NEW CHARDON:
THE DELIVERY OF AFFORDABLE HOUSING IN DOWNTOWN BOSTON

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ABSTRACT

This thesis evaluates the potential to merge the achievement of public policy objectives with private development of the New Chardon site, a state-owned parcel located in downtown Boston. In June 1986, Governor Dukakis dedicated the 3.1-acre site to residential use and announced a major affordable housing initiative.

The critical unresolved public policy choice associated with development concerns the distribution of development benefits. Among the large population affected by the current housing crisis, who will be the beneficiaries of this project? More specifically, who is the resident type -- income level, household size and age -- to whom the development will be marketed? This thesis offers a framework for decision-making by exploring the interrelated issues of public policy and financial feasibility through an analysis of development options. The analysis is designed to direct the Commonwealth in setting housing policy priorities for the New Chardon development.

First, the opportunities and constraints associated with the site are identified. Second, the recent decision to dedicate the parcel to residential use is placed in perspective by examining the value of the Commonwealth's contribution and the severity of the current housing crisis. Next, development options corresponding to three different public policy approaches to income mix are explored for their ability to satisfy both public policy goals and financial feasibility criteria: 1) 100% affordable; 2)50% market-rate / 50% affordable; and 3)25% affordable with land value extracted and linked to development of another affordable housing site. Fourth, New Chardon's significance for state-sponsored housing programs is established. The thesis concludes by examining the disposition process, highlighting the Commonwealth's opportunity to shape the ultimate development through its drafting of RFP guidelines and the City's ability to impact the final product.

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OVERVIEW

On June 4, 1986, Governor Michael Dukakis announced a major housing initiative for a state-owned, undeveloped parcel in downtown Boston. The 3.1-acre site, located at the corner of New Chardon and Merrimac Streets, is part of an 8.4-acre parcel originally included in the 1960's urban renewal plan for Government Center (Exhibit 1,2). A State Service Center, master planned by Paul Rudolph, was the intended use. The Hurley Employment Security Building and Lindemann Mental Health Center were built, but a third component, a state office tower was never constructed. The New Chardon site has remained highly underdeveloped, while its value has increased enormously. Today, it is a prime urban parcel and important to revitalization of the adjacent Bulfinch Triangle area. Dedication of one of its most valuable downtown parcels to residential use dramatically demonstrates the magnitude of the Commonwealth's commitment to alleviating the current housing crisis and, in particular, to delivering affordable housing in downtown Boston.

The delivery of affordable housing on the New Chardon site is today a vision loosely defined by the Governor's press conference remarks: four hundred units of mixed-income housing favoring homeownership opportunities for middle income, first-time homebuyers. A retail component, day care center and parking garage were included in the proposal. Since the announcement, provision of a shelter facility as an extension of the Lindemann Center has emerged as a priority. To promote feasibility, the State offered a land cost writedown or favorable lease structure and below-market rate financing to be funded by its Homeownership Opportunity Program (HOP) established in early 1985. Sufficiently broad, the charter can be translated into reality through several development alternatives.

The New Chardon initiative is bold in concept, and in broadest terms its challenge is to merge the achievement of public policy objectives with private sector development. The project is complex in its programmatic demands and intriguing in its possibilities for integrating housing with the rest of the site. Critical to success of the venture is making sound development decisions. To explore development potential and build consensus, the Division of Capital Planning and Operations (DCPO), in conjunction with the Executive Office of Communities and Development, has convened a Community Advisory Committee (CAC). The CAC, an impressive roster of local representation and industry expertise, will work through the summer to resolve issues of housing policy, financial feasibility and urban design. The output of the process is to be a set of guidelines for development of the site to be included in the Request For Proposals (RFP) to the private development community. DCPO has set an aggressive schedule. Legislation in support of the New Chardon development is projected to be filed as early as October, 1986. A developer selection process will follow with developer designation expected by early 1987, thereby completing the disposition process.

This thesis approaches the issue of delivering affordable housing on the New Chardon site as the challenge unfolds as of this writing. The critical unresolved public policy choice associated with development concerns the distribution of development benefits. For whom will the project be constructed? More specifically, who is the resident type -- income level, household size and age -- to whom the development will be marketed? Together, policy objectives and market forces will be the determinants of resident mix. This thesis offers a framework for decision-making by exploring the interrelated issues of public policy and financial feasibility through an analysis of development options. The conclusions will serve to direct the Commonwealth and CAC in setting housing policy priorities for the New Chardon development and ultimately form the basis for legislation.

The analysis is designed to establish parameters within which the potential of the New Chardon development can be assessed. The economics of building and selling affordable units on the downtown site are analyzed to expose the cost and benefit of including various resident groups and unit types in the development. Based upon these housing economics, development options corresponding to three different policy approaches to income mix are explored. These scenarios are presented to broadly test the limits of financial feasibility: 1) 100% affordable; 2) 50% market-rate / 50% affordable; and 3) 25% affordable with land value extracted and linked to development of another affordable housing site. Each is evaluated for its ability to satisfy public policy objectives and generate returns attractive to a private developer. Additionally, the economics of the non-housing portion of the development are examined and reviewed for the potential to enhance affordability through cross-subsidy of the housing component.

In total, this thesis relates the challenges associated with disposition and development of the site, provides a basis for decisions regarding the distribution of development benefits and points to the form that the development may eventually take. Chapter One introduces the New Chardon site, revealing its opportunities and constraints by recounting its history and identifying its current context. The recent decision to dedicate the parcel to residential use is placed in perspective in Chapter Two by examining the value of the State's contribution and severity of the current housing crisis in Boston. Alternate development options and their ability to satisfy both public policy objectives and financial feasibility criteria are analyzed in Chapter Three. Chapter Four, synthesizing the policy directives and economic potential established in earlier chapters, presents New Chardon's expected significance for state-sponsored housing programs. The thesis concludes by examining the disposition process, highlighting the Commonwealth's opportunity to shape the ultimate development through the drafting of RFP guidelines and the City's ability to influence the final product.

CHAPTER 1
OPPORTUNITIES & CONSTRAINTS

The New Chardon parcel is one of the largest developable sites in downtown Boston and remains, as it has for the past fifteen years, a piece of unfinished business. Among fifteen parcels covered under the Government Center Urban Renewal Plan, it is one of only two uncompleted projects and is testimony to incomplete planning. Originally part of the State Service Center, the parcel is a leftover. Its development must respond to the uses and structures existing on the site and is subject to the original Urban Renewal Plan. While the site has remained inactive over the past fifteen years, the area around it has not. Today, the parcel is situated at the dynamic juncture of several districts and on-going or proposed development activity. Together, its rich history and current context establish the opportunities and constraints associated with the site and form a framework for development options. In particular, the land disposition agreement with the City and the architectural legacy left by Paul Rudolph have important implications for today's disposition process and urban design solution.

Government Center Urban Renewal Plan

The site is part of Government Center, a sixty-acre tract acquired by the City of Boston under provisions of Federal urban renewal legislation (Exhibit 3). Comprised of approximately thirty federal, state and city office buildings, Government Center is one of the most ambitious and successful redevelopment projects in the country.

Government Center occupies what was formerly the plains of Trimount. Settled in 1630 by John Winthrop and the Massachusetts Bay Company, the peninsula was appealing for its fresh water supply, safe vantage from Indian attack and easy access to river and harbor trade routes. Trimount was renamed Boston, and by the end of the 18th century, its topography had been altered to its present form by means of damming and cut-and-fill operations.

Boston's earliest hub was the Townhouse, standing today as the Old State House. Retail evolved in the Washington and Summer Streets vicinity, while the financial district developed around Broad, State, Franklin and Milk Streets. The shipping industry gradually moved north and south of Quincy Market due to the availability of filled land and longer wharves. The land between Haymarket, Dock, Scollay and Bowdoin Squares -- most of the current Government Center -- emerged as a service area, housing the city's finest hotels and restaurants. However, as Exhibit 3 illustrates, the westernmost portion of the tract which is the New Chardon parcel consisted of lots considerably smaller in size suggesting residential use. In fact, this area was part of the West End neighborhood.

Scollay Square, adjacent to the central business district, remained the prime social, business and political center until the early 1870's. Its demise is largely attributable to two factors. First, The Great Boston Fire of 1872 destroyed over sixty-five acres of highly developed land including the business district. Largely due to the excessive time required to rebuild the district, the business center slowly edged southward. This movement away from Scollay Square coupled with the rise of elegant hotels in the Back Bay, such as the Hotel Vendome, drained vitality from Government Center. The second factor was the presence of the naval shipyard in Charlestown. A series of wars, up to and including World War II, brought droves of sailors to Boston, and in time, Government Center lost its reputation for luxurious hotels, theatres, and restaurants and became a center for naval on-shore entertainment: tattoo parlors, burlesque theatres and hot dog stands.

Over the years, buildings became obsolete and hazardous and property values declined. Though facilities were substandard, the area was ideal for redevelopment due to its proximity to government/business/retail activity and access to existing public transit. Furthermore, its primarily non-residential character was advantageous. Scollay Square was chosen as the site for a proposed Civic Center as early as 1930, but little action was taken until the United States Congress passed the Housing Act of 1949, enabling cities to effectuate slum clearance.

The area was classified as an Urban Renewal Area under Title I of the Housing Act. "Government Center Study - A Preliminary Report" was published by a mayoral committee in 1956 and gained widespread support. It proposed a complex of new federal, state and city office buildings along with several private structures in the Pemberton-Dock Square area.

In 1960, the Massachusetts Legislature abolished the City of Boston Planning Board and transferred its powers and duties to the recently formed Boston Redevelopment Authority (BRA). Concurrently, the Mayor proposed that the Government Center project be executed as a non-residential, federally-funded redevelopment. With a new city administration, a newly organized redevelopment authority and necessary public sector support, Government Center began to take form. I.M. Pei & Partners was hired to master plan Government Center and to coordinate other architects commissioned to design individual structures. In October of 1961, demolition was initiated.

Land Disposition Agreement

According to the land use plan proposed by I.M. Pei & Partners, the Government Center project area was carved into fourteen separate parcels. The State development parcel, framed by the newly routed New Chardon and Cambridge, Staniford and Merrimac Streets, was designated Disposition Parcel 1 (Exhibit 4).

The Commonwealth and BRA entered into a land disposition agreement dated February 2, 1965. In the Agreement, the BRA agreed to convey the parcel to the Commonwealth for a price of $1.75 million (MM). The conveyance was subject to several restrictions and provisions. The property had to be used for public office and institution. Further, the state agreed not to use the property or any part thereof for any use other than public office and institution. Consequently, although a substantial part of the parcel is already devoted to the uses set forth in the Agreement, the remaining vacant parcel cannot be used for any other purpose. The state cannot transfer its interest in the property to another entity prior to completion of the building project unless the transferee assumes all obligations of the Commonwealth. The BRA does not enjoy a right of reverter in the property in the event the building project is not completed. These restrictions were placed as covenants in the deed and terminate on the expiration date of the Urban Renewal Plan in 2003.[1]

Subsequent to the execution of the Agreement, the BRA conveyed to the Commonwealth Parcel 1A by a deed dated February 10, 1965. Parcel 1B consists of a triangular piece of land at the corner of Merrimac and New Chardon on which the Langone Funeral Home is located. It has never been conveyed to the Commonwealth.

Both the Agreement and Deed are subject to the Government Center Urban Renewal Plan which restricts permitted uses to public office and institution. To date, neither the Agreement nor Urban Renewal Plan have been amended. So, the proposed housing plan is incongruent with existing documents, and the Commonwealth will require several approvals from the BRA Board of Directors to proceed with the development as planned. As such, the BRA has a formal basis for review of the project extending beyond its usual authority to regulate development in Boston. This heightened role of the City will be further discussed in context of the disposition process and political feasibility.

The Land Disposition Agreement needs to be amended to reflect new priorities by deleting the clause prohibiting use of the parcel or any portion thereof for any uses other than public office and institution. Additionally, the Deed must be amended releasing the State from use restrictions. Both amendments can be accomplished with the consent of both parties to the agreements. However, modification of the Urban Renewal Plan requires further approval by the Boston City Council and Executive Office of Communities & Development. Unlike the Agreement, the Plan designates public office and institution as the use but does not specify that a portion of the parcel cannot be used for other purposes once public office space has been constructed. DCPO and BRA counsel will have to determine if the Plan requires amendment, but clearly the process is simpler if it is deemed unnecessary. In principle, housing as a use has been accepted by all parties. Amendment of the documents, though, remains a legality capable of tying-up the disposition process.

<u>State Service Center</u>

The Commonwealth was authorized to purchase Parcel 1 (1A & 1B) by Chapter 635 of the Acts of 1960 which established the Government Center Commission as the acquiring entity. The Commission was further authorized to build thereon a health, welfare and education service center consisting of (1) a mental health center and state laboratories building; (2) an employment security building and (3) a health, welfare and education building.

The complex was conceived by coordinating architect, Paul Rudolph, as three separate buildings consolidated into a single shell curling around the site, forming a grand plaza in front of a heavily sculpted tower (Exhibit 5). Of the three sections proposed, only two were built: The Hurley Employment Security Building, designed by Shepley Bulfinch Richardson and Abbott and named for Charles F. Hurley, governor from 1937-39; and the Eric Lindemann Mental Health Center, designed by Desmond & Lord and Paul Rudolph. Both buildings opened in 1971. The six-story, 365,500 square foot Hurley Building houses the Unemployment Insurance Claims office, job placement centers and administrative offices. The seven-level, 257,200 square foot Lindemann Center functions primarily as a community out-patient treatment facility. Specially constructed for the Department of Mental Health, it contains special purpose patient and laboratory space.

The proposed twenty-four story tower, intended as executive offices for several state departments and to be called the Health, Welfare and Education Building was never constructed. Design review problems ensued and Rudolph was taken off the project by the Government Center Commission. Eventually, a thirty-three story tower designed by both Shepley Bulfinch and Desmond & Lord was approved, but cost overruns and a change of administrations halted construction. Authorized to spend $43.5MM on the entire complex, the Commission had only $11.5MM left with the two completed buildings, garage and landscaping funded. The tower, estimated at $33MM, would have required an additional $22MM appropriation. The costs were clearly excessive. On a per square foot basis, Hurley cost $52.40, while Lindemann cost $84.76.[2] In current dollars, the expenditures, respectively, are approximately $140 and $230 per square foot! To an extent, monumentalism is appropriate in public architecture but perhaps as Ada Louise Huxtable wrote in reference to the structure, "its drama may have been overwrought for its purpose."[3]

The building is a massive showpiece of architectural expression in exposed concrete design. Several concrete textures have been utilized, though most of the concrete finish is gear-toothed -- a pattern of vertical flutes whose forwardmost edges were manually chipped away after wooden forms were removed and concrete set. The exposed aggregates catch light, add texture and create depth. A sinuous flowing form, the structure's curvilinear volumes, both recessed and projecting, are suggestive of the swell and ebb of the ocean. Curved planes are used extensively throughout the interior, reinforcing the motif. The structure's shape is said to resemble that of the State of Massachusetts.

Rudolph's design for the plaza has been compared with both the Piazza del Campo and the Piazza San Marco in Venice. The plaza was planned as a striated, three-level space extending from a series of great curved stairs. Walls were to be stepped back from the central plaza to create a terraced effect. According to Rudolph, the structures were designed to form a specific interior space for pedestrians only. As such, the keynote is the unfinished plaza, not the missing, focal tower.

In 1975, Governor Dukakis allowed the Government Center Commission to lapse out of existence. In 1980, the Boston Landmarks Commission rated the complex a Category II Building, denoting major significance for its "sculptural exo-structure in the Expressionistic style." The vacant land is now under the control of the Division of Capital Planning & Operations as a result of Chapter 685 of 1982 which placed full responsibility for state buildings in the Government Center area with the Bureau of State Office Buildings. Meanwhile, the truncated State Service Center remains a modern ruin awaiting completion.

Completion of the site would fill a void in the building fabric and demands a sensitive, creative urban design approach. Housing must be responsibly integrated into an otherwise institutional block. Materials and scale must be compatible with those of existing structures, yet more hospitable than the concrete corduroy. Through completion of the plaza, the development is charged with endowing the site with the architectural integrity originally intended.

Current Context

The entire site, bounded by New Chardon, Merrimac, Staniford and Cambridge Streets, is approximately 360,000 square feet (SF). The Hurley and Lindemann buildings occupy 225,000 square feet of the site, leaving approximately 135,000 square feet of land available for development. Zoning is currently B-8, "general business," with a maximum allowable FAR of 8. Highly underdeveloped, the site is built to an FAR of 1.7. Allowable height is 420 feet. Terrain is sloped with a grade change of thirty-eight feet along New Chardon from Cambridge down to Merrimac.

State vehicles currently utilize the vacant lot during working hours. In 1984, DCPO let a parking lot operator's license for nightly use. The three-year license can be terminated at thirty days notice by DCPO.

The New Chardon parcel is located at the nexus of several districts and is within the vicinity of on-going or planned development activity (Exhibit 6).

Government Center

The rest of the Government Center complex surrounds the parcel to the south and west. Uses nearest the site, across New Chardon Street, are mid-rise private office buildings and the Government Center Garage. The garage is to be reconstructed to include office space on two additional upper floors and retail on the ground floor. The 24-story John F. Kennedy Federal Building is located behind the private office buildings.

Bulfinch Triangle

Across Merrimac Street, this enclave of 19th century, six to eight-story brick buildings planned by Charles Bulfinch is being steadily upgraded for commercial use. Over $40MM of development investment has been infused into the area over the past three years, pushing out its mini-combat zone. Rents are currently at the $18-22/SF level up from $8-10/SF in 1982.[4]

North Station

The North Station area extends from the Boston Garden and the new General Services Administration (GSA) building westward to the Charles River and has been designated a Commercial Area Revitalization District deserving of zoning incentives and tax-exempt financing. The BRA is currently wrestling with two developer proposals, each for an office/hotel/retail/garage mixed-use complex behind a new or renovated arena. Occupancy of the GSA building is expected in August, 1986.

Two major infrastructure projects were requisite to location of the GSA building in North Station: relocation of the MBTA elevated Green Line below ground and widening of Merrimac Street. Depression of the Green line is expected by early 1991. The proposed street widening consumes nearly three-quarters of the Langone Funeral Home now located on the development parcel. It is assumed, therefore, that the BRA will have to relocate Langone anyway, such that, the matter becomes a non-issue for the New Chardon project.

Lowell Square

Both the City and Jerome Rappaport, developer of adjacent Charles River Park, claim ownership of this site. Despite on-going litigation, the 1.5-acre parcel is available for development. An RFP with guidelines for a mixed-income residential development was released by the BRA in May,

1986. Fifty percent of the units are to be available at market rates, twenty-five percent affordable to moderate-income residents and twenty-five percent affordable to low-income residents. The project may include an office/retail component and is subject to a 230-foot height limitation.

West End

The West End, an ethnically integrated though dilapidated neighborhood of some 3,000 families, was razed in the early 1960's as part of the 48-acre West End Land Assembly and Redevelopment Project. In its place towers Charles River Park, a high-end residential complex. The last phase of the project, 38-story Longfellow Place, is adjacent to the State Service Center.

As previously noted, the New Chardon parcel prior to urban renewal was part of the West End, more like it in character and activity than it was Scollay Square. Boston is saddened by the broad-brush approach to "urban removal" that eradicated the old street pattern, disrupted the traditional mix of residential and commmercial use, and dispersed a neighborhood of families. Having come full circle, the State is now planning a residential development on the site with references to a new Old West End.

In general, residential development of the site is congruent with the City's growth policies for central Boston as outlined in "Downtown Guidelines" drafted in July of 1985 and with BRA planning for the immediate area. Among BRA staff, several key design elements are considered important to reinforcing other develpments in the area. Capitalizing upon the original design, the development has the potential to offer a pedestrian link between Government Center and North Station through the large block via an existing grand staircase penetrating Lindemann at mid-level. Completion of the internal plaza is paramount and can create a desirable open space for the City. Lastly, retail uses and redevelopment of areas around the base, particularly animation of the mini-plaza at the corner of Merrimac and New Chardon, would enable the complex to more successfully address the street.[5]

CHAPTER 2
THE HOUSING DECISION

Development of the New Chardon parcel had been discussed by state authorities on and off during the past fifteen years; however, most of the proposals focused on state facility needs and office opportunities. The housing decision, largely an executive choice initiated by Secretary Frank Keefe of the Office of Administration & Finance, represents a fresh approach to the site.

The Governor's housing decision was an expedient one. Given the increasingly high level of development in downtown Boston, the State was facing mounting pressure to act. Over the course of the next several months, two key state positions involved with real property disposition were to be vacated by officials with strong track records: Deputy Commissioner Tunney Lee, DCPO; and Director Linda Whitlock, Real Property. This changing of the guard along with the upcoming gubernatorial election encouraged a swift response. State agencies were not clamoring for new central business district space and, indeed, no budget had been allocated. Meanwhile, Boston was and continues to be in the midst of a severe housing crisis, and the expansion of housing supply, particularly affordable units, had become a top public priority. Acting progressively, Governor Dukakis, flanked by Mayor Flynn and Senate President Bulger, announced the New Chardon housing initiative on June 4, 1986.

For purposes of this thesis, the decision to develop housing units versus office space is considered a given. Yet, probing two issues surrounding the decision helps place it in perspective and expose its tradeoffs. What is the State giving up? And what is the nature of the housing crisis that sparked the choice? In other words, in alleviating the crisis, what is the State getting in return?

Commonwealth's Contribution

Implicit in its housing decision, the State has foregone the opportunity to develop the New Chardon site for state offices. Currently, the Commonwealth leases nearly 2.1MM square feet of office space in Boston alone, at an annual cost of approximately $22.5MM. While much of this space is for neighborhood services offices, over 1.0MM square feet is leased for central agency offices in downtown Boston with agencies leasing over 40,000 square feet accounting for eighty percent of the space. Leased space represents approximately thirty percent of total state space, leased and owned. This downtown space is generally leased in older Class B or Class C buildings in less than prime locations where the State serves as an economic anchor. As recently as 1981, state agencies leased such space for $6-9/SF[6], but lease costs have risen significantly over the past several years to over $17/SF today. Strong market conditions have prompted the renovation of many Class C buildings, expanding and increasing the cost of Class B space and reducing Class C supply. Construction of a state office building on the New Chardon site could have been an alternative to short-term leasing, efficiently consolidating space and controlling cost.

More recent state facility planning efforts considered the site's increased value as a private development parcel. A plan was outlined by DCPO which utilized the high private development potential of the site to provide state office space without capital appropriation. The plan involved making the site available for private development while requiring the developer to include a specified amount of space to be leased to the State on a long-term basis at a greatly discounted cost. The proposal was quite viable, assuming a deal could be negotiated with the City to amend the Land Disposition Agreement. Preliminary estimates indicated that a one million square foot private office building could support 200,000-300,000 square feet of state office space at a cost of $2-5/SF exclusive of operating costs.[7]

Increasingly though, the most pressing needs of state agencies are for back-office space, more effectively delivered through construction of a horizontal operations center on a state-owned parcel outside of Boston. If, however, centralization of state office space becomes a future priority, the cost to taxpayers of assembling a site comparable to New Chardon will be exorbitant.

In 1965, the Commonwealth acquired the entire 8.4-acre parcel for $1.75MM, so that proportionately, the current developable parcel cost approximately $656,000. According to the BRA, new downtown office developments currently pay $40-50 per FAR Gross Square Foot.[8] Discounting the price to $35/FAR GSF given New Chardon's slightly non-CBD location and applying the allowable FAR of 8 yields a current land value of $37.8MM. Realistically, in light of city efforts to downsize downtown development, the site is unlikely to be built above an FAR of 4. Still, the value of the parcel in office use approximates $20MM.

Given the housing decision, the most appropriate valuation of the State's land contribution is its residual value in a residential use. The residual value is equivalent to the maximum price a private developer would pay for the site if zoned residential and subject to only the ten percent inclusionary zoning regulation now proposed by the City. Under the assumptions of the model detailed in Chapter Three including market rate sales of $250/NSF and a desired 15% return on sales and assets, the parcel's value approximates $16.5MM. For its contribution of a prime piece of Boston real estate, the Commonwealth must ensure that housing supply and affordability are significantly impacted on the site.

Housing Crisis

The City is facing a severe housing crisis characterized by tight supply and rapidly escalating price. Advertised rents in Boston increased eighteen to thirty-one percent annually between 1982 and 1985 and yet, the vacancy rate for rental housing is almost invisible. This pressue on the rental stock is further fueled by the skyrocketing costs of homeownership. According to the National Association of Realtors, the Boston metro area experienced the greatest inflation of home prices in the nation during both 1984 and 1985 at a staggering twenty-three and thirty-eight percent. The average Boston area single-family home price reached $144,800 in 1985. Need is projected to continue to outpace supply. Economic expansion is expected to create housing demand of 3,500-5,000 dwellings per year, in Boston over the next decade. In contrast, only 13,000 units were constructed, converted or rehabbed during the 1980-85 period.[9]

Expansion of the overall housing supply, and "affordable" units in particular, is a major priority for city and state government. The means to stimulate production is a subject of debate among developers and public policy makers. In 1983, The City of Boston established a linkage program which requires developers of commercial projects over 100,000 square feet seeking zoning relief to contribute a housing exaction fee to a trust fund used to subsidize affordable unit production. Alternatively, a developer could build or renovate housing off-site at a cost at least equal to the fee. However, the program has been invalidated by the Superior Court on grounds that such regulatory behavior is beyond the scope of municipal power. Recently, the BRA proposed an inclusionary zoning regulation which would require a minimum of thirty-five percent affordable housing on city-owned parcels and a minimum of ten percent on privately-owned parcels.

Affordable housing is categorized by established federal guidelines. Specifically, "low-income" housing is affordable to households earning up to fifty percent of the Boston SMSA median income. Similarly, "moderate-income" housing is affordable to households earning up to eighty percent of median. Affordable is defined as requiring no more than thirty percent of household income for housing-related costs In the current crisis, another group deserving of attention has emerged. This group will be designated "middle-income" and represents households earning eighty percent of the Boston SMSA median income to ten percent above it. Due to the high cost of housing, particularly downtown, units may require an income as much as 115-130% of median in order to be affordable. Middle income residents, shut out of the homeownership market, drive up rental prices by competing with low and moderate-income residents for scarce rental stock. Overall, there exists a large population of potential beneficiaries of state and city-sponsored housing programs.

The New Chardon initiative's approach to dealing with this widespread housing phenomenon is yet to be fully defined. Governor Dukakis' press conference remarks did, however, indicate that proposed housing would accommodate the needs of moderate and middle-income households characterized as the "nurses at Massachusetts General Hospital, the clerks in Boston's downtown stores and people who work for the State and City" who have been shut out of the downtown homeownership market. Homeownership versus rental opportunities were stressed for two likely reasons. Ownership is thought to offer more to a citizen than the privilege of living in someone else's building and is supported by the State's Homeownership Opportunity Program. Secondly, the pending tax reform bill through its provisions for a longer depreciable life and loss of tax benefits makes financing a rental project very difficult. In addition, necessary covenants to maintain long-term affordability which would prohibit conversion for many years render rental housing less attractive to a developer. Because of this imposing financing environment and the political momentum behind the Homeownership Opportunity Program, the preference for ownership over rental is considered fixed for purposes of this thesis.

Given the severity of the housing crisis and the high development value of the New Chardon parcel, it may be argued, from an efficiency standpoint, that affordable housing should not be built on the downtown site at all. Instead, the land value might be extracted by putting the site to another use, either private office or market-rate housing. Proceeds from the land sale might then be infused into a suburban affordable housing project in which construction costs are lower, thereby providing more "bang for the buck." The New Chardon initiative, though, is not premised upon a theory of highest and best use. Rather, it is underpinned by the idea that downtown residential development -- for all income brackets -- is both highly desirable and worthy of promotion.

City administrations have been generally quite favorable to downtown residential growth. According to BRA Director, Stephen Coyle, it is a means to "create the livable downtown, the 24-hour city."[10] Housing adds vitality to the central city in off-peak hours, helps keep the streets safe and reduces the load on the transportation system by allowing more people to walk to their workplaces or entertainment centers. The Boston Chamber of Commerce strongly endorses downtown housing. The BRA considers housing central to its downtown planning efforts and has evaluated the site potential of infill lots, large vacant parcels and the Fort Point Channel area for residential development. Nonetheless, market forces and the availability of financing programs have largely determined the nature of constructed housing. High downtown site costs and competition with the expanding office market are restricting most construction for residential use to high amenity areas such as the Waterfront and Public Garden. Luxury condominiums have been the favored housing type. Rental construction has been limited. The two exceptions, the Devonshire and Greenhouse, were both financed under terms currently unavailable. Without favorable public programs and incentives, the production of affordable housing in downtown is severely constrained.

The Commonwealth has committed itself to the delivery of affordable housing. In early 1985, the Massachusetts Housing Partnership (MHP) was formed as a public/private effort to address housing needs and expand opportunities for affordable housing. Its first initiative, the Homeownership Opportunity Program (HOP), enables moderate and middle-income households previously shut out of the homebuying market to purchase first homes. Below-market interest rate mortgages from the Massachusetts Housing Finance Agency (MHFA), currently at 8.85%, are available to middle-income households. MHP funds are used for an interest rate buy-down, thereby providing a further reduced 5.85% borrowing rate for households of moderate-income. Mortgage rates are structured to increase a maximum of three points over nine years. For a project to qualify for HOP funds, at least twenty-five percent of the units must be affordable to moderate-income households. Long-term affordability of these units is ensured by deed restrictions limiting appreciation upon resale. Also, up to $5MM in Community Development Action Grant (CDAG) funds is being provided to construct infrastructure associated with housing developments. The legislature is currently considering a proposal to contribute an additional $100MM from the budget surplus to the $220MM program.

Currently, MHP has twenty-eight projects in the pipeline for HOP funding. To date, no disbursements have been made. Applications have represented a geographic and development entity mix. The size of developments has varied as well, but the majority of current proposals are for projects under one hundred units. HOP funds totaling $35MM have been earmarked for the City of Boston as part of a $71.3MM package of state housing assistance funds. So far, only one Boston application has been received, for a project in the West Fenway area.

Highly visible, in the heart of downtown Boston, New Chardon can be a tangible, working example of the application of the Commonwealth's recent housing initiatives and a showpiece representative of HOP efforts. As a symbol of these steps and proof that the State can deliver affordable housing especially in downtown Boston, the New Chardon development must look good and perform well.

CHAPTER 3
DEVELOPMENT OPTIONS

As proposed by the Commonwealth, the New Chardon project is structured as a public-private partnership. The State contributes land and buyer-financing in exchange for affordable housing for its residents, while the developer applies expertise and assumes development risk for a reasonable return. The product is to be an economically and environmentally sound development that merges the achievement of public goals with private development. Among its policy objectives, the State foremost seeks to:

(1) significantly impact housing supply and affordability, and in doing so, create a shining symbol of state-sponsored housing programs, particularly homeownership initiatives;

(2) conclusively demonstrate that affordable housing can be delivered in Boston, and in particular downtown, where the obstacles to effective delivery are greatest;

(3) equitably distribute development benefits among the large population of potential recipients affected by the housing crisis;

(4) creatively solve the urban design challenge while respectfully responding to existing uses and architecture on-site.

Of four key public policy choices associated with development of the New Chardon site, three have already been made - what, how and how much. Housing is the determined use. Ownership is the preferred method of delivery. High density is deemed appropriate and necessary, and an approximate number of units is identified. It is the distribution of development benefits that remains unresolved. The question is for whom will the development be built? The inclusion of moderate and middle-income first-time homebuyers is understood from the Governor's press conference, but even if that is the policy thrust, many issues remain unsettled. For example, are households of low-income to be accommodated on the site too? To what extent should or must market-rate units be included in the development? Should individuals or families, or both, be targeted for housing opportunities? Should there be provisions for the inclusion of elderly units? Determining a desirable resident mix that satisfies both policy objectives and financial feasibility criteria will, in conjunction with the decisions already made, broadly define the nature of the New Chardon development.

Three parameters will define New Chardon's resident profile: the mix of affordable units and market-rate units; the income mix within the affordable category; and in shaping the income mix, the household type in terms of size and age, key factors typically defining an income-eligible household. Together, policy objectives and market forces will set the parameters. By evaluating the financial feasibility of various public policy approaches to resident mix, this chapter offers a framework for decision-making. The analysis identifies the basic economics at work on the site and is designed to assist the Commonwealth and CAC in setting housing policy priorities for the New Chardon development.

Initially, the economics of building and selling affordable units on this downtown site are analyzed to expose the cost, benefit and tradeoff of including various resident groups and unit types in the development. Based upon these housing economics, development options corresponding to three different policy approaches to income mix are explored: 1) 100% affordable; 2) 50% market-rate / 50% affordable; and 3) 25% affordable with land value extracted and linked to development of another affordable housing site. Each is considered for its ability to satisfy public policy objectives and meet financial feasibility criteria. Lastly, the economics of the non-housing elements -- garage, retail, day care and shelter -- are examined and reviewed for the potential to subsidize the housing component. In total, the analysis provides a basis for decisions regarding the distribution of development benefits and points to the form that the development may eventually take.

<u>Housing Economics</u>

New Chardon's potential for affordable production is derived from and limited by a basic set of economics at work on the site. Costs and revenues behave in certain ways, and it is these relationships that fundamentally underlie the financial consequences of any resident mix scenario.

Delivery of affordable housing on downtown sites such as New Chardon is squeezed by the high cost of development. The constraints of operating on a site within a densely developed area, the use of union labor, building code regulations, and in most cases, high site acquisition fees combine to create the cost premium. Clearly, at this early stage of pre-development, a design scheme for New Chardon is fluid and construction cost is difficult to ascertain. The project is expected though to contain a high-rise, mid-rise and possibly townhouse component. A hard cost figure of $75/gross square foot (GSF) is assumed and represents an average of estimates provided by developers and contractors. Total development cost for a 400-unit project built today is estimated at $43.5MM, or equivalently $114.00/GSF, assuming zero costs for site acquisition. Exhibit 7 presents the economic assumptions upon which the calculation of development cost is based for the three scenarios.

Potential revenues are generated from three sources: market-rate units, affordable units and Boston Housing Authority (BHA) units. Market-rate sales are conservatively estimated at $250/net square foot (NSF) if sold today based upon comparables in the downtown Boston area (Exhibit 8). The pricing of affordable units is based upon an ability-to-pay formula illustrated in Exhibit 9. The underlying premise is that residents are expected to pay no more than

30% of annual gross income on housing-related costs including mortgage, taxes, insurance and condominium fees. A down payment of only 5% is required in order to broaden the reach of ownership opportunities. Accordingly, a middle-income household borrowing at an 8.5% HOP rate can carry a unit priced at 2.33 times household income. A moderate-income household with a lower 5.5% borrowing rate can support a unit worth 2.83 times income. If the average income of middle-income (80%-110% median) purchasers is 100% of median, then the average eligible income for a 1-bedroom, middle-income unit is $25,500 and the average price of a 1-bedroom, middle-income unit is $59,349. Lastly, the developer may sell a number of units to the BHA, the City's owner/operator of public housing, which would maintain the units and rent them at affordable rates to households of low-income. The BHA would be fully funded through the Commonwealth's Chapter 705 Housing for Families and Chapter 667 Housing for Elderly programs. Under these programs, sales prices are set by the Executive Office of Communities & Development (EOCD) at levels expected to cover development cost. Currently, the limits are $75,000 for a 1-bedroom elderly unit and $90,000 and $110,000 for 2 and 3-bedroom family units.

Table 1 below summarizes New Chardon's housing economics by identifying the ratio of sales proceeds to development cost by unit type for each income segment. The ratios are supported by an analysis in absolute dollars included as Exhibit 10 in the Appendix. As indicated by ratios of less than one, all affordable units are sold at a loss. Market-rate sales proceeds exceed development cost by 75%, equivalently providing a 43% gross margin, and are clearly required to internally subsidize the affordable component.

TABLE 1
SALES PROCEEDS:DEVELOPMENT COST

	BHA	MODERATE	MIDDLE	MARKET
0-BEDROOM	-	.71	.78	1.75
1-BEDROOM	.81	.59	.64	1.75
2-BEDROOM	.66	.48	.53	1.75
3-BEDROOM	.62	.42	.46	1.75
Average	.77	.51	.56	1.75

It is important to recognize that while development cost is variable within certain limits, affordable sales proceeds are fixed. The average gap per unit between development cost and sales price for a moderate and middle-income unit is, respectively, $58,200 and $52,387. Equivalently, in terms of the ratio of sales proceeds to cost, revenue from the sale of moderate and middle-income units cover on average only half of development cost. The gap is attributable to high development cost per square foot as well as large unit size. The assumed unit sizes are larger than those of many affordable projects financed by MHFA yet smaller than those of competitive market-rate developments downtown. For purposes of this analysis, sizes are uniform whether the unit is market-rate or affordable. To the extent that unit sizes are reduced, the gap between cost and proceeds will be diminished since affordable sales prices are fixed. However, market-rate sales per square foot, upon which returns are highly dependent, will be compromised.

Additionally, the size of the gap increases as the unit type expands from a 0-bedroom (studio) to a 3-bedroom. For example, the ratio of sales proceeds to development cost for middle-income units falls from .78 for a studio to .46 for a 3-bedroom. In reality, the cost per square foot of a studio is greater than that of 3-bedroom unit since the studio entails more intensive kitchen and bathroom construction per square foot. As such, a studio may actually cost ten percent more and a 3-bedroom ten percent less than the average cost/NSF for all units in the development. Nonetheless, the gap still increases as the unit type expands because the cost of an additional room averages $35,000 whereas the median income per household only increases an average of approximately $3,000 for each additional person. Therefore, all else being equal, the number of affordable units supportable by the project will increase as the unit type distribution approaches all studios. Of course, the implications are marketing to a limited segment of the market and creating a very homogenous residential complex.

Lastly, an incentive exists for inclusion of low-income family (Chapter 705) and elderly (Chapter 667) units. Although the BHA purchase prices fail to cover development cost, creating an average shortfall of $43,708, they do exceed the levels on the other affordable units. BHA units provide an average sales to cost ratio of .77 compared to .51 and .56 for moderate and middle-income units. To the extent that BHA units replace other affordable units, financial returns will be improved by cutting losses. For instance, the sale of a 1-bedroom, moderate-income unit generates a loss of $38,429 compared to sale of a 1-bedroom BHA unit which creates a loss of $17,625. However, at some point, the aura of public housing jeopardizes achievable market rate sales. By statute, a maximum of twenty-four 705-units can be clustered in any one development. The program promotes small-scale, scattered public housing rather than the mega "projects" of earlier decades. On the other hand, a minimum of forty elderly units must be included in any one development under the 667 program presumably to promote a sense of community.

Decisions regarding the distribution of unit types within New Chardon will not be made on the basis of economics alone. Though a financial incentive exists for the inclusion of 705-family units, the first-order question is whether or not the development is suitable for families. Even if required play areas were to be built into the project, it will remain a dense, primarily vertical development. Yards will be non-existent and of the surrounding streets, Cambridge and New Chardon are two of the busiest in the City during rush-hour. Furthermore, the public school system is problematic. Even among families for whom the high cost of downtown living and private schools are within reach, there is little demand for a downtown lifestyle. During the 1970's, the number of children ages 0-19 living downtown declined 21%, while the 24-34 age cohort expanded by 82% and the trend is likely to continue. It will be difficult for the Commonwealth to offer a quality living environment for families on the New Chardon site. Therefore, a likely development scenario will include studios and 1-bedroom units along with 2-bedroom units suitable for small families with an infant or perhaps older teenage child. To the extent that the Chapter 705 progam is utilized, it will fund 2-bedroom units despite its overriding preference for larger family units. A few market-rate 3-bedroom units should be included to capture the tremendous value of views available from the top few floors of a high-rise built on the New Chardon site. Based upon downtown sales patterns, these units will not likely be occupied by families.

On the other hand, New Chardon is well suited for elderly residents. Elevator, mid-rise or high-rise structures would accommodate mobility needs and high density would not be a negative factor since little utility is derived from large amounts of open recreational space. The site also offers a central location easily accessible to shopping, banking and government services. Lastly, accommodating self-sufficient elderly residents would not impact design significantly; in general, elderly developments include a common function room and reduced parking demand. However, the inclusion of elderly units conflicts with the goal to provide homeownership opportunities for typically younger first-time homebuyers. Furthermore, the need for elderly housing has been met to a far greater extent than have the needs of others caught in the housing crisis. Subsidized elderly developments enjoy the reputation of being non-disruptive and have been quite popular with communities. The decision to include subsidized elderly units within New Chardon hinges on the perceived merits of creating a cross-generational project versus the need to accommodate first-time homebuyers. The choice will be tempered by the financial reality that the inclusion of Chapter 667 elderly units enhances financial feasibility by closing the gap between development cost and sales proceeds on 1-bedroom affordable units without negatively impacting market-rate sales potential.

Development Scenarios

The income mix scenarios presented below in Table 2 vary by the extent to which they accommodate certain income segments, but otherwise offer a similar housing package. The housing package in terms of sales prices, eligible-income ranges and monthly cost to the owner/occupant is summarized as Table 3 on the following page.

TABLE 2
INCOME MIX SCENARIOS

	MIX 1	MIX 2	MIX 3
BHA *	15%	15%	-
MODERATE-INCOME	35%	25%	25%
MIDDLE-INCOME	50%	10%	-
MARKET-RATE	-	50%	75%

* 10% Elderly, 5% Family

A total of 400 units are distributed within each income group as follows: 15% studios, 40% one-bedrooms and 45% two-bedrooms. If BHA units are proposed, they include twenty family units and forty elderly units, representing 15% of the development. Prices range from $50,580 to $71,220 for affordable units and $125,000 to $237,500 for market-rate units. Affordable ownership units serve a market segment with average incomes ranging from $17,850 for one person to $30,600 for a household of four, whereas BHA rental units reach low-income households with income ranging from $12,750 to $15,300. Stated in other terms of affordability, the average monthly housing payment for a moderate-income household, for example, totals $445, $480, or $575 for a 0, 1 or 2-bedroom unit, respectively. Since the affordability standards developed in this analysis (Exhibit 10) include

TABLE 3
HOUSING PACKAGE

	AVERAGE SALES PRICE ($)				Unit Distribution
	BHA	Moderate	Middle	Market	
0-BEDROOM	-	50,580	55,390	125,000	15%
1-BEDROOM	75,000	54,200	59,350	162,500	40%
2-BEDROOM	90,000	65,040	71,220	237,500	45%

	AVERAGE ELIGIBLE INCOME ($)			
	BHA	Moderate	Middle	Market
0-BEDROOM	-	17,850	23,800	36,315
1-BEDROOM	12,750	19,125	25,500	47,210
2-BEDROOM	15,300	22,950	30,600	69,000

	AVERAGE MONTHLY COST ($)			
	BHA	Moderate	Middle	Market
0-BEDROOM	-	445	595	1,270
1-BEDROOM	320	480	640	1,650
2-BEDROOM	380	575	765	2,410

NOTES: Monthly cost includes mortgage, insurance, real estate taxes and condominium fees

Market-rate figures based upon a 20% down payment and mortgage at 9.5% with debt service not exceeding 28% of gross income condominium fees -- given that they are out-of-pocket expenses borne by owners -- whereas those used by EOCD do not, financials are predicated upon lower affordable sales prices. Therefore, to the extent that scenarios are feasible, the proposed development supports deeper affordability for its residents than current EOCD standards.

Since the development is in such a preliminary state and the analysis is designed to test only basic feasibility, several simplifying assumptions have been made. Across scenarios, total development cost is estimated at $43.5MM, while achievable market-rate sales are projected at $250/NSF. Granted the physical product and marketing strategy will vary whether the project is 100% affordable or 75% market-rate. However, sensitivity analysis can be employed to test the impact of, for instance, higher development cost due to higher grade finishes and/or higher achievable market-rate sales. Furthermore, estimates are as if the project were built and sold today. Once again, sensitivity analysis can be used to project future returns under varying assumptions for construction cost inflation and market-rate sales appreciation.

Financial feasibility is established by the ability of the proposed developments to generate returns within the range of normal industry expectations. Two pre-tax measures of profitability and productivity are targeted: Return on Sales (ROS) defined as net profit/sales proceeds and Return on Assets (ROA) calculated as net profit/total development cost. A minimum return of 15% on both sales and assets is established as a benchmark. By comparison, The Heritage, the Druker Company's 88-unit luxury condominium project overlooking the Public Garden and currently under construction, is forecasted to earn an ROS of 13.9% and ROA of 16.2%.[11] Since feasibility is being assessed relative to private development standards, to the extent that income mix options are feasible, there will be room for increased affordability supportable by the project if undertaken by a non-profit developer.

Since return is expected commensurate with risk, it may be argued that the New Chardon development can offer lower returns and still compete for investment. There will be minimal, if any, site acquisition cost and the entire affordable component will be pre-sold necessarily though a lottery. Yet, affordable sales will be at a loss, and the sale of market-rate units within a mixed-income project at forecasted levels and absorption rates remains a risky venture. Given the current uncertainty of project specifics, at least a 15% threshold seems warranted. Furthermore, smaller, less established developers might require even higher returns in order to obtain financing. The divergent returns generated under each income mix scenario are highlighted in a comparative sales pro forma, Table 4 below.

TABLE 4
COMPARATIVE SALES PRO FORMA

	INCOME MIX SCENARIO		
	Mix 1	Mix 2	Mix 3
Sales Proceeds	$25,858,649	$51,477,299	$63,040,703
Total Development Cost	$43,462,500	$43,462,500	$43,462,500
Net Profit (Before Tax)	($17,603,851)	$8,014,799	$19,578,203
Return on Sales	-68.1%	15.6%	31.1%
Return On Assets	-40.5%	18.4%	45.0%
Equity Required @ 20% $8,692,500			

NOTE: Mix 1 = 100% Affordable
Mix 2 = 50% Market / 50% Affordable
Mix 3 = 75% Market / 25% Affordable (Linked)

Mix 1, representing an entirely affordable project, illustrates an extreme. Interestingly, no mention was made of a market-rate component in the Governor's press conference remarks. This scenario frames the question that logically followed: were zero site acquisition costs and favorable HOP financing enough to enable delivery of a 100% affordable project on the site? As the analysis of housing economics revealed, each affordable unit built is done so at a loss. Accordingly, this scenario fails to to pass the most basic of feasibility tests as development cost exceeds project value by $17.6MM. The magnitude of the additional subsidy demanded of the Commonwealth - beyond its contribution of land, permanent financing and BHA funding - renders such aggressive affordability infeasible.

Mix 2 represents a development in which 50% of the units are affordable and broadly corresponds to the program outlined by the City for nearby Lowell Square. Generating an ROS of 15.6% and ROA of 18.4%, the proposed development offers returns attractive to a private developer. If elderly units were not included, returns fall to 13.9% and 16.1%, respectively. Importantly, the analysis indicates that with the assumed income mix, the housing component can be self-supporting, not requiring additional subsidy from either the remainder of the project or the Commonwealth. Any further subsidy could be used to enhance affordability.

Under the assumptions of Mix 2, the Commonwealth's total contribution approaches $30MM as detailed below in Table 5, a comparison of the State's contribution under each scenario. Additionally, an average price per unit is included as a gross measure of the affordability to be received in return. Of the $30MM commitment, approximately half, or $16.5MM, is the land writedown representing opportunity cost. The remainder of the contribution, $8.4MM in HOP financing and $4.8MM in public housing funds, requires a cash outlay. As mentioned, HOP funds totaling $35MM have been reserved for Boston projects, and as of early 1986, $66.6MM and $101.0MM have been authorized for the Chapter 667 and 705 programs, respectively. It is expected that the New Chardon project will be funded from these allocations. If, however, funds are depleted by the time the project requires disbursement or monies cannot be reserved, then New Chardon will require an appropriation of fresh funds.

TABLE 5
COMMONWEALTH'S CONTRIBUTION
By Income Mix Scenario

	INCOME MIX SCENARIO		
	Mix 1	Mix 2	Mix 3
Land	$16.5	$16.5	$6.5
HOP Financing	$21.0	$8.4	$5.8 +
705/667 Funding	$4.8	$4.8	-
Additional Subsidy	$17.6 +	-	-
TOTAL	$59.9	$29.7	$12.3
Avg. Sales Price/Unit	$61,940	$137,290	$157,600

NOTE: Mix 1 = 100% Affordable
Mix 2 = 50% Market / 50% Affordable
Mix 3 = 75% Market / 25% Affordable (Linked)
Average Sales Price excludes units sold to BHA

It must be recognized that feasibility is premised upon base-case assumptions and that returns are highly sensitive to changes in underlying variables. Total development cost reacts to changes in hard cost, construction schedule, as well as, interest rates which affect both construction and sales period financing. Sales proceeds vary with changes in market-rate sales/NSF and HOP financing rates. As HOP rates fall, households can afford to pay more for a particular unit, thereby closing the gap between development cost and sales proceeds and increasing profitability. For example, while an 8.5% mortgage enables a middle-income household to carry a 1-bedroom unit worth 2.33 times income, or $59,350, holding all else equal, 8.0% financing provides for a unit worth 2.48 times income, or $63,240.

Returns are particularly sensitive to variation in construction cost and achievable market-rate sales. Assiduous construction management and savvy marketing will be required to maintain expected profitability. The volatility of returns is demonstrated by a sensitivity analysis displayed as Exhibit 11. Holding all else equal, if hard cost estimated at $75/GSF increases by $5/GSF, only 7%, ROS declines 36% to 9.9%, rendering 50% affordability infeasible. Of course, if construction cost can be held to $70/GSF, the increase in returns is no less dramatic and a higher percentage of affordable units could be achieved. Likewise, holding all else equal, if achievable market-rate sales/NSF are reduced 8% to $230 from $250, ROS falls 35% to 10.2%. In combination, if construction cost is $85/GSF then market rate sales must be achieved at a rate of $300/NSF in order to maintain viable profitability and the 50/50 mix. Lastly, assuming the project comes on-line in the summer of 1989, returns can be forecasted under varying assumptions for construction cost inflation and market-rate sales appreciation. The 20-30% appreciation experienced over the past two years is not expected to be sustained. With annual sales appreciation of 15%, hard cost can inflate by as much as 11% annually to $102.60 without compromising profitability. On the other hand, if inflation persists at modest levels, increasing only 5% annually, then sales price appreciation need only register a compound annual growth rate of 7% to maintain 50% affordability. To the extent that sales appreciation is expected to outpace cost inflation, the project is capable of supporting an increased ratio of affordable to market-rate units.

Mix 3 illustrates a fundamentally different strategy for the delivery of affordable housing in which the residual value of the New Chardon land is extracted and linked to development of another affordable housing site. If HOP is applied at its minimum, the development would incorporate units affordable to moderate-income households as 25% of the total. With the remaining 300 units at market-rate in an area with high rents, the development could generate a robust ROS of 31.1% and ROA of 45.0%. With market sales at $250/NSF, a developer could afford to pay up to $10MM for the site and still earn a reasonable return of 15% (Exhibit 11). If market-rate sales/NSF were $275, residual value climbs to $15MM. With Mix 2, two hundred affordable units are delivered and the developer cannot afford to pay anything to the Commonwealth for the site. As such, the additional one hundred units come at a cost of $10MM, or equivalently $100,000 per unit. The effect of infusing the $10MM into a more suburban project for which development costs are lower would be the delivery of more than one hundred affordable units. For example, if development costs are assumed to be 70% of those on the New Chardon site, the gap between development cost and sales proceeds on a 2-bedroom, moderate-income unit approximates $31,000. Therefore, excluding profit, $100,000 could fund three units off-site versus one on-site. Similarly, the factor is 4:1 for a middle-income, 2-bedroom unit. Additionally, market segments not accommodated at New Chardon such as families could be housed by the developer on the alternate site. Meanwhile, one hundred affordable units, not an insignificant number, could be delivered on the downtown site.

The off-site, linked approach represented by Mix 3 offers an efficient allocation of resources, if maximizing the total number of affordable units delivered is the guiding goal. Undoubtedly, the difficulties of implementation would be compounded. A direct parcel-to-parcel linkage would be preferable to a housing fund contribution to be utilized by some developer, somewhere, sometime in the future. As such, another suitable, available state-owned parcel would have to be identified. Most likely, the developer of New Chardon would be the developer of the linked site, potentially causing problems by forcing a developer designation too early in the disposition process of the alternate site. A more fundamental objection to the linked approach is that it is counter to public policy objectives considered central to the New Chardon initiative. In particular, off-site delivery conflicts with the goal for downtown affordable residential development. Mix 3 begins to look more like other high-end downtown projects rather than the focal symbol of state-sponsored affordable housing programs it is expected to be.

Yet, the economics of the linked approach are compelling and its merits, particularly the ability to reach families, will necessarily be debated by the CAC. Current thinking, however, within DCPO and EOCD places primary importance upon the delivery of units on the downtown site, precisely where the obstacles to affordable housing are greatest. As such the public policy objective becomes the maximization of affordable units on-site. If the preeminence of that objective holds, then the ultimate development will look more like that represented by Mix 2. Fifty percent affordability is likely to be considered a minimum acceptable level with a moving target toward Mix 1. Affordability enhancement will be expected from a variety of possible sources including cost control, non-profit developer involvement, creative financing and cross-subsidy from the project's non-housing component.

Non-Housing Economics

The proposed non-housing portion of the New Chardon development consists of a garage, retail component, day care center and shelter facility replacing the Parker Street Shelter currently operating out of the Lindemann gymnasium. The garage of approximately 500 cars is the most substantial component as the other portions combine for only 30,000 square feet and is intended to accommodate the parking needs of residents. Current zoning governing the site requires .5 parking spaces per residential unit, though marketing realities may dictate more. Assuming 200 resident spaces, the garage would be large enough for public-use operation. Currently, it is unknown whether it will be a captive facility of the State, accommodating vehicles currently on-site, or a free enterprise to be operated by the developer. Under the former, the State might actually own the garage built by a private developer receiving a development fee. This analysis considers the economic potential of the non-housing component assuming the garage is owned and operated by the developer.

The ability of the non-housing portion to generate positive cash flow depends upon financing technique. Likely, long-term financing will be available only from a commercial lender. Given strong downtown parking demand, the garage alone has the potential to generate gross revenues of approximately $1.4MM based upon 1986 rates (Exhibit 12). Yet, capital cost is high, estimated at $11.4MM, and at the assumed commercial terms, debt service exceeds $1MM. This financing cost coupled with real estate taxes of $307,000 create a pre-tax deficit exceeding

$375,000. Considering the other non-housing components, the cash flow deficit worsens to approximately $596,000 (Exhibit 13). The shelter is likely to be long-term leased by the Department of Mental Health (DMH) at an assumed rate equal to the average of recently negotiated state leases. The shelter and convenience retail operation are expected to fully subsidize the day care facility which would pay no rent. Together, the three elements can potentially generate net income in the range of $392,000, but, once again, debt service and real estate taxes create a net loss. If cash flow is desired by the developer, then clearly alternate financing arrangements will be necessary to achieve a desired 10% minimum cash-on-cash return, assuming equity at 20% of total development cost.

Several approaches might be considered to lower debt service requirements including more favorable loan terms, additional equity and grant programs. Tax-exempt financing through the issuance of industrial revenue bonds has been quite effective; however, pending tax reform legislation makes the use of IRBs uncertain. Given the garage's potential to generate revenue, a participating mortgage might be negotiated. Alternatively, an additional equity contribution generated from the deeding of parking spaces might be considered. At a competitive $35,000 per space (Exhibit 8), deeding of two hundred spaces would generate $7MM with a gross margin of 35%. If the funds were contributed as equity, debt required would be reduced to $7.1MM, thereby lowering debt service. However, reduced operating income from the loss of two hundred spaces and the large sum of invested equity combine to create an unattractive cash-on-cash return of -1.7% (Exhibit 14). Clearly, an Urban Development Action Grant (UDAG) would improve project economics. A 7.8% cash-on-cash return could be achieved with only a $1.8MM equity investment, if the project benefited from a $7MM UDAG (Exhibit 15). Qualification for a UDAG, though, entails demonstrating that the project is not viable without federal assistance. Other grants such as a state Community Action Development Grant (CDAG) might be applicable, though the facility/ infrastructure would have to be publicly owned.

Public ownership of the non-housing component might be more efficient in that real estate taxes could be eliminated. Without the tax burden, cash flow is still negative, but cash-on-cash return for the non-housing component improves dramatically from -18.7% to -5.2%. This impact is understandable considering that real estate taxes represent 72% of the shortfall. As an alternative to public ownership, a tax abatement or payment-in-lieu of taxes might be negotiated with the City.

Since the New Chardon housing component is assumed to be sold off by the developer, cross-subsidy from on-going lease operations of the non-housing portion is unlikely. Under a rental scenario, it is conceivable that excess cash flow from the garage might be used to fund operating shortfalls whether the owner were a private developer or the Commonwealth. However, if housing is to be sold, then the likely source of any cross-subsidy will be proceeds from the deeding of parking spaces, provided the funds are not required as an additional equity investment in the non-housing component.

In order to further quantify the economic potential of the non-housing component, state parking needs and obligations will have to be determined along with DMH requirements for the shelter. State claims on the site will emerge from a polling of state agencies conducted as part of the disposition process. Once such matters are resolved, the CAC can focus on defining the New Chardon project, largely by determining a distribution of development benefits that satisfies both policy objectives and finanical feasibility criteria.

CHAPTER 4
NEW CHARDON AS A MODEL

Undoubtedly, the New Chardon case is special because of the site's unique history. By making intensive use of this underutilized and incomplete site, the State has the opportunity to realize several important public policy objectives. This chapter highlights New Chardon's significance as a model for state-sponsored housing programs, thereby identifying what is at stake should the project be unsuccessful.

The parcel is significant as a location for a state-sponsored housing project because of the size of the development which could be built on the site. Though the site is smaller than many other surplus parcels that have undergone or are in the process of disposition, its allowable high density creates the opportunity for the delivery of many more housing units. For instance, on the 148-acre Boston State Hospital site, a mix of uses has been proposed including a residential component, but the inappropriateness of high density makes the delivery of more than one hundred units unlikely. New Chardon, by contrast, has the potential for delivery of two hundred affordable units and four times as many units in total. Other state parcels undergoing disposition for which housing has been or might be proposed include the Dover Elmbank School, Salem Amory, Lyman School For Boys and Northampton State Hospital.

None of these compare to New Chardon in terms of the magnitude of the housing opportunity.

A strategic audit of state land holdings is necessary to quantify future prospects. Currently, the Office of Real Property is attempting to catalog excess property not yet declared surplus with the aim of expediting their disposition. However, a declaration of surplus must be initiated at the local agency level where resistance is encountered to parting with the particular property. As such, latent opportunities for the use of state land in the provision of below-market rate housing are hard to ascertain. Meanwhile, New Chardon stands out for the dedication of the site exclusively to housing and the ability to substantially and positively impact affordable housing supply in downtown Boston.

New Chardon's effect on the housing crisis will be measured not only by its breadth -- the number of units delivered -- but also by its depth -- the range of incomes accommodated. As proposed, the development will be primarily for households of upper-moderate and middle-income. Given the down payment requirement and graduated HOP mortgage structure, homeownership is generally, and at New Chardon as well, only within reach of households earning in excess of 70% of median income. Without rental housing on-site, the project will be unable to meet the needs of lower-moderate and low-income occupants, except on a limited basis through BHA units. Accordingly, New Chardon would not offer a model for solving the housing crisis from the bottom up. Instead, Mix 2 represents a program of deep subsidy, at a cost of $150,000 per affordable unit, extended to a select segment of the population. From a public policy standpoint, it is doubtful whether this model could be widely replicated across the state.

Instead, the New Chardon initiative represents a trickle-down approach. In theory, the provision of homeownership opportunities for middle-income households alleviates pressure on the rental stock, reducing rental rates for lower income households. In reality, the city-wide market is so tight that this effect cannot be realized until a dramatic drop in rental demand is experienced by landlords. Nonetheless, New Chardon can demonstrate that public policies and incentives that favor housing development can make a difference in the number, location, and price range of units built. Furthermore, it can illustrate a means of integrating a mix of incomes within a development.

The New Chardon initiative illustrates a means for delivering mixed-income housing that would otherwise not be created by market forces alone. Unarguable is the need for affordable housing. The controversy is over who pays to cover the cost of the below-market units. Affordable housing has clearly emerged as the Governor's top public policy priority. New Chardon's statement is that the Commonwealth is willing to contribute the resources to stimulate production. Under the assumptions of Mix 2, its contribution approaches $30MM of which approximately half is the land writedown. In return, at least a 50% affordable component is feasible, allowing for a reasonable return to the developer and conservative market-rate sales. By contrast, other programs such as linkage and proposed inclusionary zoning exact the affordable housing resources from private developers and ultimately, market-rate occupants.

Successful development of the New Chardon site will indicate that affordable housing can be developed in Boston, and particularly downtown, where the challenges to effective delivery of this kind of housing are greatest. Downtown costs are high and work against project economics. Additionally, the City's regulatory and approvals process injects uncertainty and delay into the development process, increasing risk and cost. The disposition process must be artfully managed by DCPO, and City Hall and the State House must agree on process. If such agreements can be reached, New Chardon may exemplify a situation in which bureacratic territorial battles are set aside in the interest of a common goal.

Especially now in the wake of dismantled federal subsidy, a joint effort by the State and City is necessary to contend with the housing crisis. Congruent public policies and incentives are required to enhance feasibility and increase housing production. Importantly, New Chardon can demonstrate the Commonwealth's capability to merge the achievement of public policy objectives with those of private development for the purpose of delivering affordable housing so vital for continued economic expansion.

CHAPTER 5
DISPOSITION PROCESS

If the ultimate development is to reflect the State's public policy priorities, the Commonwealth must exert its influence through the disposition process and particularly the RFP. For once that process is complete, much of the Commonwealth's control over the project's outcome will be relinquished. Having established what the project can be, the remainder of the thesis is devoted to exploring how to get there and what might be encountered along the way. The nature of the disposition process and the role of the CAC in defining the development are examined. Critical issues to be considered by the State in developing RFP guidelines are presented. Lastly, political feasibility and the role of the City in shaping the New Chardon development are considered.

Chapter 579

The development plan for New Chardon must be tailored to the procedures governing management of state real property and disposition of surplus land. Management of the Commonwealth's real property is entrusted to the Division of Capital Planning & Operations, established by the Omnibus Construction Reform Act of 1980. This Act, a response to the Ward Commission's report of widespread corruption within government in the late 1970's, prescribes an open disposition process with procedures promoting fair competition. Central to the process is the appointment of a local advisory group to assist in setting development guidelines for the property. Relatively new, the process is still being tested as it is applied. Yet, several parcels have undergone or are in the process of disposition, and New Chardon is procedurally no different except that uses have formally been determined for the site.

The disposition process is codified in Chapter 579 of the Acts of 1980 as amended by Chapter 484 of the Acts of 1984. As required, the Bureau of State Office Buildings (BSOB) and the Executive Office of Administration & Finance, the controlling agency and administrative authority for the New Chardon parcel, have declared the parcel surplus to their needs. A polling letter to all Secretariats and Executive Agencies was circulated by DCPO in June, 1986 to document the existence of surplus property, solicit any further interest in it by state agencies, and in this case, outline the proposed development. Since the site's use has been predetermined, the only state agencies likely to claim need will be the Department of Mental Health requesting a shelter facility and BSOB requesting a parking allocation to accommodate state vehicles currently on-site. Next, DCPO must determine that the property is surplus to public need by polling city and county governments. Since the Mayor has declared his support for the project, the City will make no claims on the property for its own use.

Having determined surplus status on all fronts, DCPO can initiate disposition to a non-governmental user. As instructed, a Community Advisory Committee has been convened to assist in drafting development parameters to be included in the RFP and incorporated into authorizing legislation. The CAC will meet over the course of a few months beginning in August to define the development. Authorizing legislation outlining the scope of the RFP and broadly establishing the terms of disposition is expected to be filed in October, 1986 and passed by year-end. Once legislation has been filed, DCPO can initiate the RFP process in accordance with Chapter 579 rules for fair and open competition. DCPO has proposed an unprecedented meeting with a limited number of developers to review development guidelines as one last reality-check before they are released publicly. Participation in the session may serve as a prerequisite to designation. Value of such an exchange is dependent upon the elimination of conflicts of interest. Distribution of the RFP will be preceded by a Request For Qualifications in order to narrow the field and streamline the process. Developer selection is projected for March, 1987. Lastly, a land disposition or land lease agreement will be negotiated with the selected developer to complete disposition.

The procedures are straightforward but the process can get bogged-down, often in the legislature. New Chardon, though, is well-backed politically and expected to receive prompt approval. Governor Dukakis himself is likely to file the legislation and Senate President Bulger has given the project his endorsement. Still, the disposition schedule is ambitious, proposing developer selection within nine months of the housing announcement. To ensure timely disposition, the process must be prudently sheparded by DCPO.

Community Advisory Committee

The CAC process is a participatory campaign designed to crystallize development potential and stimulate public/private support. To an extent, it is intended to simulate the marketplace with its competing interests in and claims upon the site. The appointed, sixteen member committee offers diversity and expertise. Comprised of business leaders, real estate practitioners, design professionals and community group representatives, the CAC displays strong commitment to local community concerns, awareness of the City and experience in a range of disciplines necessary for the delivery of affordable housing. Elected officials, particularly the Mayor, sit on the committee as ex-officio representatives. Additionally, the Boston delegation of the legislature is informed of all meetings. A CAC membership roster is included as Exhibit 16.

The purpose of the CAC effort is to ensure a feasible project and to set high development standards consistent with community aspirations. The committee will work through a series of workshops hosted by DCPO and open as much as possible to the public. The agenda includes evaluating housing development priorities, financial and legal feasibility, urban design opportunities and neighborhood concerns. To heighten the CAC's awareness of design issues, an Urban Design Ideas Charette will be staged by the Boston Society of Architects. Participants will work independently over the course of a weekend to generate conceptual models and then present their findings to the CAC. The work of the CAC will culminate in drafting of development guidelines for the New Chardon site. Upon review by DCPO, these standards will be incorporated into the RFP.

RFP Guidelines

The RFP guidelines and, in fact, the entire CAC process is designed to elicit development of the New Chardon site that matches political and economic feasibility. It is expected that by learning as much as possible about the site's opportunities and constraints and with the aid of an informed CAC, DCPO will be able to qualify the development for ultimate quality. The analysis of development options presented in this thesis goes far in establishing economic potential and providing a basis for decisions regarding the distribution of development benefits. Yet, other policy issues remain outstanding and must be addressed by the Commonwealth in its drafting of an RFP.

(A) RFP Strategy

The RFP must provide an incentive sufficient to attract substantial developer interest, and at the same time, promote the best deal possible for the Commonwealth. The State might run the RFP process formally demanding compliance with well defined guidelines or adopt a more negotiated, opportunistic approach. From the developer's standpoint, the certainty of a known quantity is desirable, yet the flexibility afforded by the negotiated strategy is more valuable. Either way, the guidelines themselves which are to ensure the achievement of certain public goals should be presented as parameters only. An income mix target, for instance, should be set as a range with the proviso that all else being equal more affordability is better. As the sensitivity analysis illustrated, returns are highly variable with only small changes in underlying conditions. As such, developers may be unwilling to commit to narrowly bounded targets for affordable unit production. Design standards, too, can identify desirable elements without stifling the ingenuity of developer/architect teams. For once the disposition process is complete, it is the creativity and expertise of the private development community upon which the State is reliant for successful execution of the project.

(B) Affordability Enhancement

If the RFP generates widespread response and it is clear that the number of affordable units is a key selection criterion, then competition should promote affordability enhancement. A variety of possible sources include cost control, non-profit developer involvement, creative financing and cross-subsidy. Interestingly, the proposed program -- housing and non-housing combined -- provides an FAR of 3.0 and increases the FAR for the entire 8.4-acre site to only 2.9, still far below the allowable maximum of 8. Design schemes that include more than 400 housing units without compromising the quality of the living environment might be considered. Additionally, office space might be evaluated as a profit center to improve the economics of the non-housing component.

Maximizing the number of affordable units is not, however, a singular goal for the site, and among other objectives, achieving a creative urban design solution ranks highly. Good design will not likely come cheap and given the high cost of precedent-setting architecture on-site, a cost constraint might be imposed. This policy tradeoff between looks and affordability must be resolved in selecting among alternate development schemes.

(C) Financing Arrangements

Does the Commonwealth prefer to retain control of Parcel 1 through a ground lease arrangement or sell the property outright and offer the developer fee simple ownership? While a policy decision might be incorporated into the RFP as a guideline, the issue could be left open enabling developers to submit proposals under either or, even both, arrangements. Pricing of the land/lease will have to be formulated, though an actual agreement with the developer will be executed as the last step in the disposition process.

MHFA financing of this project will likely require special bond underwriting arrangements. Current rating agency standards limit MHFA to financing no more than 25% of the units within a single project. Under Mix 2, MHFA funding would be expected for 50% of the units. The argument might be made that since the affordable units are sold at prices much lower than their worth, the project's loan-to-value ratio is actually much lower than the assumed 80%, warranting greater MHFA participation. The matter should be resolved in principle prior to release of the RFP so as to not constrain developer proposals.

(D) Implementation

The sale of units will come long after the disposition process has been completed. Yet, demand for the affordable units will be great, and a clear statement of eligibility is necessary. Undoubtedly, a lottery will be held for the units and policies must be established for ranking applicants. Should former West End residents, or their children, be granted priority? Should downtown workers be favored? Furthermore, long-term affordability must be maintained. Alternate forms of ownership including condominiums and limited equity co-ops should be considered along with mechanisms such as deed restrictions and recovering mortgages.

City's Role

By virtue of the Land Disposition Agreement and Government Center Urban Renewal Plan to which the parcel is subject, the BRA has a formal basis for review of the New Chardon project. This latitude extends beyond its usual authority to regulate development in Boston. It is crucial to recognize the City's position and heightened bargaining power and their impact upon political feasibility.

The City is expected to be a facilitator - promoting the development by relocating the Langone Funeral Home and conveying Parcel 1B to the State, amending the Land Disposition Agreement and streamlining the approvals process. New Chardon is not likely to be dependent upon the City's financial resources, but it is subject to it approval. Consequently, the City potentially wields significant power over the disposition and development of the site, though the State is sovereign. While the Mayor has endorsed the project in principle, how aggressively the City will assert its claim on the final product remains to be seen.

The CAC should be the forum for input from the City. Its membership roster was offered to the City for review and recommendation. Among the CAC members is a BRA Design Review representative and a delegate of the Mayor's North End Advisory Committee, and the Mayor is an ex-officio participant. As a planning board with outstanding proposals in the New Chardon vicinity, the BRA will impact urban design guidelines. Since the Land Disposition Agreement provides for BRA approval of any party to whom the State transfers its interest in the property, the City will have a voice in the developer selection process. The BRA will, at least, have to approve the developer designation and may attempt to participate in the actual selection process with DCPO.

It is important for DCPO to position the City by building consensus through the disposition process. The City must make its desires for the site known through the CAC process so that the RFP will be consistent with city objectives, providing a smoother approvals process for the ultimate developer. Strategically, the amendment of documents should be sought late in the process after support has been enlisted and the City has been party to decision-making. Likely, the City would drive a harder bargain in terms of exactions if the proposed use were private office. In general, the political feasibility of the New Chardon development as proposed is enhanced by the overriding priority assigned to the delivery of affordable housing by both state and city officials.

If input from the BRA is an integral part of the CAC's agenda, and particularly, if the proposed unprecedented early involvement of private developers is fruitful, the New Chardon case can exemplify a dynamic model for real property disposition. This enterprising approach can be contrasted to the more static format generally utilized up until now. If the process is well executed, then the product will more effectively merge the achievement of public policy objectives with those of private development. The ability to forge such public-private partnerships, as demonstrated by development of the New Chardon site, will be increasingly vital to the successful delivery of affordable housing throughout the Commonwealth.

ENDNOTES

1. Nancy Sackman, Project Manager and Trudy P. Reilly, Assistant Counsel, Memo to Tunney F. Lee, Deputy Commissioner, DCPO and Linda Whitlock, Director Real Property, 19 June 1985.

2. David R. Ellis, "Buczko Requests Construction Halt," *Boston Globe*, 5 February 1970.

3. Ada Louise Huxtable, "New Boston Center: Skillful Use of Urban Space," *New York Times*, 11 September 1972.

4. Jonathan Wells, "A Bulfinch Market" *The Tab*, 29 April 1986, pp. 1, 22.

5. Telephone interview with Owen Donnelly, Senior Project Coordinator, Boston Redevelopment Authority, 14 July 1986.

6. Russell Tanner, *State Office Space Development Options: An Analysis of Strategies For Providing Suitable State Office Space At Reasonable Costs in the Boston Area*, July 1984, Division of Capital Planning & Operations.

7. Tunney F. Lee, Deputy Commissioner DCPO, Memo to Frank T. Keefe, Secretary Administration & Finance, 2 November 1984.

8. *Parcel To Parcel Linkage Program: Interim Report*, undated, Boston Redevelopment Authority, p.63.

9. Alexander Ganz and Gregory Perkins, *Boston's Recent Performance and Prospects For The Future: The Outlook for Demand and Supply of Office Space, Hotel Rooms and Housing*, 29 March 1985, Boston Redevelopment Authority, p.7.

10. "Wanted: 'Empty-Nesters' To Live in Hub," *Boston Globe*, 14 October 1985, as quoted in *Housing in Downtown Boston: A Report prepared under contract between the Boston Redevelopment Authority and Citizens Housing and Planning Association Inc*, April 1986, p.2.

11. Anthony Caner and David Geller, "Sante Harbor: A Proposed Residential Development for the North Station Area," Thesis Massachusetts Institute of Technology 1985, p. 146.

APPENDIX

EXHIBIT 1
AREA OF PROPERTY

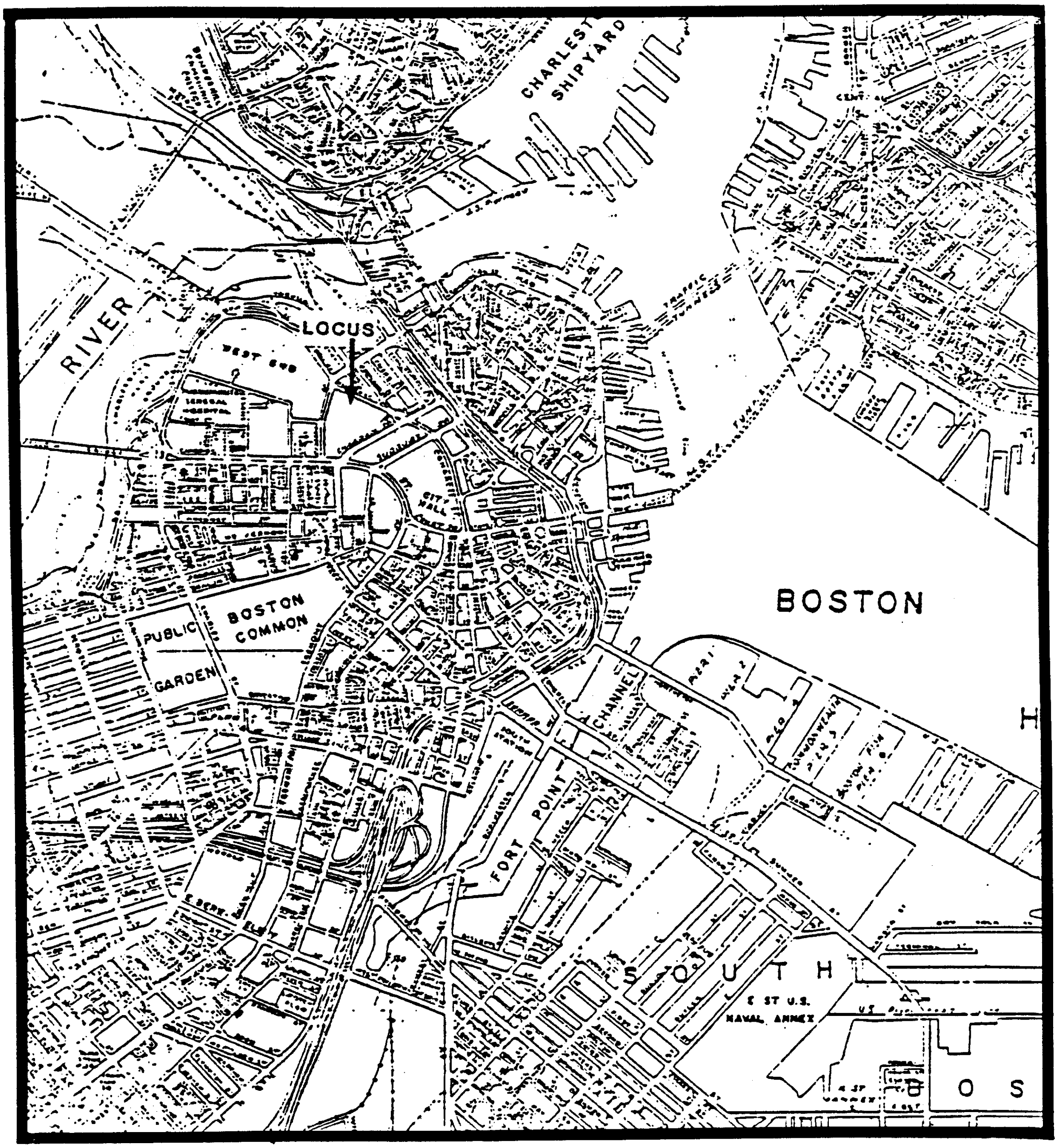

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EXHIBIT 2
SITE LOCUS

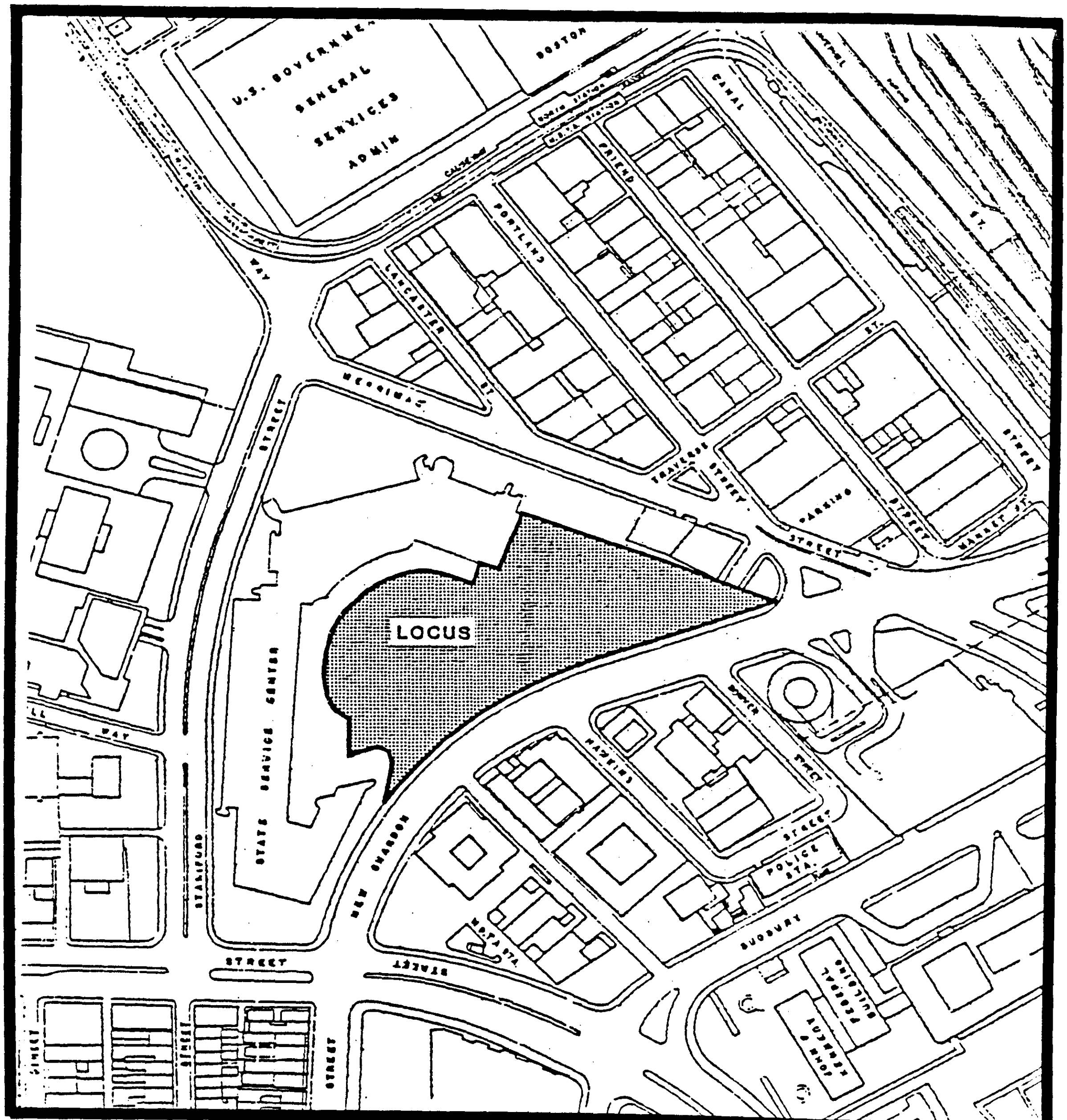

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EXHIBIT 3
GOVERNMENT CENTER PROPERTY

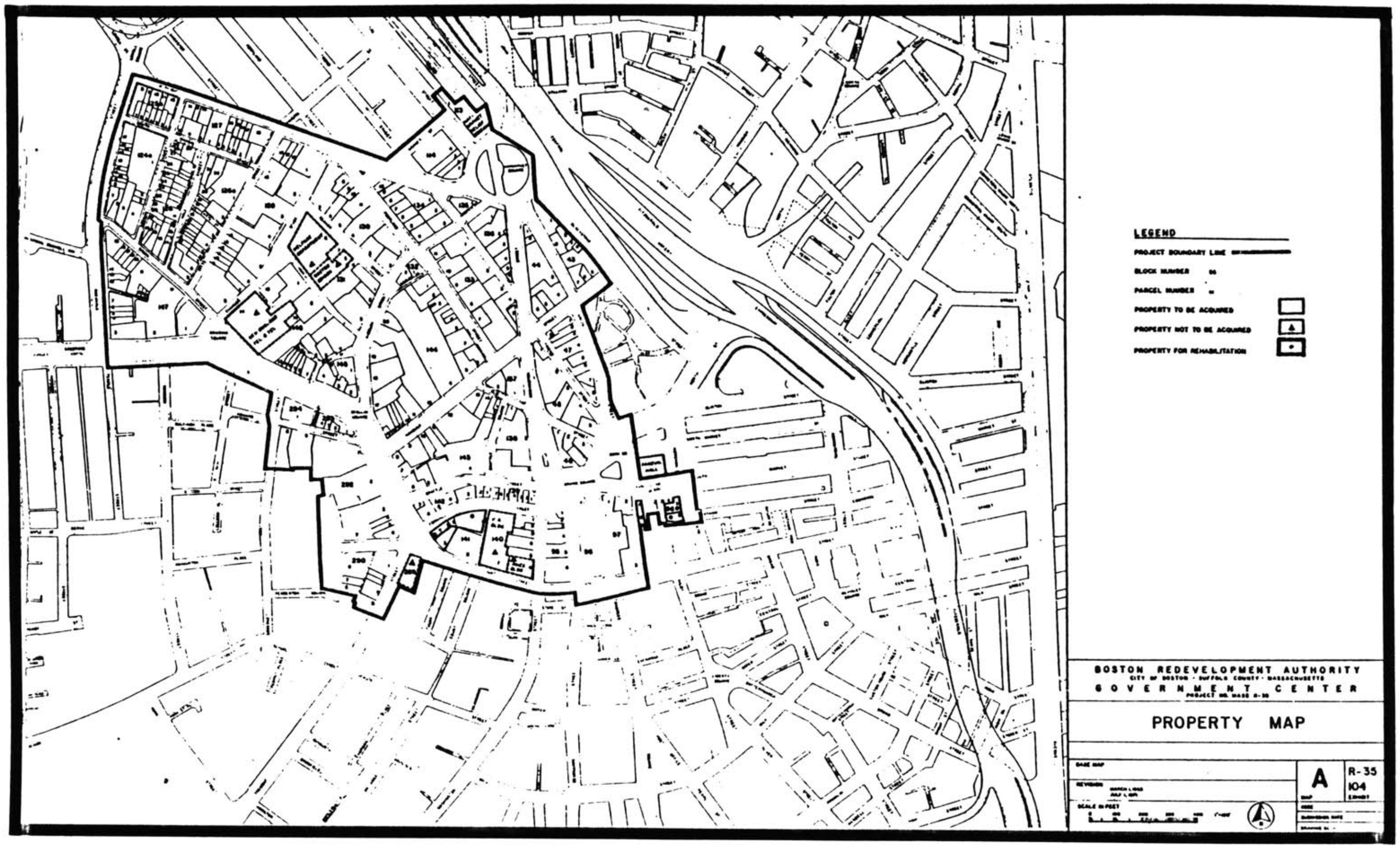

EXHIBIT 4
GOVERNMENT CENTER LAND USE

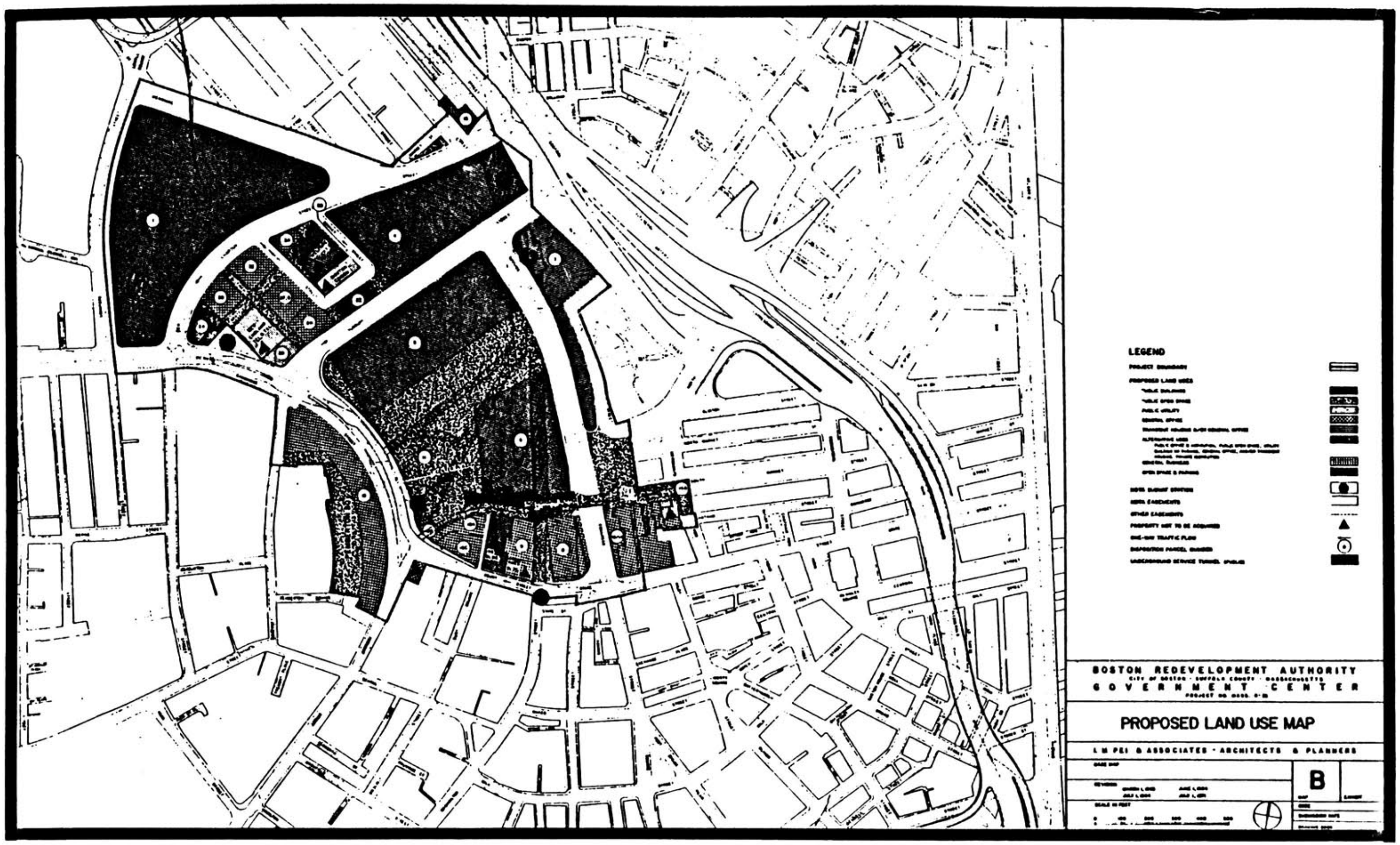

EXHIBIT 5
STATE SERVICE CENTER PLAN

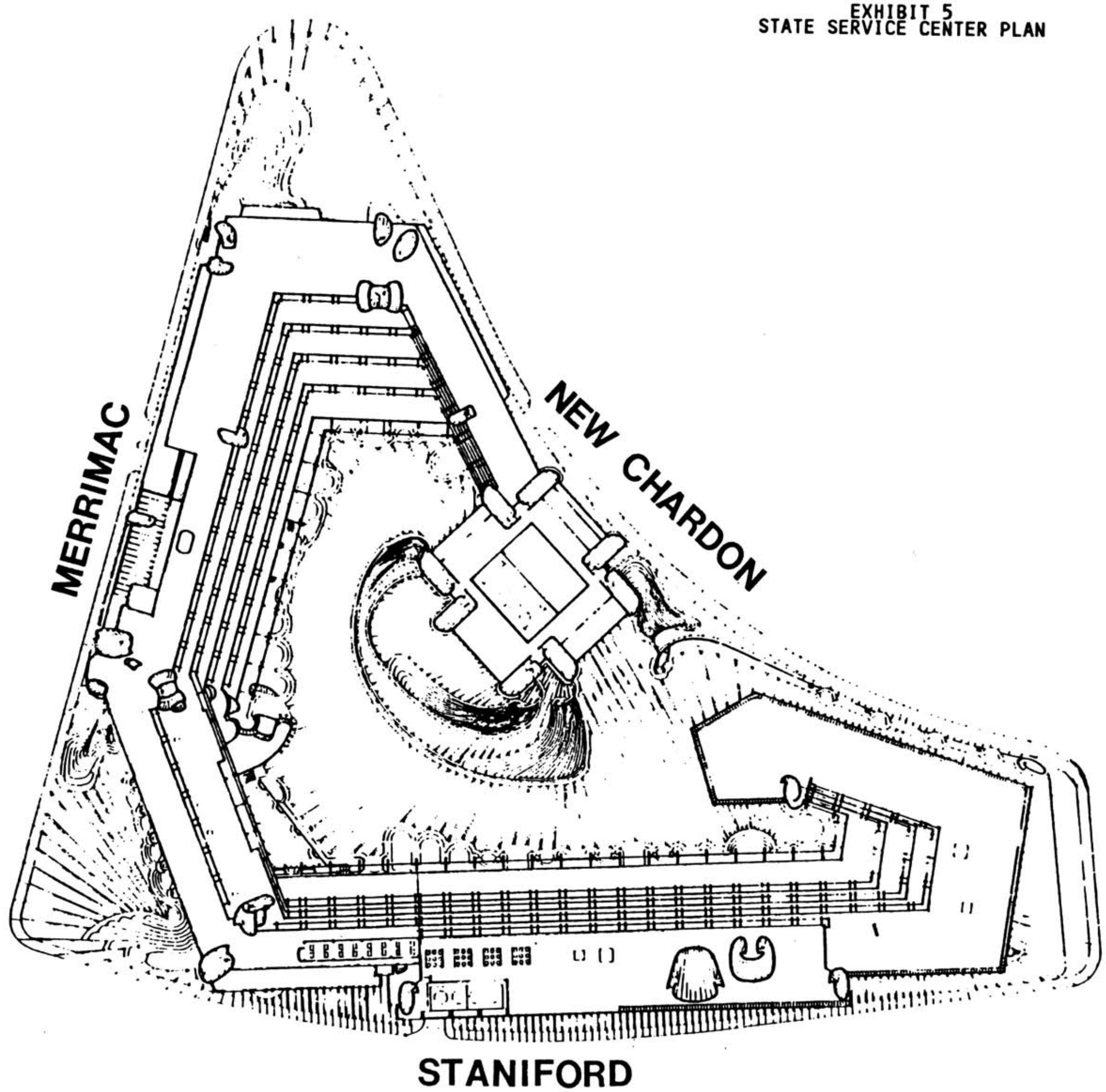

EXHIBIT 6
SITE DISTRICT

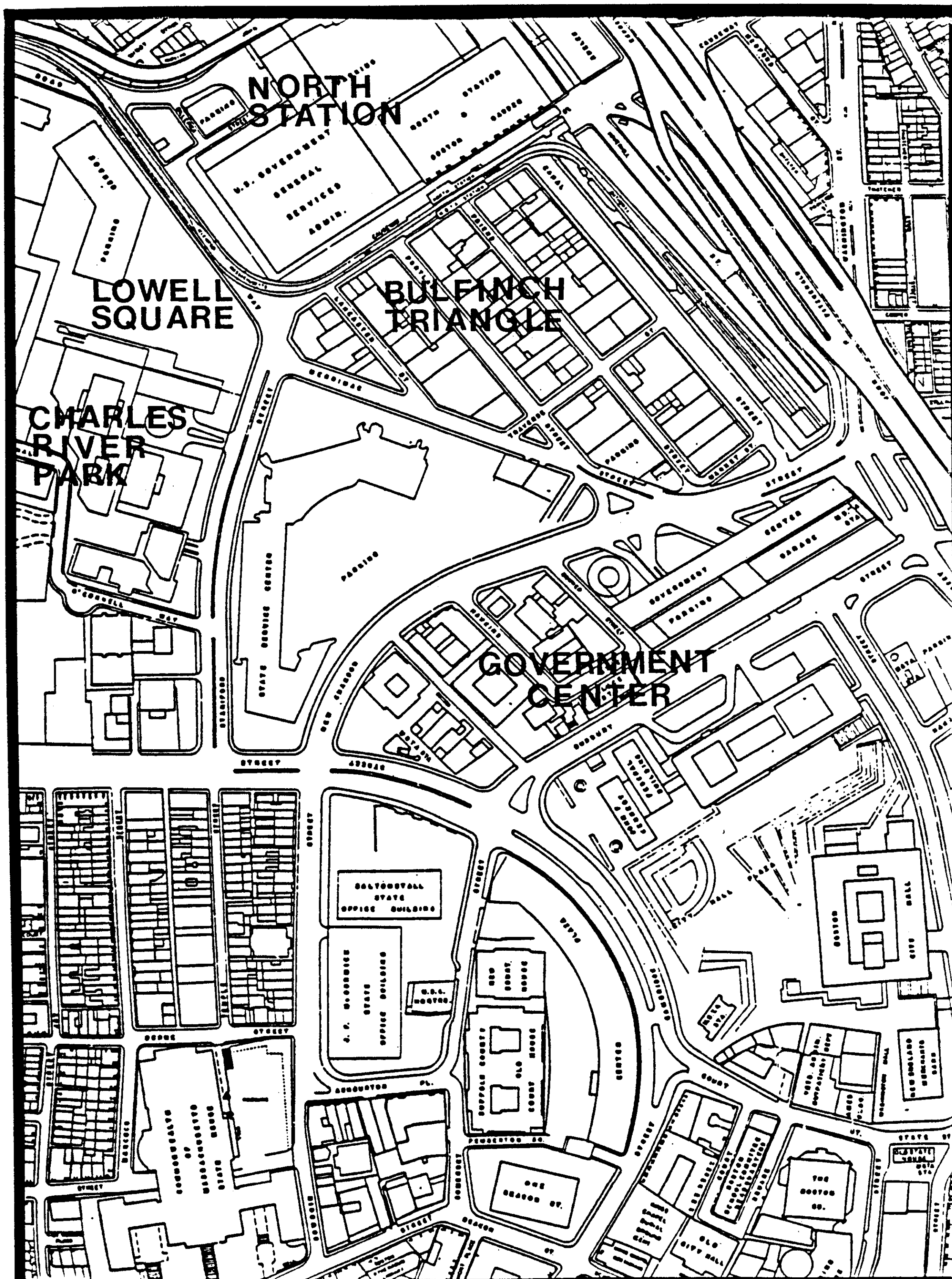

EXHIBIT 7
TOTAL DEVELOPMENT COST

A S S U M P T I O N S

HOUSING UNITS			
Mix	0	15%	500 NSF
	1	40%	650 NSF
	2	45%	950 NSF
	3	0%	1250 NSF
Number	400		
Avg NSF	762.5		
Net SF	305,000		
Efficiency	80%		
Gross SF	381,250		
HARD COST			
Bldgs & Site	$75.00	/GSF, 1986	
schedule:	20	months	
SOFT COST	45%	hard cost	
Architect/Eng	5.0%	hard cost	
Insurance	$0.30	/GSF	
Permits	1.0%	hard cost	
Marketing	2.5%	mkt rate sales $	
Brokerage	5.0%	mkt rate sales $	
Development Mgmt	5.0%	hard cost	
Construction Loan			
Loan Amount	80%	TDC	
Interest Rate	10.0%		
Term	20	months	
Avg Out Balance	50%		
Points	2%	loan amt	
Sales Period Cost	5%	TDC	
CONTINGENCY	7%	hard cost	

NOTES: NSF = Net Square Feet
GSF = Gross Square Feet
TDC = Total Development Cost

T O T A L   D E V E L O P M E N T   C O S T (1986)

SITE ACQUISITION COST		$0
HARD COSTS		$28,593,750
Construction	$28,593,750	
Site Premium	$0	
SOFT COSTS		$12,867,188
Architect/Engineer	$1,429,688	
Survey & Testing	$50,000	
Legal & Accounting	$600,000	
Insurance	$114,375	
Permits	$285,938	
Marketing	$955,940	
Brokerage	$1,911,875	
Development Mgmt	$1,429,688	
Real Estate Taxes	$323,660	
Construction Loan Interest	$2,897,500	
Financing Fees	$695,400	
Sales Period Cost	$2,173,125	
Interest		
RE Taxes		
Operating Exp		
CONTINGENCY		$2,001,563
TOTAL DEVELOPMENT COST		$43,462,500
Soft Cost as % Hard Costs	45%	
Soft Cost as % TDC	30%	
Cost/GSF	$114.00	
Cost/NSF	$142.50	
Cost/Avg Unit	$108,656	

EXHIBIT 8
COMPARABLE SALES:
MARKET-RATE CONDOMINIUMS
Downtown Boston

June, 1986

DEVELOPMENT	COMMENTS	AVERAGE SALES/NSF	PARKING SPACE
Hawthorne Place	Charles River Park; Conversion	$200	$35,000
Tremont On The Common	Boston Common; Conversion	$225	$25,000
Harbor Towers	Waterfront; Conversion	$250	$130/mo
The Mariner	North End; New Construction	$250*	$30,000
Four Seasons	Public Garden; New, Luxury +	$375	$50,000
Rowes Wharf	Waterfront; New, Luxury +	$475	$45,000

* excluding units with prime water views

EXHIBIT 9
AFFORDABILITY STANDARDS

MODERATE INCOME: (50-80% Median)		MIDDLE INCOME: (80-110% Median)	
APR:	0.055	APR:	0.085
Term:	30 yrs	Term:	30 yrs
Constant:	0.0688	Constant:	0.0931
Loan Ratio:	0.95	Loan Ratio:	0.95
RE Tax Rate:	0.017	RE Tax Rate:	0.017
Mtg.Ins.Rate:	0.0035	Mtg.Ins.Rate:	0.0035
Home Ins.Rate:	0.005	Home Ins.Rate:	0.005
Condo Fee Rate:	0.015	Condo Fee Rate:	0.015
TOTAL COST FACTOR:	0.1059	TOTAL COST FACTOR:	0.1289
COST/INCOME RATIO:	0.30	COST/INCOME RATIO:	0.30
PRICE/INCOME RATIO:	2.83	PRICE/INCOME RATIO:	2.33

Family Size	SMSA Median Income
1	$23,800
2	$27,200
3	$30,600
4	$34,000
5	$36,700
6	$39,400
7	$42,200
8	$44,900

HH Size	Unit Size	Median Income
1	0	$23,800
1-2	1	$25,500
2-4	2	$30,600
3-6	3	$35,175

Unit Size	Middle Income	Afford Factor	Price	Moderate Income	Afford Factor	Price
0	$23,800	2.33	$55,393	$17,850	2.83	$50,583
1	$25,500	2.33	$59,349	$19,125	2.83	$54,196
2	$30,600	2.33	$71,219	$22,950	2.83	$65,036
3	$35,175	2.33	$81,867	$26,381	2.83	$74,759
Avg Income	100%	median		75%	median	

EXHIBIT 10

SALES PROCEEDS vs. DEVELOPMENT COST

By Unit Type

Unit	Size	Dev Cost/NSF	Sales $/NSF
0	500 NSF	$142.50	$250.00
1	650		
2	950		
3	1250		

	SALES PROCEEDS				COST
UNIT	BHA	moderate	middle	market	
0		$50,583	$55,393	$125,000	$71,250
1	$75,000	$54,196	$59,349	$162,500	$92,625
2	$90,000	$65,036	$71,219	$237,500	$135,375
3	$110,000	$74,759	$81,867	$312,500	$178,125

	GAIN (GAP)			
UNIT	BHA	moderate	middle	market
0		($20,667)	($15,857)	$53,750
1	($17,625)	($38,429)	($33,276)	$69,875
2	($45,375)	($70,339)	($64,156)	$102,125
3	($68,125)	($103,366)	($96,258)	$134,375
AVG	($43,708)	($58,200)	($52,387)	$90,031

EXHIBIT 11
SENSITIVITY ANALYSIS

Table 1: Impact of Construction Cost Changes on Mix 2 Returns

Construction Cost/GSF	ROS	ROA
$60	32.5%	48.1%
$65	26.8%	36.7%
$70	21.2%	26.9%
$75	15.6%	18.4%
$80	9.9%	11.0%
$85	4.3%	4.5%
$90	-1.3%	-1.3%
$95	-6.9%	-6.5%
$100	-12.6%	-11.2%

Table 2: Impact of Market-rate Sales Changes on Mix 2 Returns

Market-Rate Sales$/NSF	ROS	ROA
$200	0.8%	0.8%
$210	4.2%	4.4%
$220	7.3%	7.9%
$230	10.2%	11.4%
$240	13.0%	14.9%
$250	15.6%	18.4%
$260	18.0%	22.0%
$270	20.3%	25.5%
$280	22.5%	29.0%
$290	24.5%	32.5%
$300	26.5%	36.0%

Table 3: Impact of Construction Cost & Market-rate Sales Changes on Mix 2 ROS

Construction Cost/GSF	Market-rate Sales $/NSF						
	$240	$250	$260	$270	$280	$290	$300
$60	30.4%	32.5%	34.4%	36.2%	38.0%	39.6%	41.2%
$65	24.6%	26.8%	28.9%	30.9%	32.8%	34.6%	36.3%
$70	18.8%	21.2%	23.5%	25.6%	27.6%	29.6%	31.4%
$75	13.0%	15.6%	18.0%	20.3%	22.5%	24.5%	26.5%
$80	7.2%	9.9%	12.5%	15.0%	17.3%	19.5%	21.6%
$85	1.4%	4.3%	7.1%	9.7%	12.1%	14.5%	16.7%
$90	-4.4%	-1.3%	1.6%	4.4%	7.0%	9.4%	11.8%
$95	-10.2%	-6.9%	-3.9%	-0.9%	1.8%	4.4%	6.9%
$100	-16.0%	-12.6%	-9.3%	-6.3%	-3.4%	-0.6%	2.0%

Table 4: Impact of Cost Inflation & Market-rate Sales Appreciation on Mix 2 ROS (1989)

Annual Cost Inflation	Annual Sales Appreciation					
	5%	7%	9%	11%	13%	15%
4%	14.9%	18.5%	22.1%	25.4%	28.6%	31.5%
5%	12.4%	16.2%	19.9%	23.3%	26.5%	29.5%
6%	9.9%	13.8%	17.6%	21.1%	24.4%	27.5%
7%	7.3%	11.3%	15.2%	18.8%	22.2%	25.4%
8%	4.7%	8.8%	12.8%	16.5%	20.0%	23.3%
9%	2.0%	6.3%	10.4%	14.2%	17.8%	21.1%
10%	-0.7%	3.7%	7.9%	11.8%	15.5%	19.0%
11%	-3.5%	1.0%	5.3%	9.3%	13.1%	16.7%
12%	-6.3%	-1.7%	2.7%	6.8%	10.8%	14.4%

Table 5: Impact of Site Acquisition Cost Changes on Mix 3 Returns

Site Acquisition Cost	ROS	ROA
0	31.1%	45.0%
2000000	27.9%	38.7%
$4,000,000	24.7%	32.8%
$6,000,000	21.5%	27.5%
$8,000,000	18.4%	22.5%
$10,000,000	15.2%	17.9%
$12,000,000	12.0%	13.7%
$14,000,000	8.8%	9.7%
$16,000,000	5.7%	6.0%

EXHIBIT 12
GARAGE
OPERATING PRO FORMA

Residential Units	400	Development Cost		Financing	
Parking Allocation	0.5	Construct / space	$15,000	Loan to Value	80%
Residential Monthlies	200	Hard Cost	$7,500,000	Loan Amount	$9,120,000
		Soft Cost %hcost	45%	Interest	10.0%
Rate Structure		Contingency %hcost	7%	Term	15
Daily Maximum	$8.00	Total Dev Cost	$11,400,000	Debt Svc	$1,199,041
$ per half-hour	$2.00				
Monthly	$150				

OPERATING PRO FORMA:* 500 spaces

Potential Gross Revenue	# spaces	Period/Yr	Rate(86)	Turnover	Revenue	
Monthly	200	12 months	$150	1	$360,000	
Daily Long-Term	180	261 days	$8	1	$375,840	
Daily Short-Term	120	261 days	$8	2	$501,120	
Night		261 days				
Saturday/Sunday/Holiday	100	114 days	$5	1	$57,000	
Boston Garden Events	300	80 days	$5	1	$120,000	
Potential Gross Revenue						$1,413,960
Operating Expenses @	20%					$282,792
Real Estate Taxes @	$27	/$1000 value				$307,800
Net Income						$823,368
Return on Asset (NOI/TDC)						7.2%
Debt Service						$1,199,041
Cash Flow Before Tax						($375,673)
Cash-on-Cash Return (CFBT/Equity)						-16.5%

* Revenue and Operating Expense estimates developed with the assistance of Kinney Parking System, Boston

EXHIBIT 13
NON-HOUSING
OPERATING PRO FORMA

Rent/SF	
Retail	$20.00
Day Care	$0.00
Shelter	$17.00
Operating Expense/ SF	
Retail	$5.00
Day Care	$7.50
Shelter	$0.00
RE Tax (per $1000 value)	$27
Vacancy	5%

Financing	
TDC	$15,960,000
Loan:Value	80%
Loan Amount	$12,768,000
Interest	10.0%
Term	15 yrs
Debt Svc	$1,678,657

OPERATING PRO FORMA

Potential Gross Revenue		$1,885,960
Retail	$200,000	
Day Care	$0	
Shelter	$272,000	
Garage	$1,413,960	
Vacancy Allowance		$10,000
Effective Gross Income		$1,875,960
Operating Expense		$362,792
Retail	$50,000	
Day Care	$30,000	
Shelter	$0	
Garage	$282,792	
Real Estate Taxes		$430,920
Retail/Day Care/Shelter	$123,120	
Garage	$307,800	
Net Operating Income		$1,082,248
Return on Asset (NOI/TDC)		6.8%
Debt Service		$1,678,657
Cash Flow Before Tax		($596,409)
Cash-on-Cash Return (CFBT/Equity)		-18.7%

NOTE: Total Development Cost for Retail/Day Care/Shelter totals $15.96MM assuming hard costs at $100/GSF. Retail @10,000SF, Day Care @4,000SF and Shelter @16,000SF

EXHIBIT 14
NON-HOUSING OPERATING PRO FORMA

Additional Equity Contribution From Deeded Parking Proceeds

Rent/SF	
Retail	$20.00
Day Care	$0.00
Shelter	$17.00
Operating Expense/ SF	
Retail	$5.00
Day Care	$7.50
Shelter	$0.00
RE Tax (per $1000 value)	$27
Vacancy	5%

Financing	
TDC	$15,960,000
Spaces sold	$7,000,000
Loan:Value	80%
Loan Amount	$7,168,000
Interest	10.0%
Term	15 yrs
Debt Svc	$942,404

OPERATING PRO FORMA

Potential Gross Revenue		$1,525,960
Retail	$200,000	
Day Care	$0	
Shelter	$272,000	
Garage	$1,053,960	
Vacancy Allowance		$10,000
Effective Gross Income		$1,515,960
Operating Expense		$290,792
Retail	$50,000	
Day Care	$30,000	
Shelter	$0	
Garage	$210,792	
Real Estate Taxes		$430,920
Retail/Day Care/Shelter	$123,120	
Garage	$307,800	
Net Operating Income		$794,248
Return on Asset (NOI/TDC)		5.0%
Debt Service		$942,404
Cash Flow Before Tax		($148,156)
Cash-on-Cash Return (CFBT/Equity)		-1.7%

EXHIBIT 15
NON-HOUSING OPERATING PRO FORMA

Urban Action Development Grant (UDAG)

Rent/SF		Financing	
Retail	$20.00	TDC	$15,960,000
Day Care	$0.00	UDAG	$7,000,000
Shelter	$17.00	Equity	$1,792,000
		Loan Amount	$7,168,000
Operating Expense/ SF		Interest	10.0%
Retail	$5.00	Term	15 yrs
Day Care	$7.50	Debt Svc	$942,404
Shelter	$0.00		
RE Tax (per $1000 value)	$27		
Vacancy	5%		

OPERATING PRO FORMA

Potential Gross Revenue		$1,885,960
Retail	$200,000	
Day Care	$0	
Shelter	$272,000	
Garage	$1,413,960	
Vacancy Allowance		$10,000
Effective Gross Income		$1,875,960
Operating Expense		$362,792
Retail	$50,000	
Day Care	$30,000	
Shelter	$0	
Garage	$282,792	
Real Estate Taxes		$430,920
Retail/Day Care/Shelter	$123,120	
Garage	$307,800	
Net Operating Income		$1,082,248
Return on Asset (NOI/TDC)		6.8%
Debt Service		$942,404
Cash Flow Before Tax		$139,844
Cash-on-Cash Return (CFBT/Equity)		7.8%

EXHIBIT 16
COMMUNITY ADVISORY COMMITTEE
MEMBERSHIP ROSTER

NAME	AFFILIATION
Daniel Taylor (Chairman)	Hill & Barlow
Andrew Alessi	Blackstone Apts/Former West End Tenant
Simone Auster	Greater Boston Chamber of Commerce
Peter Brown	North Station Businessmen Association
John deMonchaux	BRA Design Review Commission
David Dixon	American Institute of Architects
Reese Fayde	Real Estate Enterprise Inc.
Bill Ferullo	Mayor's North End Advisory Committee
Joseph Henefield	Housing Economics
Bonnie Heudorfer	Community Investments, Bank of Boston
Marty Jones	Corcoran Mullins Jennison Co.
William Jones	Citizens Housing & Planning Association
Isaac Lyumkis	Goldstein & Manello
John Marston	Boston Trade Bank
Vincent McCarthy	Hale & Dorr/Massachusetts Housing Partnership
Jim McNeely	Architect/Beacon Hill Civic Association
Alan Pailet	Hawthorne Residents Association
Peter Smith	The Cottonwood Company

EX OFFICIO

William Bulger	Senate President
Salvatore DiMasi	Representative
Raymond Flynn	Mayor
David Scondras	City Councilor

ADMINISTRATIVE SUPPORT

Executive Office of Administration & Finance
Division of Capital Planning & Operation
Executive Office of Communities & Development
Executive Office of Environmental Affairs
Executive Office of Human Services
Governor's Office of Economic Development
Boston Redevelopment Authority
Boston Legislative Delegation
Mayor's Office of Neighborhood Services
Mayor's Office

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