

DUDLEY SQUARE: A PUBLIC BUILDING AS A CATALYST FOR URBAN REVITALIZATION

by

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Dudley Square:
A Public Building as a Catalyst for Urban Revitalization

By

Harold Ray Raymond

Submitted to the Department of Architecture on May 11, 1990 in partial fulfillment of the requirement for the award of two masters degrees, Master in City Planning and Master of Science in Architecture Studies.

ABSTRACT

Dudley Square in Roxbury, Massachusetts serves as the economic and commercial center for Boston's minority community. Between 1650 and 1950 the Dudley Square area grew in importance to become a major economic center outside downtown Boston. By the 1960's, Dudley's status had declined. The Massachusetts economic boom of the 1980's with the accompanying increase of private investment in Boston neighborhoods completely bypassed the minority communities because of racial discrimination, unkept promises, and bank red-lining. With the arrival of the 1990's economic bust reduces the possibility of future private investment in minority communities.

This thesis examines the location of a public institutional headquarters in Dudley Square as a catalyst for urban revitalization. The thesis proposes the design and development of a 450,000 square foot center to house municipal agencies; to provide office space; and to hold cultural organizations. The center would stimulate economic development, improve the visual environment, and attract private businesses to Dudley Square.

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INTRODUCTION

Over the last 40 years Roxbury especially the Dudley area has experienced disinvestment that has been supported by institutional racism. This climate has limited development to only housing, by minority developers, non-profits community development corporations, and city and state authorities in Roxbury. High vacancy rates, marginal retail stores, several acres of abandoned lots, and a high crime rate have discouraged private investment in the area. 1

Public investment is one option to revive private development in Dudley Square. As part of the city linkage policy, Boston should explore locating city agencies in Dudley to spur commercial development which would create new job opportunities for local residents. The city would generate substantial revenue by selling valuable downtown real estate left vacant by the moved agencies. New York City and Washington D.C. have successfully executed similar programs to spur revitalization. The Harlem State Office Building in New York City and the Reeves Municipal Center in Washington D.C. are two examples of public buildings serving as economic catalyst. A public building in Dudley Square housing city agencies and cultural organizations could trigger revitalization in Roxbury.

This thesis explores locating a public building on an abandoned 114,000 square foot lot in the Dudley Square area of Roxbury. An exploration of the history of Dudley Square and an assessment of the present conditions serve as the basis for the proposal. Options derived from case study research are tested for design compatibility, financial feasibility, and economic impact. Recommendations for the development of the public building and the redevelopment of Dudley are made.

This thesis will address the following questions: Are public institutional buildings a viable option in stimulating urban revitalization? What role can building design play in improving the physical environment and the economic conditions of an urban neighborhood? What development strategies or public interventions are needed to make it happen ?

Chapter One

THE ROLE OF INSTITUTIONAL BUILDINGS IN THE DEVELOPMENT OF DUDLEY SQUARE

INTRODUCTION

Dudley Square in Roxbury, Massachusetts is located between Crosstown Boulevard and Dudley Street (fig 1). The square has served both the Lower Roxbury and Roxbury Highland Park communities over the past 200 years. Dudley Square first function as a village center in the 17th and 18th centuries. The square then became a commercial and transportation hub in the late 19th and the first half of the 20th century. Dudley, now serves as a social and cultural center for Boston's minority communities but without its former prominence.

This chapter explores the influence of institutional buildings in shaping of Dudley Square during four eras: 1630-1900; 1900-1930; 1930-1950; and 1950-1990. The history provides background information, problem definition, and possible solutions.

Early Years (1630 - 1900)

In 1629 the village of Roxbury was established around the Dudley Square trading post and located between the wilderness and Boston, a town to 10,000 people (fig. 2). Dudley Square was located on the Boston peninsula at the intersection of two crosstown roads (Dudley and Washington Streets). The dominate institutional building during these early

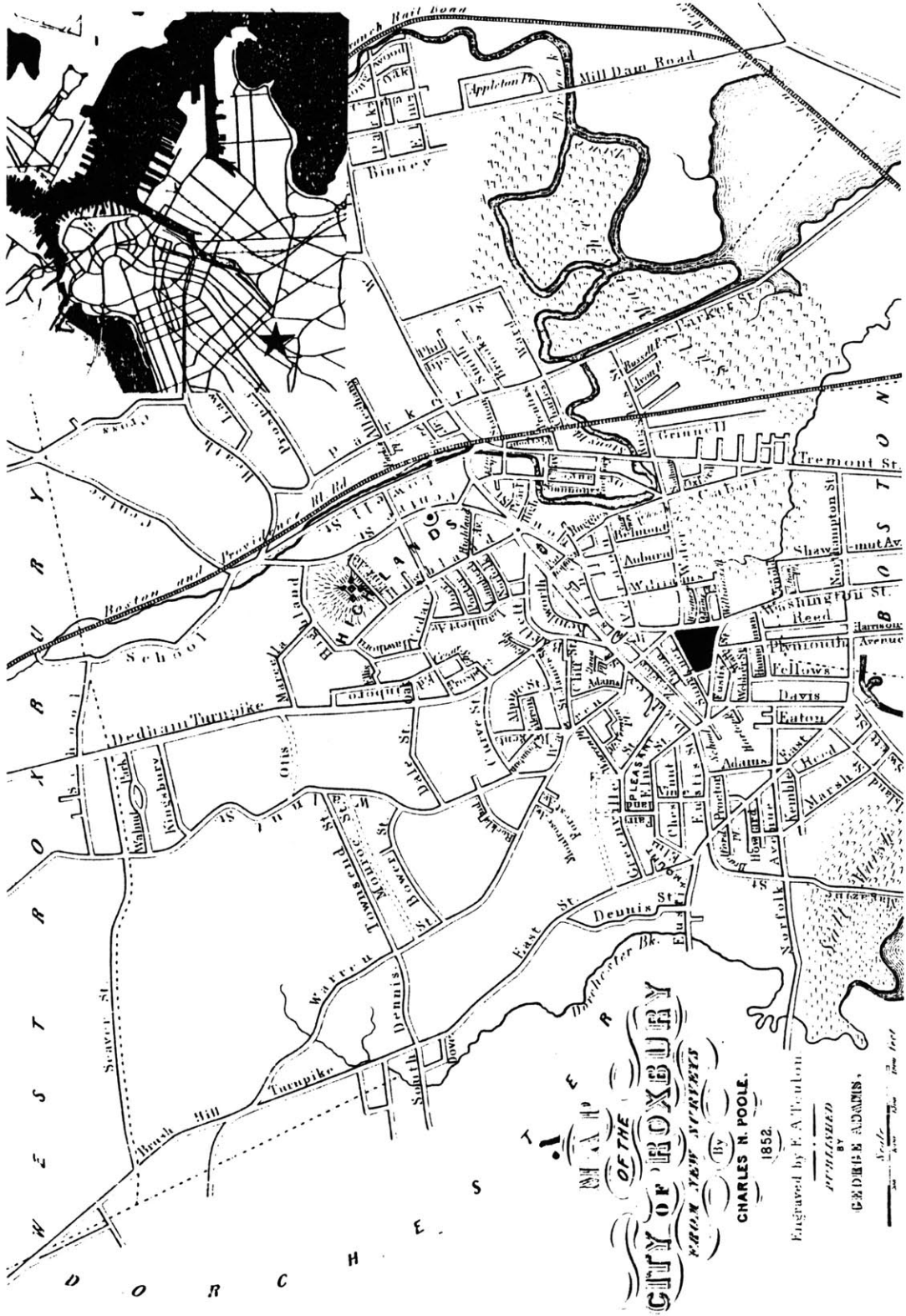


Figure 1

years was the First Church of Roxbury located on Dudley Street (fig. 3). The church served as the spiritual and cultural center that unified this early community.

Roxbury became Boston's first suburban community as affluent families settled in large homes on the hilltops. By 1840, the first extensive housing development consisting of inexpensive townhouses was built along Dudley and Warren Streets in Lower Roxbury. In 1860 light industry developed along the Stoney Brook River north of Dudley in Lower Roxbury. Buildings like the Piano Building on Columbus Avenue and the Nawn Factory site on Washington Street housed the dominate institutions in the area (fig. 4). These institutions fueled the further development of inexpensive townhouses in Lower Roxbury and provided jobs to support the Dudley Square economy. 2

By 1890, expanding streetcar lines, rapid industrialization and growing population had transformed Dudley Square from a small trading post to the second most important commercial destination outside the Boston central business district. Dudley Station was built to accommodate the growing streetcar and bus lines.

Commercial and Transit Hub (1900 - 1930)

In 1904, the Elevated Orange line that ran from downtown Boston and terminated in the iron terminal at Dudley Station replaced the earlier street car lines on Washington Street. By 1910, Dudley Station had become the area's most active transportation transfer point because bus service terminating at Dudley began replacing crosstown trolley lines. By 1920, Dudley Square had become the premiere commercial center among Boston's neighborhoods (fig. 5). The reason for this status was Dudley Station linked the square to the boarder commercial region of Boston. The result of the station, retail shops, and light industry was the attraction of customers and job seekers to Dudley Square. 3



Figure 2

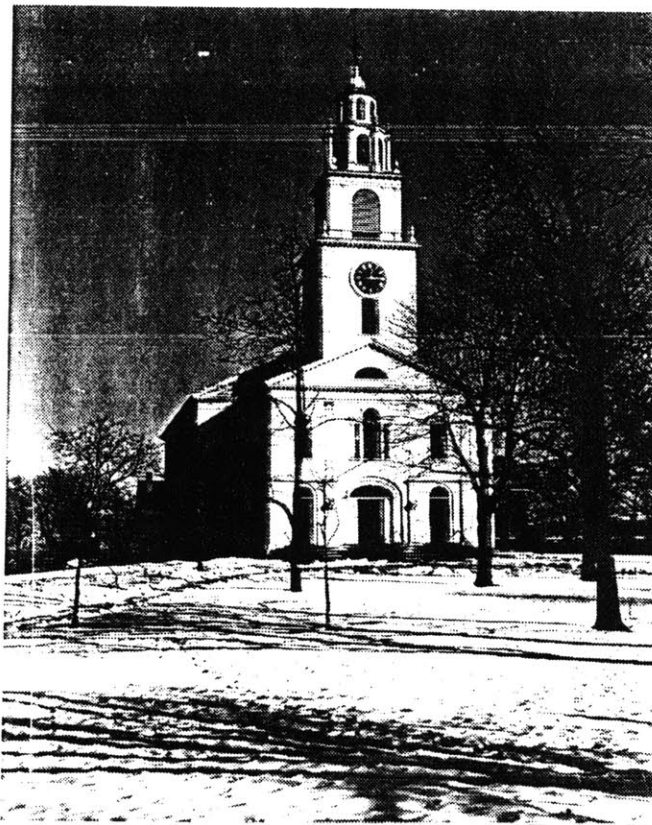


Figure 3

By the late 1920's, manufacturing in the Lower Roxbury area began to decline because companies were landlocked. Even though the Stoney Brook River has been filled during the late 1800's, low cost land was lost to residential development. Unable to expand, industry gradually left Lower Roxbury. 4

One industry that flourished during this period of decline was Ferdinand's Furniture Store at the intersection of Washington and Warren Street. The company expanded its physical facilities vertically, and built a signature design building as proof of its success and wealth (fig. 6). Ferdinand's was the dominant institutional building giving Dudley a visual prominence and providing the major stimulation of the local economy during the depression. 5

Rise of the Black Community (1930 - 1960)

As the Depression approached, businesses declined further in the Dudley area. The economic slide resulted in shifts in population. The affluent Jewish and Irish families moved to Dorchester, Mattapan, and Highland Park. Middle and working class Blacks from the South End and Beacon Hill moved into the Dudley area.

After World War Two, southern blacks migrated to northern cities seeking employment. In Boston, most of this migration settled in the South End and Lower Roxbury. As Roxbury became predominantly Black, Dudley became the economic and spiritual center for the new Black community. The white owned-stores remaining in Dudley were gradually replaced by Jewish-owned stores managed by Blacks.



Figure 4

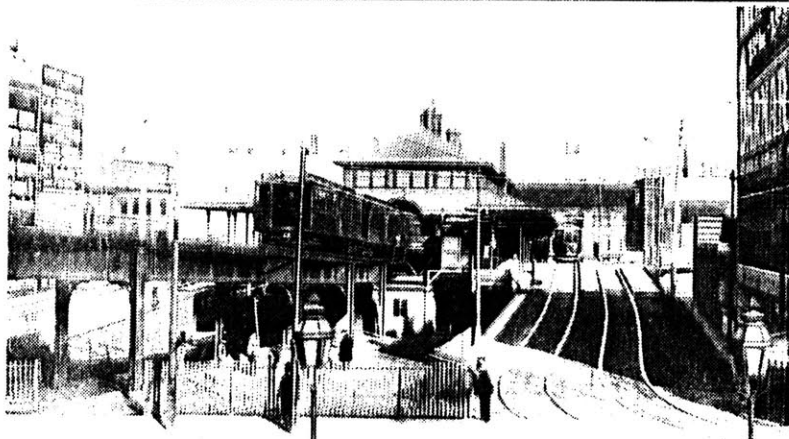
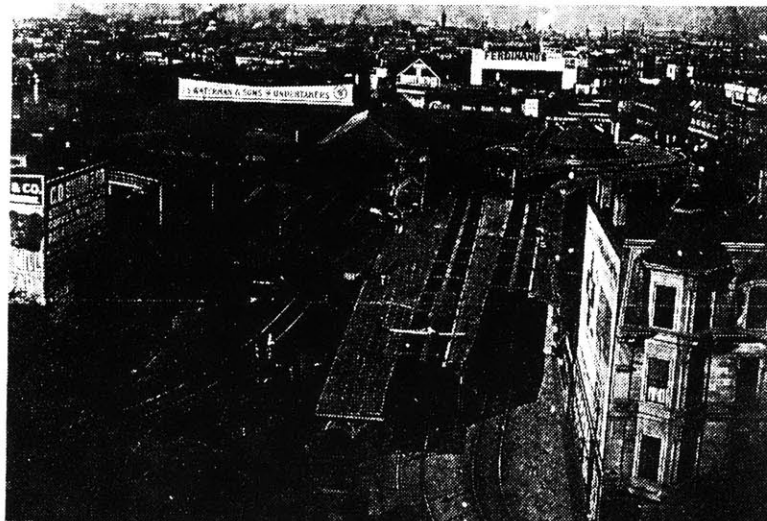


Figure 5

The Rivoli Theater and the Dudley Baptist Church were two prominent institutions which promoted cultural activity in the area (fig. 7). These institutions attracted several thousand people a week to Dudley Square and stimulated local business. By the 1940's Dudley prospered with the economic support of the Black community and the presence of strong institutions.

Decline and Depression (1950-1990)

The prosperity of the forties did not survive in the fifties. By the late 1940's the physical condition of housing in the Dudley area had deteriorating and especially the Lower Roxbury area, because of age, cheap construction, and neglect. The City of Boston addressed the housing problem by condemning and razing housing along Harrison, Eustis, and Ziegler Streets to construct Orchard Park Public Housing Project. The thirty, three-story brick army barracks type housing units drove the middle class residence of the neighborhood to Dorchester and Mattapan. This left the area to low income inhabitants who were unable to economically support the now Black-owned and managed businesses of Dudley.

The area was further crippled by the plans for Interstate 95 with the accompanying urban renewal. I-95, planned as the inner belt during the late 1950's, was to connect all of Boston's major highways and produce a more efficient system. The planners chose a route that passed through the Dudley area. During the late 1960's, the urban renewal process eliminated major portions of housing around the Dudley Square area. In 1972, the Governor cancelled the highway after displacing hundreds of families and demolishing 30 blocks in the Dudley area.



Figure 6



Figure 7

By the mid 1970's, the business core of Dudley was surrounded by abandoned land. A few institutions such as Dudley Station, Ferdinand's Furniture, Woolworth's, Dudley Baptist Church, the Rivoli Theater, and Blair Supermarket remained. But urban renewal claimed more victims. While the area gained a new police station, library, and court house, the area lost the Dudley Baptist Church and the Rivoli Theater. Ferdinand's Furniture store, another major institution and Blair Supermarket the only one in the area, closed in 1975.

During the 1980's the area finally stabilized; the arson rate dropped and the exodus of business stopped. A core of small business developed along Washington and Warren Streets with Woolworth department store serving as an anchor. The population was on the rise. Two major reasons for the increase in population were the increase in affordable housing and the migration of Hispanics and Cape Verdeans. Community development organizations such as the Roxbury Action Program and the Lower Roxbury Community Council were instrumental in the development of affordable housing.

With an established core of businesses and an increasing population, the area economy was stabilizing. However, with the closing of the Old Orange Line in 1985 and the reduction of Dudley Station, the area businesses lost a major attraction for customers. In the following chapters, existing conditions of Dudley is examined; case studies are used to determine options and to develop guidelines; and a project is proposed.

Chapter Two

EXISTING CONDITIONS

INTRODUCTION

Dudley is a classic example of the decline of Urban American neighborhoods. The major symptoms of decline are present: an inadequately educated labor force; a low median income with 31% of the population living below the poverty rate; a high unemployment rate of 14% that is rising; a large percentage of vacant tax-foreclosed land owned by the city; and a high office vacancy rate of 70%.¹ This chapter will describe the existing conditions in Dudley.

SITE LOCATION

The Blair site, formerly the home of the Blair Supermarket, is the largest vacant lot (114,000 sf) in the Dudley area. Eighty percent (93,000sf) of the lot is owned by the Boston Redevelopment Authority and the rest is privately owned. Through eminent domain the city can purchase the private owned portion of the lot at market value. The Blair site is located near Washington and Harrison Streets, two major arterial roads, and surrounded by Eustis and Palmer Streets (fig. 1). This site is located in the center of the Dudley commercial district and near the proposed site for the Roxbury Heritage Park.

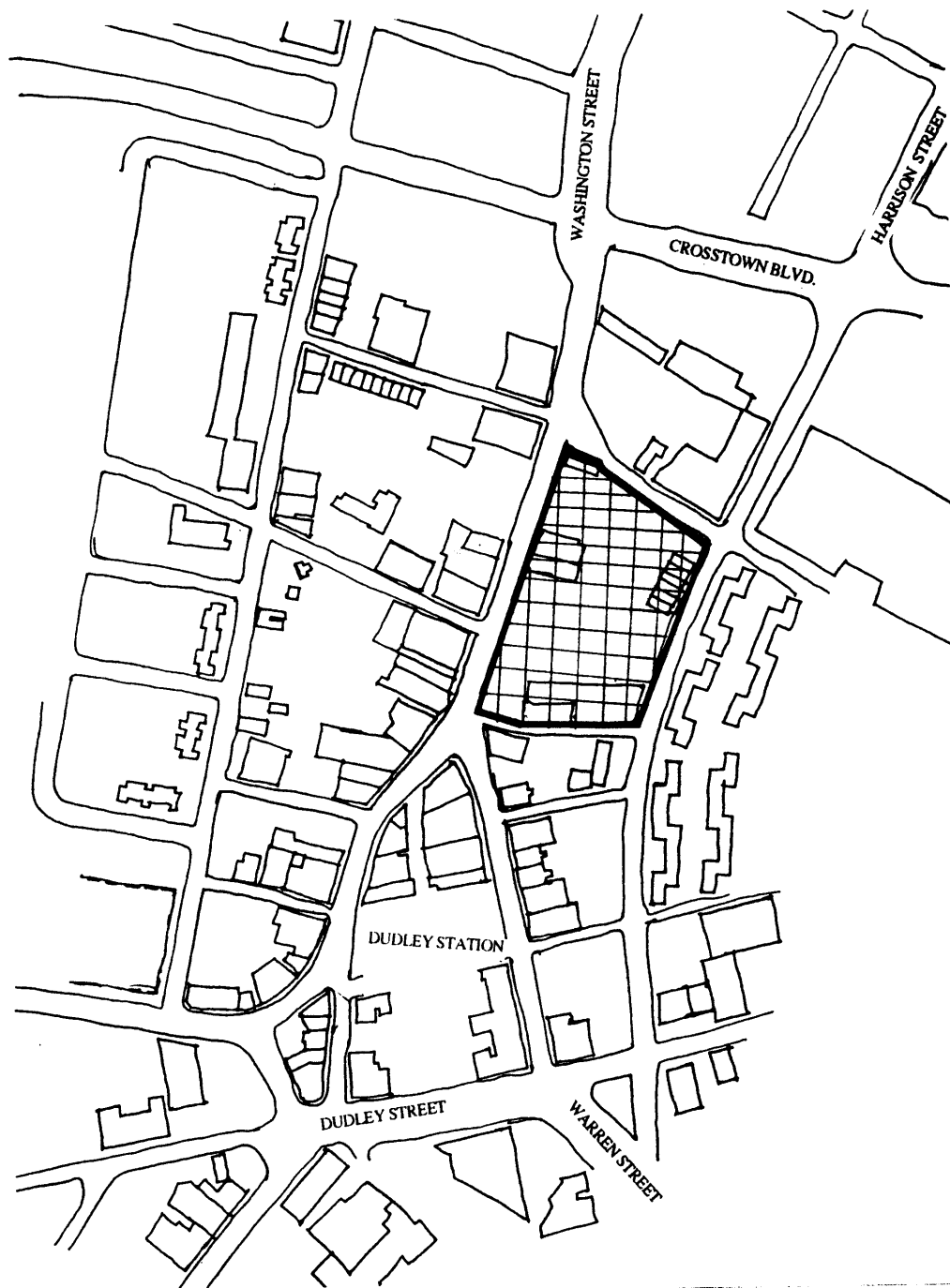


Figure 1

PHYSICAL FEATURES

Potential

A majority of the existing buildings and open space near the Blair site like the Eliot Grave Yard, the Dudley Station Canopy, and the abandoned Fire House are classified as historical landmarks by the Boston Landmarks Commission. In 1986 a Dudley Square Historic District was created, incorporating 40 buildings and four additional parcels into an architecturally and historically significant district. In addition Dudley Square's historical significance will be reinforced by the development of the Roxbury Heritage Park System. 2

The combination of a large development site near dominant historical landmarks adds value to the Blair site and strongly implies the development of a cultural use, notably lacking in the area, to connect into this historical system. Connections, such as an information center or museum documenting Roxbury history or a Cultural Center celebrating the ethnic arts, are definite links that can be incorporated into the Heritage Park system (Appendix Fig. 1). Its location at a dominant visual point in the landscape and its historic location suggest that this site can become a gateway into this designated district.

Constraints

The nearness of Orchard Park, the delayed demolition of Dudley Station, the area's negative image, and the indecision over the replacement transit service for Washington Street are major constraints. Orchard Park, a public housing project that

has the highest crime rate of all Boston Housing Authority projects, is a definite drawback because of security problems. The indecision over infrastructure and transit improvements to Washington Street by transportation agencies and the community is retarding any development occurring in Dudley.

DEMOGRAPHICS

Potential

Dudley's population is composed of a growing mixture of ethnic groups; Blacks, Hispanics, Asians, Whites, and Cape Verdeans. About 20% of this population was born outside the U.S., resulting in a diversity of cultures in the area. 3 The growing cultural diversity in the area's is a definite plus because of the potential demand for cultural goods and services. Dudley, which is an established area for ethnic foods and goods, could become a mecca or wholesale center for this type of merchandise and services. There also exists a large unutilized labor pool that with training could become a valuable resource for jobs on the Central Artery/Third Harbor Tunnel project.

Constraints

A large under-educated and non-english speaking population needing job training is a major constraint. If service industry jobs are the only employment available, then the median income will be low, which will result in the resistance of new businesses moving into the area. The simultaneous creation of new development and job training is a must towards producing positive redevelopment with no gentrification.

MARKET CONDITIONS

Potential

With the opening of the Washington Street replacement transit service, Dudley would be easily accessible from the South End, Chinatown, Cambridge and the Boston region. The increased demand for cultural goods would create more service jobs that use the skills available in Roxbury residents. With the Dudley market expanding because of a growing ethnic population in the area and Boston, the Dudley area has potential to become a sub-regional cultural market area outside Boston CBD. 4 The potential for developing both incubator office and retail space is high if infrastructural improvements (Dudley Station and Washington Street improvement) and new development (Parcel 18) occur.

Constraints

Vacant office and retail space, marginal retail stores, and the poor conditions of abandon buildings are a deterrent to investment. Targeting pioneer investors or companies able to see beyond this pessimistic situation may offer the solution. Abandoned office space which is physically old and expensive to rehab should be targeted towards incubator office space for Parcel 18 or any large new development in Dudley. This space could also be targeted toward conversion into residential or artist loft space units, such as the Hamill Studio currently in the area. The great benefit of any new office development would be to substantially stimulate the retail commercial market and create more retail demand for the office lunch crowd. The negative impact is that any type of large retail development without a large office component would further depress the market.

POLITICS

In the Dudley area there are 24 special interest groups operating, ranging from city and state agencies, and communities groups, to private investors (fig. 3). These groups are a major reason for the lack of development in Dudley. For example, the Tropical Food Store, located on Washington Street, wanted to expand into a major supermarket into an adjacent vacant lot called Parcel 10; three different city Departments of Public Works, Real Property, and Public Facilities have control over this parcel. The rivalry between these agencies has made the expansion impossible. 5

Potential

Without one agency to take the lead or to coordinate and communicate with the others actors, positive results will be difficult to achieve.

Constraints

The bureaucratic entanglement between city and state agencies is hindering development in Boston's minority communities. Projects that have suffered because of this conflict include: the location of the Massachusetts Water Resources to Parcel 18 (Ruggles Station) in Roxbury, and the redevelopment of 100 acres of Boston State Hospital in Mattapan.

In Dudley, the Massachusetts Bay Transit Authority, Department of Public Work's, Boston Transportation Division, and the State have hindered the Dudley Station

BUREAUCRATIC INVOLVEMENT IN DUDLEY

State

EOCD
(State Economic Office for Community Development)

State Legislators
Governor Office
Heritage Park Commission
MBTA (Massachusetts Bay Transit Authority)
State Transportation Office
DPW (Department of Public Works)

City

BRA (Boston Redevelopment Authority)
BHA (Boston Housing Authority)
PFD (Public Facilities Department)
Real Property
Mayor Office
City Council
Boston Transportation Office

Community

Roxbury Neighborhood Council
Greater Roxbury Development Corporation
Washington Street Corridor Coalition
Madison Park Tenant Association
Orchard Park Tenant Association
Dudley Merchant Association
Several Local CDC's
Neighborhood Churches

Private Investors

Local Minority Developers

Figure 3

Rehab, T Replacement Service, Washington Street Infrastructure Improvements, and Heritage Park thus inhibiting any development in the area. The lack of an unified voice or vision about the area from the community groups, political leaders, and minority developers is also a problem affecting negotiations. 6

CONCLUSION

Dudley is a growing multi-ethnic community with a rich history: a growing market, large tracts of developable land, and a number of resource groups. The objective should be to use these assets to there fullest potential and to redeveloped the area.

Chapter Three

PUBLIC BUILDINGS AS CATALYST FOR REVITALIZATION: THREE CASE STUDIES

INTRODUCTION

This chapter examines the development of public buildings as catalyst for urban revitalization. The three buildings, the Harlem State Office Building in New York City; and the State Transportation Building and the Roxbury Civic Center in the City of Boston, were selected for case study research. The buildings were selected for the following reasons: first, they were located in decaying urban neighborhoods; second, they provided useful design prototypes for Dudley; and third, they had an impact on the local community. Though not located in an economically depressed minority community, the State Transportation Building was included because it was located in an area suffering from the problems of urban decay and poor image and because it also provided an appropriate design and development prototype for Dudley. The quality and mix of building uses, the building design concept, and the economic impact are examined and used to formulate guidelines and to develop design proposals.

HARLEM STATE OFFICE BUILDING

History

In the 1960's the majority of inter-city neighborhoods, especially low income minority communities, were decaying at an alarming rate. Arson, crime, and white flight left acres of abandon land in these communities. Harlem, a predominately Black and Hispanic neighborhood of New York City, was typical.

The Urban Development Corporation conducted a study in 1970 to find a solution to the problem of urban decay. The focus of the study was Harlem's 125th Street Corridor, the heart of Harlem's Black community and a major transportation route. The study concluded that 125th street should be designated as an development area for the placement of all federal and state agencies in the New York City area. The presence of these facilities would end the decay by stimulating the local economy, encouraging development and creating jobs.

During this period, a plan was formulated by the state to develop the World Trade Center as a similar economic catalyst for Lower Manhattan. Through protest in the Black community and political infighting between the city and state, a token of the present World Trade Center was built in Harlem in 1972 called the Harlem State office Building to respond to the community needs. In 1976 the State of New York located the Employment Service Center Headquarters in a office building abandon by the federal government and two other city agencies have since have moved to the area.

Site

The Harlem State Office Building is located on 125th Street at the corner of Lenox Avenue (fig. 1). The building occupies nearly an entire city block. Also located on the site is a 300 car parking garage with abandoned retail stores on the first level, and a large parking lot.

125th Street is a major transit thoroughfare that links the east and west side of Manhattan; and connects the Triborough Bridge to the Westside Highway. Located nearby are the Apollo Theater, Loews Theater, and numerous thriving commercial businesses (fig.

2). The site is encircled by a rich blend of residential brownstone and high-rise public housing buildings.

Program and Users

The 200,000 square foot office building includes the following

- New York State Congressional offices and staff
- Harlem Urban Development Corporation
- A Public School and Training Center
- New York City Community Service Division
- State Offices
- Community Meeting Spaces
- Cafeteria

The major users are office workers, school children, support staff, and the local community. Since most of the office workers do not live in the area, they do not support the local economy by shopping or paying taxes. There is a need for retail shops or restaurants, either in the building or in the surrounding area to cater to these users. The major uses cited by the users that gives the building vitality are the public school and community meeting center. Both these functions provide 9 am to 9 pm use of the building. This active use provides a sense of security for the building users. It also gives the building a symbolic identity in the community as a place the community "owns". But the building lacks a central meeting area where the users can socialize. 1

The facility also includes a 100,000 square foot plaza intended to be a gathering place for festivals. The plaza seldom fulfills its intended use because there are few cultural festivals, outdoor markets or political events (fig. 3). Homeless people and drug dealers are the main users of the plaza discouraging use by the building workers.

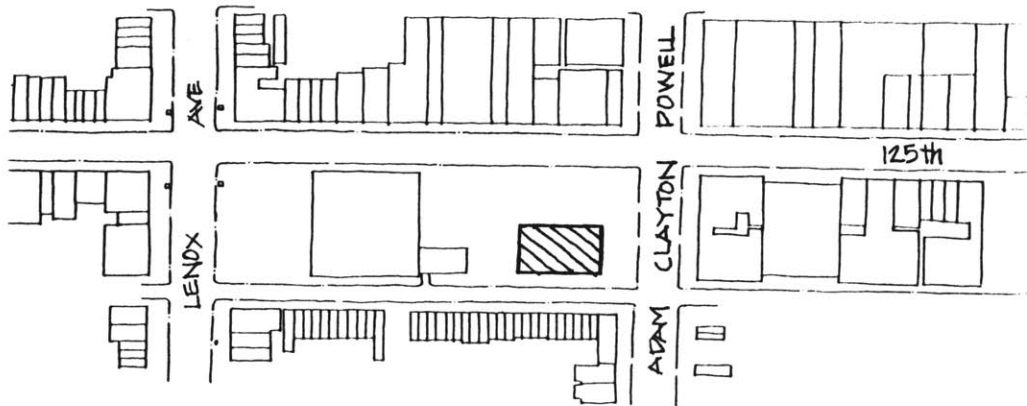


Figure 1



Figure 2

The other uses are the 80,000 square foot parking garage and 6,000 sf of retail space. The parking garage serving the building users, office workers in the area, and community businesses, especially the Apollo and Loews Theaters, has been a financial success. The retail portion has not succeeded with a low occupancy rate of 10%. The poor performance of the retail portion of the complex is because of the security risks presented by the empty plaza and open parking lot.

Design

The Harlem State Office Building (HSOB) is a 20 story glass and concrete tower, which is an imitation of a LeCorbusier design modern tower. The building, clad in glass and supported by four concrete columns, sits above a 100,000 square foot open plaza (fig. 4). Because of the design layout anyone entering the HSOB must pass guards before proceeding to the elevator core. Building employees state that this controlled access is one of the best features of the design. The plaza, however, is seen as a failure because it is not secure, like the lobby; and is too large and barren.

The HSOB fails to respond to the existing urban context. The surrounding area is mainly composed of four story residential Brownstone buildings; and 5 to 10 story apartment and office buildings, constructed of brick with limestone facing. These buildings contain commercial stores on the first floor and offices above. A large percentage of the upper floors are abandoned, but the ground level is thriving with business (fig. 5). The juxtaposition of scale at the site is awkward because the scale rises sharply from six to 20 stories without any architectural moderation. The changes in building materials, design, and scale are not consistent with the local environment. The one positive aspect of the scale, a resident mentioned, is that the building acts as a landmark in locating your position in



Figure 3



Figure 4



Figure 5

Harlem. Because of its scale, architecture, and location the building serves as a landmark and a meeting place in Harlem.

Development Issues

The HSOB was developed by the Urban Development Corporation (UDC) and financed through bonds. The Harlem Urban Development Corporation (HUDC), a subsidiary of the UDC was designated as the HSOB manager, and given the responsibility to develop the site and redevelop Harlem. According to Mr. Morrow the director of the Harlem Urban Development, " the HSOB has defiantly been a catalyst in the revitalization of the area ". The most significant benefit from this type of development is the number of new spin-off businesses. These businesses ranging from restaurants to theaters create more jobs, and generate tax revenues, attract people, and improve the visual quality of the area. In the case of the HSOB the most significant spin-off factor was the redevelopment of the Apollo and Loews Theater, 125 Indoor Market, and the construction of offices buildings.

Future Plans

The HUDC has a very ambitious plan for redeveloping Harlem. By 1990 they are planning the construction of two office buildings and a hotel within a block of the HSOB. A 115,000 sf, 15 story office tower to be constructed in 1990 adjacent to the Apollo Theater already has two anchor tenants. In 1991, a \$150 million, 40 story Third World Trade Center is planned to begin construction and a 100,000 sf mall are to be constructed. In 1995 the HUDC plans to begin developing a \$500 million waterfront art center on the Hudson River.

Conclusion

The HSOB has been a success in attracting new and retaining old businesses and revitalizing 125th street. For example, 750,000 square feet of office, mall, and cultural space has been developed and rehabilitated within a block radius of the HSOB. 2 There still remains problems with developing the upper floors of several buildings into viable office space. However, good urban design and architecture has not played a significant part in HSOB success.

The building has been a catalyst in keeping existing business from leaving the area and attracting new businesses, such as other state and city agencies. The key economic benefits is that the building attracts a large number of people from both inside and outside Harlem. Combined with the operation of three other public service buildings, they attract enough people to keep business thriving on 125th street. 3

With the success of the Apollo, commercial business, and the development of public agencies, a core of institutions and support services has developed along 125th street. The next step in Harlem future is to develop more support services, such as housing, super markets, etc., and its private business core. The redevelopment of Harlem and HSOB suggest a model of how a public building can become a catalyst and the development tool needed (HUDC) to make it happen.

THE STATE TRANSPORTATION BUILDING

History

The Transportation Building is located in the Park Plaza area of Boston's Theater District. In the 1920's, people attended vaudeville shows, off Broadway plays, and musicals in the grand theater houses in the area. As economic decline capture Boston's downtown district during the 1930,40,and 50's, the theater district declined and became a Red Light District in the 1960 and 70's.

To develop a new image for the area and to attract private business, an urban renewal plan was developed in the late 1960's by the Boston Redevelopment Authority. Several development schemes were proposed in the early 1970's but nothing happen. Businesses were scared to locate in the Park Plaza district because of its negative image.

In 1975 the State Transportation Secretary proposed an idea of locating all the state transportation agencies into one building to improve efficiency and to save money. Four sites were selected Park Plaza among them. As one Massport official stated Park Plaza was the lease desirable site; no one wanted to move from the financial district to the Combat Zone. Under pressure from city officials and state executives, and with a opportunity to improve the southern area of the Boston Common, the Dukakis Administration selected the Park Plaza site.

The State Transportation Building was conceived as an economic development tool to revitalize a decaying urban area and to house the State of Massachusetts Transportation division. The economic concept was to used the building to attract private businesses to the area. The primary physical design objective was to fit within the existing context, to

create a positive new image for southern section of the Boston Common, and to be a meeting place for the patrons of the Theater District. 4

Site

The Transportation Building is located at the corner of Kneeland St. and Tremont the western section of the Theater District (fig. 6). The building is surrounded by the financial district, Chinatown, South End, and Back Bay. The site is served by major transportation routes, such as the subway and the Mass. Pike. The major commercial businesses are theaters and hotels, office space, colleges, and parking facilities; no large residential community is located within the District's boundaries. This area also serves as a major physical connection between the Back Bay and the downtown district.

Building Program and Users

Building Users

- Office Workers: Massport, DPW, MBTA
- Public
- Support Staff
- Lunch Time Crowd
- Theater Time Crowd
- People Just Passing Through

Program

- 475,000 sf of office space
- 50,000 sf of ground level retail

| | |
|-------------------------------|-----------------|
| State Transportation Agencies | Library |
| Arts Offices | Conference Area |
| Cafeteria | Food Court |
| Large Restaurants | Bank |
| Retail Stores | Stage |
| Gallery | Parking Garage |
| Child Care Center | |

There is a significant variety of users who use the facility on a 24 hour basis. The public uses it as a short cut from the Boston Common to offices located in the New England Law School or in the Tufts-New England Medical Center. During lunch the public attends the noon-concerts and eat at the restaurants. In the evening the parking facility is in great demand by people attending concerts or shows. The most significant users of the building are the 2700 employees. Employees use the library or the cafeteria and eat their lunch at the noon-time concerts. It is estimated that once a week, employees eat at the ground level restaurants or shop at the retail stores. The prices at several of the restaurants and stores tend to cater more to the nearby up scale office workers rather than the building employees. The building has been a success in mixing the different uses. The uses cited as being most successful are the noon-time concerts, and the art gallery. The arts have been credited by the building managers for adding life to the poorly designed atrium and boosting retail businesses. Massport management has mention that there is a lack of communication between the several different departments, which the conference area, library, and the cafeteria were to solve. The design of the alley has also been cited by management and employees as a success incorporating different uses, such as a deli, bar, and restaurant, and an aid in securing the building (fig. 7). When the Transportation Building was half occupied crime was a major problem; but when all the retail edges were filled and the alley became a major pedestrian route crime decreased. 5

Design

The physical design concept was to: (1) fit within the existing context, (2) create a positive new image for the southern section of the Boston Common, and (3) be a meeting place for the Theater District patrons. Brick was used as the dominate material to blend the building in with the existing context. Brick columns combined with the undulation massing formed the building's entries (fig. 8). Lee Smith, one of the architects,

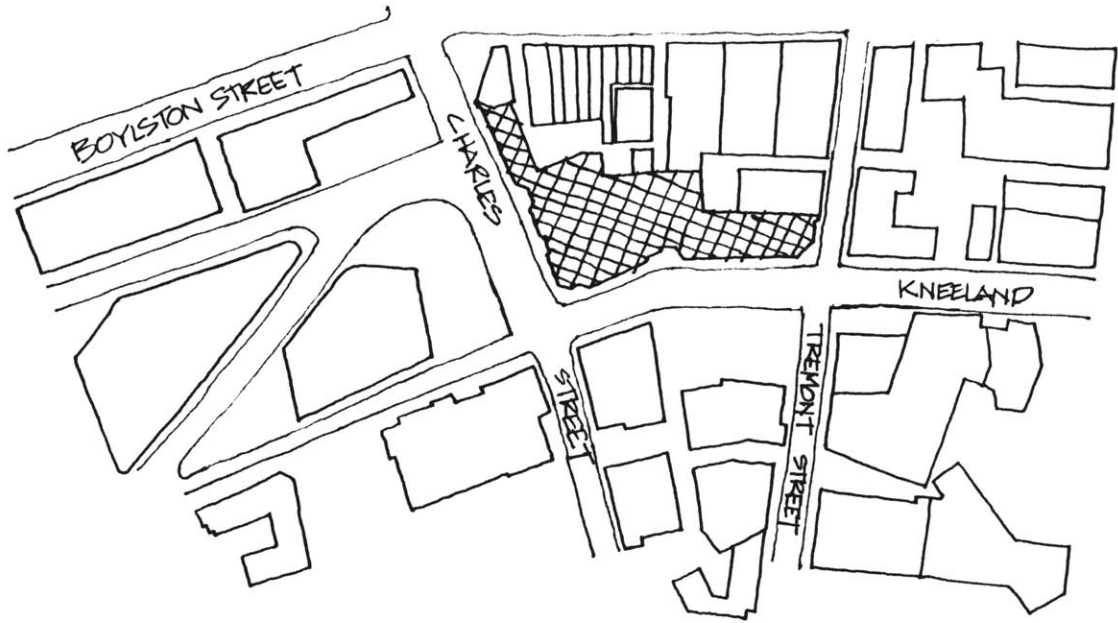


Figure 6

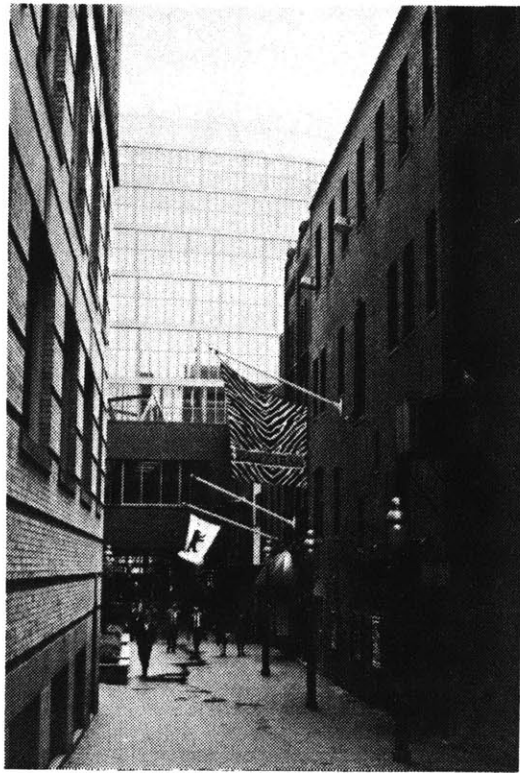


Figure 7

would have preferred more materials used to give the facade and massing more life. The layout of the office floor plan was a L-shape design where the atrium became the central focus. The retail component is centered around the atrium's performance area with interior pedestrian streets linking the ground level to the neighborhood context. Priority was placed on linking the building circulation with the circulation existing outside the building.

The major urban design concept was to integrate the building into the existing context through stepping the massing and to create an active street edge with retail uses. 6 The most successful urban design aspects is that all the major circulation routes are constantly used. The street edge retail, especially the restaurants, is active during the evening hours. The interior retail business is less successful, especially the Food Court, because it is isolated from the major pedestrian circulation route.

Development Issues

The State Transportation Building was developed by the state and financed through bonds. The ground floor retail level is leased by the state to a private developer to operate. Because the retail component was located in a poor market area the state subsidized the retail operation through lower than market rate rents. The parking garage also followed a similar lease strategy. Boylstron Properties, a retail management company, stated that without this subsidize from the state the retail component would not have occurred. Today both lease options have been a success, with the parking garage earning more in revenue for the state. 7

The public commitment of locating a public building in a depressed area of the city, has attracted millions of dollars in development by changing the image and increasing investor confidence. Developments, such as the Four Seasons Hotel, Heritage on the Common,

New England Law School, 100 unit residential development on Tremont Street, and the rehab of several theaters in the area were all built after the Transportation Building. Several developers have stated that without this public commitment they would have abandon their projects in the area. The area today has a new positive image and awaits further development. 8

The spin-off development of Boylston Alley which includes three bars, a restaurant, and the Madison Deli has been a great success. Once the back door to the building, Boylston Alley has become the front; the design turned the alley into a public walkway. Small scale businesses like the Madison Deli or the Bar has benefitted from this renaissance.

Future Plans

There still remains more work to be done in the Park Plaza District. With a new image, a 400 unit room hotel and two large office towers are in the planning stage. The nearby location of Commonwealth Center, and Downtown Crossing, a billion dollar development which includes the rehab of several old theaters, will have a significant impact on the Park Plaza District.

Conclusion

The State Transportation Building has been a success both in economic and in design terms. The key to its success has been the physical design which has created a strong new image for the area. This image is reflected in both the Heritage on the Common and the Four Seasons Hotel which have define a new image of contextual design which has enhanced development opportunities in the area (fig. 9).



Figure 8



Figure 9

ROXBURY CIVIC CENTER

History

Roxbury Civic Center is part of a late 1960's urban renewal plan to revitalize Dudley Square. The Roxbury area was in decline during this period with white flight, arson, and crime the telling factors. Two local institutions, the Dudley Baptist Church and the Rivoli Theater and numerous homes were razed in the late 1960's for the development of a new civic center. The center was to contain a new library, police station, court house, gym, and light industry. The Boston Redevelopment Authority (BRA) in its annual report stated that the area contain dilapidated housing which was a health hazard. Its idea was to use public buildings to attract new businesses, provide jobs, and create a new image of a revitalized Dudley. 9

Site

The civic center is located near Dudley Station on Warren Street, a major transportation route (fig. 10). The area population is predominately Black and Hispanic with a low median income level. The dominate use is commercial, mostly marginal retail stores with 70% of the upper level office space vacant. The buildings are in poor physical condition and need repair. There is a large percentage of abandoned land owned by several city agencies including MBTA, PFD, BRA, and DPW. The area is surrounded by two large public housing projects, Orchard Park and Madison Park.

Building Program and Users

Users

Police Officers
Court Officials
Community

Program

550,000 sf of Site Area
200,000 sf of office space
400,000 sf of open space use for urban plaza and
parking

Police Station
Public Library
YMCA
Court House
City Office space BRA
Industrial Buildings

Because of its design and the type of uses local residents call it the "bunker". The abandoned concrete plaza, garbage-strewn walkways, and acres of parking space are not a hospitable area to the public or to the users of the facility (fig. 11). The inward focus of the design and the blank, windowless faces of the facade portray a negative image. As one police officer stated " Its just too open and cold (fig. 12). Its like they placed a suburban type design in an urban setting". Most users, such as police officers, and court officers do not use the local stores because they fear crime, and the stores do not cater to their needs. Some users feel there should be integration of commercial facilities on site and a better physical connection to the neighborhood. 10

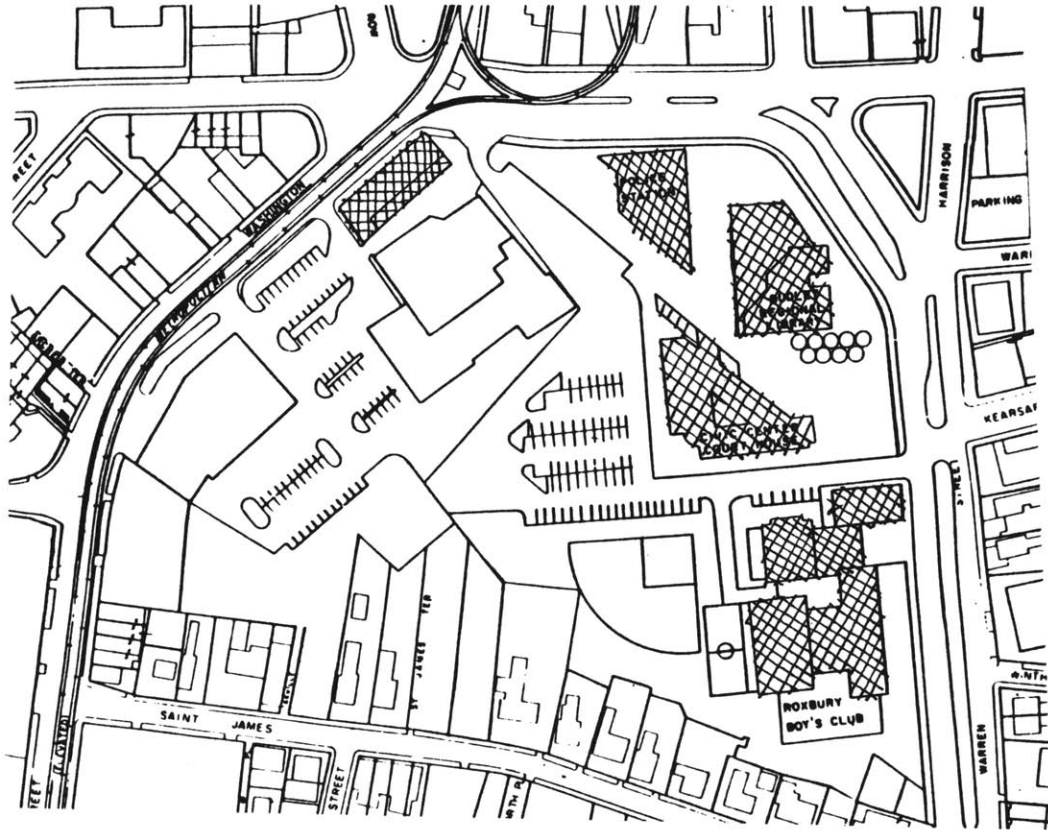


Figure 10



Figure 11

Design

The major design concept was to develop a campus containing low scale civic buildings connected by interior urban streets (fig. 13). Architecturally, the buildings were to be built of masonry, specifically brick, glass block, and concrete. Urban streets were to connect the civic center to the neighborhood pedestrian routes. These streets were to be formed by the building edges and frame the perspective views of the neighborhood. The center's design has come under attack from both users and architects as a failure. Ed Logue, former director of the BRA, said poor design was the reason the facility has not met its objective of revitalizing the Dudley area.

Development

Very little development has occurred near the Roxbury Civic Center since it was built. The old buildings on Dudley Street are still boarded up and abandoned. Little development has occur along Washington Street. There has been some rehab of building along Warren Street, especially the Long Bay Management building directly across the street. The only-spin off development that has occurred is marginal restaurants and stores on Dudley Street. Several old row houses, opposite the center on Warren Street, have been rehabilitated into professional offices for lawyers and doctors. The only new office building built in the area has been the 10,000 square foot New England Telephone building on Harrison Avenue. A total of 93,000 square feet of office space has been built and rehab near the center, since it first open. 11 This amount of spin-off development is low compare to the Harlem State Office Building 750,000 square feet.



Figure 12



Figure 13

Future Plans

The MBTA is planning to rehab the Dudley Station Terminal and build a new bus station; and examining the potential of developing a mall and office space over Dudley Station air rights. A new \$2 million dollar church is under construction a block away. With most new commercial development now targeted for Parcel 18, other development plans for the area are on hold.

CONCLUSION

There are several reasons why the Roxbury Civic Center failed to be a catalyst for revitalization: (1) no private investment or involvement, (2) poor site and building design, (3) lack of a critical mass of office space and retail uses to stimulate development, and (4) poor security. The lack of private investment or a component to generate spin-off development like the retail component in the Transportation Building or a public development corporation like the Harlem Urban Development Corporation to stimulate private investment, was a major reason for failure. New York City Public Development Corporation (PDC) had similar problems in locating city agencies in depress areas to stimulate development. The reason they failed, PDC concluded, was that they lack a private component to generate spin-off development. 12 The Roxbury Civic Center is a good example of the problems that can occur by placing a public facility in a depress area without no support uses or private investment component.

DEVELOPMENT AND DESIGN GUIDELINES

These three case studies of public buildings represent a variety of solutions and results. Each was chosen for a specific point and purpose. The Harlem State Office Building was chosen as an example of a poorly design public building which succeeded economically as compared to the Transportation Building selection which was both a design and economic success. The Roxbury Civic Center was selected because it failed on both points and also because of its location in Dudley. The main criteria for evaluating these projects were physical design and economic development success.

In this section, essential information from the three case studies will be used to shape the physical design, building program, and economic development guidelines for the development proposal in chapter four.

Design

This section presents the physical design guidelines for the building massing and architectural character.

(1) The building must be compatible with the neighborhood in design, building materials, and scale. Like the Transportation Building use of brick and massing concept, a building in Dudley must have masonry veneer of either brick, limestone, or precast elements. Building heights should be no higher than 60 feet, plus 15 feet setbacks at 45 feet, to respect the visual importance of the Ferdinand Building (fig. 15).

(2) Architecturally the building must be a beacon or landmark, similar in visual prominence to the Harlem State Office Building. A visual element, such as an entry way, signage, clock tower, or a vertical element, could act as a gateway to Dudley (fig. 16).

(3) Similar to the Transportation Building, all interior building circulation routes must link to existing pedestrian circulation in the area. Washington Street is the dominate pedestrian route in Dudley, all building entries and interior circulation should have some definite relationship to it (fig. 17).

(4) Open spaces, indoor or outdoor are important for public functions. The atrium at the Transportation Building and the outdoor plaza at Kendall Square are good examples of public space. The design of the space must fit into the scale of the area and the building. Indoor spaces are actually better suited for Dudley because they can be maintained and secured compared to the outdoor spaces at the Roxbury Civic Center.

(5) The building massing and image should respond to the architectural character of the Dudley area. The proposed building design should not be one massive structure, like the Transportation Building, but divided into several parts (fig. 18)

(6) Signage and lighting are critical elements in defining the building image, attracting customers, and providing safety. The building name and image should strongly connect with the building beacon or gateway element. The building and storefront facades should harmoniously incorporate matching signage and lighting elements.

(7) The building should have a theme to give it an identity that is enhanced by the architectural design. The Transportation Building theme of "City Place" is enhanced by the atrium space.

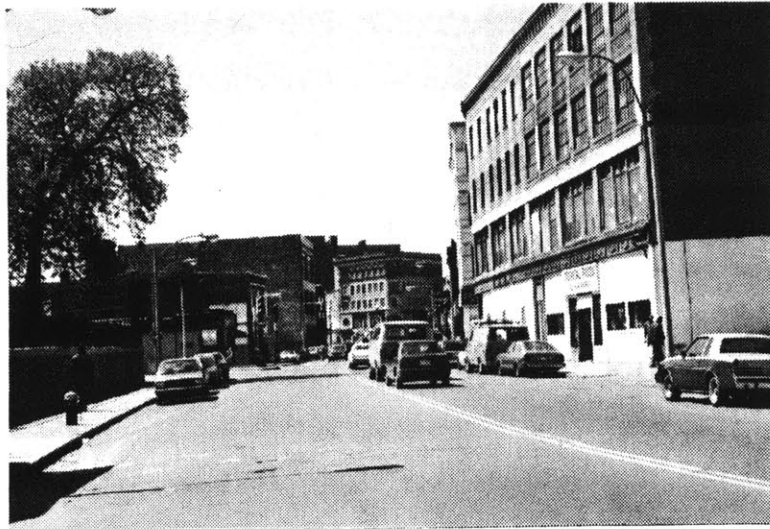


Figure 15

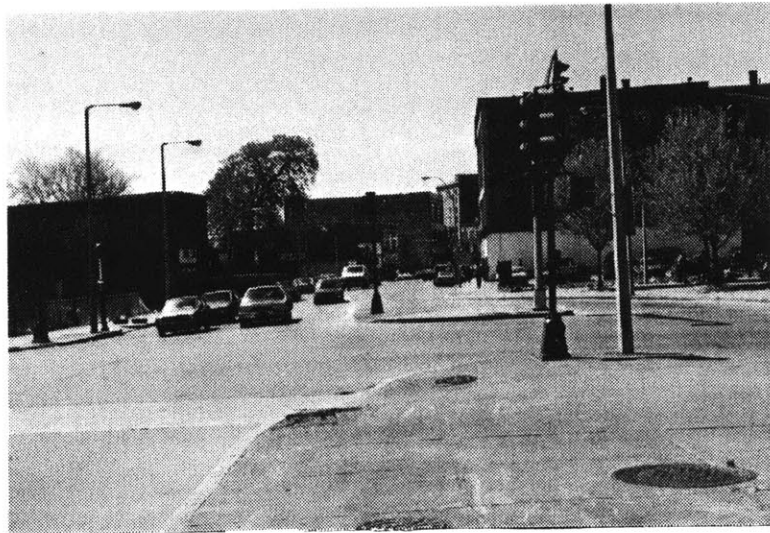


Figure 16

(8) Building entries should be highly visible and have a definite connection to the interior circulation system for reasons of security. The Harlem State Office Building has a definite building entry that connects directly to the building circulation system. Building entries in Dudley should be located at highly visible corners and directly off Washington Street.

(9) Parking garages should be built within the building above or below ground, and pedestrian access should be accessible from within the building. A good example of this integration is the parking garage in the Transportation Building.

Program

This section presents guidelines for the type, location, and size of building uses.

(1) To stimulate development and serve the needs of the community the building must be designed for mixed-use. Retail stores, cultural uses, and day care should be incorporated within the building program. A good example for mix-use are the Harlem State Office and Transportation Buildings.

(2) Programming is critical, there must be a balance of office space, retail, housing, parking, and cultural facilities. Retail use should be 6% of the total office space to have a successful retail demand and to satisfy the building users. There should be one parking space per 0.41 % of 1000 square feet of office space to satisfy parking demand. 13

(3) Cultural facilities and parking should be included in the building program because they link the development to the neighborhood. The Harlem State Office Building is an active



Figure 17



Figure 18

part of the neighborhood because community uses are integrated into the building program.

(4) The building programing should enhance the existing uses in the area. The addition of cultural and institutional uses, such as a theater, museum or a training center, in the building program could economically stimulate existing commercial uses in Dudley.

(5) To reinforce the building image as a secure and lively place the exterior building edges must incorporate retail and cultural uses. The Transportation Building is a good example of a building with active retail edges. Building edges fronting on Washington Street should be incorporated with retail and cultural uses.

(6) The building program should create an image for the development, such as the retail court at the Transportation Building does. The addition of a theater, museum, and restaurant linked to the Roxbury Heritage Park system could achieve this goal.

Development

This section presents guidelines to ensure that the development is financially feasible and capable of stimulating the local economy. It also gives guidelines for marketing strategies and community involvement.

(1) To promote spin-off development the building program and design must attract other types of development, such as a printing company, service related uses, professional offices, and retail uses. For example the court house in the Roxbury Civic Center has attracted law offices to Dudley.

(2) To achieve a significant amount of spin-off development, a sufficient quantity of total square footage is needed. In the Roxbury case study, 200,000 sf of built development, spin-off only 93,000 sf. Estimated between 400,000 to 500,000 sf of built development is needed to have a significant economic impact in Dudley. 14

(3) The number of people who use the facility is critical in stimulating spin-off development, such as restaurants, shops, and retail stores. The 2,400 employees and guest who use the Transportation Building is capable of supporting retail businesses along Boylston Alley. 15 The addition of a movie theater and a office development capable of attracting approximately 3000 people daily may be the solution.

(4) To encourage private investment in developing the propose building or managing the retail/cultural component, the development must house city agencies and a parking garage.

(5) The proposed development must target pioneer companies, start-up businesses and local businesses as potential tenants.

(6) To oversee the development, attract private investment and target potential tenants a development agency should be created. This organization, like the Harlem Urban Development Corporation, can work to attract private development to Dudley and respond to the needs of the community.

(7) The proposed development should be easily accessible to a major transportation route. A transit stop at the proposed development is a key in attracting customers and office tenants to the development, like the subway stop at the corner of the HSOB.

(8) Neighborhood involvement in the entire process from design review to construction is critical in gaining community support for the project.

These design, program, and development guidelines will be used to determine the size, composition, and feasibility of the project.

Chapter Four

BUILDING PROGRAM AND DESIGN PROPOSAL

INTRODUCTION

In this chapter a building program and design options are formulated and tested on the Blair site. The purpose is to choose a building form and design that will fit into the Dudley context, have significant critical mass to stimulate the local economy and act as a visual landmark. Several design options are evaluated and analyzed for their feasibility using the guidelines developed in chapter two.

PROPOSED BUILDING PROGRAM

The program which can best use the assets of the Blair site: land mass, history, and location is a office/cultural center complex. This center, The Mandela Civic and Cultural Arts Exchange, would recognize the contributions of minority Americans to Boston's ethnic culture and would serve as a cultural exchange point with Third World Nations. The center would contain an office component of 325,000 sf and a cultural component of 60,000 sf. A parking garage containing 520 cars, and an affordable housing component of 40 units on site.¹

CULTURAL CENTER

(1) RIVOLI CINEMA COMPLEX: (20,000 sf) for showing first run movies, art films, and for live events, such as concerts, lectures, or community meetings.

(2) ROXBURY HERITAGE MUSEUM: (5,000 sf) housing information and events complementing the Heritage Park Trail.

(3) MAJOR PUBLIC INDOOR SPACE: (4,000 sf) consisting of an indoor market (small vendors), information center for the Heritage Park System, theater ticket booth and a main lobby.

(4) RETAIL: (10,000 sf) used by incubator businesses. Market analysis has indicated that this may succeed if it caters to building users.

(5) JAZZ NIGHTCLUB/RESTAURANT: (5,000 sf) for lunch and evening activity. This may succeed if caters to building users, but evening hours depends upon the success of the cinema.

(6) ELMA LEWIS ART SCHOOL/ROXBURY COMMUNITY MEETING CENTER: (16,000 sf) to promote day and evening use. This center will serve both the children and adults of the community.

CIVIC CENTER

(1) MAJOR CITY HEADQUARTERS OFFICE BUILDING: (150,000 sf) of office space targeted at major city agencies looking for modern high tech office space. (potential agencies: Police and Fire Department Headquarters, Boston's Board of Education Headquarters, Health, Neighborhood, and Human Services Division Headquarters, and Headquarters for Boston Redevelopment Authority, Public Facilities, and Boston Parks Department).

(2) MUNICIPAL OFFICE FACILITY: (75,000) sf of office space marketed as back office space for city agencies and for the potential development of a Third World Trade Center.

(3) JOBS TRAINING/DAY CARE CENTER: (100,000) sf center to train people for jobs on the Central Artery/Third Harbor Tunnel and in the City of Boston.

PARKING GARAGE

(4) PARKING GARAGE: 520 car parking garage for office workers and retail commercial use.

HOUSING

(5) HOUSING: 40 units of affordable BHA housing for use as transitional housing during the modernization or development of new housing in Orchard Park.

CONCLUSION

The objective was to develop a building program that contained a variety of office and cultural uses. These uses were intended to stimulate the local economy through creating new jobs and attracting businesses, and serve a community need by providing cultural activities, job training, and day care. The Mandela Civic and Cultural Art Exchange Center composition of building uses is intended to become an active cultural focal point in the revitalization of Dudley and the center piece of the Heritage Park System. This building program will be used to formulate design options for the Blair site and to test the financial feasibility and economic impact of this project.

DESIGN PROPOSAL

The case studies, presented three design options: (1) Tower Concept, (Harlem State Office Building), (2) (Mass Concept), State Transportation Building, and (3) Campus Concept, (Roxbury Civic Center). A matrix of the design guidelines from chapter two is used to compare the options and to determine the best option. Each design approach is examined in the following sections.

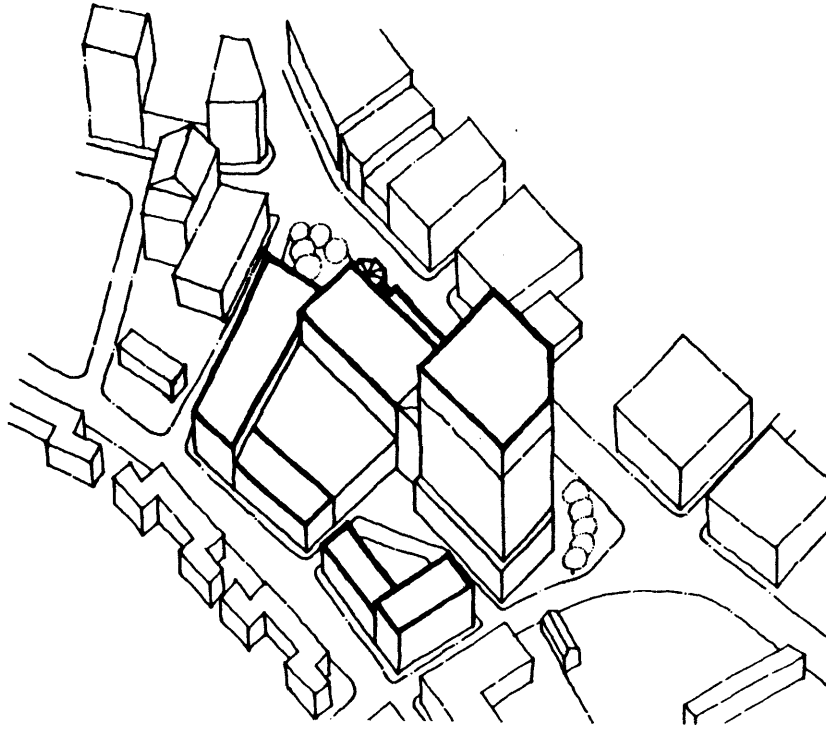
| Design Test | Options | | |
|------------------------------|---------|--------|------|
| | Tower | Campus | Mass |
| Contextualism | | x | x |
| Landmark Element | x | x | x |
| Circulation Link | x | x | x |
| Public Space | | x | |
| Environmental Impact | | x | |
| Streetscape | x | x | x |
| Potential for Expansion | x | | x |
| Theme & Image | x | x | x |
| Building Entry | | | x |
| Parking Garage | | | x |
| Security | x | | x |
| Transportation | | x | |
| | 6 | 7 | 9 |
| Program/Development | | | |
| Balance # of Uses | x | x | x |
| Connections to the Community | | | x |
| % Cultural Facilities | x | x | x |
| Active Street Edges | x | | x |
| Critical Mass | x | | x |
| Potential for Spin-off | x | | x |
| | 5 | 2 | 6 |
| Total | 11 | 9 | 15 |

(1) Tower Concept: Harlem State Office Building

The tower is a highly visible landmark in the urban context. The tower contains a large critical mass and has high density development potential which can spur local economic development. This building type can also be a highly controlled and secure place to work in. While the image and symbolism would be high, the building could over dominate the surrounding abandoned 3 to 4 story brick buildings in Dudley. This concept is expensive to build because of the extra cost for structure and foundation construction. The major problem is that the massing, density, and scale will not fit within the Dudley context.

The feasibility of a high rise building on the Blair site was tested (fig. 1). This option contains over 530,000 square feet with two office buildings and one theater complex at a FAR of (4.7). The tower which would be 170 feet high (14 floors) would be the centerpiece of the design and would contain the public headquarters. The second office building and training center would be housed in the 5 story massing along Washington Street.

In comparison with the other options, the tower concept scored high points on critical mass, and image but low on scale, contextualism, and environmental impacts. While the massing and scale of the tower gives it a strong image when placed in the existing context the scale differential is large (fig. 2). There are buildings in the Dudley area that are 100 feet tall, but they are architecturally rich in detail and grouped together blending them into the existing context. This tower, 170 feet tall would create a visual problem within the existing context because of the Eliot Graveyard and the one story Eutis Firehouse. It would also cause environmental problems dealing with shadows on the graveyard, wind



TOWER OPTION

| | |
|-------------------|--------------------|
| Retail | 15,200 GSF |
| Theater | 34,000 GSF |
| Museum | 6,000 GSF |
| Public Sp. | 5,000 GSF |
| Art School | 20,000 GSF |
| Office Sp. | 320,000 GSF |
| Training | 90,000 GSF |
| Housing | 40,000 GSF |
| TOTAL | 530,000 GSF |
| FAR | 4.7 |

Figure 1

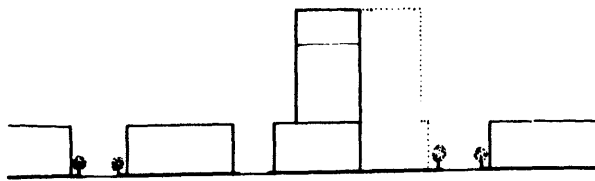
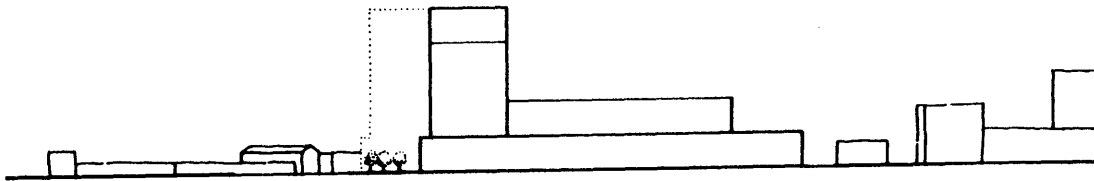
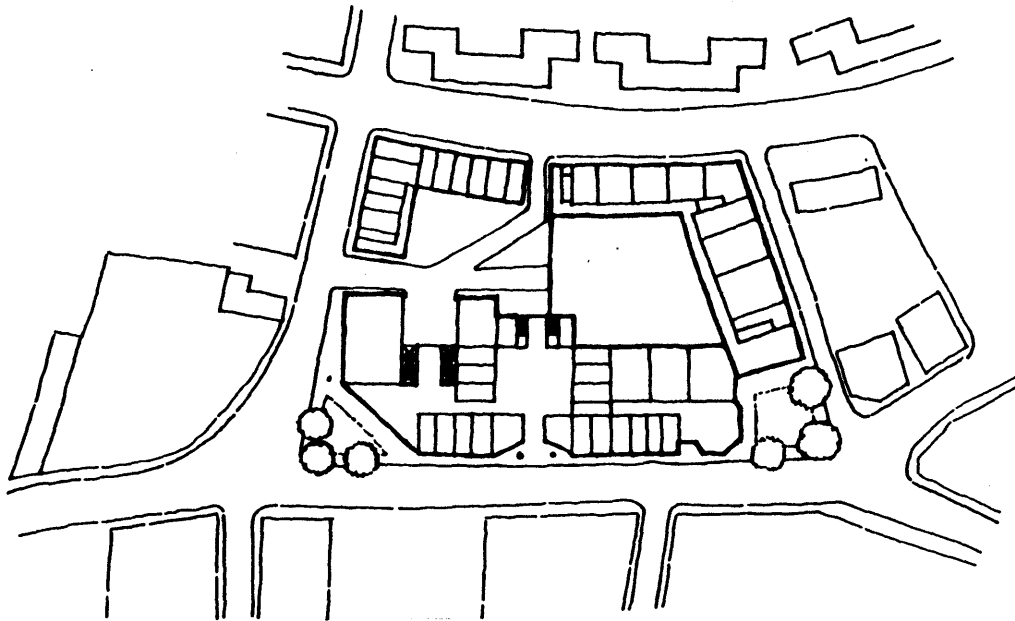


Figure 2

currents on Washington Street; and overload the fragile transportation network on Washington Street.

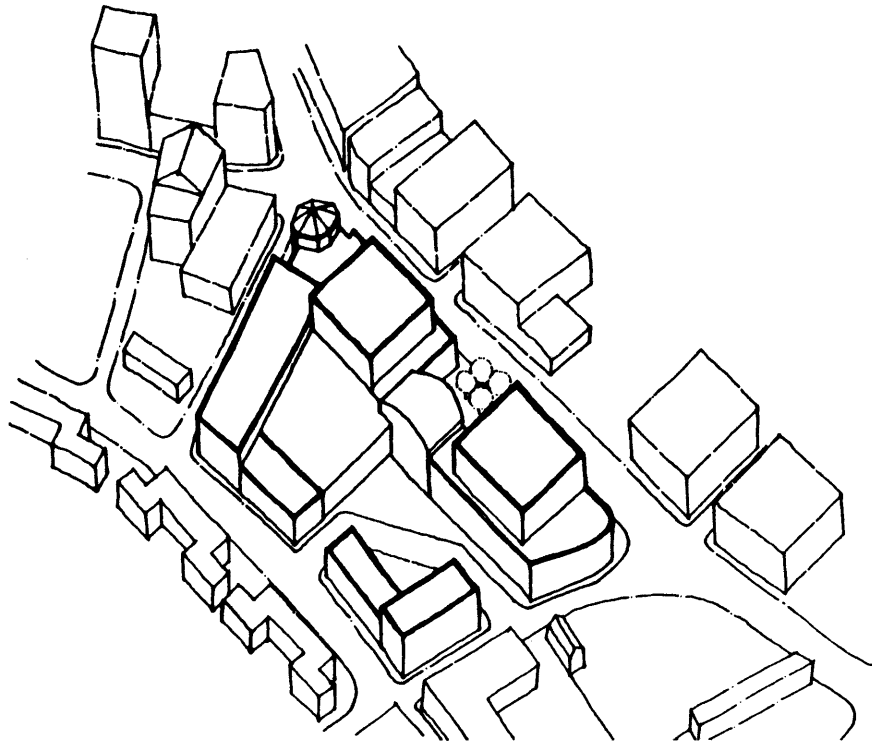
The urban context of Dudley is composed of massive low scale structures of distinct architecture character, such as Ferdinand's building at the corner of Washington and Warren. From the evaluation matrix the tower option scored low because (1) it is a totally different building type, (2) it is not appropriate for this open site, and (3) may be difficult to architecturally integrate it into the context.

(2) Campus Concept: Roxbury Civic Center

The unique feature of this concept is that the scale of the buildings fit within the context. Different building uses can be located into individual buildings and each with its own identity. This building type can easily connect to existing pedestrian routes and there is a strong potential to create a monumental central space. There is also the potential with this monumental central space to give the complex of buildings an image.

One problem with a campus scheme is that it is like a suburban mall, everything is too spread out causing major security problems. Another problem is when placed in an urban context, campus type projects must be very well designed because, if not, they will become isolated and ignored by the general public. The campus concept because of its low scale, also lacks a critical mass of square footage needed to stimulate economic development.

The feasibility of a campus concept on the Blair site was tested (fig. 3). This scheme contains over 315,000 sf at a FAR 2.7 with an average building height of 50 feet. An 8000 sf foot plaza is the dominate focal point of the scheme creating the image of a



CAMPUS OPTION

| | |
|--------------|--------------------|
| Retail | 12,000 GSF |
| Theater | 20,000 GSF |
| Museum | 9,000 GSF |
| Public Sp. | 7,000 GSF |
| Art School | 0 |
| Office Sp. | 150,000 GSF |
| Training | 90,000 GSF |
| Housing | 40,000 GSF |
| TOTAL | 321,000 GSF |
| FAR | 2.8 |

Figure 3

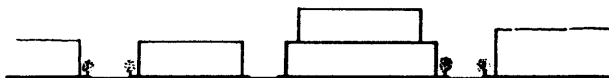
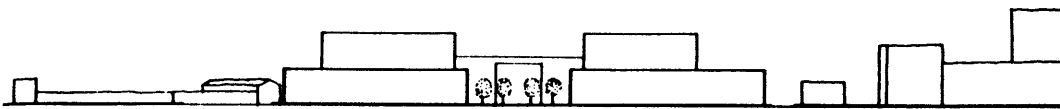
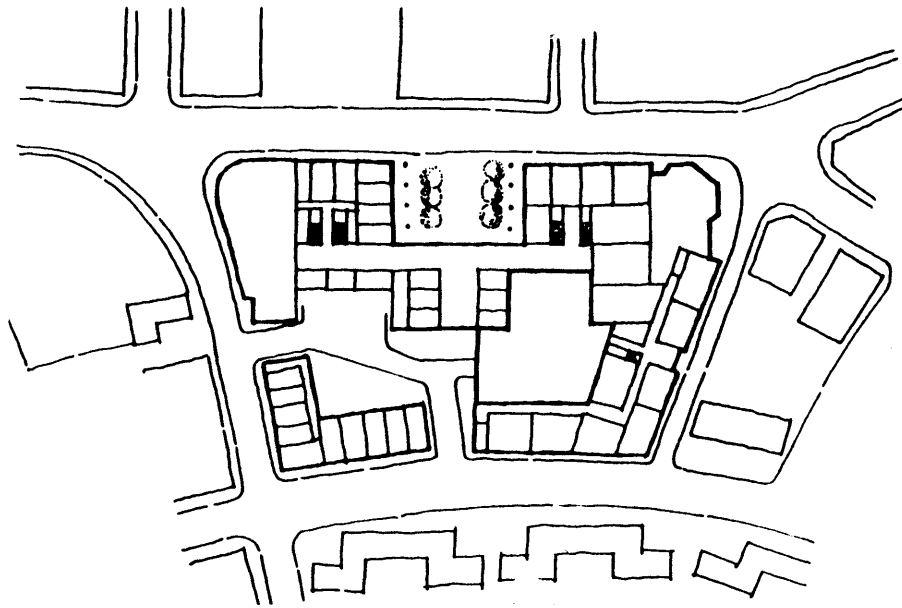


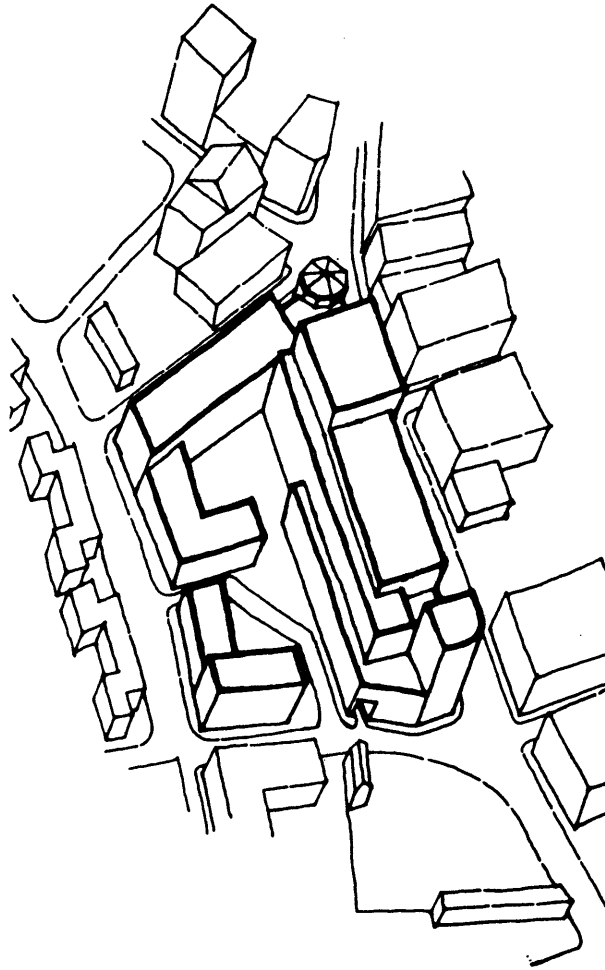
Figure 4

major outdoor public space. 150,000 sf of office space with two separate building core, plus a theater, museum, and retail spaces are local near the plaza. Housing and the training center are located at the edges of the site. A parking garage containing 520 cars above grade is located near the site center.

This concept scored the lowest in the matrix evaluation for several reasons (1) limited project expansion on site, (2) limited building security because of the plaza, and (3) building entries to major spaces and office are not clearly defined (fig. 4). While the scheme fits harmoniously into the urban landscape, it fails to create an active street edge along Washington Street that could increase building security and clearly define building entries. The retail component may also fail because: (1) deficient foot traffic because of the development size and (2) location of retail stores. Moreover, outdoor spaces in Dudley would be hard to protect and maintain like the spaces at the Roxbury Civic Center. The scale of an large outdoor plaza would not fit into the established highly dense urban environment. The program and development potential of the scheme scored low in the evaluation because the impact of stimulating economic development at a FAR of 2.7, which is similar to RCC, will produce a very small impact and spin-off development.

(3) Mass Concept: State Transportation Building

This concept fits within the existing context and architectural character. Several of the buildings surrounding the Blair site and in Dudley are classified as historic landmarks. This concept contains a sufficient amount of critical mass to maintain its contextuality and to form a street edge which is consistent with the local urban design. The combination of contexturalism and critical mass shapes the building image and form. The building is a single block than a collection of scattered buildings which gives it an image, such as the Transportation Building.



MASS OPTION

| | |
|-------------------|--------------------|
| Retail | 17,500 GSF |
| Theater | 34,000 GSF |
| Museum | 5,000 GSF |
| Public Sp. | 9,000 GSF |
| Art School | 10,000 GSF |
| Office Sp. | 236,000 GSF |
| Training | 90,000 GSF |
| Housing | 40,000 GSF |
| TOTAL | 441,500 GSF |
| FAR | 3.8 |

Figure 5

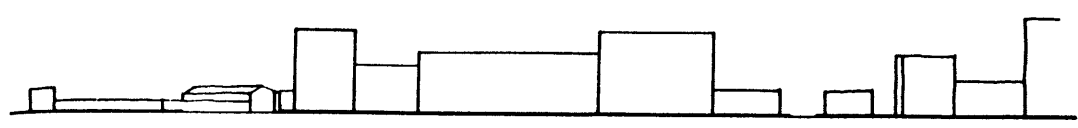
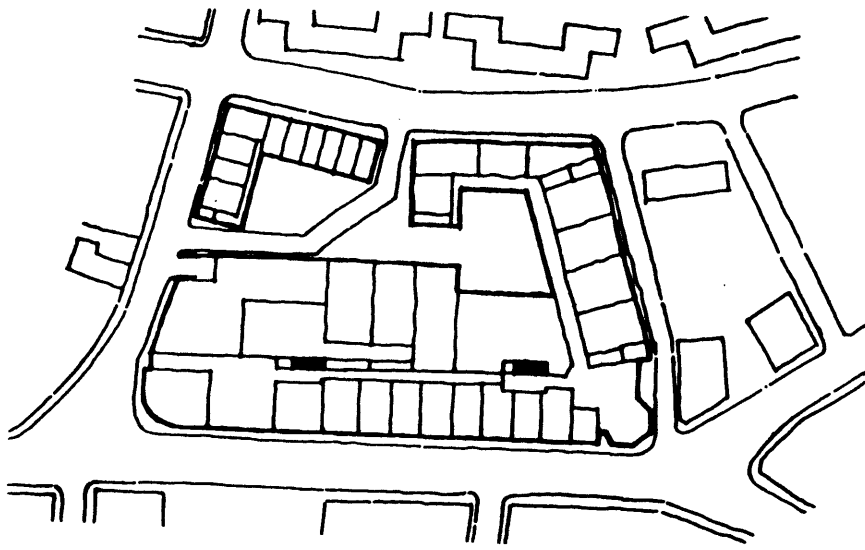


Figure 6

There are drawbacks to this scheme, first the building could become too bulky and over-dominate the area, architecturally the building could become a blank wall if not properly detailed. Third the building is long and massive there is a security problem in defining entries, public and private space.

The feasibility of a mass concept on the Blair site was tested (fig. 5). This scheme which contains 441,000 sf at a FAR of 3.8 is contained within one structure with an average height of 70 feet. Office space component occupies 236,000 sf and 90,000 sf is contained in the Training/Day Care Center. Cultural and housing uses and a 400 car below grade parking garage with direct access to the building cores are included. A 9,000 sf indoor public atrium and larger pedestrian sidewalks on Washington Street for outdoor market sales have been included in the development.

The mass concept scored the highest amount of points in the matrix evaluation because it: (1) fit the scale and character of the area, (2) defined building entries and a large indoor space, (3) physical connection to Washington Street and the Roxbury Heritage Park, and (4) had a gateway element that develops a theme and image for the area.

A cross section through Washington Street shows the similarity in building heights as compare to the existing buildings which creates a comfortable street wall (fig. 6). The mass option has the potential of becoming a background building which can highlight the older historical structures in the area. The scheme also has the capability of integrating several different architectural details to blend within the context. The physical connection to Washington Street, the main commercial strip, is important because it connects the development to the dominant pedestrian circulation in the area, which would benefit the retail component. It is also important because it strengthens the link to the Roxbury Heritage Park and the historical trail planned for Washington Street. The role of the gateway element now becomes important because it can serve as the beacon or

information center for the trail. This scheme is successful because it provides a significant amount of critical mass to stimulate economic development. This development is also capable of being constructed in phases for financial feasibility and future expansion. The parking garage is directly accessible off Eutsis Street, relieving parking congestion from the rear of the building and making it more visible to the motorist.

Recommend Option

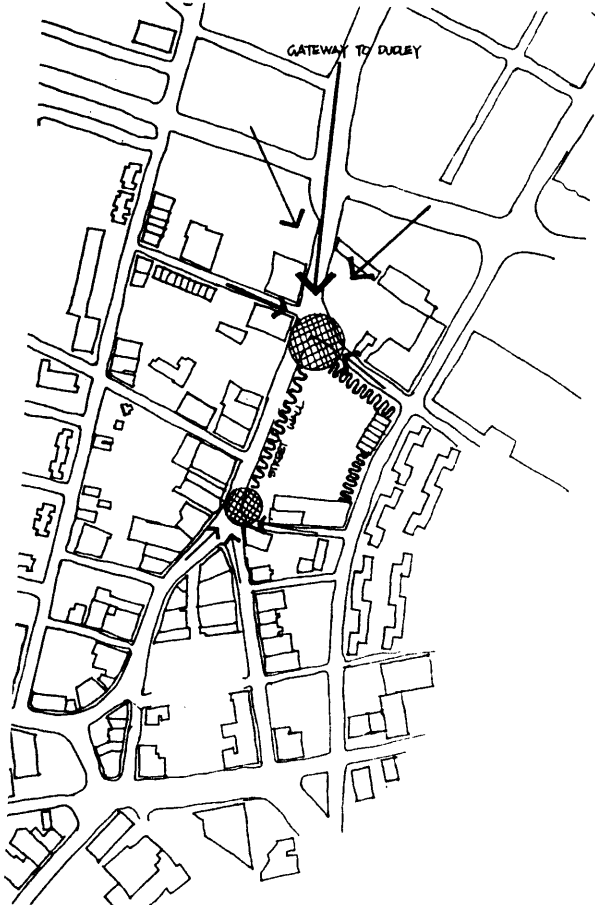
The mass scheme received the highest total 15 out of 20 points from the matrix design/program evaluation. In comparison to the other two options (Tower 11 pts and Campus 9 pts) the mass scheme was more successful in the areas of contexturalism, critical mass, active street edges, security, and physical connections to the community. The tower concept was clearly stronger than the campus option in the program/development analysis. The intention of the design analysis was to compare the design options to the case study guidelines to select the best option for development on the Blair site. In the following section is a full description of the selected building, urban design, architecture, and building program composition.

MASS CONCEPT: BUILDING DESCRIPTION

Urban Design Concept

The urban design concept is to develop one building with three separate parts to decrease the overall building scale and visual image along Washington Street. Each part has its own visual and functional identity simulating the multiple rhythms of buildings in the Dudley area. The building is both a focal point and a destination center. The clock tower or marque acts as a beacon to pedestrian or motorists coming down Washington Street from

Urban Design



Parti

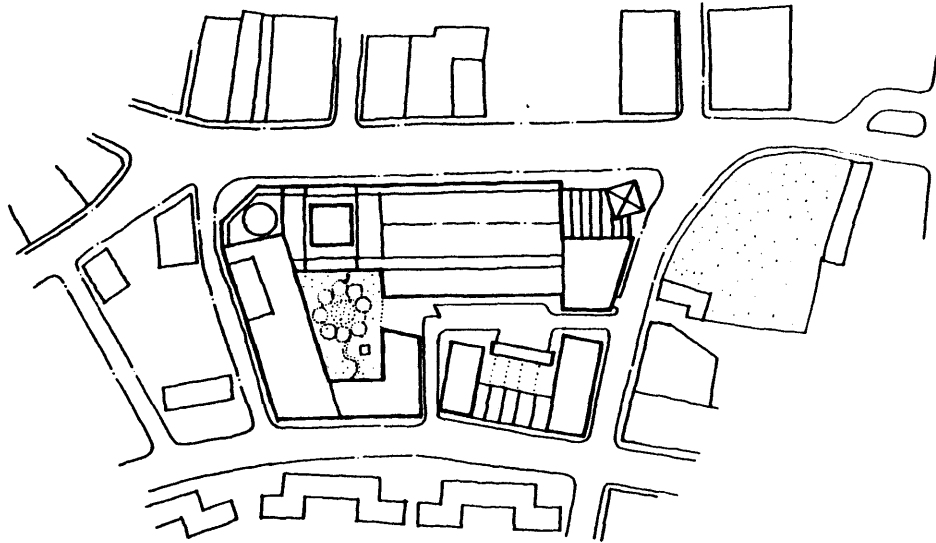


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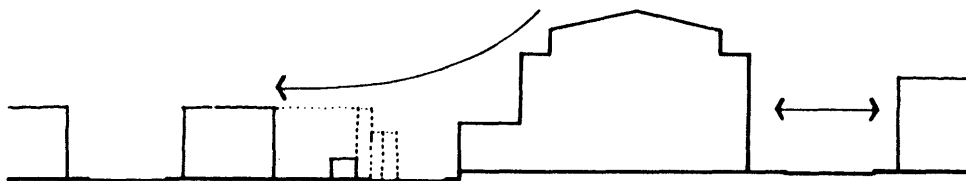


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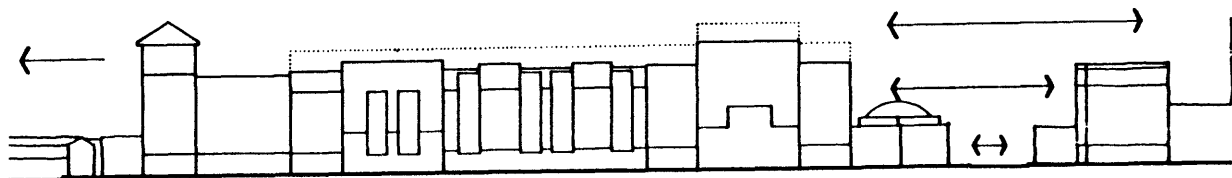
Figure Ground



Site Plan



Massing



Massing

downtown Boston. The Cultural Center and building lobby act as a destination point for both office workers and neighborhood residents. The building has active exterior edges and an active 24 hour indoor public space. Building uses are intended to link the development to the neighborhood, for example: housing is located on Harrison Street to link the development to Orchard Park, and retail use is located on Washington Street to join the development to the Dudley commercial district.

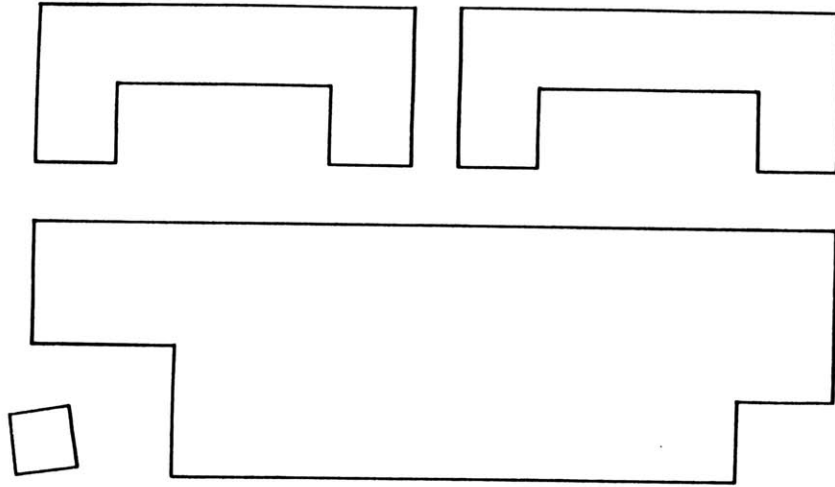
Architecture Concept

Architecturally the building reflects the different rhythms and building elements (bay windows, oriels, and building materials) of Dudley. While the building is contextually orientated through focal point elements at the building entries and modulating the different facade elements the building obtains its own architectural identity. The interior spaces are centered around the atrium spaces and the building cores which directly connect to the parking garage and building entries to provide adequate safety to employees and visitors. The interior buildings circulation connects the two elevator cores and ends at the atrium spaces for orientation. The Training/Day Care Center interior spaces and circulation system are centered around a courtyard.

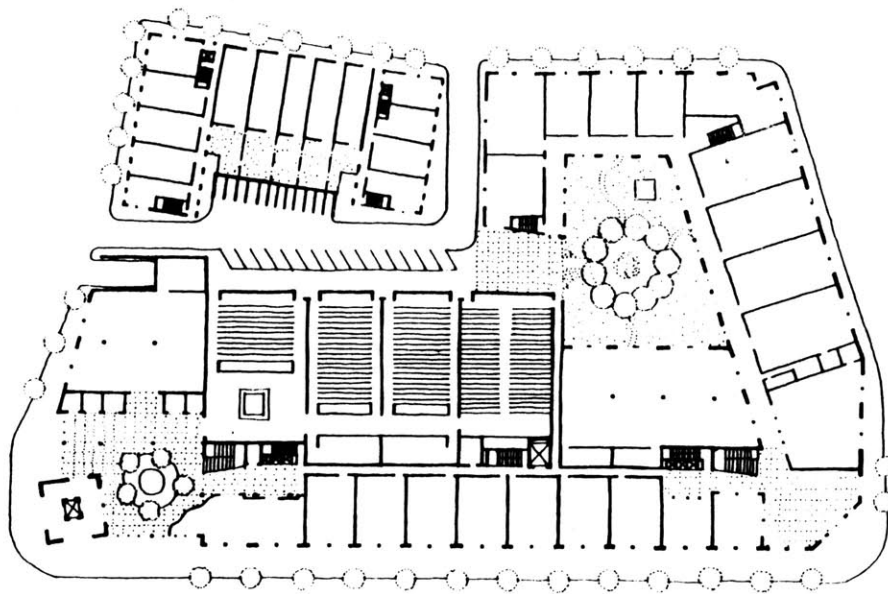
Program Concept

The major concept behind the program was to create an active 24 hour cultural and civic center in Dudley. To achieve this goal the program had to encompass cultural uses (theater, museum, library, art school and offices, nightclub), civic uses (headquarters for an major city agency and back office space for city agencies), and community uses (training center, parking, and retail spaces). Security issues played a major role in shaping the program concept of a 24 hour center and the type of uses located in the building,

Architecture



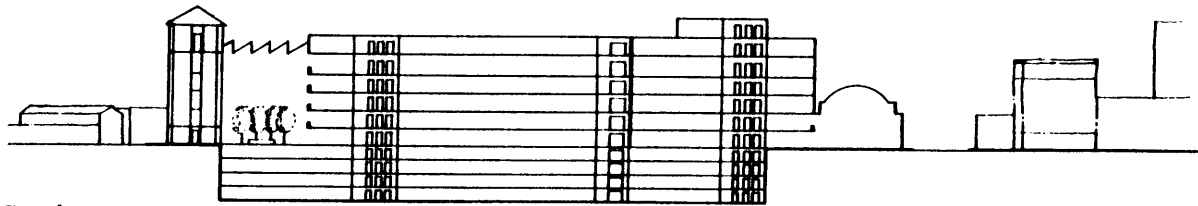
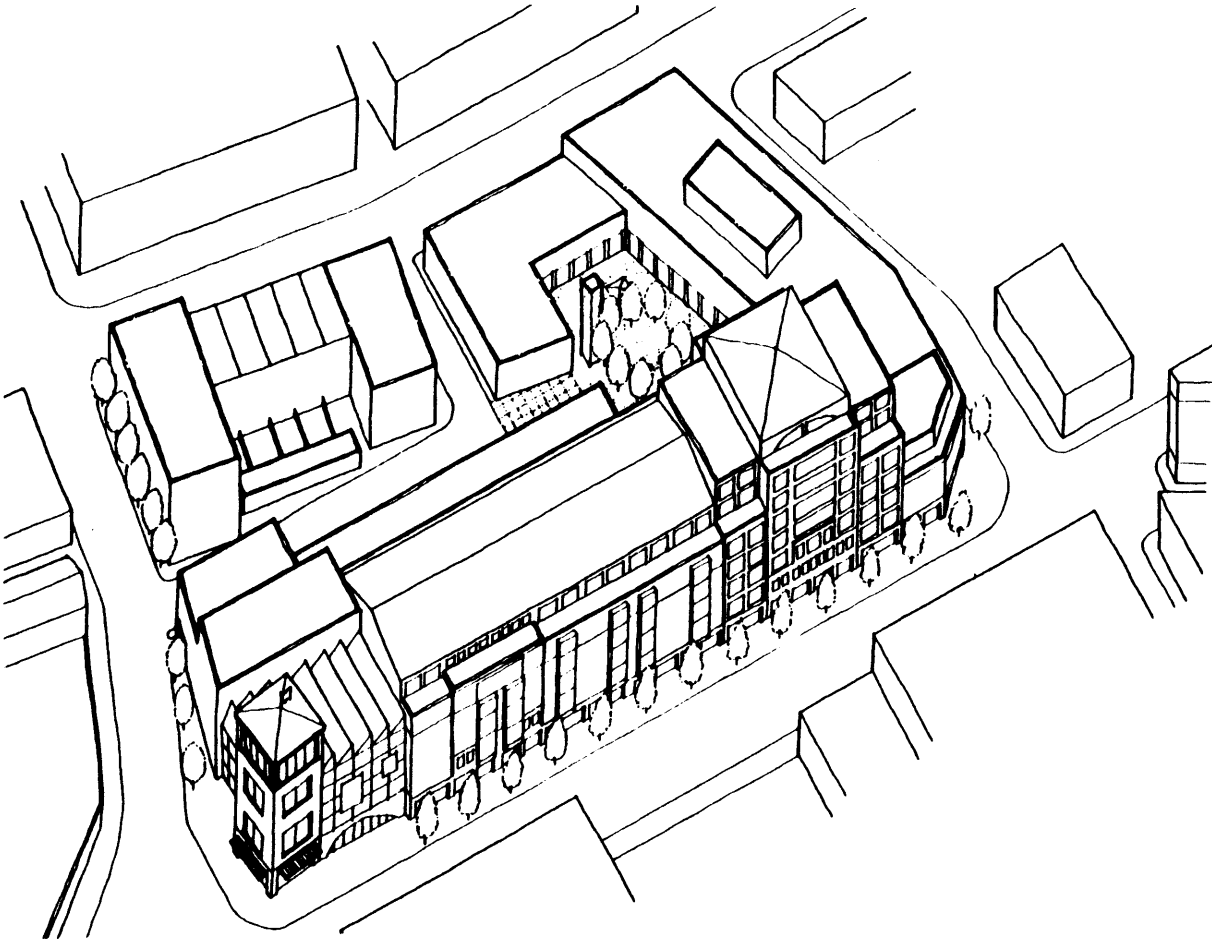
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Plan



Elevation



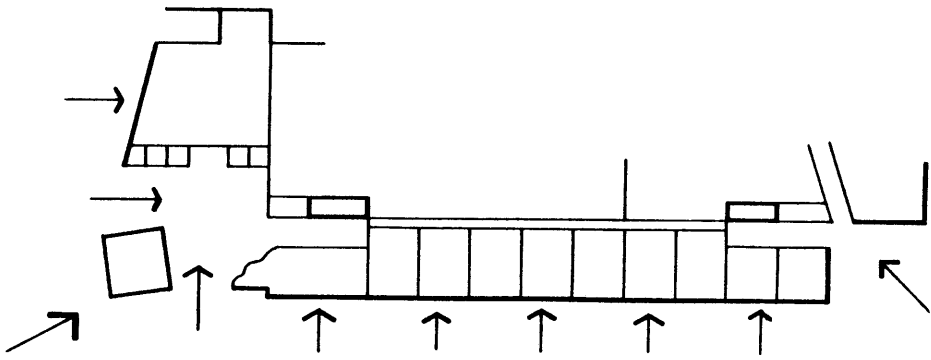
Section

especially the parking garage. The museum and the Library/Art School were intended to complement the development of the Roxbury Heritage Park at the old Eliot Graveyard site as a daytime cultural use. The four multi-complex theater, restaurant, and nightclub were intended to provide evening activity.

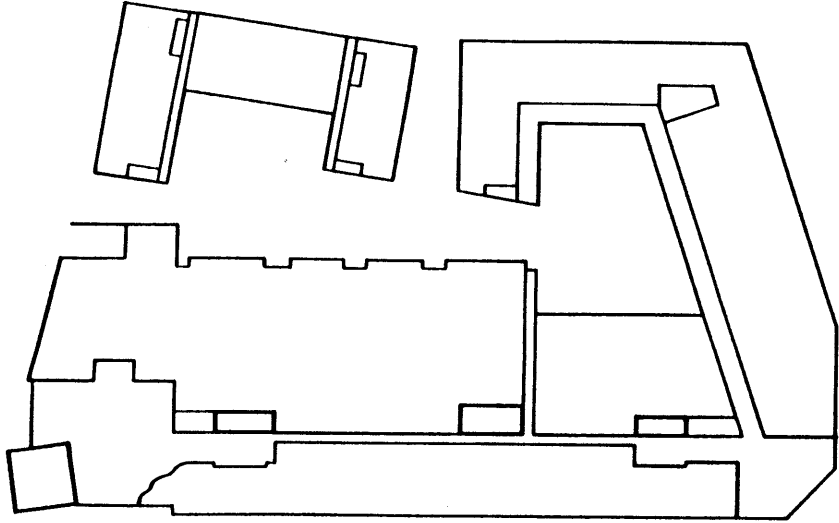
CONCLUSION

The idea was to create an active Cultural and Civic center that served the community and also physically and visually fit in the neighborhood context, and architecturally, defined a strong image as to spur the physical revitalization of storefronts and buildings in the area. To achieve this objective, case study research from three public buildings was used to develop both the design and program concepts and to also measure their success. Three design concepts (tower, campus, and mass) were tested for design feasibility. The mass concept was selected because it successfully fulfills the overall design and economic development criteria. The next step is to evaluate its economic development feasibility impact. The major question to be analyzed in chapter 5, can a public building be a catalyst economically ?

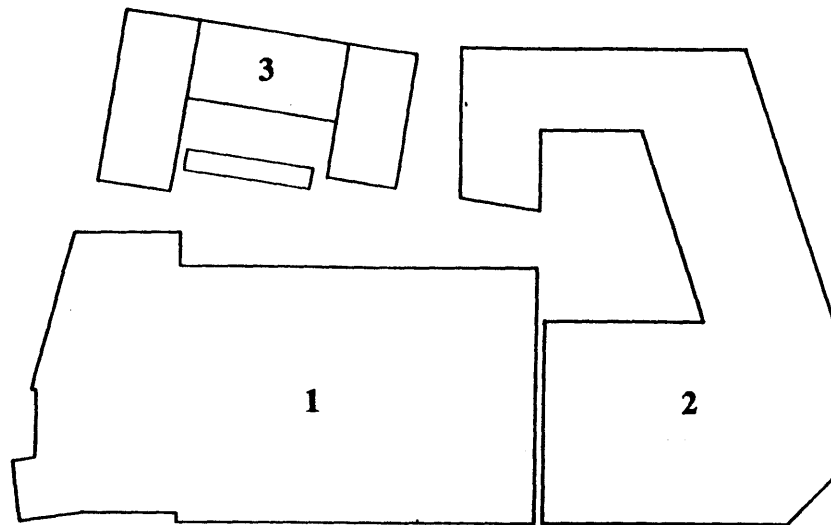
Program



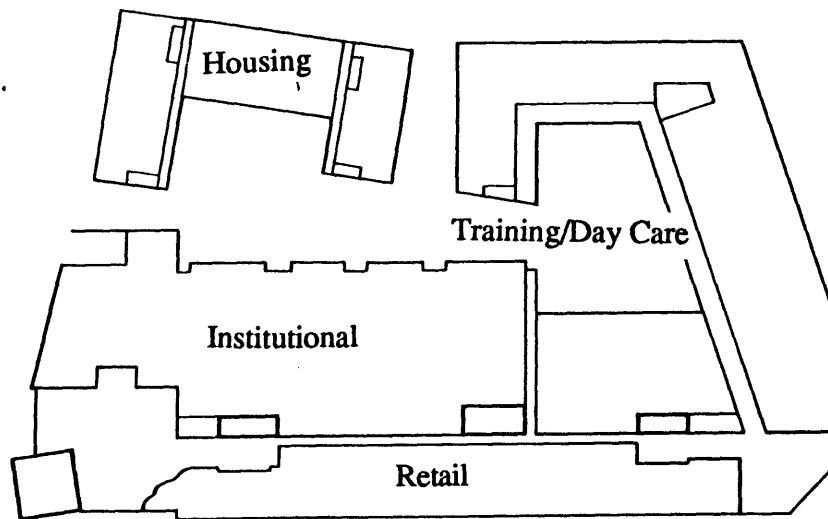
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Building Circulation



Phase Development



Building Use

Chapter Five

PROJECT FINANCING AND ECONOMIC IMPACTS

INTRODUCTION

In this chapter the financial feasibility and the economic impact of Mandela Civic and Cultural Art Exchange Center are tested. The purpose is to determine if a public building can revitalize existing businesses and attract new businesses to the economically depressed Dudley Square area.

To achieve this objective the various design options (mass, campus, and tower design option) from the previous chapter are test for financial and economic development feasibility through computers models. The goal being to select the project which generates the most public benefit funds to support economic development, creates jobs for local residents, and spins-off the most off site development while being economically feasible to the developer. The information derive from this chapter are use to formulate recommendations on the best methods for capitalizing on the potentials of the Blair site.

FINANCING

Several options are explored in structuring the project cost, the deal, and the participants responsibility. Most centered around the structuring of a public/private partnership, which partner would rent or own several parts of the building. The proposed building contains over 430,000 sf of usable space, plus a 400 car parking garage. The entire project would be constructed at a cost of \$110 per square foot.

Project Cost

| | Units (GSF) | Cost |
|-----------------------------|-------------|--------------|
| Land Cost | | \$ 500,000 |
| Hard Cost | | |
| Shell/Core | \$100 | \$30,500,000 |
| Training/Day Care Rehab. | \$ 45 | \$ 4,000,000 |
| Site Improvements | \$ 5 | \$ 600,000 |
| Office Improvements | \$ 10 | \$ 3,500,000 |
| Retail Improvements | \$ 8 | \$ 150,000 |
| Theater Improvements | \$ 10 | \$ 350,000 |
| Parking Garage | \$ 40 | \$ 5,600,000 |
| Total | | \$50,000,000 |
| Soft Cost | | \$ 9,000,000 |
| Total Development Cost | | \$59,000,000 |
| | | \$110 per sf |

The 114,000 sf site owned by the city (BRA) would cost an estimated \$500,000 to acquire, but could be contributed in the final deal as equity and leased to the developer. The 400 car underground parking garage could also be contributed as equity participation. The responsibilities of the city (BRA) and the Developers (General and Limited Minority Partners) are discussed in the two deal options below.

Deal Structure

A mass design is used as the model for structuring the two financial options. The financial options are (1) developer builds the building and the city lease office space, and (2) the city builds the building and the developer lease the retail and parking component.

Deal 1

In this scenario the development team builds the entire 430,000 sf center at a cost of \$59 million dollars. The city contributes the cost of the land and parking garage as equity participation in the deal. The parking garage is financed through city bonds at 9% for 30 years. The city also agrees to rent 90% of the office space for 15 years and pay for tenant improvements for office space. In return the city receives below market rate rents (\$17 SF), plus 75% of the parking revenues and a percentage of the project cash flows (5%). The Limited Partners (minority partners) receives 30% of the total cash flows for their equity participation. The General Partner in return for his equity receives the remaining cash flows and 70% gain on sale.

Deal 1 (DEVELOPER BUILDS PROJECT)

| | City (000) | Developer (000) |
|----------------------------|---------------|--------------------|
| TDC | \$ 5,600 | \$59,000 |
| Subsidy | | \$ 5,600 |
| Equity | \$ 1,200 | \$10,500 |
| BTCF | \$ 144 | \$ 1,700 |
| Cash on Cash | 9.5% | 15.0% |
| Value at Sale (5 years) | \$ 3,500 | \$26,000 |
| IRR | 24% | 32% |
| NPV @15% | \$ 633 | \$ 6,200 |
| Land Value | | \$19,000 |

Deal 2

In this scenario the city builds the 430,000 sf center. The developer rents and manages the retail, theater and parking garage, plus contributes in equity participation. The minority

partner receives 30% of total cash flows from operations. The city receives free rent, collects 75% of the parking revenues, and a percentage of the developers cash flow from operation.

The most favorable deal is the one that: (1) leverages the most equity from the developer compared to the city's total investment; (2) sufficient for the developer to finance; (3) produces a sufficient amount of cash flow and return for all participants; and (4) generates access cash flows for the city, which could be channelled back into the project or into the community as linkage funds.

DEAL 2 (CITY BUILDS PROJECT)

| | City (000) | Developer (000) |
|----------------------------|---------------|--------------------|
| TDC | \$59,000 | \$ 6,000 |
| Subsidy | 0 | 0 |
| Equity | \$12,000 | \$ 1,200 |
| BTCF | \$ 1,200 | \$ 106 |
| Cash on Cash | 10.2% | 9% |
| Value at Sale (5 years) | \$17,500 | \$ 3,000 |
| IRR | 22% | 30% |
| NPV @15% | \$ 3,200 | \$ 830 |
| Land Value | \$10,000 | |

Recommended Deal

The financial model shows that Deal One provides the best structure to develop the center. The city is not capable of developing a building; moreover, the funding of \$59 million dollars of tax-payers money required in deal two would be a sensitive political issue which no politician would risk supporting. Deal One leverages more developer equity compared to city dollars. Deal Two would require the city to invest \$13 million dollars in

equity compare to \$5.6 million in Deal One. Higher returns and less risk are the benefits of Deal One for the city.

In Deal Two, the developer would experience less financial risk but receive lower returns on his investment. Also managing a retail component in a depress market, such as Dudley, would be a greater risk than owning a building with an anchor tenant, the city. Another option to further pursue is to construct the buildings in phases to lower project cost and equity participation.

FINANCIAL FEASIBILITY

This section examines the financial feasibility of the three design options (Tower, Campus, and Mass). The options are inserted into a computer model from previous section called Deal One. The objective is to determine which option: produces the highest cash flow; yields the greatest return on sale; and supports the largest square footage of cultural and community uses without affecting profitability. A matrix was developed to evaluate the success of the options.

Financial Matrix Evaluation

| | Options | | |
|--|---------|--------|------|
| | Tower | Campus | Mass |
| Developer: Developer Equity (+ less) | | x | |
| Developer BTCP Developer Return (Cash on Cash) | | | x |
| IRR NPV @15% Gain on Sale | | x | x |
| Total | 1 | 2 | 3 |

| City: | Tower | Campus | Mass |
|------------------|-------|--------|------|
| % of Leverage \$ | x | | |
| City BTCF | | | x |
| Return | | | x |
| (Cash on Cash) | | | |
| IRR | | x | |
| NPV @15% | | | x |
| Gain on Sale | x | | |
| | 2 | 1 | 3 |
| Total | 3 | 3 | 6 |

Developer Benefits

The mass option provides the most financial benefits to the developer. Adequate cash flows and the financial returns from this option offset the developer risk and equity investment. The variation in project cost and equity is due to the amount of square footage built, for example the mass option contains 100,000 square feet but contains more office space and cultural uses compare to the campus options. The tower option, cost \$ 17 million dollars more compare to the other options because of its height and critical mass.

Developer Benefits

| | Tower (000) | Campus (000) | Mass (000) |
|--------------|----------------|-----------------|---------------|
| Cost PSF | \$132.00 | \$122.00 | \$122.00 |
| Equity | \$15,000 | \$ 7,500 | \$10,500 |
| Total Cost | \$77,000 | \$43,000 | \$59,000 |
| BTCF | \$ 1,400 | \$ 1,100 | \$ 1,700 |
| Cash on Cas | 11% | 13% | 15.0% |
| IRR | 26% | 30% | 32.0% |
| NPV @15% | \$ 4,900 | \$ 4,600 | \$ 6,000 |
| Gain on Sale | \$28,000 | \$19,000 | \$26,000 |

The mass option generates a larger cash on cash return and a substantial return on sale compare to the \$10.5 million in equity; and generates a larger Net Present Value and a Internal Rate of Return versus the previous three options. The mass option also scored the highest rating in the financial matrix evaluation.

Investors, such as minority limited partners, are included in the three options to offset large equity payments by the general partner; to attract private investment; and to show neighborhood commitment to the project. Adequate returns and cash flow are necessary to attract both private and minority investors.

For example, if we were to take 11% (existing prime rate today) and a debt coverage ratio of 1.2 as a bench mark for acceptance, the campus and tower options may not be financially feasible and would fail to attract any investors or banks because of a low return on investment. Also a high return between 15 to 25 percent would be necessary to attract large investors, such as pension funds and insurance companies, because of Dudley's negative image. Banks may also require a higher debt coverage ratio beyond the normal rate of 1.2 because of market conditions in Dudley.

Investment Analysis

| Option | Total SF | Return (Cash on Cash) | Debt Coverage (Ratio) |
|--------|------------|--------------------------|--------------------------|
| Campus | 321,000 sf | 13.0% | 1.3 |
| Mass | 441,000 sf | 15.0% | 1.4 |
| Tower | 530,000 sf | 11.0% | 1.2 |

City & Community Benefits

The mass option was also superior because it was able to support cultural facilities without seriously affecting the development's financial feasibility. A total of 26,000 square

feet for cultural uses would be made available rent-free by the developer. The community benefits from the additional square footage of cultural usages: the 6,000 sf of museum space: 20,000 of Library/art office: plus the 34,000 sf movie theater for profit, without damaging the financial viability of the project. This option also had a high ratio of cultural uses versus public benefits and a good leverage ratio. The high leverage ratio may also be a cause behind the low financial feasibility of the Tower option.

City Benefits

| | Tower (000) | Campus (000) | Mass (000) |
|-------------------|----------------|-----------------|---------------|
| GSF/Cultural Uses | 65 | 45 | 60 |
| Public Benefits | \$3,100 | \$1,500 | \$2,400 |
| Ratio | 1:2 | 1:3 | 1:3 |
| City Equity | \$6,100 | \$6,100 | \$6,100 |
| Leverage \$ | \$18,000 | \$9,000 | \$13,000 |
| Ratio | 3:1 | 1:1.5 | 1:2.1 |

Revenues from City Parking Garage

| | |
|----------------------------------|-------------------------------|
| Cost | \$5,600,000 |
| Equity | \$1,500,000 |
| BTCF (Community Loan Fund) | \$ 145,000 (average per year) |
| Cash on Cash | 9.5% |
| IRR | 24% |
| Net Gain on Sale (after 5yrs) | \$3,500,000 |

The benefit from the parking garage (BTCF) is a fund to support community businesses. This fund, the Dudley Revolving Low Interest Loan Fund, would be generated from access profits generated by the city parking revenues for an estimated benefit of between \$40,000 in second year and \$ 500,000 in year 5. The profits are placed in a local loan fund for shop improvements or business start-up for businesses in the Dudley area.

Minority Partners Benefits

The community also benefits by the inclusion of minority investors as limited partners in sharing the direct profits from the development. Minority developers receive thirty percent of the developer cash flow while contributing equity into the partnership.

| | Minority Developer Benefits | | |
|--------------|-----------------------------|----------|----------|
| | Tower | Campus | Mass |
| | (000) | (000) | (000) |
| Equity | \$ 4,200 | \$ 2,100 | \$ 3,000 |
| BTCF | \$ 480 | \$ 350 | \$ 525 |
| Cash on Cash | 11.5% | 16 % | 17% |
| IRR | 24% | 30 % | 37% |
| NPV @15% | \$ 1,450 | \$ 1,500 | \$ 3,300 |

The mass option, generates greater cash flows and returns versus equity. The minority investor also receives 30 percent of the development sale proceeds when sold. This option, compare to the two other schemes, produces a greater return on sales and internal rate of return. Moreover, this revenue stays in the area to fund other development in the community. This setup is similar to the Parcel 18 financing package where minorities are included as partners.

Conclusion

The financial feasibility of three options (Tower, Campus, and Mass) was examined and the mass option proved to be the most feasible. The combination of critical mass, cultural

uses, and equity participation is the reason for the success of this option. The success of this option also proves that there is potential for development in Dudley Square.

ECONOMIC IMPACT

This section examines the impact of the development on the economy; employment rate; and existing retail and office businesses in the Dudley Station area. The examination is critical because it measures the capability of the new development to revitalize the area. Questions this section will answer is how many jobs does this development produce and how many are held by local residents and presently unemployed individuals ? How many jobs are created and how many jobs should be allocated to residents ?

Recommendations

Three options (Tower, Campus, Mass) were inserted into an impact assessment computer model for analysis.¹ Two levels of impact were generated from the analysis (1) low impact which is the campus option (500 to 1500 jobs created), and (2) high impact produced by the tower and mass options (2000 to 3000). The amount of developed square footage plays a significant role in the amount of square footage of spin-off development that is produced. The Tower option, the largest scheme, clearly produced the greatest numbers of jobs. This option produces 1705 jobs held by residents in the community and attracted 300 new participants and 292 former unemployed residents.

| Option | GSF | Resident Jobs | Attracted Jobs | Total Jobs |
|--------|---------|------------------|-------------------|---------------|
| Campus | 315,000 | 847 | 500 | 1747 |
| Mass | 441,000 | 1544 | 680 | 2343 |
| Tower | 530,000 | 1705 | 800 | 3005 |

This analysis allows the prediction of an option's impact upon the local economy.

Assuming that the average employment wage is \$30,000 a year and that the Tower option would create 1705 resident held jobs. The potential market created is \$25 million dollar, based on a capture rate of 40%. 2

Retail Demand

Assumptions:

Roxbury Resident Jobs
 Income \$30,000
 Sales PSF \$150
 Capture Ratio 40%

| Options Power | Resident | Earning (\$) (000) | Ratio | Dudley (GSF) (000) | Created |
|------------------|----------|--------------------------|-------|--------------------------|---------|
| Campus | 847 | \$25,500 | 40% | \$10,000 | 68,000 |
| Mass | 1205 | \$36,000 | 40% | \$14,500 | 96,500 |
| Tower | 1544 | \$46,000 | 40% | \$18,500 | 123,500 |

Retail Impact

| Option | Existing Retail | Vacant Retail | Remaining Retail | Vacancy Rate |
|-----------------------|--------------------|------------------|---------------------|-----------------|
| Campus | 432,000 | 169,000 | 121,600 | 28% |
| Mass | 435,000 | 169,000 | 101,570 | 23% |
| Tower | 435,000 | 169,000 | 82,536 | 19% |
| Existing Vacancy Rate | | | | 39% |

The economic impact of either a mass or tower option could reduce retail vacancy rates in Dudley from 39 to 20%. The remaining 90,000 sf of vacant retail space could be absorbed over time by the market, or targeted for alternative uses, such as incubator space for light industry. The new demand for retail goods should be met by expanding commercial businesses and start-up retail businesses. Money from the Dudley Revolving Low Interest Loan Fund would finance start-up cost, construction, and expansion costs. The campus option had insufficient impact to cause a noticeable change.

The model also examines the impact on existing office space in Dudley which currently has a 70% vacancy rate. If the Mass option produces 620 growth supported jobs off site, the potential exists to calculate off site office space demand. Estimating that 70% of this job growth is for office related uses, at 400 sf/ employee. An office demand for 173,000 sf. is generated. 3

Office Occupancy

| Option | Jobs added | SF Created | Vacant Office | Remaining Vacancy | Vacancy Rate |
|--------------------------------------|------------|------------|---------------|-------------------|--------------|
| Campus | 500 | 140,000 | 290,500 | 150,500 | 36% |
| Mass | 620 | 173,000 | 290,500 | 116,900 | 28% |
| Tower | 800 | 224,000 | 290,500 | 67,000 | 16% |
| Current Existing Office Vacancy Rate | | | | | 70% |

Dudley, has 290,500 sf of abandon office space located mostly on the upper floors of buildings. The 173,000 sf of office demand need created by the mass option could absorb 60% of this abandon space, leaving 116,000 sf of vacant space and decreasing the vacancy rate from 70% to 28%. This calculation was supported from analysis of the Roxbury Civic Center case study which predicted that off site office demand would be 198,500 sf for this particular size of development.

Analysis of Case Study Spin-off Development

| | GSF Built | Spin Off (GSF) | Ratio Factor |
|---------|-----------|----------------|--------------|
| Roxbury | 205,000 | 93,000 | 0.45 |
| Harlem | 200,000 | 750,000 | 3.75 |
| Boston | 525,000 | 2,000,000 | 3.81 |

Options:

| | | |
|--------|--------------|---------|
| Campus | 321,000(.45) | 144,500 |
| Mass | 441,000 | 198,500 |
| Tower | 530,000 | 240,500 |

The impacts of Parcel 18 development were not included in this calculation. It was assume that lower rental rates and proximity to the site in the Dudley area would make it a strong candidate for this office demand. Plus the lower rents would be a good incentive for incubator businesses.

CONCLUSION

A Public Building in Dudley Square is financially feasible and could revitalize the local economy by creating a demand for new business and creating a loan fund to support them. The analysis shows a positive impact upon the local economy and indicates a strong potential for new businesses which would revitalize the area. The increase in resident held jobs and decreasing vacancy rates in both office and retail space provide evidence that public buildings can be an economic catalyst. This result is in direct contradiction to the widely held view that in today's office market a development site in Dudley is not economically feasible because of a lack of market and the image of the area.

Chapter Six

RECOMMENDATIONS

INTRODUCTION

This chapter presents recommendations for the development of the Mandela Civic and Cultural Art Exchange Center and the redevelopment of the Dudley Square area. The project has been divided into the following target areas: physical design; program/landuse; economic development; and institutional development. The project is to be executed over a period of 15 years with immediate (0-5 years); short-term (5-10 years); and long term (10-15 years) goals. One institution, such as a Dudley Boston Redevelopment Authority branch or a Dudley Street Neighborhood Initiative, in cooperation with the community should monitor and coordinate development in Dudley.

PHYSICAL DESIGN

This section presents recommendations for improving the visual quality and physical environment of Dudley.

Immediate

- Develop a vision for Dudley through an Urban Design Plan for the area. The Mandela Civic and Cultural Art Exchange Center should be a catalyst for this plan and should act as a model for the area. The plan should encompass both short and long term goals for the area.

- Create a signage and storefront rehab program with design guidelines to improve the visual quality of Dudley, and to make Dudley more marketable to retail customers, investors, and tourist.
- Establish a technical design assistance program, such as Public Facilities Department, to assist Dudley merchants for signage and physical improvements.
- Implement a streetscape improvement plan with design guidelines to improve sidewalks, signage, lighting, and plant trees. A maintenance program in conjunction with a streetscape improvement is also needed.

Short Term

- The total rehab of Orchard Park. The integration of design elements, such as gable roofs, variety of building materials and colors, and landscape courtyards, should be used to improve the visual and social quality of Orchard Park.
- A visual or physical gateway, such as a building or a old station tower from the old Orange Line, should be placed near the intersection of Washington and the Crosstown Boulevard.
- Add and improve retail customer parking that fits the local character.
- In combination with the signage and storefront rehab program, develop guidelines and financial strategies for building facade improvements.

- Infrastructure improvements, such as roads, sewage, and lighting, need to be implemented without seriously affecting commercial businesses.

Long Term

- Development of a Light Rail Vehicles or an Electrified Bus system is critical to Dudley's long term success.

- The development of vacant lots, such as the Blair site, into productive commercial uses should be pursued.

- Develop a cultural district which would include, the Heritage Park System, Dudley Historical District, and the Mandela Civic and Cultural Art Exchange Center.

PROGRAM AND LAND USE

This section recommends ways at improving Dudley's retail uses, and land use. It suggest strategies on how to promote Dudley and to organize its collection of ethnic retail stores and businesses into an economic force.

Immediate:

- Develop more cultural uses in the area that are directly linked to the cultural center built on the Blair site. The Roxbury Heritage Park and local cultural festivals in Dudley could be elements of this plan.

- Initiate the development of a parking and transportation plan taking into consideration a 400 car parking garage on the Blair site, where 200 are for Dudley retail customers.

- With the pursuing development of the Blair site, there needs to be a decision made to zoning and height limits in the Dudley area. Establishing incentive zoning and an accelerated review process in Dudley to attract new development.

- Undertake a local and city wide landuse and zoning study, in combination with the urban design plan, to target specific building uses, such as back offices, bio-tech space, or government services for the Dudley area.

Short Term

- Develop retail stores along Washington and Warren Street into a cultural bazaar with sidewalk street vendors.

- Develop a marketing strategy to promote Dudley's rebirth and improved image. This effort should be pursued In combination with the development a cultural center on the Blair site.

- Abandon lots and vacant parcel should be taken by eminent domain and stored in a land trust to be targeted for new development.

Long Term:

- Rehabilitation of older office buildings should be targeted for spin-off development from the Blair site development.
- Remaining abandon upper floors should be developed for artist/ living lofts.
- Housing should be developed at the edges of the Dudley business district (Shawmut and Harrison Streets or the Crosstown Boulevard), to link the district to the residential neighborhoods.
- The corner of Washington and the Crosstown Blvd. should be targeted as a major gateway development zone and should be linked programmatically and visually to the development of the Blair site.

Economic Development and Financing

This section explores the financing and economic development issues related to the Mandela Civic and Cultural Art Exchange Center.

Immediate

- Initiate business retention effort and support tools, such as providing technical assistance (PFID) for retail businesses in the Dudley.
- Establish a low interest revolving loan fund for Dudley area businesses and initiate the establishment of a Chambers of Commerce to manage the fund.

- Establish a Special Economic Zone (CARD) to help finance the development of Renaissance Center and to assist incubator businesses in Dudley. (SBA loans, and other loan funds)

- Undertake a market study of Dudley and the surrounding areas to determine retail and office needs which the Blair site development may fill.

Short Term

- Establish a full service job training/day care center on site or in the Dudley area to train local residents for new jobs opening in Parcel 18, Third Harbor Tunnel/Center Artery, Boston Harbor, or the Blair site development.

- Initiate that 50% of all jobs in the Blair site development should be held by local residents in the Roxbury, Dorchester, Mattapan, Hyde Park, and Jamaica Plain.

- 30% of all construction jobs in the Blair site development should be allocated to minority contractors.

- 30% minority equity participation or minority partnership in the development of the housing, cultural, human services, and building management component for the Blair site development.

- Establish a retail and office incubator program for the Dudley area managed and operated by the Chamber of Commerce on a non-profit basis.

Long Term

- All excess city profits after debt service and linkage funds from Blair site development or Parcel 18 should be deposit in a low interest revolving loan fund for business, housing, and job training/day care.
- 1% tax assessment on merchant property to go into a low interest loan and streetscape maintenance fund.
- 1% tourism tax targeted at cultural uses and tourist merchandise if fully developed.

POLITICAL

The essential major problem blocking commercial development in Boston's minority communities is the lack of political influence. This section recommends solutions at reaching a political consensus between the 10 different government agencies involved in the development of the Dudley area. The solutions lays in the communications between the different agencies and the coordination of all development by one agency with some vested authority. For example, Harlem has the Harlem Urban Development Corporation which performs similar objectives and understands the needs of the community.

Immediate

- BRA should buy out the existing landowners at the Blair site for the development of the Mandela Civic and Cultural Art Exchange Center.

- BRA should contribute this land, assessed at \$500,000 toward equity participation and lease back to the developer.

- BRA should search for adequate city agencies to locate on the Blair site. Issue a competition to city agencies to locate, offer benefits to employees.

- Locate potential developers to bid on the project, issue RFP.

- PFD and Dudley Merchants should develop a technical assistance program.

- Formation of the Design Review Planning Task Force to develop a future plan for Dudley.

Short Term:

- Real Property should issue bonds for the financing of the parking garage.

- BRA, PFD, and EOCD should help find alternative funds to support the development through bonds, grants, and low interest loan from state agencies.

- MBTA should decide what type of replacement service for Washington Street and fully fund it.

- DPW and the Boston Transportation Office should begin infrastructure improvements to ease traffic congestion in the Dudley area.

- State should provide funding for the Roxbury Heritage Park to begin Dudley revival as a cultural and tourist center.

- BHA should fund the modernization and beautification of Orchard Park Projects.

Long Term

- BRA and PFD assistance in developing incubator office and retail district in Dudley.

- Cooperation between the several city agencies and the community in developing a plan for the Crosstown Blvd..

CONCLUSION

This thesis explored the design, feasibility, and impact of developing a new public building in the Dudley Square area. My intention was to see if this building type could become a catalyst for urban revitalization by creating jobs and new business opportunities for minority residents; improving both the physical and visual environment; and increasing community pride and confidence. The results of this research indicated that a public building may be a solution to Dudley depressed economic state. The program, design, financial, and impact analyses contained in chapters four and five support this conclusion.

The development would serve the essential needs of the community by providing missing ethnic and cultural uses. These uses would attract thousands of people from Boston's minority communities and tourists by offering events and ethnic foods and merchandise. This would stimulate the creation of new jobs for local residents and new minority businesses. The development of cultural uses in combination with the Heritage Park system would attract tourism dollars.

The addition of a training/day care center to the program will also have a positive effect. This facility would train an unskilled population to be productive and to share in the new jobs coming to the Boston region. Increased employment would simultaneously stimulate the local economy in retail purchases, and decrease crime in the area. The development of the Blair site is the essential piece that starts the development and provides the following dividends: (1) jobs to local residents, (2) funding for other facilities, such as the cultural and job center, and (3) spin-off economic development.

The building design visually simulates a positive experience by filling in vacant lots, such as the Blair site with productive uses, and by providing an example of good design that may influence storefront and streetscape improvements. In the end the development of the Blair site may be a catalyst in the formation of a development plan for the improvement of the entire area.

The financial success of this proposal may result in ultimately establishing investor confidence in the area after 40 years of economic decline. This new investor confidence will attract new businesses and generate more resident jobs. Direct profits from the city's participation (estimated at \$145,000 a year after year five) as well as linkage funds would finance the development of incubator retail and offices.

The results from the economic impact analysis indicate that there would be a large percentage of jobs held by local residents (50%) and this would include a significant number of new participants in the labor force (teenagers and homeless); and that off site development would lower the vacancy rates for both office and retail space by attracting other businesses associated with the center. This may create a demand for cheap incubator businesses in the area, such as printing, graphic arts, computer and maintenance service, and retail establishments.

The location of a public building in the economically depressed Dudley Square would improve the neighborhood. The Mandela Civic and Art Exchange Center in Dudley Square would improve the area economically, socially, visually and transform Dudley into a cultural center.

FOOTNOTES

Chapter One

- 1 Maurico Gaston and Marie Kennedy, *Blueprint For Tomorrow*, Page 7.
- 2 Sam Bass Warmer, *Streetcar Suburbs*, Page 40.
- 3 *Washington Street: The Architecture of Promise and Neglect*, by MIT Laboratory of Architecture and Planning, Page 40.
- 4 Sam Bass Warmer, *Streetcar Suburbs*, Page 98.
- 5 *Eustis Street Area District Study*, by Boston Landmarks Commission, Page 31.
- 6 Sam Bass Warmer, *Streetcar Suburbs*, page 98.
- 7 *Dudley in 2001, Roxbury Action Program*, Page 9.

Chapter Two:

- 1 Interview with Harlem State Office Employees.
- 2 Interview with Phillip Morrow, Director of Harlem Urban Development Corporation.
- 3 Calculation of New Construction and Rehab, HUDC.
- 4 Interview with Phillip Morrow at HUDC.
- 5 Mark Schuster, *The Arts and Urban Development*, Page 17-19.
- 6 Interview with Paul McDonald at Massport
- 7 Interview with Lee Smith at Goody Clancy Architects
- 8 Interview with Boylston Properties
- 9 Interview with Tunney Lee, MIT DUSP
- 10 Ed Logue, *Seven Years of Progress*, BRA, Page 20-23
- 11 Interview with Roxbury residents and facility users
- 12 Calculations of new construction and rehab since 1972, BRA

- 13 Interview with Hardy Dasko, Planning Director for New York City Public Development Corporation
- 14 Calculations from the Harlem State Office Building and Transportation Building
- 15 Calculation from new construction and rehab in Dudley BRA
- 16 Halcyon LTD. Transportation Building Study 1981, Page 30

Chapter Three:

- 1 BRA 1987, Roxbury Report, Page 7
- 2 Replacement/Transit Improvement Study, MBTA, Page 22
- 3 BRA Roxbury IPOD, Page 23
- 4 Dudley in 2001, Roxbury Action Program, Page 40
- 5 Meeting with the Dudley Station Task Force and Dudley Merchants Association

Chapter Four:

- 1 Urban Land Institute, Dollars and Cents 1987, Page 50 and Thesis market study analysis, Harold Raymond
- 2 BRA, Public Safety Center 1989

Chapter Five

- 1 Professor Phill Herr, MIT Impact Assessment Computer Model
- 2 Transportation Building Study, Halcyon LTD, 1981, Page 4A
- 3 Interview with Professor Phill Herr

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APPENDIX

DEVELOPER BUILDS: (MANDELA CIVIC CULTURAL ART EXCHANGE CENTER)

ASSUMPTIONS

Developer Builds:
 Theater
 Retail
 Parking Garage
 Office Building
 Training/Day Care Center

City Rents:
 Office Space
 (30 yrs at \$17 psf)

Social Service Agency Rents:
 Training/Day Care Center
 (30 yrs at \$15 psf)

DEVELOPER
 Receives all cash flows and sale profits
 after partners shares are deducted.

PARTNERS
 Minority Developer (Limited Partner)
 Receives 30% of Cash Flow & Sale Profits

CITY
 Receives 75% of the revenue from
 parking garage, plus a percentage of the
 project cash flows for a ground lease.

BUILDING PROGRAM

| | Gross sf | |
|-----------------------|----------------|------------|
| Office Space | 236,000 | |
| Theater | 34,000 | |
| Retail | 17,500 | |
| Training Center | 90,000 | |
| Housing | 0 | |
| Museum/Art School | 10,000 | |
| Public Space | 9,000 | |
| Total | 396,500 | |
| FAR | 3.48 | |
| Parking | 140000 | 400 Spaces |
| TOTAL BUILT SF | 536500 | |
| Site Area | 114000 | |

DEVELOPER BUILDS: (MANDELA CIVIC CULTURAL ART EXCHANGE CENTER)

=====

HARD COSTS

| | UNITS (GSF) | PER SF | % OF TDC | COST |
|-----------------------------|-------------|--------------|-------------|-------------------|
| Land | | | | 500,000 |
| Shell, Core, Common Areas | \$100 | 57.13 | 0.52 | 30,650,000 |
| Site Preparation | \$5 | 1.06 | 0.01 | 570,000 |
| Factory Bldg. Rehab | \$45 | 7.55 | 0.07 | 4,050,000 |
| Tenants Improvements | \$10 | 4.59 | 0.04 | 2,460,000 |
| Retail Tenant Improvements | \$8 | 0.26 | 0.00 | 140,000 |
| Theater Tenant Improvements | \$10 | 0.63 | 0.01 | 340,000 |
| Parking | \$40 | 10.44 | 0.09 | 5,600,000 |
| TOTAL | | 82.59 | 0.75 | 44,310,000 |

SOFT COSTS

| | % of HC | PER SF | % OF TDC | COST |
|--|------------|---------------|-------------|-------------------|
| Architectural/Engineering | 8.0% | 6.61 | 0.06 | 3,544,800 |
| Permits, Surveys, Tests | 1.5% | 1.24 | 0.01 | 664,650 |
| Legal and Accounting | 2.0% | 1.65 | 0.01 | 886,200 |
| Insurance | 1.0% | 0.83 | 0.01 | 443,100 |
| Advertising & Marketing | 1.0% | 0.83 | 0.01 | 443,100 |
| Leasing Comissions | 0.0% | 0.00 | 0.00 | 0 |
| Real Estate Taxes | 2.0% | 1.65 | 0.01 | 886,200 |
| Construction Mgt. Fee | 3.0% | 2.48 | 0.02 | 1,329,300 |
| Development Mgt. Fee | 0.0% | 0.00 | 0.00 | 0 |
| Construction Interest Fee | 1.0% | 0.83 | 0.01 | 443,100 |
| Construction Loan (24 months @ 11%) | | 3.87 | 0.03 | 2,076,521 |
| Long Term Financing Fee | 1.0% | 0.83 | 0.01 | 443,100 |
| Developer Overhead | | | | |
| Contingencies | 10.0% | 4.13 | 0.04 | 2,215,500 |
| Developer Fee | 4.0% | 4.47 | 0.03 | 1,772,400 |
| TOTAL | | 28.23 | 0.25 | 15,147,971 |
| TOTAL DEVELOPMENT COST | | 110.83 | | 59,457,971 |
| CITY SUBSIDY | | 10.44 | 0.09 | 5,600,000 |
| DEVELOPER COST | | | | 53,857,971 |
| PARTNERS EQUITY | | | | 3,000,000 |
| EQUITY | 20% | | | 7,771,594 |
| | | | | 43,086,377 |

DEVELOPER BUILDS: (MANDELA CIVIC CULTURAL ART EXCHANGE CENTER)

REVENUE SOURCES (Leases)

| | | |
|----------------------|----------|------------------|
| Retail | \$10 GSF | 175,000 |
| Parking | | 480,000 |
| Theater | \$20 GSF | 680,000 |
| City Office Space | \$17 GSF | 4,012,000 |
| Training Ctr. | \$15 GSF | 1,350,000 |
| Museum/Art School | \$6 GSF | 80,000 |
| Total | | 6,687,000 |
| OTHER INCOME | | |
| Mgt. Fee | 3.00% | 200,910 |
| VACANCY | | |
| Retail | 5.00% | 8,750 |
| City Office Space | 0 | 0 |
| Theater | 0.00% | 0 |
| TOTAL | | 8,750 |
| TOTAL REVENUE | | 6,889,160 |

OPERATING EXPENSES

| | | |
|-------------------|-------------------|----------------|
| Retail | \$5 GSF | 0 |
| Parking Lease | 75.00% | 360,000 |
| Theater | \$5 GSF | 170,000 |
| Offices | \$0 GSF | 0 |
| Training Center | \$0 GSF | 0 |
| Museum/Art School | \$5 GSF | 50,000 |
| Public Spaces | \$5 GSF | 45,000 |
| Parking | 16.00% of revenue | 76,800 |
| TOTAL | | 701,800 |

REAL ESTATE TAXES

| | | |
|-----------------------------|---|------------------|
| Parking | - | 1,395 |
| Retail | - | 3,826 |
| Theater | - | 5,420 |
| Offices | - | 0 |
| TOTAL | | 10,640 |
| TOTAL EXPENSIVES | | 691,160 |
| NET OPERATING INCOME | | 6,187,360 |

DEBT SERVICE

| | | |
|-----------------|--|-----------|
| (10 yrs. @ 10%) | | 4,438,626 |
| 43086377 | | |

TOTAL CASH FLOW BEFORE TAXES 1,748,734

PARTNERS SHARE 30% 524,620

CITY LEASE PAYMENT 5% 87,437

CASH ON CASH RETURN 14.63%

PROJECT VALUE (CAP 10%) 61,873,600

PROJECT COST 43,086,377

LAND VALUE 18,787,223

DEVELOPER BUILDS: (MANDELA CIVIC CULTURAL ART EXCHANGE CENTER)

PROJECT SUMMARY (DEVELOPER)

| | |
|--------------------------------------|------------|
| Total Project Cost | 59,457,971 |
| Construction Loan Amt. | 43,086,377 |
| Long Term Mortgage (10% @ 30 yrs) | 43,086,377 |
| Inflation 3% | 3.00% |

FUNDING

| | |
|-------------------|------------|
| Lender | 43,086,377 |
| City Sidsidy | 5,600,000 |
| Developer Funding | 7,771,594 |
| Partners | 3,000,000 |

Total 59,457,971

| GROSS POTENTIAL REVENUE | 1 | 2 | 3 | 4 | 5 |
|-------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Leases | 6,889,160 | 7,095,835 | 7,308,710 | 7,527,971 | 7,753,810 |
| GROSS OPERATING INCOME | | | | | |
| Operating Expensives | 701,800 | 722,854 | 744,540 | 766,876 | 789,882 |
| Taxes | 10,640 | 10,959 | 11,288 | 11,627 | 11,975 |
| Vacancy | 0 | 0 | 0 | 0 | 0 |
| Capitlal Reserve | 0 | 0 | 0 | 0 | 0 |
| NET OPERATING INCOME | 6,187,360 | 6,362,022 | 6,552,882 | 6,749,469 | 6,951,953 |
| DEBT SERVICE | 4,438,626 | 4,438,626 | 4,438,626 | 4,438,626 | 4,438,626 |
| BEFORE TAX CASH FLOW | 1,748,734 | 1,923,396 | 2,114,256 | 2,310,843 | 2,513,327 |
| PARTNERS SHARE | 524,620 | 540,359 | 556,570 | 573,267 | 590,465 |
| CITY LEASE PAYMENT | 87,437 | 87,437 | 87,437 | 87,437 | 87,437 |
| CASH ON CASH | 14.63% | 17.80% | 20.04% | 22.36% | 24.74% |
| DEBT COVERAGE RATIO | 1.39 | 1.43 | 1.48 | 1.52 | 1.57 |
| NET GAIN ON SALE | | | | | |
| CAPITALIZED VALUE 10.00% | 61,873,600 | 63,620,217 | 65,528,823 | 67,494,688 | 69,519,528 |
| NET GAIN ON SALE | 18,787,223 | 20,533,840 | 22,442,446 | 24,408,311 | 26,433,152 |
| IRR | | | | | 32.00% |
| NPV @15% | | | | | 6,187,622 |

DEVELOPER BUILDS: (MANDELA CIVIC CULTURAL ART EXCHANGE CENTER)

PROJECT SUMMARY (CITY/PARKING GARAGE)

| | | | | | | |
|---|--------|-------------|-----------|-----------|-----------|-----------|
| Total Project Cost | | 59,457,971 | | | | |
| Construction Loan Amt. | | 5,600,000 | | | | |
| Long Term Mortgage (10% @ 30 yrs) | | 0 | | | | |
| Inflation 3% | | | | | | |
| FUNDING | | | | | | |
| Bonds | | 5,600,000 | | | | |
| City Funding (Land) | | 1,500,000 | | | | |
| Developer Funding | | 0 | | | | |
| GROSS POTENTIAL REVENUE | | 1 | 2 | 3 | 4 | 5 |
| Leases | | | | | | |
| Parking Garage | 75.00% | 360,000 | 370,800 | 381,924 | 393,382 | 405,183 |
| Retail | \$0 | 0 | 0 | 0 | 0 | 0 |
| Theater | \$0 | 0 | 0 | 0 | 0 | 0 |
| Rent | \$22 | 5,192,000 | 5,347,760 | 5,508,193 | 5,673,439 | 5,843,642 |
| Taxes | | 0 | 0 | 0 | 0 | 0 |
| Total | | 5,552,000 | 5,718,560 | 5,890,117 | 6,066,820 | 6,248,825 |
| GROSS OPERATING INCOME | | | | | | |
| Operating Exp. | 5 | 1,180,000 | 1,215,400 | 1,251,862 | 1,289,418 | 1,328,100 |
| Rent | \$17 | 4,012,000 | 4,012,000 | 4,012,000 | 4,012,000 | 4,012,000 |
| Vacancy | | 0 | 0 | 0 | 0 | 0 |
| Capital Reserve | | 0 | 0 | 0 | 0 | 0 |
| NET OPERATING INCOME | | 360,000 | 491,160 | 626,255 | 765,402 | 908,725 |
| DEBT SERVICE (30yrs @ 9%) 5600000 | | 486,635 | 486,635 | 486,635 | 486,635 | 486,635 |
| BEFORE TAX CASH FLOW | | (126,635) | 4,525 | 139,620 | 278,767 | 422,090 |
| CASH ON CASH | | -8.44% | 0.30% | 9.31% | 18.58% | 28.14% |
| GAIN ON SALE | | | | | | |
| CAPITALIZED VALUE 10.00% | | 3,600,000 | 4,911,600 | 6,262,548 | 7,654,024 | 9,087,245 |
| NET GAIN ON SALE | | (2,000,000) | (688,400) | 662,548 | 2,054,024 | 3,487,245 |
| IRR | | | | | | 24.00% |
| NPV | | | | | | 633,200 |

DEVELOPER BUILDS: (MANDELA CIVIC CULTURAL ART EXCHANGE CENTER)
 =====

PROJECT SUMMARY (MINORITY DEVELOPER)

| | | 1 | 2 | 3 | 4 | 5 |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| EQUITY | 3,000,000 | | | | | |
| INCOME | | | | | | |
| Profit Share | 30.00% | 524,620 | 540,359 | 556,570 | 573,267 | 590,465 |
| BTCF | | 524,620 | 540,359 | 556,570 | 573,267 | 590,465 |
| RETURN | | 17.49% | 18.01% | 18.55% | 19.11% | 19.68% |
| GAIN ON SALE | | | | | | |
| CAPITALIZED VALUE 10.00% | | 5,246,202 | 5,403,588 | 5,565,696 | 5,732,667 | 5,904,647 |
| NET GAIN ON SALE | | 2,246,202 | 2,403,588 | 2,565,696 | 2,732,667 | 2,904,647 |
| IRR | | | | | | 37.00% |
| NPV @15% | | | | | | 3,373,000 |

DEVELOPER BUILDS: (MANDELA CIVIC CULTURAL ART EXCHANGE CENTER)
 =====

REVENUE OUTLAY

| | | | | | |
|-----------------|-----------|-----------|--------|---------|--------|
| Theater | \$20 GSF | 680,000 | 9.86% | 100.00% | 0.00% |
| Retail | \$10 GSF | 175,000 | 2.54% | 100.00% | 0.00% |
| Parking | \$100 Mo. | 480,000 | 6.96% | 25.00% | 75.00% |
| Office Space | \$17 GSF | 4,012,000 | 58.16% | 100.00% | 0.00% |
| Training Center | \$15 GSF | 1,350,000 | 19.57% | 100.00% | 0.00% |
| Bldg. Mgt. Fee | 3.00% | 200,910 | 2.91% | 100.00% | 0.00% |
| TOTAL | | 6,897,910 | | | |

SPIN OFF CITY FUNDS (DUDLEY COMMUNITY REVOLING LOAN FUND)

| | 1 | 2 | 3 | 4 | 5 |
|---------------|-----------|-------|---------|---------|---------|
| Total Revenue | (126,635) | 4,525 | 139,620 | 278,767 | 422,090 |

ECONOMIC IMPACT ASSESSMENT

| OPTIONS | SF BUILT | TOTAL JOBS | RESIDENT HELD | ATTRACTED JOB GAIN |
|---------|----------|------------|---------------|--------------------|
| Campus | 321,000 | 1,747 | 847 | 500 |
| Mass | 441,000 | 2,343 | 1,205 | 620 |
| Tower | 530,000 | 3,000 | 1,544 | 800 |

Retail Economic Impact

| | |
|----------------|----------|
| Income Assmpt. | \$30,000 |
| Sales Per SF | \$150 |
| Capture Ratio | 40% |

| Option | Resident Jobs | Earning Power | Capture Ratio | Dudley (\$) | Needed Footage |
|--------|---------------|---------------|---------------|--------------|----------------|
| Campus | 847 | \$25,410,000 | 40% | \$10,164,000 | 67,760 |
| Mass | 1,205 | \$36,150,000 | 40% | \$14,460,000 | 96,400 |
| Tower | 1,544 | \$46,320,000 | 40% | \$18,528,000 | 123,520 |

| | Total Space | Abandoned Space | Remaining Vacancy | Vacancy |
|-----------------|-------------|-----------------|-------------------|---------|
| Campus | 432,000 | 169,000 | 101,240 | 23.44% |
| Mass | 435,000 | 169,000 | 72,600 | 16.81% |
| Tower | 435,000 | 169,000 | 45,480 | 10.53% |
| Current Vacancy | | | | 39.12% |

Office Space Impact

| | |
|-------------------|-----|
| SF Per employee | 400 |
| Percentage Factor | 30% |

| Option | Added Jobs | SF Created | Existing | Abandoned | Remaining Vacancy | Vacancy |
|-----------------|------------|------------|----------|-----------|-------------------|---------|
| Campus | 500 | 140,000 | 415,000 | 290,500 | 150,500 | 36.27% |
| Mass | 620 | 173,600 | 415,000 | 290,500 | 116,900 | 28.17% |
| Tower | 800 | 224,000 | 415,000 | 290,500 | 66,500 | 16.02% |
| Current Vacancy | | | | | | 70.00% |

Case Study Analysis

| Case | SF Built | Site Area | FAR | Spin Off (SF) | Ratio |
|---------------------|----------|-----------|------|---------------|-------|
| Roxbury Civic Ctr. | 205,600 | 550,000 | 0.37 | 93,000 | 0.45 |
| Transportation | 525,000 | 90,000 | 5.83 | 2,000,000 | 3.81 |
| Harlem State Office | 200,000 | 100,000 | 2.00 | 750,000 | 3.75 |
| Total | 930,600 | 740,000 | 1.26 | 2,843,000 | 3.06 |

| OPTIONS | SF BUILT | RATIO | SPIN OFF(SF) |
|---------|----------|-------|--------------|
| Campus | 321,000 | 0.45 | 144,450 |
| Mass | 441,000 | | 198,450 |
| Tower | 530,000 | | 238,500 |