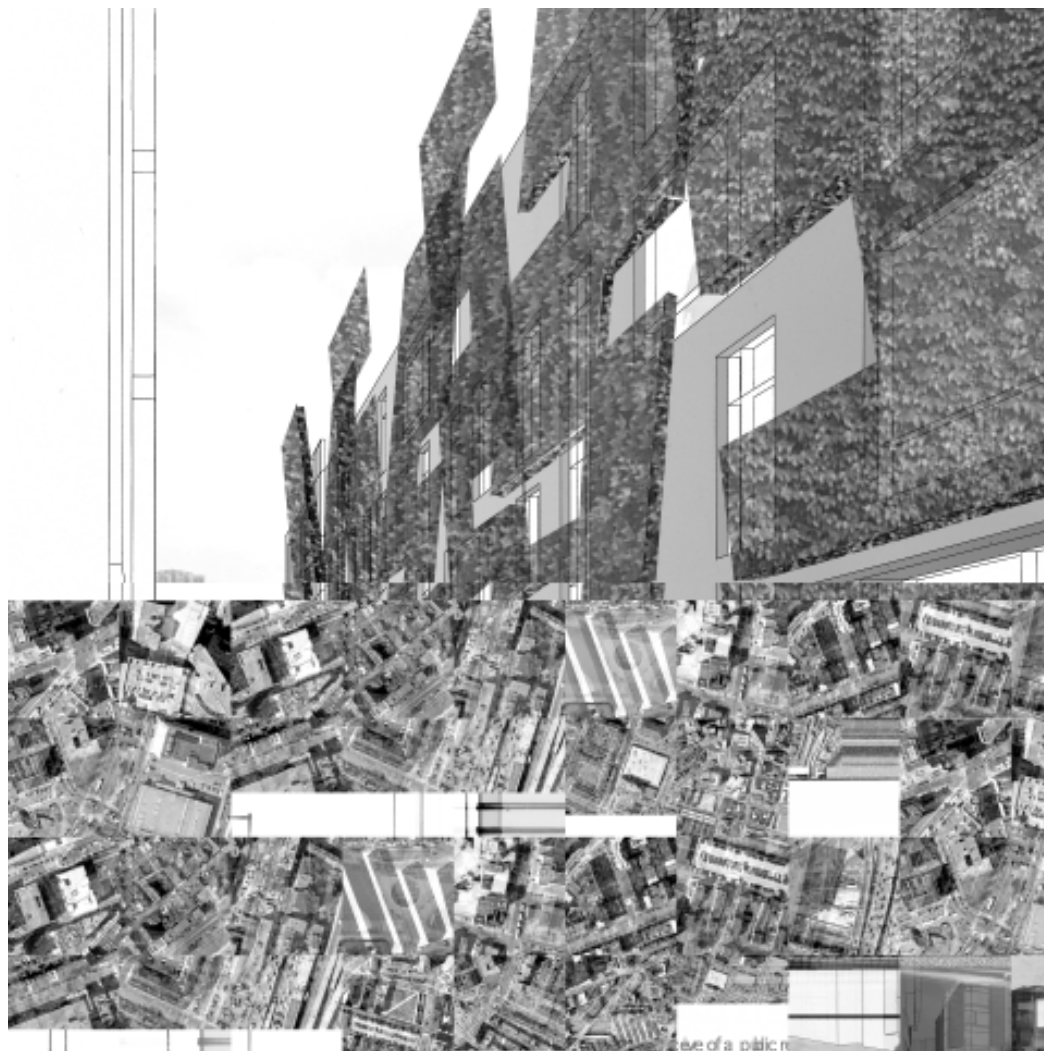


Fig. 10 *Vierendeel trusses over the Mass Pike*



Fig. 11 Exploded axonometric diagram

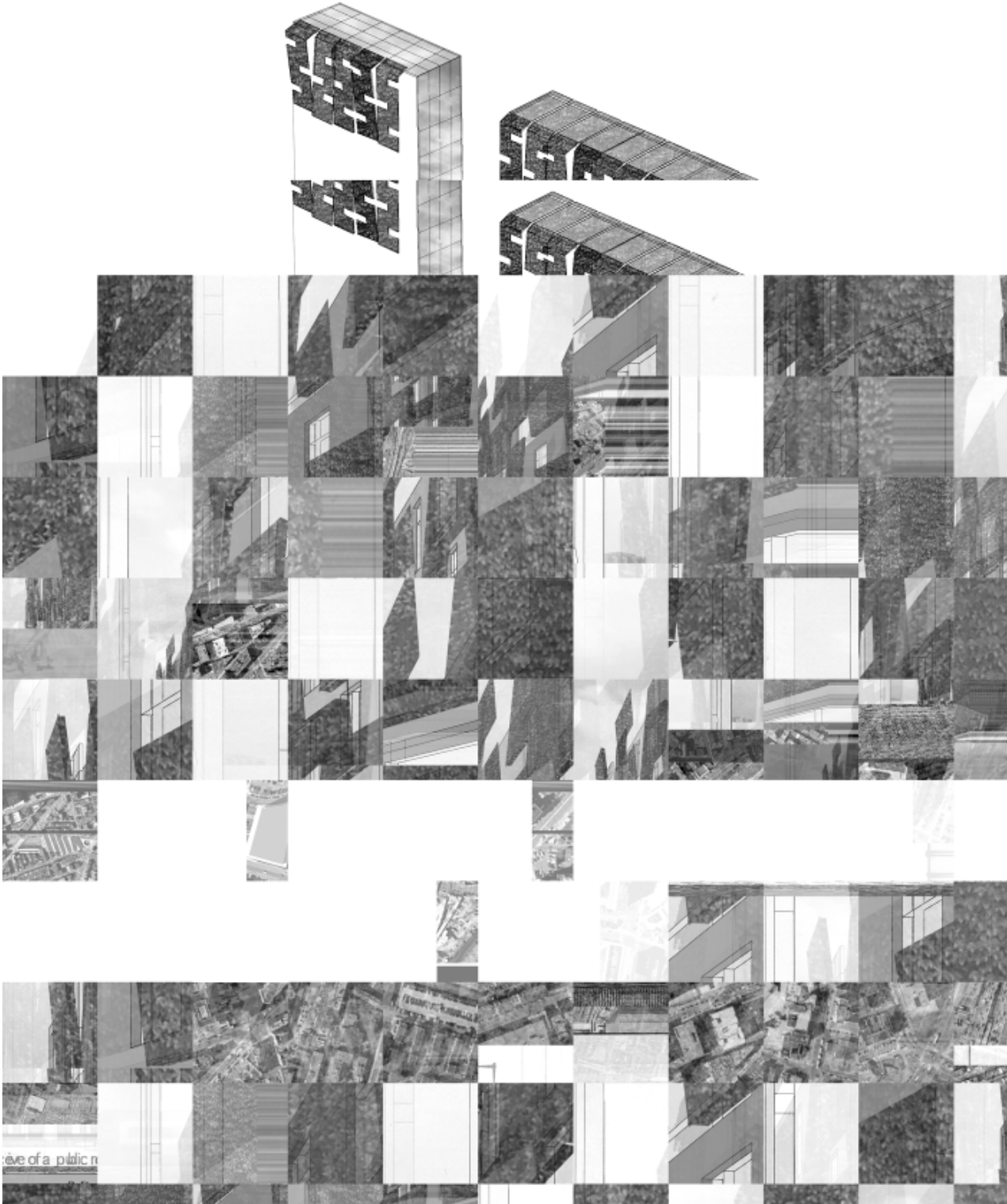
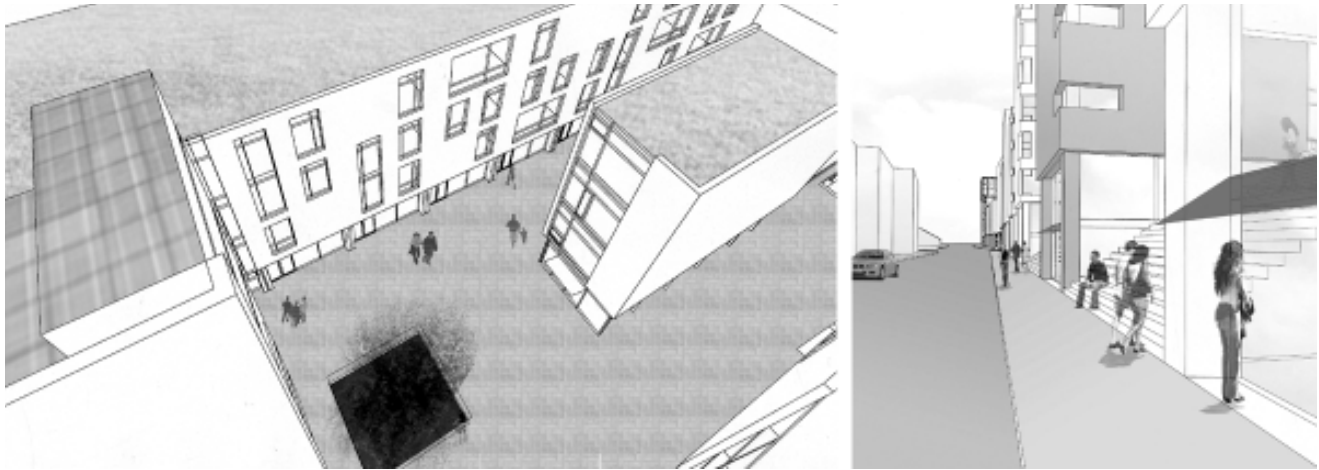


Fig. 12 Pedestrian court and view along Marginal Street



⁶ Joan Busquets, "New Urban Phenomena and a New Type of Urbanistic Project," *Present and Future: Architecture in Cities* (Barcelona: UIA, 1996): 286.

⁷ Francine Houben and Luisa Maria Calbrese (eds.) *Mobility: A Room with a View* (Rotterdam: Nai Publishers, 2003): 12.8

Marc Auge. *Non-places. Introduction to an Anthropology of Supermodernity* (London: Verso, 1995).

⁹ For Asymptote's Steel Cloud proposal, see *Werk, Bauen + Wohnen*. v.77/44 (July/August 1990): 18 – 21.

¹⁰ The design was generated by the Architecture + Engineering firm of Parsons Brinkerhoff.

¹¹ Carol Burns. "On Site: Architectural Preoccupations," in Andrea Kahn (ed.), *Drawing/Building/Text: Essays in Architectural Theory* (New York: Princeton Architectural Press, 1991): 147 – 167.

¹² Aldo Rossi. *The Architecture of the City* (Cambridge: MIT Press, 1982).

¹³ Linda Pollak. "Partially open spaces, boundary events, and transitional objects. *Appendx: culture, theory, praxis* 4 (1999): 77- 78.

¹⁴ While living within Amsterdam's central ring, I was intrigued by the dimensionally narrow, but spatially ample street sections and vibrant street life—largely due to the population density that its' compact urban structure created.

¹⁵ A range of "the end of public space as we know it due to changes in technology" positions have been articulated. See William Mitchell, *e-topia: "urban life, Jim-but not as we know it"* (Cambridge: MIT Press, 1999) and M. Christine Boyer, *Cybercities: Visual Perception in the Age of Electronic Communication* (New York: Princeton Architectural Press, 1996).

¹⁶ Rosalyn Deutsche. "Art and Public Space: Questions of

Democracy," *Social Text* 33 (1992): 51.

¹⁷ Hannah Arendt. *The Human Condition* (Chicago: University of Chicago Press, 1958).

¹⁸ Boston Redevelopment Authority. *A Civic Vision for Turnpike Air Rights in Boston* (Boston: BRA, 2000): 29.

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