BOSTON'S CENTRAL ARTERY DEPRESSION SITE

THESIS PROJECT

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INTRODUCTION

Recently there has been a trend, and I think a good one, toward the revitalization of urban centers and away from the suburban sprawl that is associated with Modern Architecture. This redevelopment recognizes the built-in character and diversity inherent to the urban context which is a necessary part of a successful city environment. But redevelopment of a particular urban center means changing or at least adapting the existing character of the site and its surrounds and this greatly affects the neighboring areas. Is it possible to bring life back into a diversified urban area without resorting to cheap commercial gimmicks that destroy the integrity of established neighborhoods? Many cities have successfully revitalized their urban areas by selecting a centrally located asset of the city and, with the help of commercial developers (the Rouse Company is perhaps the best known example), attracting people and therefore money into the area. This initiates an interest in further investment in downtown development.
Union Wharf, Boston

Baltimore's Inner Harbor before redevelopment
But with this commercialization there seems to be a necessary evil that is part of the process: hordes of seasonal tourists, tee-shirt shops and an overall "Disneyfication" of the developed area that is not under the control of the original planners. Revitalization must include all of the functions of a successful city: business, professional and governmental offices, transportation and economic facilities as well as retail shops and restaurants... In short, the revitalized area must become an integral part of the city, using commercialization only as a stepping stone.

A History of Redevelopment in Boston

Boston has seen many attempts at urban development and redevelopment beginning with the infilling of the Back Bay in 1857-1900 which was meant to provide space for the well-to-do who were fleeing the decaying Beacon Hill area. In the 1960's two major projects began with the Prudential Center (1960-70, Charles Luckman and Associates) in the Back Bay and Government Center (New City Hall, 1968, Kallmann, McKinnell and Knowles, J.F.K. Federal Building, 1966, T.A.C., among others). The
Baltimore's Inner Harbor after redevelopment
Prudential Center was to connect the relatively prosperous downtown area with the poorer minority neighborhoods in Roxbury and the South End. The complex replaced an abandoned train yard with a new office tower and a commercial base. It has never been successful and is now, just twenty-five years after it's completion, a candidate for demolition. Government Center on the other hand has been much more successful, perhaps because it is centrally located unlike the Prudential Center. It is much more an "urban space" than the Prudential Center which shows the changing attitudes toward city planning that took place in the years between the two projects. It must be said, however, that a huge part of Boston's early nineteenth century architecture (Scollay Square, a twenty-two street red-light district) was demolished to make way for Government Center.

Boston's most recently revitalized area is Quincy Market, originally a series of wholesale and retail buildings located on the waterfront. Unlike the previous examples of urban renewal, the Quincy Market project used the existing fabric of the area and so was able to maintain the historic character of the city. Completed ten years ago, the market encouraged the revitalization of surrounding areas because of its
There are, however, some shortcomings of the project as completed. It was to include a various mixture of professional offices, theaters and service-oriented businesses as well as the tourist oriented restaurants and boutiques. As built there is little to attract a native Bostonian and so is generally avoided. The neighboring areas of Quincy Market and the Waterfront in general are being renewed enthusiastically by developers and so the original purpose of the project has been fulfilled. What happens next is the question I would like to address in my thesis project.

In the early 1950's the John F. Fitzgerald Expressway (known as the Central Artery) was built over downtown Boston; it is six lanes wide and hovers over the street at about twenty-five feet. Underneath the highway the residual space is filled with parked cars, broken glass and trash. It borders all of the districts in the northern and central parts of the city and for better or worse it forms a barrier between them. In the last fifteen years the possibility of building a tunnel under the Elevated and removing the above ground structure has been discussed. Left remaining would be a scar running through the city approximately two hundred feet wide and one mile long that
would border the Central Business District, Waterfront Park, Quincy Market, Government Center, the North End (an Italian-American residential neighborhood) and finally Bulfinch Triangle, a light-industrial and largely under used area in need of revitalization. This is the site that I have chosen for my Thesis project as, at present, the possibility of the site becoming available for development is inevitable within the next decade.

I-93 serves the entire East Coast from Quebec in the north to Miami (I-93 merges with I-95) in the south. Boston’s confusing street patterns encourage local drivers to use the elevated highway as a bypass away from the city’s crowded streets. The depressed tunnel (eight to ten lanes) would serve regional traffic only, and the two three lane above ground streets would serve local drivers. Note the three ramps that were removed so as to lessen the highway’s impact on the ground level. This shows that the devastating affect on the city was noticed soon after the elevated highway was completed.

To quote the Federal Highway Administration and the Department of Public Works of Massachusetts, “The creation of twenty acres of new land for development and the opportunity to
Early plans for the Central Artery (1930)
rebuild a significant portion of the city severed by the existing artery are major positive impacts of the transportation project. Realizing the potential benefits of this unprecedented opportunity will require a complete development process involving many public and private interests over a ten to fifteen year period."

Over a period of almost four hundred years, Boston has been going through processes of both growth and decline. Although it seems that the city is enjoying its recent successes at redevelopment, I would like to show that the process is not complete. In order to accomplish this, a very important shift in thinking must take place, one that turns away from tourist oriented commercialization and toward facilities that truly benefit the city. (More recent examples of urban redevelopment show that the formula of fast-food stalls and quick paint jobs is firmly established as an urban design cliche, as seen in Indianapolis, Indiana and Dayton, Ohio). In both theory and practice these projects can only be an asset to the city if they are seen as extensions of the everyday lives of the city's inhabitants.
Central Artery (1954–present)
Note the many separate and varied districts bordering the site:

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<td>Fort Point Historic Channel</td>
<td>Christopher Columbus Park</td>
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Site after the Central Artery depression
DESCRIPTION OF DESIGN PROCESS

Rather than starting with the larger issues and then working down in scale to the smaller elements of the project, I realized that with such a large-scale site it would be more productive to start with the individual parcels of land (approximately three or four blocks each) looking at the individual concerns of these specific areas. As the contexts change so dramatically from parcel to parcel, each can be seen as a project with its own individual issues (for example the residential qualities of the North End as opposed to the office environments of the Central Business District). This presents an un-biased approach to the design of the individual parcels with possibilities that can be revised or ignored as the process continues, this "brainstorming" facilitates the creation of many (and possibly contradictory) ideas.

Major issues in the design of the individual parcels would be 1) How the site relates to its neighboring areas once the highway is removed 2) How the surrounding city fabric affects the adjacent areas that were previously blocked by the highway 3) How the site can either reconnect its environment or maintain the separation that the highway provided 4) How
automobile and pedestrian traffic can be channelled so as to reinforce the pedestrian nature of the city, and 5) How the city can be reintroduced to it's waterfront area that was severed by the highway.

Once the possibilities for each parcel are exhausted, the next step would be to look at the site as a whole considering all of the parcels simultaneously. This process seems reversed but after considering them individually, the larger issues will be more easily grasped. This will also help to keep the project from becoming overly predictable which would not be keeping within the character of Boston.

While looking at the entire site, issues and possibilities can be addressed which were impractical in the first stage; these would include using the site as a continuous park, major redirection of automobile traffic and land-use studies. The transition of space, perception, massing, scale and sequence through the site will be studied in this stage.

Following this, one parcel will be selected as a typical example of the rest (it would be fair to say that some parcels have more pressing and far-reaching issues than others). At this stage a program for the site can be produced that would
include work, recreation and habitation facilities, and they will be designed based on three main criteria: 1) as a building function 2) as a part of the city, and 3) as a human environment. Again using the process of individual issues and subsequent growth, the multi-use block can be kept from becoming a predictable "super-block" like the Prudential Center mentioned previously. As a final stage, individual buildings and functions can be developed to the point that concerns such as proportion, scale, imagery and materials can be addressed.
PARCEL INVESTIGATION

Bulfinch Triangle

Charles Bulfinch's street pattern of rectangular blocks is the only thing remaining of this historic block, the present eight to ten story buildings were built in the late nineteenth and early twentieth centuries. Originally a light industrial and office district, the site is now dominated by the Boston Gardens sports facility (a large Art-Deco structure) and fast food restaurants. The site is divided both by the Central Artery and an elevated subway track.

Immediately east of the "Gardens" the new tunnel will emerge from the ground and cross the harbor to Charlestown, where it will again go below grade. This district is notable because it can be seen as the beginning of the site and the opportunity exists to connect here with Frederick Law Olmsted's Charles River Park.
The more obvious solution for this parcel would be to restore the street pattern (a rectilinear grid enclosed by a triangle) and building envelope. Possible functions for the new structures include a hotel for sports related activities and professional or governmental offices. This area is relatively self-contained as there is little relation to the North End or Government Center, both of which it borders. The present offices in the area are not prosperous due in part to this isolation, the seedy character of Causeway street, and the long distance to the Central Business District. If some of the offices related to Government Center could spill over into Bulfinch Triangle, the area could again become a viable office/retail district. The buildings adjacent to Boston Gardens could develop into an entertainment district with one or more of the longer streets used as a pedestrian mall leading to the North End.
Bulfinch Triangle after development
View from Causeway St.
The North End as it relates to Government Center and the waterfront.
The North End is Boston's oldest neighborhood. It was originally settled by the English in the early 1630s, its present structures were built by Irish immigrants in the early Nineteenth Century, and from the 1850s to today it has been inhabited by Italian immigrants. The buildings are typical Nineteenth Century retail and residential structures with the more public retail functions on the lower floors and the housing units served with a private entrance above. As such, the buildings are used today exactly as they were intended when they were built over one hundred and fifty years ago.

The drawing on the right shows the boundary of the North End moved up to the Blackstone Historic District which was (before the Elevated Highway was built) at one time a part of the neighborhood. With traffic from the northbound lanes moved to Commercial Avenue (it would reconnect on the other side of the North End on Causeway St.), the remaining street could be closed to automobile traffic in order to connect the area to the Waterfront Park with a pedestrian street. At the major entry points into the neighborhood, "gates" would further designate the boundaries of the North End. These measures are taken in order to address an important issue; the residents of
the area have enjoyed the isolation that the Elevated Highway has given them and this has enabled them to maintain the neighborhood's cohesive character as an Italian district. This isolation can be maintained by the implied "wall" or boundary that establishes the area as a vital and functioning entity. By establishing the exact boundaries of the neighborhood and allowing the residents to voice their concerns over its development, the character of the North End can be maintained.

Figure A shows an implied or suggested wall that defines the boundaries and entry points into the North End. Hannover street has always been the North End's main street and so is a logical entry point for pedestrians. The square would therefore serve as a focal point of the neighborhood.

Figure B shows an open square that is defined by buildings on all four sides. In this plan the square is paved (to be used by the push-cart merchants that presently use the Blackstone District) and left open. Note the small square in front of the Police Academy Building.
Figure C Shows Three prominent landmarks that define the square: 1) A gate onto Hannover st. 2) A ventilation tower for the tunnel, and 3) The Police Academy Building. On both sides of the open square new buildings that maintain the scale of the area can complete the square.

Figure D Shows a square that is partially paved and partially left green.
These sketches show a plan that assumes that the boundary of the North End does not include the Blackstone District and is along the new street over the tunnel. In this case the new street will serve automobiles and so the implied "wall" must be more literal. As one drives north with the North End on his right, a series of spaces can be defined by the wall. The area that is on the site over the tunnel is left open so as to separate the two districts. As the Blackstone District is becoming more commercialized (due to the success of the adjacent Quincy Market) there are a large number of tourists that cross the site into the North End; Because of this, regardless of where the boundary is established, a prominent pedestrian entry point must be made.
Figures E and F show two walls, one being literal and the other one consisting of buildings. Both serve to define the boundaries The North End. Note the main pedestrian entry and the two minor entries in figure F.
Overall view of the square.
Entrance gate on Hannover Street.
The new square defined by Hannover street in the background, the Blackstone District on the left and the new pedestrian street on the right.

The Police Academy Building. This building defines one corner of the smaller square.
Looking down Hannover St. from the main entrance gate.
View from the North End (on the new southbound street) looking toward the Commercial District. Note the gate and the park entrance on the left.
The Waterfront

The most important issue concerning this parcel is the large number of people who use the Faneuil Hall/Quincy Market area, the Waterfront Park (recently renamed Christopher Columbus Park), and how they cross the site to get from one to the other. With the Central Artery severing the two, the connection is weak and very unpleasant to walk. After the removal of the highway the visual connections between these two parts of the city will make it one of the most striking views to and from the harbor, and so this parcel will serve as the visual entrance to the city from the sea.

There are two major axes directing one to the Waterfront area from the central part of the city, one on State Street that starts at the Old State House (built in 1713) and ends at the recently built Marriot Hotel on Long Pier, and the other through Quincy Market ending at the park. The pedestrian zones are used primarily by tourists on the weekends and in the summer, and by professionals from the Central Business District during the week. Waterfront Park is the ending point of many paths through the city as it is very popular and borders many separate districts (the Waterfront from the north and south, the North End from the north-west, Quincy Market and Government
The Waterfront and park.
Center from the west, and the Central Business District from the south-west). The park is also surrounded by converted warehouse condominiums that serve both to visually define the park and to provide a twenty-four hour supply of people, therefore keeping it populated during much of the day and night.

In the drawing on the right note the several very strong pedestrian axes that lead to the Waterfront. At present these are blocked by the highway but will be restored once it is removed. Still in conflict with this will be the two three lane streets that cross the site and so while the connection will be much stronger there will still be some conflicting automobile and pedestrian traffic. Even with this minor drawback the space will be much improved with the removal of the highway.
Major visual axes.
As the park is not sheltered from the relatively fast automobile traffic on Atlantic Ave., the wooden structures in the existing park could be extended onto the site so as to create a buffer from excessive noise. These would be based on visual axes around the site, any conflicts between pedestrian and automobile traffic, and a need to form a barrier that isolates automobile noise and movement.

The remainder of the site could include a building that reinforces the facade line on State St.
The site as an extension of Waterfront (C. Columbus) Park.
In this scheme the site is built over, emphasizing the pedestrian axes from downtown Boston to the harbor. The building forms are derived from the Quincy Market buildings and the old warehouses in the vicinity. In this way the site could carry on this particular form much in the same way that the previous plan for the park was derived from surrounding forms.

The second scheme is much like the first except that the buildings are arbitrarily drawn and do not reflect the forms of neighboring structures.
The site as an extension of Quincy Market.
A view down Atlantic Avenue with the park on the left and the extended retail area adjacent to Quincy Market on the right.
The plan to the right assumes that the entire site could be left open as a linear park. The main axis following the site would be bisected by the axes that lead toward the harbor. As previously stated the open park could connect with F. L. Olmsteds park on the Charles River.
The drawing on the right shows how greatly the city will improve once the Elevated Highway has been removed and the visual axis on State Street is restored. Today the view is completely blocked by the highway as it passes directly in front of the Marriot Hotel. When the highway was built the waterfront was largely an abandoned area used for parking and storage; today it is a vital and popular attraction that is unfortunately isolated from the rest of the city.
The view looking from the harbor up State Street with the Marriot Hotel on the right. Note the Old State House at the end of the street.
The Central Business District (from Milk St. to High St.)

This parcel is unique in the Central Business District with its skewed street grid and the smaller scale of its buildings. The grid as shown is continued on to the site and serves as a basis for the buildings' orientation. The new structures would have retail facilities on the lower floors and offices in the upper floors so as to keep within the general character of the district. This area would serve as a transition between the remaining larger scale Central Business District and the tourist oriented Waterfront.

Note the existing Grain Exchange building with its conical roof in the upper part of the drawing on the right. The area adjacent this building has been left open so as to enhance the view of this structure which is now used as an office building. As termini of the remaining streets a pair of ventilation towers mimic the form of I.M. Pei's tower apartments. A network of pedestrian alleys would connect the separate buildings and serve as a path through the site.
These drawings show the existing street grid extended on to the site. Note the two ventilation towers in the drawing on the right.
Looking through the site along Broad Street.
India Street. Note the Grain Exchange Building on the left.
The Central Business District (from High St. to Congress St.)

This part of the site is dominated by many ten to thirty story buildings built from the late Nineteenth century to present, with the majority being built within the last fifty years. South Station (at the end of the site) serves all of the trains that travel into Boston. Where the North Station/Haymarket area serves commuters coming into the city from the north, this end of the site (South Station, a subway "T" station and a large bus terminal) serves those coming in from the south.

Note the large plazas abutting the site that form a secondary zone that borders the primary zone of the Central Artery site. In some cases these can serve pedestrian traffic leading to the Historic Fort Point Channel. The space that this secondary zone provides allows the primary zone to be used as a densely packed building space which is keeping within the character of the Central Business District. At High Street the site almost comes into contact with the harbor at Fort Point Channel, and this provides the opportunity to continue the connection with the harbor that was established in the Waterfront area.
The C.B.D. showing secondary zone (darkened area).