ENHANCING PEDESTRIAN ACCESS AND NEIGHBORHOOD INTEGRITY IN BOSTON'S NORTH END:

A Mixed Use Approach Utilizing the Existing Highway Structure

by

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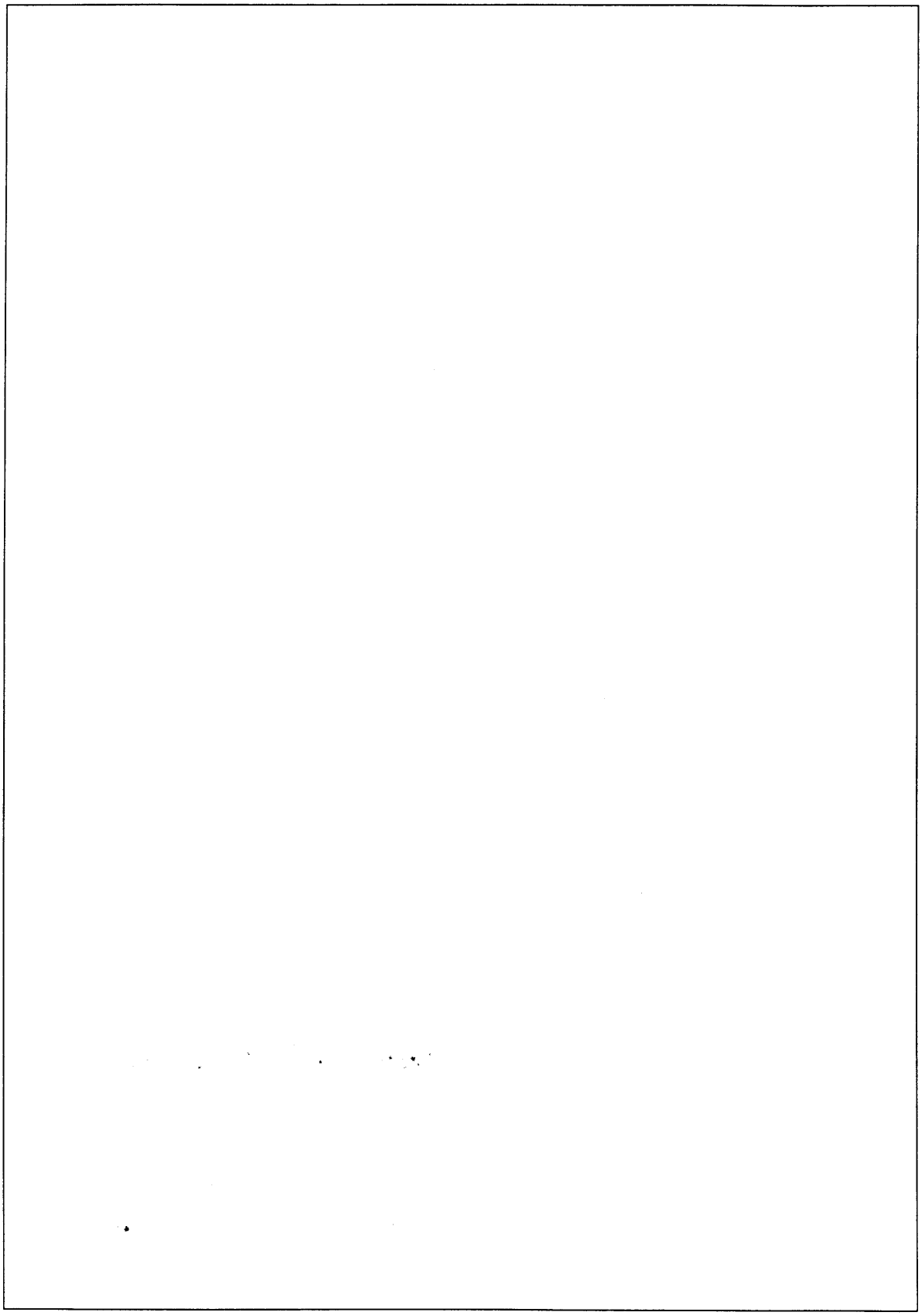


Enhancing Pedestrian Access and Neighborhood Integrity in Boston's North End:
A Mixed Use Approach Utilizing the Existing Highway Structure

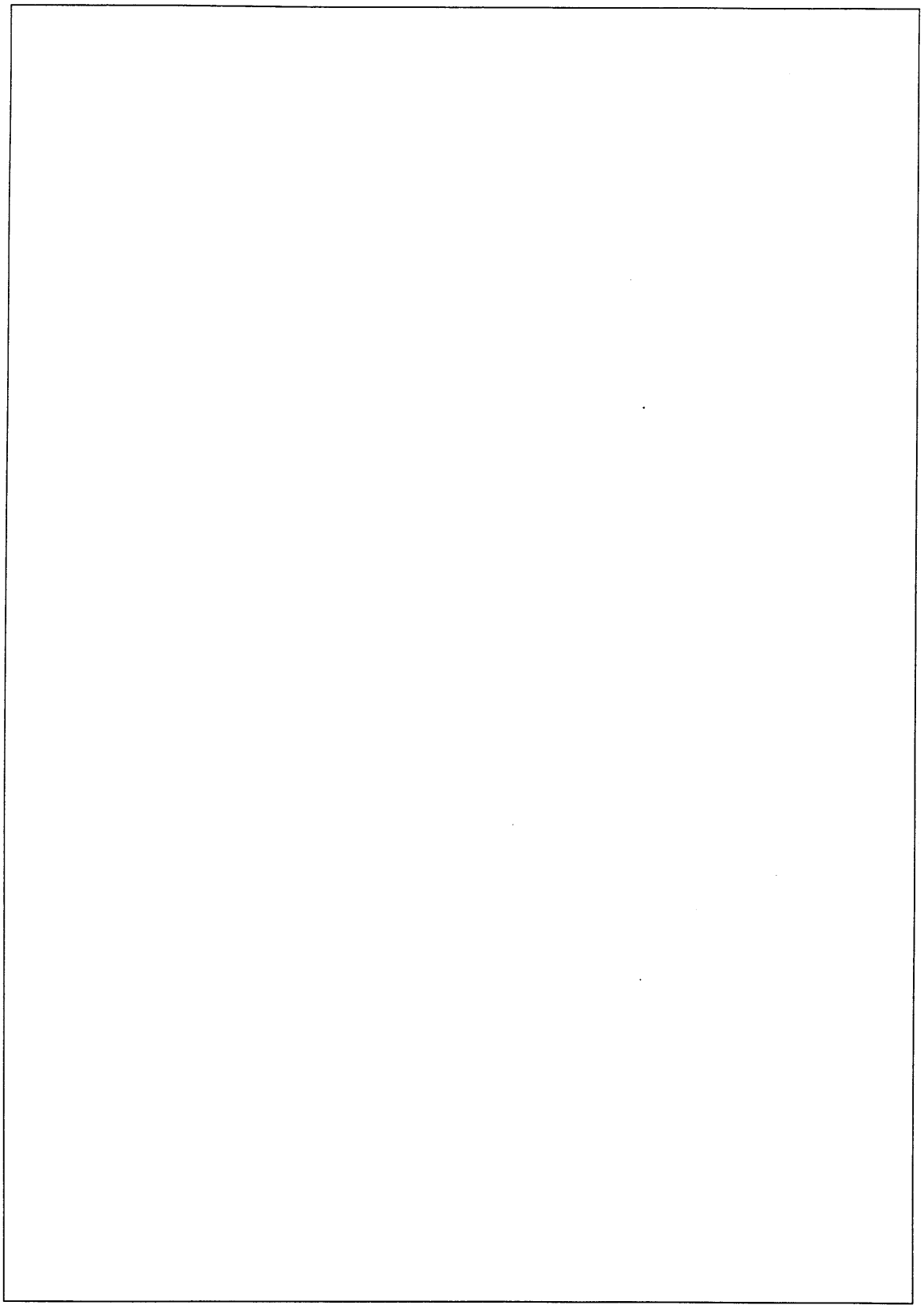
by
Shuh-Hwa Sih

Submitted to the Department of Architecture on May 6, 1994
In partial fulfillment of the requirements for the Degree of Master of Architecture

Abstract

I set out to explore for this thesis the development of the Central Artery Project and the future planning of downtown Boston. After investigating the history of the artery, visions for Boston's redevelopment and different stages of the construction plans from the transportation authority, I have spent some time discussing the project with several of its planners and designers. As a result, I found that many of the decisions which made for its development had been made for political and financial reasons. Design ideas generated by the community which did not comply with the engineering and traffic constraints were suppressed by the authority and ignored by the official publications. Although many of them were published and given awards by artists' groups.

Because of the political aspects of this project, community organizations such as the Broad Public Participation Group were largely neglected. Only those public voices which have been selected to bolster the views of the Boston Redevelopment officials were heard. In my opinion, by accepting the engineering and traffic constraints on the development of the surface of the depressed artery, designers overlooked the original goal which had been to create a pedestrian environment for the community.

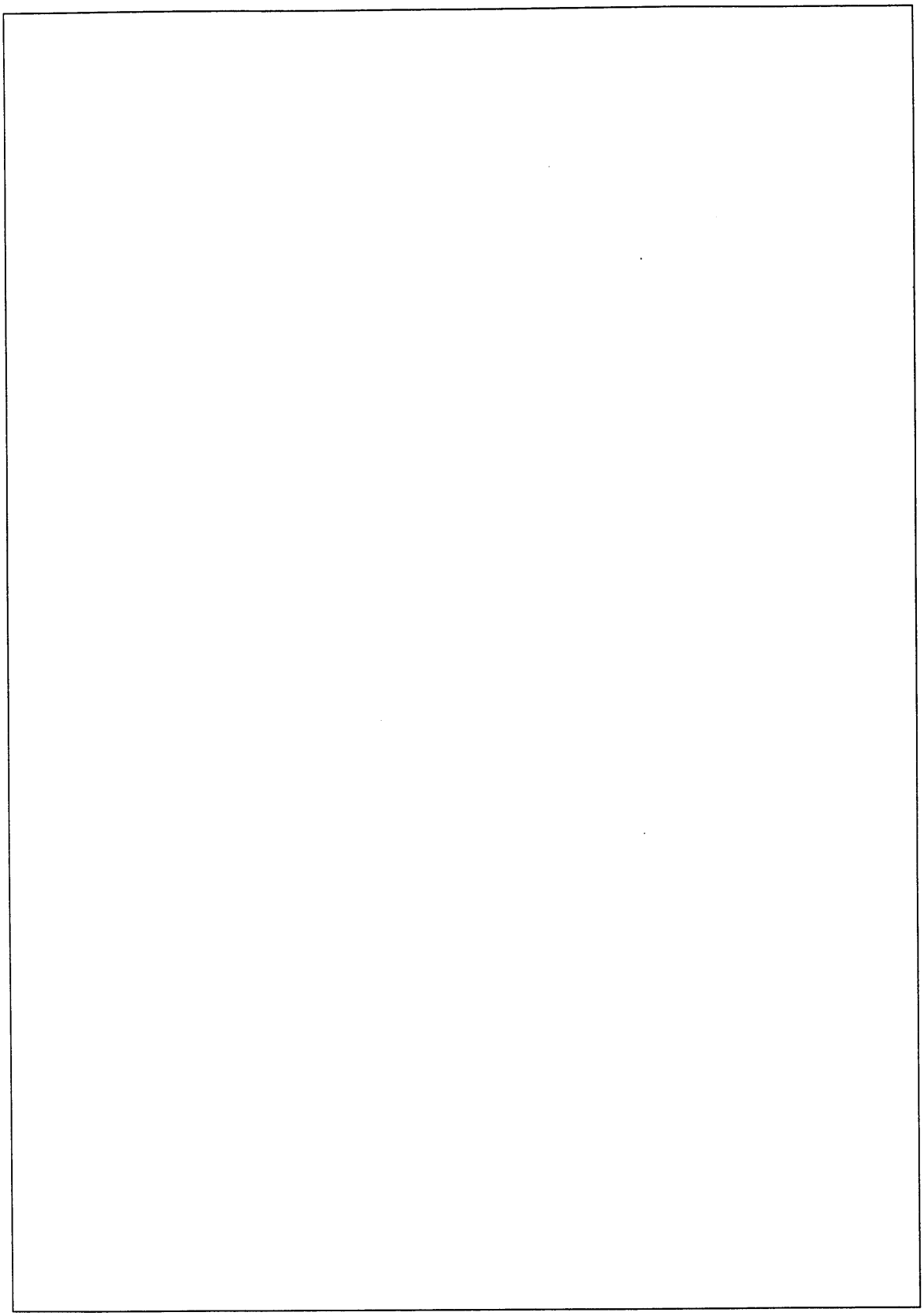


Abstract

As a result, I focused my attention on creating an environment for the pedestrian. I would accomplish this by transforming parts of the existing artery into a new pedestrian experience rather than by demolishing it completely. The use of this kind of solution may trigger many of us as architects to look for inventive ways to build.

Thesis Supervisor: Rosemary Grimshaw
Title: Assistant Professor of Architecture

Figure 0.1: Italians Street from "Street for People" by Bernard Rudofsky.



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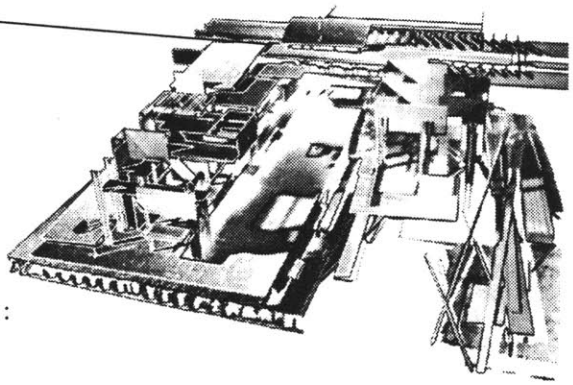

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Ron for your equipment and expertise in computer technology.

Dan, James and Taylor for lunches, laughs and encouragement..

My beloved parents:

Mom and Dad for their continuous of love, patient and support.

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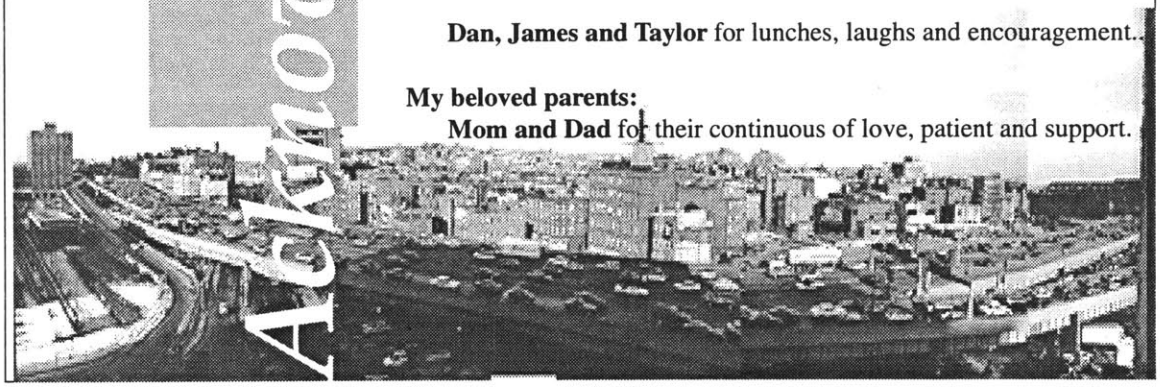

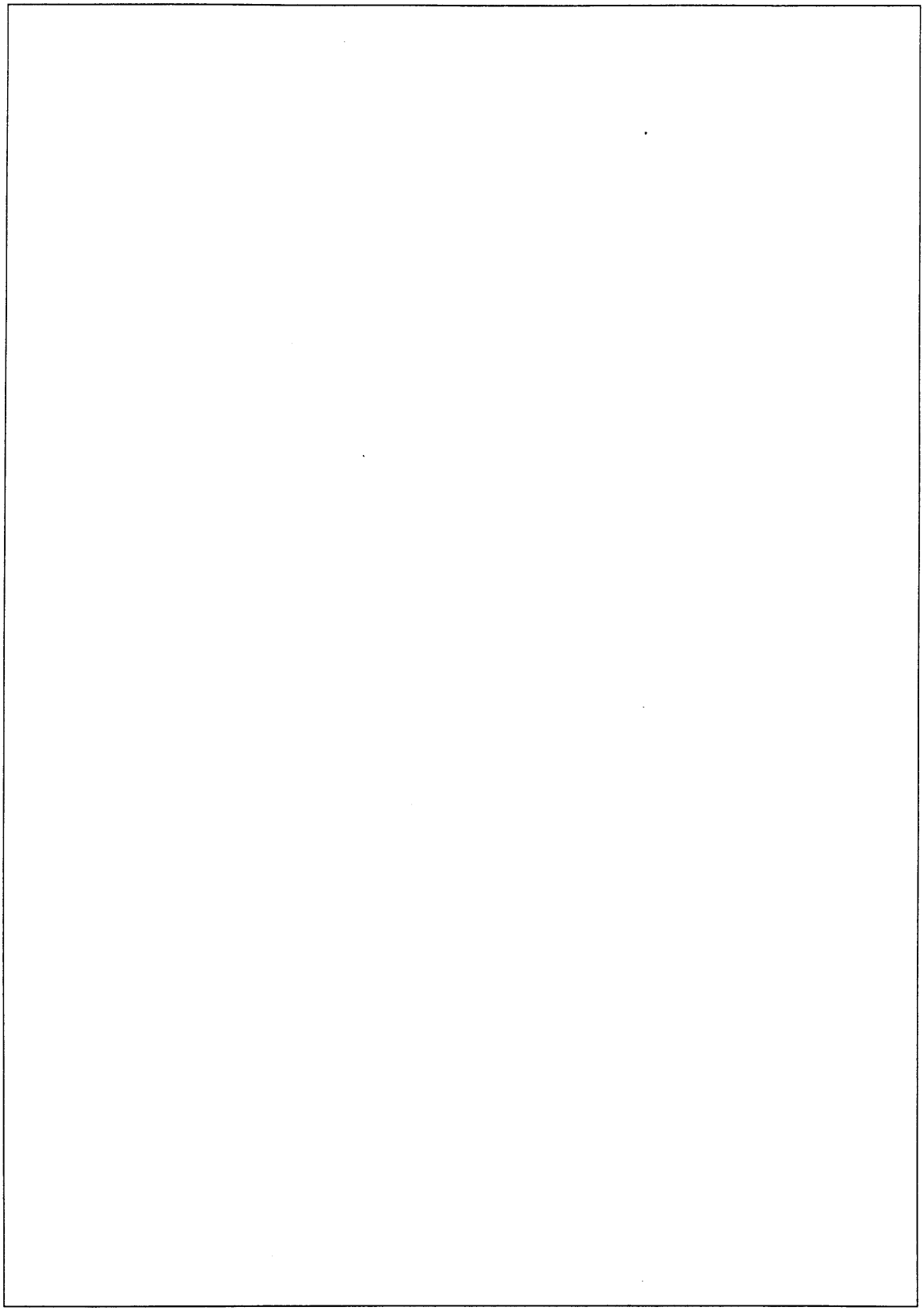

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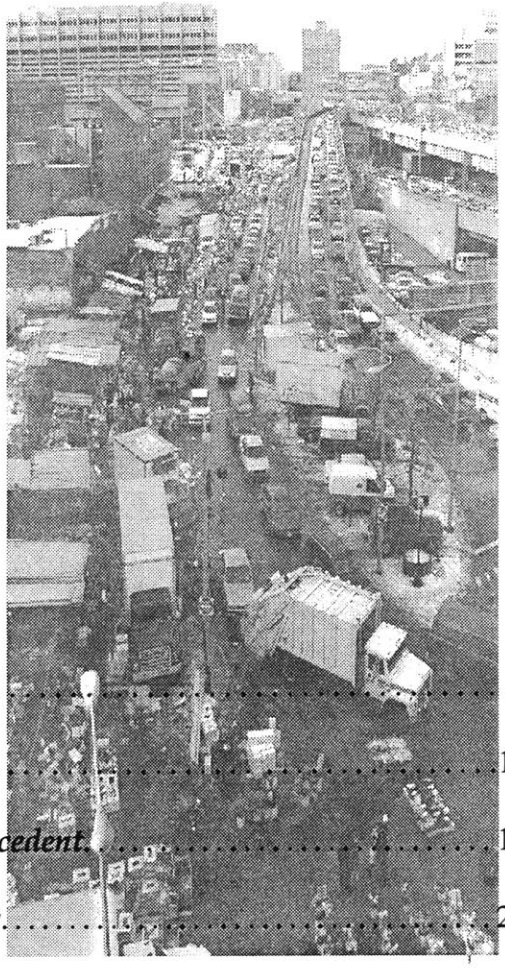
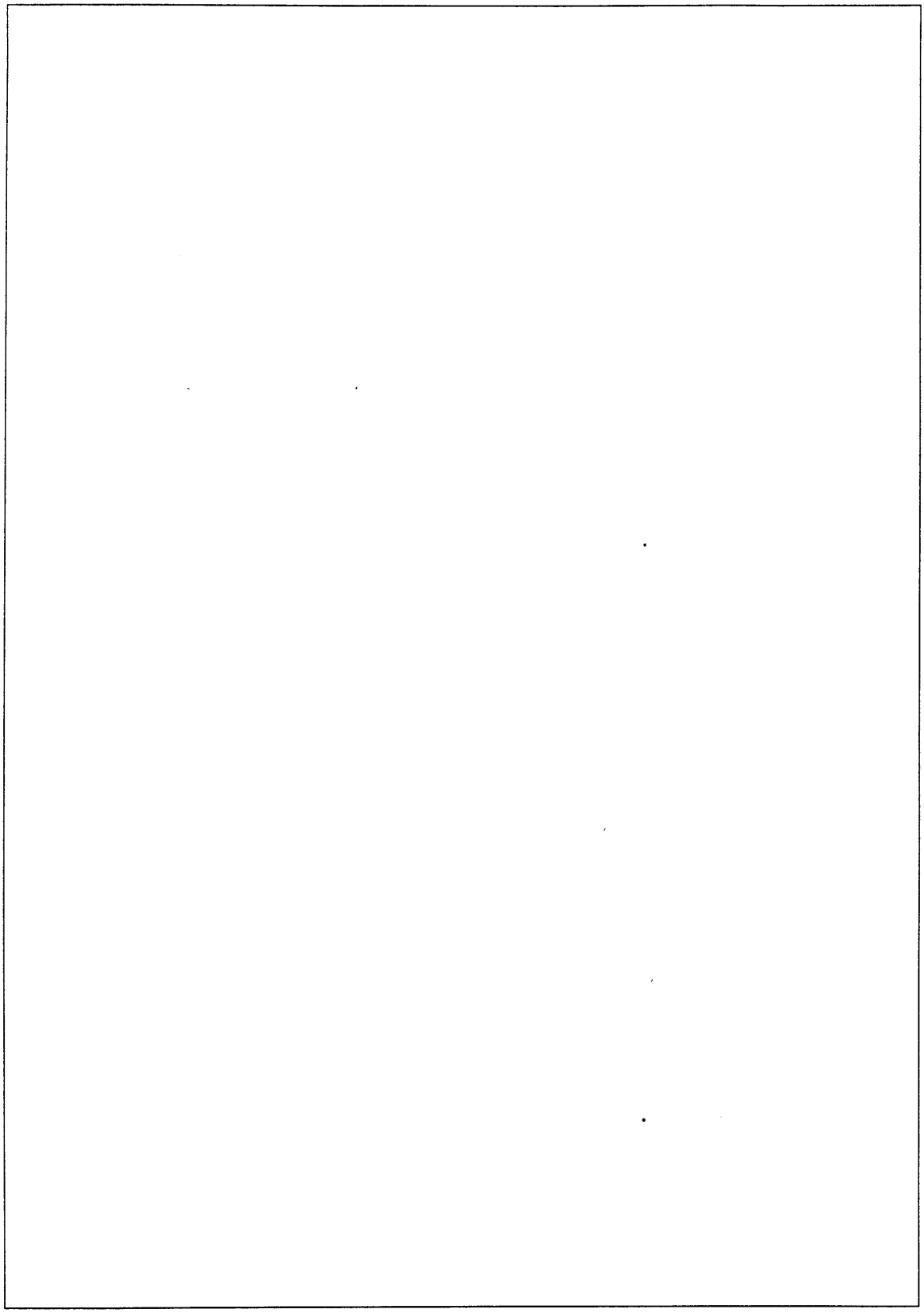


Haymarket



Introduction

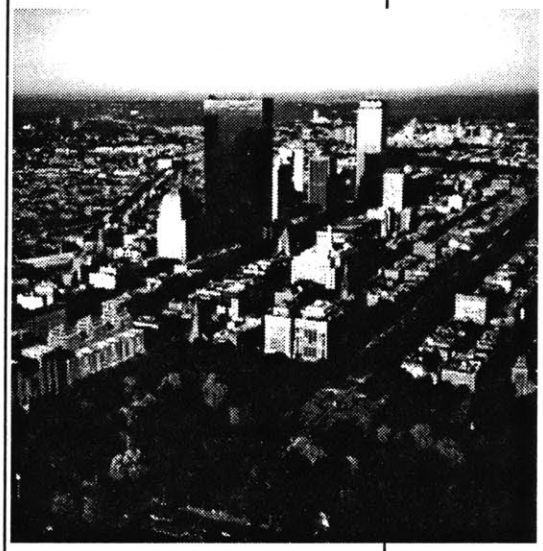


Fig 1.1 Boston Back Bay. [photo from Process Architecture 97, p. 47]

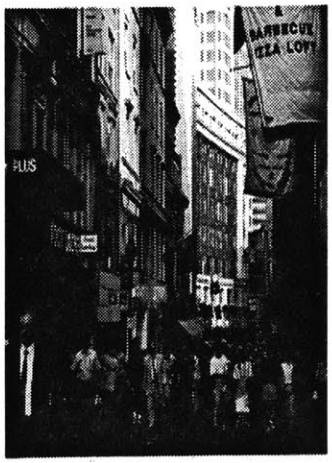


Fig 1.2 Boston Winter Street. [photo from Process Architecture 97, p. 104]

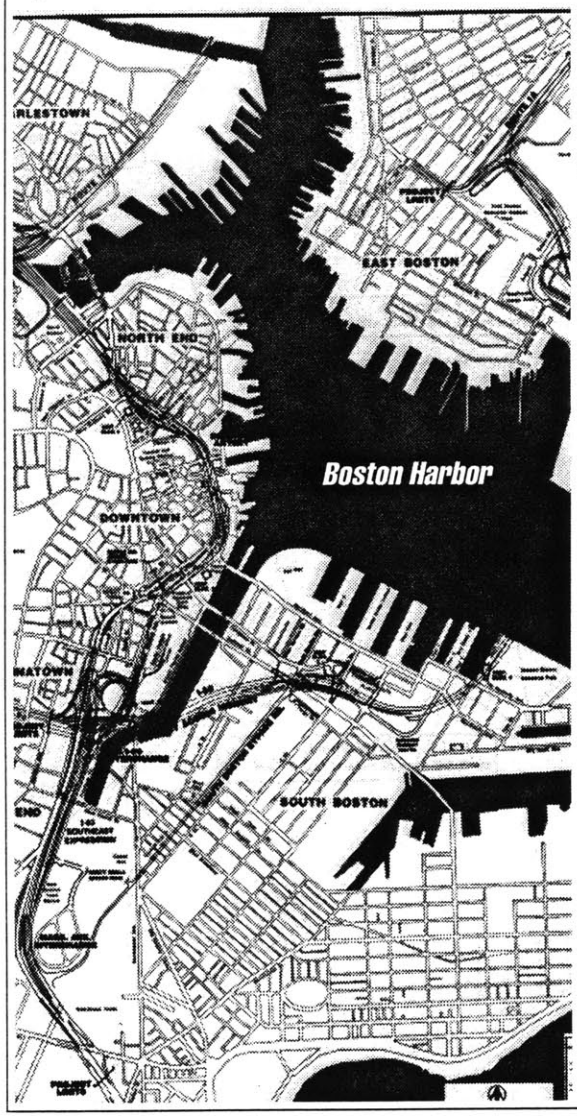
Pedestrian experience in Boston:

Part of Boston's image Can be found on a small scale in its textures and surfaces. Boston is a stone city, often a red brick masonry one; it is solid and close knit in its buildings. [Figure 1.1] It retains this rich city texture which has been built over time. What makes Boston so impressive is that the presence of past tradition is part of its modern life today.[1] The amenities and charm built into the environment are on a human scale in terms of height, and the city is further humanized by small scale details. These can be seen in the iron fencing around the Public Garden and the ornamented row houses and pocket parks downtown. [2]

Walking on foot and the usage of public transit are the best ways to move around the city. This is an essential ingredient of Boston's humanity. Despite the nation's half century of building for the car and not for the occupant, of creating freeways for automobiles, not streets for people, Boston remains a pedestrian place. [Figure 1.2] "A walk through the heart of the downtown Boston, not a drive, touches the pedestrian differently from any other city." said by Professor

Figure 1.3: Existing Artery Under Construction, 1954.

Figure 1.4: Central Artery/ Third Harbor Tunnel Project Plan.



Kanda of MIT.[3]

Beginning in the 1930's, there were several innovative projects were proposed which revamped Boston's infrastructure, especially its transportation system. The Central Artery [Figure 1.3], which was later became known as the "green monster", was the most drastic change to Boston's cityscape. This elevated expressway called for six lanes with a capacity of 190,000 vehicles a day.[4] It was laid out along the sea shore of the Boston harbor. Originally the elevated artery was built as part of the Federal Interstate Highway System; it is a major link to the two important North and South train stations the Boston area.[5]

On January 2, 1991, the $ 5 billion Central Artery/Third Harbor Tunnel Project (CA/T) was approved by the Massachusetts Secretary of Environmental Affairs. [Figure 1.4] This 7.5 mile highway project will provide needed in-

Figure 1.5: BRA's Scheme for Park System.

frastructure and environmental improvements to the city.[6] If successfully implemented, the CA/T will likely be a landmark project for other cities to refer to or to follow. Residents who remember the destructive impacts from the original central artery construction are concerned that post construction traffic increases will negatively affect their neighborhoods. [Figure 1.3]

In the near future, the Central Artery will be demolished, the highway will be depressed and the remaining space will be turned into a green garden. [Figure 1.5] The project will be a milestone in the urban history of Boston because it currently reflects a change in values from centralized planning to a public participation process. In addition, the project presents an opportunity to develop the surface land created by its depression in special ways, given the relationship of the present highway to water, residential neighborhoods, and public centers. The highway, running parallel to the water, currently separates much of Downtown Boston from its waterfront. At the same time it also preserves the residential character of the North End which might otherwise have become an extension of the Government/commercial area adjacent to the artery.

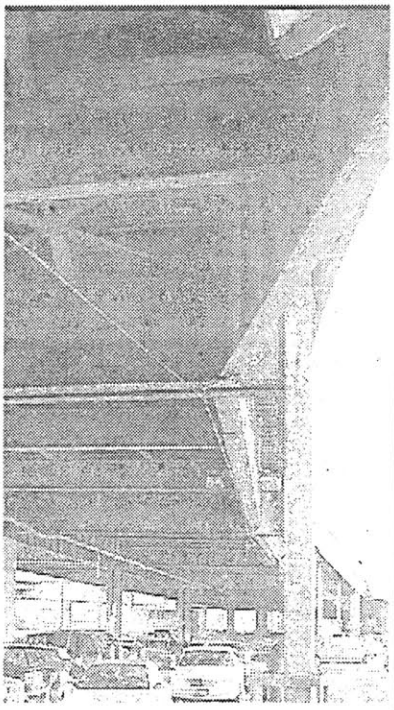


Figure 1.6: Existing Elevated Artery Structure.

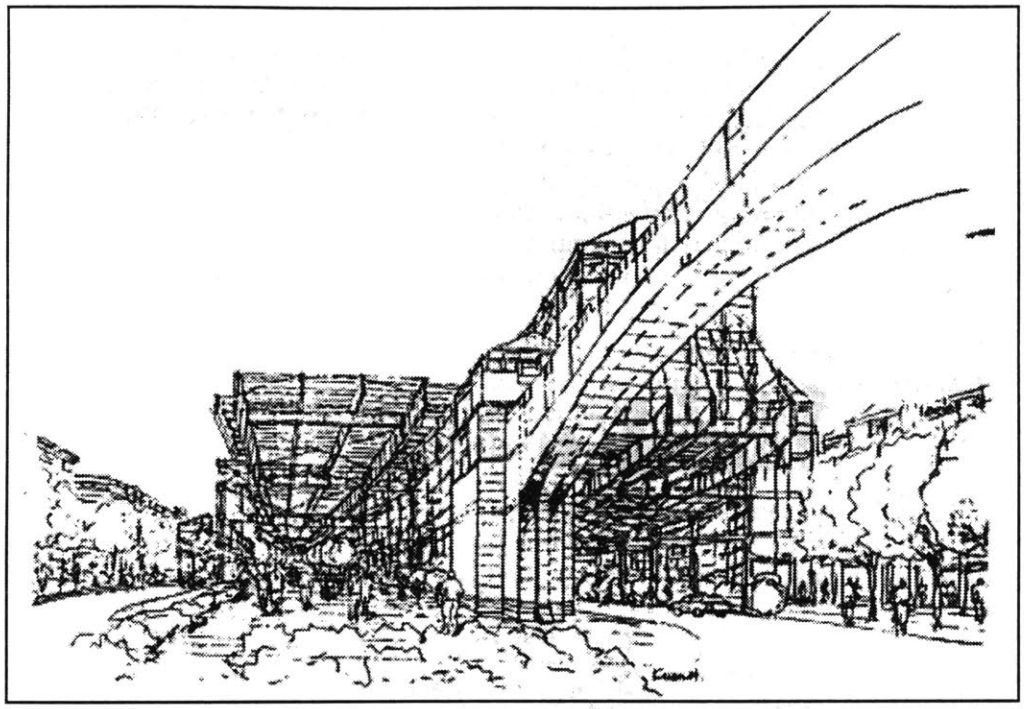


Figure 1.7: A Winter Garden Proposal for Re-Use of the Existing Artery Structure. [from Boston Globe Contest, Boston Globe Magazine, December 1990.]

Despite the fact that much of the work available to the architectural profession currently involves the alteration of existing buildings, the renovation approach has not been considered for the Central Artery Project. Possibly because of the industrial nature of the existing form, demolition is thought to be the logical solution to this industrial "objet trouve". For my thesis I intend to investigate a solution by transforming, adding on to and renovating the existing structure through two different means. First,

Figure 1.8: The Chosen Site for This Thesis Study.

Figure 1.9

by adding a secondary structural system to the older larger system new meaning can be given to the form while maintaining the memory of its past use. Second, by renovating the structure and assigning it new uses, (e.g. retail shops and housing), people can re-inhabit this space and get a new experiential understanding of it. The BRA's alternative of replacing the existing elevated highway structure with a greenbelt will, in contrast, leave undefined what is now a distinct edge between Haymarket and the North End.[7]

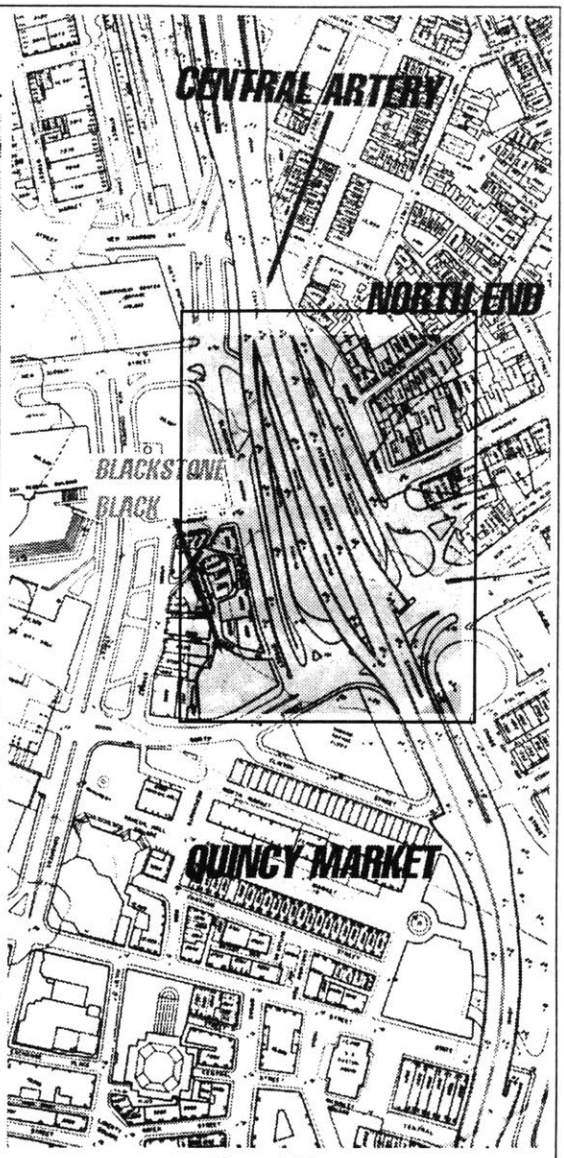


Figure 1.10

The piece of the artery I have chosen to investigate is located between Sudbury Street and North Street in the North/South direction, and between Cross Street and Black Stone Street in the East/West direction. While many discussions have focused on this area between the North End and Downtown Boston, few people have considered the objective of maintaining the spatial separateness of these neighborhoods and at the same time reconnecting them for pedestrian use. In addition, the possibility of connecting North and South stations more directly has not been sufficiently considered.

Figure 1.9: Pederstrain Crossing under the Existing Artery.

Figure 1.10: Enlarged Site Plan.

Figure 1.11

Figure 1.12

Figure 1.13

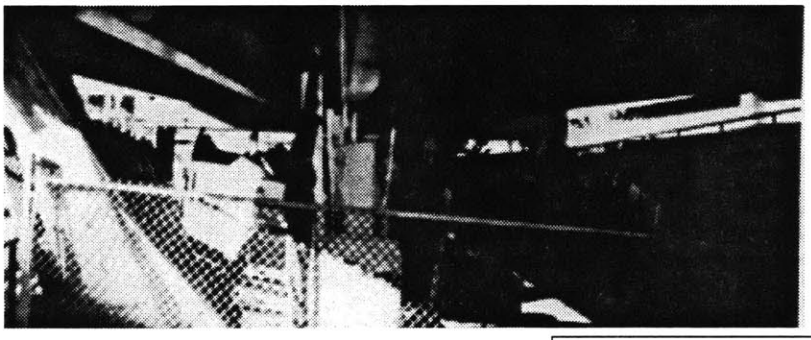


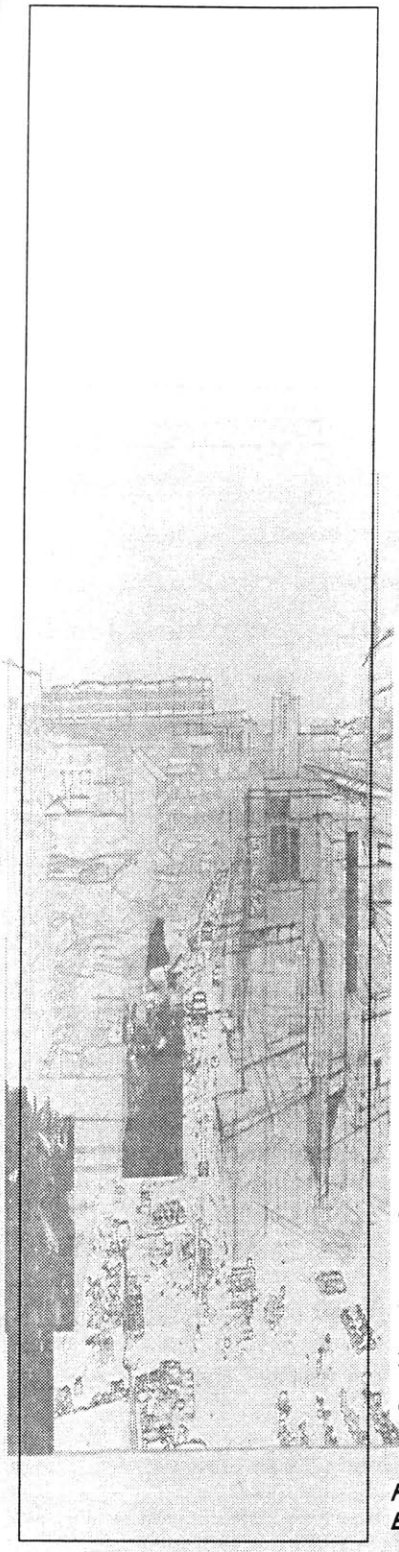
Figure 1.14

Figure 1.11: Retail Shops Along the Cross Street.

Figure 1.12: Congested Traffic Under the Artery.

Figure 1.13: Pedestrian Underpath Between Haymarket and North End.

Figure 1.14: Existing Storage Space Beneath the Artery.



The key urban design issue for this parcel will be its relationship to the adjacent North End. It is the entrance to the North End on Hanover Street, historically the area's major traffic and pedestrian connection to downtown Boston. Salem Street, another important route into the North End, is across from this parcel at mid-block. The edge of the North End along Cross Street is comprised of a series of one- and two-story retail shops. [Figure 1.11] Towards the west are the existing Haymarket and parking structures.

In spite of the negative images of the elevated artery many areas underneath it are currently well used, especially the block between the North End and Haymarket. People stroll back and forth along the walkway, resting against the columns of the artery. The structure itself is used for the Haymarket storage and people come down over the vehicular ramp to shop on the weekend. I hope to take into consideration the North End neighborhood concerns, pedestrian movement and land marks. As such, the idea of exploring a mixed use solution with housing above and retail space below is logical for this parcel. I agree with assumptions made by the BRA and MDPW that "the Central Artery is a unique opportunity to redefine people's experience of downtown."[8]

Figure 1.15: Birdeye Collage of Enlarged Site with Design Intensions.

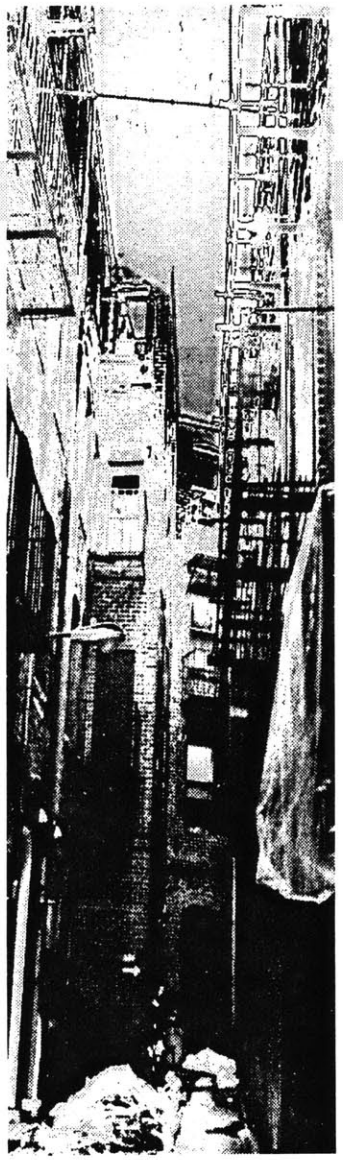


Figure 1.16: North End Alleyway.

The concept of the building design will maintain a pedestrian path from Haymarket to the North End and provide approximately 300,000 square feet of market, parking building and residential buildings, with 30,000 of it reserved for ground-floor retail spaces incorporating the existing highway structure and the on/off ramp.

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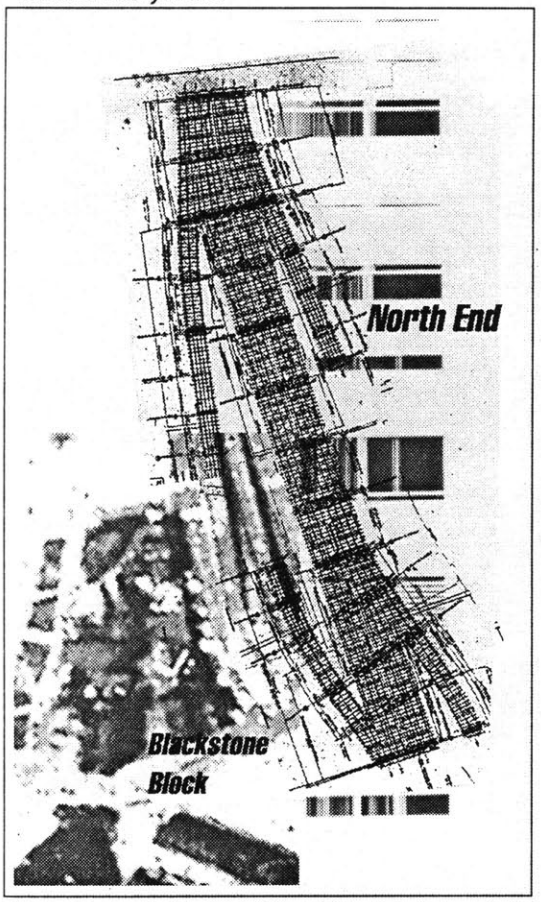
1 Jane Holtz Kay, "Boston Is", Process Architecture, 1991, page 35.
2 Ibid.
3 Shun Kanda, "A Walkabout in Boston", Process Architecture, 1991, page 14.
4 Massachusetts Department of Public Works, "Now You See It", Boston Globe, 1989, page 5.
5 Boston Society of Architects - Central Artery Task Force, Plan for the Central Artery, 1988, page 9.
6 Antonio Di Mambro, "Il Grande Scavo Di Boston", Spazio Societa Space & Society, 1991, page 44.
7 Boston Redevelopment Authority, Boston 2000, page 35.
8 "The 27 Acres Opportunity", Sunday Boston Globe, 1990.

Theory & Precedent

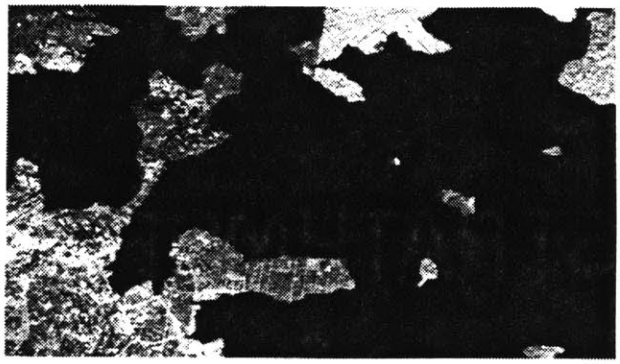
Figure 2.1: Central Artery Structure Between North End & Haymarket.



Theory

The multi-billion dollar ten-year CA/T project will give the city 40 acres of land available for development.[1] (CA/T, 1990) Dredging, landfills, fire and continuous rebuilding have repeatedly altered Boston's topography and urban structure, and signs of these transformations abound: railroad tracks that lead nowhere, pier supports without wharfs, shifting pavement patterns, and layers of facades revealing additions and alterations. In this sense, Boston is a city which adds to itself like a parchment that has been repeatedly written upon and erased, leaving traces of past erasures and writings. To erase all traces of the Central Artery would disrupt this traditional evolutionary process, and mean loosing an architecturally significant and dynamic superstructure.[2,3]

Elevated highways bestow a strong symbolic image and a memorable urban identity. [Figure 2.3] Moreover, they are a major link to



(a.)1640

(b)1830

(c)1895

(d)1985

Figure 2.2 (a) - (d) : Land Transformation of Boston During the Four Periods 1640, 1830,1895 and 1985.

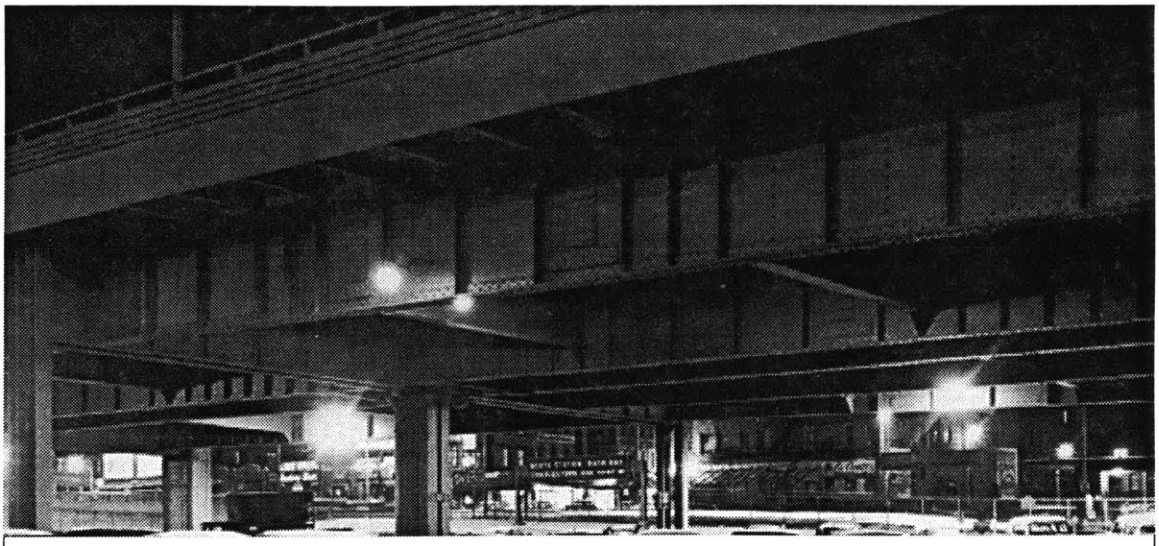


Figure 2.3

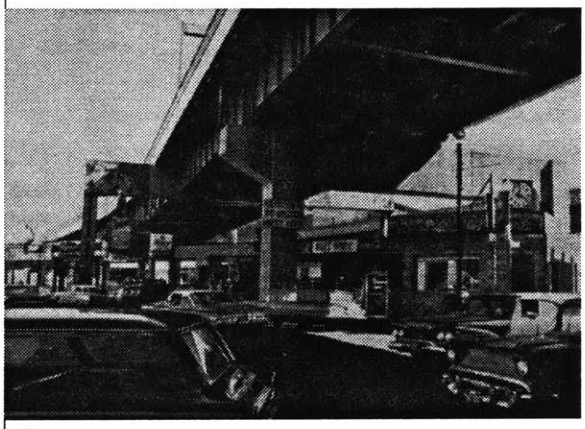


Figure 2.4

Figure 2.3 : Night View of the Artery Showing Existing Structure.

Figure 2.4 : Market Place Exists Shortly After Construction of the Artery

various parts of the city, acting as essential vehicles of communication within the urban structure, as well as visual and actual connections to the different neighborhoods. Years of association with the surrounding environments have made them part of the city which is why they have become important elements in terms of urban culture. Their size has become at same time symbolic and affective, artistic and functional.

The central artery appears to be one possible vehicle for commenting on the idea of an infinitely extendible city. The elevated highway is a construction which crosses various "cities" and acts as a linkage between different urban entities. This "cultural bridge" could be accessed alternately and at different elevations by discrete rows of buildings, parks and pedestrian walkways that would accommodate different functions. Such uses can be physically supported by the artery either above

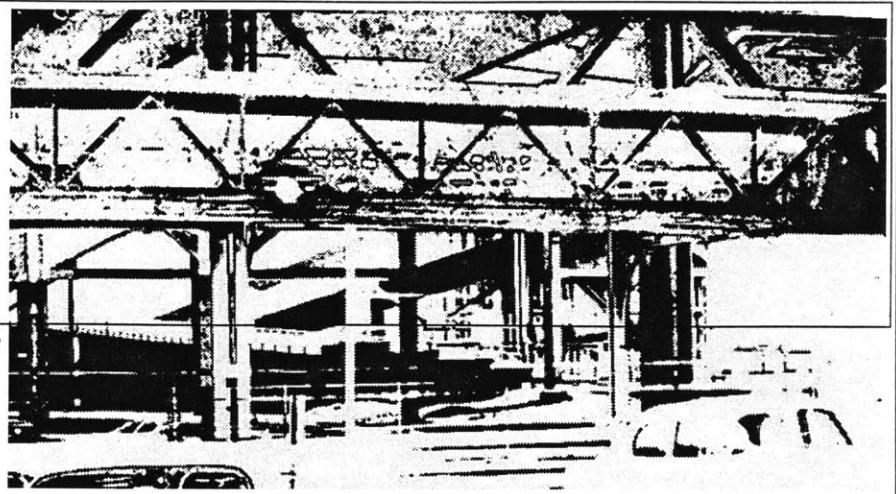
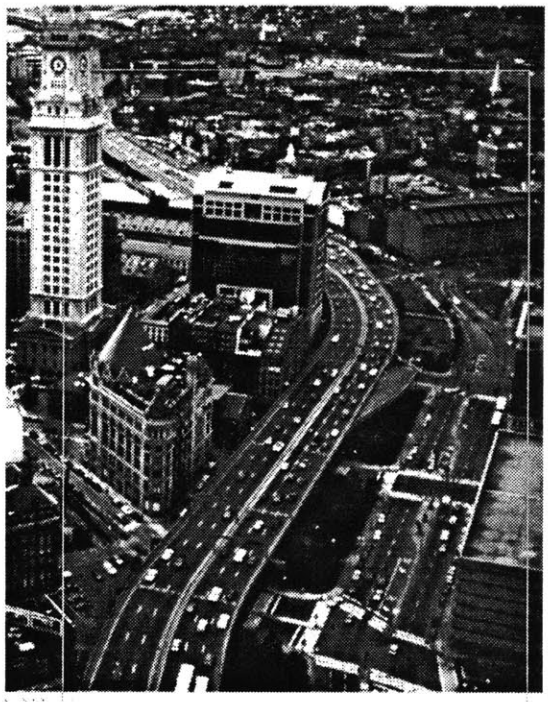


Figure 2.5 : Boston Central Artery Underpass at Night

or below. This additive value will improve quantitative terms of functionality and economics as well as the qualitative experience of the city.

As such, it is important to note that this distinct segment of the elevated highway in the city has its meaning largely defined by the road network of which it is part. What can it communicate as a technologically defined structure with a use dimension tremendously greater than the ground below? The elevated highway's structure has a dual meaning -that of detachment- the road surface spans inaccessibly above the ground, and being rooted in— the support piers define areas of pedestrian and slower vehicle movement at the ground level.

Figure 2.6 : Boston Central Artery Aerial View. [photo from Process Architecture 97, p. 119]



"Man may readily identify himself with his own hearth, but not easily with the town within which it is placed. 'Belonging' is a basic emotional need - its associations are of the simplest order. From 'belonging' - identity - comes the enriching sense of neighborliness. The short narrow street of the slum

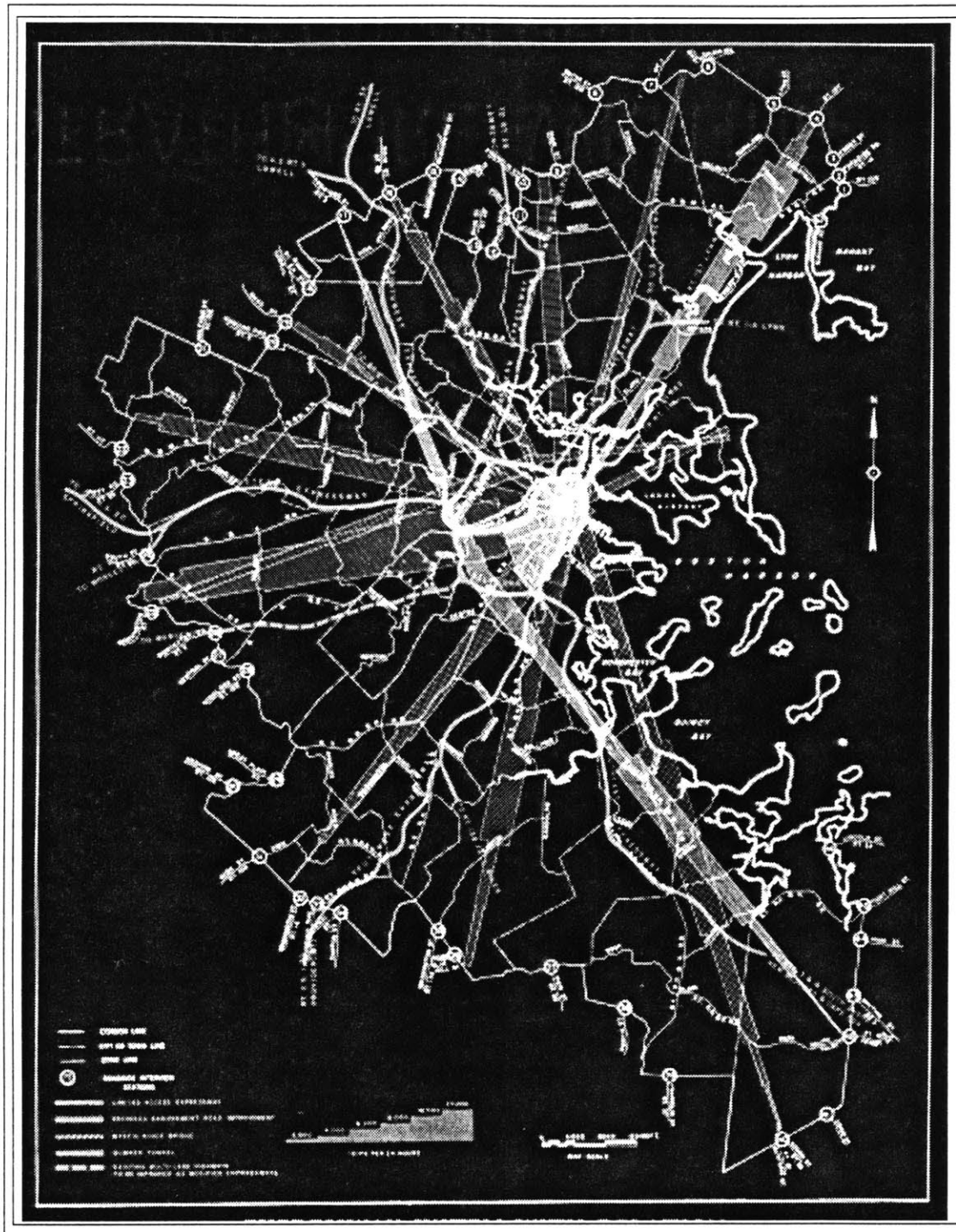


Figure 2.7 : Elevated Expressway System Study by MDPW in 1930. [map from Boston City Planning Board, 1930]

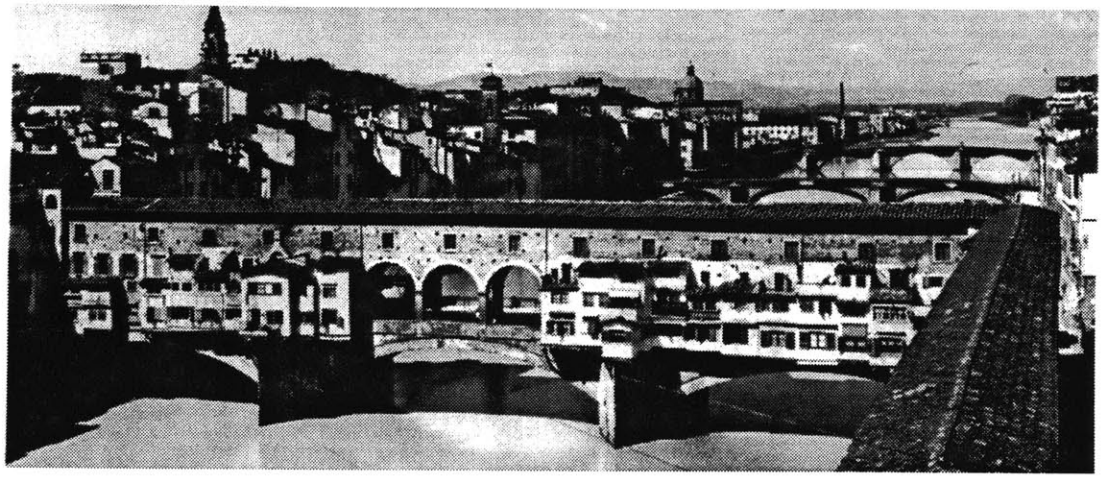


Figure 2.8

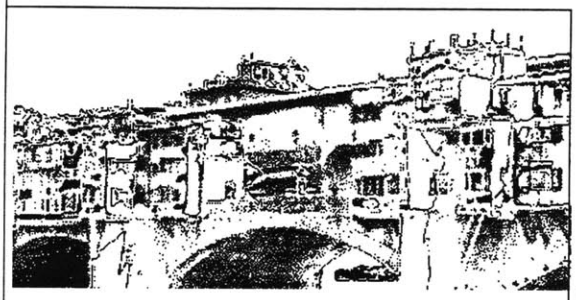


Figure 2.9

Figure 2.10

Figure 2.8: Ponte Vecchio in Florence [phoro from Ed. Brogi. Touring Club Italiano (TCI)]

Figure 2.9: Ponte Vecchio in Florence [photo from Ed Borgi. TCI]

Figure 2.10: Nicolas Raguenet, La joute desmarinier entre le pont Notre-Dameet le Pont au Change en 1756 [photo from Musee Carnavalet, Paris]

succeeds where spacious redevelopment frequently fails." —

CIAM VIII report

Precedent:

This thesis proposal falls into a class of building in which a strongly directional transportation structure is inhabited by smaller scale uses. The first urbanized bridges appeared in the Middle Ages. In Paris (1141) the king ordered shops set up on the Grand Pont. According to an historian at the time, this bridge attained the character of a "very busy street, where the shopper could find everything he needed for comfort..."[4] The Ponte Vecchio in Florence is another example of inhabited bridges encompassing both public and private uses . [Figure 2.8, 2.9]

In the creation of the urbanized bridges, we have rediscovered the extended use from our ancestor, in which bridges not only served as

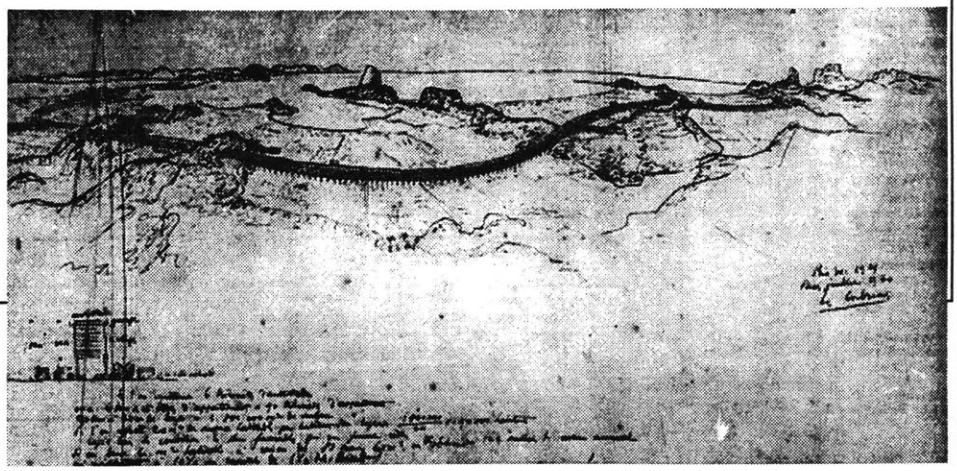


Figure 2.11: Le Corbusier, Proposal for Algiers - a continuous inhabited structures [photo from Fundation Le Corbusier]

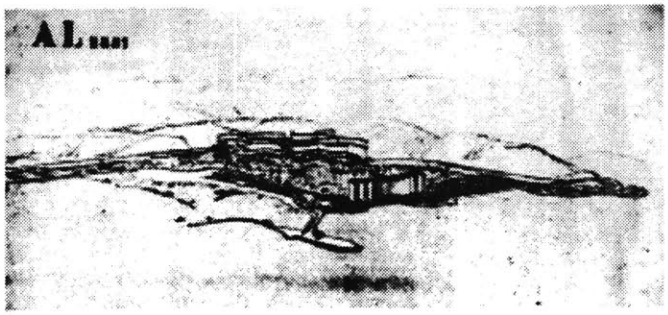


Figure 2.12: Le Corbusier, Proposal for Rio de Janeiro, 1929 - 1930 [photo from Fundation Le Corbusier]

traffic connections between different parts of the city, but it also played roles encompassing various commercial activities. Over the years, many of these multi-functional bridges have been built for their profitability, attractiveness and privileged locations and have became the heart of urban life.[5]

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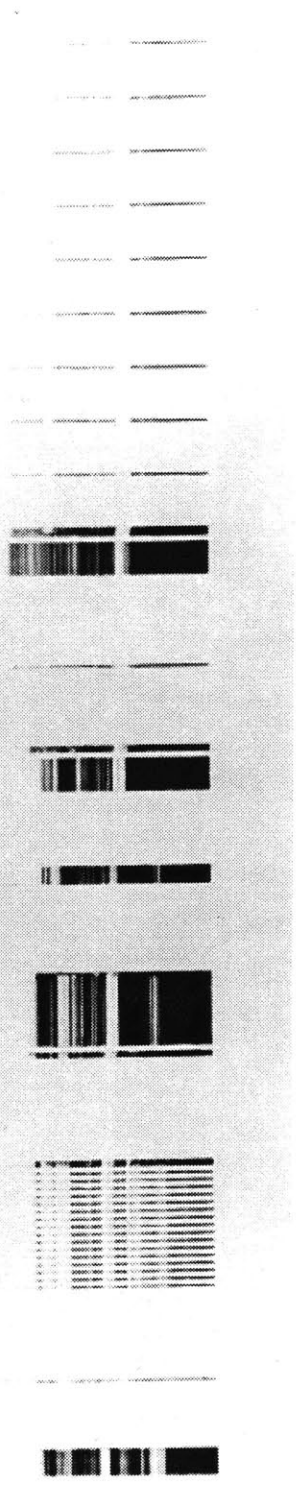
1 Central Artery/Tunnel Fact Sheet, Central Artery, Massachusetts, Massachusetts Department of Public Works, 1990.

2 Paul Lukez, Boston Vision, A National Design Competition, 1989.

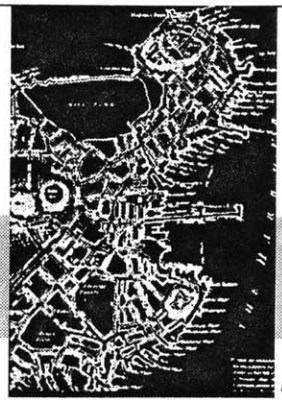


[3] Vittorio Gregotti, Dario Matteoni, "Inhabited Bridges", Rassegna, 1991, page 6.

During the early 1930s Le Corbusier proposed for a number of cities of South America and Algiers, the construction of huge continuous inhabited structures; a sort of never-ending ribbon on which highways would run. These are projects for enormous viaducts which span the scenery of the hills of Algiers or Rio de Janiero. [Figure 2.11, 2.12] To build a viaduct that winds along the impressive natural landscape of those cities is tantamount to imposing, right through the intrinsic force of the constriction, one's own order. These huge structures can therefore, in a systematic way and precisely because of their character, absorb their interior and restore a unity. The Central Artery takes some of Le Corbusier's ideas, but does so inadvertently. The tremendous sweep of the elevated highway as it has existed since the 1950's represents decisions formed through practical considerations rather than the philosophical approach taken by Le Corbusier in which a decision imposes visual unity directly.

[4] Jean Dethier, "Inhabited Bridges", Rassenga, 1991, page 11.
[5] Jean Dethier, "Inhabited Bridges", Rassenga, 1991, page 12.

Boston History & the Central Artery


a.) 1770


b.) 1880


c.) 1956

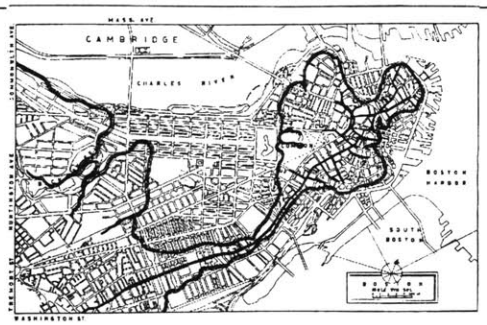

d.) 2000

A need for a 'New Boston'

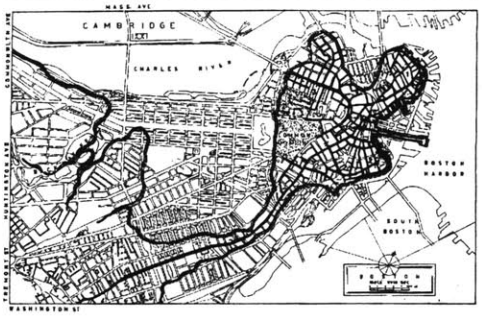
More than most cities, Boston has a longer tradition of ongoing physical transformation because of the real addition of land (landfill). The physical transformation of Boston began almost from the landing of its English settlers who first filled in its craggy and erratic shoreline. In three centuries, the original land mass of Boston, the Shawmut peninsula of the seventeenth century — about the size of New York's Central Park — was almost tripled: first by "wharfing out" shooting docks into the sea and filling soil between; then by carving off the tops of Beacon, Copps and Fort hills to close in its bays.[1] [Figure 3.1, 3.2]

The area known today as the North End was originally a hill pasture, a peninsula jutting north from the Boston

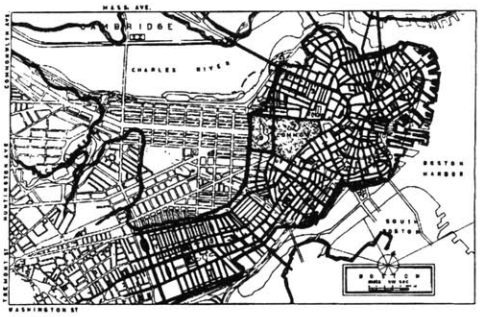
Figure 3.1 a - d: Process of Transformation in Boston History



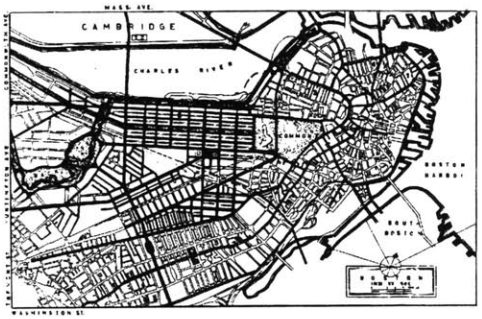
a) 1700



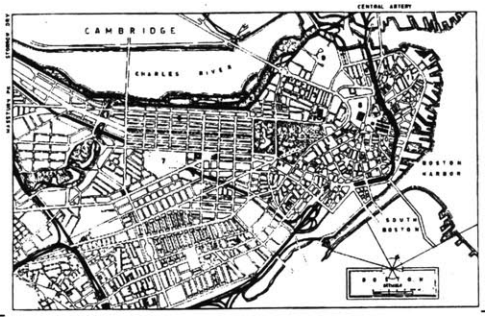
b) 1770



c) 1770-1850



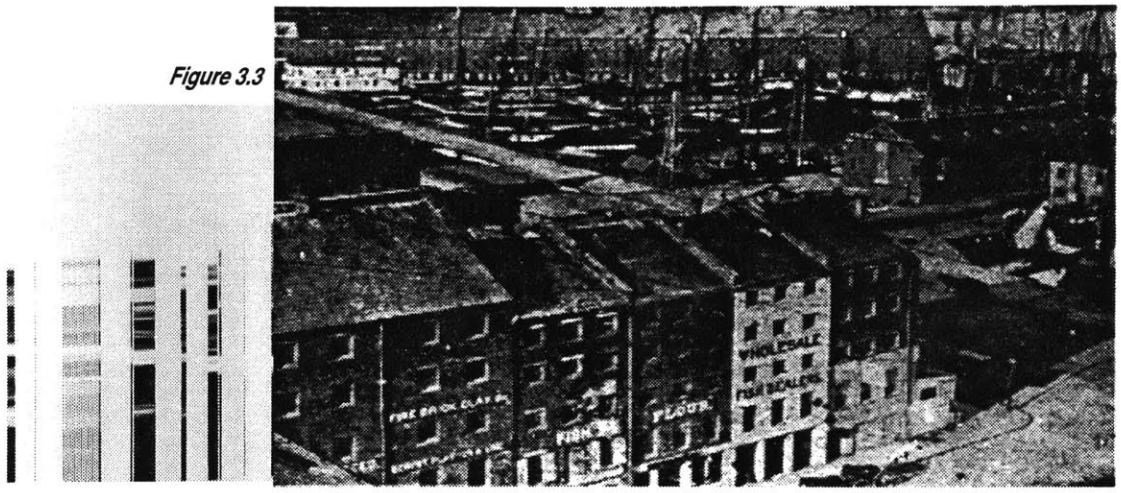
d) 1900



e) 1980

Figure 3.2 a - e : Extension of the Road System from 1700 - 1980 [work from La Citta Federale]

Figure 3.3



settlement. Over the years, as additional land area was created by the filling of the harbor, the resulting area became a fashionable residential neighborhood. [Figure 3.4] By 1722, the principal lanes, which are nearly identical to the important streets of today, were extended from the spine that is Hanover Street.[2] [Figure 3.3]

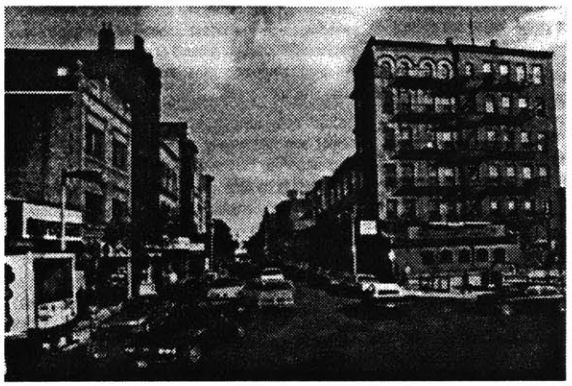


Figure 3.4

In the early 1800s, the North End became the first home in the United States for thousands of immigrants. At that time, mansions and cottages still abutted the winding narrow streets and alleys which to this day distinguish the North End. The intimacy of these spaces adds to the qualities of legibility and delight which characterize the city of Boston. Citizens set rules for themselves, such as limiting building height to five stories for certain neighborhoods, requiring 90 feet on the edge of parks, and allowing 110 feet for the maximum width of streets in the commercial

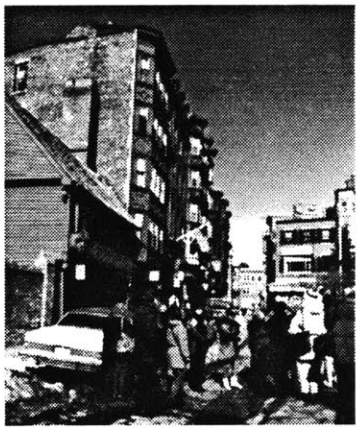


Figure 3.5

Figure 3.3: Boston Harbor- North End (about 1850)[photo from Process Architecture 97, p. 30]

Figure 3.4: North End Hanover Street Today. [photo from Boston 2000]

Figure 3.5: North End Alley, 1994.

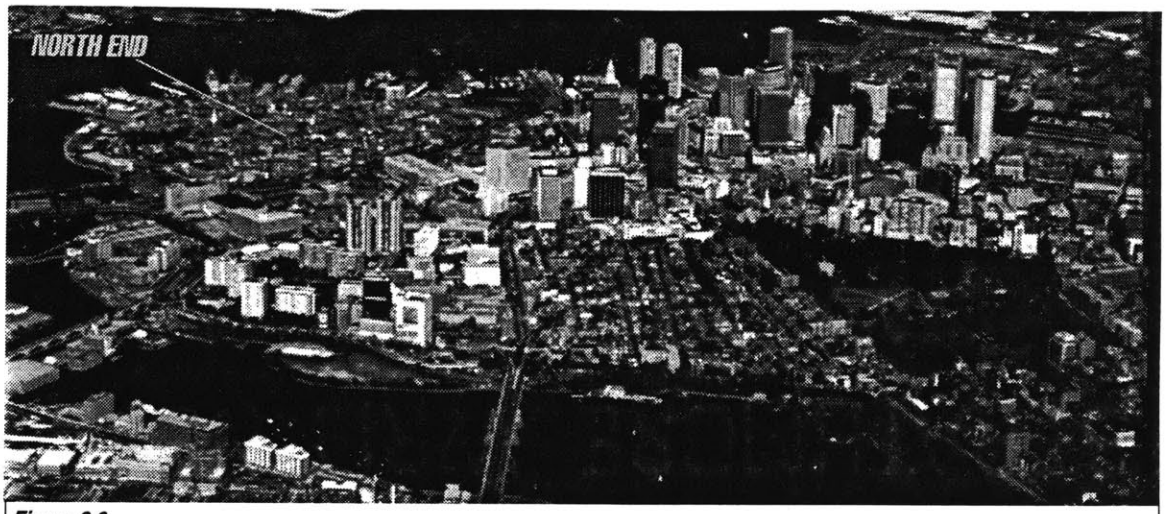


Figure 3.6

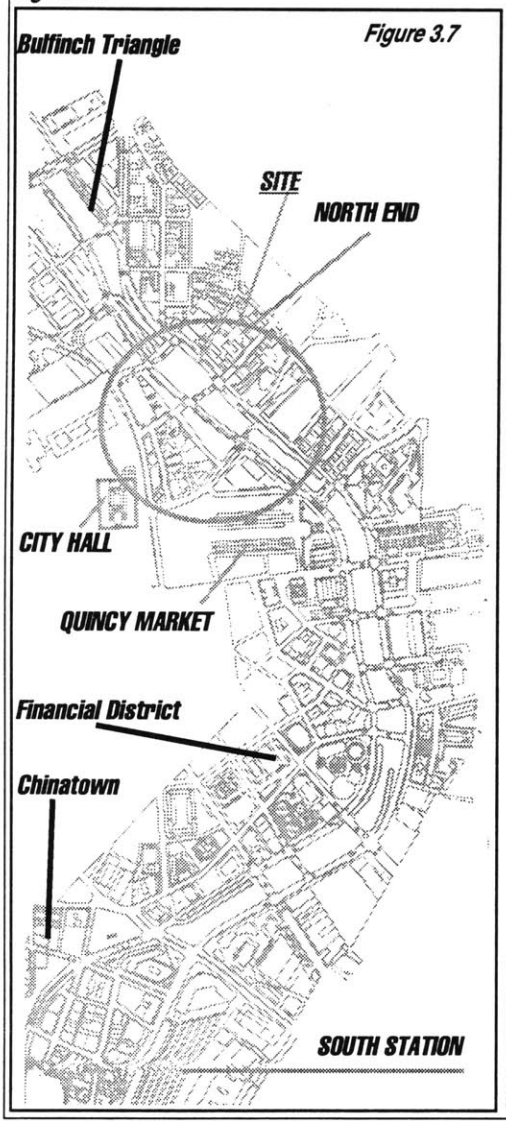


Figure 3.7

core.[3]

Many transformations have redefined Metropolitan Boston's complex traffic problems. In the late eighteenth century, the Charles Bridge - connecting Cambridge with - Boston became the first toll road, and this had a huge impact in resolving the difficulties of stalled traffic in Boston. The twentieth century saw many roadways cutting through urban centers and high-rise buildings thrusting through the city landscape. [Figure 3.6] Boston suffered the incursion of faceless towers and widened roads, but laws preserving historic district helped salvage many architectural and historic monuments. At the same time, recycling and adapting old buildings for new purposes has become a major art.

Figure 3.6: Aerial Photo of Boston by Alex S. Maclean.

Figure 3.7: BRA's Boulevard Plan for the Central Artery. [from Boston 2000]

Figure 3.8: The Site

Figure : Blackstone location

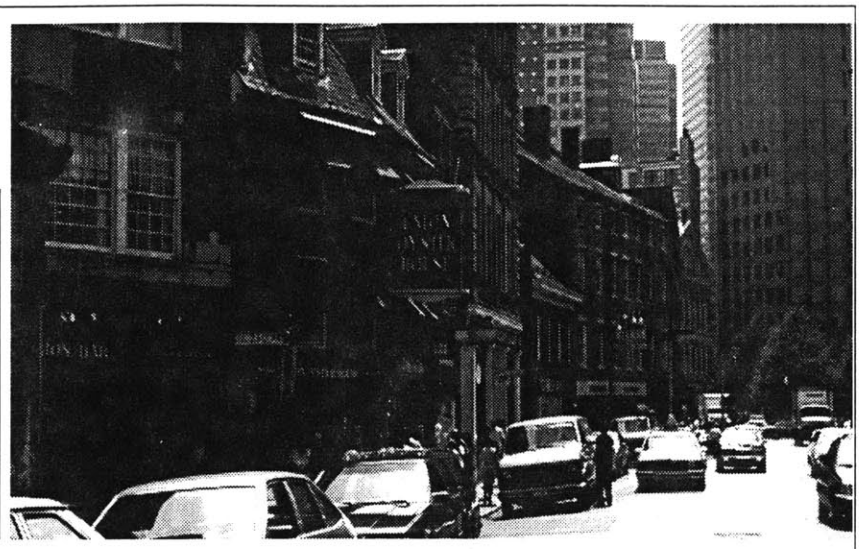


Figure 3.9: Blackstone Block, View to Dock Square.[photo by Alex S. Maclean]

As Boston approaches the twenty-first century, another transformation will take place after the completion of the construction of the Central Artery (I-93)/ Tunnel(I-90). The project will transform Downtown Boston. Forty acres of downtown property located directly adjacent to the waterfront, the Financial District, the Bulfinch Triangle, the North End, and Chinatown will emerge from the Artery depression. This project seeks not only to improve a traffic problem but also to accomplish the biggest alteration to Boston's Downtown since the filling of the Back Bay project.

Figure 3.10a: Blackstone Block at 18th Century. [Diagram by Shun Kanda, Process Architecture 97, p. 14]

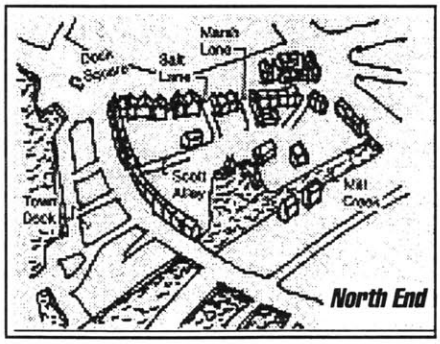
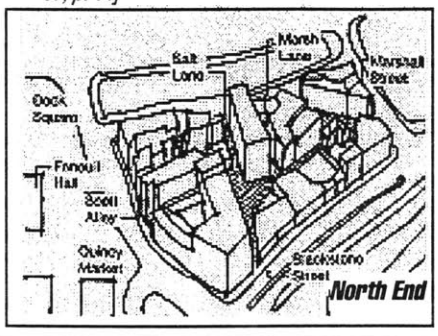


Figure 3.10b: Blackstone Block Todat. [Diagram by Shun Kanda, Process Architecture 97, p. 14]



The continuous modification and transformation of the site can be used to enhance our understanding of the development of Boston. This site has been a major link from the North End to the rest of the city since the early days of the Shawmut peninsula. As the population grew, the small area of the peninsula became home to new immigrants. The site was built up with mostly residential buildings. The land was first transformed by filling the mill pond at about the time of the

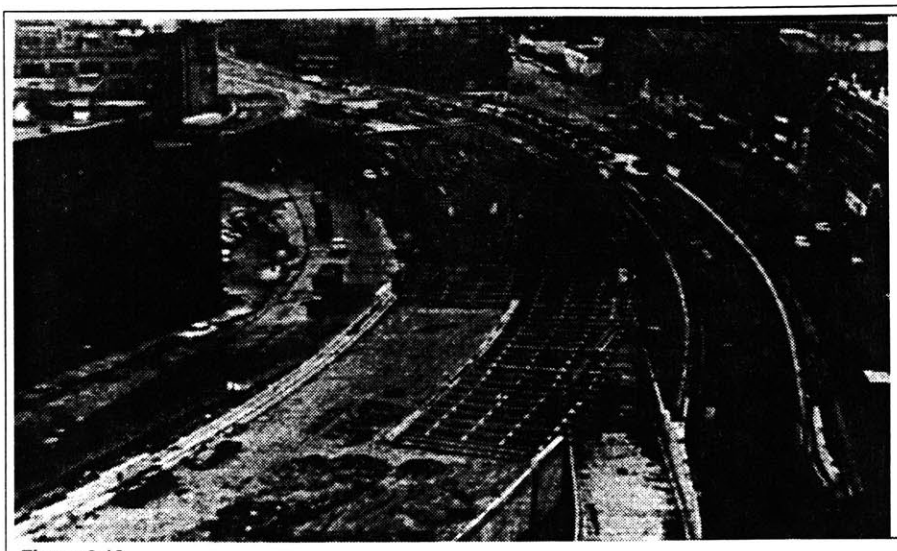
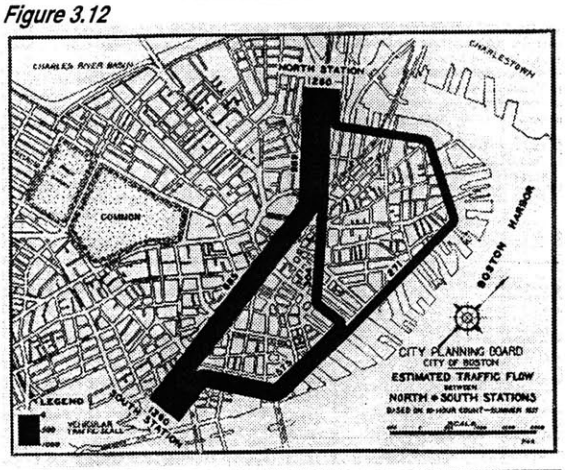


Figure 3.11

Figure 3.12



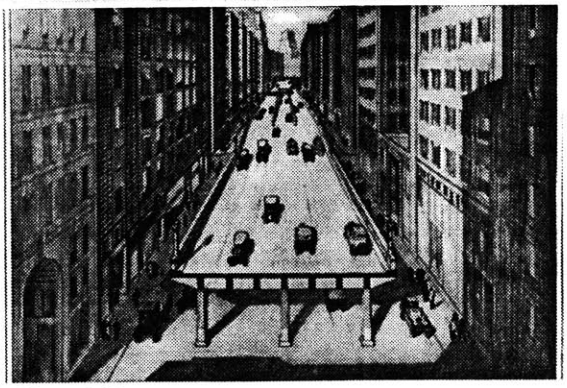


Figure 3.13

Figure 3.11: The Central Artery - "Green Monster" - Under Construction, 1954. [Photo from Boston 2000]

Figure 3.12: Estimate Traffic Flow Between North & South Stationfor the Elevated Artery, 1930. [from Report on a Throughfare Plan for Boston, p.87]

Figure 3.13: Upper Roadway Sketch for the Elevated Artery, 1930. [from Report on a Throughfare Plan for Boston, p.86]

revolution. New streets were laid out, and the site was transformed into blocks and used for commercial buildings such as the Blackstone Block. [Figure 3.10] Through the construction of the artery in the 1950s, this site was further transformed into one city block and its remains this way today.

The prospect of removing the elevated artery has drawn the attention of businesses and residents along it. Residents suffered the loss of homes in the development of the existing Artery in the '50s, [Figure 3.12] but many felt that the wall created by the elevated highway brought significant benefit, preventing the downtown from encroaching on the North End. This benefit did not fully materialize as urban renewal programs triggered development of the long neglected waterfront area and led to the rehabilitation, and later the condominium conversion, of many newly discovered properties well sited within the

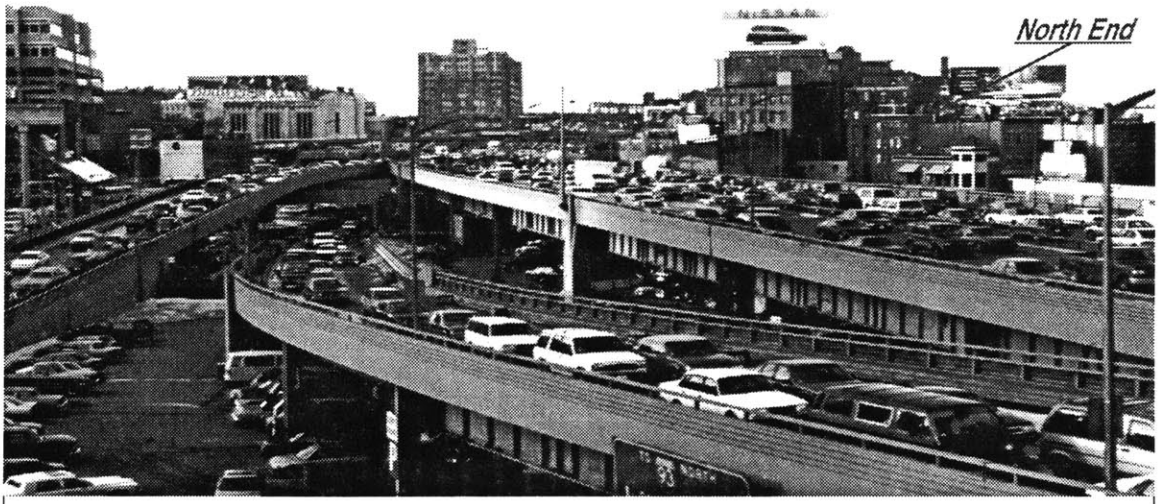


Figure 3.14

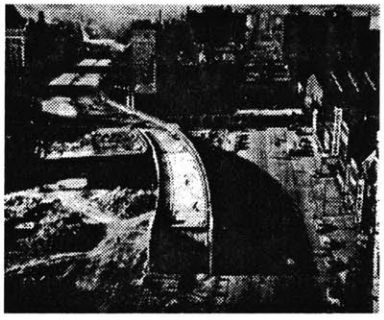


Figure 3.15

Figure 3.16

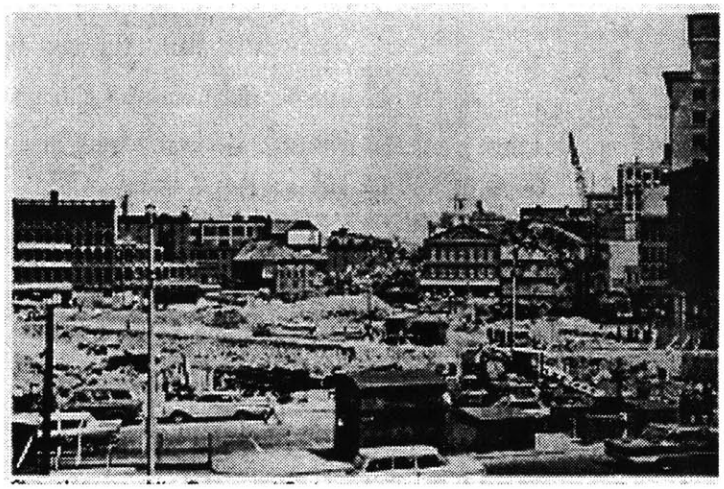
Figure 3.14: Conjusted Existing Central Artery.
Figure 3.15: Existing Central Artery Under Construction. [photo from Process Architecture 97, p. 65]

Figure 3.16: Slum-Clearance in the West End., [photo from Process Architecture 97, p. 65]

view of Boston Harbor. Hundreds of affordable housing units were lost to the gentrification of the North End. Today, development of affordable housing over the depressed artery in the vicinity of the North End is encouraged by the community.

In the 1950's, "City Revitalization" become the main theme of the American city movement. With accelerated federal aid, the cities government believed that it could create a better community by destroying or rehabilitating poor areas with problems of crime, fire and high population density. Parallel to this "slum clearance" movement was the vision for building a "New Boston." This plan affected nearly 50% of the city's land area and about 25% of the residents. A total of 10 urban renewal projects were to be

Figure 3.17: Slum Clearance of the Government Center [photo from Process Architecture 97, p. 66]



[1] Shun Kanda, "A Walkabout in Boston", Process Architecture, 1991, page 118.
[2] Boston Redevelopment Authority, "Central Neighborhood Profile", CEN.PF6/10goetze, 1988, page 2.
[3] Jane Holtz Kay, "Boston Is", Process Architecture, 1991, page 44.
[4] Masami Kobayashi, "A City Marked by History", Process Architecture, 1991, page 66.

Figure 3.18: Sketch of Street Market in Hong Kong.

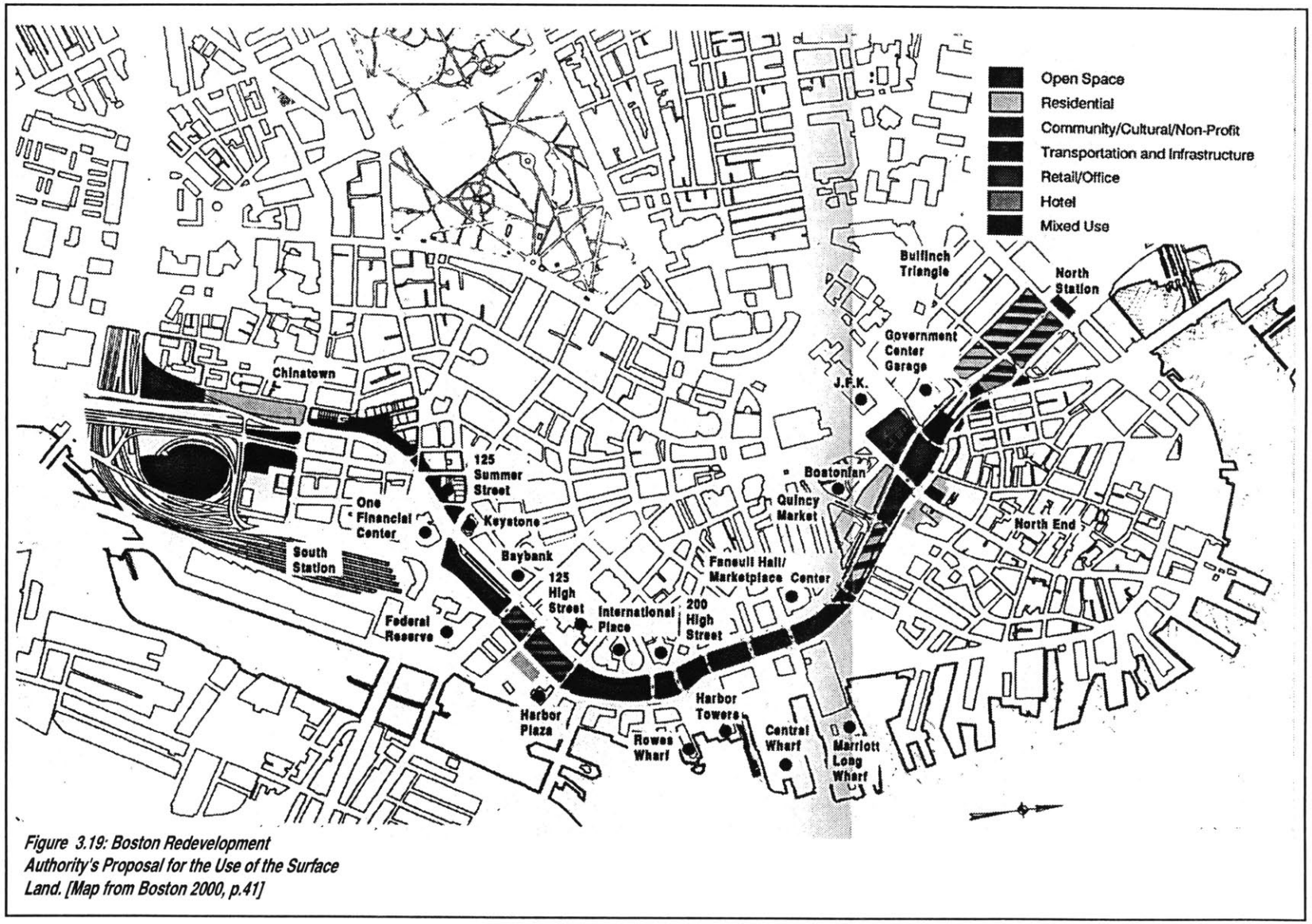
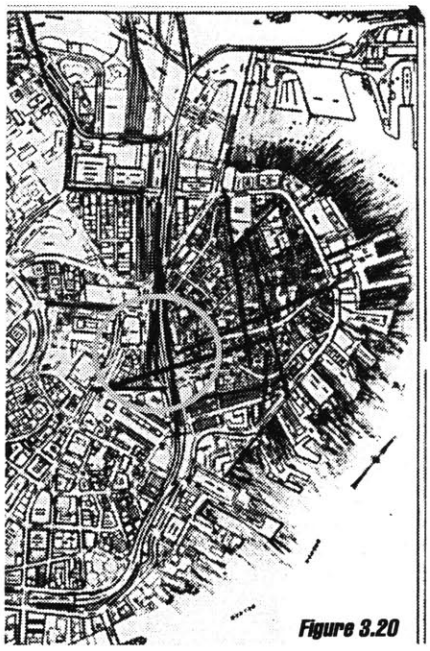


Figure 3.19: Boston Redevelopment Authority's Proposal for the Use of the Surface Land. [Map from Boston 2000, p.41]



Project Site

Figure 3.20: Shows the Dimension Analysis of Walking Distance.

Figure 3.21: Shows the Locations of the Commercial Zone.

Figure 3.22: Shows the Block Diagram of the Site.

Figure 3.23: Shows the Major Traffic of the Site.

Site Analysis

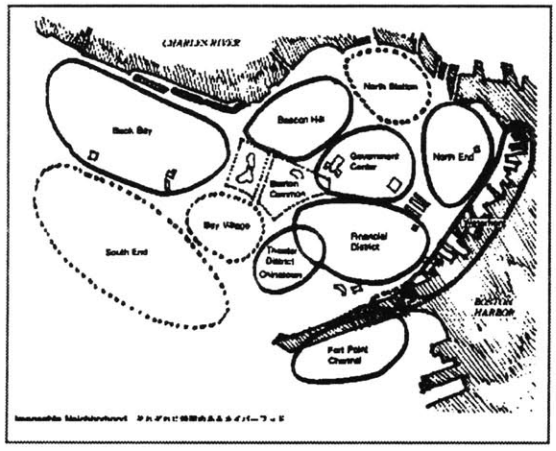


Figure 4.1: Neighborhood's Association. [photo from Process Architecture]

The first major step in planning the "New Boston" took place with the development of the Government Center. For the new Government Center Project, the Boston Redevelopment Authority (BRA) acquired an area of almost 60 acres located in the heart of the Boston Peninsula adjacent to the Central Artery .[1] [Figure 4.6] This area of boisterous entertainment and worldwide fame, formerly known as Scolly Square, had been a target of slum clearance. [Figure 4.2] Twenty Two streets in the area were consolidated into six.[2] The resulting blocks were much larger than those in the surrounding neighborhoods which were left untouched. [Figure 4.3 - 4.6] Building sizes in these larger blocks increased as well. The project was one of the most far reaching and ambitious facelifts undertaken in an American city. "It

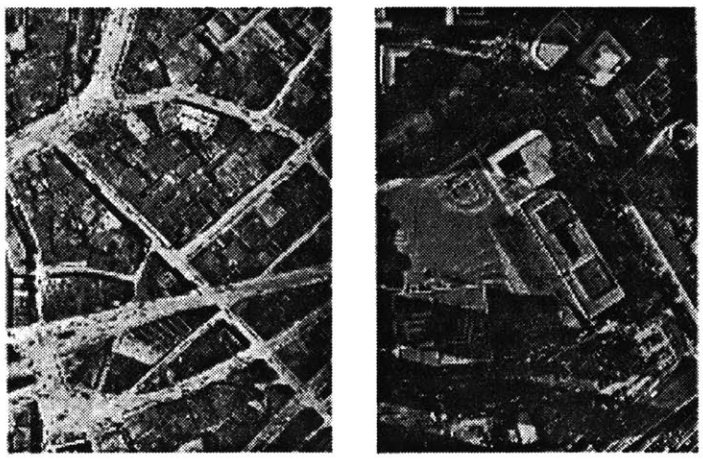


Figure 4.2: Scollay Square (left) Vs. Government Center (right)[photo from Process Architecture]

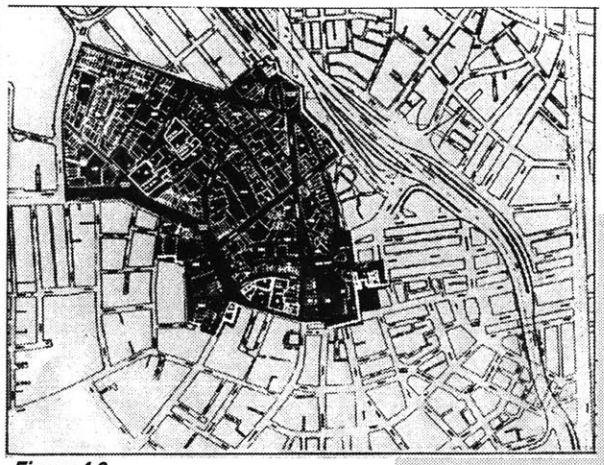


Figure 4.3

Figure 4.3: Shows the Building Diagramof Original Scollay Square. [Map from BRA Government Center Study Report]

Figure 4.4: Shows the Block Diagram of the Original Scollay Square. [map from BRA Government Center Study Report]

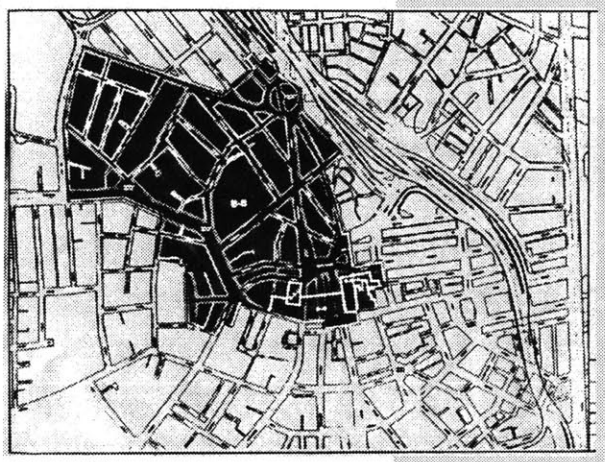


Figure 4.4

Figure 4.5: Shows the Block Diagram of the Existing Government Center. [map from BRA Government Center Study Report]

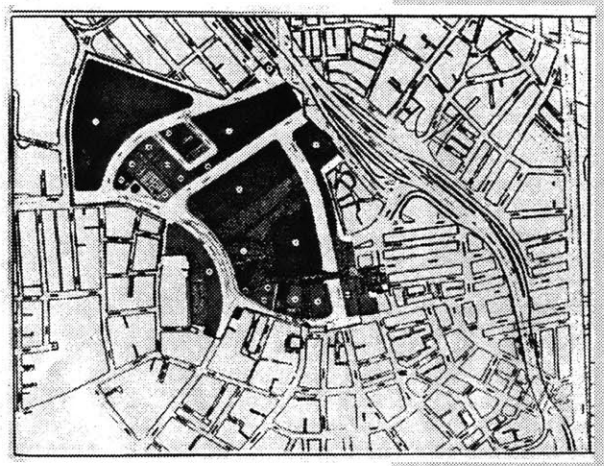


Figure 4.5

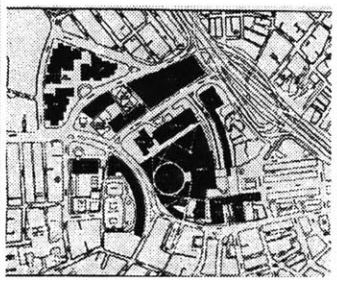


Figure 4.6: Plan to Show a "Symbol of Democratic Government".
[diagram from Process Architecture 97, p. 86]

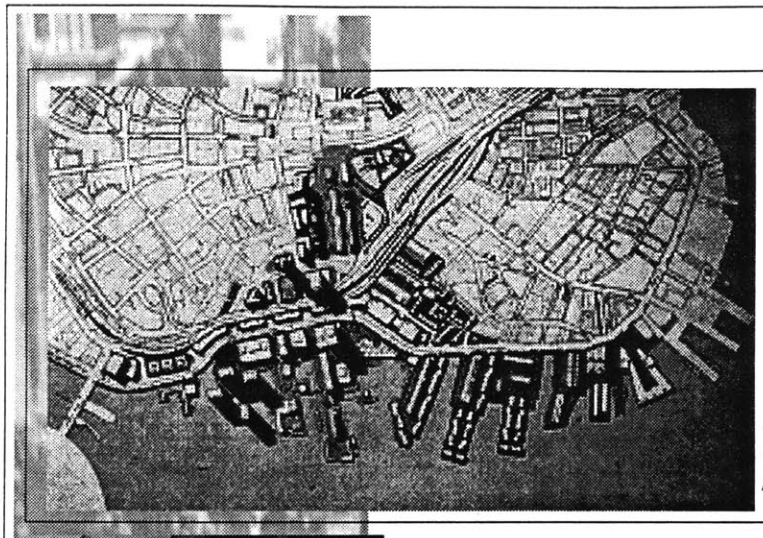


Figure 4.6: Waterfront Plan Proposed by the Chamber of Commerce in 1962. [drawing from Process Architecture, p. 69]

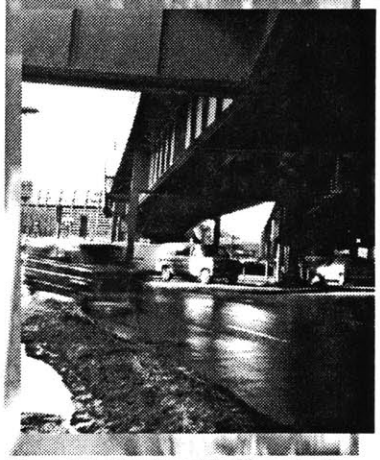


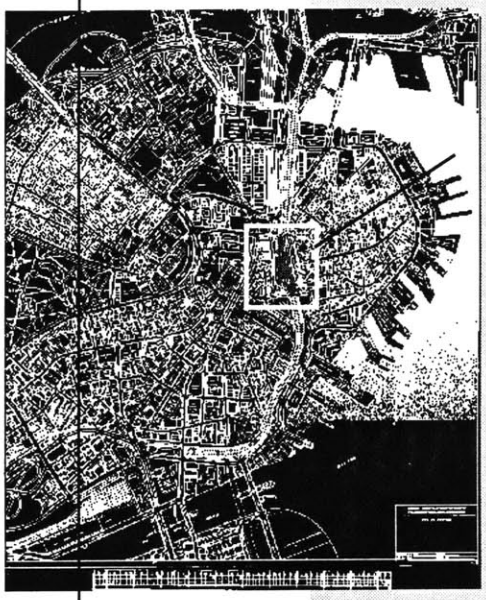
Figure 4.7: High Speed Traffic under the Existing Artery, 1994.

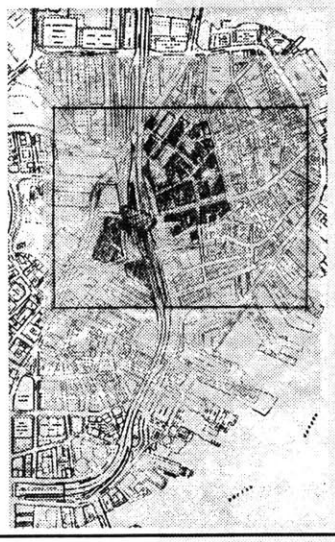
was an unprecedented activity for the city in size and scope." said by Masami Kobayashi.[3]

In addition to the Government Center Project, the waterfront area development [Figure 4.6] was undertaken as part of the urban renewal program. Local architects Kevin Lynch and John Myer, who had many creative ideas and were familiar with the city, were hired as the design team. The two architects planned spaces for pedestrians using walkways, arcades, and overhangs to achieve pedestrian continuity along the water edge. The design was well received by the public and supported by the Boston media.[4]

As such, the existing site bears the imprint of these policies in block sizes, building sizes, and prevailing directions of travel. Vehicular traffic currently moves under the artery (through the site) on Atlantic Street, and around the site via Washington, North and Blackstone Streets. The traffic on these streets is of sufficient volume and speed to hamper pedestrian crossing.

Figure 4.8: An Earlyier Sketch of the Block Diagram of the Site.





[1] Boston Redevelopment Authority, "Government Center", Boston Redevelopment Authority Research Paper, 1970, page 1.
[2] Masami Kobayashi, "City for Change: A Brief History of Boston", Process Architecture, 1991, page 68.
[3] Ibid.
[4] Ibid.

Figure 4.9: Boston Map with Indication Of the Site. [from BRA]

Figure 4.10: A Sketch of the Edge Condition for the site.

A Review of Current Proposal

Many ideas have been proposed for the re-use and development of the surface land which will be created by the depressed Central Artery. Plans ranged from filling the pathway with buildings to the construction of a linear parkland from Causeway Street to Kneeland Street. This section will discuss the four main schemes and narrow down to one plan —the Boston 2000 Plan prepared by the BRA. These four schemes are designed by the BRA, Boston Society of Architects (BSA), Ricardo Bofill and Alex Krieger.

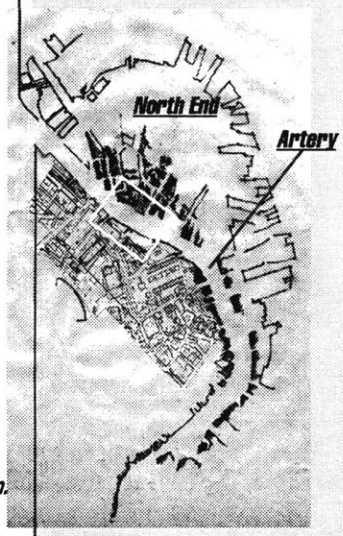


Figure 5.1: Artery's Edge Condition.

1. BRA Plan:

This plan was influenced by the late nineteenth Century work of Frederic Law Olmsted who believed an integrated metropolitan park network would insure the livability of a rapidly expanding city. This plan was comprised of a unified system of interconnected parks, together with a development program emphasizing new housing. BRA's goal is to redirect growth to the less developed locations and "...to redefine people's experience of the Downtown."[1](The 27-Acres Opportunity—Sunday Boston Globe, 1990 by Stephen

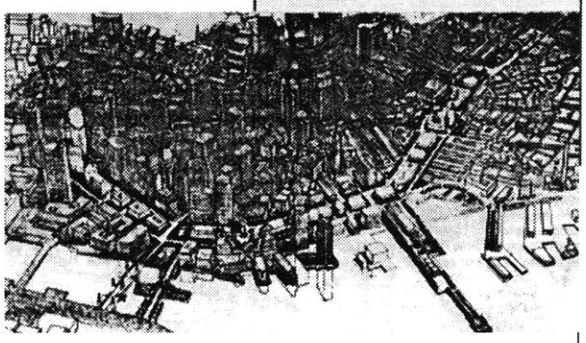


Figure 5.2: BRA's Park Scheme. [from Boston 2000]

Figure 5.3

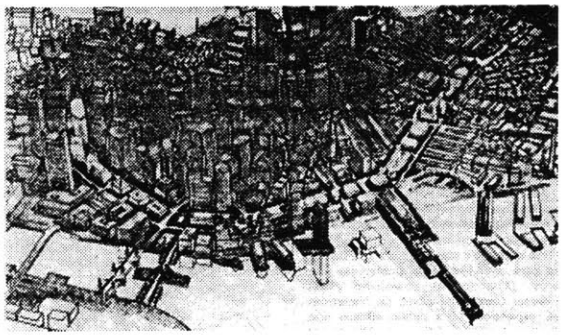


Figure 5.4

Figure 5.3: BSA's Proposal Perspective for the New Surface Land. [Boston 2000]

Figure 5.4: Aerial View of BSA's Scheme for the Depressed Artery. [Boston 2000]

Coyle) The BRA plan envisioned a floor area ratio of 1.0 and a ratio of 1.65 square feet of total development to each square foot of open space. More than 70 percent of the total land area would be preserved for open space purposes.[2] [Figure 5.2]

2. Boston Society of Architects (BSA) plan:

The BSA Plan proposed the development of essentially the entire length of the artery as commercial and residential buildings in order to re-integrate completely the Artery corridor into the existing downtown context. It is a plan which attempts to heal the scar which was created by the construction of the Artery. This scheme is intended treating city as if the highway structure had never existed. Recommendations for such a development included four to five million square feet of new buildings, and a total development program resulting in an approximate floor area ratio of 4.5 within the corridor. Small parks totaling 2 to 3 acres, or 10 percent of the total corridor land area would be constructed.[3] [Figure 5.3. 5.4]

Figure 5.5

3. Ricardo Bofill Plan:

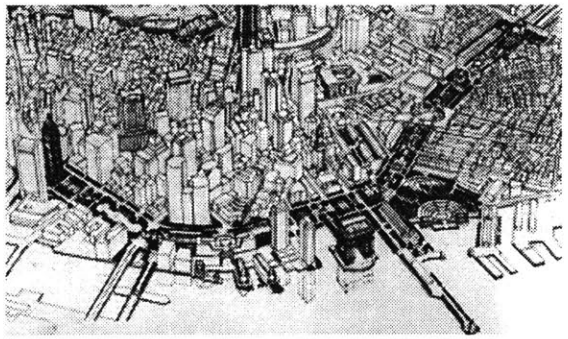


Figure 5.6

Figure 5.5: Ricardo Bofill's Proposal Perspective for the New Surface Land. [from Boston 2000]

Figure 5.6: Aerial View of Ricardo Bofill's Scheme for the Depressed Artery. [from Boston 2000]

This plan defined a "vertebral spine" consisting of gateway towers at North station, and Central Wharf and public use elements including a plaza in the North End, a formal downtown park, a winter garden pavilion, the extension of the waterfront park, a public athletic and recreational facility, and a new Haymarket pavilion. The idea of the plan is to divide the artery into different parts. The intent is to balance the relationship between a coherent idea and the innate incoherence of each of the separate parts. At the same time, it is used to unite the neighborhoods and balance the local community and the public uses. The Bofill scenario envisioned a floor area ratio of approximately 2.25 within the corridor. More than 50 percent of the total land area would be preserved for open space purpose, with one square foot of open space for every 4.5 square feet of development - a density comparable to the Beacon Hill area.[4] [Figure 5.5, 5.6]

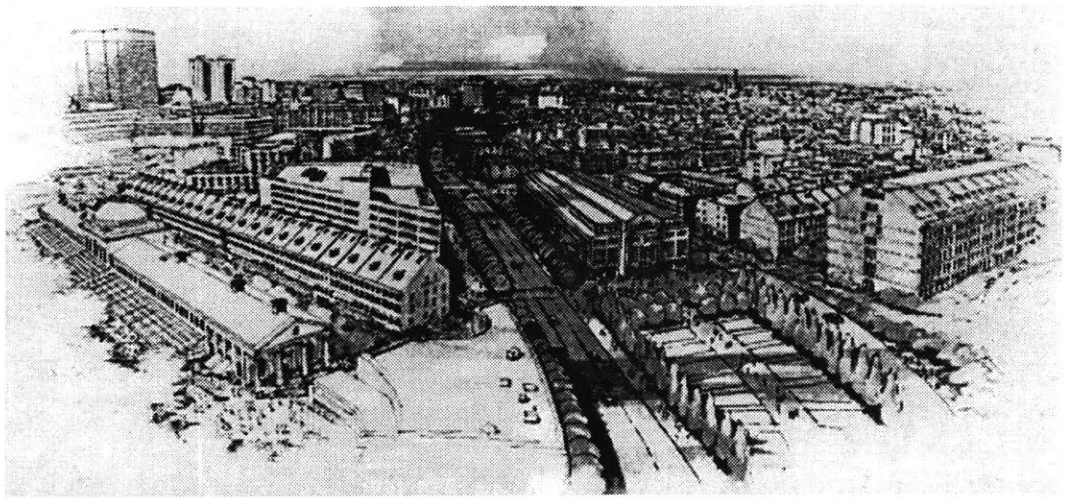


Figure 5.7

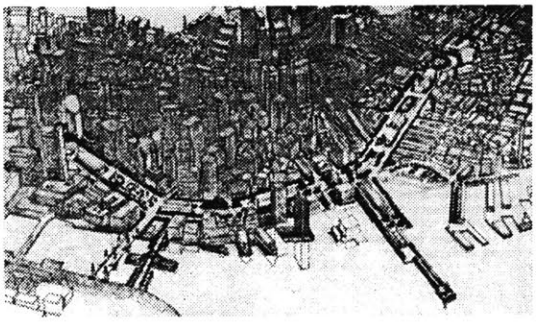


Figure 5.8

Figure 5.7: Alex Krieger's Proposal Perspective for the New Surface Land. [Boston 2000]

Figure 5.8: Aerial View of Alex Krieger''s Scheme for the Depressed Artery. [Boston 2000]

4. Alex Krieger plan:

This plan proposes two independent surface avenues between North and South station. Along the boulevards, alternating public spaces and development schemes are proposed to reflect the needs of adjacent districts and neighborhoods. Each district within the corridor from Haymarket Square to Dewey Square would create its own public square, with development surrounding it defined by the district. This plan called for an approximate floor area ratio of 1.85, with 50 percent of the land area preserved as open space. The density of this development is comparable to the Back Bay between Boylston Street and Charles River.[5] [Figure 5.7, 5.8]

The four plans share similar concerns: Improving the quality of the pedestrian environ-

ment downtown, enhancing the visual and physical connection to the waterfront, providing open spaces for city public amenities, and developing the pathway with architectural qualities of adjacent neighbors. But the specific plans choose to articulate these goals in different ways. They seem to raise questions in terms of relating the role of open space, the legacy of the past, and the importance of the grand scheme.[6]

Generally speaking, I Have accepted some of the technical and traffic constraints laid out by the BRA and Alex Krieger Association. For example, building heights will not exceed six stories and use of air rights over the artery will conform to the structural limitations of the depressed artery tunnel box. However, I will not, as most proposals have done, adapt the two-avenue traffic scheme stipulated by the transportation planners which would connect North and South stations via a north and a south avenue.

Many other public designs discussed for the future of the artery corridor were eliminated before they were even considered publicly. It

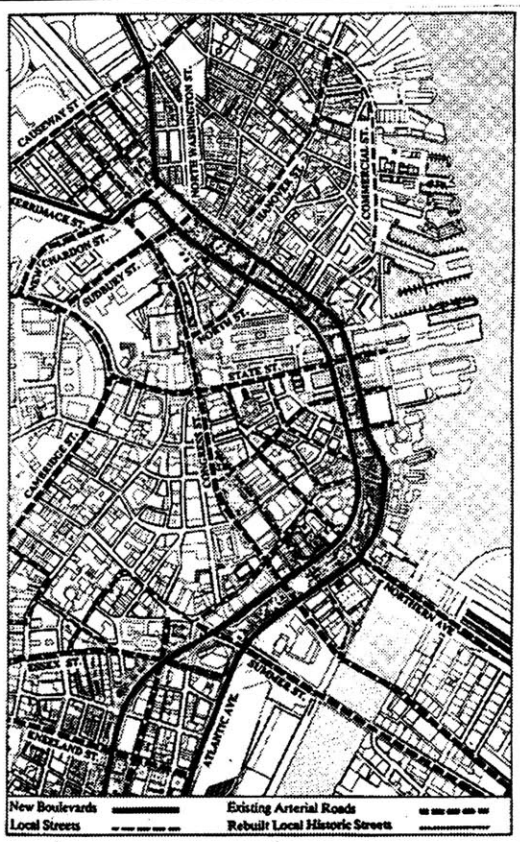


Figure 5.9: Proposed Street Hierarchy Diagram. I [Massachusetts Department of Public Wors, 1990]

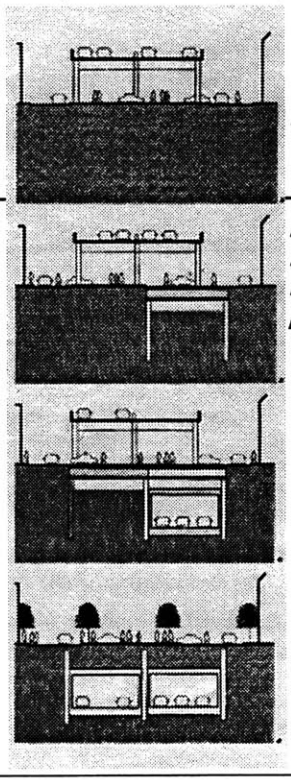


Figure 5.10: Construction Development of the Depressed Artery. [Boston 2000, Plan for the Central Artery Progress]

Figure 5.11 Model of Boston in Year 2000

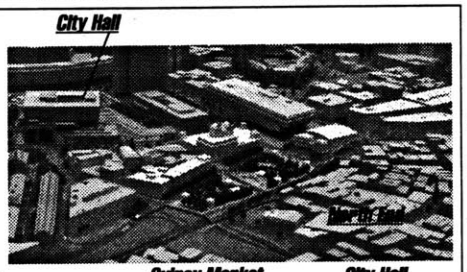


Figure 5.12

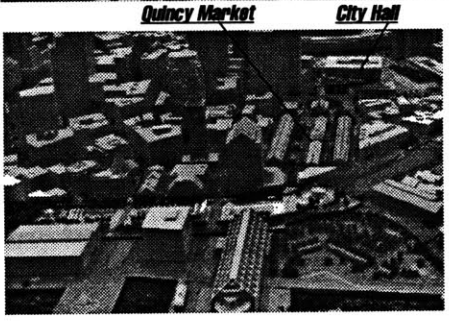


Figure 5.13

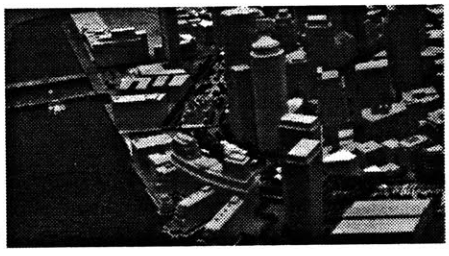


Figure 5.14

Figure 5.12: BRA's Model of Noth End Park Development. [Boston Redevelopment Authority Office]

Figure 5.13: BRA's Model of Waterfront Development. [Boston Redevelopment Authority Office]

Figure 5.14: BRA's Model of Financial District Development. [Boston Redevelopment Authority Office]

was conceived by the BRA that the only schemes which would be part of the discussion had to accept the "realities of the project". As a result the scenarios had to be based on the same traffic and engineering constraints as the plans prepared by the BRA and the Alex Krieger Association.

Among some of the design ideas which were submitted to the Boston Vision Competition, were ones dealing with public uses, landscaped open spaces, and retaining fragments of the existing elevated expressway for new uses along the path-way.[7] But these submissions were not seriously considered. On the contrary, the entry which proposed retaining part of Central Artery was not even publicly acknowledged as part of the discussion on the development of the surface land above the depressed artery. The idea of re-using the existing elevated highway has been considered as "refreshing academic ideas....which

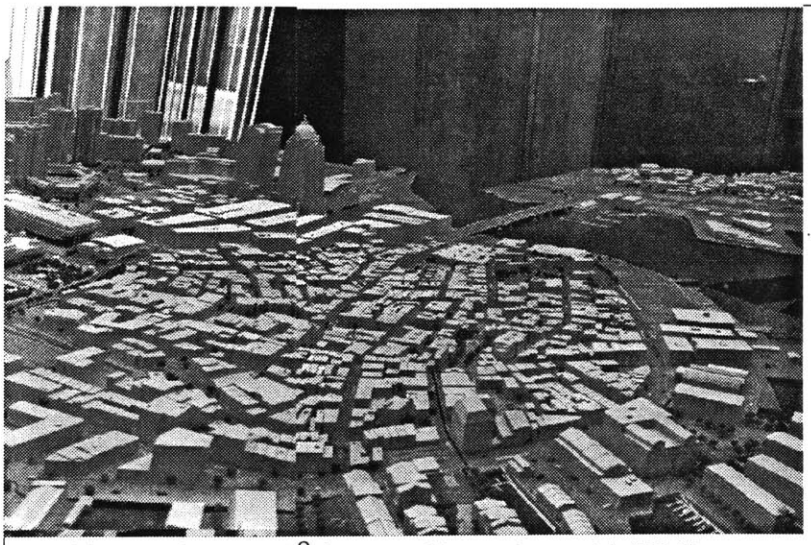
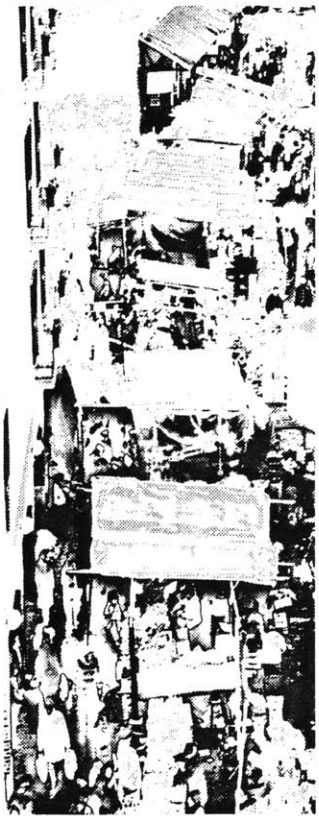


Figure 5.15: BRA's Model of Boston in Year 2000. [Boston Redevelopment Authority Office]

would never happen."[8] (personal interview with BRA)

The result of this narrowed unified vision of the Boston scheme has been modeled in the BRA office. Various building blocks can be found with which only the designated decision makers can play. The message is clear, the discussion of surface land uses is controlled by the BRA. Statements such as "... working with hundreds of citizens and community groups and political and business leaders, [the BRA] has reviewed and analyzed the range of proposals, setting goals for the reuse of this land"[9] aside, that the BRA is paying only lip service to the idea of public participation.

Figure 5.16 Computer Graphic of Haymarket Site.



Finally, the four proposed designs by BRA, BSA, Alex Krieger and Ricardo Bofill are conditioned by political power, economical feasibility, and engineering constraints. The schemes seem to have been used to justify preset goals resulting in a lost opportunity to use the development of the Central Artery as a unique way "to redefine the pedestrian experience"[10]

Once the elevated highway has been removed, the distance from the Blackstone block to the North End is approximately 400 feet wide and include the double traffic lanes which cut off easy access

Figure 5.17: Existing Central Artery Towards Downtown Boston.

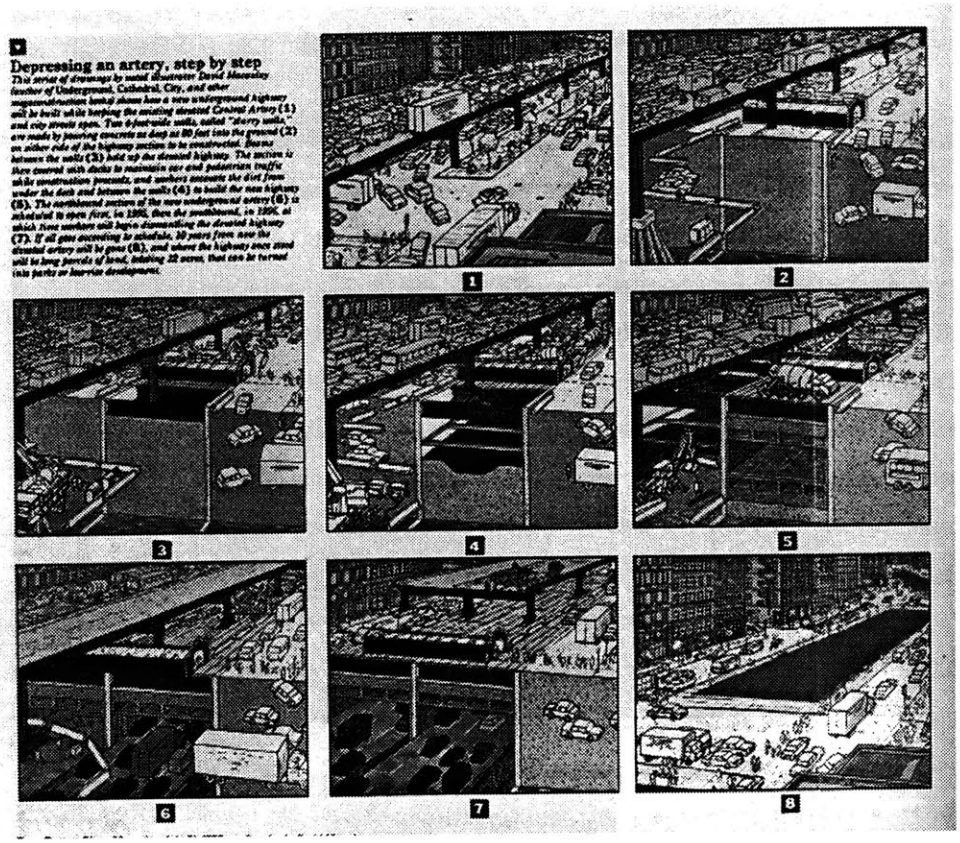


Figure 5.18: A Series of Drawings by Noted Illustrator David Macaulay Shows How A New Undergrand Highway Will Be Built While Keeping the Existing Elevated Central Artery.
[Boston Globe Magazine, July 31, 1988]

Figure 5.19: Removal of the Elevated Express Artery.

North End

to the green park in the middle. The results of this kind of situation can be easily seen from the Olmstead Park design near Fenway Park. Major traffic routes from the north through Atlantic Avenue are difficult for people to cross. The approved scheme may be well intentioned, but its implications for the pedestrian are not yet known. Too much open park space may just create another barrier to pedestrian crossing. "... People will be afraid to walk through [the park] at night" said one member of the BSA task force.[11] =

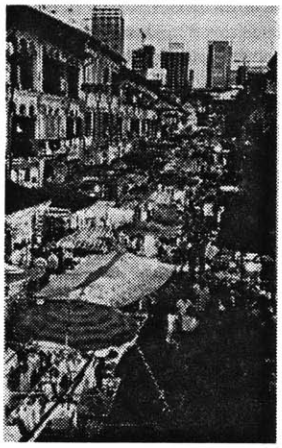


Figure 5.20 A Street Market For The Pedestrian in Singapore. [Urban Market, p.57]

The BRA's scheme was revised after reconsideration. The new Boulevard Scheme attempts to merge the large with small; the result is a conglomerate of ideas and a segmented plan. The plan calls for a system of parks which will respond to the characteristics of each neighborhood. The BRA explained their decision to reconsider the original plan in physical and formal terms as follows.

"From the BSA we learned that "knitting" districts together with new buildings is indeed a needed crucial goal where historic districts have been served by the expressway and where the original urban form on both sides is sufficiently intact to be rebuilt... From Ricardo Bofill we gained appreciation for the public nature of the land and the civic importance of open space and public buildings. ...This concept reinforced the City's segmentation of this corridor into five distinct open space environments, each linked together by a grand boulevard.... We learned that the parkland system should take its character from the

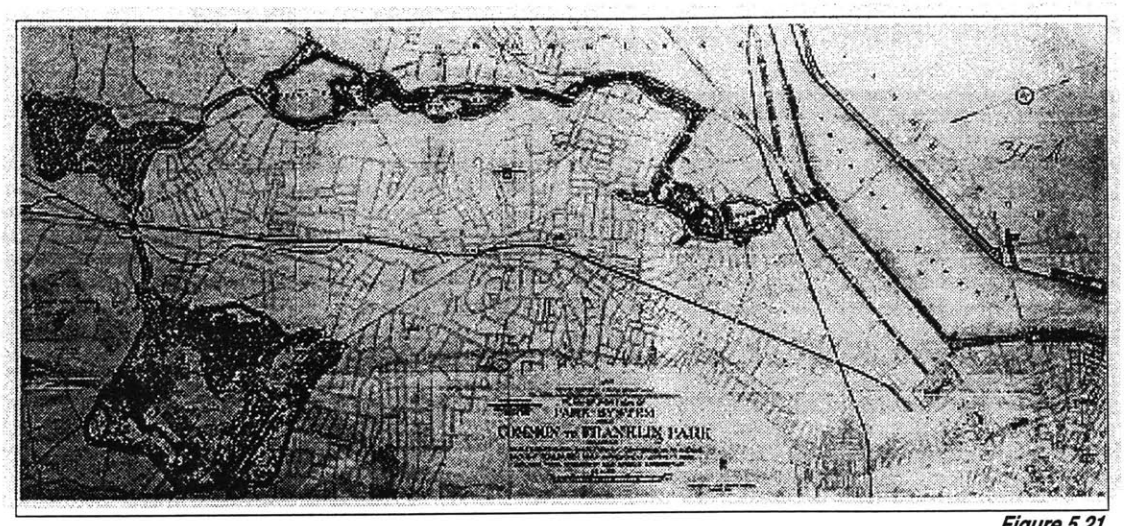


Figure 5.21

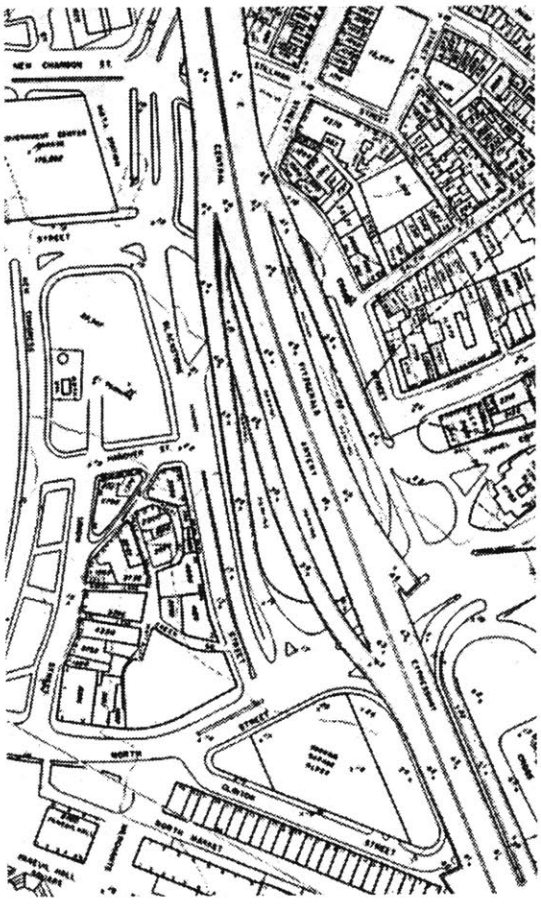


Figure 5.22

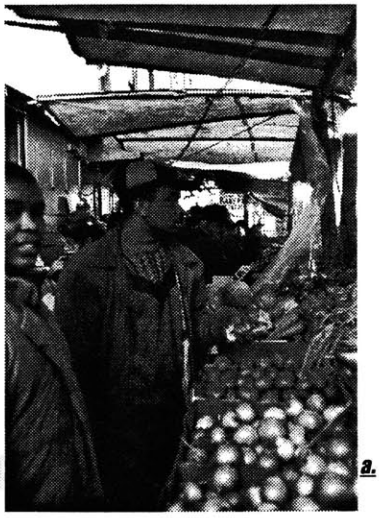
Figure 5.21: Park System Proposed by F. L. Olmsted. (1894) [Process Architecture, p. 64]

Figure 5.22: Project Site.

district which it passes. ... Finally, Alex reminded us of the City of Boston's local historic character and the need to respect the existing context."[12]

Ever since construction of the artery, people of all ages make their way to cross the site. The under pass walkway is located in between Salem St. on the North End and Hanover St. on the downtown side. The present of site is used also for parking between Cross, Blackstone and North streets. Improvement of pedestrian crossing has been an ongoing concern for the North End community and the city of Boston.

The North End was isolated from the recent downtown under urban renewal for the past 25 years. Despite the successfulness of the program, the North End has become an attractive place for young professionals since the 70s. Probably the experience of the people in the North End throughout the construction of the artery , the reshaping of the city and the changes in their neighborhood have altered

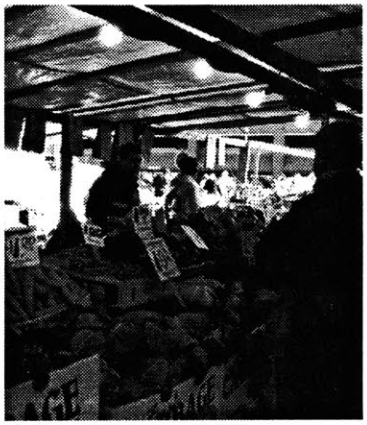


a.

Figure 5.23 a-d : Boston Haymarket Area, 1994.

their attitude towards the "ugly barrier" artery.

In spite of all the negative images of the artery, many areas underneath are well used, especially the site between the Blackstone block and the North End. I have seen people strolling back and forth for rain and wind protection, a place for theater stage and a place for resting among the daily stops. The structures are used for storage serving the Haymarket. During the weekend, pedestrians even take the vehicular down ramp (during the rush hours) to the market place even through it is clearly prohibited.



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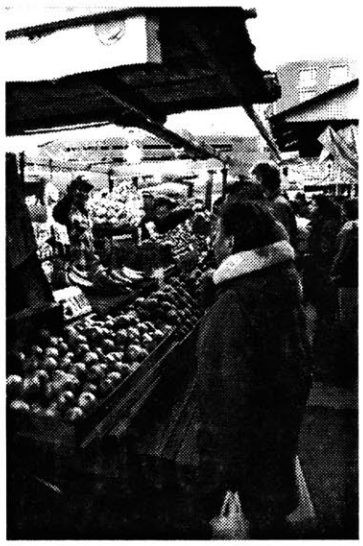

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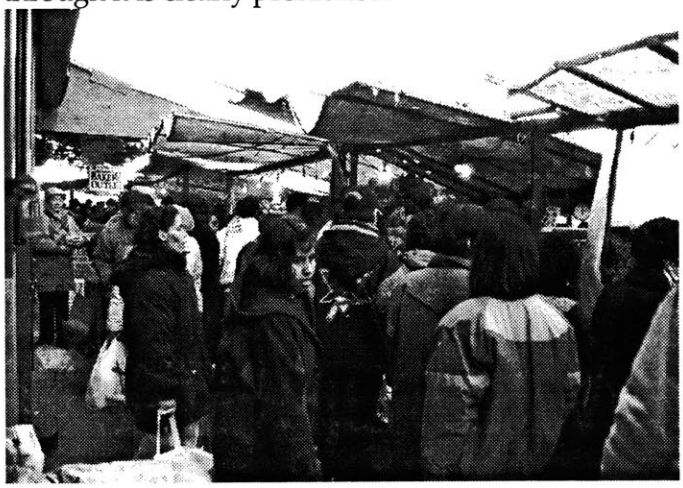

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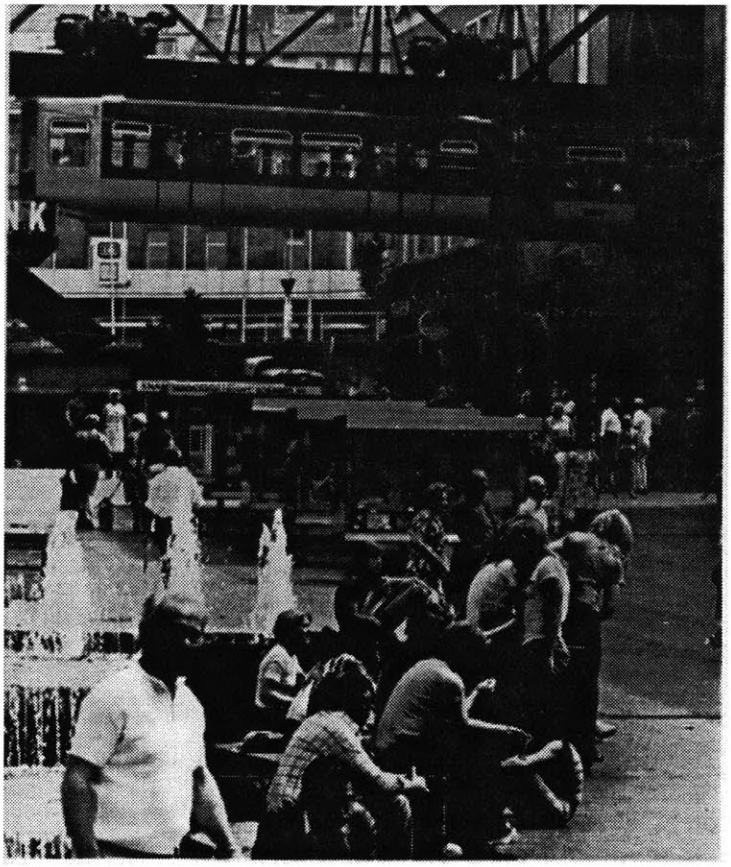


Figure 5.24: SchwanenstraBe, Germany.Patterns for Combining Different Transportation System and Pederstrian Traffic. [Pedestrian Areas, 1979, p. 151]

1 "The 27 Acres Opportunity", Sunday Boston Globe, 1990.
2 Boston Redevelopment Authority, Boston 2000, page 35.
3 Ibid.
4 Ibid.
5 Ibid.
6 "The 27 Acres Opportunity", Sunday Boston Globe, 1990.
7 Boston Visions, A National Design Competition, Catalogue. Editors Fitzerald Richard and Alexander Lee, 1988, page 1, 14 and 18.
8 Personal Interview with BRA Central Artery Team, 1994.
9 Boston Redevelopment Authority, Boston 2000, page 35.
10 Stephen Coyle, "The 27 Acres Opportunity", Sunday Boston Globe, 1990, page 43.
11 "The 27 Acres Opportunity", Sunday Boston Globe, 1990.
12 Boston Redevelopment Authority, Plans of 1987, 1987

Thesis Project Proposal

Figure 6.1: Boston Haymarket Aerial View.

The Concept:

Consider and Evaluate

The building of the Central Artery did not simply ease traffic problems, it impacted the culture of the different neighborhoods in the city of Boston, effecting complex and ongoing interactions between individual and the community. To erase these 50 years of impact due to the artery probably is not the right thing to do. As we look at past urban renewal projects such as Government Center and the West End we are constantly wondering what and how it was before. At this time, we should carefully consider the experience of the Government Center renewal proposal, and consider retaining part of the existing artery.

The utility of the section, between North End and Haymarket, of the Artery will grow to connect various parts of the city for pedestrians over time. It will give people the experience of moving above the automobile world and possibly the chance to get an understanding of the built structure.

People often wonder what it would be like viewing the cityscape and the ocean from the highway. This will never be possible in a park surrounded by buildings. One last feature

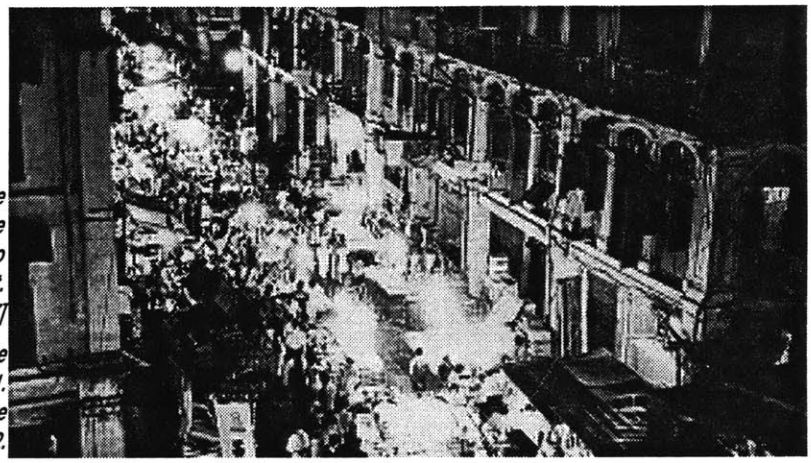


Figure 6.2: Streets in Singapore Which Function as Through-Route During the Day And Turned Into Markets at Night. [photo from Urban Markets, p.57]

Figure 6.3: Design Sketch for the Scheme 1.

Figure 6.4: Design Sketch for the Scheme 2.

Figure 6.2

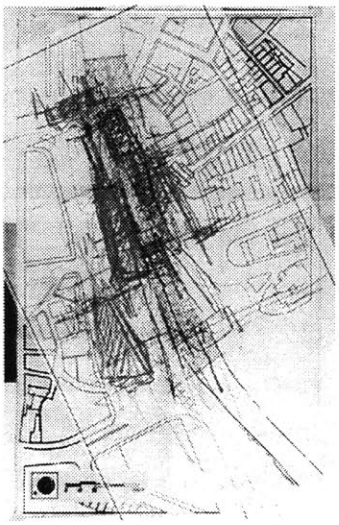


Figure 6.3

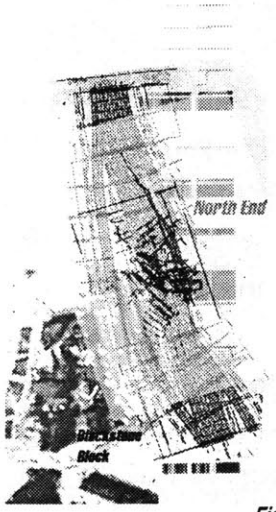


Figure 6.4

is the advantage of influencing change over time. This structure will be used as a basis for parks, houses, recreation centers, and different commercial uses.

My first scheme proposes building parallel to the artery in a way that maintains a clear boundary. Since pedestrians have the tendency to move by following the edge of buildings, the linearity of this scheme will not particularly encourage movement to the North End, but this scheme does narrow the street width for safer crossing. [Figure 6.3]

The second scheme [Figure 6.4] is designed to have "fingers" coming out of the artery, creating more surface edges. This scheme will allow public open space for pedestrians within a plan that presupposes the direction of the artery as the dominant pedestrian direction. A major project goal is to reconnect as many north-south streets as possible for pedestrian movement to the North End. In addition, I propose expansion of the existing, limited pedestrian access points from Quincy Market under the Artery to the North End.

I have concentrated on Scheme Two and propose a market center suitable to the needs of the merchants to be located at the

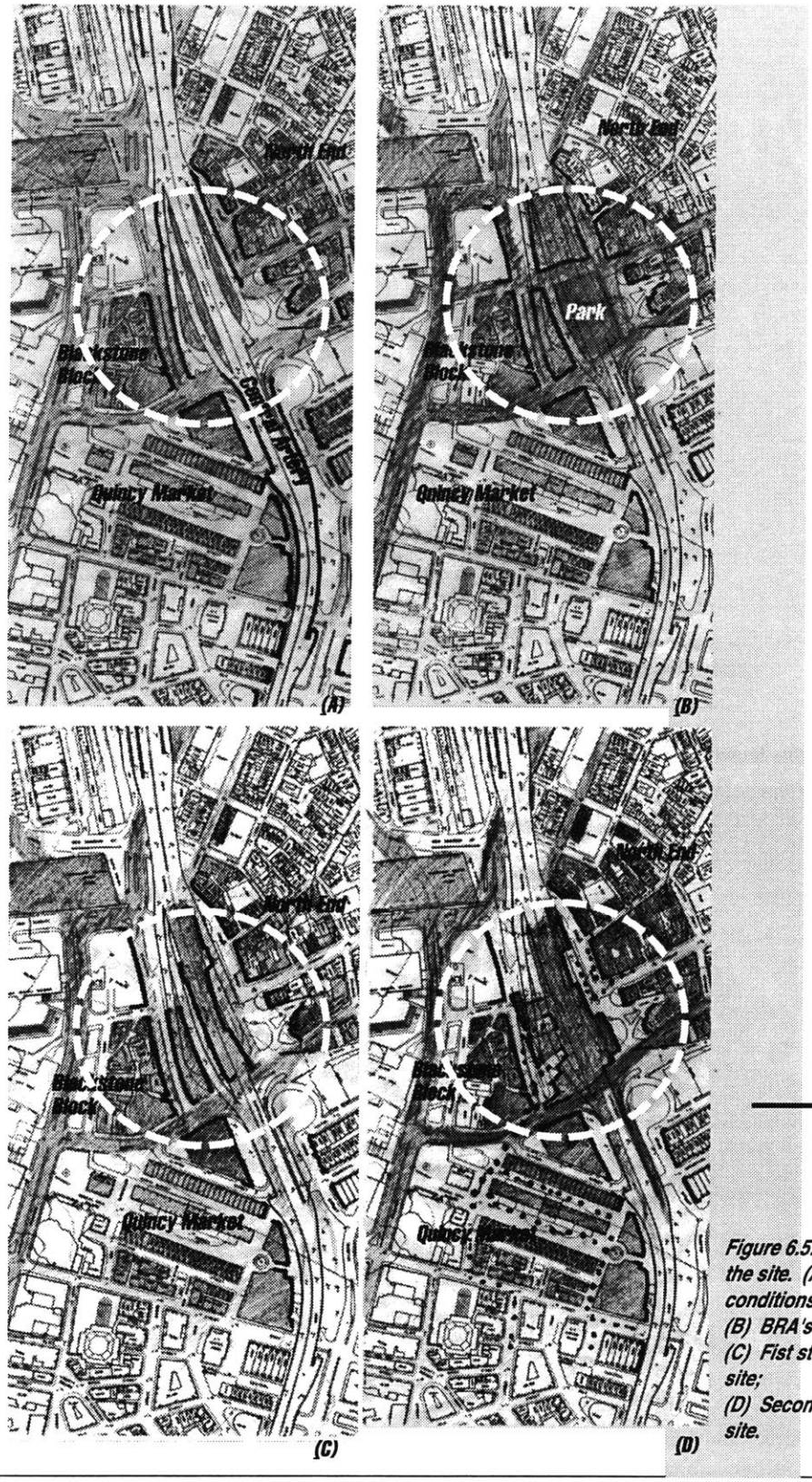


Figure 6.5: Different schemes for the site. (A.) Existing site edge conditions;
(B) BRA's plan for the year 2000;
(C) Fist studied scheme of the site;
(D) Second studied scheme of the site.

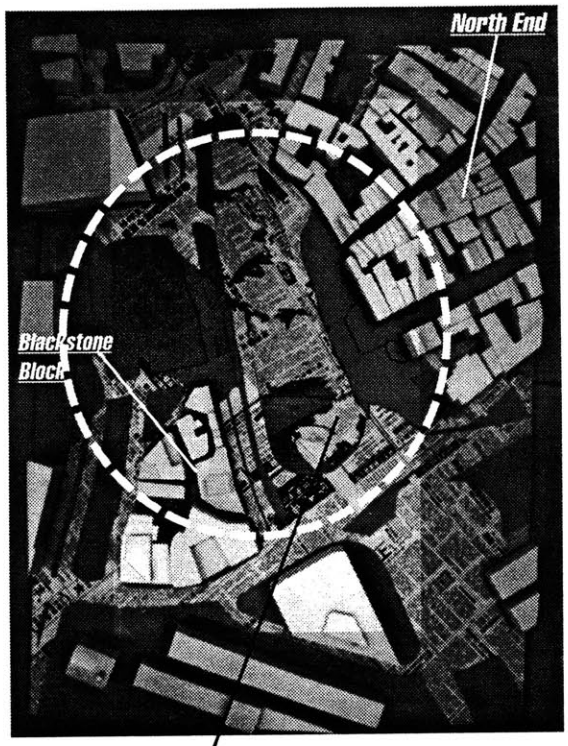
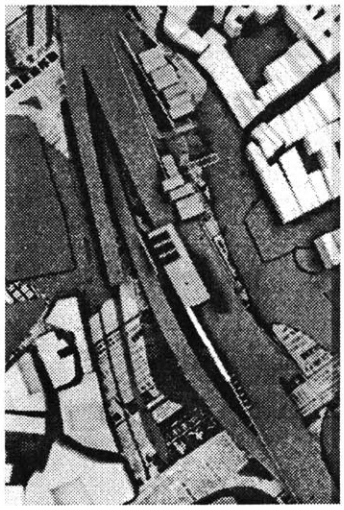


Figure 6.6: Site Model with Removal of the Elevated Highway

Figure 6.7: Proposed Site Model.



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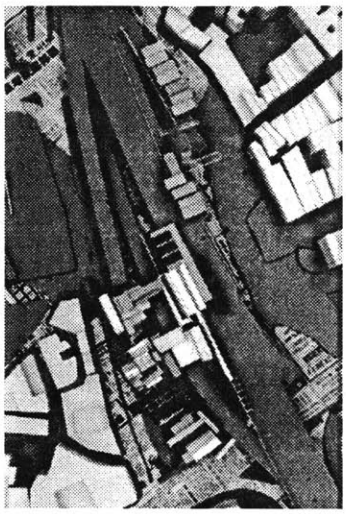

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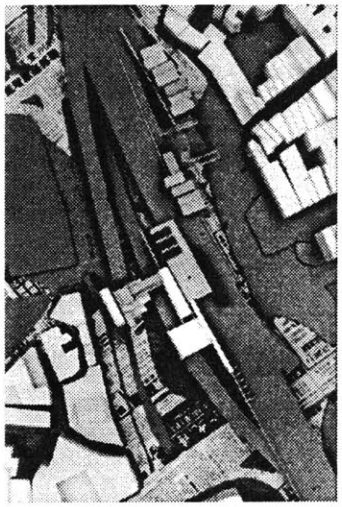

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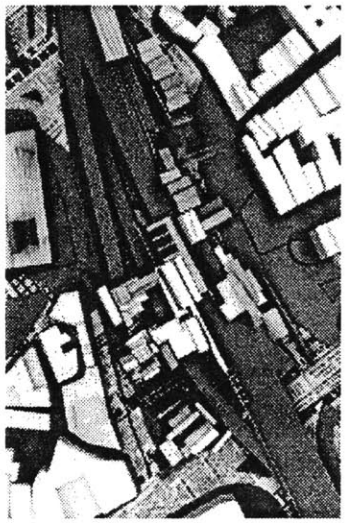

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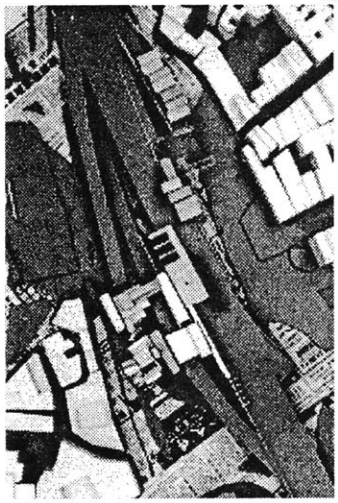

c.

Figure 6.8: Proposed Step-By-Step Construction of the Site in Various Stages.

a. Monorail Station.
b. First Finger Built from the Artery Towards Haymarket;
c. Second Finger Built from the Artery Towards the Haymarket;
d. Third Finger Built and Forming Market Squares;
e. Complete the Mixed Use Zone at the North End Site.

Figure 6.9 Market Place Under Highway Structure. Germany[Casabella]

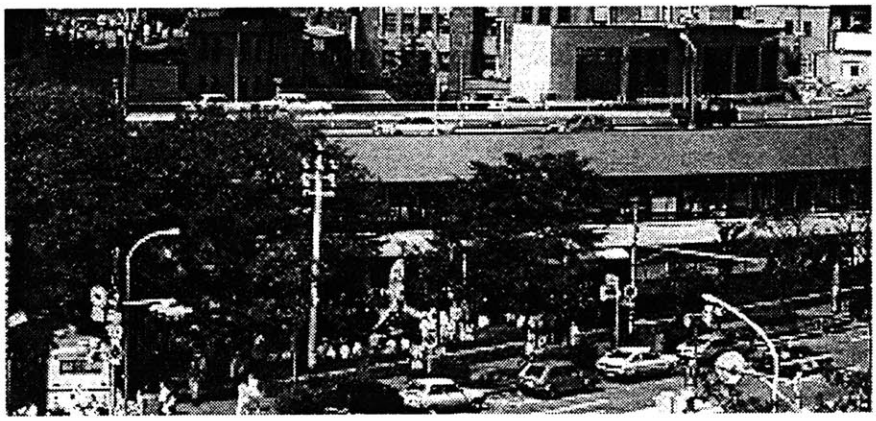

Figure 6.10 Shopping, Retailing under the Highway Structure, Tokyo. [Casabella]

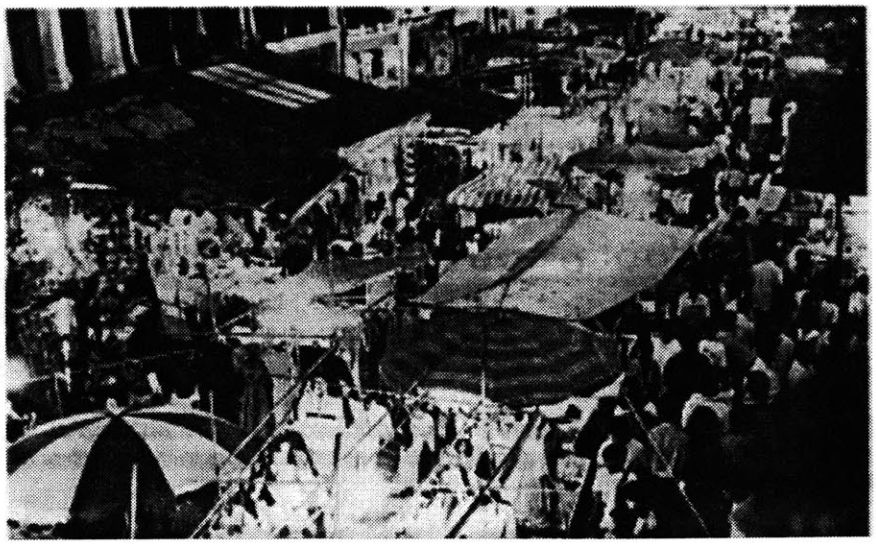

Figure 6.11 Pedestrian Market Place in Singapore. [Urban Market, p. 54]

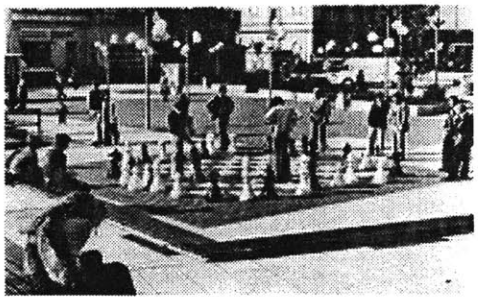

Figure 6.12

front-door to the North End which could be constructed under the Central Artery on the general site of the existing pedestrian cross-walks between Hanover and Salem Streets. There are a number of advantages to the proposed location:[1] (BRA)

1. The proximity of readily available vacant land under the Central Artery and the existing highway structure.

2. The market center, combined with public improvements, would be an excellent pedestrian connection between the North End, the Government Center and possibly the Finance district;

3. Proposed pedestrian arcades under Blackstone and Cross Streets would enhance access from Government Center and the North End to the market center;

4. Shopper parking could be available to the market center in adjacent existing parking areas or using the existing artery structure for a parking garage;

5. Service areas to either side and immediately adjacent to the market center would provide ample space for efficient and quick deliveries;

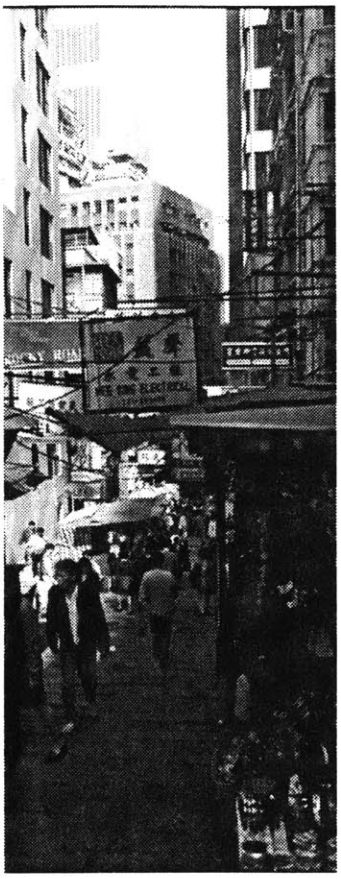

Figure 6.13

Figure 6.12: Chess playing area in Remscheid. [Photo: Pedestrian Area, p. 32]

Figure 6.13: A street market place in Hong Kong.

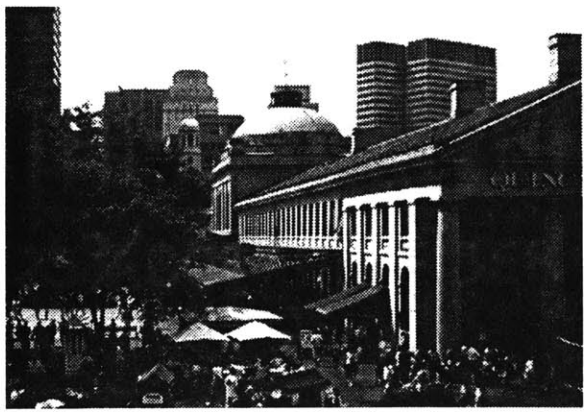

Figure 6.14

6. The Central Artery itself would provide protection from the elements.

The Market

In the design of the mixed use market and exhibition place, I have taken into consideration pedestrian movement to the North End. I disagree with the BRA and MDPW's plan for traffic flow and the Boulevard Scheme, but instead suggest keeping the structure to allow inhabitation by other uses and encourage formation of a new landmark in the image of the neighborhood.[2]

The market is intended to respond to concerns shared by residents and business people of the North End both for safety and commercial success. The portion of elevated highway to be preserved will allow a continued sense of boundary for the North End community.

Figure 6.15

Figure 6.14: Quincy Market (Faneuil Hall Market Place). [photo from Process Architecture 97, p. 35]

Figure 6.15: A Typical Pedestrian Street in Taipei, Taiwan.

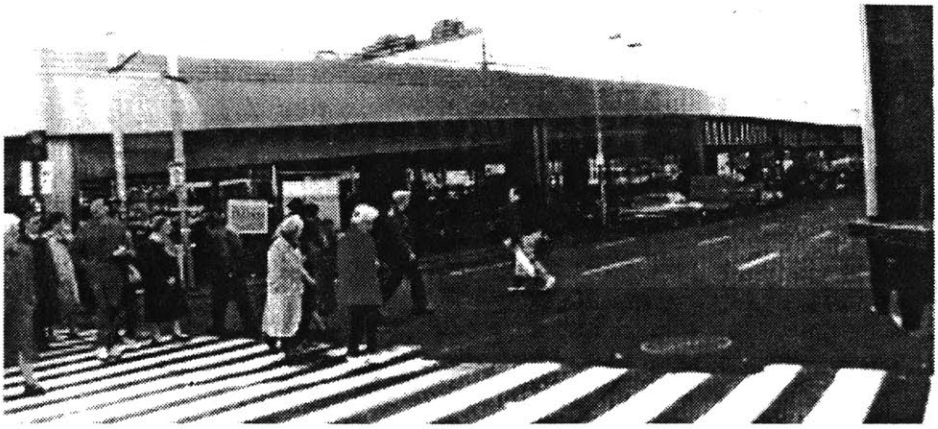

Figure 6.16: Pederstrian Crossing at North End

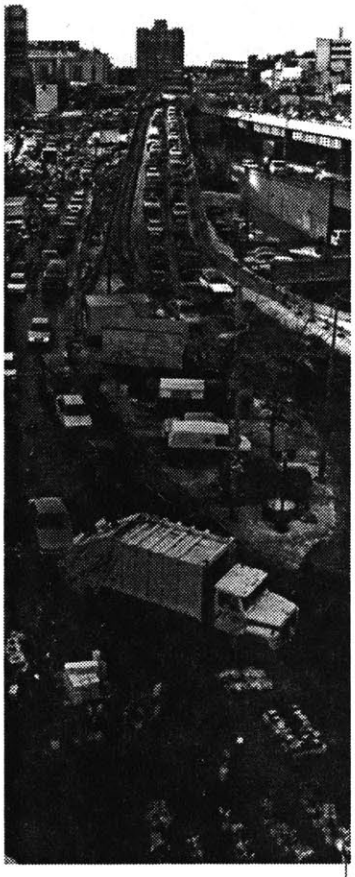

Figure 6.17: Haymarket Traffic Congestion.

Vehicular movement and traffic issues

A total ban on vehicles is not the solution to making a pedestrian area; rather the flow of vehicles should be controlled to allow only for services and emergency vehicles in support of uses that attract pedestrians.[3] In the current project at the market site the existing traffic conditions [Figure 6.17] have been altered to exclude heavy through traffic at ground level. Vehicles previously routed directly under the artery on Atlantic Avenue will be forced to go around the site via either North Street or Washington Street. In addition, Blackstone Street will be closed to vehicles to allow easy access to the Haymarket from the North End. Parking for those arriving by car will be consolidated with other necessary services adjoining Washington Street.

Design for pedestrian movement

Concept

The design of pedestrian areas includes circulation improve-

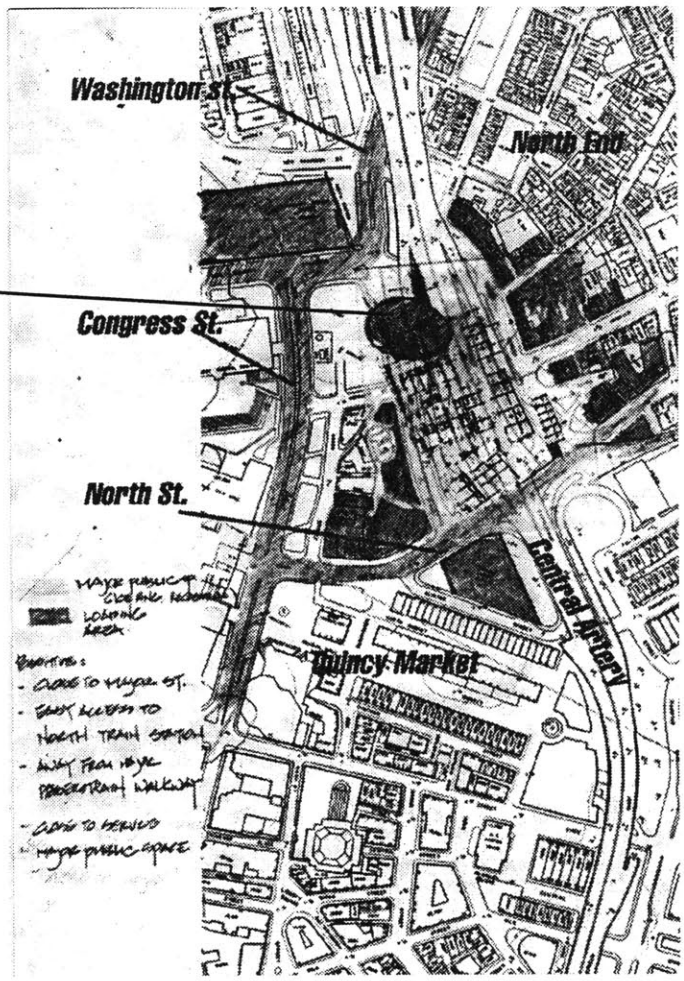

Figure 6.18: Study of Loading and Parking Area in the North Side of the Market Place in Relationship to the Major Traffic Routes.

ments, improved shopping areas, the promotion of the tourist trade, increased revenues from properties, leisure opportunities, improving the residential environment, environmental protection, town conservation, and the promotion of intellectual social relations as well as the cultivation of the town's image.[4] In order to avoid confrontations between the cars and pedestrian, the different kinds of traffic must be kept separate. On an average, people generally walk 60 minutes a day on the way to work, school, shopping and recreation.[5] Pedestrian areas should have a multitude of functions available This multiplicity of activities for satisfying one's curiosity, communication and living together on the public "stage" constitutes the public concept. Pedestrian zones are areas for events and assemblies in the best sense, and therefore can help to re-establish public social relationships.[6]

To a greater extent, it is the streets and squares that give the character to the town. It is very important not to

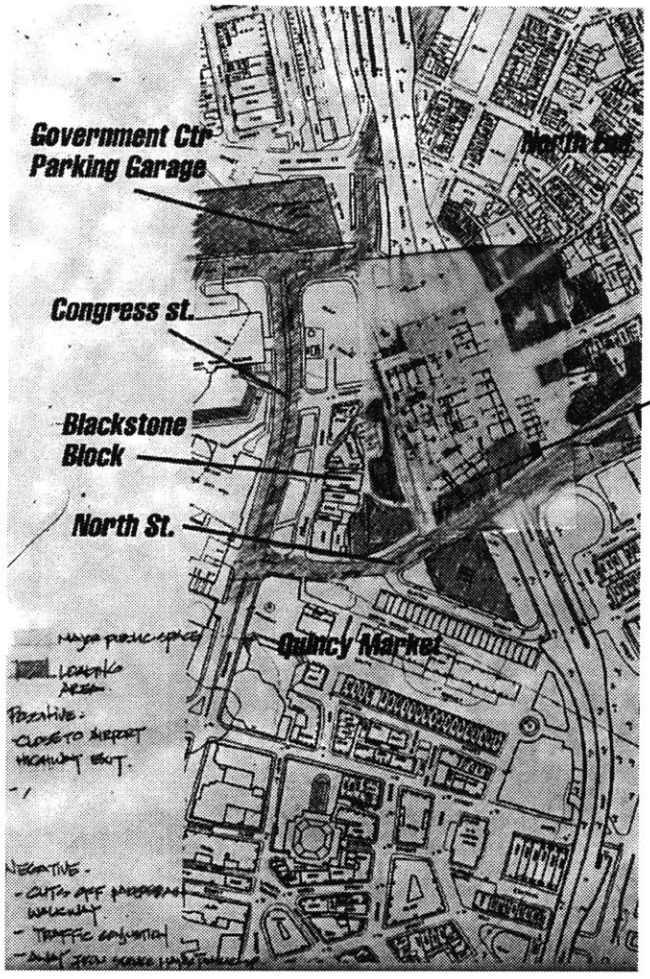

Figure 6.19: Study of Loading and Parking Area in the South Side of the Market Place in Relationship to the Major Traffic Routes.

Figure 6.20: Haymarket, Boston.

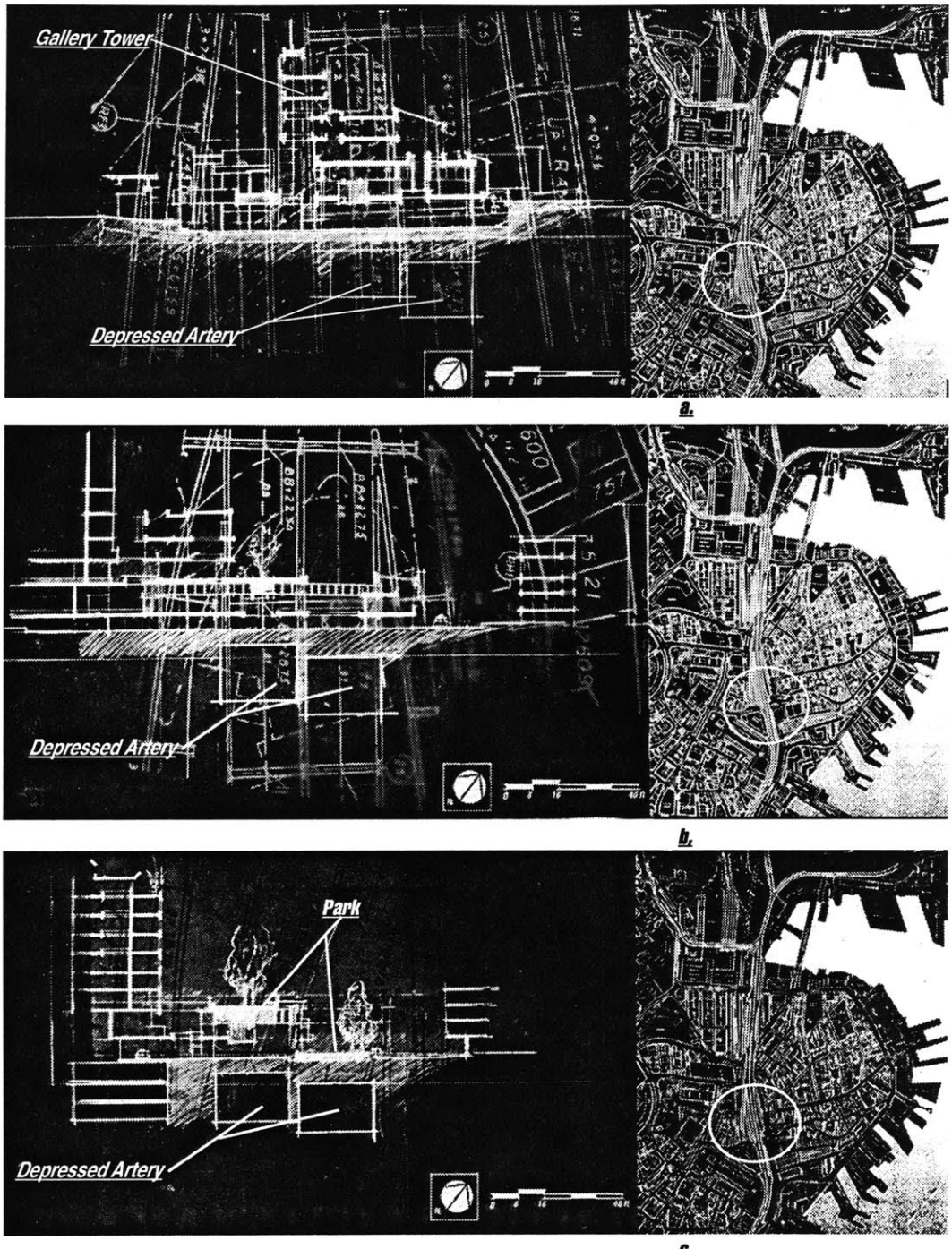

Figure 6.21: These Sections Taken Collectively Show the Variety Possible Combinations.

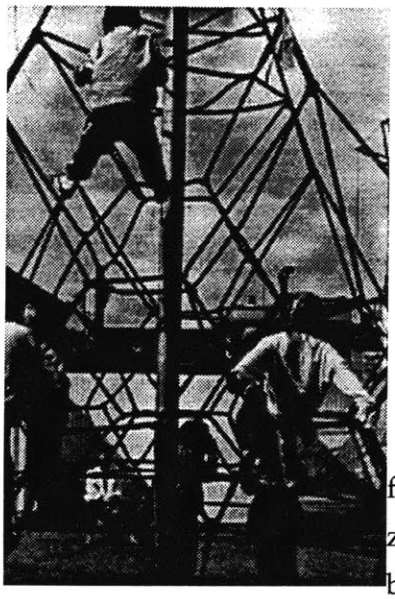

Figure 6.23

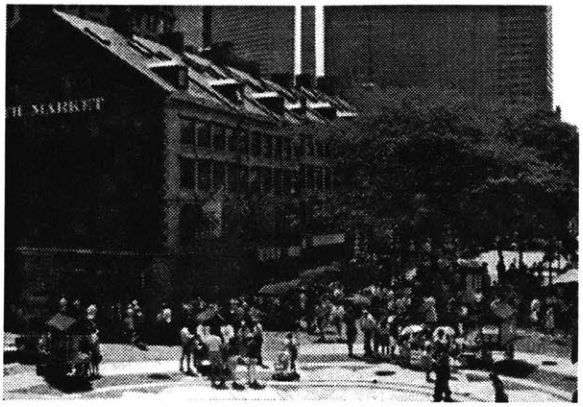

Figure 6.22

Figure 6.22: Quincy Market (Faneuil Hall Market Place). [Photo: Process Architecture 97, p. 35]

Figure 6.23: Play ground for children and their parents. [Photo: People Place, p. 5]

functionally break up the town into pedestrian-oriented zones, but rather to design the town as a whole for the benefit of the pedestrian. It is in this sense that the North End has been separated from the rest of the city; it needs a re-creation of this pedestrian-oriented footpath to reconnect it to greater Boston.

Using the street as a place of communication can reduce largely expensive and poorly designed meeting places. If we are to design streets for everyday forums then they should be adequately considered. "Pedestrian streets should not only serve one individual objective or group such as tourists or shoppers. The focus of pedestrian-area design must be the human being and not the individual user."[7] The multifunctionality of pedestrian streets allows the development of the surroundings. This means exhibitions, sales kiosks, itinerant street traders etc., covering a variety of street life such as shopping, residential space, open spaces, play streets, squares for ceremonies, meeting points, stages for entertainment and much more.

Pedestrian streets have a special function as places for

Figure 6.24: Cafe in Ancient Portico in Lombardy. [photo from Street for People, p. 306]

short breaks for relaxation. As well as street restaurants, areas of rest and recreation should be furnished with free seating accommodation, as well as being suitable for leisure activity and play.

Vertical Movement

Ramps are of greater benefit to pedestrians than stairs. They are always easier for those who can not negotiate stairs and this create a greater experience of the pedestrian streets. Level changes, in addition to providing a richer experience, can inform a sequence of direction changes.[8] Therefore, the existing ramps are partially kept for pedestrian access to different levels of the artery and new ramps have been generated for easy access.

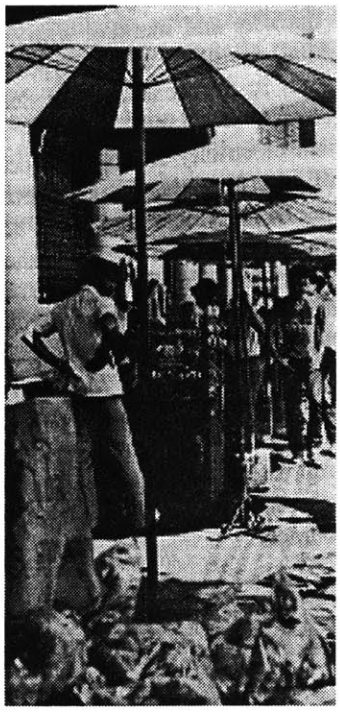

Figure 6.25: Street Market in Bangkok. [photo from Urban Markets, p. 62]

Weather

It is also important to have better protection from the weather for the pedestrian. The simplest forms of weather protection are umbrellas and canopies on stands [Figure 6.26], which are widely found in many markets of Asia. [Figure 6.26] Arcades are widely used in European towns to protect pedestrians

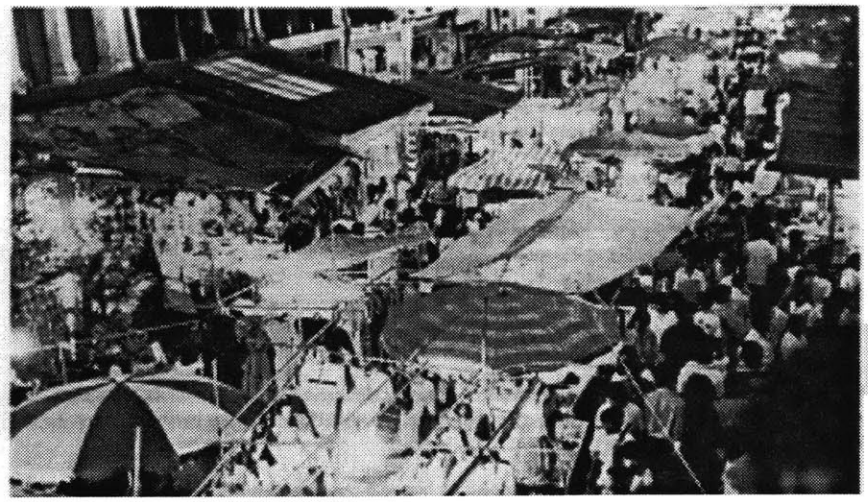

Figure 6.26: Market Place in Singapore. [photo from Urban Markets, p. 54].

Figure 6.27

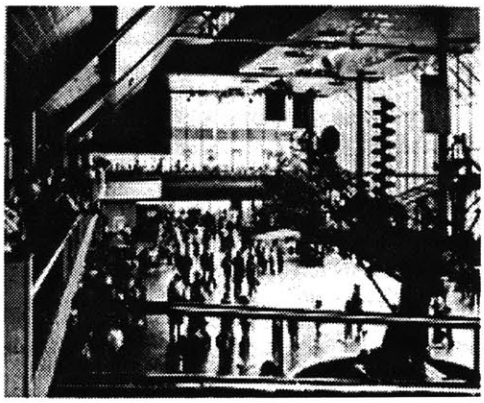

Figure 6.28

Figure 6.27: Columbus, Indiana, CourtHouse Center. [photo from Pedestrian Areas, p. 29]
Figure 6.28: MarlLadenstrabe mitLufkissendach. [photo from Pedestrian Areas, p. 29]

from weather.

Completely roofed market places are being increasingly proposed for the pedestrian street. The reason for this completely roofed pedestrian street is to protect from wind and rain, but keep light and sunshine. Other completely roofed-in pedestrian streets are used in shopping streets in Marie and the Courthouse Center in Columbus, Indiana.[9] [Figure 6.27, 6.28]

The structure of the artery is used in our case as a continuous weather protection against wind and snow to keep pedestrians dry and comfortable. The road surface of the artery is replaced with tinted glass for light and sunshine, creating a pedestrian underpass street for markets, monorail stations, restaurants and other activities.

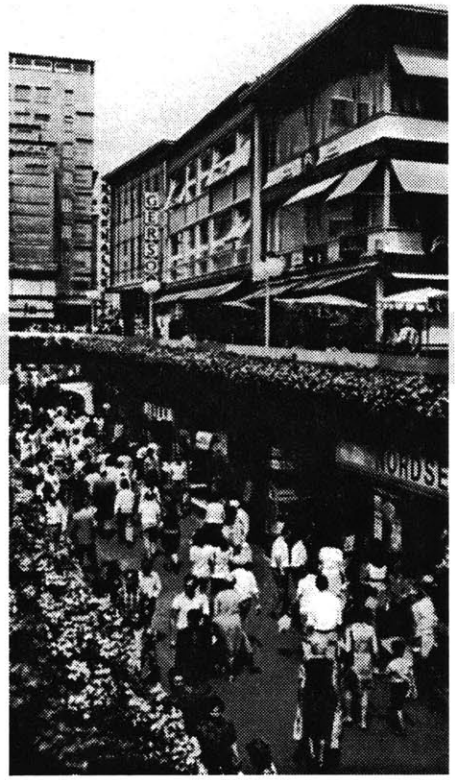

Figure 6.29: Pedrstrian street in Schulstrabe, Germany. [photo from Pedestrian Area, p. 139]

Pedestrian space

A square is a good model for the pedestrian space concept. The square is the junction of all pedestrian routes. A good pedestrian walkway will combine a special sequence of spaces such as different squares. Different sizes, shapes, enclosed and open spaces require different structure designs for their actual uses. Every single detail of structural design is important in generating the sense of space.

In this project of creating pedestrian access, the ground level is an open arcade for easy access in and out of the structure.[10] Generally speaking, there are two large open spaces for outdoor activities. Certain landscapes are designed center aisle market place to allow a night market to develop. [Figure 6.31]

Pedestrian zones must be adequately defined by architectural building walls for guidance. Use of continuous building facades in the pedestrian street to give a sense of direction is very important. The architectural design of the square and street also carries weight in the public opinion. The row

Figure 6.30: Haymarket, Boston. 1994

house has been very successful in this respect and has thus been chosen as a type coherent with both the North End and Haymarket designs. Not only does it build up the continuous surface for the pedestrian to follow, but it also differentiates the levels of privacy as it moves upward.

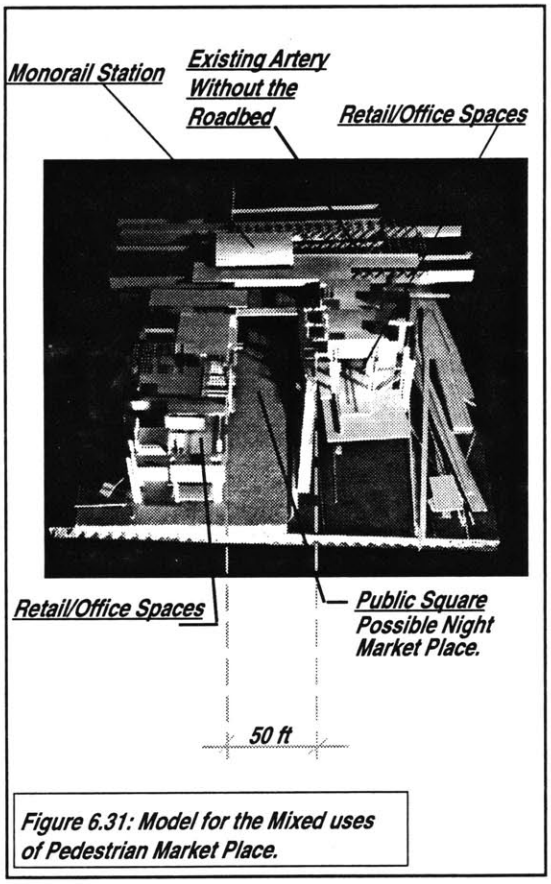

Figure 6.31: Model for the Mixed uses of Pedestrian Market Place.

The dimension of these row houses is 20 feet wide by 50 feet deep. This is a typical dimension of the row houses in the North End [Figure 6.32] and the Haymarket district. This dimension seems to be coherent with the structure of the artery which is about 90 feet wide and spans every 100 feet, but is divided by North bound and South bound road bed with a transition zone of 10 feet in between. This 50 foot dimension is adequate for a public square which can be subdivided into a night market or left at its full dimension.

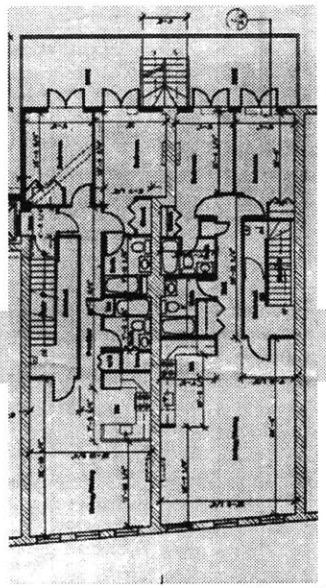

Figure 6.32

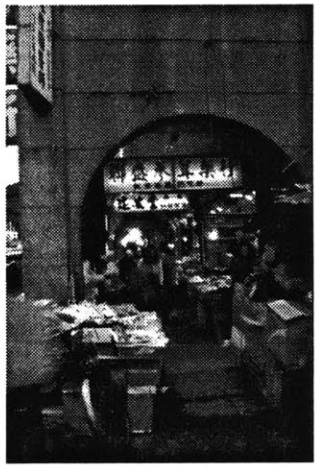

Figure 6.33

Figure 6.32: Typical Raw House Set-Up in the North End Neighborhood. [plan from Boston Public Library]

Figure 6.33: Typical Pedestrian Shopping Street in Taipei, Taiwan]

The shopping pedestrian street

The prime objective of pedestrianization planning in many towns is shopping tailored to suit the pedestrian. Traffic free shopping streets of the inner city plus malls and shopping centers were the catalysts of pedestrian-oriented planning. These types of pedestrian zones constantly attract customers and promote business. Therefore, pedestrianization is often identified with the shopping center. The pedestrian zones found in the urban setting are simply, shopping corridors with a high density of customers. In most pedestrian zones, the design rule is: "All the characteristics and ways of behaving that would increase sale of goods should be indirectly initiated or promoted."[11] This prevalent attitude is unfortunate because the street should be dedicated to the entire community. A street should not be a "consumer taxiway" or "consumption ghetto." Still, the pedestrianized main shopping area must continue to be regarded as an important component of the pedestrian-oriented extension of the city. The task of designers is to keep control of the proportion of market forces influencing design of these areas.[12]

One of the important factors in developing the shopping center is its accessibility. As far as reaching the shops is concerned, it is not the length of the street but rather the

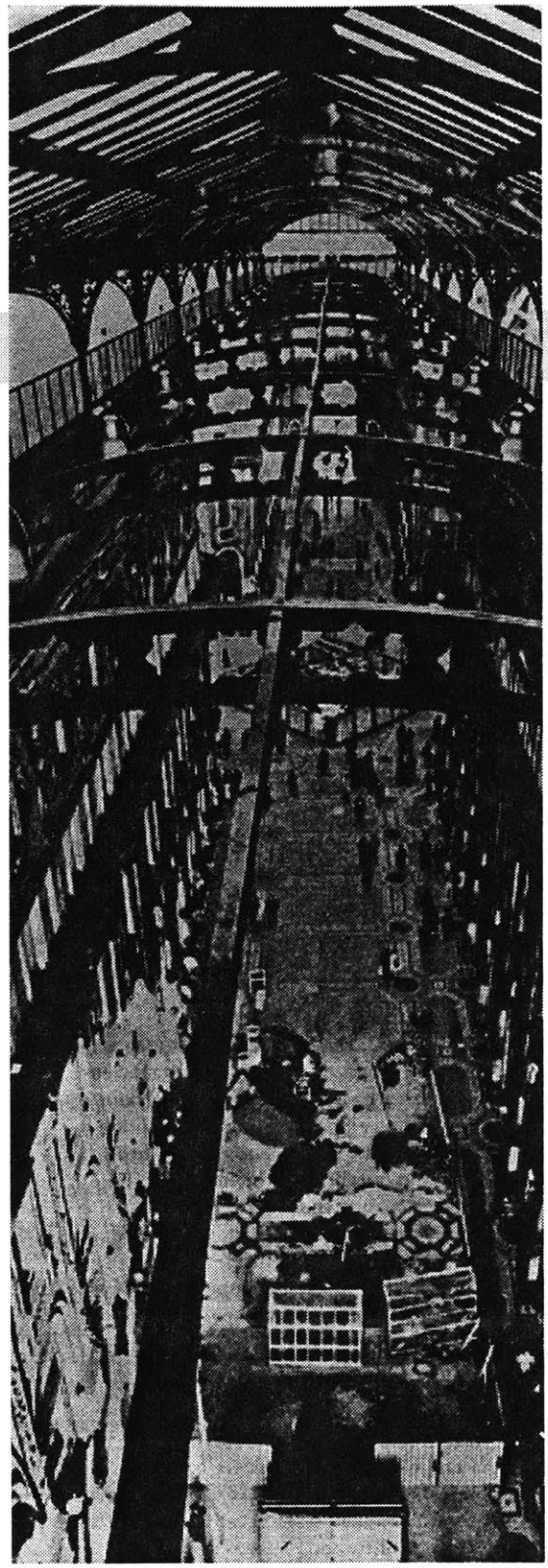

Figure 6.34: Galleria Vittorio Emanuelu II, viewing to the arcade from the ventilation structure. [photo from Arcade, p. 194]

distance from the local public transportation station and the parking areas which is important. Also, trade requires that the traffic routes should be able to come up to the boundary of the pedestrian zone.

The design of the two major traffic routes-Washington Street and North Street -will provide goods both from the North and South to the edges of the market place. And since these two major streets will only stay at the periphery of the pedestrian zone, they will not interfere with pedestrian access to the market place. The monorail will provide easy access to the site from either the North or South station to the market place, and will be hung from the existing artery structure. The station will be located in the second level of the shopping center. This will not only bring in people from various places, but it also will not block ground level pedestrian access from Haymarket to the North End. Since it is elevated to the second level, it will give an easy visual identification to the pedestrians seeking the train station.

Figure 6.35 : Pedestrian Street in Taiwan.

The ground level will be mostly designed for traders and a market place. The second level will be used for intermediate shops and public spaces such as restaurants and a monorail station. The third level will be used for private office spaces. The top of the artery will support a pedestrian path, residential housing, and a glass-covered roof for the market place below.

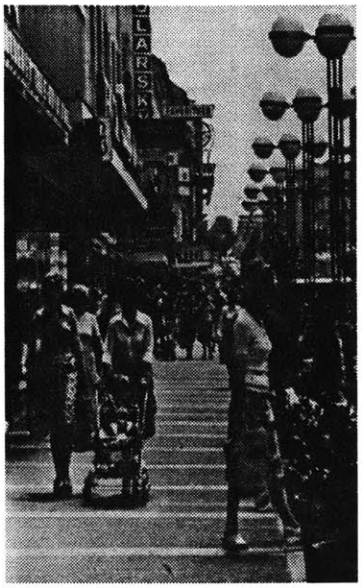

Figure 6.36: Favoritenstriten's Pedestrian Area. [photo from Pedestrian Area, p. 147]

Other architectural features for the pedestrian street

One particular sphere of pedestrian-street design is the visual limitation of the upper part of the street by means of elements of all kinds, such as billboard, signs, advertisement supports, strings of flags and various banners.[13] As visual partitions, these features can make streets look more attractive. [Figure 6.35] Many of these features are heavily used in the orient, presenting a special atmosphere for the pedestrian path. These signs indicate the different events happening in the neighborhood and the various types of shops located in the area. [Figure 6.36]

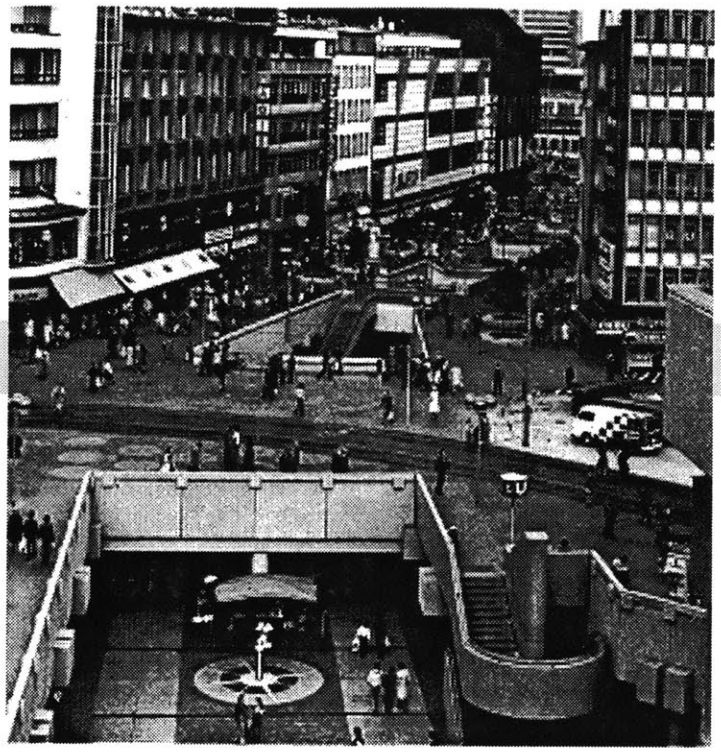

Figure 6.37: Multi-level Pedestrian area in Passerelle, Hanover. [photo from Pedestrian Area, p. 63]

Multi-level pedestrian areas

Designing a pedestrian route does not take place only within a vehicle free zone but also by means of other solutions which do not conflict with the traffic routes. The types of traffic can be separated by creating pedestrian and vehicle levels above and below the single-level street. Building up different levels of pedestrian paths in conjunction with the street network can not be avoided in urban areas today. Multi-level pedestrian areas will be part of town planning in the future. At the same time, this multi-level pedestrian area will further the possibility of three dimensional form. Pedestrian bridges and other means of safety accesses are necessary urban building elements in today's modern era. But "the possibilities of designing high-level pedestrian landscapes cannot yet be completely grasped, nor their advantages and disadvantages."[14]

The existing elevated artery can easily be used for this multi-level pedestrian street since the existing highway will be depressed underground and this 90-foot wide road surface can be used for pedestrian access and an automobile free zone. The surface can be easily utilized for

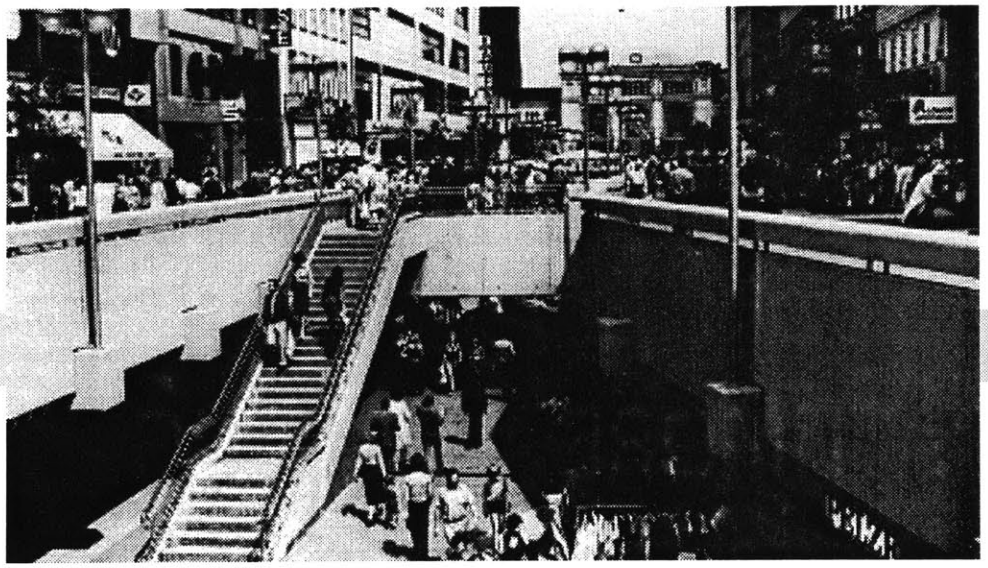

Figure 6.38: Multi-level pedestrian area in Passerelle, Hanover. [photo from Pedestrian Area, p. 64]

children's play grounds, adult's elevated park, and pedestrian paths next to the waterfront.

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1 Boston Redevelopment Authority, "Under-Artery Shopping Center", Boston Redevelopment Authority Research Paper, 1985.

2 Boston Redevelopment Authority, Boston 2000, page 7.

3 Klaus Uhlig, Pedestrian Areas: From Miles to Complete Networks, Architectural Book Publishing Co. Inc., New York, 1979, page 18.

4 Ibid., page 8.

5 Ibid., page 6.

6 Ibid., page 8.

7 Ibid., page 8.

8 Ibid., page 24.

9 Ibid., page 28.

10 Clare Cooper Marcus, People Place: Design Guidelines for Urban Open Space, Van Nostrand Reinhold Publishing Co., New York, page 30.

11 Klaus Uhlig, Pedestrian Areas: From Miles to Complete Networks, Architectural Book Publishing Co. Inc., New York, 1979, page 36.

12 Ibid., page 36.

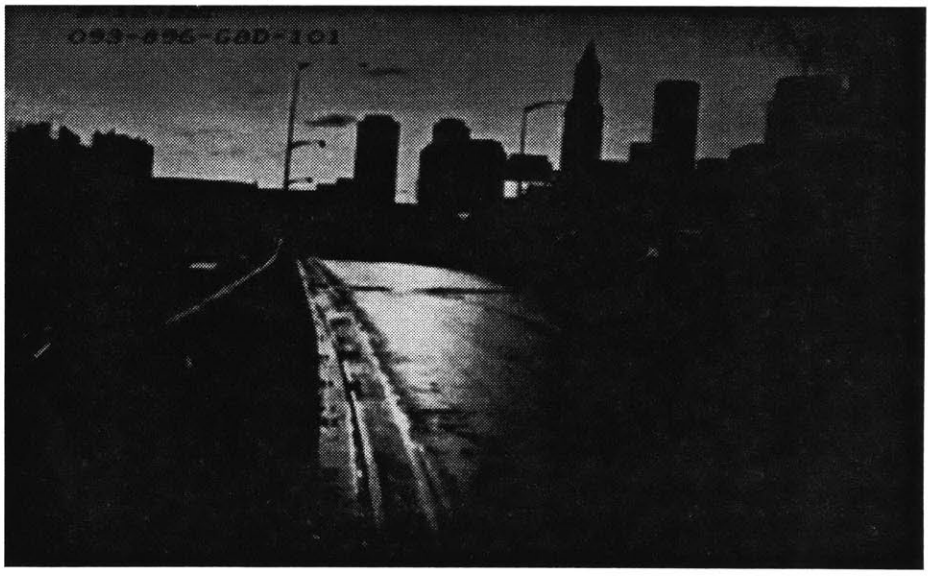
13 Ibid., page 30.

14 Ibid., page 22.

Conclusion:

I began this thesis with my concerns regarding the debate over the development of downtown Boston in conjunction with the Central Artery Project. The goal is to make a much more careful study of the design of the land that will be generated by depressing the artery, and to emphasize the values of the existing structure. The long history of the artery structure has become a part of people's lives and the City's culture. Using the structure to its maximum potential could help people understand the past history of Boston. As much as I agree with the Boston Redevelopment Authority's long standing goal of making downtown Boston a better place for pedestrians, I believe their approach may not be the right one. I chose to approach this project with a mixed use design utilizing the existing artery highway structure to provoke the discussion.

Figure 6.39: Viewing Downtown Boston From the Artery



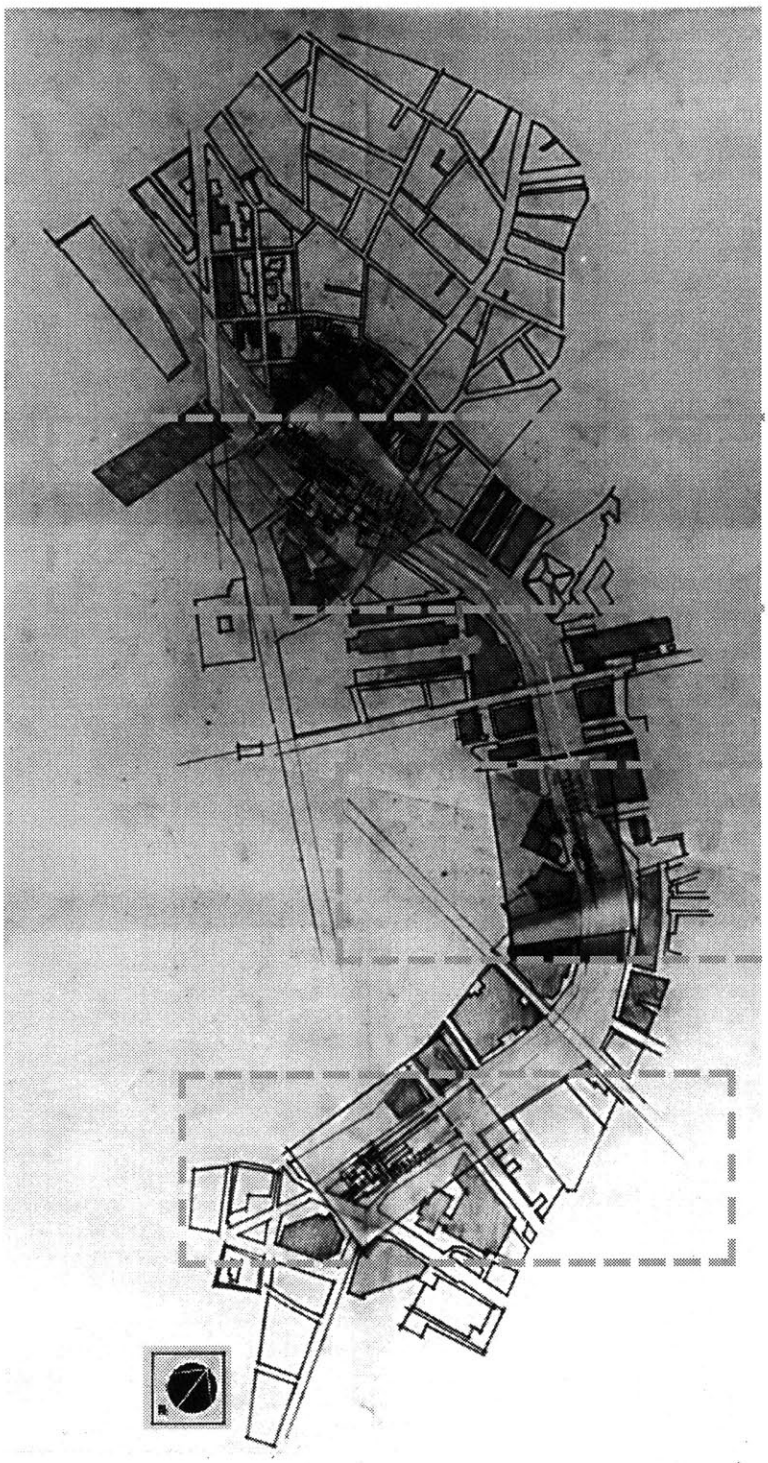


Figure 6.40: Proposed Monorail Stations Along the Re-Used Artery.

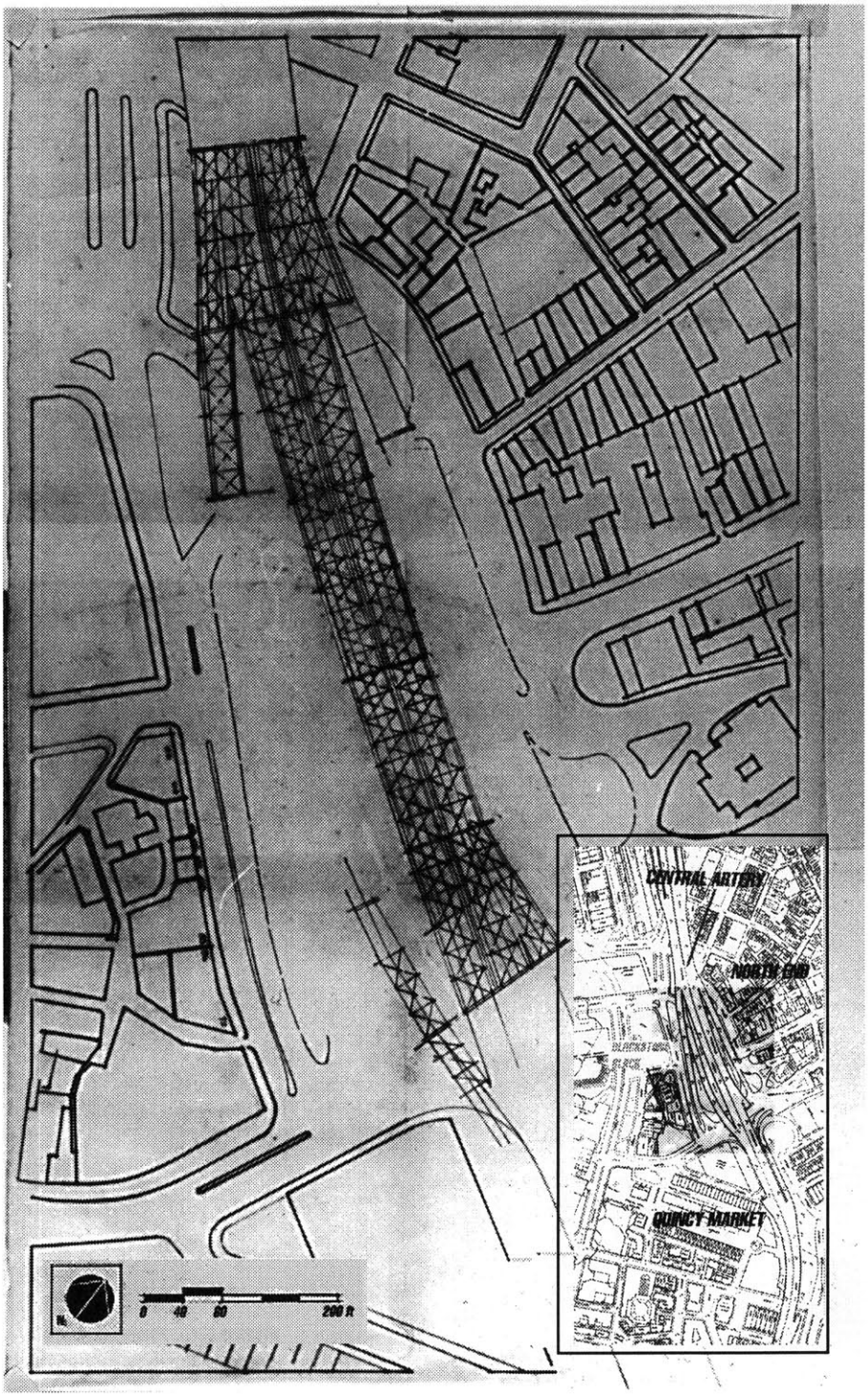


Figure 6.41: Proposed Site with Existing Artery Structure.

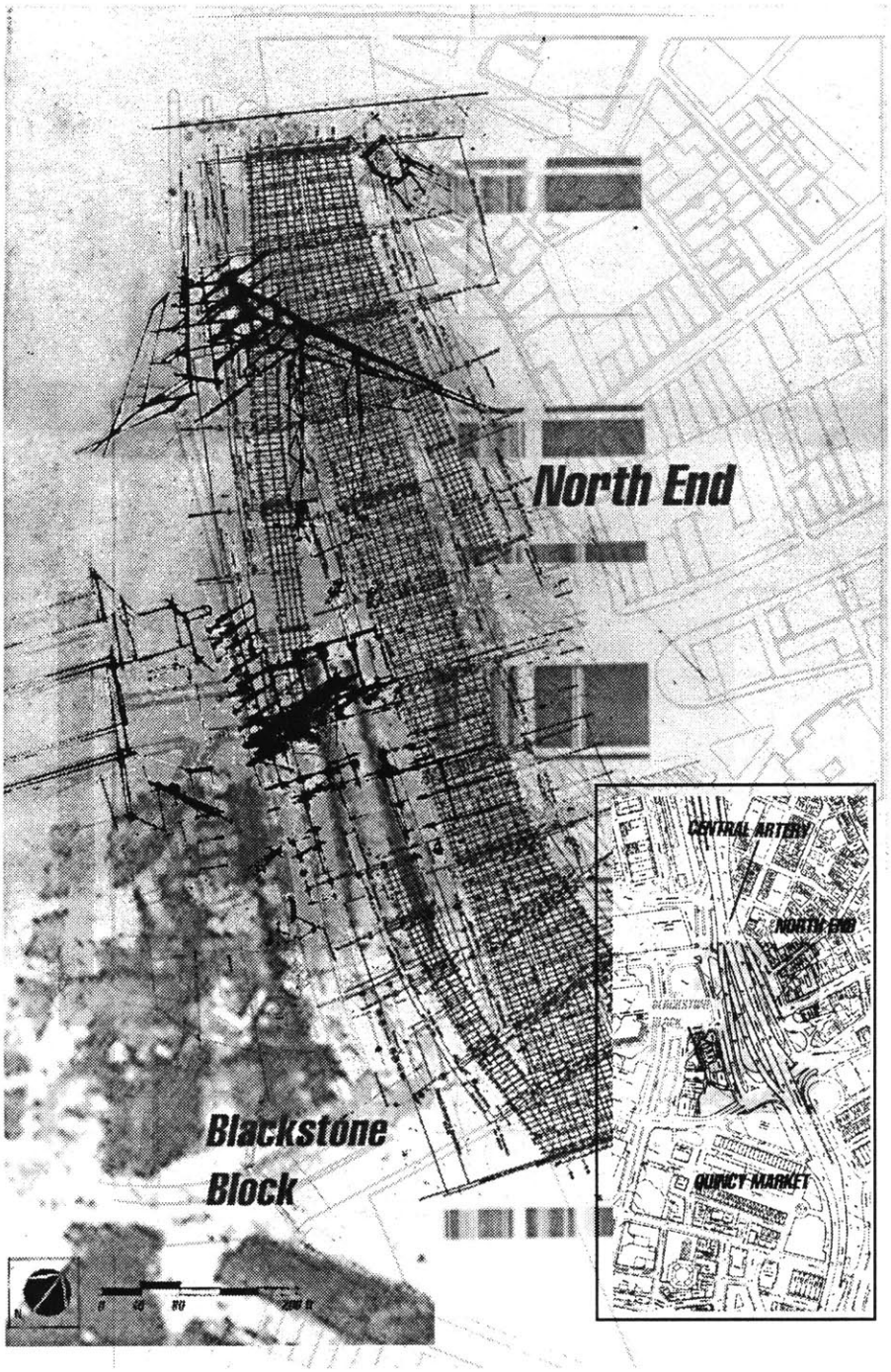


Figure 6.42: Site Structure Diagram (Existing) with Proposed Additions #1.

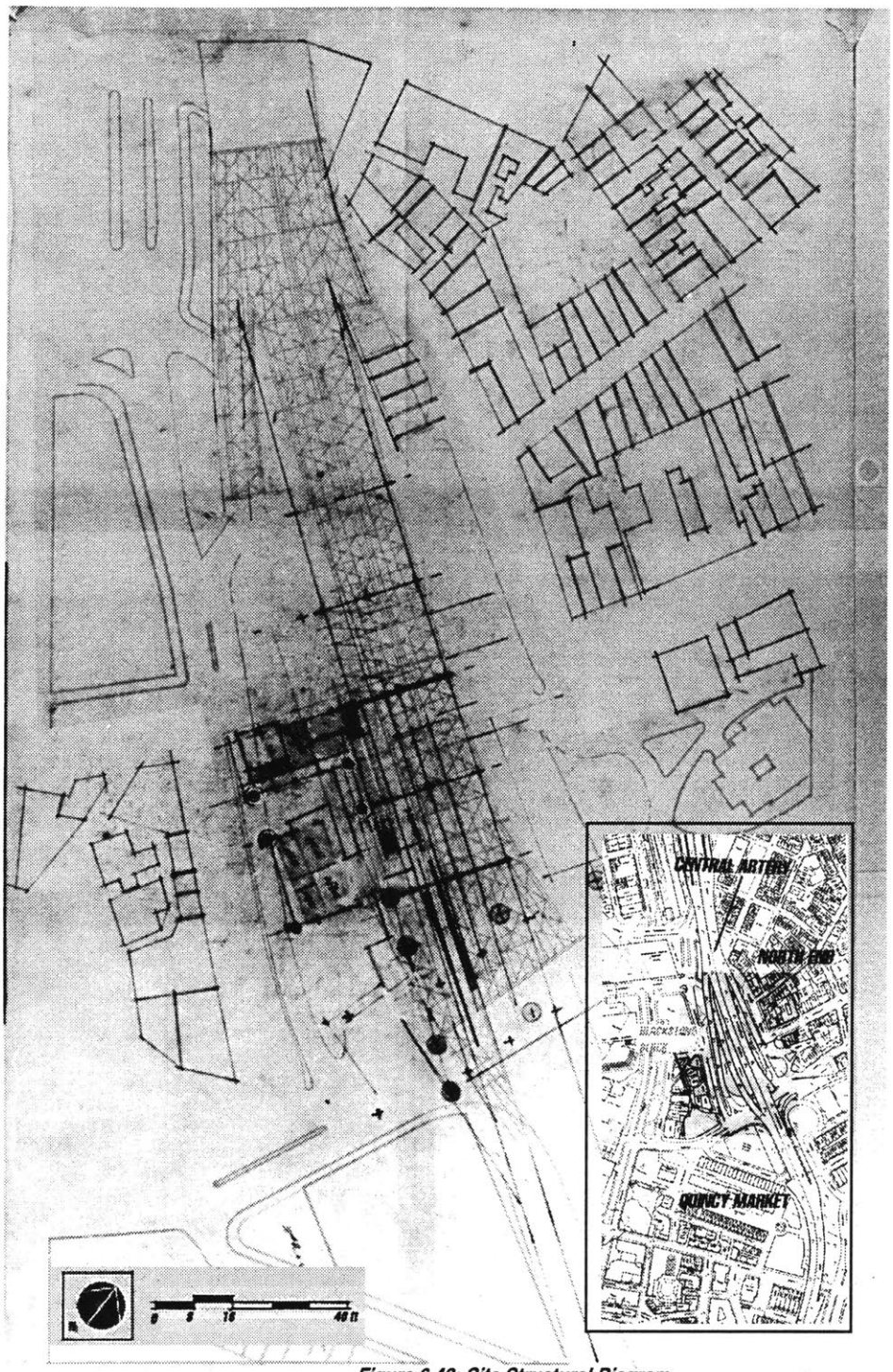


Figure 6.43: Site Structural Diagram (Existing) with Proposed Additions #2.

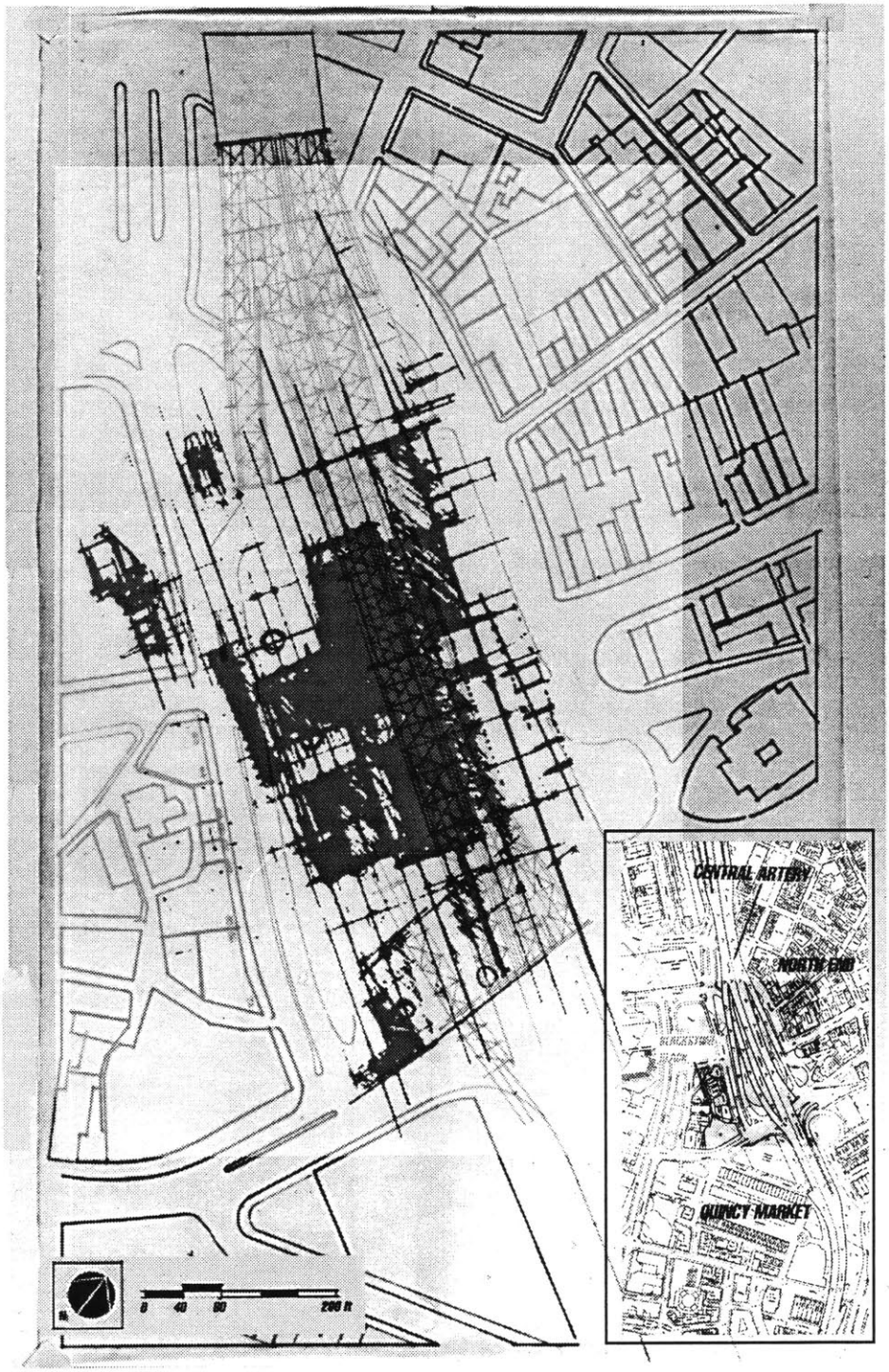


Figure 6.44: Site Building Block Sketch (Proposed).

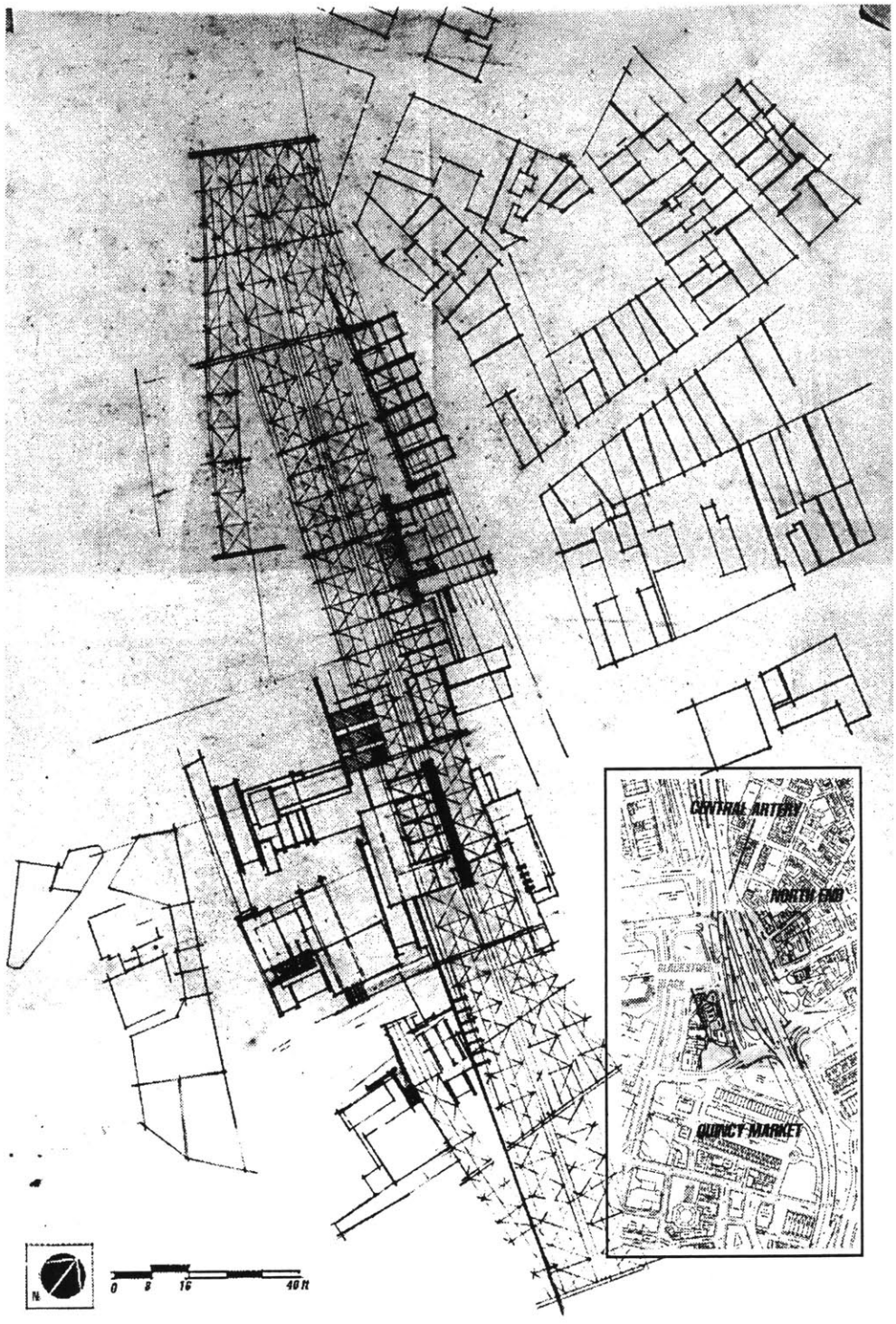


Figure 6.45: Site Block Size Diagram (Proposed).

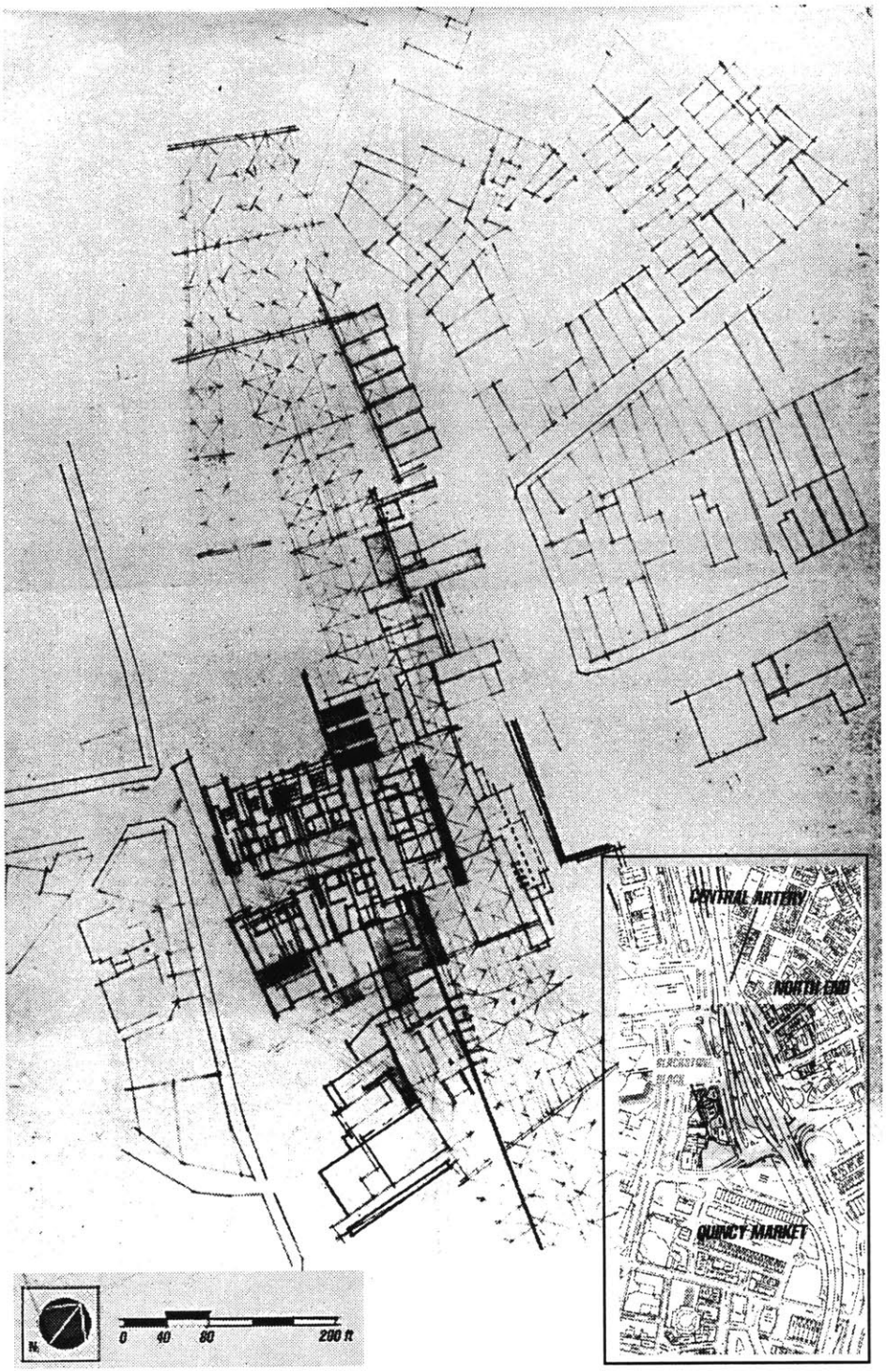


Figure 6.46: Proposed Building Size Diagram.

Figure 6.47: Site Diagram witn Proposed Block Sizes...

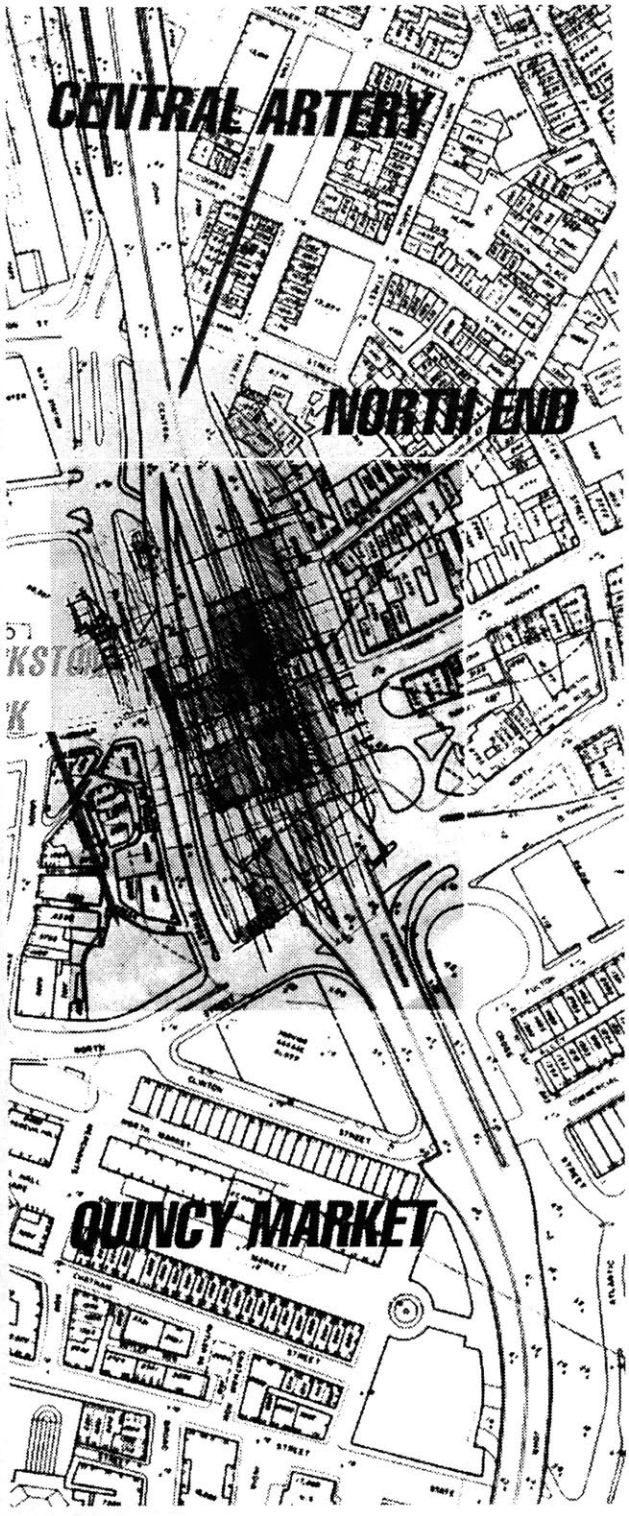
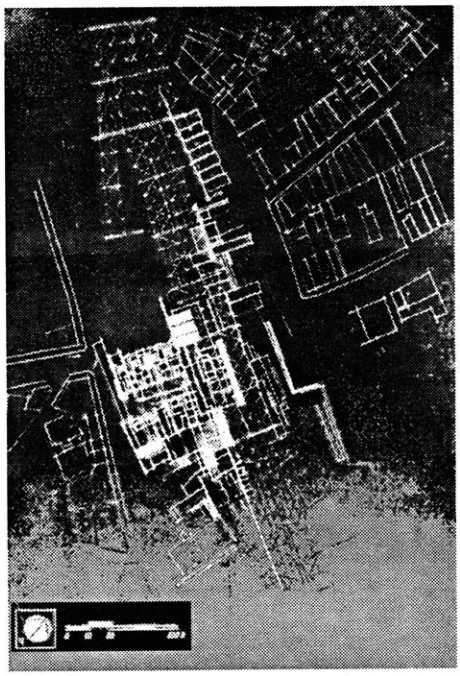


Figure 6.48: Graphical Diagram of Building Size Diagram



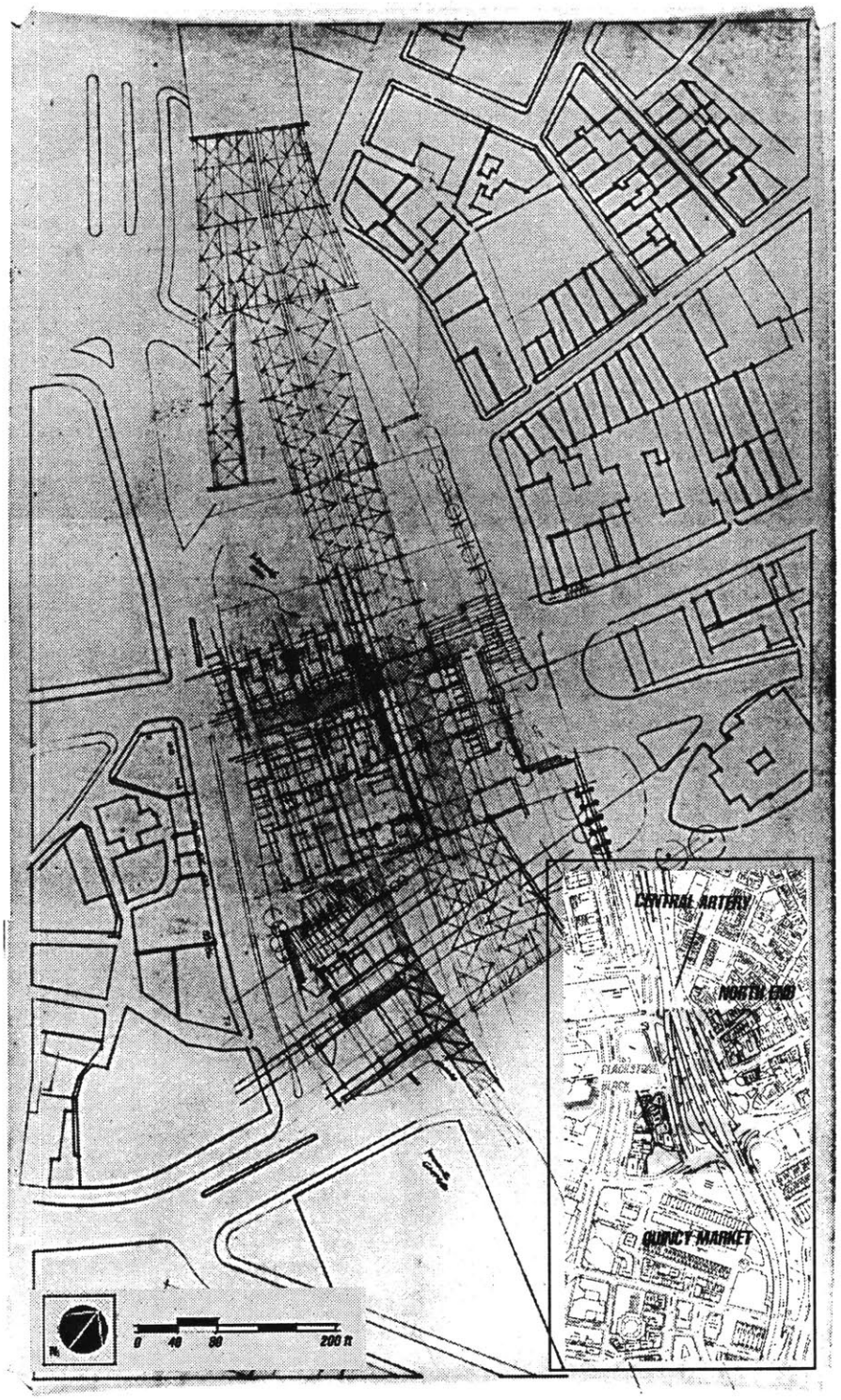


Figure 6.49: Detailed Structural Diagram (Proposed & Existing).

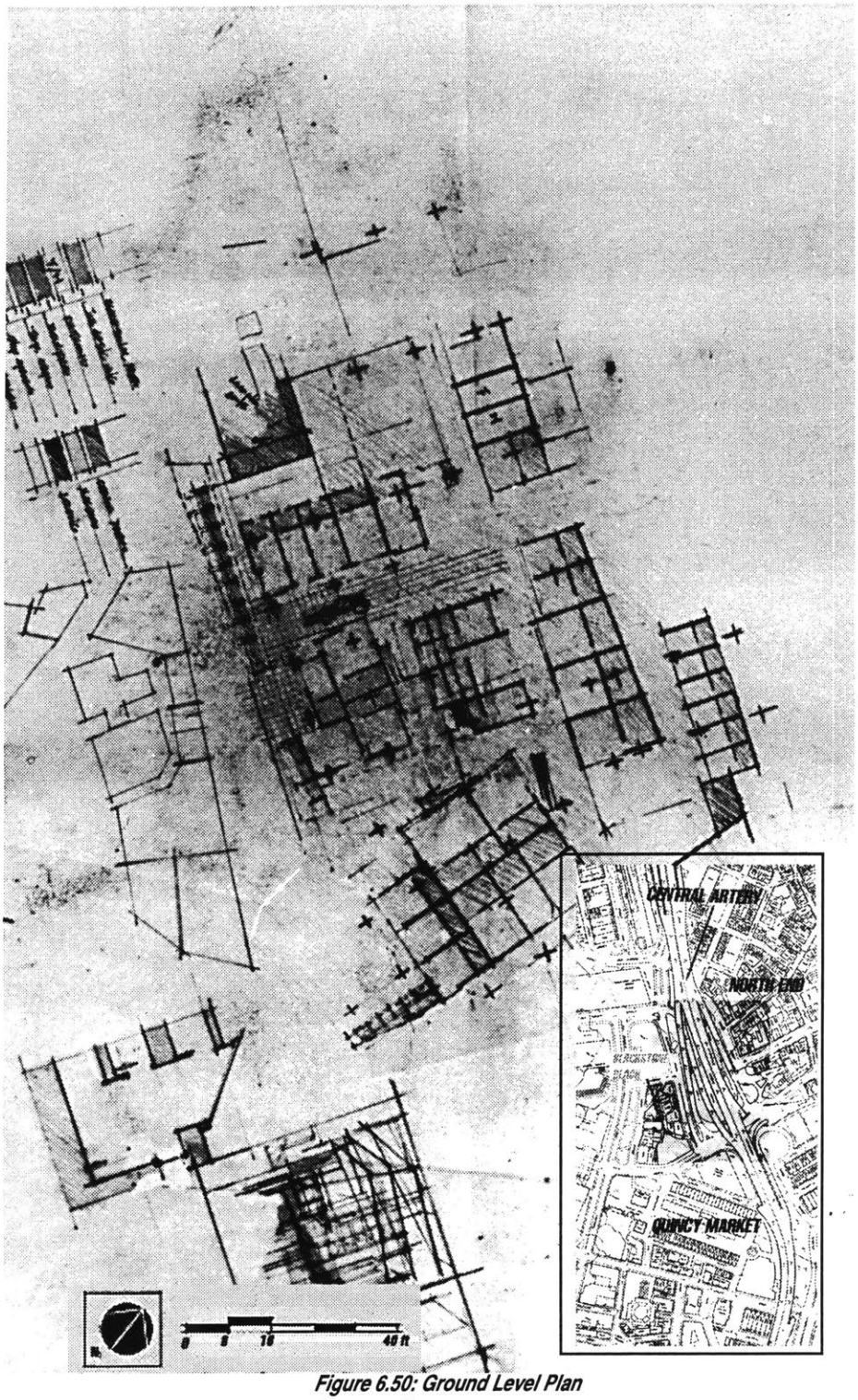


Figure 6.50: Ground Level Plan (Proposed).

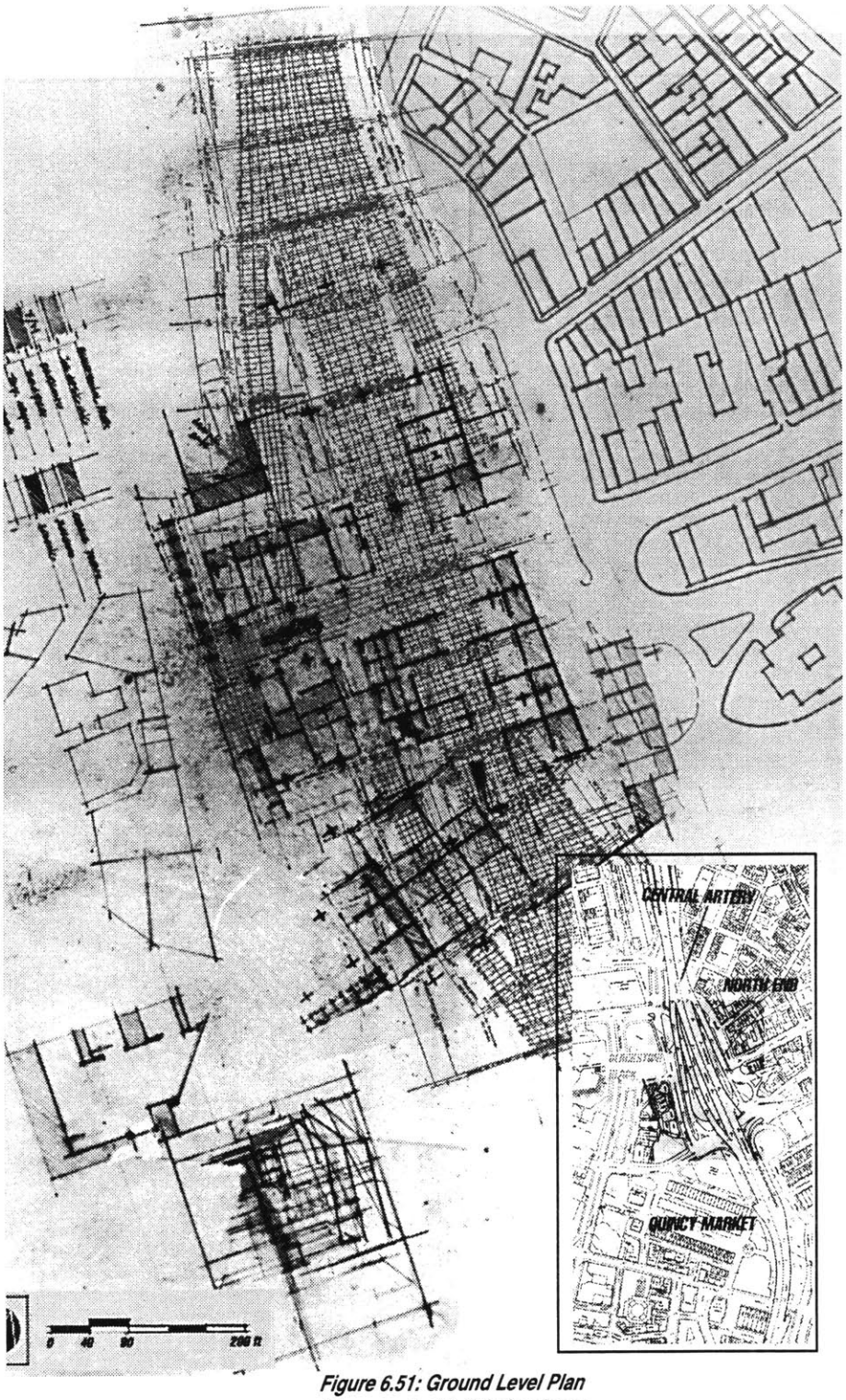


Figure 6.51: Ground Level Plan (Proposed) with Existing Artery Structure.

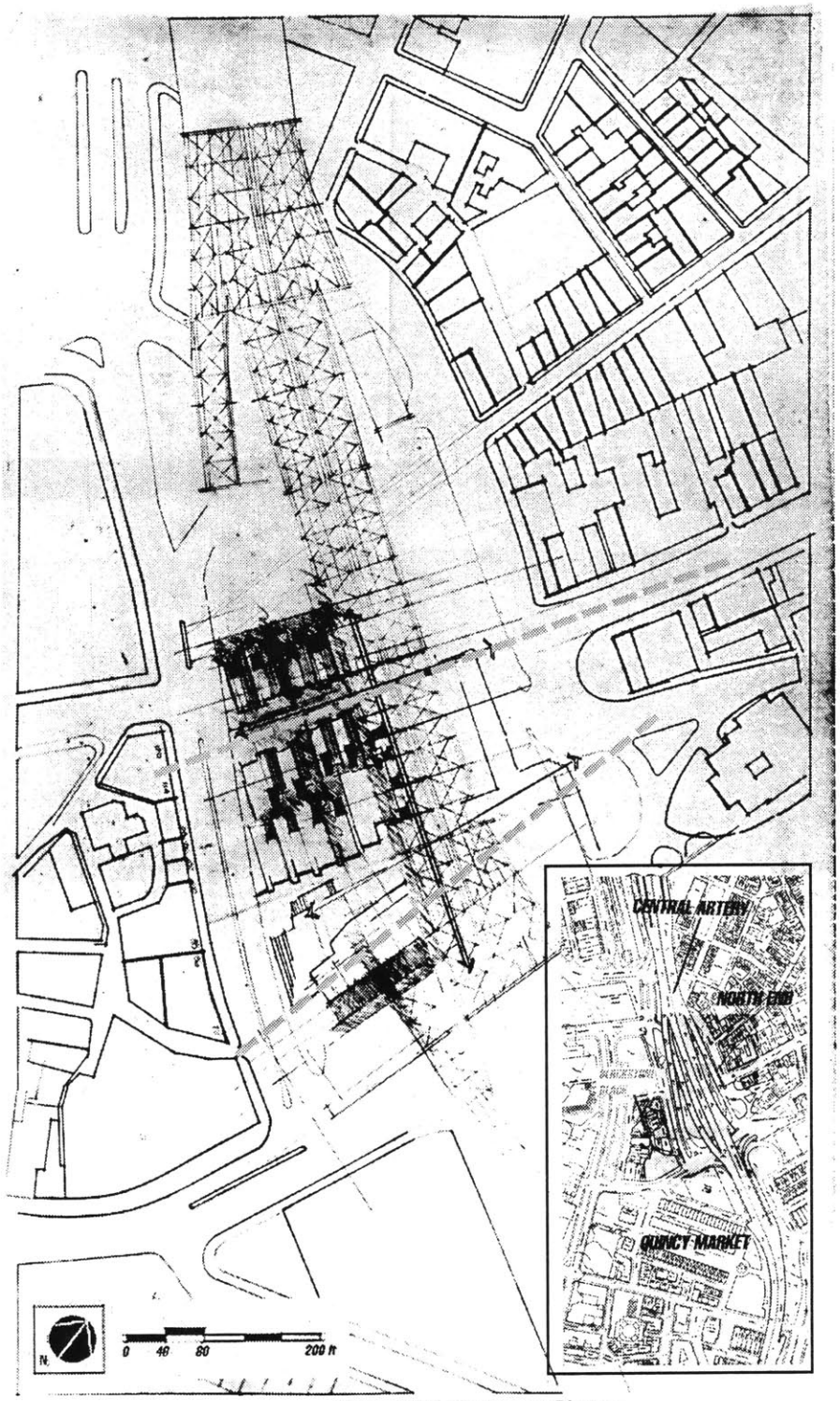


Figure 6.52: Site Access Diagram.
(Proposed)

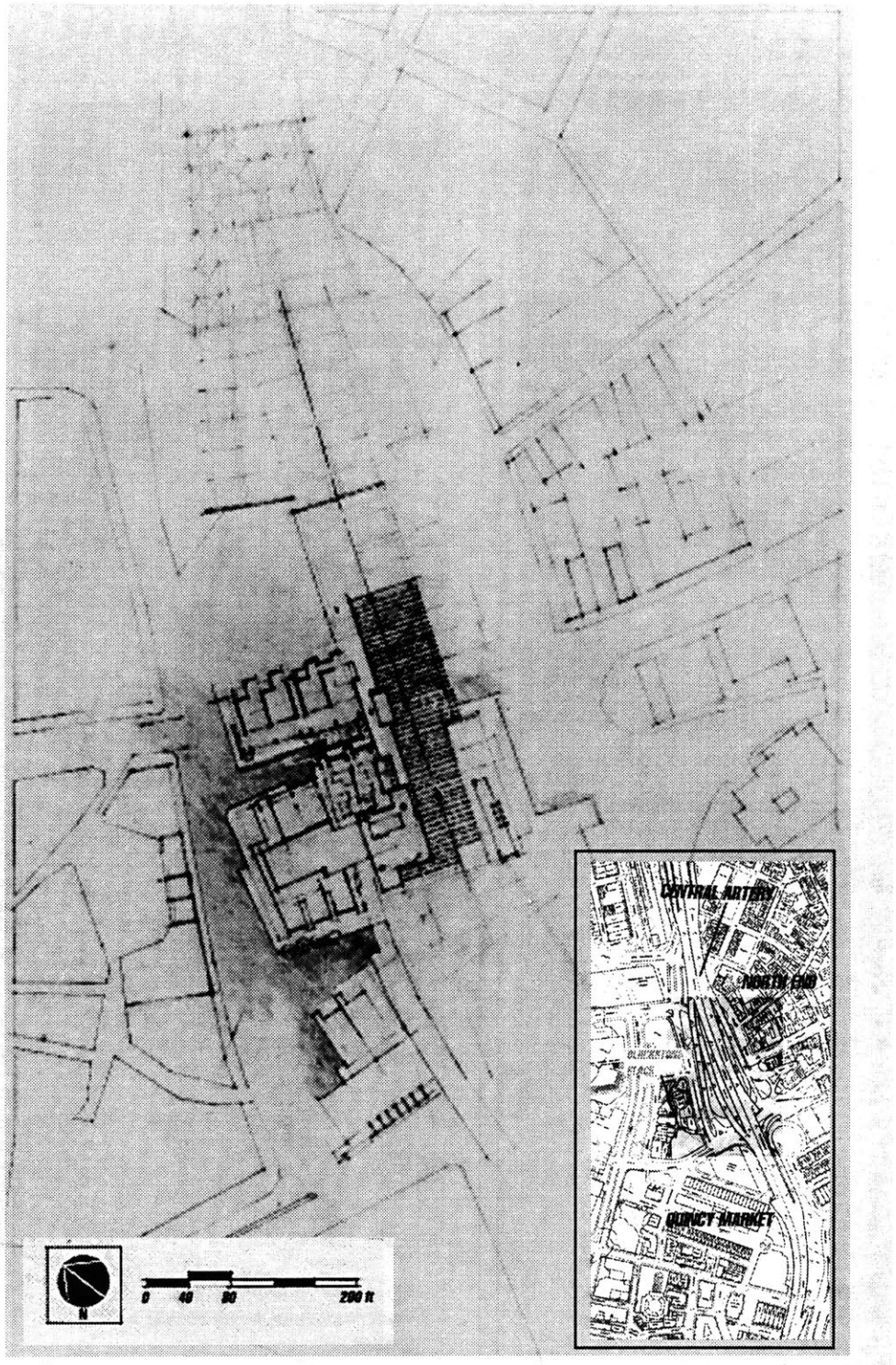


Figure 6.53: Proposed Roof Diagram

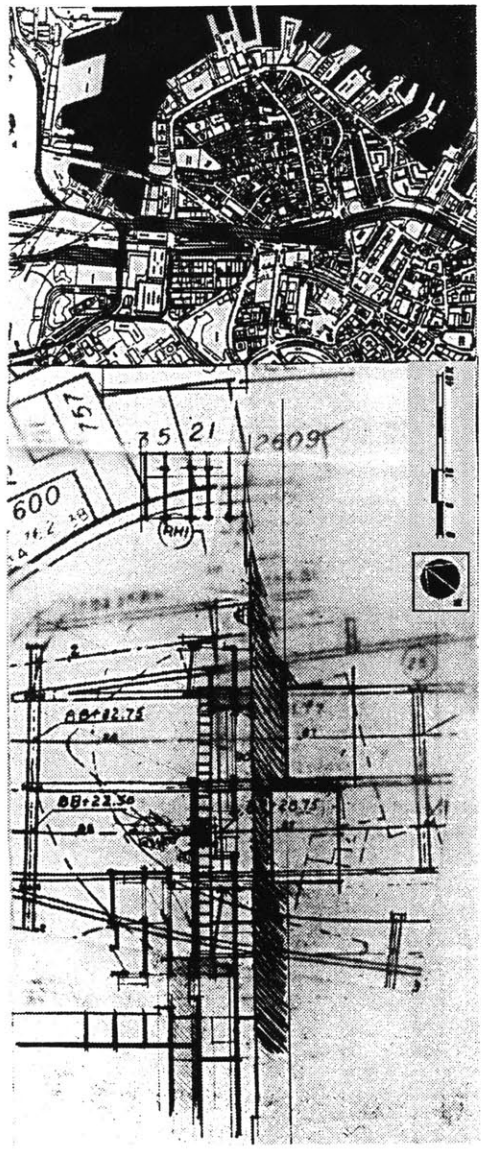


Figure 6.54: Possible Horizontal Collective Use of Artery Structure - Section 1.

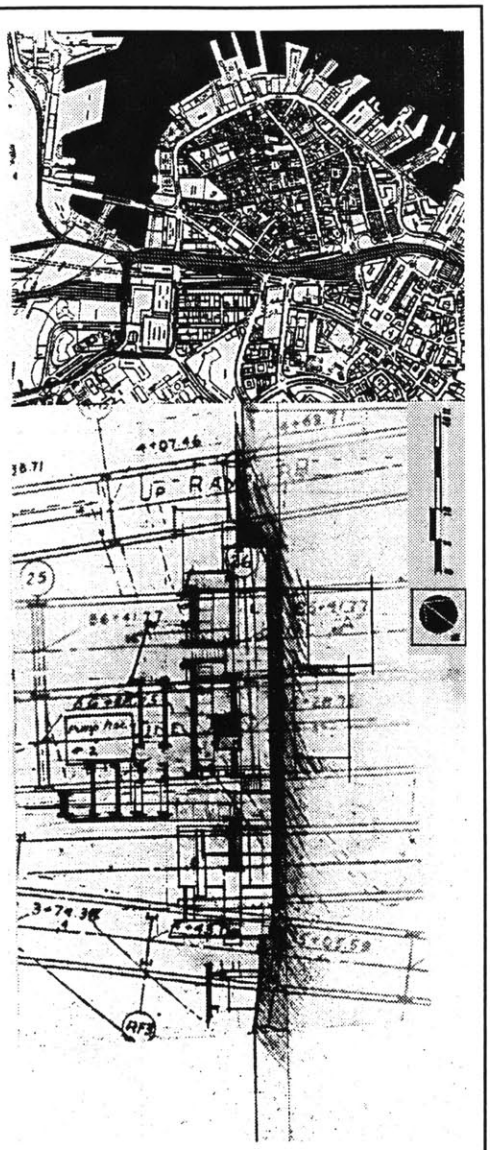


Figure 6.55: Possible Vertical Collective Use of Artery Structure - Section 2.

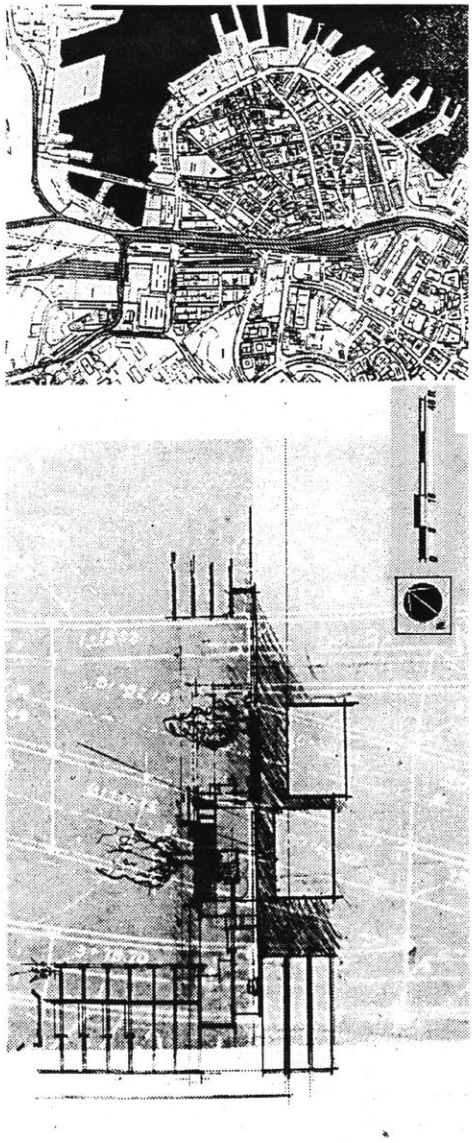


Figure 6.56: Possible Collective Use of Artery Structure for Parks - Section 3.

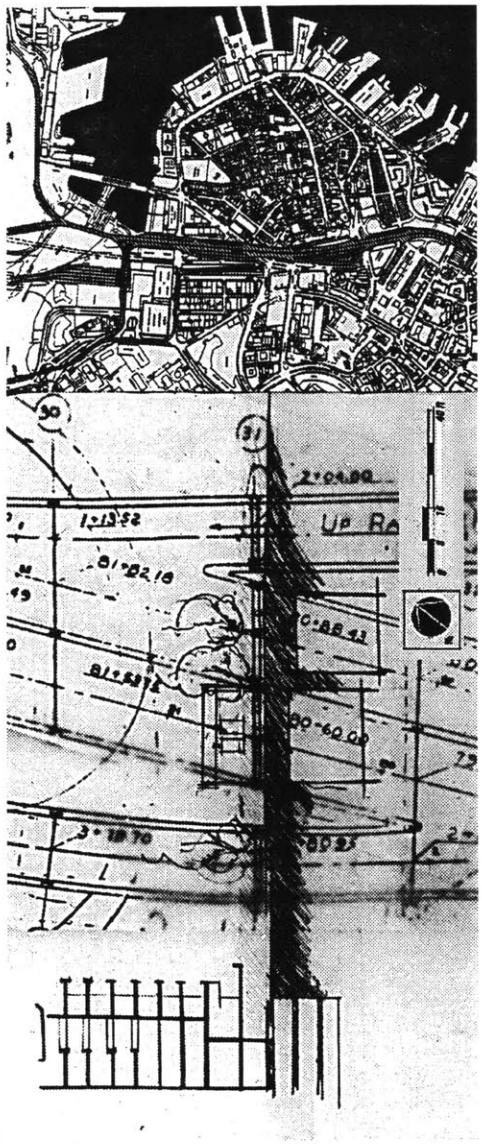


Figure 6.57: Possible Collective Use of Artery Structure for Monorail - Section 4.

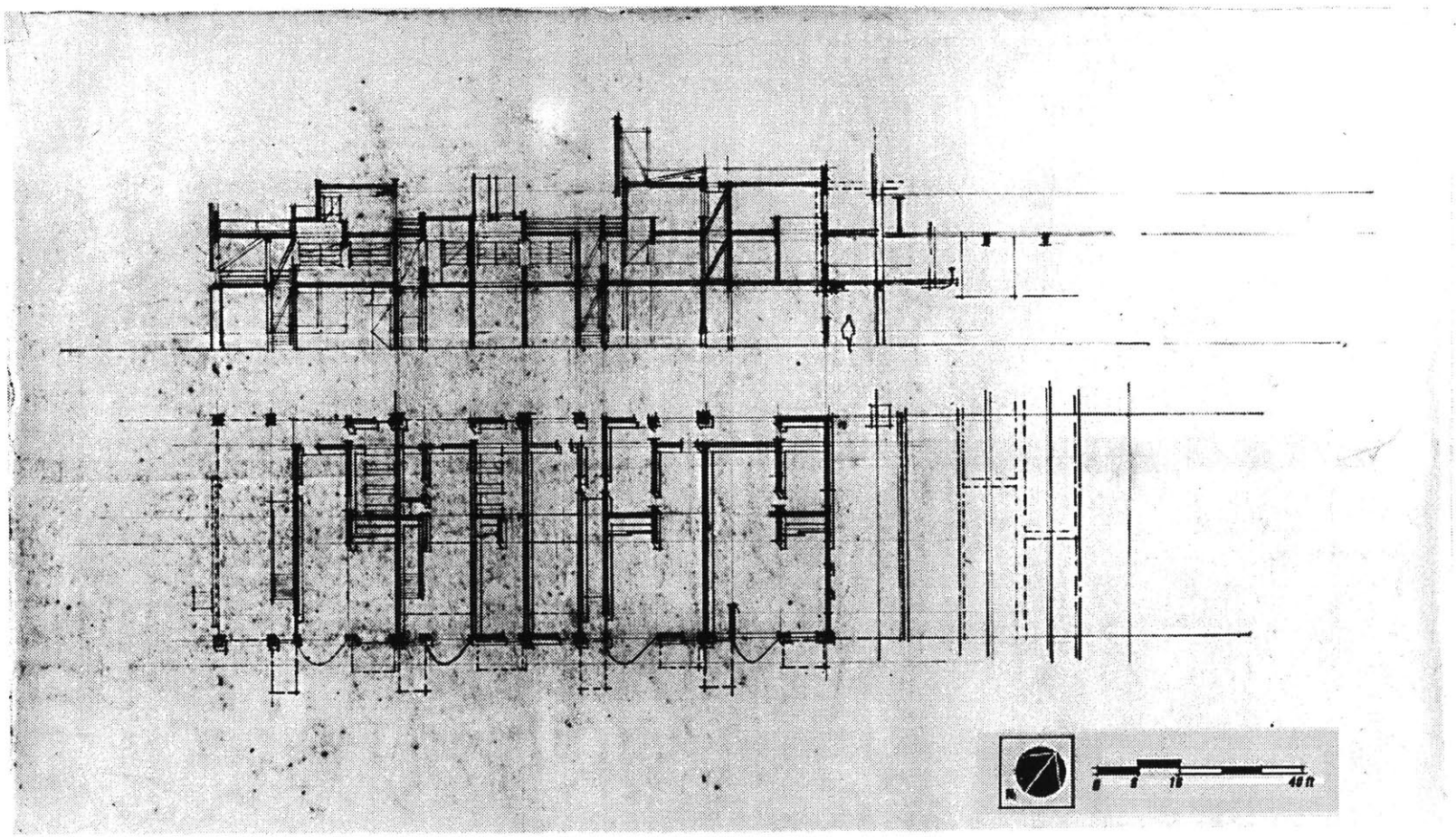


Figure 6.58: Typical Section and Ground Floor Plan.

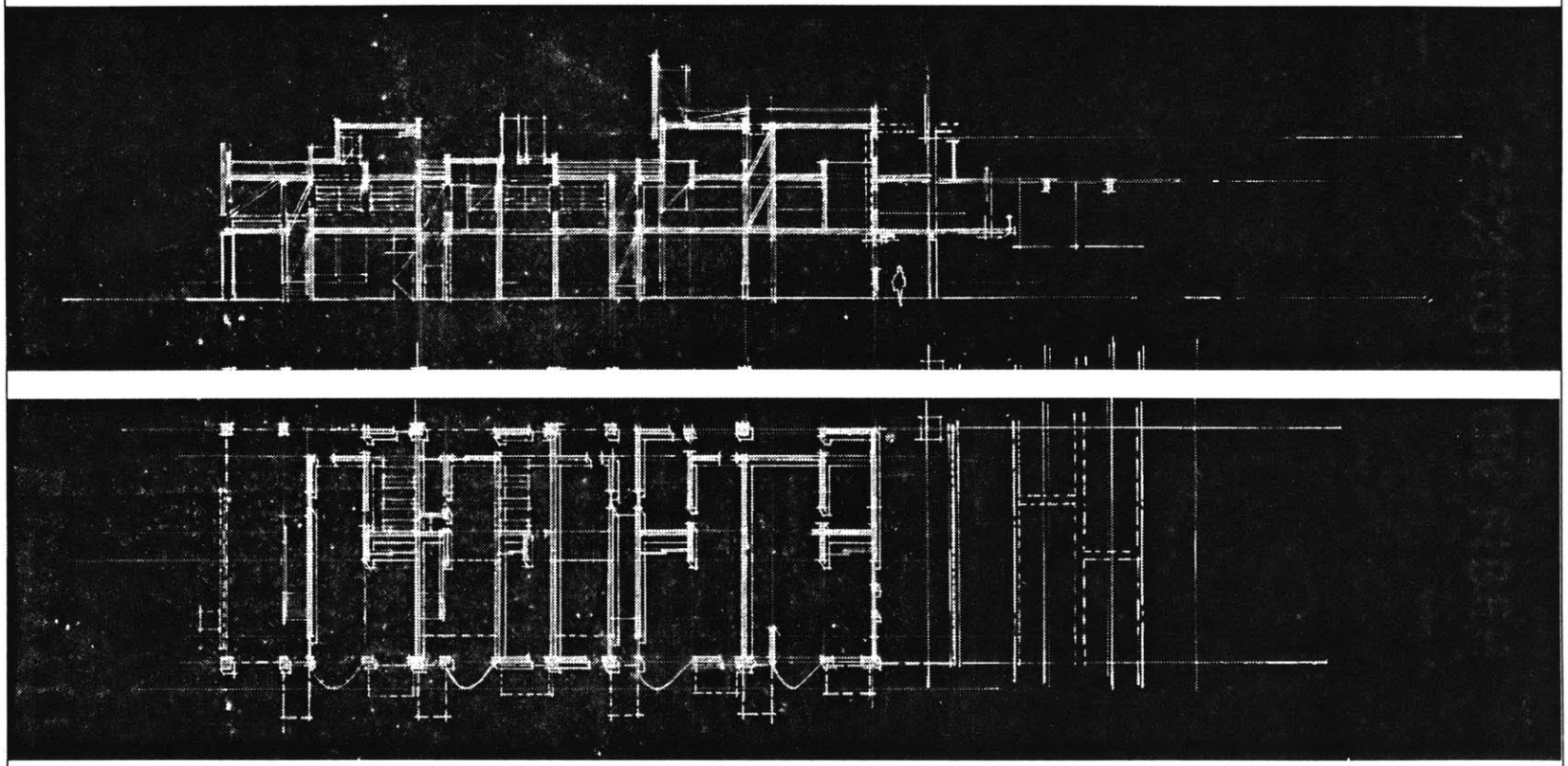


Figure 6.59: Typical Section and Ground Floor Plan. (Color Reversal)

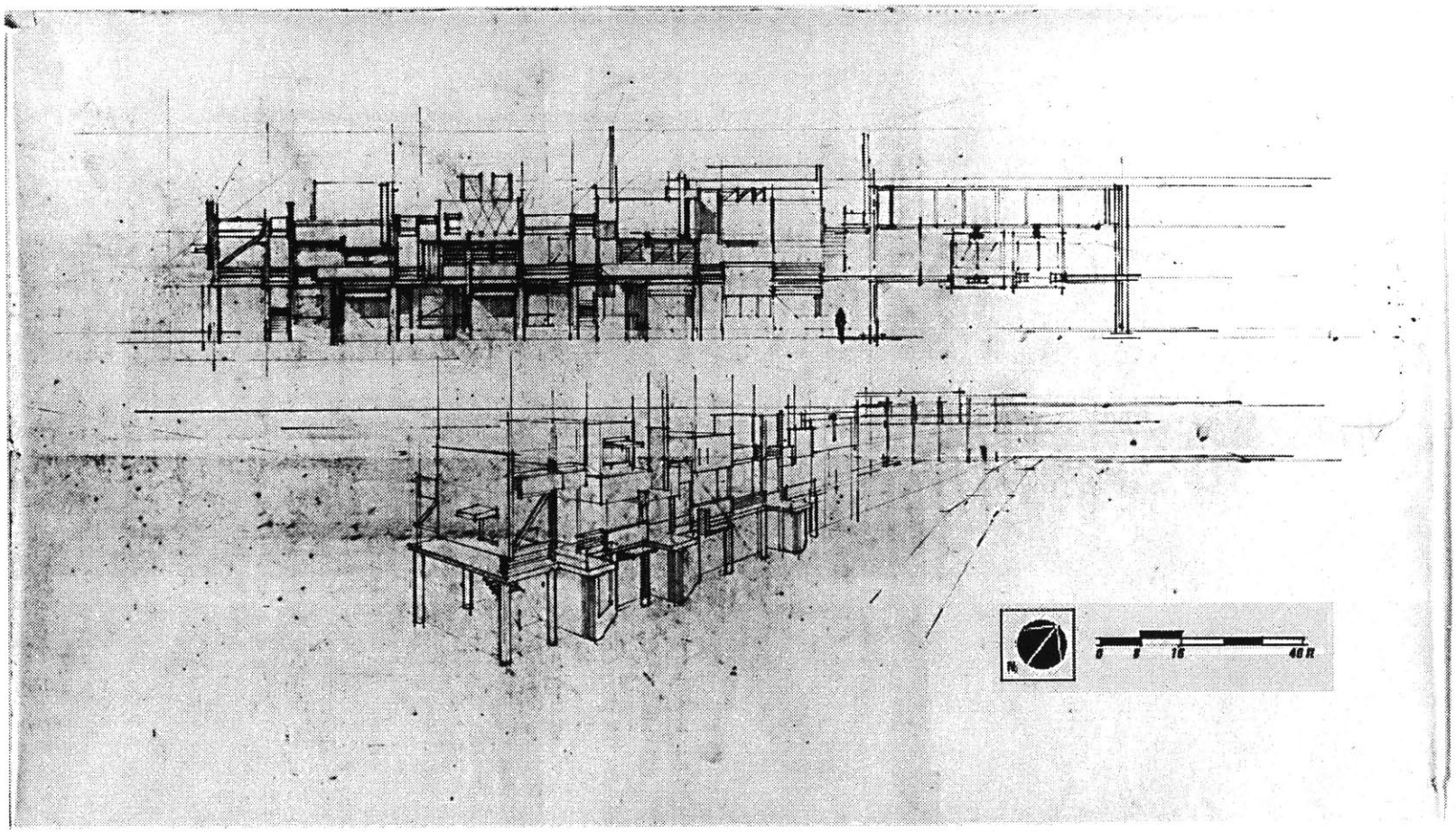


Figure 6.60: Elevation and Perspective .

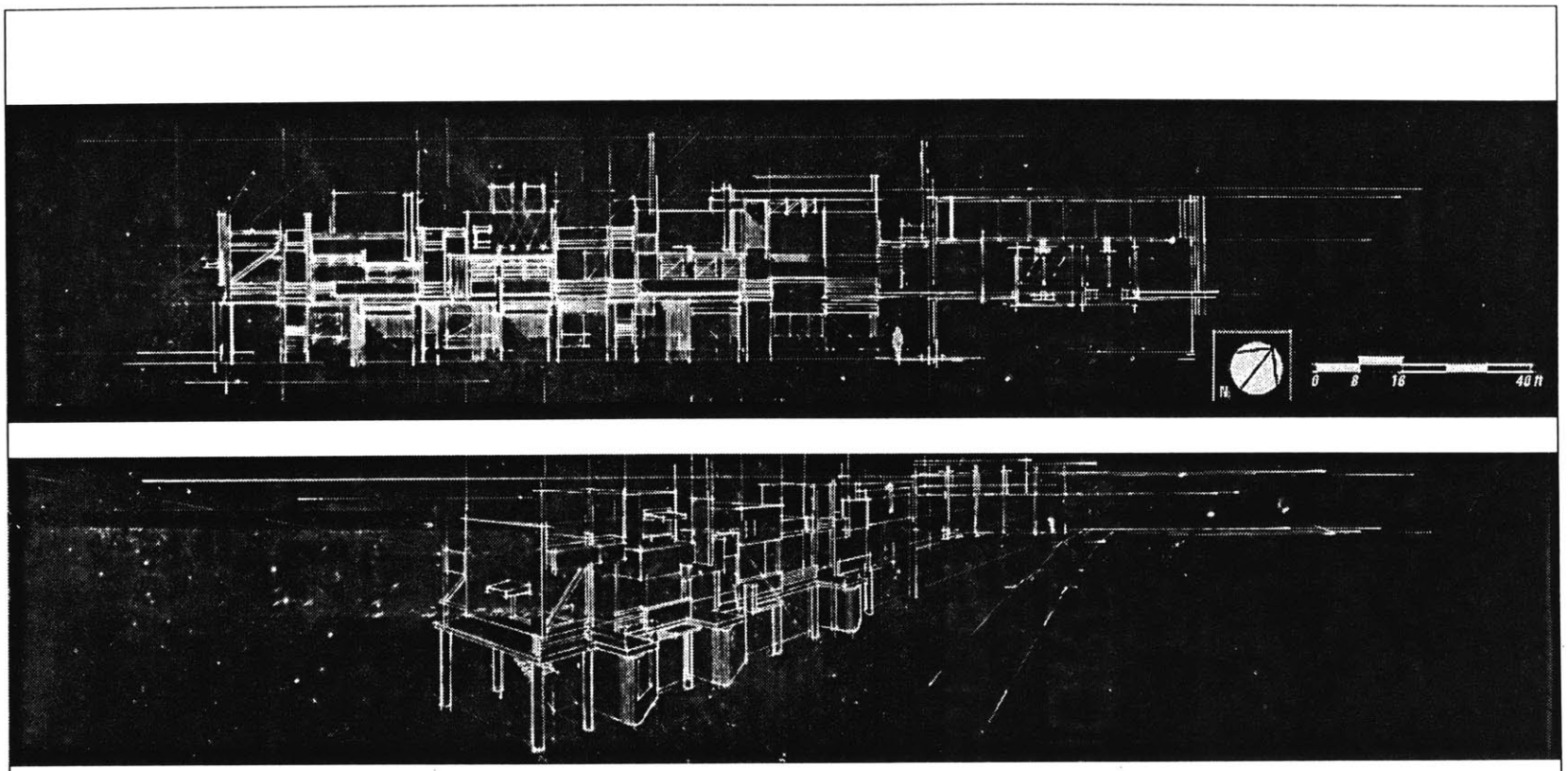


Figure 6.61: Elevation and Perspective. (Color Reversal)

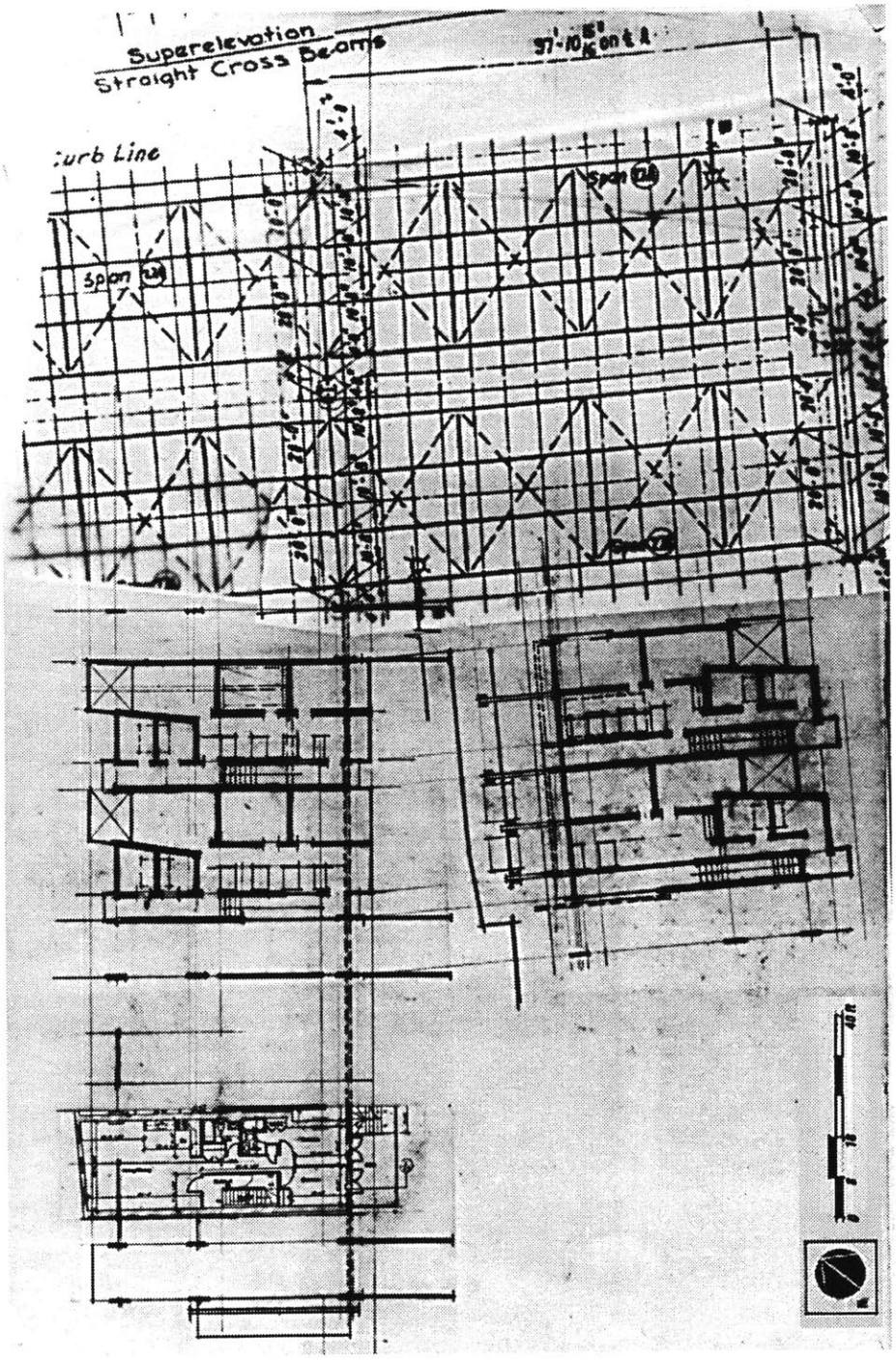
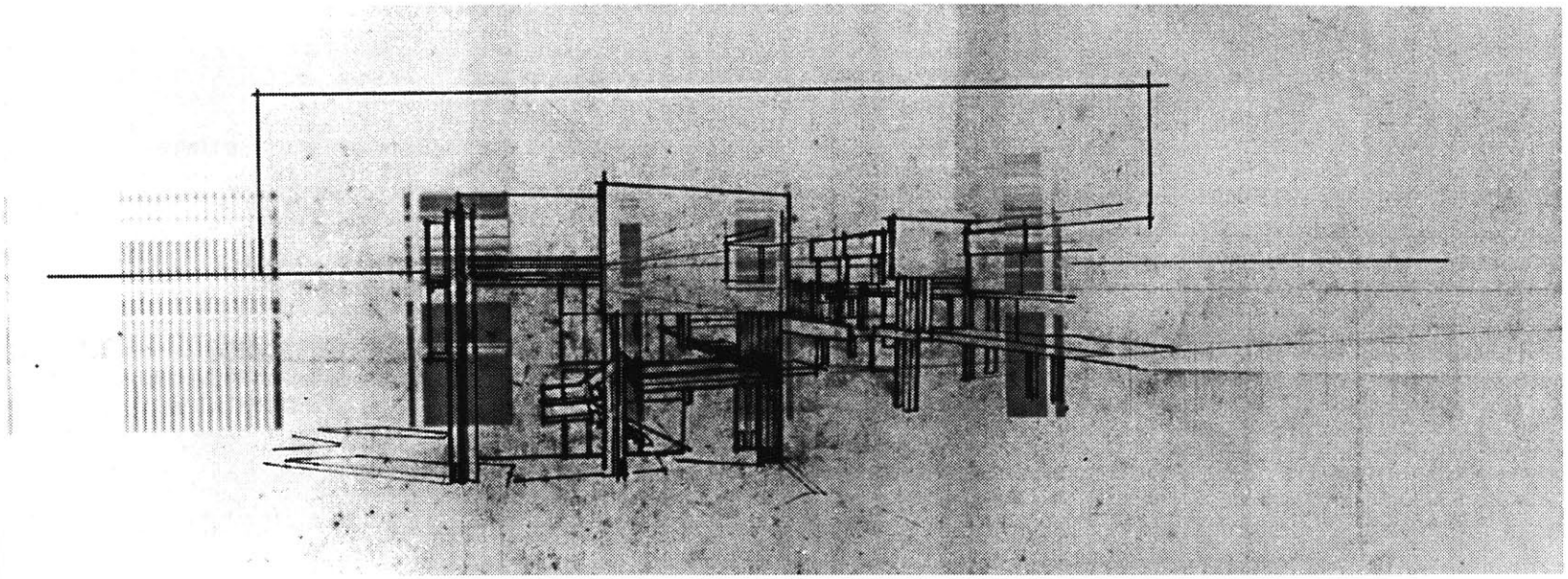
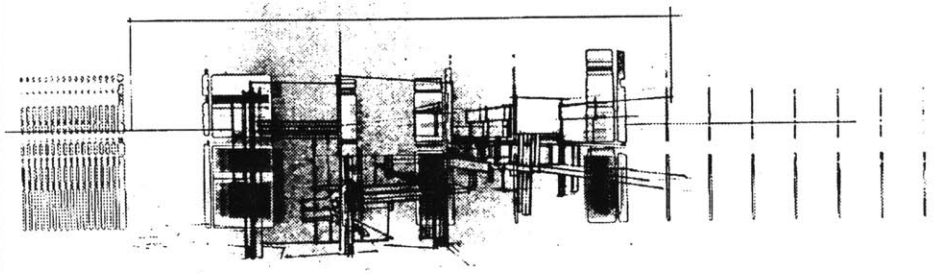


Figure 6.62: Upper Level Floor Plan.

Figure 6.63: Perspective Looking North.





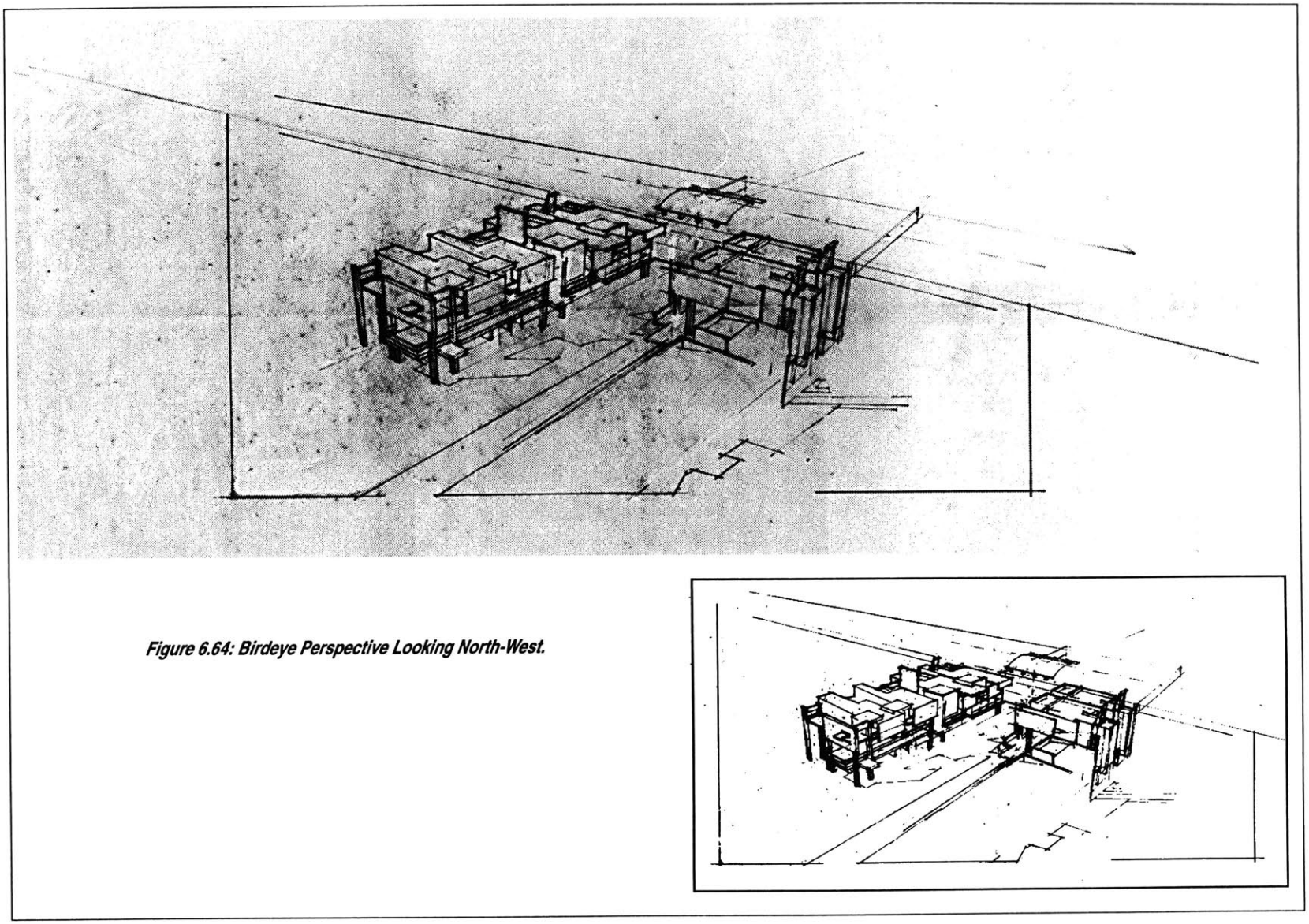


Figure 6.64: Birdeye Perspective Looking North-West.

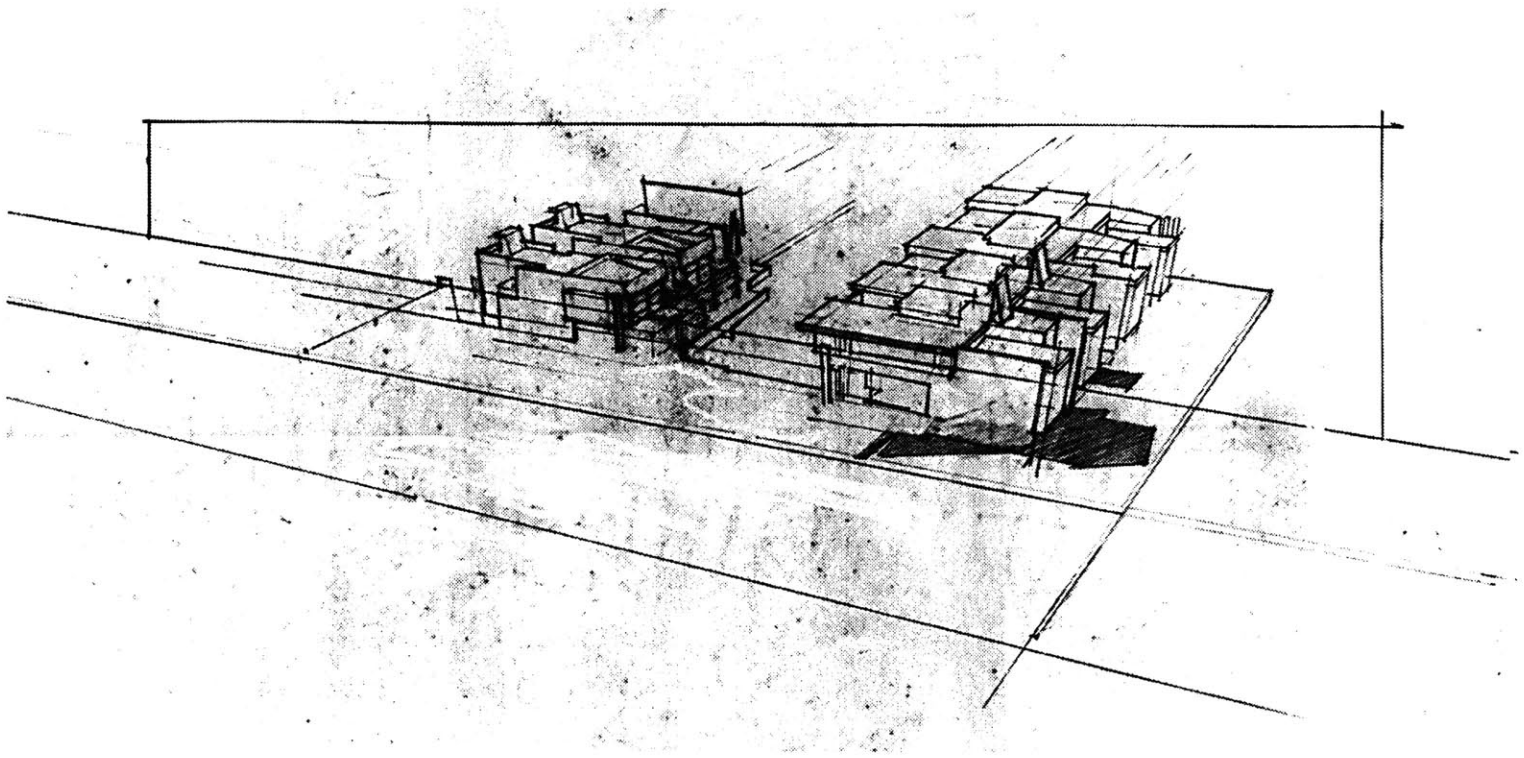


Figure 6.65: Birdeye Perspective Looking South-East.

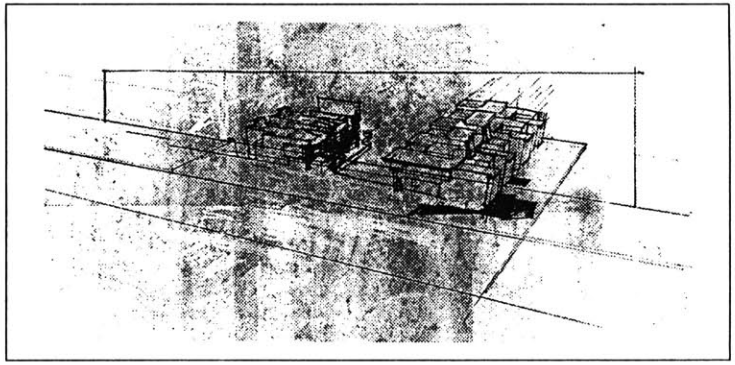


Figure 6.66: Birdeye Perspective Looking South-East With Artery As Backdrop..

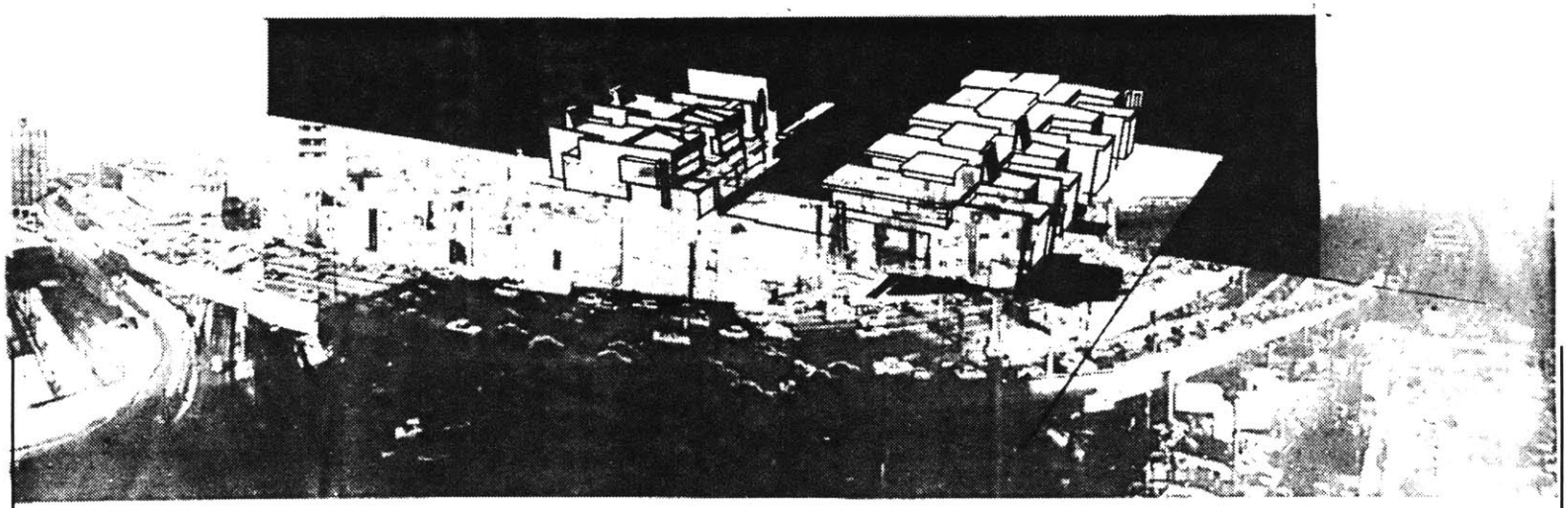


Figure 6.67: Detailed Bird-eye Collage of Enlarged Site with Design Intensions.

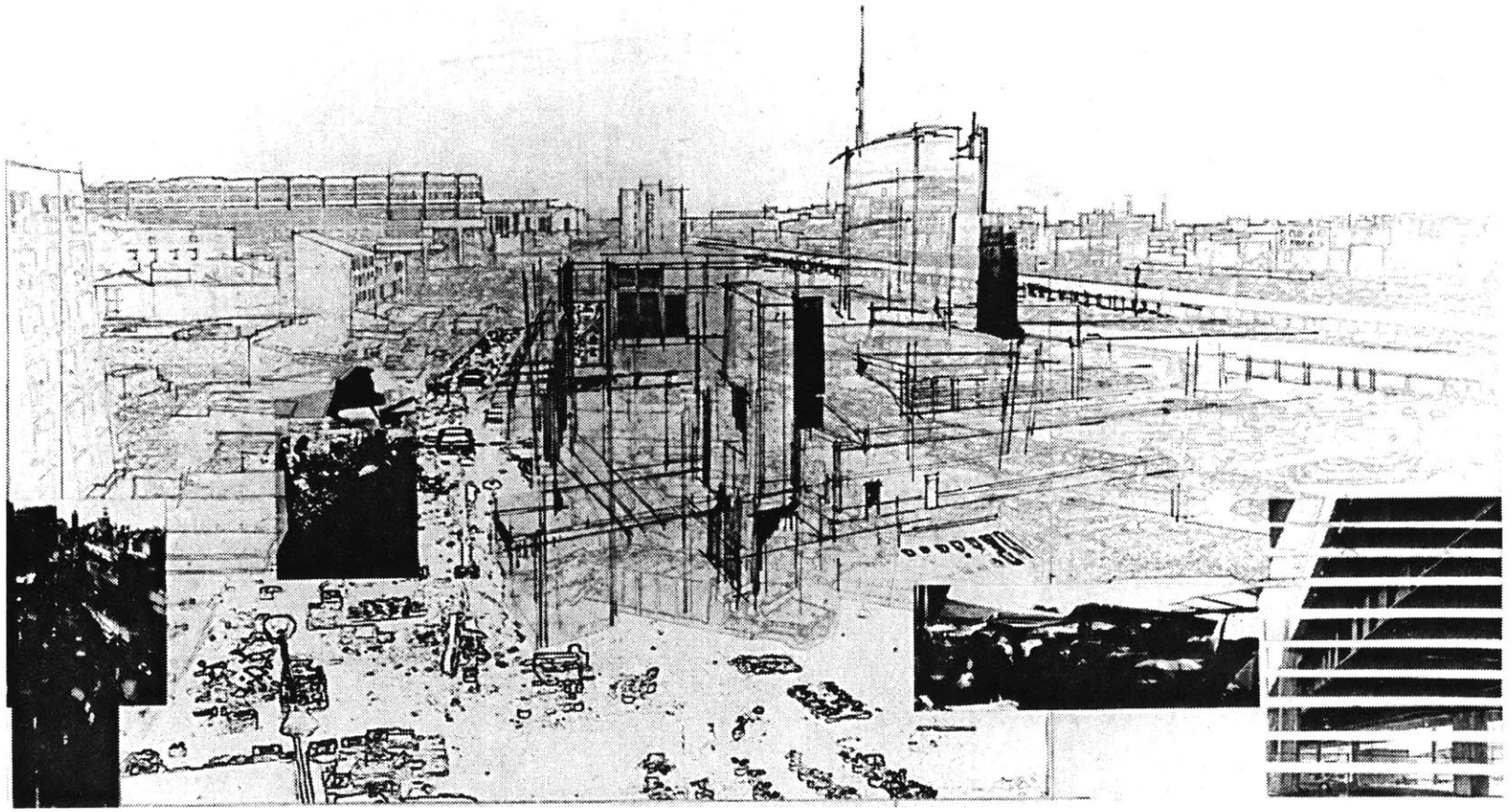


Figure 6.68: Bird-eye Perspective Sketch of the Site.

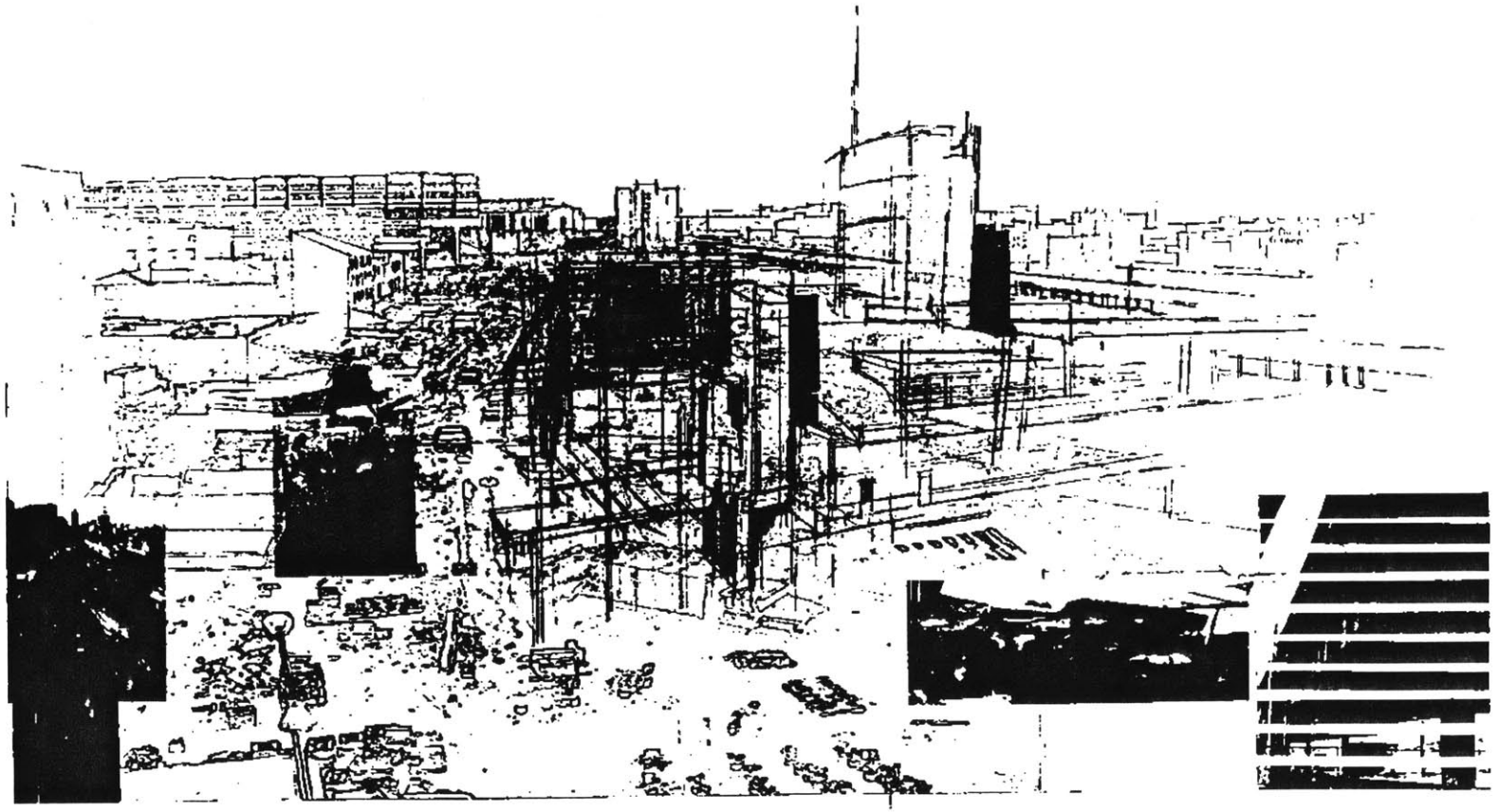
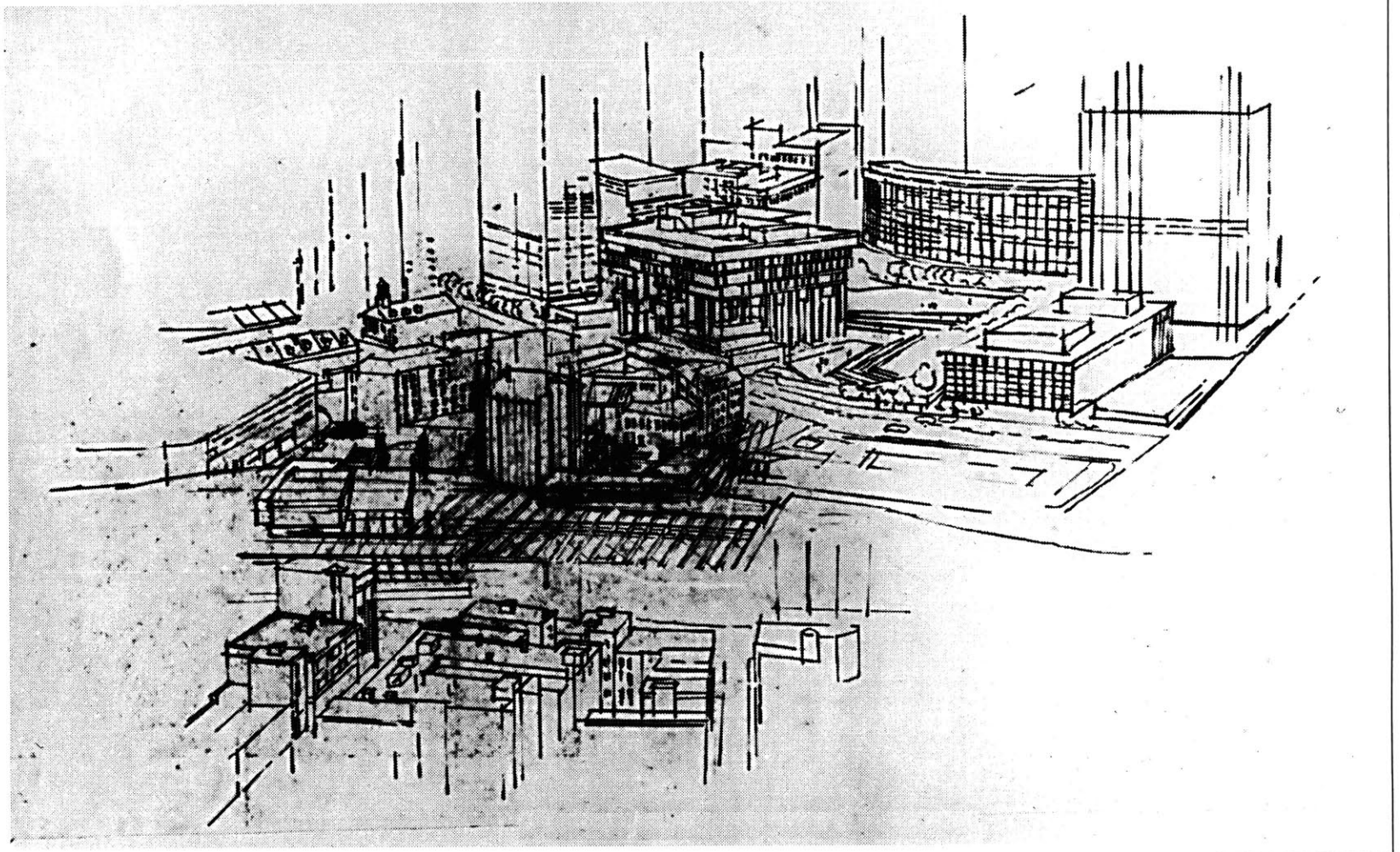
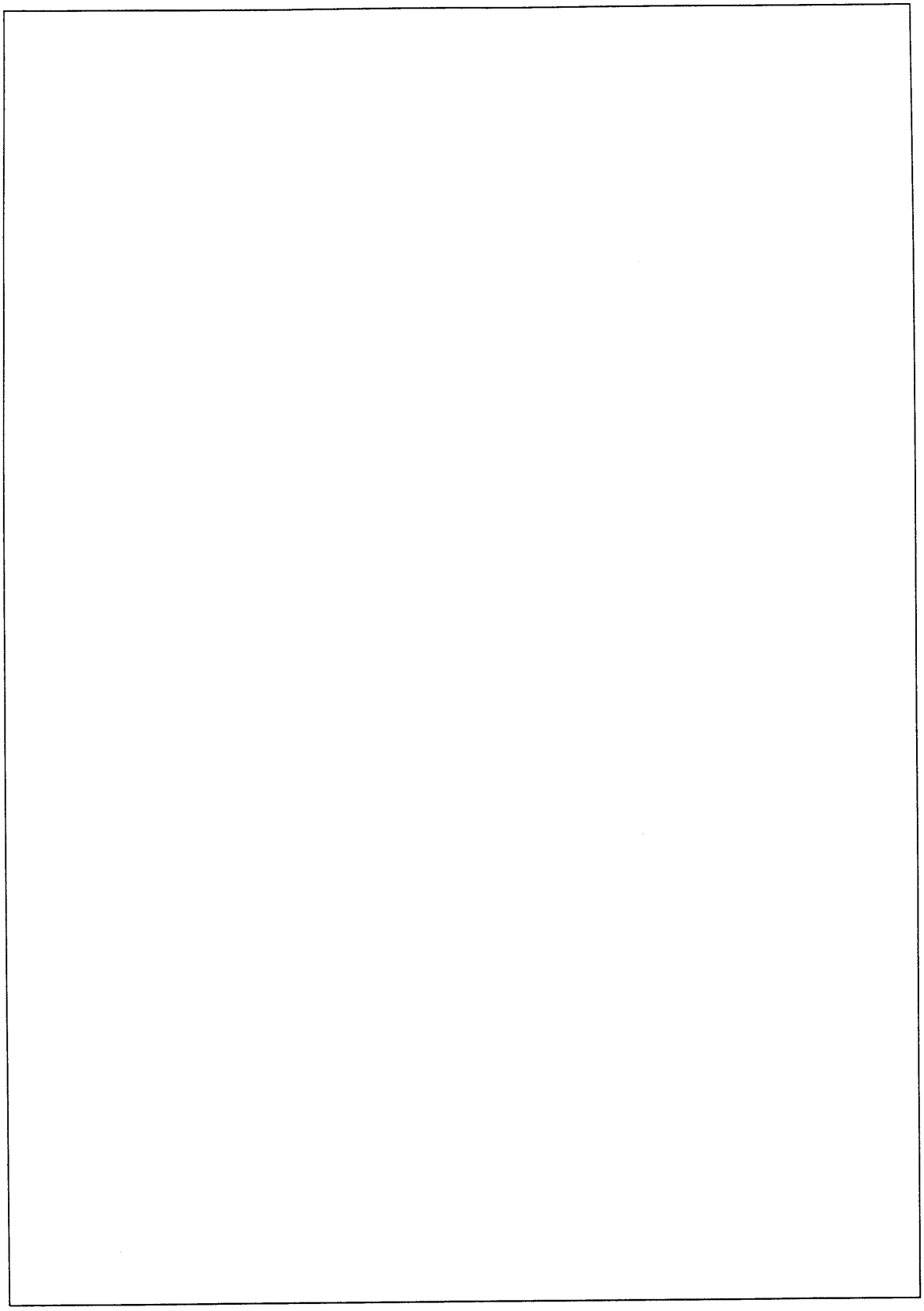
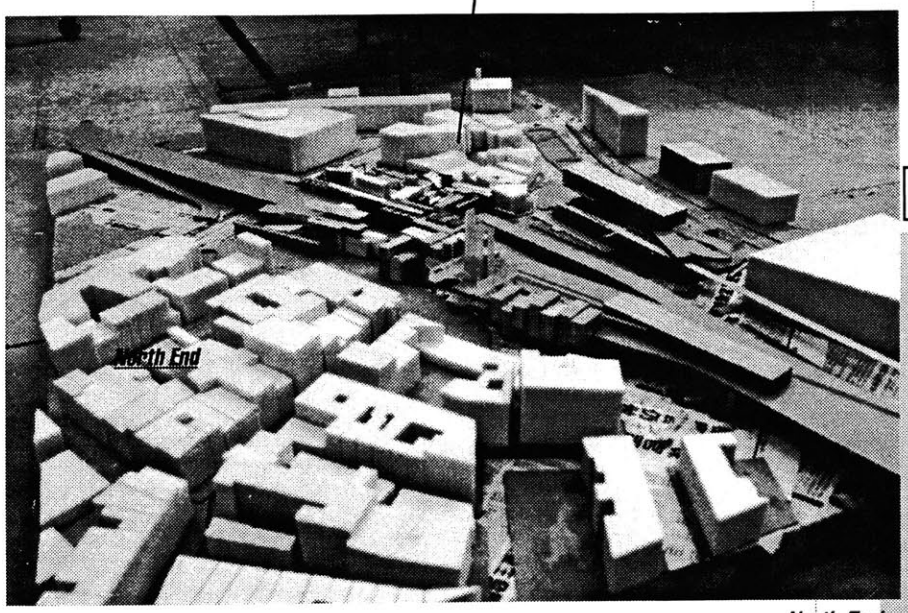


Figure 6.69: Perspective of the Site Looking Towards Downtown.



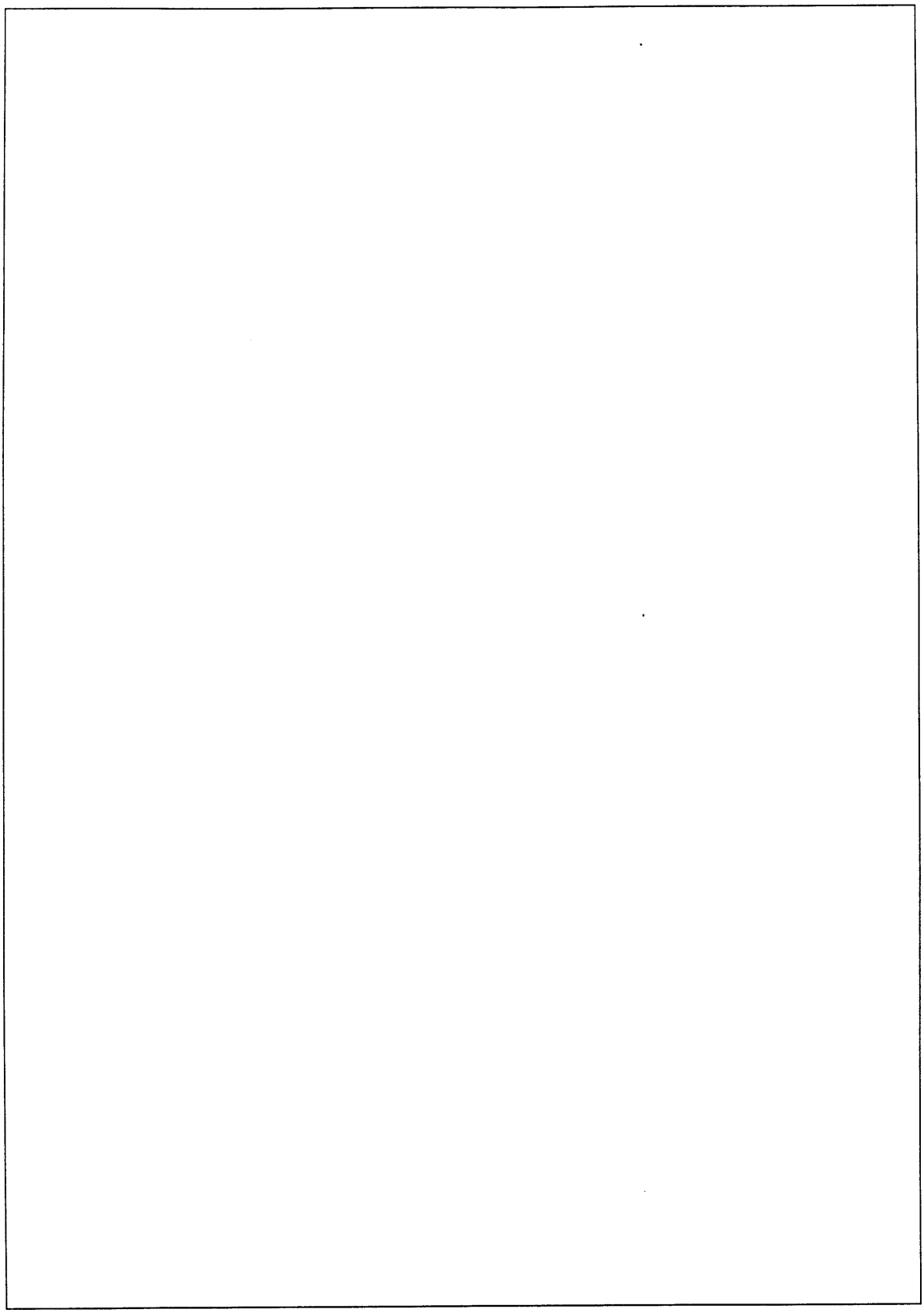


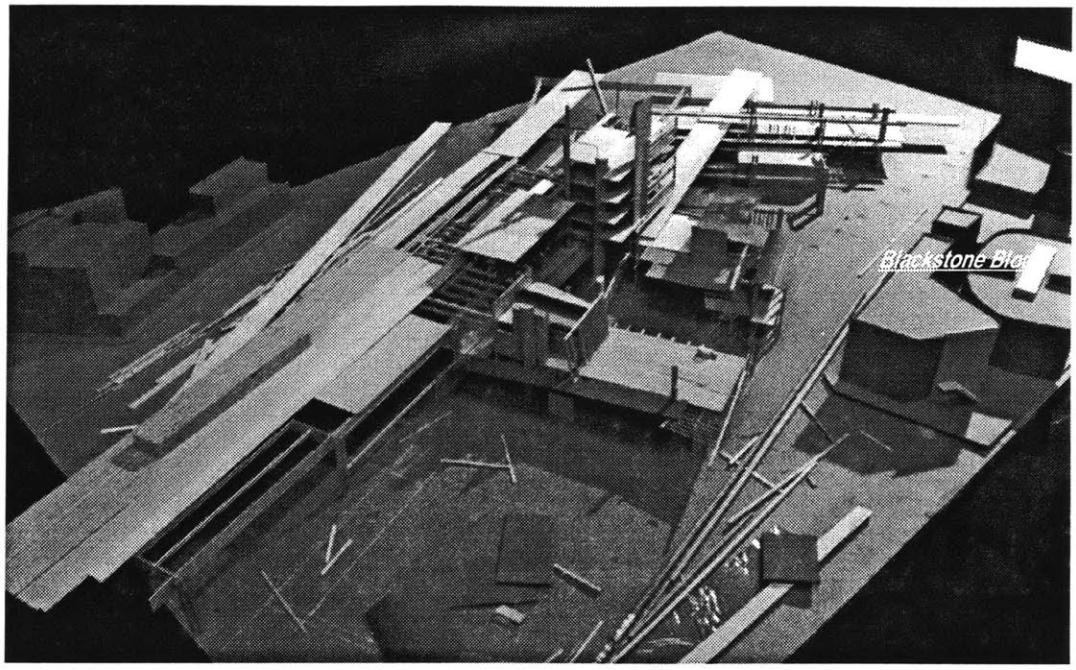


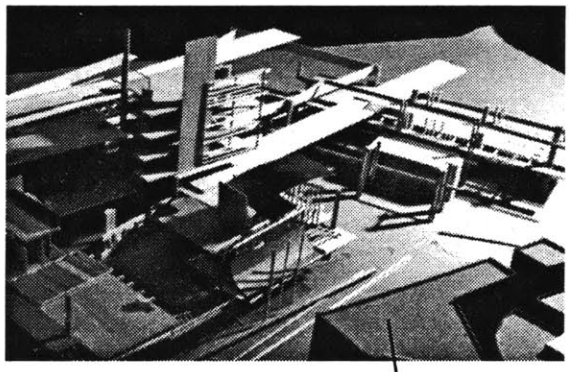
Site Model

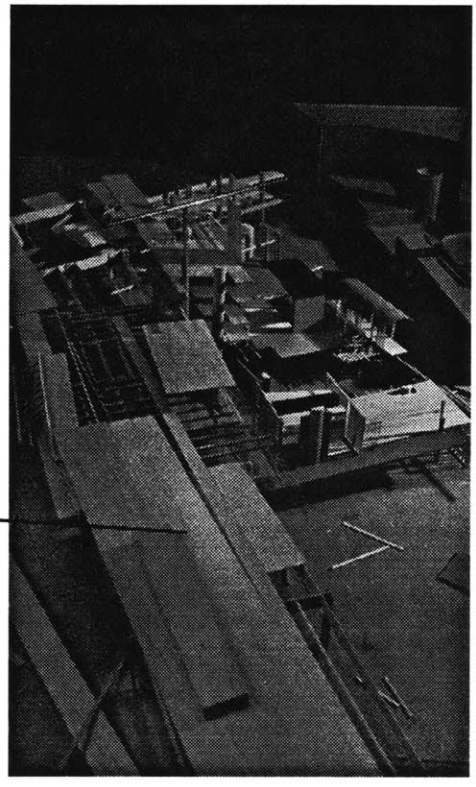
Figure 6.70: Photos of Site Model (1/40th Scaled).

Models...





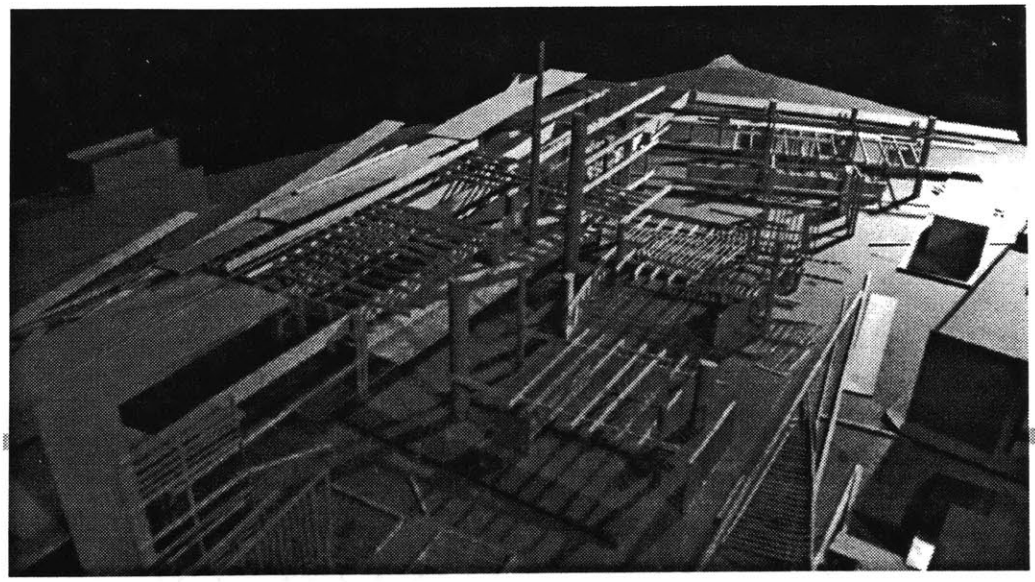


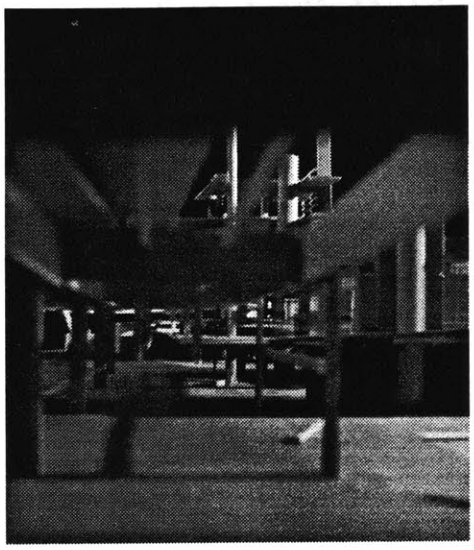


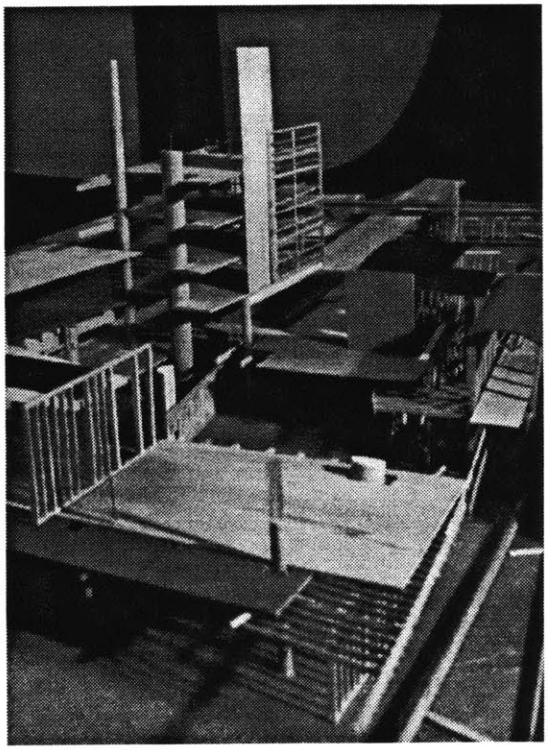
Blackstone Block

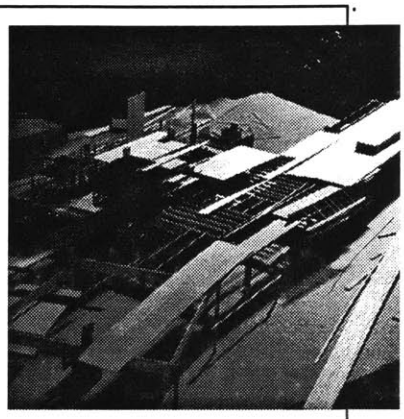
The Existing Artery

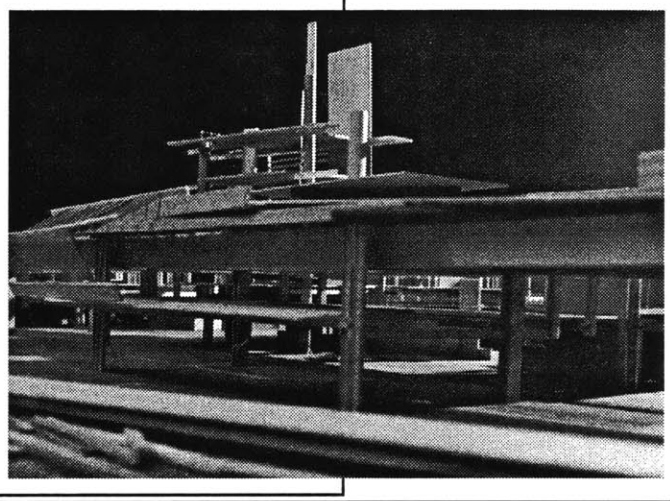
Figure 6.71: Photos of 1/16th Scaled Model.

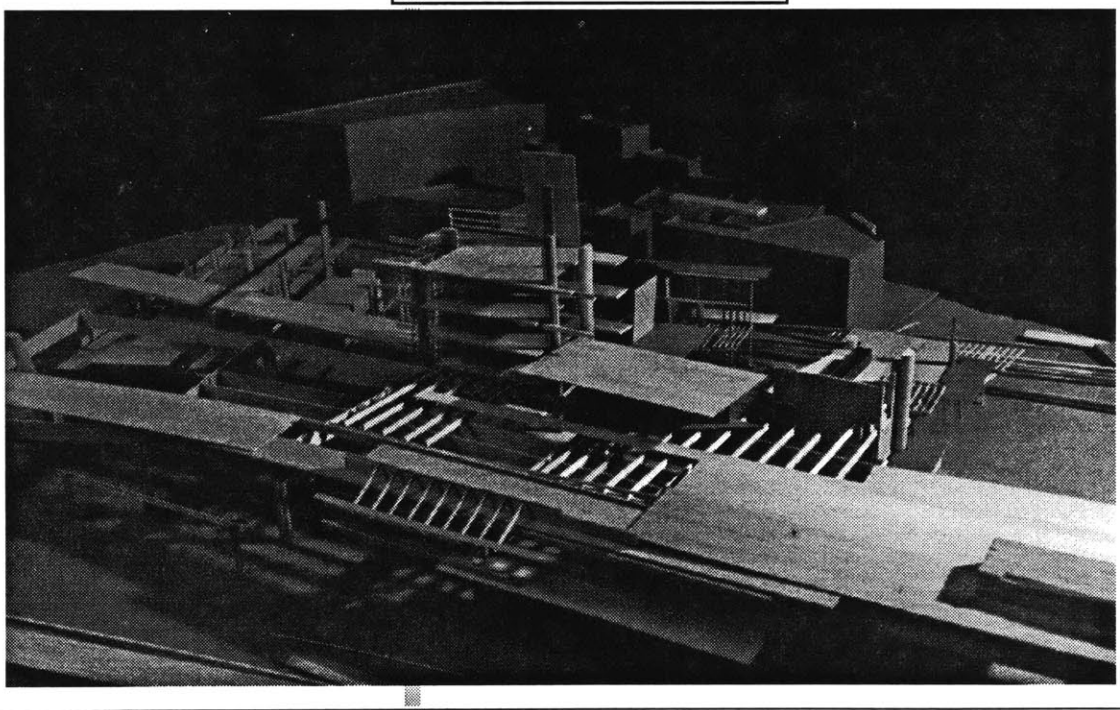


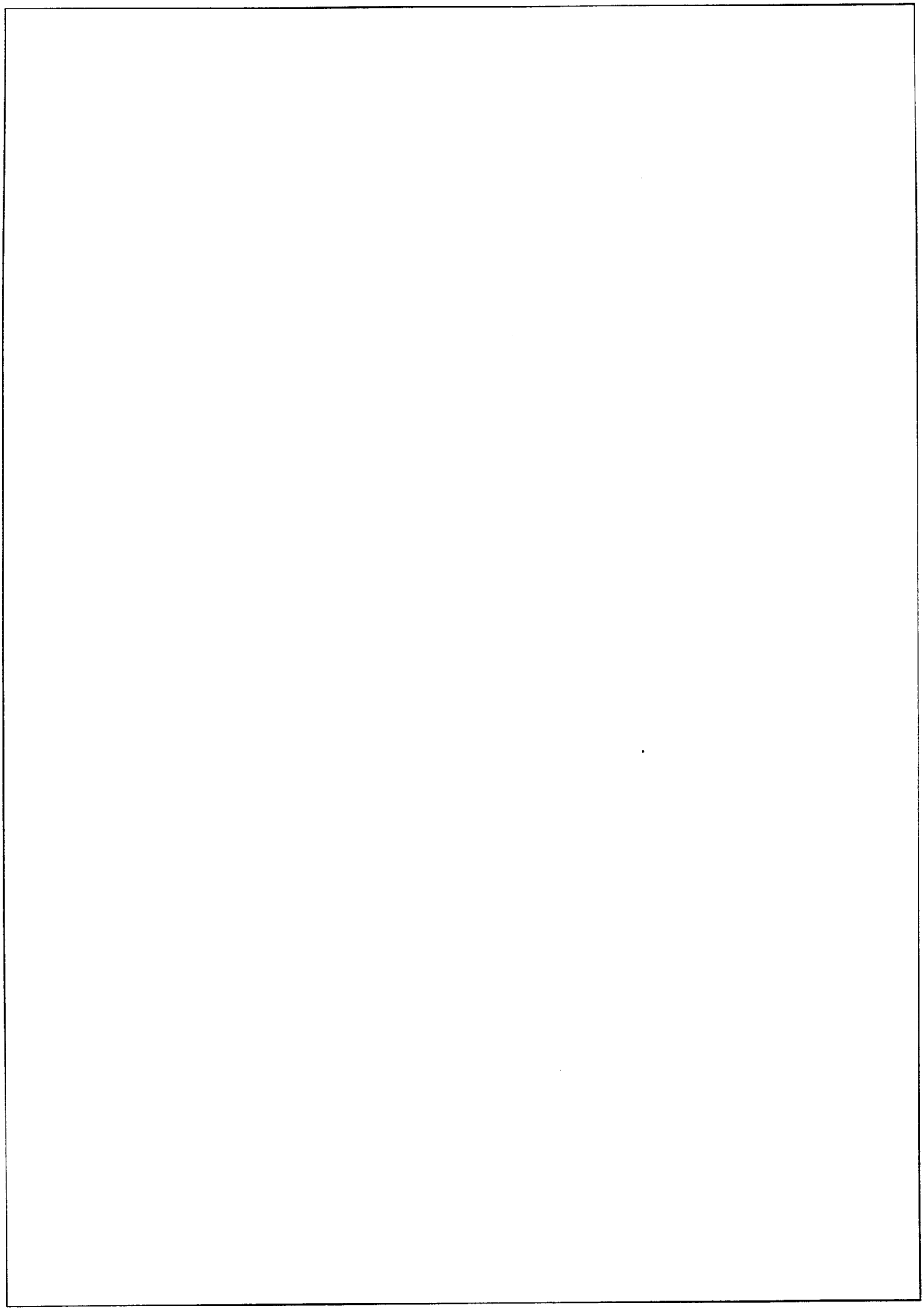












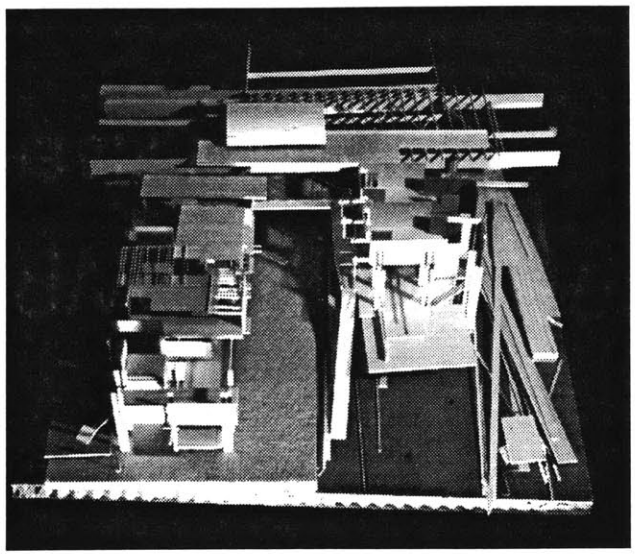
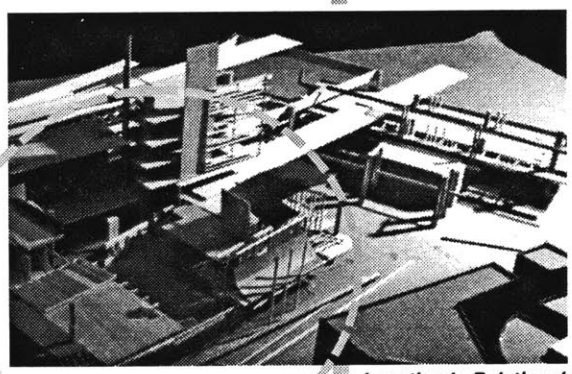
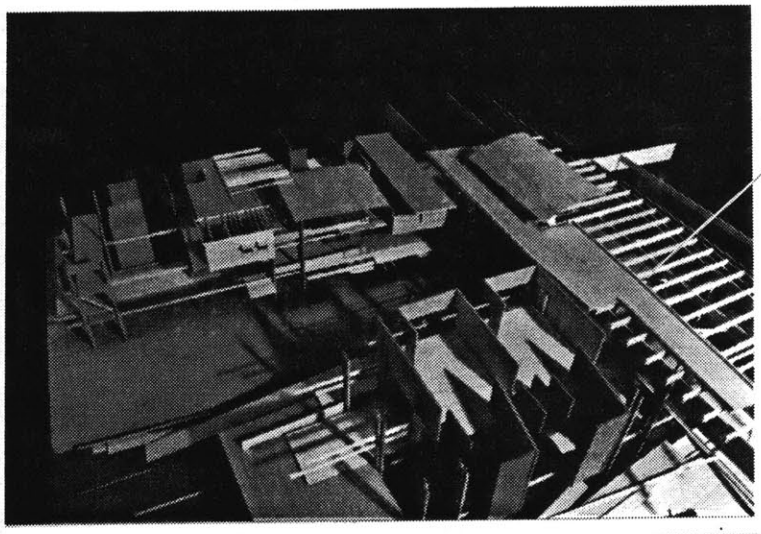
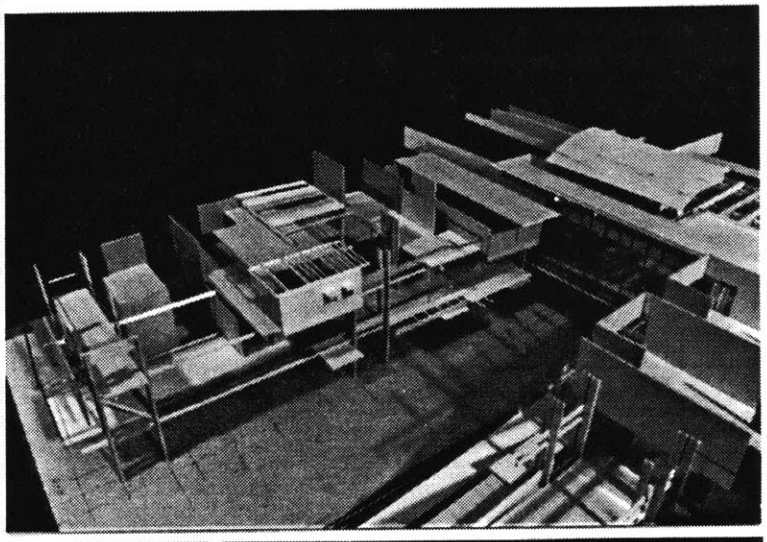


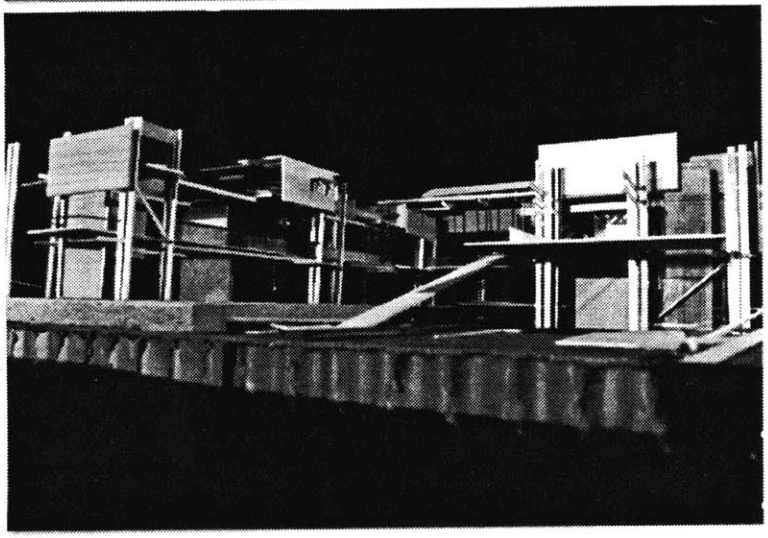
Figure 6.72: Photos of 1/8th Scaled Model.

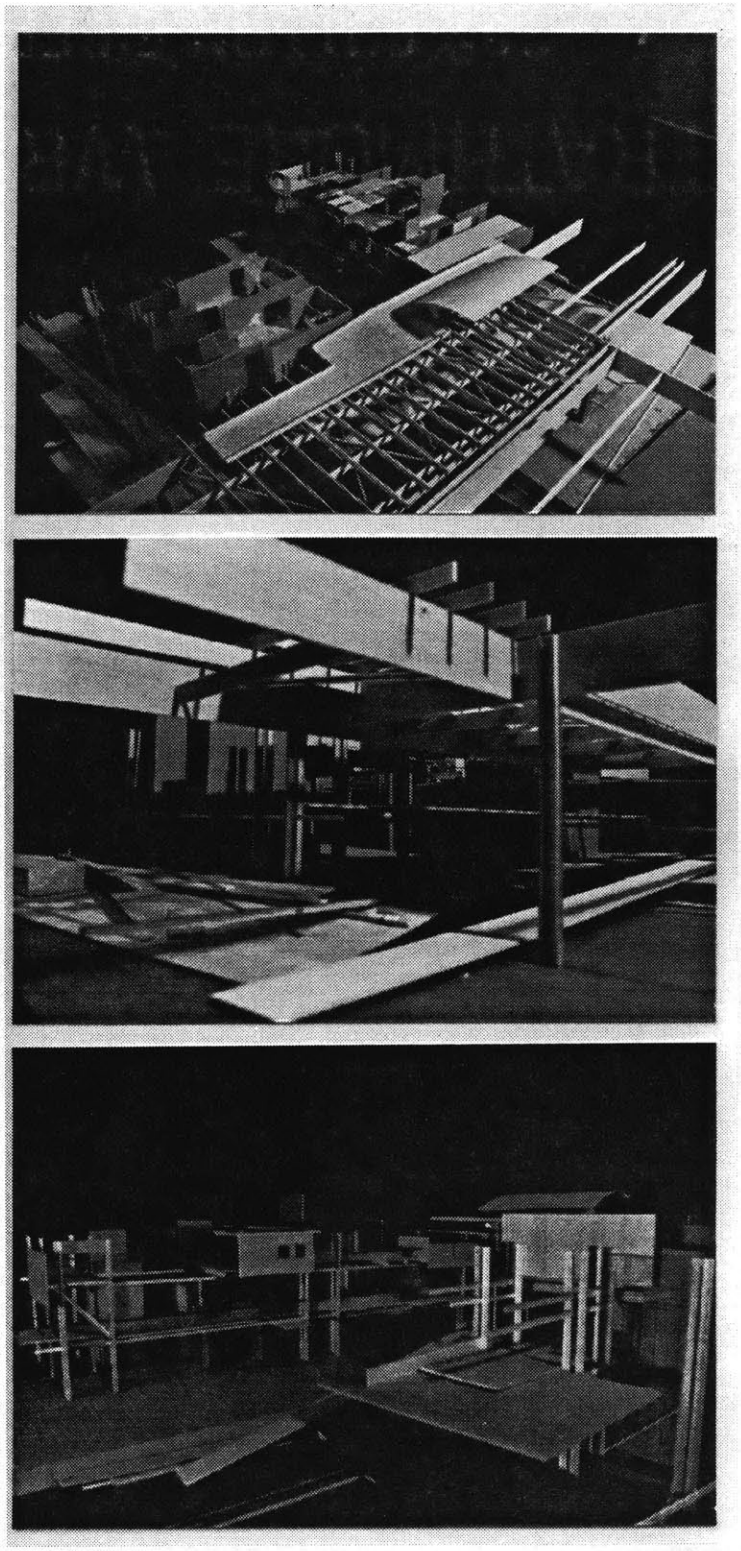


Location In Relationship With !/16th Scaled Model .


Artery







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