DEVELOPMENT REGULATIONS AND THE SMALL SCALE ENVIRONMENT

by

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This thesis analyzes two sites in Brookline, Massachusetts in an attempt to explore the relationship between traditional development regulations (Zoning By-Law, Building Code, and Subdivision Regulation) and the nature of the small scale urban environment. One site was partially developed as a mixed single family and apartment area before regulations were imposed. The other was totally built under regulations as a single family neighborhood. The codes themselves are detailed, and their effects on the buildings constructed under them are discussed. The intentions behind the regulations are documented from the town's files.

It is apparent that the two sites serve as different models of the effects of regulation. The mixed site was a testing ground for regulation where many of the building types there were outlawed by subsequent codes. The single family area however, developed in a uniform, although not sterile manner, without much influence from the regulations.

From the evidence of these two sites in Brookline the overriding determinant of effectiveness of regulation is the strength of the image the public holds of an area. If that image is directly reflected in the intentions behind the regulations, the controls will be effective. Where the image is unclear or the intentions ambiguous, the regulations will be ineffective and their physical manifestations will not be directed by public intent.

The implications of this principle for currently suggested revisions of development codes are noted.

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INTRODUCTION

The information and ideas to be developed and presented here are intended to lead to a greater understanding of the regulations which control the development of the public environment. Building codes, zoning by-laws, and subdivision regulations are constraints upon the individual actions of those who erect the buildings and streets which define urban space. An understanding of the circumstances under which these controls have their greatest influence over our physical surroundings will enable us to more closely match the intention of the provisions to their effects. If it is possible to know in detail how public regulation affects individual physical elements, it may be possible to make changes in the requirements which will enable us to produce more humanly satisfying environments.

Zoning by-laws in particular, and building codes to a lesser degree, are currently under fire for their failure to provide livable cities and suburbs. An increasing demand for urban land has made evident the inflexibility and limited scope of these tools; particularly the opportunities for corruption and unfairness, the inability to respond to the special conditions of individual sites, and the inadequacy of lay officials to make quality decisions.

Even more fundamental, however, particularly at this time, when a critical redesigning of controls is taking place, is the ability of the regulations, even if well administered, to deliver acceptable environments. The codes which prescribe set backs, height limitations, and construction methods among other things,
have had a discernable impact on the public urban setting. This thesis will explore the effect of one set of controls in detail. The interacting forces of the market, the regulations, and the personal preferences of the builders, have produced many kinds of environments. By looking closely at two sites, the codes and the motivations behind them, it will be possible to identify patterns of relationships which will have implications for the work being done now to draft more suitable rules.

I have chosen to examine two sites in Brookline, Massachusetts. Conclusions based on information from two sites are not an adequate base for redesigning land development controls. The analysis is also necessarily limited to the kinds of regulations imposed in Brookline, which were typical of their period. Apartment densities and elevator requirements, for example, did not exist in the Codes under which the sites in question were developed. Of the two sites, one is a fairly high density residential area at the intersection of Washington and School Streets. There is a mixture of apartment, row, and single family dwellings, and a local commercial section along School Street. Harvard Avenue parallels Washington Street and has the same kinds of buildings on a narrow, less exposed street. This intersection is close to Brookline Village, across the street from the town library. Its boundaries are artificial, having been determined on the basis of time of development and ease of walking and driving around the area. It was chosen for its building types, and the fact that it was about half built up when the first regulations were imposed.

The other site, located between Boylston Street and Cleveland Circle, with Eliot Street and Reservoir Road at the center, is
almost exclusively single family dwellings and was substantially developed after the advent of regulations. Its boundaries were also determined by the timing of its development and bear little relation to the perceived boundaries of that area of the town. It is actually part of a large residential area extending almost to the Village.

In addition to the bibliographic sources, most of my information has come from the files of the Brookline Planning Department and the town's Engineering Department. Both Departments made their excellent records available to me, as well as their staff's experience and knowledge of the town's history. Where there are published documents I have cited them in the Bibliography. All other information is from the unpublished files and conversations with individuals.

The maps included should serve to locate the reader and illustrate many of the points described in the text. Letter citations refer to the photographs.

The Sites

Brookline is a mature town of 50,000 people which reached its population peak in 1950. It is an early suburb of Boston whose growth and development is intimately connected to the fortunes of the city. The town has less commercial space than other communities its size because many of its needs are served by Boston and Newton, according to a 1966 Market Analysis done
for the Community Renewal Program.¹ Its function in the Boston SMSA is to provide high quality housing for a population which is well above average in income and age. Most of the housing is single family or luxury apartments, and there is a large estate section in the town. High property values allow a generous municipal budget and a well run town government.

Both the Washington Street-Harvard Avenue and the Eliot Street-Reservoir Road sites were considered by the CRP study to be stable residential areas. No further development or significant changes are expected in either for some time.

Washington Street-Harvard Avenue

Washington Street was accepted as a town way in 1657 and was the original route to Watertown. It was widened to its present size in 1903. Originally there were several medium size estates on the site. Harvard Avenue was accepted by the town in 1873, and Park Vale, a private way, was built in 1903. The area was speculatively platted for 7,000 and 8,000 square foot lots, presumably for large single family or small apartment dwellings. Some developments of this type did take place (G,L). However the proposed maze of streets was never built, and the very deep lots which characterize the area were built up with U-shaped brick

apartment buildings (D). Greenough Circle, a private way was constructed in 1936 and eight modest houses constructed (K). After this, development continued in a piecemeal fashion until 1958, when the last lot was filled.

The Pierce School playground was acquired by the town in 1927. The town has a continuing nonaggressive policy of buying properties on School Street as they become available, to enlarge the field. A large new school is under construction across the street. A foot bridge will connect the building to the grounds, an exciting addition to the edge of the area.

The Washington Street-Harvard Avenue area is not a memorable one. Its most distinguished features are the U-shaped apartment buildings. They present at first a solid wall along the street line, which, as the pedestrian approaches the buildings, becomes a series of planted courtyards reaching back into the buildings (C,D). The building height in the area is quite uniform: three to four stories for the brick apartments and two and one half for the wood frame houses.

There is a diversity of building types that prevents one from forming an immediate single image of the area, but is not different enough from the surrounding area to make it stand out. There are large frame houses, small frame houses, wooden tenements (O), wooden row house (R), brick apartments with and without courts and brick row houses (I). Individually most of the buildings are fairly attractive. Some of the later apartments lack the small details which give the older buildings grace. Although these are heavily planted, their window mullions and
roof detail, lack of entry way and so on, make them somewhat bleak (N).

Cars are everywhere. Most of the apartments were built before off-street parking was required, and during the day the residents park on the street. Park Vale and Harvard Place are particularly clogged (H,Q). In spite of the plantings in the courtyards the texture of the place is hard edged and well travelled. Although clean and well kept, it is not private. A stranger can walk without intruding everywhere but in the courtyards.

The topography is generally flat with no significant level changes. There is no strong view or sense of the area as a whole. The playground creates an open space, but because it is higher (though only a few feet) that height is experienced only as a blocking of the view. The playground does not invite one onto it; the entrance is obscured.

Except for the Harvard Street edge, which is heavily travelled and marked by the new school and town library, the area feels like it goes on indefinitely. The diversity of form and use is coarse grained, incoherent and jumbled. There is no sense of the whole, partly because one cannot see for any distance and also because there are no clear boundaries setting the place off from other neighborhoods. Other than Harvard Street, there are no landmarks. Nonetheless it is not a hostile environment. The people and houses are well kept, the buildings are not overwhelming, and there is plenty of sunlight. The frame of the buildings, sky and street is only unremarkable, not oppressive.
Eliot Street-Reservoir Road Area

The Eliot Street-Reservoir Road area is not homogeneous, in spite of the fact that it is nearly uniformly single family houses. Sub-areas which were developed at different times have subtle but discernible differences. Reservoir Road has always existed in some form: it was originally an Indian trail. The town accepted it as a street in 1910 (BB). Soon after, some multi-family houses were built, much like the earlier ones on Harvard Avenue (Z). They were followed by single family houses on Dean Road. These houses are much like the ones built following the first zoning code on Willard Road, Willow Crescent, and Taylor Crossway (S, T, U). The terrain is rolling, the streets rather narrow and turning. There is an air of intimacy and privacy here, as in the rest of this single family area. The houses are either straight New England Colonial or copies of famous architectural styles, particularly Tudor. The streets and front lawns are heavily planted with trees and shrubs. Generally there is a paved sidewalk, a three foot planting strip to the street with no curbing except on sharp curves and at intersections. This whole area is very pleasant, restful and private. It is away from through traffic, and most people who travel on the streets live there or are visiting.

In contrast is the area built up much later on Clinton Road (W). This land was left vacant for many years because it was mostly peat and required expensive building techniques. By the late 1950's however, land prices had risen sufficiently to justify filling and sinking piles. The resulting development is on flat
land surrounded by fairly steep slopes (X). The houses are set noticeably closer to the street to take advantage of the fill for the roadway. The houses are less interesting than those nearby, although their selling prices are just as high. Here, even though there are only seventeen houses, there is the sense of suburban repetition which does not exist in the surrounding neighborhood.

On the West side of Eliot Street and the extension of Cleveland Road, the houses were built in the 40's and 50's and are somewhat smaller and less expensive than earlier ones (Y). Nonetheless their siting and the road construction lend to the area the same positive qualities characteristic of the whole single family area. Eliot Street was at first intended to be much wider than it is and this accounts for the particularly deep lawns of the houses on the streets (V).

At the intersection of Crafts Road and Eliot Street there is a small park, a very nice relief from the housing pattern (AA). Coming upon it is a complete surprise because it is not marked and is invisible from a distance with no noticeable break in the trees. Contrast this with another small piece of town land at the intersection of Reservoir Road and Crafts Road only a few hundred yards away (BB). The topography there is so steep that the strip is useful only in preventing accidents by allowing visibility for pedestrians and drivers.

Reservoir Road divides two areas which, although built at the same time, are very different because of the topography and subsequent laying out of streets. Reservoir Road's right of way is narrower than Willard Road and Cleveland Road and so the houses,
although the same distance from the front lot line (30 ft.) are closer together. The width, its straightness, and its location on the side of a hill pleasantly vary the theme of rows of single family houses. The street is well lined with trees, and where there are sidewalks, they may be gravel or paved.

The area behind these houses was laid out in 1902 by Frederick Law Olmstead's firm. Valley Road, Hilltop Road, and Denny Road were once the Chestnut Hill Golf Club. The Club was not subdivided until the 1930's when it submitted a Leland and Larsen plan which was essentially the same as Olmstead's original design. Fairway Drive was planned to connect back to Boylston Street, but when the roads were finally constructed, that intersection was avoided, continuing the isolation of the area.

There is a steep drop from Boylston Street to the houses fronting on Fairway, and a substantial rise along Hilltop, which creates a bowl of land. There is a sense of being able to see quite a lot of the development, but not enough to erase all mystery (CC). All through this single family area there is a lack of a sense of direction. Landmarks like the Water Works and the Christian Science retreat are visible, but they do not provide orientation to the street pattern outside the area. The policy of making roads continuous and connecting, coupled with the rolling topography have produced a pleasant if confusing road system.

Unlike the Washington Street area, the Eliot Street district has a high degree of cohesiveness. It provides an unambiguous environment sheltered from heavy traffic, private, wealthy, and
well groomed. Washington Street on the other hand, though well cared for, is much more hard edged, public and exposed.

**Regulation of Environmental Elements**

There are degrees of control over environmental elements. Weather and topography are as determinative of the nature of a place as the size of buildings and widths of streets, yet they are not regulated. Color, architectural style and planting are left to the individual builder and owner. Sound and smell are only slightly controlled by nuisance law and Brookline’s first Zoning By-Law which prohibited "noxious" industries. The nature of an area, its view, scale, whether it is open or closed, interesting or boring, are strongly influenced by those uncontrolled elements. The main concern here, however is how much public control does affect the environment; there are a number of consciously regulated factors which have significant impact on the environment.

In Brookline, the texture of the ground, the type of paving on the streets and sidewalks, height and construction of the curbs which make it easy or difficult for people using the area, are all regulated. Granite curbs give an air of durability and a feeling that the area is heavily travelled. Absence of curbs can make an area seem softer and more rural. A wide planting strip may indicate a grand boulevard or an area where low density land uses prevail. Sidewalks which abut directly on the street are indicative of high traffic areas where sidewalk space is badly needed.
Whether a street curves or is straight, and how wide it is affects the development of the areas along it. Wide straight avenues, narrow winding lanes, roads with broad curves and long views all create different environments. In Brookline the width of the streets has been regulated by minimum requirements since 1925 although the curves and intersections have not been controlled until recently. Of course topography, the desire to produce certain kinds of lots and the desire to connect two traffic generators also influence the location and nature of a roadway.

In an urban setting, buildings are particularly important. Their height, the spaces between them, and how far they are set back from the street determine the sense of space of the public environment. Big buildings can be set close together and right up on the street to create an enclosed feeling, while low ones set farther back, or tall ones widely spaced will give a larger open feeling. The buildings can be arranged to form different kinds of spaces. Zoning and building regulations in Brookline have some influence on all these factors. How the buildings are used, and the construction material are also regulated, affecting the kinds of activities which take place and the textures of the building surface.

Parking and circulation of cars is another factor which can determine the nature of an environment. In Brookline no overnight parking is permitted, and apartments built after 1949 must provide parking for their tenants. Parking lots must be built to certain specifications. Parking in areas which are
also used for pedestrian travel and children's play create a different atmosphere than where cars are segregated. Fast moving traffic, either generated by local land uses or as through movement add to the danger of an area. There remain several places which were developed without consideration for the automobile.

Public regulation also covers such things as post boxes, fire hydrants and alarms, overhead wiring, and public benches. While these things serve an aesthetic as well as functional purpose, they will not be investigated here. There is a difference between regulation of private actions as in the Building Code, and public policy or initiative. Much can be done in the environment by public action: clean up programs, tree planting, acquiring land for public parks, building new schools and monuments. My interest here is to investigate the impact of regulation of the private actions of subdividing land and constructing streets and buildings.

Brookline has experienced four distinct periods of regulation. The first, up to 1903, was completely unregulated. From 1903 to 1922 there was a Building Code in effect. Zoning was adopted in 1922 and remained essentially the same until 1945. The 1924 Building Code held until 1962. The four periods then are: 1873 (when the first building on Washington Street-Harvard Avenue site was built) to 1903, 1903 to 1924, 1924 to 1945 to 1962 (when the Zoning and Building Codes were significantly changed, and the last buildings in each site were erected.)
In the following section, which details the effects of the regulations, the descriptions of each provision of the regulations are followed by an analysis of the buildings built on each site in each period. There are Summary Charts of the Building Code and Zoning By-Law.
THE REGULATIONS AND THEIR EFFECTS

Unregulated Buildings

In the Washington Street-Harvard Avenue area there are 23 buildings constructed before building codes, subdivision regulations and zoning were adopted. All of them are residential; one is a four story handsome brick apartment building on Park Vale (G); ten are wood row houses on School Street (R), three are detached wooden houses on Harvard Place, just behind the row buildings (Q); two are attached two-family frame houses; and eight are large wood single family houses (L, M).

The large single family houses and the twin on Harvard Avenue are well set back from the street, have large grounds for the area (10,000-15,000 sq.ft.), have garages and are well maintained. Those on Washington Street are on smaller lots, but otherwise are the same. The apartment building, though on a narrow street, was probably a status address when it was first built. Enough space was left on its lot so that its later residents have parking. None of these buildings would have any trouble meeting subsequent regulations, except for a three story zoning limitation.

The buildings on School Street and Harvard Place are a different matter. Harvard Place is very narrow, and the houses are built directly on the lot line. There is no sidewalk and no planting strip. There is however development only on one side of the street which relieves some of the problem. The lots
vary from 1300 sq.ft. to 3000 sq.ft. Backing directly on these houses are the wooden row houses fronting on School Street. They also have very small lots, and although more architecturally attractive, could not have met the Building Code because of their wooden party walls. The area is only slightly run down and is in fact undergoing some renovation.

The First Building Code

Brookline's first attempt to regulate building construction came in 1873 when the Town Hall's Building Committee was asked to review all building for the town. No records exist of the proceedings or policies of this committee, but presumably the Building Code adopted in 1903 was heavily influenced by them. The 1903 law was amended in 1924 and revised in 1955. The BOCA Code was adopted in 1962.

The 1903 Building Law defines tenement buildings as those housing three or more families, or two families over the first floor. A First Class structure is one which is completely fireproof having no structural wood. Wood flooring was permitted. Second Class structures are not fireproof but are made of brick, stone, iron, or other incombustible material. All other structures are Third Class. Any tenement building of four or more stories housing more than four families had to be of Class 1 construction. Every room had to have a window on a yard or a street, except kitchens and bathrooms whose windows could be on air shafts. Detailed specifications were made concerning the
total area of the windows and their distance from the floor.

The size of the courts and yards resulting from the window requirements were dependent on the height of the building. A court bounding on a lot line of a 60 ft. high building had to be 6 ft. deep, measured from the building line. That dimension increased or decreased 6 in. for every 12 ft. that the building was taller or shorter than 60 ft. If the court was between the two buildings or the wings of the same building of 60 ft. it had to be at least 12 sq. ft. wide, increasing or decreasing 1 ft. for each 12 ft. of building height. For buildings under three stories the dimensions were smaller.

Inner courts, or those not fronting on a street had to be at least 12 ft. x 24 ft. for a 60 ft. building, increasing or decreasing 6 in. in one dimension and 1 ft. in the other for every 12 ft. increase or decrease in height. Completely enclosed courts had to be at least 14 ft. x 24 ft. with the same increase and decrease provisions. For buildings under three stories the dimensions were smaller.

In regulating the amount of the lot the building could cover, the street was considered part of that lot. Every story of the building had to be less than 50% of the area of the lot measured to the center line of the street. The regulation of the story rather than the ground floor prevented overhanging upper stories. Without regard to lot lines, there had to be a yard 10 ft. deep the width of the building open to the sky. Often the yard of the adjacent building filled this requirement. In no case could a building be taller than twice the width of the street on which
it stood. First Class buildings could not exceed 80 ft., Second Class - 60 ft. and Third Class - 45 ft. Each apartment had to have two independent means of egress.

In First Class buildings occupied cellars and attics were not counted as stories, but in Second and Third Class buildings they were. Buildings over 2000 sq. ft. had to have special internal fire walls. Wooden buildings of any type had to be located at least 5 ft. from any lot line.

Buildings Constructed Under The 1903 Code

In the Washington Street-Harvard Avenue area there were forty two buildings constructed under the 1903 Building Law. Six are three and four story brick apartment buildings (H), twelve are in one row of attached houses (I) which could be considered one building but are in separate ownership, eight are three decker wooden tenements (O), one is a wooden duplex, and eleven are wood frame single family houses. A few of these single family buildings come close to the requirement of 5 ft. distance to the lot line but on the whole they have sideyards of more than 10 ft. (M). The wooden three deckers are generally exactly 10 ft. apart (P), have one family per floor, and are set back about 8 ft. from the lot line. Because of the wooden porches and fire escapes, those spaces are well occupied by combustable material. All cover somewhat less than 50% of the lot measured to the center of the street, 40% is the average. The row houses are brick structures which are fireproof, and so need not be set
back from the lot lines. Nonetheless they have 18 ft. front yards, 20 ft. rear yards and a small rear access alley.

All but one of the apartment buildings are constructed to avoid the necessities of court yards. The lots are platted so that the buildings are small enough to allow two apartments per floor, each one room wide so that each room can have an exterior window. The one exception is on a corner lot and its courtyard just meets the requirements. Lot coverage in most cases comes close to the minimum with just the 10 ft. yard space left at the sides of the buildings.

In the Eliot Street-Reservoir Road area there were fifteen buildings constructed under the Building Law before zoning was enacted. Ten are single family houses, both brick and wood, set back about 25 ft. from the lot line with a minimum side yard of 8 ft. Interestingly enough there are also five multifamily buildings, three story wood frame tenements much like those on Harvard Avenue (I). One was built in 1910, the others in 1919 probably for veterans returning from the first World War. They conform to the Building Code, having one family per floor, two means of egress and so on. The smallest lot is 38% covered. They are all more than 5 ft. from all lot lines, although often less than 10 ft.

*Building Code, 1919 - 1924*

The Code was amended in 1919 to require any building three stories or taller to be First Class, effectively eliminating the
wooden three-deckers. This provision was continued in the new 1924 Code. Courtyard requirements for buildings three stories or less were made larger than they had been earlier. No buildings in either area were built under these provisions. In addition any building other than a fire proof one-story garage had to be at least 24 ft. away from any tenement building, plus 2 ft. for every story above three. Tenements had to have at least 20 ft. frontage on a street. Basement rooms had to be inspected before they could be occupied and they had to conform to certain window requirements. Minimum square foot requirements were imposed on the size of rooms in the apartment, and the egress requirement was kept. Lot coverage could be a maximum of 60%; presumably measured to the lot line now, no longer the middle of the street. A corner lot could be covered 80%. The maximum floor area between fire walls for structures other than detached dwellings was tied to the class of building and the distinction between interior and corner lot. For First Class construction it was 10,000 sq. ft. for an interior lot, 12,000 sq. ft. for a corner lot.

Height limits were changed slightly. Class One structures could be 83 ft. rather than 80 ft., but still could never be more than twice the width of the street. Class Two buildings could still be 60 ft., but Third Class structures were reduced to 40 ft. from 45. No Third Class building could be used for mercantile purposes.
Early Zoning

In 1922 Brookline jumped on the bandwagon that was spreading zoning across rapidly developing America. The Town had been surveyed and the use, height of building and percentage of lot area covered by building were recorded for each parcel of land. In 1921 a hearing generated a discussion of the New York experience which was held to be successful because of the small number of changes made in the four and one-half years zoning had been in effect. 2 Several early attempts to provide districts regulated in great detail were abandoned; many of these regulations were incorporated into the Building Code.

In the Report of the Planning Board on Proposed Zoning By-Law Brookline's planners, who included Frederick Law Olmstead, son of the inventor of landscape architecture, stood squarely behind zoning as a means of insuring that their town would continue to be a quality suburb of Boston whose property values and rapid development were safeguarded:

"That Brookline has remained so purely a residence town must be a source of wonder to anyone who stops to consider the development of neighboring territory. Whatever has been the cause of this fortunate result, it has certainly not been due to any public action by the town itself." 3

2 Account of Informal Public Hearing, Brookline, Massachusetts. (May 18, 1921)

"Without zoning, stores or manufacturing plants can be built wherever the speculator thinks they will result in his personal profit. Whole 'blighted districts' a few of which unfortunately already exist, will thus be created - districts where the established type of development will cease because of an invasion of inappropriate use."  

"Zoning is the fair regulation of the use of private real estate by giving each piece of property just such protection and just such liberty as is most valuable and suitable to it .... gives to each district such regulation of the use and construction of buildings as is appropriate."  

"To maintain property values already created, to protect those being created and to maintain the enviable reputation of Brookline as a residence community, the Planning Board is convinced that a Zoning By-Law should be immediately adopted by the town."

This first By-Law divided the town into use districts: 1 (General Business Purposes), 2 (Store Purposes), 3 (Residence Purposes), and height and area districts: A, B, C, D. (See chart of Zoning Regulations.) Districts labelled 1 could have any use except that which "is noxious or offensive by reason of the emission of odor, dust, smoke, gas, or noise." District 2 allowed no manufacturing except what would be sold on the premises, and prohibited a list of other uses including blacksmith, junk storage and carpet cleaning establishments. In District 3, Residential Purposes, "family dwelling, hotel, club, other than one which

4Ibid., p. 10.
5Ibid., p. 3.
6Ibid., p. 10.
operates as a business, church, other uses which are not industries, trades, manufacturing, or commercial, railroad passenger station, farm, truck garden, nursery or green house" were permitted. A public hearing was required in order to allow a garage for more than two cars.

Buildings Constructed Under Early Zoning

In the Washington Street-Harvard Avenue area there were two Districts in effect. The area along School Street was designated 1-B which allowed virtually any use, but restricted building height to 60 ft. (five stories if the use was residential). Washington Street and Harvard Avenue were zoned 3-C; General residence with a height limitation of 50 ft. and three stories. Not more than 60% of a lot could be covered by a building unless it were a corner lot, in which case 70% (10% less than the Building Code) was permitted. Every building had to be set back at least 30 ft. from the center line of the street which it faced. No building could be closer than 7½ ft. to the lot line.

The buildings built under the 1924 Building Code and the 1922 Zoning By-Law in the Washington Street-Harvard Avenue area are mostly modest single family houses or large brick apartment buildings. Of a total of eighteen buildings constructed, three are stores (A), one a garage, one a church, one a gas station, ten are apartments and twelve are single family. There are no more three-story wood frame buildings. The apartments all have generous courtyards. The distinctive U-shaped buildings are a
result of a number of influences, mostly of the Building Code and the shape of the lot.

Originally there were several small streets, like Park Vale and Harvard Place planned for the area between Harvard Avenue and Washington Streets. The early speculative platting did not sell, however, and some buildings were constructed which prevented a through street from dividing the block. As a result the lots are very deep. When the constraints of the Building Code, requiring windows and two means of egress are added, the economic result is either long narrow buildings, or several towers on a single lot. Both building technology and height regulations preclude the latter, so long thin buildings dominate the apartment construction of this period. The additional apartments which could be gained by closing the ends into a U shape did not particularly inhibit the marketability of the apartments, and provided an additional return on investment.

In three cases the courts facing the street are generous (D), but the rear yards conform only to the minimum of 12 ft. (F) and the front set back is just 7½ ft. The width of the lots was determined by the amount of land permitted to be covered. In most cases the limit of 60% is approached. The side yards and courts are larger than required because of the maximum coverage regulation (E). The other multifamily buildings are a variation on this theme of trade-offs between requirements and lot shape and size, as can be seen by examining the maps.

The single family buildings (K), stores, garage and gas station conform quite easily to all the Building Code require-
ments, 3-C zoning requires a 30 ft. set back from the center of the street. In the case of Washington Street where the right of way is 60 ft. wide, this means that just the 7½ ft. set back is required. In the 1-B District there are no set back requirements, and the stores on School and Cypress Streets are directly on their lot lines.

The Eliot Street-Reservoir Road area was labelled 3-D, the most restrictive. Building height was limited to 45 ft. or two and one-half stories, although single family residences were allowed to have more stories. No more than 30% of a lot could be covered except for a corner lot where 70% was allowed. Again a 30 ft. set back from the street's center line was required and no building could be closer than 7½ ft. to the lot line. In this first By-Law there was no single family district and no provision was made for minimum lot size. The three houses built during this time in the Eliot Street-Reservoir Road area are in no way different from those built subsequently.

Zoning, 1924

In 1924, Gorham Dana of the Brookline Planning Board wrote:

"The Brookline Building Law has for several years prohibited the erection of frame three-family tenements or three deckers. The speculative builders found that the wooden two deckers were a better investment from their standpoint than the brick three deckers and after the passage of the Zoning Law, these two deckers began to spring up like mushrooms in some of the best residential districts. Within a year of the passage of the Law, members of the Planning Board were approached by citizens of the best districts and asked whether they
could not be protected against the encroachment of these cheaply constructed dwellings which would certainly tend to depreciate the neighborhood and thus defeat, to some extent at least, the main object of zoning."

The result was that the Board decided to offer the option of a Single Family Residence District. Like any other zoning change it could be effected by the Town Meeting if the owners of 50% of the assessed valuation of the land in the District petitioned for the change. Residents of Brookline flocked to the Board with their petitions and most of the town became single family, including the Eliot Street Reservoir Road area. Districts designated 4 were limited to detached single family residences, clubs (non business), churches and schools. All single family areas were designated 4-D and the height and Regulations of D areas applied.

The 122 single family houses built in the Eliot Street-Reservoir Road area between 1932 and 1945 are of good quality, on substantial lots. There is one lot as small as 6200 sq.ft., all others are between 9,000 and 11,000 sq. ft. They are set far back, usually about 35 ft. from the lot line, although on Clinton Road they are uniformly 25 ft. In a few cases the side yards approach the minimum of 7½ ft., but mostly they are 10 to 20 ft. Most of the buildings are two and one-half to three stories and there seems to have been no rush to approach the 45 ft. limit.

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Subdivision Regulations

In Massachusetts, subdivision regulations obtain only when a newly built street is created. Brookline, in 1925, appointed its first Board of Survey to administer regulation over the width of these new streets. At that time the street rights of way could never be less than 40 ft., and were required to be 50 ft. unless such width "would impair the economic efficiency of the street." If the new street were likely to become a secondary road it had to be 60 ft. wide, if a main artery, 80 ft. wide. Corners at intersections had to be rounded and a building line 10 ft. from the street was to be established. Private ways were not regulated and much of Brookline's development had involved streets not maintained by the town.

Willow Crescent, Clinton Road where it crosses Eliot Street, and Eliot Street itself were laid out under the 1925 Regulations. The three side streets are 50 ft. wide, 10 ft. larger than Willard Road and Taylor Crossway which are earlier streets. Originally Eliot Street, planned to connect Cleveland Circle and Boylston Street, could have been considered a major artery, and so has an 80 ft. right of way. Since then plans to continue the street beyond the Town Line have been dropped.

Zoning, 1924 - 1949

Between 1924 and the next full revision of the Zoning By-Law in 1949, there were a number of substantial additions to the
Regulations. Most of these changes involved upgrading or making more severe the requirements on the land. Publicly at least everyone expressed satisfaction with the results of the zoning effort. Wrote the Chairman of the Planning Board in 1928:

"So far as the writer can judge of the effect of the zoning on Brookline, it has been to elevate the character of the town, to increase values, to stabilize the character of neighborhoods which adds to the quality of inhabitants and the value of the property." 8

In 1933 there was a rewriting of the state enabling legislation which appears to have had no effect on the Brookline Regulations. In 1937 hotels were no longer permitted in 3 districts. In 1938 the discussion of minimum lot sizes began in earnest. As this sampling of opinion shows, Brookline residents were interested in protecting their property values and the social status of their town for the future:

Minimum lot sizes should be imposed "in order to secure a high grade development of the large estates in the southern part of the town if and when it is found desirable to divide them into smaller units." 9

"Many very small developments have recently been made which tend to decrease the desirability of these sections and which do not bring enough revenue to the town to pay the cost of their maintenance. If this tendency continues unchecked it will result in a higher tax rate." 10

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9 Hearing on Proposed Changes to Zoning By-Law, (February 24, 1939).

10 Ibid.
"The idea is to prevent too much cheap development. The program will take the more desirable parts of town and try to keep them high grade. We don't want to cut out the small house, but hope not to get too many of them. There is plenty of room left for them in the localities in which further building of small houses will be allowed in the zoning plan."11

Exactly what the required size should be could not be settled immediately, however, and it was not until 1945 that a 7500 sq.ft. minimum was imposed in 4-D Districts.

At the same time concern over parking had been growing, especially for apartment buildings. In 1941 the Planning Board wrote to the Town Clerk:

"The provision of adequate garaging or off street parking space for multiple family dwellings will tend to maintain high rental returns and prevent residential decentralization. Tenants who cannot be provided with garages or garage space will move elsewhere, causing a loss to Brookline apartment house owners. Where apartments are provided with garage accommodations they are always in demand. In apartment house districts where tenants have their cars garaged at some distance from their homes it is common practice for them to park their vehicles on streets adjacent to their apartments during the day and often until late at night. These parked automobiles increase congestion, prevent traffic flow and create a dangerous condition."12

11 Dana, Gorham, quotation unmarked newspaper clipping, "Home Zoning Restrictions Before Brookline Meeting," (March 22, 1940).

12 Brookline Planning Board, letter to Town Clerk, (January 12, 1941).
The revisions in the By-Law in 1945 include the requirement that any building for two or more families must provide parking at a 1:1 ratio. Each space was required to be 200 sq. ft. In addition, in 1945 new building location requirements were adopted for 4-D Districts. All buildings had to be set back 10 ft. from the street line and the rear yard had to be at least 15 ft. deep. The lot had to be at least 70 ft. wide and there had to be at least a 40 ft. frontage on the street. Districting language was made uniform, and an introduction stating the purpose of the By-Law was added.

A recodification of all zoning provisions was effected in 1949. A series of minimum lot sizes for Single Family Districts was established and several new Districts were created. District 1 was labelled Industrial, 2 - Business, 3 - became Accessory Parking where by asking for a zoning change, large parking areas were permitted. Four Residential Districts were established: 4 - General Residence which permitted hotels, churches, farms, railroad passenger stations, and schools in addition to residences; 5 permitted the above plus two family dwellings, club houses and educational institutions; 6 permitted row houses and 7 permitted single family residences, churches, clubs, public schools and private educational institutions. Districts 5 and 6 had D density restrictions only while 4 had A, B, C and 7 had D, E, F, G, and H corresponding to lot size requirements. The Washington Street-Harvard Avenue area was zoned 1-B, 2-C and 4-C. The Eliot Street-Reservoir Road section was 7-D.
Definitions were clarified: measurements for the width of a lot, the height of a roof and set back from the street. In 1 and 2 Districts, lot area coverage maxima were lifted for one story buildings. Certain exceptions to the Parking Regulations were permitted for hotels and fraternities. Conversions to multi-family use were to provide "as many spaces as possible." Commercial uses over 4,000 sq. ft. had certain reductions in this requirements. Standards for parking lots of more than six cars were imposed. Generally they had to be paved, drained, enclosed, and have the spaces marked.

In 1950 an exception was made to the three story, 50 ft. limit on residential buildings in C Districts. If the building were set back more than 25 ft. from the lot line, height could be increased up to 60 ft. or six stories. The two buildings constructed under this provision did not take advantage of it.

Building Code, 1955 and 1956

An amendment to the Building Code in 1955 permitted apartment houses to be Second Class if they were not more than four stories tall and had only one apartment per floor and if each apartment still had two independent means of egress. Nothing was built under this provision in either area. Conversion of large apartments to smaller ones was allowed if each apartment had two independent means of egress.

Although the Code was reworked considerably in 1956, the Regulations were not significantly changed. A standard 10 ft. court
or yard was required for multifamily buildings.

**Washington Street-Harvard Avenue, 1945-55**

In the period 1945 to 1955 when these new zoning provisions were in effect, but the Building Code remained the same, four buildings were erected in the Washington Street-Harvard Avenue area. Three were apartment buildings (N) and two were commercial structures (B). All were subject to the new Parking Regulations, and the residential buildings had to meet the new 10 ft. setback requirement. It is interesting that the commercial structures were not set back at all, and both provide parking, although the School Street establishment's arrangement because it is on a hill, is far from ideal. In addition, there were two buildings constructed between 1955 and 1962. Although newer Codes were in effect at the time, the provisions under which they were built were substantially the same as those in the previous Codes.

The residential buildings follow the long narrow pattern set earlier. They are three stories in accordance with height limitations, although it appears that they have occupied basements. The U-shaped buildings manage to provide both parking and green space, while the straight building, because of its narrow lot, can barely provide parking. It is clear that these three buildings are set back further than their counterparts on Washington Street; this is noticeable particularly because Harvard Avenue is so much narrower.
Subdivision After 1936

Massachusetts passed legislation enabling towns to regulate subdivision in 1936. Their purposes were to:

"require that ways...shall have the proper grades and shall be of suitable width and suitably located to accommodate the prospective traffic and to afford adequate light, air, and access, including access of fire fighting equipment, to buildings, and to be coordinated so as to compose a convenient system."\(^{13}\)

Brookline supplemented its 1925 Regulations in 1937. The same street widths remained, but dead ends were not allowed unless for topographical reasons it would be impossible to connect with some existing or proposed street. Language was added enabling the Board of Survey to require parks if they felt the area was not adequately served.

The Chestnut Hill Golf Course was subdivided and roads laid out under these Provisions. Also the western part of Cleveland Road was constructed(Y). All these streets have a 50 ft. right of way, and have rounded corners. Otherwise their layout and curves have more to do with Olmstead's original plan than they do with the Subdivision Regulation (CC).

Administration of subdivision passed to the Planning Board in 1940 and in 1949 they issued new Regulations. The Board could now make a judgment as to whether the land was healthy for

\(^{13}\)Subdivision Regulations, Chapter 211 of the Acts of 1936, Sec. 81F, Commonwealth of Massachusetts.
residential development and if the street layout was safe for travel and allowed for continuous ways. The western end of Clinton Road, a dead end, was built during this time (W,X). Topography, and the expense to the developer of acquiring extra land for building a through street were probably deciding factors in permitting a dead end. The redesign of that intersection would also have been a difficult problem. Cul de sacs were required to have a turn around with a 45 ft. radius; Clinton Road's is 55 ft. The new sidewalk requirements stipulate a 4 1/2 ft. paved walk on either side, with a 4 1/2 ft. planting strip seeded with grass. Various requirements for angles of roads at intersections, curbs, and limitations on grades are not relevant to Clinton Road.

New Subdivision Regulations adopted in 1968 allow the Board to require the planting of trees, the construction of banks, the length of cul de sacs and other things which would more significantly affect the small scale environment. The Regulations under which the two areas were built however were mainly confined to street width and encouraging a connecting pattern.

The Eliot Street-Reservoir Road area in 1949 was zoned 7-D which required a minimum lot size of 7500 sq. ft. As already noted the existing lot sizes were much larger, and they continued to be. New rear yard (15 ft.), set back (10 ft. from street line), lot width (70 ft.) and street frontage (40 ft.) requirements were also generally surpassed. The lots at this time were plotted as the houses were built so these lots were platted at different times.
Concern over the conversion of large frame houses for multi-family use began in 1940. There was strong opposition to permitting these conversions until the post war housing shortage forced officials to relax their stand. In 1960, however, sentiment was still strong enough against it to allow 1:1 Parking Regulations to be extended to conversions. This measure effectively ended the practice in Brookline. No conversions have taken place in any of the buildings on the two sites.

In 1961 there were substantial revisions to the Zoning Regulations which I will not discuss here. They seem to have no effect on the four buildings built during this time in the two areas. In 1962 an entire new By-Law was adopted, which along with the BOCA Code has had significant effect on much of the rest of the town, but has not been in evidence in these two areas.
INTENTIONS BEHIND THE REGULATIONS

Legally Brookline has the power to regulate building under the police power, as long as the town can show that the underlying motivation is the health, safety, and public welfare of the people. In addition, it must not devalue the land to the point where compensation is required, and it must not be arbitrary in its regulations. In fact the motivations for the regulation go beyond the legal justifications to the social, economic and physical integrity and interest of those who make their desires felt in the town.

Brookline has been concerned that it keep its image of a quality residential community for the wealthy and near-wealthy of Boston. They have always continued to have good schools, a good government, a low level of crime, and an upper or upper-middle-class population as is evident from correspondence and public statements of the town's officials from the first Building Code on. Economically this means that property values must be kept high to strengthen the tax base, but discouraging even highly valued land uses like industry and shopping centers, in favor of more prestige uses. High land values provide taxes to pay for the amenities which are expected in a quality residential area.

In physical terms the town's residents have insisted that builders provide quality construction to protect their investments. Pleasant, attractive neighborhoods do not become obsolete nor do they jeopardize the value of surrounding land. Neighborhoods which conform to generous standards insure the expected amenities
and are likely to attract the sort of people which Brookline wants in its population. These physical and social intentions and motivations are in harmony and can be served by the same tools.

The Building Code is officially charged with regulating buildings so that they will be as safe as possible from fire, will be accessible to fire and emergency equipment, and will have adequate light and air for healthful inhabitation. The Regulations require certain side yard dimensions, height restrictions, the percentage of the lot which may be occupied, windows in every room, two means of egress, and the amount of floor space between fire walls. These requirements can also insure that buildings do not deteriorate easily, are sheltered from the dust and noise of the street and other buildings, and are expensive to build. In Brookline the regulations tend mostly to insure that the buildings are not likely to deteriorate, and also prohibit certain kinds of buildings which are not considered of good enough quality, like the three story wood frame buildings. This kind of prohibition naturally has an effect on the kind of people who live in the town. It is not too far fetched to believe that this result was the motivation for the regulation.

When the Zoning By-Law was first enacted, it was touted as being good for property values because it insured that incompatible uses would not hurt the land owners' investment. Safety, prevention of congestion, overcrowding of land and streets were the official reasons behind requiring set backs, side yards, and height limitations, and later parking and minimum lot sizes. Again these requirements also can increase costs and influence
the kinds of people who can afford to buy houses or build apartments in regulated areas. Brookline chose in the single family areas not to require unnecessary expenses just to directly drive up the price of development, but relied upon public custom to insure adequate lot size. In multifamily dwellings they chose not to directly regulate the density, the number of units per acre, even though they were entitled to do so. Off street parking provision was grounded as much in a real need for parking as in the desire to attract tenants who owned cars and were wealthy enough to pay the extra cost of having a designated space.

Subdivision Regulations are mainly to insure that public roads are sufficient to carry the traffic which will be generated along them, and that newly formed lots are accessible. It was not until 1968 that Brookline started requiring wide planting strips, and paved walks which increase the site development costs significantly. Excessive curbing has never been required, although it could have been used to further increase the cost of an individual house or apartment building.

On the whole then, these Regulations have followed, rather than led public practice and opinions about the physical environment.
EFFECTS OF THE REGULATIONS - SUMMARY

One would expect, assuming that the profit motive is constant, that with the kinds of Regulations that Brookline imposed, two general effects would be noticeable. First that the limitations placed on the amount of building space constructed would cause most buildings to be just within, or exactly built to, the limitations. Second, that through time as the restrictions changed there would be clustering of buildings just before a more rigorous requirement was imposed. This would also assume good communications of the new provisions to prospective builders, and that other market effects were not in conflict with this tendency.

Restrictions over the size of buildings take the form of side yards, set backs, percentage of the lot permitted to be covered, and height. Because an economic return on investment depends on the amount of leasable space, one would expect, at least for the commercially owned buildings, that structures would be as large as were permitted. This in fact did happen in the apartment houses. The U-shaped buildings approach almost every limit, except that of court yard size, which, given the other requirements, could not have been any smaller. The three decker wooden houses are also as tall and large as they were allowed to be by the Building Code under which they were built. They conform to the minima and maxima in every way. The standard set for floor area allowed between fire walls seems to have had less effect on the size of buildings. In spite of the added expense of erecting fire walls, there seems to have been no large number of buildings sized to just avoid their necessity.
Other types of buildings, single family houses, and commercial structures do not exhibit this pattern. The stores in the Washington Street-Harvard Avenue area are all either one story or two story buildings, far less tall than the Zoning and Building Codes would have allowed. Many of them do rest directly on the lot line abutting the street.

The other expected pattern does not materialize in a significant way. Although builders are aware of when more restrictive measures are being considered by a public regulating body, there seems to have been no rush to build a lot of buildings before they were imposed in these two areas. In 1903 the first Code was enacted, and in 1924 regulations concerning courtyard size were imposed. In neither case was there active building of any kind immediately beforehand. In fact by looking at the building figures alone, one could be lead to believe that the builders were waiting to see what the new restrictions would be. The same is true of the Zoning By-Law, even when minimum lot sizes were about to be imposed, there was no expanded amount of building.

The impact of the regulations in their effect on the environment seems more dependent on the nature of the area under regulation. People's idea of what an area should be like interacts with the market and the regulations to produce the final form of the physical environment. For example, most people would agree fairly readily what a single family area should look like. In Brookline the prescribed side yards and set backs, height and building material merely reinforced the consensus of the builder and his clients that the houses should not be too close together.
or too close to the street. Because the market was strong, and able to exercise specific taste, it was not even necessary for a town like Brookline to have minimum lot requirements. The market demanded those lot sizes. What the market did not demand in Brookline the neighborhood was probably able to enforce.

The Building Code in the single family areas was hardly applicable in Brookline. The Zoning By-Law probably did not make much difference in what was built there. It is possible that more three-family or other apartments and a few local stores might have developed there but is unlikely, since there was land closer to transportation not far away on Boylston Street. Zoning did insure, however, that these encroachments did not take place, and in that way encouraged the quality building which took place.

Notions about what a multifamily area should look like are much less clear than those for single family areas. Because the builders of the apartments can maximize their profits by putting as many apartments as possible on the smallest amount of land the regulations for this kind of development are much more numerous and determinative than those for the single family houses. Perhaps also the idea that the people who live in multifamily housing might have different images of what a Brookline neighborhood should be like prompted the town to impose more regulations on this kind of development.

The Washington Street-Harvard Avenue area can be seen as something of a testing ground for these Regulations. At first there were none, and the wooden row houses sprung up. These
were outlawed by the Building Code, and then wooden three-deckers became the dominant mode of development. These were found unsatisfactory and were quite specifically banned. The three and fourstory brick buildings were acceptable, but since they provided no parking the streets were crowded, so parking was required. Later on when elsewhere wooden apartments of high quality nature were being built Brookline rescinded its ban on three-deckers.

Unlike the single family areas, the Building Code has had a significant effect on the physical form of the multifamily area. The courtyard, egress and window requirements as well as the side and rear yard, set back and percentage of lot to be covered all made it easier to have long narrow or small apartments.

The fate of the three-decker wooden tenements has been closely connected to the Regulations. They proliferated in the Boston area as a whole, and exist on both of the sites in question. They stopped being built entirely when the Codes required that they be of fireproof construction in 1919. Those buildings in the Eliot Street-Reservoir Road area just managed to get in under the line. After that the same size of building was not repeated in brick, but according to the Brookline files, wood two-stories began springing up. These were finally ruled out by the single family zone, in the "better areas." It is probably not far from wrong to speculate that it was as much the occupants of the housing as the quality of construction which concerned the inhabitants of the town. In 1956 when the require-
ment was relaxed so that Second class buildings could go as high as four stories if there were no more than one family per floor, no new buildings were built along these lines.

Zoning Regulations concerning height, side yards and setbacks also had greater effect in multifamily areas, as evidenced by the fact that they are closely adhered to. It is quite likely that small local commercial uses would have found their way into the buildings existing in the area, particularly in the form of conversions of the single family dwellings. Even in an area which is as jumbled as Harvard Avenue, the insurance of zoning coupled with the social image is enough to cause homeowners to keep their property in good condition. Parking Regulations, as noted earlier, have had a significant impact there. In some cases the lots are directly on the street, but more often space is provided close to the building in the rear. This forces a higher development cost and the consequent lower number of physical amenities of the newer buildings.

In the commercial area, probably an even less clear idea of the ideal development prevails. The response of the Regulation is quite different, however. Rather than attempting to provide some standard and working out the details, the commercial area is not heavily regulated. The Building Code provides that a building must be fire proof, and those over a certain floor area must have fire walls. A maximum percentage of the lot may be occupied. The Zoning By-Law regulated use and height, and sub-division has no effect, in this area. There is no attempt to dictate sidewalk width, amount of glass area, relationship of
stores to each other and so on. The market here has not been so strong as to create demand for tall or very large buildings. Parking requirements imposed later have had the effect of opening up large paved spaces, and getting the cars off the streets.

There are also other factors which influence regulations of the small scale environment. Physical determinants such as sewers, utilities, transportation facilities, and bank lending policies affect the rate and timing of development as well as its small scale manifestations. The existence of good transportation in Brookline Village helped create a sufficient demand for apartments in the Washington-Harvard area. No large scale development of the Eliot Street-Reservoir Road area could take place until there were sewers and utilities provided for the new house. Banks tend to be protective of the money they lend out, and they can greatly influence the nature of a building venture. Once it was shown that apartments did well in the Washington area, it was probably not difficult to get financing for another building which looked pretty much the same as the others. A large ranch house probably would not have fared as well there because the bank would assume that its value would go down as multifamily and commercial uses grew up around it.

The true measure of the effect of development regulations is to compare what happened to what might have happened if the Codes had not existed. This is risky speculation at best, but with the knowledge of people who have known the area over time it is possible to hazard a few guesses.
Undoubtedly the Building Code requirements restrained and finally prevented high density wood construction. The market probably would have for some time supported three and even four deckers and wood row houses. Buildings might well have been located much closer together and covered more of the lot, as they did before regulations were imposed. It is not likely that either area would have supported taller buildings however because of their very local neighborhood qualities.

The Zoning By-Law was probably most effective in keeping local commercial operations out of residential areas. The Washington Street-Harvard Avenue area particularly would probably had some small enterprises. Public opinion might well have been sufficient to confine non-residential uses to the major streets in the Eliot Street-Reservoir Road area. Parking regulations most certainly would not have been voluntarily initiated, and in the Washington Street-Harvard Avenue area the parking situation would have been even more critical than it already is.

If it were not for the Subdivision Regulations the Eliot Street-Reservoir Road area would have had much narrower streets more like the early ones in the area. Perhaps there would also have been fewer connecting streets and more dead ends.

On the whole the two areas would have been more crowded with cars and buildings. The Washington Street-Harvard Avenue area might well have never had those U-shaped buildings, but wood tenements instead. As a result, the area might have gone down hill and today either be much less well maintained or have already undergone renewal to a new use. Eliot Street-Reservoir Road would
probably have continued to develop with multifamily dwellings and the whole road structure might have been altered to suit that land use. Otherwise the area would have been much the same, with narrower and perhaps more confusing roadways.

Another measure of the effectiveness of the Regulations as tools is whether Brookline got what it wanted. In the Eliot Street-Reservoir Road area the town can have no complaint. It is a model residential area with fine houses well maintained. With no regulations other than land use it probably would have done the same thing. Zoning acts as a guarantee of concern and potential power as well as an actual direct regulation over building. Residents who buy there know that it will remain single family, even if the lot size requirements are minimal. There might be some regret that Regulations failed to get rid of the existing multifamily dwellings.

The Washington Street-Harvard Avenue area is probably not too bad in Brookline's eyes, but not altogether desirable. Its incoherency is partly due to the changes in the Regulations which took place as the area was developing.
IMPLICATIONS

By identifying the situations in which Brookline's Regulations have had the greatest effect, it is possible to discover implications for the effectiveness of other kinds of development controls. There are a number of different mechanisms now being tried out around the country as substitutes for the traditional controls. There are attempts to both remove regulation from local jurisdiction altogether and to tie it in more centrally to community interests. There are schemes which allow great flexibility by providing for negotiation between developer and municipal authority, and schemes which merely allow the developer more choice.

Had Brookline been developed under a standard state-wide Building Code, the impetus to change the Code's provisions would have had to have come from state-wide organizations, and therefore would have been less expressive of local needs and desires. There would have been a much reduced opportunity to shape the local environment by trial and error. It is possible, though unlikely, that such a code would have been drafted so that it needed less adjustment; certainly in Brookline's view it would have been quite difficult to outlaw the three deckers with as much dispatch as they did.

On the other hand, an integrated Code, co-ordinating provisions now covered by three sets of Regulations, and administered at the local level, would have been more responsive than the separate Regulations. It would have been able to do away with
the overlap and artificial boundaries in the separate Codes. In addition, with greater clarity in the controls, it would have been possible to more directly represent the motivations of the town. If that Code also contained a means for negotiating the Regulations on the basis of specifically local needs, the effect would have been much closer to actual determination of the nature of the environment. It might have been difficult for builders who now operate on a regional level to acquaint themselves with so many different local regulations. However, it is possible to regulate on a state level those things which can be mass produced to the builder’s advantage, and do not have significant impact on local physical preferences. Plumbing fixtures, elevators, hearing and air conditioning units, insulation, and electrical wiring for example, can be standardized without compromising local control over the environment.

There are in addition, attempts to make the regulations more effective by involving citizens in the planning of their own neighborhoods. This method allows explicit expression of residents' feelings about their neighborhood and what they want to happen there. Combining this scheme with more flexible and direct control, such as regulating geographic divisions, not by building type, but by density or period of development, would also increase effectiveness. Areas already built up would have a different set of regulations geared more to rehabilitation and redevelopment, and areas under development pressure would have specially designed regulations to cover their particular problems.

Incentives are also offered by some new regulations. In
return for allowing a developer greater densities, the municipality imposes more specific requirements on the proposed development. An office building, for example, can be taller if it offers the pedestrian a small plaza and access to public transit, or dwelling units can be clustered together if the developer provides open space. This is another means of bringing the intentions of the town to bear on the developer. It can be quite effective as long as the provisions are drawn to reflect the real motivations.

From the evidence of these two sites in Brookline, the overriding determinant of effectiveness of regulations is the strength of the publicly held image of an area. If that image is directly reflected in the intentions behind the regulations, then the controls will be effective. Where the image is unclear, or the intentions ambiguous, the regulations will be ineffective and their physical manifestations will not be directed by public intent.

Because of constitutional restrictions on the degree to which public authority can impinge on individual property rights, development regulations can never guarantee good design. However, it is possible within the constraints of existing types of regulation to increase their effectiveness by providing connection between local desires and the regulation tools. Such tools are most effective when they are derived directly from commonly held images of what an environment should be.
<table>
<thead>
<tr>
<th>DISTRICT</th>
<th>HEIGHT</th>
<th>STORIES</th>
<th>% OF LOT TO BE OCCUPIED</th>
<th>SETBACK</th>
<th>DISTANCE FROM LOT LINE</th>
<th>DISTANCE FROM OTHER BUILDINGS</th>
<th>REAR YARD</th>
<th>LOT AREA</th>
<th>LOT WIDTH</th>
<th>STREET FRONTAGE</th>
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<td>5 if res.</td>
<td>See</td>
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<td>3 if res.</td>
<td>60%; 70% if corner lot</td>
<td>30 ft. from center of street</td>
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<td>30 ft.</td>
<td>7½ ft.</td>
<td>70</td>
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<tr>
<td>4 SINGLE FAMILY</td>
<td>D</td>
<td>45 ft.</td>
<td>2½</td>
<td>30%</td>
<td>30 ft. from street line</td>
<td>7½ ft.</td>
<td>15</td>
<td>40</td>
<td>7500 ft.</td>
<td>70</td>
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<tr>
<td>7 SINGLE FAMILY</td>
<td>D</td>
<td>45 ft.</td>
<td>2½</td>
<td>30%</td>
<td>10 ft.</td>
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<td>15</td>
<td>40</td>
<td>7500 ft.</td>
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AFTER 1945, 1:1 Parking was required for all residences housing two or more families.

ZONING REQUIREMENTS
<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>1903</th>
<th>1924</th>
<th>1956</th>
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<tbody>
<tr>
<td>WINDOWS</td>
<td>Every room must have a window which gives on a street or yard</td>
<td>If three stories or more, has to be Class One (1919)</td>
<td>If four stories or less, and one apartment per floor, may be Class Two</td>
</tr>
<tr>
<td>STORIES/CLASS</td>
<td>If four stories or more, had to be Class One</td>
<td>If three stories or more, had to be Class One</td>
<td>If four stories or less, had to be Class One</td>
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<tr>
<td>WINDOWS</td>
<td>Each apartment must have two independent means of egress</td>
<td>Each apartment must have two independent means of egress</td>
<td>Each apartment must have two independent means of egress</td>
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<tr>
<td>DIMENSIONS OF COURTYARDS</td>
<td>- Six ft. for a 60 ft. building</td>
<td>- Six ft. for a 60 ft. building</td>
<td>- Six ft. for a 60 ft. building</td>
</tr>
<tr>
<td></td>
<td>- Between two 60 ft. bldgs., must be 12 ft.</td>
<td>- Between two 60 ft. bldgs., must be 12 ft.</td>
<td>- Between two 60 ft. bldgs., must be 12 ft.</td>
</tr>
<tr>
<td></td>
<td>- 12 ft. x 24 ft. if inner court of 60 ft. building</td>
<td>- 12 ft. x 24 ft. if inner court of 60 ft. building</td>
<td>- 12 ft. x 24 ft. if inner court of 60 ft. building</td>
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<tr>
<td>STORIES OF YARDS</td>
<td>10 Feet</td>
<td>10 Feet</td>
<td>10 Feet</td>
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<tr>
<td>LOT COVERAGE</td>
<td>Less than 50% of lot measured to center of street</td>
<td>60% (normal measurement)</td>
<td>80% for corner lot</td>
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<td>NB. FT. BETWEEN FIRE WALLS</td>
<td>2000 sq. ft.</td>
<td>Class One: 10,000 sq. ft. interior</td>
<td>12,000 sq. ft. corner lot</td>
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<tr>
<td>DISTANCE FROM OTHER BUILDINGS</td>
<td>24 ft. plus 2 ft. for each story over 3</td>
<td>24 ft. plus 2 ft. for each story over 3</td>
<td>24 ft. plus 2 ft. for each story over 3</td>
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<tr>
<td>STREET FRONTAGE</td>
<td>20 ft.</td>
<td>40 ft. (soming)</td>
<td>40 ft. (soming)</td>
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<tr>
<td>HEIGHT</td>
<td>Never more than twice the width of street. First Class: 80 ft., Second: 60 ft., Third: 45 ft.</td>
<td>Never more than twice the width of street. First Class: 88 ft., Second: 60 ft., Third: 45 ft.</td>
<td>Never more than twice the width of street. First Class: 88 ft., Second: 60 ft., Third: 45 ft.</td>
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<tr>
<td>WOOD STRUCTURES</td>
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<td>DISTANCE FROM LOT LINE</td>
<td>5 ft.</td>
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<td>Paved Width</td>
<td>Street Name</td>
<td>Date Accepted By Town</td>
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<td>50</td>
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*Last widened

**Private construction
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</table>
WASHINGTON STREET-HARVARD AVENUE

(A) Washington St. at School. Local stores, built 1928
(B) Washington St. at School. Apartments built 1925, Supermarket, 1950

(C) Washington St. looking West. Apartments built 1927
(D) U-shaped apartment, built 1927
WASHINGTON STREET-HARVARD AVENUE

(E) Sideyard, 12 ft.

(F) Rear yard, 12 ft.

(G) Four story apartment, built 1874.

(H) Park Vale. These are the buildings' front entrances.
Row houses on Harvard Avenue, built 1907

Harvard Avenue parking lot next to four story apartment, built 1928

Greenough Circle, houses built 1937

Harvard Avenue, single family houses built 1874 and 1895
Five ft. minimum sideyards, 10 ft. between buildings. Harvard Avenue houses built 1907

Harvard Avenue apartments built 1958

Harvard Avenue three story wood tenements, built 1907

Five ft. sideyards between tenements
Harvard Place frame houses built 1907, 1874

School Street wood row houses, built 1895
Cleveland Road looking toward Eliot Street

Willow Crescent

Taylor Crossway

Eliot Street
ELIOT STREET-RESERVOIR ROAD

Clinton Road

Cul de sac of Clinton Road

Cleveland Road

Crafts Road, three story frame tenements, built 1919
Intersection of Crafts Road and Eliot Street

Intersection of Crafts Road (left) and Reservoir Road (right)

Fairway Road, note gravel walk

Valley Road
MAP OF THE
TOWN OF BROOKLINE
MASSACHUSETTS.

1971
BIBLIOGRAPHY

Sources


Interviews

