A GOVERNMENT CENTER FOR
BOSTON, MASSACHUSETTS

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of Master in Architecture
Massachusetts Institute of Technology
May 13, 1957

Signature of Author

Bobby Thomas Eskridge, B.S., Yale University

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A GOVERNMENT CENTER FOR
BOSTON, MASSACHUSETTS

Bobby Thomas Eskridge, B.S., Yale University, 1951

Submitted for the degree of Master of Architecture
In the Department of Architecture, Massachusetts
Institute of Technology, on May 13, 1957

The Boston City Planning Board in August, 1956, proposed
a plan to create an integrated government administrative
center in the vicinity of Pemberton Square and Dock Square,
Boston. As proposed, this government center would include
a new City Hall, a new Federal Building, new state office
buildings, and a new county courthouse structure. The
proposed site and street patterns anticipate the opportuni-
ity to stimulate an extensive private redevelopment program
in the adjoining areas for commercial office buildings.

All design work within this thesis study is directed
toward achieving a unified government center, rather than
a series of isolated office buildings. The basic assump-
tion is that there is a need for an architect to work in
the middle area of design between the framework of propos-
gals outlined by comprehensive city planning, and the
actual design by individual architects of specific build-
ings which are components of the plan. Therefore all
work in this study is within that middle area, working within a concrete set of realistic proposals as developed by the Boston City Planning Board, to develop the architectural character of a government center appropriate to Boston.

The design effort in this study has been directed at four major areas of emphasis:

A. Development of overall building forms which will satisfy programmed cubage requirements and site floor-area-ratios, and at the same time create directional masses which will better define outdoor spaces.

B. Siting of the buildings in relation to each other to achieve a unified total development.

C. Creation of a series of public pedestrian plazas utilizing natural change of grade in the site to achieve variety of spatial experience.

D. Provision of adequate automobile parking for the newly created demand.

In investigating the relation between the government center as a whole and the environment of the city in which it is located, it has been recommended that contrast in visual form be used to set the new government center apart as a focus. Thus the center may stand as an important architectural landmark within its context.
Dear Pietro Belluschi,

In partial fulfillment of the requirements for the degree of Master of Architecture, I herewith submit a thesis entitled "A Government Center for Boston, Massachusetts".

Sincerely yours,

Bobby Thomas Eskridge
ACKNOWLEDGEMENTS

I wish to express my sincere appreciation to those members of the faculty who have given valuable assistance and stimulating criticism to the development of this study. To my fellow classmates in the graduate course in architecture at M.I.T., I wish to extend my thanks for their spirit of friendly competition which has established a high level as a point of departure for design.

Special acknowledgement is due also to Mr. Sidney Hodges of the Boston City Planning Board for his assistance and interest in this project, and to Mr. Morse Payne of The Architects Collaborative who stimulated my initial interest in this subject.
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"For wee must consider that wee shall be as a City upon a hill. The eyes of all people are upon us so that if wee shall deale falsely with our God in this worke wee have undertaken ...... wee shall be made a story and a by-word through the world."

John Winthrop on board the
Arabella, 1630

The occasion of the
founding of Boston
Introduction

Purpose of the study

All work within this thesis study is based on the assumption that there is a need for an architect to work in the broad area of design between the proposals of the planner and the actual design of specific buildings which are components of the plan. It is in this middle area of urban design that the appropriate architectural character for a complex project may be investigated and established. Here, too, may be established the basic governing principles which can achieve a unity and coherence of expression while allowing for desired variations within the complex.

Much of man's thinking in the 20th century has been influenced by the urgency of specialization in almost all areas of human endeavor. An increasing complexity in the elements of the relations between men and their work has produced degrees of specialization never before seen. This trend has brought increased efficiency of endeavor within the specific areas of specialization, but it has also created artificial barriers between areas of work which had previously overlapped. Thus we find much interest today in attempts to integrate anew the work of the artist and the architect, or of the architect and the engineer.
Compartmentation of design endeavor has extended also to our present-day ways of thinking about our cities, so that planning and architecture have become separate professions. The work of the planner results in a comprehensive framework of proposals which constitute a plan, while the work of the architect most often begins with a commission for the design of one of the buildings which is a component of the plan. Between these two specialized areas of work is a broad middle area of design which is too often overlooked.

A proposed Government Center for Boston has been chosen as the vehicle for this study in the middle area of urban design. It is particularly appropriate for such a study because (1) a comprehensive plan has been outlined by the Boston City Planning Board, (2) an appropriate architectural character should be determined for the entire center before individual buildings are designed, and (3) an integrated government center should achieve a unity and coherence of expression befitting so important an architectural landmark. Only by work in this area may we assure an integrated government center rather than a meaningless series of isolated buildings.

Aims of the study
Stated briefly, the aim of work in this thesis study is to demonstrate the importance of broad overall design effort as a procedure which may be used to
assure unity in a complex building project. The components of a government center may be listed simply as a number of individual buildings required by various governmental agencies. A site or group of sites may be determined by city planners at the governmental level, and in due course these sites may be approved and acquired by the governmental agencies concerned. The individual building programs are written, the individual architects are chosen, perhaps one for each building, and eventually the individual buildings are built. Perhaps each is a successful building, solving its particular program requirements well. Yet if this procedure is followed a significant opportunity may be lost.

The procedure investigated as the aim of this thesis study must allow for the lost opportunity to be defined and suggest means of achieving it. Broad overall design effort is meant to indicate that a government center should be one design rather than a series of individual designs, perhaps unrelated to each other. There must be a clear understanding of what a government center can mean to a city as a unifying focus. Individual buildings must solve their own problems well, but they must also be used as elements to create outdoor spaces which are useful and pleasant contributions to the city life. Thus the appropriate combination of buildings can actually
create values in the heart of the city which would not have existed had the buildings been designed as individual entities.

Again, the broad overall design effort investigated here can evaluate and propose an appropriate relation between the government center as a whole and the environment of the existing city in which it sits. Commenting on recent social trends in our city life, Ralph Walker has said:

"The growing number of comforts within the modern shelter had, one by one, eliminated the desire for pageantry in the space outside. The underlying idea of the forum and the plaza, throughout the ages the focal points of classical and medieval cities, took on less social and political meaning. This was followed, unfortunately, by an introversion of citizen interest so that here, too, there was lost an active sense of participation in those urban affairs which directly affected his welfare. Every community needs a symbol of its existence. Much of modern community frustration has come into being because a symbol of the visual reason for its life is missing. Because no symbol is found there is no center on which to focus life."

---

1 Note: Ralph Walker, introduction to "The Art of Building Cities", by Camillo Sitte, Reinhold, 1945, pp. vii and viii.
Finally, an aim which can be met only through the broad overall design effort is the establishment of an appropriate architectural character for the government center as a whole. Government architecture from past periods of history is often characterized by the greatness of its monuments. Indeed, in some periods of history all architecture was built as monuments, for religious purposes, or to symbolize the power and authority of royalty. In the 20th century, however, the need for pleasant and useful space in which to live and work is paramount in our democratic sense of values, while the needs for monuments in our society are few. Even the building of government today essentially must be efficient and flexible office space whose characteristics are pleasure and utility rather than grandeur and awe. And yet if the government center is to assume its role as focus for the community, it must in some way serve to symbolize the unity and ideals of the people who have created it. The design work in this study suggests that the ground level spaces created between the buildings may be used as public plazas which can create the desired architectural character for a government center, and are more important in determining the character than are the details of the office buildings which rise above the plazas.
Scope

The Boston City Planning Board in August, 1956, proposed a plan to create an integrated government administrative center in the vicinity of Pemberton Square—Dock Square, Boston. As proposed, this government center would include a new City Hall, a new Federal Building, new state office buildings, and a new courthouse structure. The proposed site and street patterns anticipate the opportunity to stimulate an extensive private redevelopment program in the area north of State Street, for commercial office buildings. The site lies strategically between the proposed West End Redevelopment Area and the Waterfront Redevelopment Proposal Area.

The United States Senate has approved the construction of a new Federal Building for Boston on a lease-purchase basis. Recent local action indicates the likelihood that the new City Hall would be built concurrently with the erection of the Federal Building. In order to insure an integrated government center, rather than a series of isolated buildings, a unified plan for the entire area has been proposed by the Boston City Planning Board.

All proposals within this thesis study are based on one common assumption: that there is a need for an architect to work in the broad middle area between the framework of proposals outlined by comprehensive planning, and the
actual design of specific buildings which are components of the plan. All work in this study is within than middle area, working within a concrete set of realistic proposals as developed by the Boston City Planning Board, to develop the architectural character of a government center appropriate to Boston.

Included in this study are four broad areas of investigation:

A. Development of overall building forms which will satisfy programmed cubage requirements and site floor-area-ratio restrictions, and at the same time create directional elements which may be used to define outdoor spaces.

B. Siting of the buildings in relation to each other to achieve a unified total development, while observing setback restrictions and allowing maximum sunlight to fall in the spaces between buildings.

C. Creation of a series of public pedestrian plazas between the buildings, using natural grade changes in the site to achieve variety of spatial experience.

D. Provision of adequate automobile parking for the newly created demand, utilizing excavated areas against the slopes beneath the plazas.
The Problem

A. Need for New Government Facilities

There is a long-standing need in Boston for new centrally located government office buildings convenient to the downtown business district. The Boston City Planning Board accepts as immediate needs new structures for federal, state, and city administrative government offices. To a degree, these new facilities are needed as replacements for structures which, though still in use, have long outlived their period of efficient service. More significantly, these new government buildings are required to consolidate bureaus which have had to spread out with growth into space rented in private office buildings and converted residences. Consolidation of government administrative functions is required to allow greater efficiency in their interrelated operations. In addition, future space needs to accommodate expanding government programs must be anticipated.

The United States Senate has approved an expenditure of $28,000,000 for the construction of a new Federal Building for Boston on a lease-purchase basis. Preliminary reports indicate that it should provide approximately 1,000,000 gross square feet of floor space, while the new City Hall offices will require approximately 400,000 gross square feet. An ad-
ditional component of a new government center would be a replacement for the existing older courthouse building which will require an estimated 175,000 gross square feet of floor space.

B. Site Selection Requirements

In the interests of convenience and accessibility the new office building development should be located within the vicinity of the principal existing office area in the business district of Boston. Such a location would assure convenience to existing governmental functions (notably the Boston State House and Courthouse Tower) and would assure public accessibility via the existing public transit system.

Comprehensive studies by the Boston City Planning Board indicate that Boston's downtown business district, despite the generally advanced age of its physical plant, offers few sites both suitable and available for new office building construction. This is particularly true of the areas within and adjacent to the principal office building area centered at Post Office Square. Sites for new office buildings will nevertheless have to be created, for the prospect is for increasing demands for downtown office space, for private business as well as for government.
C. Justification for Proposed Site

The Boston City Planning Board has proposed a site which is strategically located adjacent to the existing office building area and to existing government functions to be retained. In addition, the proposed site is the area within the downtown business district which is in greatest need of redevelopment. It is a 50-acre area extending north of State Street to Sudbury and Cambridge Streets, and east from Bowdoin Street to the new Central Artery.

Public accessibility to the site is excellent. The existing Scollay Square entrance to the public transit system is central in the site, and the North Street entrances and exits for the Central Artery are at the east end of the site, affording excellent automobile connections from any area of Boston.

Changes of significant proportions would be in order for this area merely to improve the physical condition and layout. Present structures are, with few exceptions, ancient and ill-adapted to current uses. Deterioration and neglect is characteristic. The vacancy ratio is the highest in the entire business district. In addition, the area is encumbered with a hopeless confusion of streets which alone occupy nearly one-half of the total area. The street blocks themselves are in most cases too
small or irregular in form to serve as efficient sites for structures meeting contemporary office building standards.

D. Potential Influence on Broad Redevelopment

The proposal by the Boston City Planning Board that this site be used for a new government center is particularly significant in its relation to other redevelopment proposals for Boston. Current interest in two additional prospective redevelopment projects in the immediate vicinity could be stimulated into action by building activity in the government center area. These two are the West End Redevelopment Area and the Waterfront Redevelopment Proposal Area.

Approximately one-half of the proposed government center site would accommodate the actual government buildings. Hence, one of the prime features of the City Planning Board's proposal is that the government center be so located in the site that it will serve as an inducement for extensive commercial development in private office buildings in the remaining area of the site. Thus it may be seen that the government center project with its high likelihood for becoming a reality, may be considered as a significant stimulus in inducing redevelopment in a broad way for the entire area.
ANALYSIS OF DESIGN DATA
Analysis of Design Data

A. Site Relation to Boston (see exhibit "A")

The proposed government center redevelopment area
is a band of three to four blocks in width extending
eastward from the State House atop Beacon Hill to the
new Central Artery, and northward from Court and State
Streets to Haymarket Square. The entire area comprises
approximately fifty acres of land, of which about half
would be used for a new government center. The remaining
half of the area is seen as having a significant potential
for commercial development, particularly for office
buildings.

Extending northwest from the boundary of the area is
an area of mixed non-residential usage, extending to
North Station and the West End residential area which
is also the subject of a redevelopment proposal program.
Extending to the northeast of the government center site
beyond the new Central Artery is located the North End
residential area, centered around the Copps Hill Burying
Ground, the Old North Church, and the historic shrine
of Paul Revere's house. Directly east of the site beyond
Faneull Hall and the Central Artery is the Waterfront
Redevelopment Proposal Area with proposed new recreation
and park facilities on the waterfront.

To the south of the government center redevelopment area
is located the principal office building district of Boston, centered at Post Office Square. And southwest of the site border is the downtown Boston business and retail district and the Boston Common.

The site may be seen to be particularly well located for new government buildings because of its close proximity to existing government functions. Similarly, it is potentially valuable for new private office buildings because it is adjacent to the existing office building center and convenient to the downtown business district.

B. Existing Land Uses (See exhibit "B")

In generalized terms it may be seen that office blocks presently occupy the band of land about one block wide at the south edge of the redevelopment project area. The extreme east end of the site adjoining the Central Artery is currently used for light manufacturing and wholesale establishments. This area is also the center of the farmers' market area and is centered on the famous Quincy Market fronting on North Market and South Market Streets. The historic meeting house, Faneull Hall, is located here, as is the well known Durgin Park restaurant. The central and north areas of the site are characterized by the Boston City Planning Board as "mixed non-residential," and are centered on the existing Scollay Square with its collection of entertainment establishments, "penny arcades,"
and shoe-shine parlors. The vacancy ratio for this area is the highest in the central Boston district, and buildings may be described generally as ancient and ill adapted to current uses. The northwest corner of the site is presently used for multi-family residences, an extension to the east of the northern Beacon Hill residential area.

C. Existing Land Valuations (see exhibit "C")
The map of assessed value per square foot of land (Exhibit "C") gives a striking graphic picture of this area's potential for redevelopment. The office building area to the south of the site and bordering on it has an average assessed value of between $25 and $40 per square foot, while the average assessed value of the government center area is between $5 and $15 per square foot of land. With its location at the entrance to the Central Artery and adjacent to the present business and office building centers, this site has a potential for making a significant contribution to Boston's life.

D. Circulation Patterns²
Exhibit "D" shows in dotted outline the existing street patterns in the site and superimposed in solid lines the simplified street pattern as proposed by the Boston

² Note: Information on the proposed street improvements is from the Boston City Planning Board.
EXHIBIT 'C'

ASSESS VALUE PER SQ. FOOT OF LAND - 1954

- UNDER $5
- $25 - 35
- $5 - 15
- OVER $35
- $15 - 25
PROPOSED STREET CHANGES AND NEW BLOCK PATTERN

Scale: 1000' = 1"
City Planning Board. Two major improvements to the traffic system as it relates to the larger Boston traffic problem are proposed: (1) provision of a satisfactory connection between Cambridge Street and Dock Square and the ramp and tunnel entrances at North and Cross Streets, and (2) provision for a more direct connection between Portland and Devonshire Streets to handle major traffic loads from south to north across this area of Boston. As an improved street pattern is achieved for this area, the City Planning Board has also proposed that the redevelopment operation should be taken as an opportunity to create more generous blocks for new development, as improvements over the present constricting pattern of small and awkward blocks imposed by the area's confusing and inefficient street complex.

Perhaps the most significant thing about the proposal for a street pattern is the recommendation that much of its mileage be eliminated in the interest of creating not only more ample settings for new development, but a more efficient street system itself. One 500 foot stretch of new street has been added to serve as a direct connection between Cambridge Street and Dock Square, and will allow for the first time a visual connection between Faneuil Hall and the existing Courthouse building. Portland Street has also been cut through to Dock Square, thus affording an important sur-
face route for northbound traffic going in-town from the Central Artery. In addition, most of the retained major streets are marked for widening, and in some cases realignment, in large part because of their direct relationship or proximity to the Central Artery and the Tunnel. Nonetheless, the proposal by the City Planning Board is that street improvements in this area should be in the direction of less acreage in streets, and more acreage for development; fewer and more serviceable streets, and fewer and larger blocks.

The site is presently well served by public transit stations. The existing Scollay Square station is located almost centrally in the government center site. Peripherally the site is served by Bowdoin Station, Haymarket Station, Union-Friend Station, Adams Station, all on the borders of the site. The East Boston Tunnel and Revere Extension line crosses Scollay Square, as does the Washington Street Tunnel connecting North Station and Charlestown with the Park Street and Washington Stations in the business district. No area in central Boston is better served by the public transit system than the site of the proposed government center.

E. Zoning Ordinances

New zoning ordinances for this area are presently in process of preparation by the city of Boston to create
a framework of structural density controls. Under the new ordinance a floor-area-ratio of ten will apply to this site. However, it is the feeling of the City Planning Board that this figure is much too liberal. Officials there would prefer to see a floor-area-ratio maximum of eight for the blocks to be developed privately, and a ratio of four for the blocks to be developed by the government. The more conservative figures of eight and four as recommended by the City Planning Board are used as the maximum restrictions for floor-area-ratios in this study.

There are no height restrictions applicable to new buildings in the government center site. However, building setback in feet from the centerline of an adjoining street must be no less than the sum of the width of the building measured parallel to the street plus the height of the building, divided by eight. Setback is measured from the centerline of the street to the average distance of the building side. Thus, Setback equals $\frac{1}{8} \times \text{Height plus Length}$. While these zoning restrictions may not be enforced for buildings of the Federal and State Governments, it is felt that government buildings should set good examples of practice rather than feel free to violate such restrictions. Therefore for the purposes of this study the zoning restrictions are observed.
"Thus out of small beginnings greater things have beene produced by His Hand that made all things of nothing ....... and as one smalle candle may light a thousand so the light here kindled hath shown to many, yea, in some sorte, to our whole nation."

William Bradford at Charles-Towne, 1630

The occasion of the founding of Boston
The Proposal

The design proposals made in this thesis are all based on the conception that a government center for Boston should be a center in the fullest meaning of the word. Throughout her history Boston has been known as "The Hub", the generous implication being that all activity rotates about Boston as a center. The origins of the term "The Hub" have been traced to a line by Oliver Wendell Holmes which appeared originally in his "Autocrat of the Breakfast Table". His quote: "All I claim for Boston is that it is the thinking center of the continent, and therefore of the planet". Strangely enough, however, there has never been a physical symbol in Boston of where or what "The Hub" is. A true government center for Boston might well be considered to be worthy of filling the need for such a symbol.

Government has been characterized as "of the people, by the people, and for the people". A government center should belong to the people it serves in a very real sense, and it is in this sense that this thesis study proposes that a government center for Boston be developed.

4 Note: Lincoln, Abraham, Address at Gettysburg, Pennsylvania, November 19, 1863.
as a visual center for Boston, and a center of activity for the people of Boston.

In studying a three-dimensional model of the proposed site it may be seen that existing buildings to be retained which surround the site have been built out to the edges of their property lines on the streets, so that their masses form an essentially continuous wall following the existing street pattern. Visually it is fortunate that the street pattern is free of the excesses usually associated with the rectangular grid pattern so characteristic of many American cities. The curving streets and angular intersections have been reflected in the direction of the enclosing wall of buildings which surrounds the site, so that a varied and interesting enclosure to the site has been formed. Immediately this kind of study suggests a means of organization which can make a visual focus or center of the new government center. If the irregular enclosing wall of the site is used as a foil against which to contrast the new building group which may be organized according to a different form of order, the government center may be made to read as a strong visual landmark. Thus it can stand in a dominant situation as a visual symbol of its importance as a center for the citizens of Boston.

A. Building Forms
The forms which the buildings for the new government center assume are of critical importance in allowing them to be used as visual elements of space organization. In addition, the building forms must be chosen so that they may efficiently house the program requirements of the governmental agencies for flexible office space. The forms must be chosen so as to be economically competitive with other possible forms. They must reflect good office building standards as we practice them today.

Two basic plan types have been chosen for use on this site. All are rectangular plan types, with the length in each case being between two and three times as great as the width. The plan type used for buildings which have their major axis oriented in the east-west direction is the central core type of plan which keeps all services, elevators, stairs, and toilets in a single bank in the interior of the building. Thus the open and flexible office space surrounding the core will have natural light from the north and south along the long sides of the building. In this plan type the east and west ends of the building will be essentially closed to the low east and west sun angles. The City Hall building is in this category, but the core has been modified to occur at the east and west ends of the tower to act as a shield against the undesirable exposures, while the principle circulation shaft is off-center to the south at the center of the plan.
to give the majority of office space a north exposure and a view over the principal plaza areas below. The new proposed federal building is also in this category of central core plan types, but its major axis has been oriented in a north-south direction, as required by setback restrictions on its irregular site and also to allow its directional quality to serve as a more efficient visual space divider in relation to the other building sites. Therefore the long walls with east and west exposures are given vertical sun control strips as an integral part of the fenestration.

The second plan type chosen for the tower of one of the new state office buildings is designed to be used for the building with its orientation of major axis in the north-south direction. In this case the core element is located as a shield along the long west face of the building, and all flexible office space occurs as a 45-foot wide band to the east of this core. While this depth from the window wall is greater than is common practice to date, it has been recommended by the firm of Skidmore, Owings, and Merrill for the new tower of the Chase-Manhattan Building in New York City.5

Heights of the buildings have been determined both to allow for each building program cubage requirement to be met, and also to establish a tranquil height relation of the building masses against the skyline. Since the base of the building at the west end of the site will begin at elevation 90, while the base of the easternmost building will begin at elevation 40, this factor of elevation change in the site has also been considered in establishing the heights of the buildings from their respective base points. Story heights and typical floor areas of the tower portions of the buildings are:

<table>
<thead>
<tr>
<th>Building Name</th>
<th>Typical Floor Area (gross sq ft)</th>
<th>Total Area in Tower (gross)</th>
<th>Height (stories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Building #1</td>
<td>14,850</td>
<td>237,000</td>
<td>18</td>
</tr>
<tr>
<td>State Building #2</td>
<td>24,300</td>
<td>486,000</td>
<td>20</td>
</tr>
<tr>
<td>City Hall Tower</td>
<td>17,100</td>
<td>307,800</td>
<td>18</td>
</tr>
<tr>
<td>Federal Building</td>
<td>32,400</td>
<td>648,000</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: The City Hall tower will rise above a 3 story base so that its effective height will be 21 stories. Similarly, the Federal Building will rise above a base of 5 stories, so that its effective height will be 25 stories.

The bases of these towers and the new buildings for the county courthouse have been designed as low buildings which are used to define plaza level spaces of a size
In keeping with the human pedestrian scale. The City Hall program has required approximately 93,000 square feet of space for offices easily accessible to the public. The new buildings for the county program are also designed as low elements which will help define the plaza level spaces. One building is designed as an addition to the existing newer courthouse building. Its lower four floors adjoin the tower to the north and will have 24,300 square feet each. The fifth floor will extend also to the south of the existing building, and will comprise 37,800 square feet of space. These five floors serve as flexible office space and also provide a series of large spaces which are required for hearing rooms and large central file rooms. A separate building of three higher stories will serve for the courtrooms, two on each floor. Each floor of this building contains 13,500 square feet for a total floor area for the building of 40,500 square feet. This building is linked to the other County Courthouse building by a bridge at its third floor which connects to the fourth floor of the other building. The total space provided for the new county buildings is 175,500 gross square feet.

Within the same low building mass which comprises the addition to the existing County Courthouse is also included a two story restaurant opening off the middle
level plaza, and a series of one story specialty shops opening off the upper plaza level. These shops and restaurant are so displaced that they create a semi-enclosed outdoor courtyard which may also be used for plaza dining in good weather, or if flooded in winter as a public ice skating rink to be viewed from the upper plaza level and from within the restaurant. The specialty shops occupy 3,600 square feet and the restaurant on two levels totals 10,800 square feet.

B. Siting of the Buildings
In the course of this study an important change has been made in the basic site allocation plan as originally proposed by the Boston City Planning Board. The site which this study proposes be used for the City Hall facilities was originally designated as a site to be developed privately for commercial office buildings, while half of the site now allocated to the Federal Building was to receive the new City Hall. The original proposal of the City Planning Board placed the Federal Building in the new block east of the presently proposed Federal Building block, and adjacent to the Central Artery. The changes which this study proposes have been reviewed by the Boston City Planning Board and are considered sound for the following reasons:
(1) The site proposed for the City Hall is already principally owned by the government; (2) the site origi-
Inally proposed for the City Hall has been taken under option by a group of real estate men in Boston and is proposed by them as a site for the new Federal Building, as it is also proposed by this study; (3) the basic goals of effecting an improved traffic system and inducing private redevelopment of the adjoining areas are met in an identical way by the new proposals; and (4) existing land valuations allow the change without increasing site acquisition costs for the government. In addition, and perhaps most important, the proposed site allocations made in this study allow for a more favorable grouping of the governmental buildings into a clearly defined central group.

Reference has been made elsewhere in this report to the character of the virtual wall which surrounds and encloses the entire site. This wall is made up of the existing buildings which are to be retained at the periphery of the site, and varies in height from an average of approximately 96 feet to a maximum of approximately 168 feet. The streets which approach and enter the site are narrow and for the most part also between tall buildings. The site may be described figuratively as being surrounded by a cliff and approached through narrow canyon passages. In using these surroundings as a foil against which to contrast the new center it is proposed that the new building
forms be used as tall slender elements with liberal space around them. The building elements proposed have a directional quality which will allow them to establish strong visual relationships with each other in perspective, even though separated from each other by liberal spaces.

In siting the individual buildings an effort has been made to so place the buildings that maximum sunlight may fall into the open plaza spaces at the ground level. Setback restrictions of the zoning ordinance have also been observed to assure adequate protection to the existing buildings around the site.

One additional factor has had a bearing on the siting of the buildings as proposed by this study. Functional relations between the new buildings and existing government buildings have required that the new state buildings be placed at the extreme west of the site to enjoy a convenient relation to the existing State House. Similarly, the new county buildings have been sited in close proximity to the existing County Courthouse building.

C. Plaza Designs

The topography of the site has been one of the major determinants in the design of the pedestrian plazas which are suggested for the government center. Within the
central block of the center the land slopes 36 feet from a high of elevation 76 to a low at elevation 40.

Creating level plazas on such a site would require either a great deal of cut or of fill. The solution which is proposed arranges a sequence of plazas stepping down the site at elevations 76, 66, 52, and 40. The areas beneath two of these plazas are utilized for parking structures, while the remaining two retain deep earth beneath them to allow large planting to be used. By arranging this series of levels the usual high walls which surround level plazas on sloping sites have been avoided, with the result that the site may be approached at grade from any direction of pedestrian circulation. Where walls occur they are so placed as to direct and control pedestrian circulation or to provide a needed separation from the heavy city traffic.

A second major consideration in the design of the plazas is that of human scale. The placement of the tall building masses has been used to create a series of large easily comprehended spaces which are scaled to be sensed by the relatively swift moving passenger of an automobile. But within these large spaces a need is felt for a more intimate size relation to the pedestrian for whom the plazas are designed. Hence the low building masses have been so situated within the larger spaces that they define smaller scaled spaces for the visitor on foot. An
attempt has been made to introduce variety both in the proportions and sizes of the spaces so created, and in the sequence of experience which may be had in moving through the spaces from any direction of approach.

The remaining consideration in the plaza designs suggested is that of establishing an architectural character which is suitable to a government center which is also conceived of as a visual center and an activity center for Boston. The thesis is here presented that the real character of such a center is established essentially at the ground level, and that the pedestrian who enters the complex is aware of the tall building masses which rise above him only as large masses. The detail which is sensed by the pedestrian is largely within his own eye level and perhaps two stories above. Hence the presentation of designs emphasizes the architectural character which is established at the ground level from the pedestrian's point of view.

In the interest of assuring that there will be an abundance of life and human activity within the spaces of the plazas, it is proposed that the upper plaza be faced by commercial shops of a specialty nature. The recommendation of the City Planning Board has been that no such activities be introduced, in the interest of keeping the character of the center more formal.
keeping with typical government building practice. To avoid the possibility of these plazas being beautiful but without human activity, and to provide for the needs of the many office workers who will spend their days in this environment, the proposal of this thesis is that carefully selected specialty shops be included within the designs. Such shops would include travel agencies, gift shops, stationery shops, coffee bars, and restaurants. Such enterprises would not compete with the lunch hour shopping by the office workers in the business district on Tremont and Washington Streets, only a few short blocks away. Yet they will add a sense of human activity without which these spaces would be unsuccessful.

D. Parking Solution

It is anticipated by the Boston City Planning Board that the potential new demand for automobile storage facilities created by a government center on this site can be met only by providing a minimum of one square foot of parking for each ten square feet of gross office building space. The figure is low because of the excellent public transit connections to any part of Boston and because of the high incidence of ride pooling among office workers. From this ratio it may be determined that parking for 300 cars is required for the state buildings, for 160 cars for the City Hall, for 200 cars for the county buildings (including the existing County Courthouse),
and for 400 cars for the new Federal Building. These figures include visitor parking as well as all-day parking for office workers. The Federal Building budget makes no provision for covering automobile parking in its program. Hence it is proposed that since the building is to be built on a lease-purchase basis by the city of Boston, adequate parking facilities be built at the same time, to be leased to the government. Parking structures have been so designed as to allow customer parking rather than attendant parking, since most spaces will be assigned to individual car owners. Visitor parking is to be handled in separate areas of the same structures, under attendant supervision. These spaces should be metered on a time basis since visitor parking is transient and a greater turnover may be anticipated.

Entrances and exits for the structures have been planned on secondary or one-way streets to avoid traffic complications. The structures are multilevel to allow greater automobile densities and to reduce the per car costs. Internal ramps are provided within each garage to allow entry at any level most convenient to the direction of approach. Customer access to the garages is by extension of the normal passenger elevators of the building towers above down to these levels. The City Hall lobby may be entered directly from its garage due to its situation bridging the two different plaza levels.
While the garage for the state buildings is required to provide parking for only 300 cars, a structure which uses the site efficiently may provide as many as 475 spaces economically by utilizing the roof of the structure. Since the structure is located within three blocks of the principal downtown business district, it is proposed that the additional spaces be provided at a metered rate for the convenience of in-town shoppers. Similarly, the Federal Building site will allow surface parking for approximately 80 cars. If these spaces are used to accommodate visitors to the building, the parking structure for this site will have an excess which may also be used to alleviate parking problems for adjoining sites.

The principal contribution which this parking solution suggests is the combination of below-grade parking with open pedestrian plazas above. The solution seems well suited to the sloping site which allows entrances to each level to occur at natural street grade. A government center should have open public plazas, and it must have adequate parking facilities. By combining both in one solution the total cost should be less than if each requirement were filled separately.
Summary

The building of a new government center for Boston presents a significant opportunity for a genuine contribution to the civic life of the people of the city. A major building complex of this type can act as a strong stimulus to a rebirth of redevelopment activity in an area within the heart of Boston which stands in dire need of being reclaimed. The opportunity is also presented to create a significant visual symbol as a center on which to focus the civic life of the city of Boston.

The design proposals of this study are made as a demonstration that these opportunities may be realized in a tangible way. Building forms have been created as elements for composition of outdoor spaces. The buildings have been sited to create plazas which may offer a rich variety of human activity. Realistic needs for dealing with the automobile in the urban scene have resulted in parking designs which are integrated with the entire government center design.

Finally, these designs are presented as evidence that work by the architect is essential at the level between the proposal of a comprehensive plan and the individual design of specific buildings of the plan. Successful work in this area must be achieved if our urban scene is to be regained from its chaos and given a meaningful new order.
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