Newton Village Study

Chestnut Hill/Thompsonville Survey Report

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THE NEWTON VILLAGE STUDY

CHESTNUT HILL/THOMPSONVILLE SURVEY REPORT

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SUMMARY OF FINDINGS CHESTNUT HILL

- Chestnut Hill has become a regional shopping area, while Thompsonville retains a neighborhood convenience shopping base.

- Chestnut Hill is a large commercial enclave characterized by suburban style surface parking and low scale retail buildings.

- The residential density of both areas is above the city-wide average. High density multi-family complexes are the predominant residential use in Chestnut Hill, while Thompsonville retains a mix of dwelling unit types.

- There is a surplus of over 600 parking spaces in the Chestnut Hill Study area, but demand exceeds supply in the Chestnut Hill Shopping Center.

- Much of the surplus parking in Chestnut Hill is not especially visible from Boylston Street.

- Chestnut Hill could continue to grow substantially. An estimated total of 4 million square feet of new office and retail floor space could be built in this area under present zoning.

- New development could be considerably more dense than existing land uses. In Chestnut Hill, underground parking could become the rule over time. In Thompsonville, new development would probably be served by surface parking garages.

- Under present zoning, residential growth is a very small element of Chestnut Hill's future; but there could be an estimated 75 new units added to Thompsonville's housing supply.

SUMMARY OF FINDINGS THOMPSONVILLE

- In Thompsonville, a total of 67,000 square feet of non-residential floor space, mostly offices, could be built, an increase of 96%.

- Thompsonville north of Route 9 retains an atmosphere characterized by mixed uses and smaller lots.

- Serious congestion of the Langley Road/Jackson Street intersection has resulted from its proximity to Route 9 and the heavy volumes that must be accommodated.

- There is an estimated deficit of 75 spaces in the Thompsonville study area

- Spillover parking into residential areas in Thompsonville

results from local deficits and not from the Chestnut Hill area.

- Under present zoning, Thompsonville's new commercial development would occur north of Jackson Street, while residential growth would occur in the area south of Route 9.

- Due to its proximity to Chestnut Hill and location on Route 9, development pressures in Thompsonville will continue to increase.

CHESTNUT HILL/THOMPSONVILLE SURVEY REPORT

2.2.1 MARKET ORIENTATION

INTRODUCTION

Most of Newton's retail business and service economy is located in the City's 15 village centers. While there are substantial activities elsewhere (e.g. Needham Street), these centers function in varying degrees as the centers of the City's economy. Newton's commercial pattern is unusual for a city of its size. Most medium size cities are characterized by a substantial "downtown" where retail and business services and governmental activities tend to be concentrated, and perhaps a number of smaller neighborhood convenience centers or strips. In Newton, there is no one center that can be called the City's "downtown", although Newton Centre comes closest.

An important aspect of the village study is to determine the present role of each village center in the City's economy and to forge a consensus on what roles each should play in the future.

Therefore, the "market orientation" of the retail businesses in each center was examined and categorized into three orientations: neighborhood, community/city-wide, and city-wide/regional. These characterizations were made on the basis of the type of business and what is considered by market researchers to be its normal market area. For example, a small variety store or delicatessen normally serves a convenience business. An automobile dealer, large plumbing supply outlet or discount store normally serves a wider community or city-wide market. Large shopping malls or office complexes and employment centers tend to attract shoppers and business from throughout the metropolitan area. Although the Chestnut Hill Mall and shopping center may contain small shops, the area as a whole is a regional attraction.

There is a mix of businesses in all village centers, but some have a much wider range of goods and services than others. Most village centers also contain businesses whose market orientations vary, so that with the exception of Waban and Oak Hill, there are no centers which can be considered purely neighborhood, community-wide or regional in nature. However, it is possible and appropriate to estimate the amount of business floor area in each village center oriented in each of these ways.

FINDINGS

Table 1.1 and Figure 1.1 describe the orientation of the businesses in Chestnut Hill and Thompsonville. While there are "neighborhood" conveniences in the Chestnut Hill shopping complexes, the area in general is a regional attraction, and

neighborhood service is incidental to this basic function.

The Thompsonville commercial area retains a neighborhood service base, but as will be shown, this base is subject to change, given the area's proximity to Route 9 and Chestnut Hill.

TABLE 1.1

MARKET ORIENTATION OF BUSINESS ACTIVITY IN CHESTNUT HILL
BY BLOCK AND FLOOR AREA

	Blocks	Floor Area	
2. Community-wide Business and Services	82002	220,079	
		Sub Total	220,079
3. City-wide/ Regional Shopping Centers and Services	65008	309,322	
	63037	380,135	
	82002	171,735	
		Sub Total	861,192
		Total	1,081,271

MARKET ORIENTATION OF BUSINESS ACTIVITY IN THOMPSONVILLE
BY BLOCK AND FLOOR AREA

	Block	Floor Area	
1. Neighborhood Convenience Shops	65010	12,266	
	65011	19,562	
	82004	12,862	
		Sub Total	44,690
2. Community-wide Business and Services	65010	22,482	
		Sub Total	22,482
		Total	67,172

CHESTNUT HILL/THOMPSONVILLE SURVEY REPORT

2.2.2 URBAN DESIGN AND ENVIRONMENT

INTRODUCTION

In the visual survey we have endeavored to discuss the general environment of the Village Center with special emphasis devoted to those areas which are "perceived" as the "central core", (usually the central commercial block.) Within this discussion, emphasis is further placed on the quality and clarity of entry (gateways), "spatial definition" (the quality and continuity of the commercial edge and the space formed by the building massing scheme) and the effect of these elements on the perception of the viewer. Other positive and negative aspects specific to the center are also discussed. Considerations such as areas of negative residential/commercial interface, the role and extent of vehicular/pedestrian participation in the space, as well as facade/signage problems, are examined to provide insight into the many seemingly unrelated elements within the center which contribute to our perceptions of it as an environmental whole.

FINDINGS

Figure 2.1 presents the findings of the visual survey.

Thompsonville is characterized by small, "human/pedestrian scale" buildings, but all sensory experience (visual and aural) relate to the heavy vehicular volumes on Route 9. Within Thompsonville, Veteren's Park, a small greenspace area, is at the edge of Route 9 and serves as only a modest buffer to those buildings along Jackson Street. Even Jackson Street itself relates as much to Route 9 as it does the center for it is used as a Route 9 exit for cars making a left hand turn. This center is pedestrian in scale but vehicular in function with a number of internal residential/commercial edge problems distributed throughout.

From the west of Thompsonville to the east of the Chestnut Hill Shopping Center, Route 9 is the predominant visual feature. Entry at the periphery of this area is not clearly delineated and the overall experience is of negative visual quality. To the north of Route 9, the Chestnut Hill Mall and

Chestnut Hill Shopping Center are each well integrated into the surrounding environs through the use of an extensive buffer system. These structures are consistent in scale and texture and offer a sense of continuity through a controlled use of materials and massing.

To the south of Route 9, the visually discordant Milton's/Stop and Shop plaza area detracts from the "sequential experience" (while on Route 9) to such a degree that the visual order of the Chestnut Hill complexes goes unappreciated. Here, the landscape is auto/asphalt dominated with insufficient buffer systems for relief. The buildings in this shopping area interrelate poorly and suffer from incongruous massing and use of materials; the result is a poor sense of linkage between each.

CHESTNUT HILL/THOMPSONVILLE SURVEY REPORT

2.2.3 LAND USE

INTRODUCTION

Information on existing land uses in the village centers was obtained from the Newton Assessors. The information was aggregated into the categories shown in Table 3.1 and figure 3.1. The table shows for each use the amount of land area in acres for each use, the amount of commercial, office and industrial floor area in square feet, the number of dwelling units located within the village study boundaries, and the Floor Area Ratio (FAR) of the non-residential buildings. (The concept of FAR is illustrated in Section 2.2.8.)

FINDINGS

The Chestnut Hill study area is comprised primarily of suburban shopping centers and higher density multi-family residential complexes. There is one small low density residential enclave on Moody Street abutting the Chestnut Hill Mall. Parking lots are the predominant visible use within the large commercial enclaves.

In sharp contrast to the Chestnut Hill shopping areas, Thompsonville retains a mix of uses and a more traditional village atmosphere north of Route 9. However, Route 9 in this vicinity can be considered a commercial strip with auto services the most visible uses.

The residential density of the Thompsonville study area is 8.5 units per acre, higher than most other village study areas, but considerably lower than the 41 units per acre density of the Chestnut Hill study area.

The commercial building under construction on the old Vallee's restaurant site represents a major transition in both Chestnut Hill and Thompsonville.

For Chestnut Hill, it may mark a shift toward a more mixed economic and employment base.

For Thompsonville, it creates considerably more pressure for change, particularly in the area south of Route 9.

TABLE 3.1

CHESTNUT HILL EXISTING LAND USE CHARACTERISTICS

CATEGORY	LAND AREA IN ACRES	FLOOR AREA IN SQ. FT.	FAR%	DWELLING UNITS
Residential:				
Single Family	5.81	--	--	21
2 and 3 Family	0.87	--	--	2
Apartments/Condos	20.37	--	--	1,088
Commercial	20.31	946,121	.603	--
Office	8.34	135,150	.372	--
Industrial/Manufacturing	0	--	--	--
Mixed Use - mostly Commercial	0	--	--	--
Mixed Use - mostly Residential	0	--	--	--
Transportation/Parking	NA	--	--	--
Institutional	NA	--	--	--
Open Space/Recreation	NA	--	--	--
Vacant Land	4.40	--	--	--

THOMPSONVILLE EXISTING LAND USE CHARACTERISTICS

CATEGORY	LAND AREA IN ACRES	FLOOR AREA IN SQ. FT.	FAR%	DWELLING UNITS
Residential:				
Single Family	7.83	--	--	36
2 and 3 Family	4.07	--	--	34
Apartments/Condos	2.68	--	--	54
Commercial	4.05	39,750	.222	--
Office	0.36	27,422	1.8	--
Industrial/Manufacturing	0.88	126	.003	--
Mixed Use - mostly Commercial	0.16	2,914	.286	--
Mixed Use - mostly Residential	0.17	6,969	.857	--
Transportation/Parking	NA	--	--	--
Institutional	NA	--	--	--
Open Space/Recreation	NA	--	--	--
Vacant Land	4.71	--	--	--

2.2.4 TRAFFIC CONDITIONS

This report conveys the results of the manual and automatic traffic counting program initiated in October 1985 by the City and the Consultant together with pre-existing traffic count data, from previous City counts and consultant studies, made available by the Newton Planning and Public Works Departments.

The objective of assembling available information on traffic volumes, intersection geometrics, and existing traffic control was to create a "Base Case" traffic scenario against which alternative future scenarios can be compared in later phases of the study. Since the principal traffic impact of additional development in any center will be the generation of added volumes, it was important to have reasonable estimates of existing volumes on key streets.

In conducting the traffic surveys, we noted existing intersection geometry and traffic control, pointing out where these create or accommodate present-day bottlenecks. We also tried to identify parallel routes most likely to be used as bottleneck bypasses by drivers familiar with existing traffic conditions.

We used the Level of Service methodologies for analyzing signallized and unsignallized intersections to characterize existing operations, with one important caveat related to signallized intersections: signal phasing and timing patterns assumed at such intersections were not those in current operation. We deemed it more useful to analyze an optimal allocation of signal green time based on existing traffic volumes, in order to be able to compare operations given potential capacity and existing volumes, with future operations when these volumes can be assumed to increase with different development scenarios. This approach corresponds to the "planning" approach to traffic operations analysis, compared with the more fine-tuned "engineering" approach which is appropriate when one is actually involved in intersection design. Thus, the reported Levels of Service may not correspond with current daily experience at existing signallized intersections operating with less-than-ideal phasing and timing.

CHESTNUT HILL/THOMPSONVILLE

Traffic Conditions

The principal streets providing access to the Chestnut Hill and Thompsonville study areas are Route 9, Hammond Pond Parkway, Langley Road and Jackson Street, and Florence Street. Route 9 is grade-separated at Hammond Pond Parkway with a diamond-type interchange providing connections between the two roads. Route 9, which is generally divided by a median barrier, has a signallized intersection with a cut in the median at Langley Road, so that exiting traffic may turn either left (westbound) or right (eastbound) on Route 9. In addition, the lower end of Jackson Road acts as a jug-handle intersection, allowing westbound Route 9 traffic to make U-turns, or to exit onto Langley Road. Florence Street allows Route 9 on-off moves in the eastbound direction only.

Automatic traffic counts on Route 9 at the Brookline boundary and at Langley Road, conducted over 24-hour periods during 1981 and 1985, were obtained from the Mass. Department of Public Works. Also, a recent 24-hour count on Florence Street, obtained as part of an earlier study*, was obtained. The results of these volume counts, factored to represent 1985 Average Daily Traffic (ADT), are illustrated in Figure 4.1 Additional 24-hour counts may be obtained at a later stage in the study.

Peak hour turning movement counts in the area were obtained from previous studies; in addition, new turning movement counts were conducted at the intersection of Langley Road/Jackson Street in November 1985. These counts were adjusted to represent average annual existing peak hour traffic volumes. These volumes are depicted in Figure 4.2 Peak hours observed from these counts were 8:00-9:00 AM and 5:00-6:00 PM.

Route 9 is a major regional roadway serving heavy volumes of through traffic at most hours of the day. It is the major traffic influence in the Chestnut Hill/Thompsonville areas, and most of the traffic on other area roads is either bound from or destined to Route 9. Langley Road, and, to a lesser extent, Jackson Street, serve as collector streets funneling significant traffic volumes on and off Route 9 via the existing intersection.

The combination of this function with the U-turn function of the jughandle is fairly efficient in off-peak hours. During peak traffic hours, however, frequent conflicts occur between vehicles turning left from Jackson EB (i.e., the jughandle move), and Langley Road traffic. Part of the reason for this is that, despite the 3-lane width of the short section of Langley adjacent to the jughandle island, there is not enough storage room for vehicles waiting out the red signal to emerge onto Route 9. The Langley/Jackson intersection therefore becomes clogged during the red phase of almost every cycle. The width of this short section induces drivers to weave across lanes in a very short area, or, when the section is already fully occupied, to go around behind the waiting vehicles, crossing in front of approaching Langley Road traffic. The existence of on-street parking on

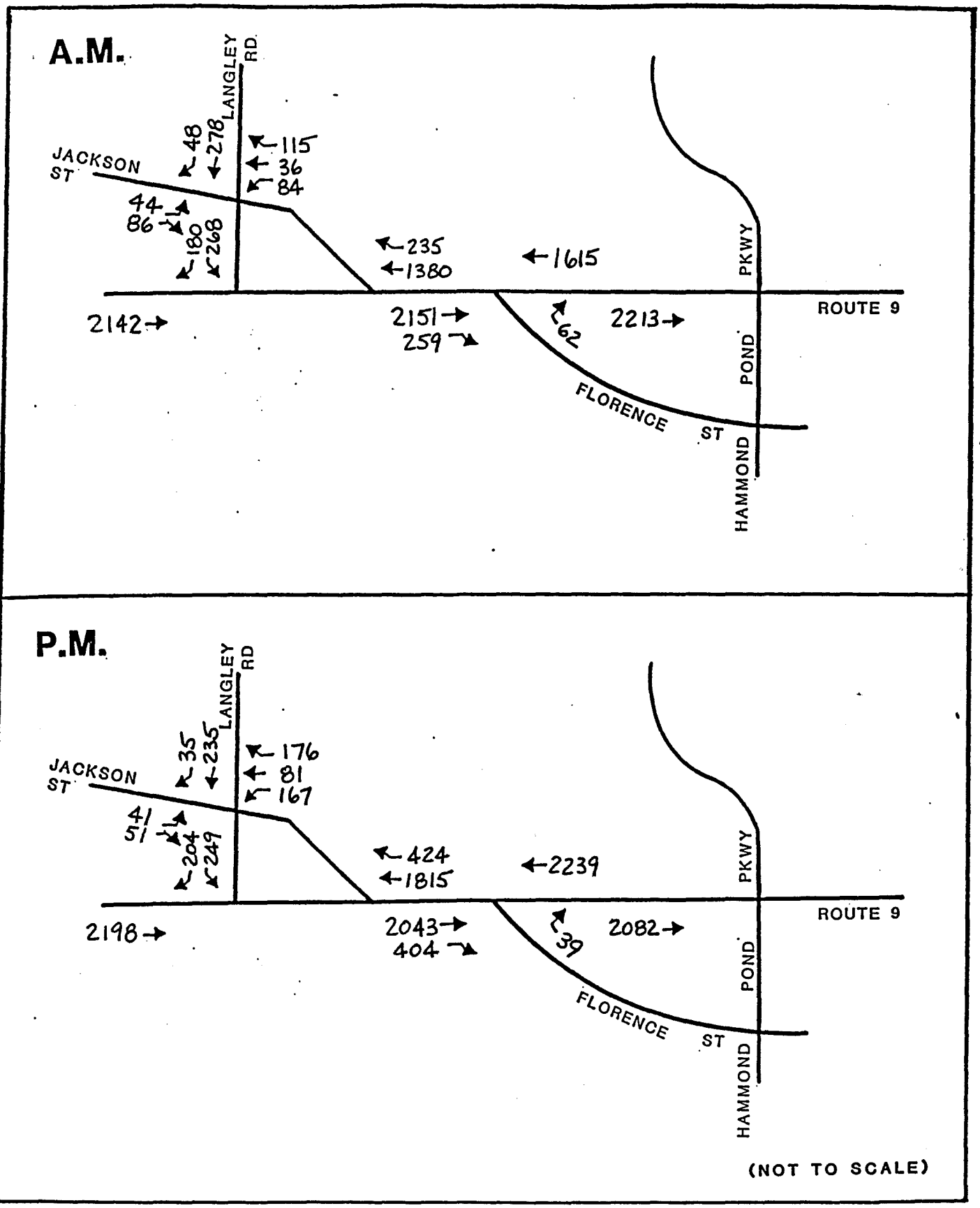
the Jackson and Langley approaches, serving the small-scale commercial uses on these streets, further limits street capacity.

Florence Street, on the south side of Route 9, was the subject of several studies over the past few years, mainly in connection with new condominium development projects at The Farm and Hampton Place. Local residents contend that Florence Street, and Heath Street in Brookline, are used as "short-cut" connections between Route 9 and Hammond Pond Parkway, attracting volumes of high-speed through traffic which are inappropriate for a residential street.

Existing operations at Langley Road/Route 9 were analyzed using Level of Service analysis procedures for signallized intersections. The purpose of the analysis was to determine how well this intersection could function, given its present geometric design and ideal or desirable signal timing, and existing traffic volumes, as a measure of how much potential capacity at the intersection is presently utilized. At a later phase of the study, projected volumes can be compared against present volumes, assuming an optimal traffic throughput at the existing intersection.

The results of this analysis are illustrated on Figure 4.3. As can be seen, this intersection can currently function at an adequate, though less-than-ideal, level of service. This results mainly from high volumes on Route 9 which govern the amount of signal time which can efficiently be allocated to side-street traffic. The 4-way unsignallized intersection represented by the Langley/Jackson crossing would operate at a higher service level (A to C) in isolation, given the volumes using it; this crossing is constrained by its location so close to the Route 9 signal, which causes traffic to back up along Langley Road, blocking Jackson.

*Vanasse/Hangen, October 1983.



NEWTON VILLAGE STUDY	PEAK HOUR TRAFFIC VOLUMES - CHESTNUT HILL/THOMPSONVILLE	FIGURE 4.2

CHESTNUT HILL/THOMPSONVILLE SURVEY REPORT 2.2.5 PARKING

INTRODUCTION

This report presents the results of the following parking studies and analyses performed for the Chestnut Hill and Thompsonville study areas.

- A parking inventory (figure 5.1)
- A parking supply/demand analysis (figure 5.2)
- A parking use survey

The parking inventory was prepared from field survey and from information provided by the Newton Departments of Public Works and Planning and Development. The inventory identifies all available public and private, on- and off-street, posted and metered, parking spaces in the study area.

The parking supply/demand analysis was performed by the Consultant using computerized land use data provided by the Newton Assessors, and the above parking data. This analysis provides a measure of the difference between an assumed business parking demand and actual supply.

The parking surveys were conducted on Saturday, November 9, 1985, between the hours of 12 noon and 2 p.m. The survey consisted primarily of counting and observing the number of cars parked on streets in relation to the amount of spaces available on those streets. In Thompsonville, the streets surveyed included Jackson and John Streets, and Langley Road.

In Chestnut Hill, the parking lots of the shopping centers and the surrounding streets were observed. The purpose of the overall survey was to determine the extent to which parking demand of the shopping centers and the businesses on Jackson Street affected neighborhood streets, particularly in Thompsonville.

SUMMARY OF FINDINGS

a. <u>Supply vs Demand</u>

1. It is estimated that the Chestnut Hill study area has a surplus of over 600 spaces.

2. However, demand exceeds supply by over 425 spaces in the Chestnut Hill Shopping Center.

3. A substantial part of the surplus parking in Chestnut Hill is contained in lots that are not visible or very accessible from Boylston Street.

4. There is a large deficit of 76 spaces in the Thompsonville study area.

b. Parking Use Survey

1. Parking use is very high in the Chestnut Hill study area, and all parking must be accommodated in private off-street lots.

2. All main parking lots appear to be well used or full, but the less visible lots south of Boylston Street off Florence Street seemed underused.

3. Thompsonville does not appear to experience spillover parking from the Chestnut Hill shopping centers.

SUPPLY VS DEMAND

Table 5.1 presents the results of the supply and demand analyses for Chestnut Hill and Thompsonville. The table shows that Chestnut Hill has an estimated surplus of 647 spaces in the overall study area while Thompsonville has a deficit of 76 spaces.

The surplus in Chestnut Hill is deceiving, however, for two reasons: 1) Block 63037, containing the Chestnut Hill Shopping Center,(General Cinema, Hermans, etc.) has a very large deficit which most likely creates parking problems throughout the area, and 2) the estimated surplus of 869 spaces in block 82002 is the result of a large number of spaces contained in the rear of the shopping center south of Boylston Street. These spaces are more easily accessible from Florence Street and not very visible or convenient to Boylston Street traffic. These two factors combine to create a parking situation much less favorable than the calculations imply.

There are parking deficits throughout Thompsonville, as the result of insufficient private parking and a complete lack of public on- and off-street spaces.

PARKING USE CHARACTERISTICS

On the day surveyed, the shopping center parking lots and garage were mostly full, and patrons had to search for available spaces. As expected, the spaces closest to the stores and mall entrances were continuously used during the survey period while spaces were available in outlying and less accessible or visible portions of the lots.

There was little spillover parking in any of the residential areas surrounding the Chestnut Hill and Thompsonville business areas, although illegal and long term parking was observed on Jackson Street. While spillover parking in Thompsonvile did not appear to be a problem on the day surveyed, there must surely be times when it is a problem. A

deficit of 76 spaces cannot easily be satisfied in this area and it is doubtful that the demand is lessened by the use of public transit.

PARKING MANAGEMENT

Chestnut Hill relies exclusively on private parking supply. Thus, public parking management is confined to encouraging more efficient use of these spaces. Because of the surplus in spaces, there is no need to introduce public lots or on-street spaces.

In Thompsonville, increased supply of public spaces will be needed to make up the deficit in the private supply in order to reduce or remove spillover parking in residential areas. Possibilities on-street are extremely limited; neither Jackson Street nor Langley can accommodate more. Off-street lots will have to be considered along with requiring full parking (no credit) for all new development.

TABLE 5.1 CHESTNUT HILL

PARKING SUPPLY AND DEMAND BY BLOCK

SEC/BL	DEMAND	PRIV	OFFST	ONST	PUBL	SPPLY	SURPLUS
63037	1437	1011	0	0	0	1011	-426
65008	1547	1750	0	0	0	1750	204
82002	1135	2004	0	0	0	2004	869
TOTAL	4119	4765	0	0	0	4765	647
			THOMPSONVILLE				
65010	82	55	0	0	0	55	-27
65011	50	10	0	0	0	10	-40
65019	2	0	0	0	0	0	-2
82004	26	18	0	0	0	19	-7
TOTAL	160	84	0	0	0	84	-76

PRIV: Private off-street spaces
OFFST: Public off-street spaces
ONST: On-Street metered and posted spaces
PUBL: Total off-and on-street metered and posted spaces
SPPLY: Total public and private spaces.

CHESTNUT HILL/THOMPSONVILLE SURVEY REPORT

2.2.8 ZONING/THE DEVELOPMENT ENVELOPE

INTRODUCTION

This report presents the results of the analysis of existing zoning in Chestnut Hill/Thompsonville. The purpose of the analysis is to provide an understanding of the present and future development environment of the study areas, or to answer several basic questions:

1) How much growth is allowed by present zoning?

2) How much of this growth could most likely occur in these village centers?

3) What will this development most likely consist of and look like?

A fourth, and equally important question, (what will be the impact of this growth?) will be examined in the next phase of the study.

In order to answer these questions, the following analyses or estimations were performed:

The Zoning Envelope: This estimates the total amount of residential, commercial and office development that is presently allowed by the zoning ordinance on each parcel of land and for the study area as a whole. This represents the "as-of-right" capacity of zoning as if every parcel of land were developed to the fullest extent allowed by present zoning.

The Development Envelope: This is an estimate of the amount of development that could and is more likely to occur when existing and recent development is considered along with present zoning. This development envelope, or umbrella, combines the concept of zoning "right" and the realities of the marketplace to produce a more reasonable estimate of long term development that could occur "as-of-right" or without special permit.

A Development Model: This is a simple representation of the kind of development that exists, has been recently built, or proposed in the area, and is most likely to be built in the forseeable future.

SUMMARY OF FINDINGS

Chestnut Hill can continue to grow substantially. Present zoning allows as much as 4 million square feet of office and commerial space to be added to the area in the vicinity of the Chestnut Hill Mall.

At the same time, the number of new dwelling units that could be built is 153, a very small percentage of total development in the area (3.2%)

New development will increase in density in Chestnut Hill. New buildings will most likely include underground parking and will occupy a substantial portion of each lot. In Thompsonville, surface parking garages will serve new office development in the future.

A total of over 67,000 square feet of new development could occur in Thompsonville, led by an office space increase of more than 230%.

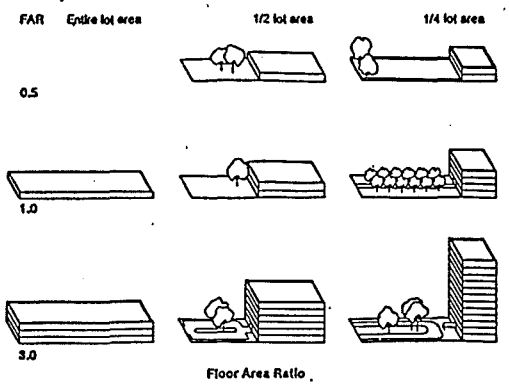
A total of 73 new dwelling units could be added to the present total of 124 in the study area.

Much of this residential development would occur south of Boylston Street, where presently underused pacels are within sight of the Chestnut Hill complex. Most of the commercial development would occur north of Jackson Sreet on Langley Road, presently zoned Business A.

WHAT IS FAR?

The Floor Area Ratio (FAR) is a simple measure of development intensity. It expresses the ratio of a building's total floor area to the size of its site. A one-story building covering its entire site or parcel has an FAR of 1.0. A three story building of 100% coverage has an FAR of 3.0. The same building covering 50% of a site has an FAR of 3 x .50, or 1.50.

FLOOR AREA RATIOS ILLUSTRATED



WHAT IS THE ZONING ENVELOPE?

The zoning envelope is a measure of the amount of development allowed by the provisions of the existing zoning ordinance. This allowable development is expressed as total non-residential floor area and number of dwelling units that can be developed on each parcel of land and for an area as a whole. The floor area is determined by translating the provisions of the zoning ordinance into effective maximum allowable FAR's, or number of dwelling units for typical development that might occur in each zoning district. The estimated FAR's are shown in Table 8.1.

TABLE 8.1

EFFECTIVE MAXIMUM AS-OF-RIGHT FLOOR AREA RATIOS ALLOWED BY THE EXISTING ZONING ORDINANCE

Typical Development	Zoning Districts/FARs BAA	BA	BB	LM	M
1. Retail-surface prkg					
. 1 story	0.25	0.40	0.40	0.25	0.40
. 2 stories	0.50	0.62	0.62	0.44	0.62
. 3 stories	0.62	0.70	0.70	0.60	----
. 4 stories		----	----	----	----
2. Office-surface prkg.					
. 1 story	0.25	0.40	0.40	0.25	0.40
. 2 stories	0.50	0.59	0.59	0.41	0.59
. 3 stories	0.58	0.69	0.69	----	----
. 4 stories	0.61	----	----	----	----
3. Retail Ground floor, offices above-surface prkg.					
. 2 stories	----	0.59	0.59	0.44	0.59
. 3 stories	0.58	0.69	0.69	----	----
. 4 stories	0.60	----	----	----	----
4. Office-Ground floor prkg. or 1 prkg. level under building					
. 2 stories	0.50	0.98	0.98	0.50	0.98
. 3 stories	0.75	0.98	0.98	0.50	0.98

5. Retail Ground Floor office above - all prkg underground					
. 3 stories	0.75	2.70	2.70	0.75	2.70
. 4 stories	1.00	----	----	----	----
6. Retail Ground Floor above - surface parking garage					
. 3 stories	0.75	1.41	1.41	.75	1.41
7. Retail Ground Floor, offices above - 90% prkg. underground, 10% in surface garage					
. 3 stories	0.75	2.34	2.34	.75	2.34
. 4 stories	1.00	----	----	----	----
8. Storage Warehouse					
. 1 story	----	----	0.42	0.25	0.89
. 2 stories	----	----	1.67	0.50	1.61
9. Wholesale, manufacture, R&D labs - surface prkg.					
. 1 story	----	----	0.80	0.25	0.76
. 2 stories	----	----	1.27	0.50	1.25
. 3 stories	----	----	2.32	0.75	2.32

Based upon analysis of the existing zoning ordinance and most recent non-residential development in Newton, the following FAR's were used to determine the total floor area of commercial/office development that can be built as-of-right in each zoning district. (The Zoning Envelope)

ZONING DISTRICT		FAR ALLOWED
Business AA	(BAA)	1.00
Limited Manufacturing	(LM)	1.00
Business A	(BA)	2.70
Business B	(BB)	2.70
Manufacturing	(M)	2.70

Estimation of an allowable dwelling unit envelope for parcels in residential zoning districts is relatively straightforward. The residential zoning districts control density either through lot size or lot square feet per unit controls.

Maximum allowable dwelling units for each zoning district are as follows:

ZONE		DWELLING UNITS PER ACRE
Residence A	(RA)	1.74
Residence B	(RB)	2.40
Residence C	(RC)	4.36
Private Residential	(PR)	8.72
Residence D	(RD)	8.72
Residence E	(RE)	27.20

The allowable floor area ratios and unit densities are now applied to the actual zoning in the study area as shown on Figure 8.1. The results, the zoning envelope are as follows:

The Zoning Envelope in THOMPSONVILLE:

. TOTAL NEW RETAIL FLOOR AREA ALLOWED	4807 s.f.
. TOTAL NEW OFFICE FLOOR AREA ALLOWED	109,054
. TOTAL NEW DWELLING UNITS ALLOWED	73

The Zoning Envelope in CHESTNUT HILL:

. TOTAL NEW RETAIL FLOOR AREA ALLOWED	1,875,782 s.f.
. TOTAL NEW OFFICE FLOOR AREA ALLOWED	3,776,135
. TOTAL NEW DWELLING UNITS ALLOWED	153

PRESENT AND RECENT DEVELOPMENT

The above estimates assume that all properties will be redeveloped to the maximum allowable. Therefore, as estimates of actual possible development, the figures are high and do not represent a realistic picture of the amount and type of development that could actually occur. Market forces and resulting rent levels, economic constraints, construction costs and site constraints must also be considered. These factors greatly temper the amount and density of development that does and will most likely occur in many of the village centers.

Therefore, allowable FAR's must be compared with those obtained from recent development, or development that has been proposed or is under construction.

Table 8.2 shows the FAR's of commercial projects most recently proposed or under construction that have been or may be permitted as-of-right under present zoning. Many of these projects include surface parking structures so that the

resulting FAR's, or actual office building floor areas, are less than allowable. That is, despite the intensity of the 5 story office development under construction at 29 Crafts Street, Newtonville, (FAR 2.23) it would have been built to an even greater intensity had all parking been planned to be underground. Based on Newton's strong office and retail market and the resulting high land values, it is expected that development of underground parking will become the rule rather than the exception in areas such as Newton Corner, Chestnut Hill and Newton Centre.

In other village centers, recent development has occurred at considerably less density. Surface parking lots are more the rule that the exception in these centers. Land values and marketable rents result in an economic environment in which the "suburban style" development is feasible and economically desirable.

It should also be noted that a number of these developments have had the benefit of the parking credit, so that the actual floor area ratio obtained was higher for the particular type of development that actually took place than would have been possible if the full parking requirements had been met. On the other hand, the popularity of areas such as Newton Centre and Newton Corner for office development may have justified the provision of the additional parking underground.

TABLE 8.2

FLOOR AREA RATIOS (FAR) FOR DEVELOPMENT PROPOSED OR UNDER CONSTRUCTION

DEVELOPMENT	ADDRESS	FAR	ZONE
AUBURNDALE			
1. 3 story offices, surface parking	11 Bennett St.	0.56	BB
2. 2 story offices, surface parking	73 Lexington St.	0.48	BB
CHESTNUT HILL			
1. 3 story commercial above ground, 1 story commercial below ground, underground parking	300 Boylston St.	2.38	BA
NEWTON CENTRE			
1. 4 story offices, parking garage	1320 Centre St.	2.59	BB

NEWTON CORNER			
1. 4 story offices, parking garage	1 Newton Pl.	2.12	BA
2. 3 story offices, parking garage	2 Newton Pl.	2.45	BA
3. 4 story offices, parking garage	313 Washington	2.67	BA
NONANTUM			
1. 5 story offices, surface parking	459 Watertown	0.55	MFG
NEWTONVILLE			
1. 5 story offices, parking garage	29 Crafts St.	2.23	MFG
UPPER FALLS			
1. 3 story offices, surface parking	75 Oak St.	0.34	BA
2. 5 story offices, surface parking	233 Needham	0.77	MFG
3. 4 story offices, surface parking	118 Needham	0.57	MFG
NEWTON HIGHLANDS			
1. Offices		0.53	BA

****

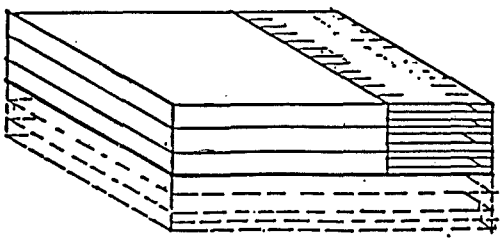
Average FAR for Office Development with parking in surface lots	0.54
Average FAR for Office Development with parking in a mix of underground and surface garages	2.41

MODELS OF RECENT DEVELOPMENT

The possibilities allowed by the zoning ordinance and a view of actual development resulting from market forces leads to an estimate of a type or model of development that may occur in a particular center. For Chestnut Hill and Thompsonville, the following non-residential development types are expected to continue to be built for the forseeable future:

Figure 8.2 A MODEL OF RECENT OR EXPECTED DEVELOPMENT

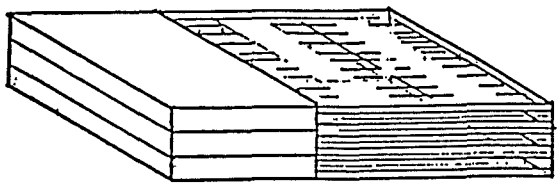
CHESTNUT HILL



3 STORY BUILDING – 75% PARKING UNDERGROUND
25% SURFACE GARAGE

FAR = 2.34

THOMPSONVILLE



3 STORY BUILDING – SURFACE PARKING GARAGE

FAR = 1.41

This type of development is now matched with the requirements of the present zoning ordinance to obtain its allowable floor area ratio:

DEVELOPMENT TYPE	ZONES/ALLOWABLE FLOOR AREA RATIO				
THOMPSONVILLE	BA	BB	M	BAA	LM
Surface Prkg Garage					
. 3 story office/retail	1.41	1.41	1.41	----	----
. 4 story office/retail	----	----	----	1.00	----
CHESTNUT HILL					
Underground Parking					
. 3 story office/retail	2.34	2.34	2.34	----	.75
. 4 story office/retail	----	----	----	1.00	----

THE DEVELOPMENT ENVELOPE

The estimate of total development allowable under present zoning (the Zoning Envelope) is now tempered with a more realistic view of the economic environment of the study area, and results in an estimated development envelope shown in Table 8.3 and Figure 8.3.

The estimated residential development envelope is the same as the residential zoning envelope. The number of units allowed is relatively small and there is no reason to assume that housing will not be built to the maximum allowed by zoning.

TABLE 8.3

THE PRESENT DEVELOPMENT ENVELOPE:

GROWTH THAT COULD OCCUR IN CHESTNUT HILL

• New Commercial/Retail Floor Area that could be added	403,527 s.f.
Existing Commercial/Retail Floor Area	946,121 s.f.
• Percent Added	42.6
• New Office Floor Area that could be added	3,617,000
• Existing Office Floor Area	153,150

- Percent Added 2362

- New Dwelling Units that could be added 153
- Existing Dwelling Units 1111
- Percent Added 13.8

Chestnut Hill (continued)

- Total New Non-Residential Floor Area that could be Added 4,020,600
- Total Existing Non-Residential Floor Area 1,099,271
- Total Percent Added 365.7

GROWTH THAT COULD OCCUR IN THOMPSONVILLE

- New Commercial/Retail Floor Area that could be added 1,457 s.f.
  Existing Commercial/Retail Floor Area 42,664
- Percent Added 3.5

- New Office Floor Area that could be added 65,268
- Existing Office Floor Area 27,422
- Percent Added 238

- New Dwelling Units that could be added 73
- Existing Dwelling Units 124
- Percent Added 58.9

- Total New Non-Residential Floor Area that could be Added 66,755
- Total Existing Non-Residential Floor Area 70,086
- Total Percent Added 95.2

THE PATTERN OF POSSIBLE NEW DEVELOPMENT/REDEVELOPMENT

Figures 8.2 and 8.3 show the amount and probable pattern of possible new development or redevelopment.

Figure 8.2 indicates the present intensity of use in the study areas, those parcels that are presently vacant, and those that are presently underused. The underused parcels are those whose present density is less than that allowed by existing zoning. While this map does not and cannot show

which parcels will be developed to greater density, it provides a good indication of where new development activity might occur.

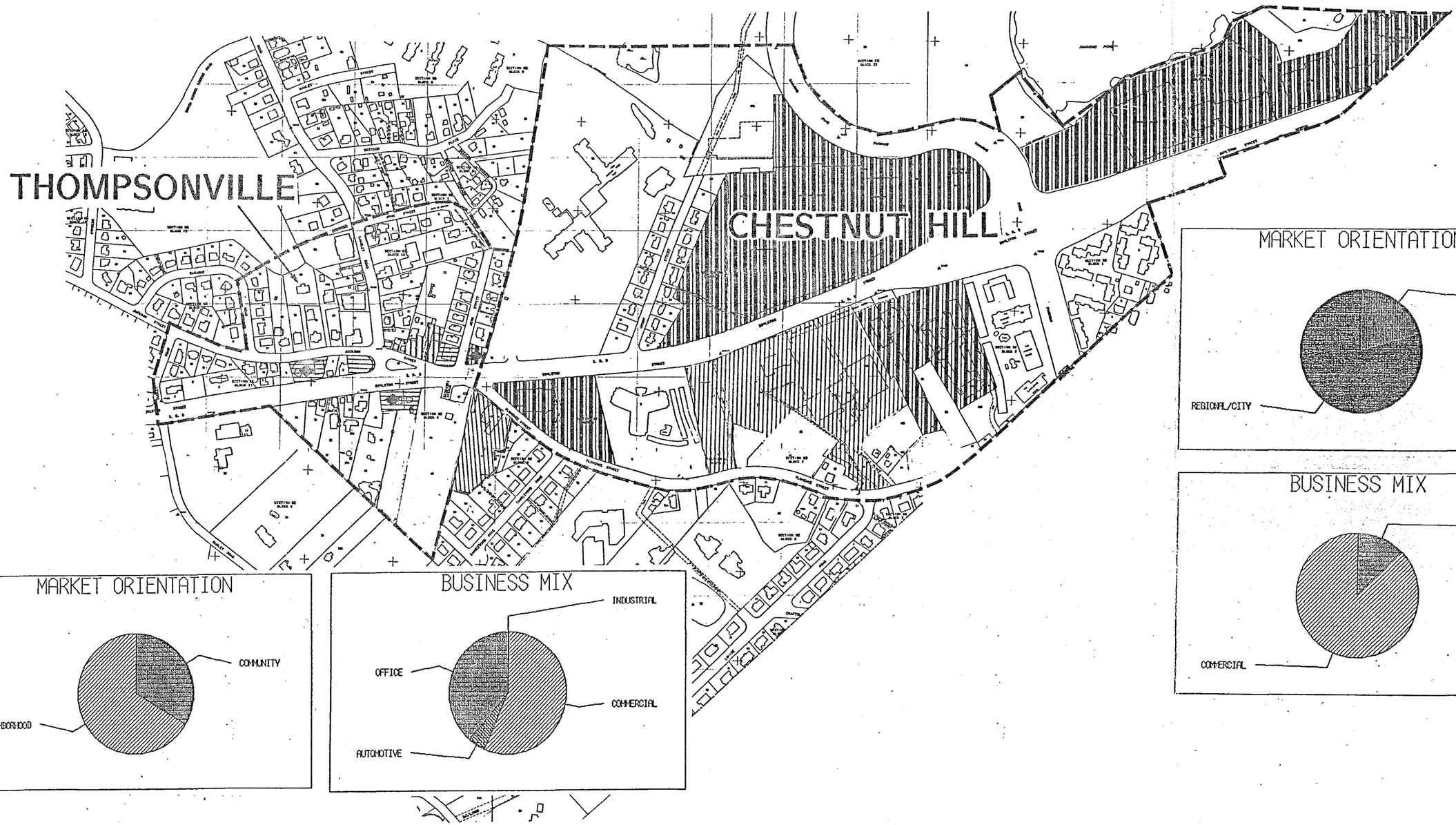
For Chestnut Hill, the figures indicate that new development could be added on the sites of the existing shopping centers. The density of present development there is low, the majority of the parcels being used for surface parking. (The Vallee's restaurant parcel is shown in its density category prior to the redevelopment currently underway.) Estimated growth of this magnitude assumes substantial redevelopment or reconstruction of existing commercial buildings, so that this extent of growth should be viewed as a long-term process.

For Thompsonville, Figure 8.3 indicates that most of the non-residential development could occur in the blocks north of Jackson Street along Langley Road where business zoning presently exists. This development could most likely take the form of office space designed to take advantage of the Chestnut Hill/Route 9 market area. Figure 8.2 does not show the density relative to present zoning of the residential uses on Langley Road. However, it has been assumed in all cases that existing residential uses presently zoned for business will be altered or redeveloped over time for commercial purposes.

Based on present zoning and vacant land, it appears that most residential development in Thompsonville would occur in the vacant and underused parcels south of Route 9.

It seems clear that the development pressure resulting from the regional market forces and the popularity of Chestnut Hill will soon create similar development pressure in Thompsonville.

CHESTNUT HILL/THOMPSONVILLE



NEIGHBORHOOD CONVENIENCE BUSINESS AND SERVICES

COMMUNITY/CITY-WIDE BUSINESS AND OFFICES

REGIONAL/CITY-WIDE BUSINESS CENTERS AND OFFICES

AUTOMOTIVE SERVICES

FIGURE 1.1 MARKET ORIENTATION OF BUSINESS USES

NEWTON VILLAGE STUDY

DATE_____

PREPARED FOR THE CITY OF NEWTON, MASSACHUSETTS
THEODORE D. MANN, MAYOR
BARRY C. CANNER, DIRECTOR OF PLANNING AND DEVELOPMENT

Connery Associates

SCALE 1:5600

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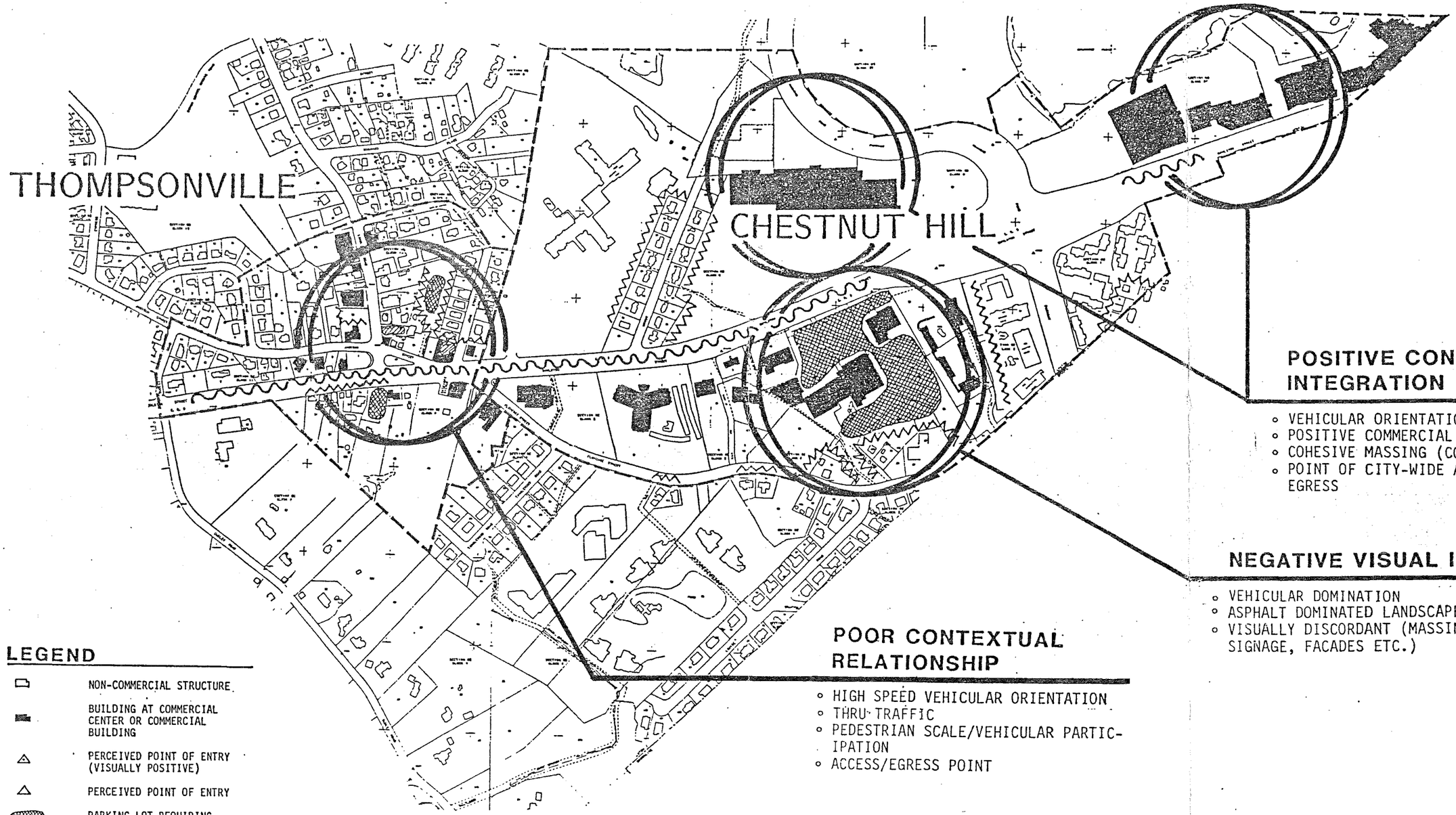
CHESTNUT HILL/THOMPSONVILLE



POSITIVE CONTEXTUAL INTEGRATION

- VEHICULAR ORIENTATION
- POSITIVE COMMERCIAL IDENTITY
- COHESIVE MASSING (COMPOSITION)
- POINT OF CITY-WIDE ACCESS/ EGRESS

NEGATIVE VISUAL IDENITITY

- VEHICULAR DOMINATION
- ASPHALT DOMINATED LANDSCAPE
- VISUALLY DISCORDANT (MASSING SIGNAGE, FACADES ETC.)

POOR CONTEXTUAL RELATIONSHIP

- HIGH SPEED VEHICULAR ORIENTATION
- THRU-TRAFFIC
- PEDESTRIAN SCALE/VEHICULAR PARTICIPATION
- ACCESS/EGRESS POINT

LEGEND

- NON-COMMERCIAL STRUCTURE
- BUILDING AT COMMERCIAL CENTER OR COMMERCIAL BUILDING
- PERCEIVED POINT OF ENTRY (VISUALLY POSITIVE)
- PERCEIVED POINT OF ENTRY
- PARKING LOT REQUIRING IMPROVEMENTS
- AREA REQUIRING STREETSCAPE IMPROVEMENTS
- AREA UNDER CONSTRUCTION
- NOISE
- AREA OR STRUCTURE OF HISTORIC VALUE
- NEGATIVE AREA AT RESIDENTIAL/ COMMERCIAL INTERFACE

FIGURE 2.1 URBAN DESIGN SURVEY

NEWTON VILLAGE STUDY

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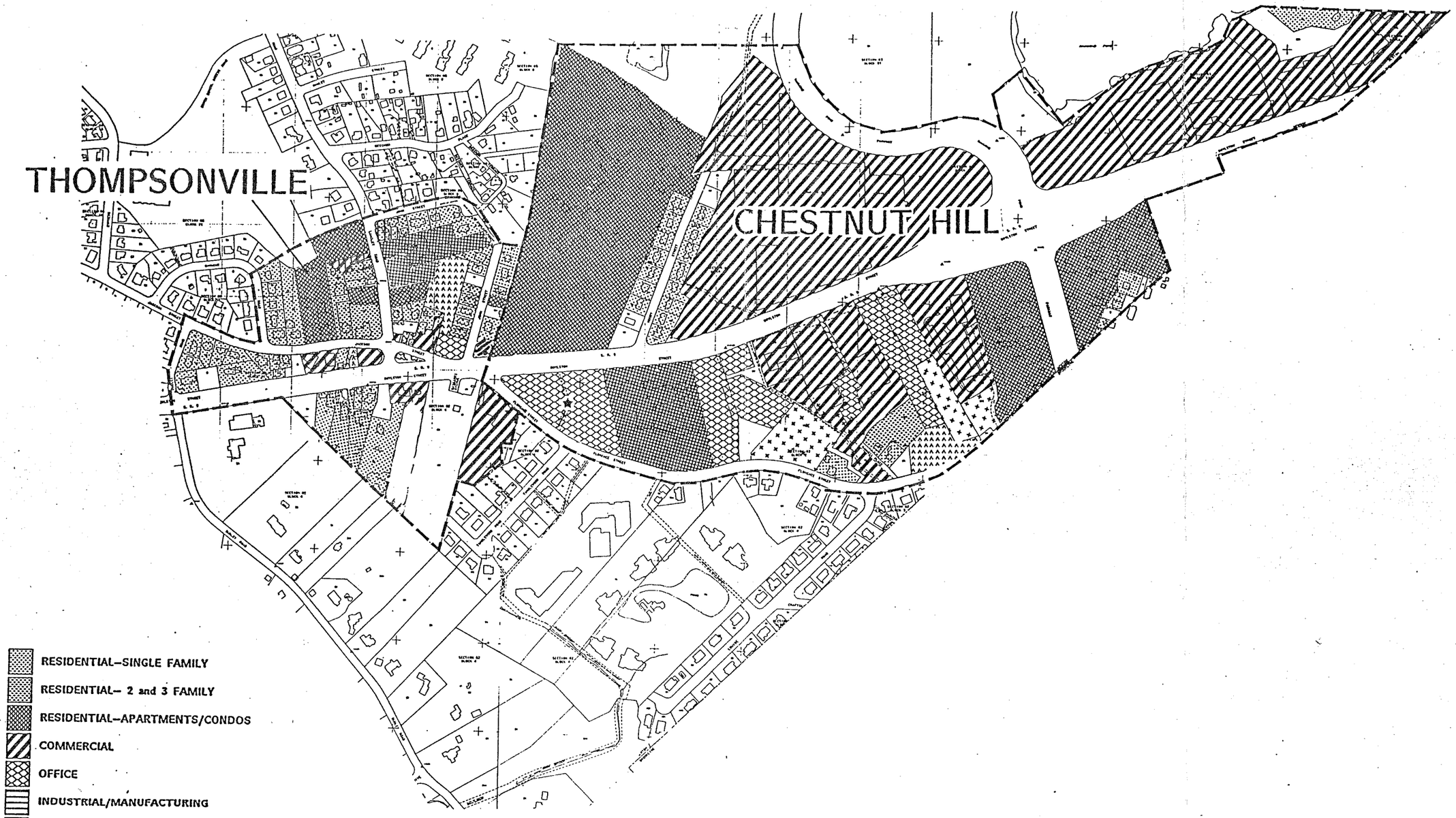
CHESTNUT HILL/THOMPSONVILLE



- RESIDENTIAL–SINGLE FAMILY
- RESIDENTIAL– 2 and 3 FAMILY
- RESIDENTIAL–APARTMENTS/CONDOS
- COMMERCIAL
- OFFICE
- INDUSTRIAL/MANUFACTURING
- TRANSPORTATION/PARKING
- MIXED USE–MOSTLY RESIDENTIAL
- MIXED USE–MOSTLY COMMERCIAL
- INSTITUTIONAL
- OPEN SPACE/RECREATION
- ★ PROPOSED OR UNDER CONSTRUCTION

FIGURE 3.1 EXISTING LAND USES

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SCALE 1"=600'

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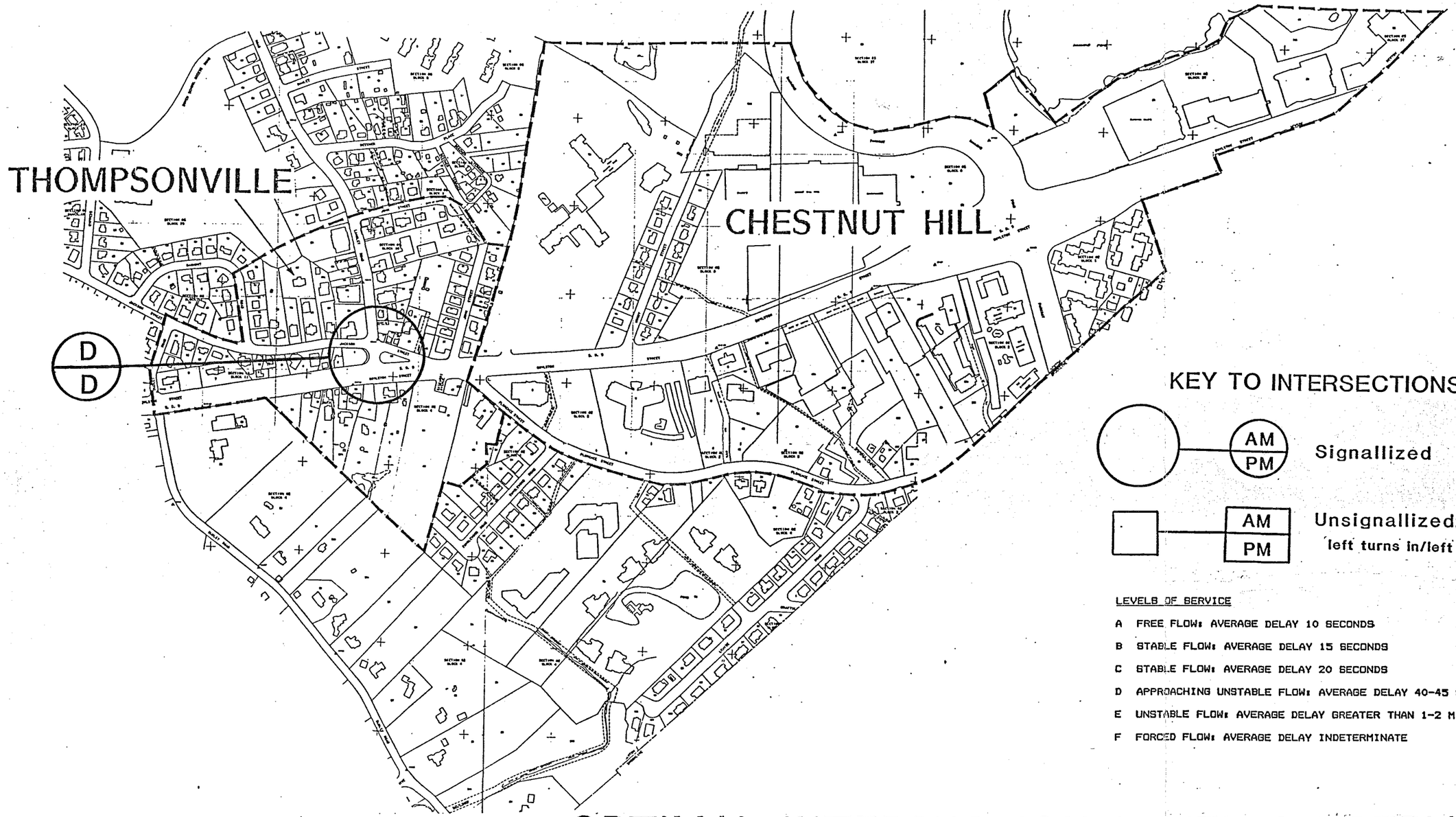
CHESTNUT HILL/THOMPSONVILLE



KEY TO INTERSECTIONS

AM / PM — Signallized

AM / PM — Unsignallized: left turns in/left turns out

LEVELS OF SERVICE

A FREE FLOW: AVERAGE DELAY 10 SECONDS

B STABLE FLOW: AVERAGE DELAY 15 SECONDS

C STABLE FLOW: AVERAGE DELAY 20 SECONDS

D APPROACHING UNSTABLE FLOW: AVERAGE DELAY 40-45 SECONDS

E UNSTABLE FLOW: AVERAGE DELAY GREATER THAN 1-2 MINUTES

F FORCED FLOW: AVERAGE DELAY INDETERMINATE

FIGURE 4.3 OPTIMAL INTERSECTION LEVEL OF SERVICE

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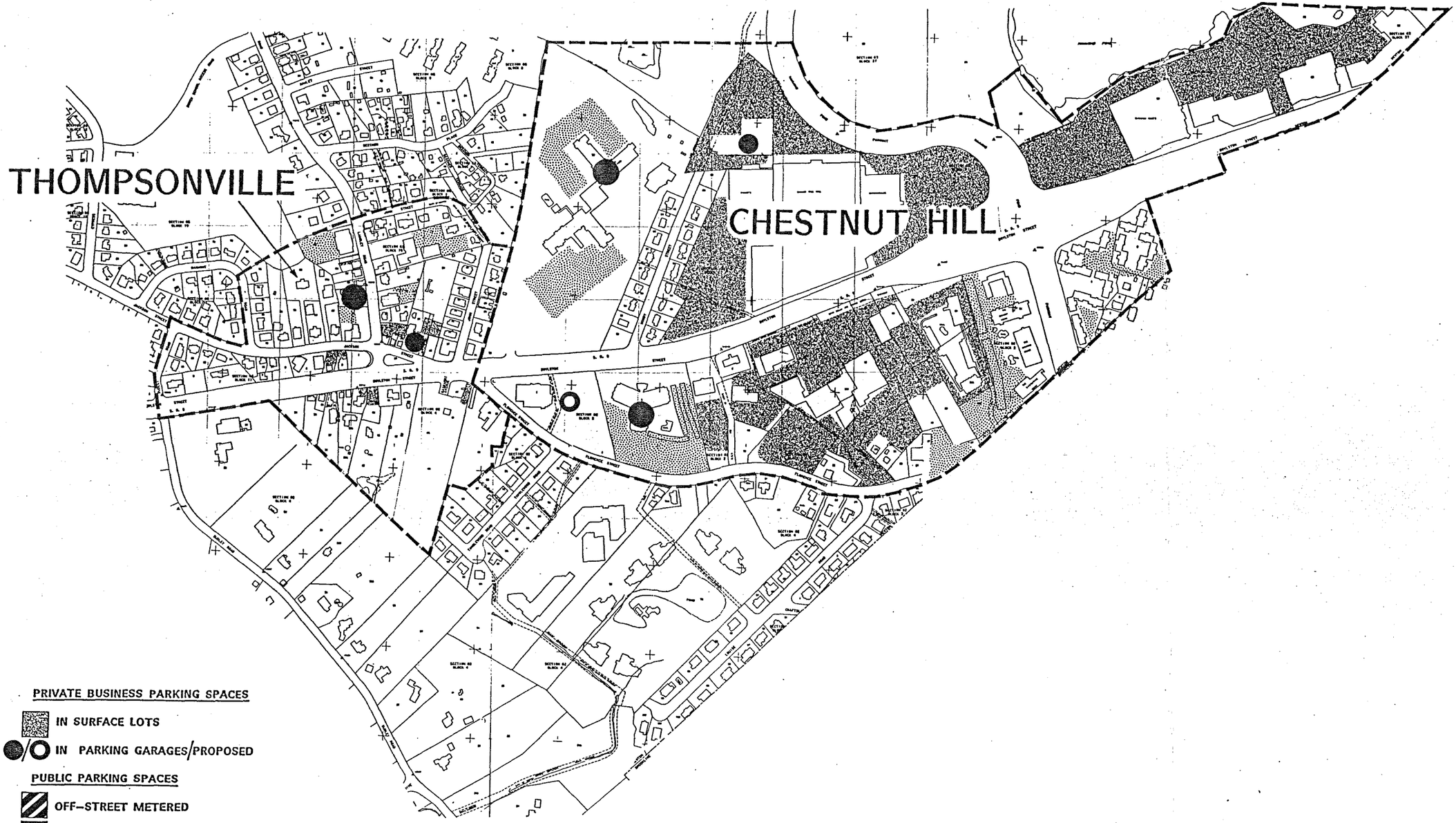
CHESTNUT HILL/THOMPSONVILLE



PRIVATE BUSINESS PARKING SPACES

IN SURFACE LOTS

IN PARKING GARAGES/PROPOSED

PUBLIC PARKING SPACES

OFF–STREET METERED

OFF–STREET NON–METERED

ON–STREET METERED

ON–STREET POSTED

SPACES IN RESIDENTIAL LOTS

SPACES IN INSTITUTIONAL LOTS

FIGURE 5.1 EXISTING PARKING INVENTORY

NEWTON VILLAGE STUDY

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CHESTNUT HILL/THOMPSONVILLE

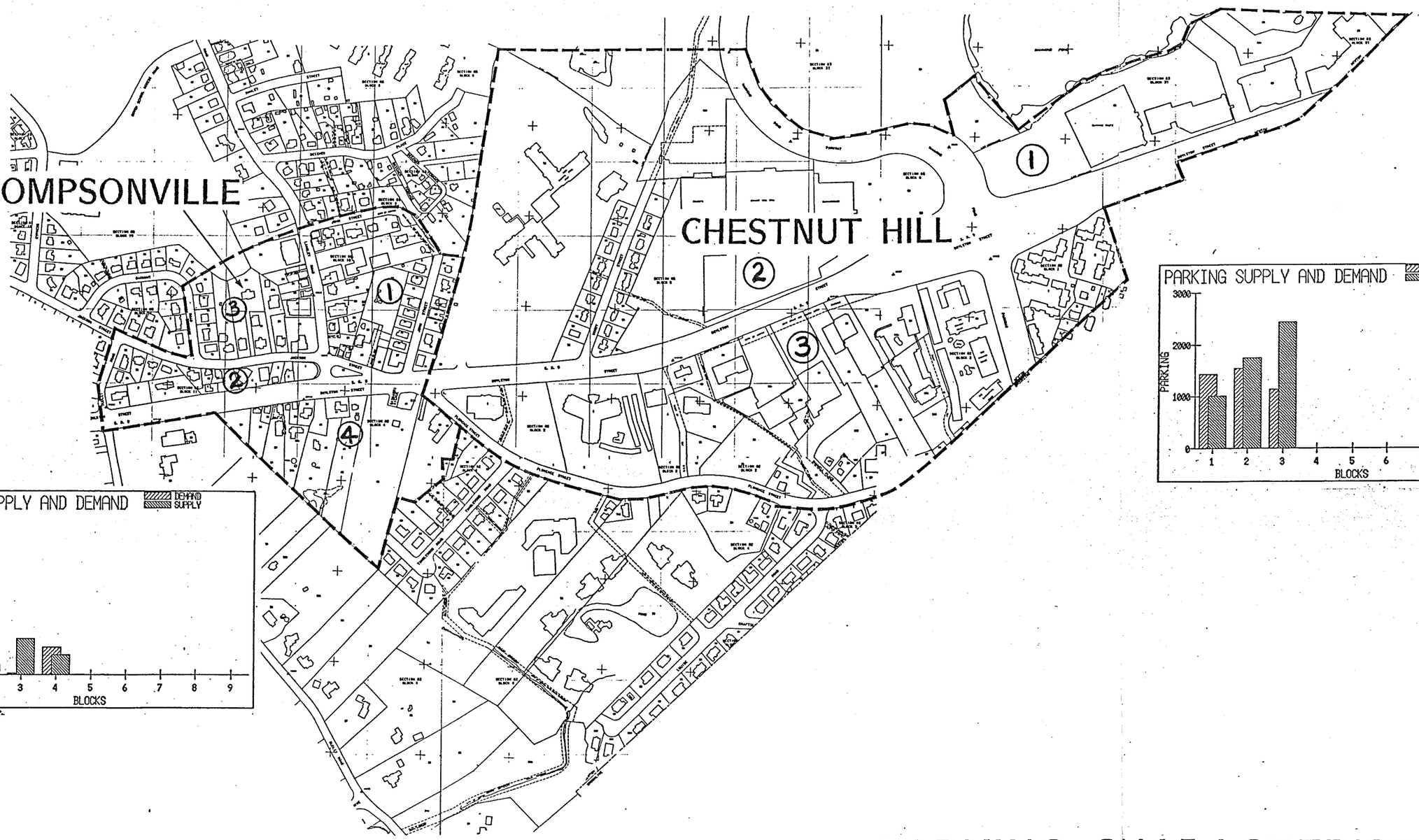

FIGURE 5.2 PARKING CHARACTERISTICS

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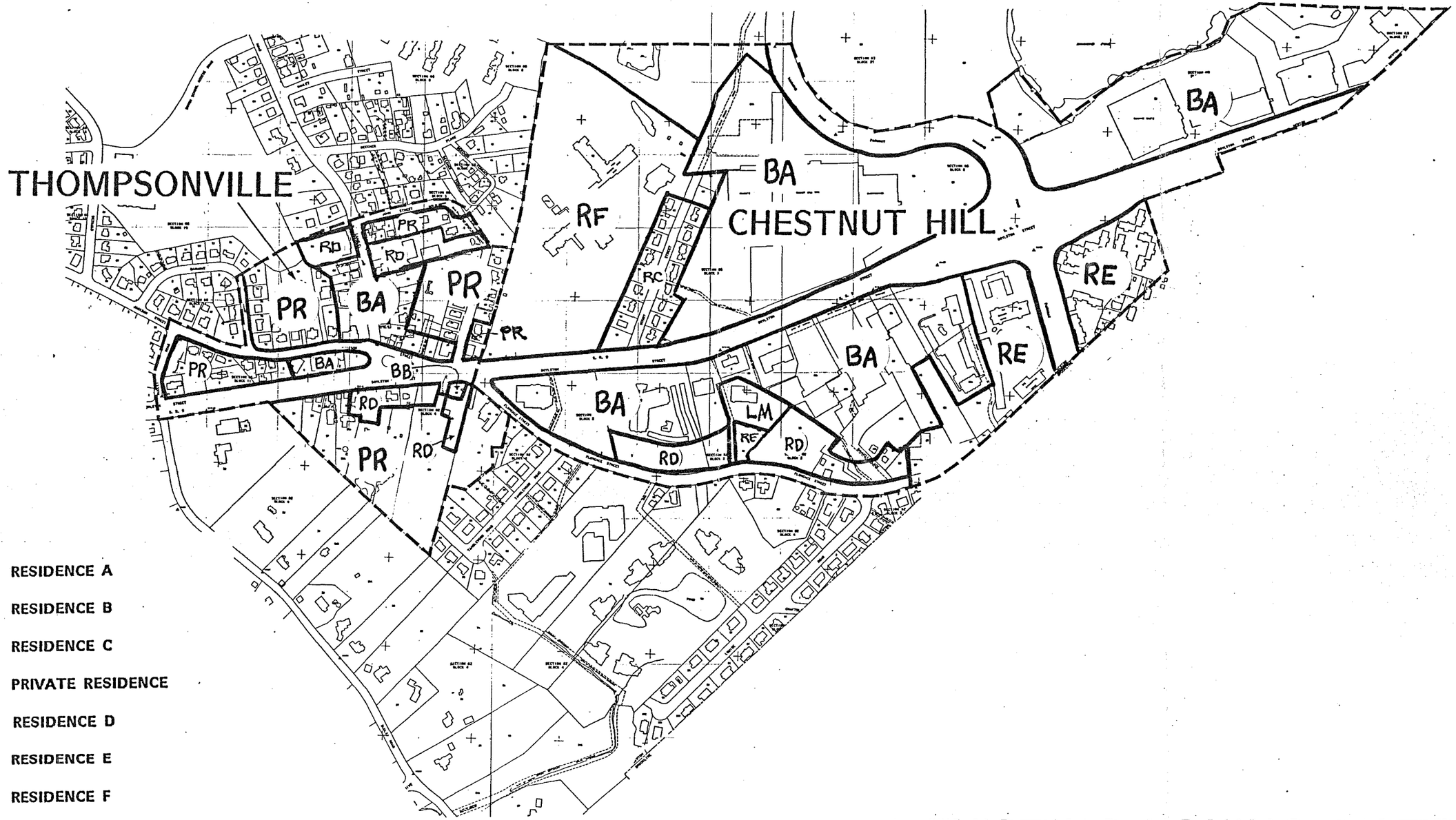
CHESTNUT HILL/THOMPSONVILLE



RA RESIDENCE A

RB RESIDENCE B

RC RESIDENCE C

PR PRIVATE RESIDENCE

RD RESIDENCE D

RE RESIDENCE E

RF RESIDENCE F

BAA BUSINESS AA

BA BUSINESS A

BB BUSINESS B

LM LIMITED MANUFACTURING

M MANUFACTURING

FIGURE 8.1 EXISTING ZONING DISTRICTS

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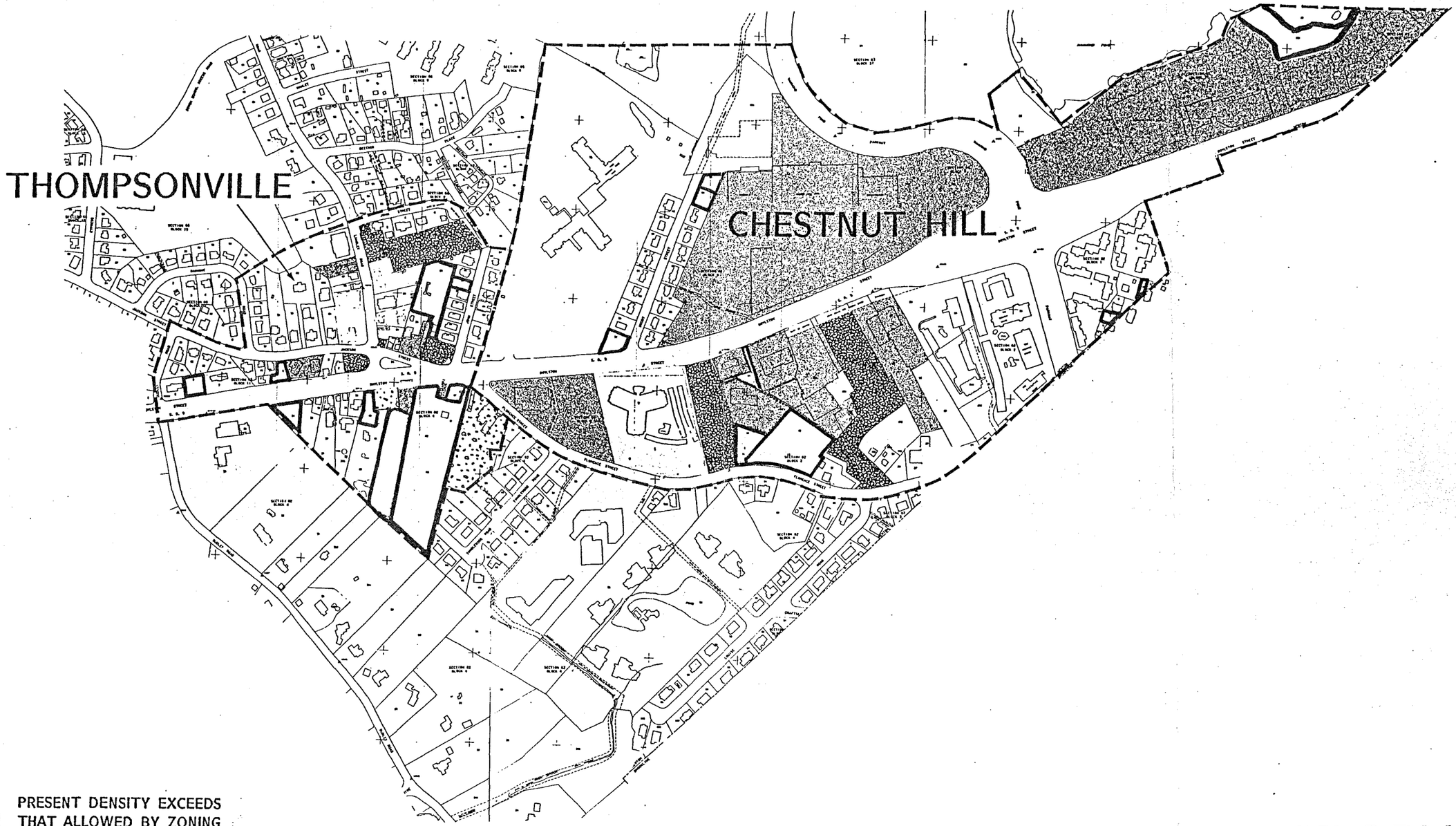
CHESTNUT HILL/THOMPSONVILLE



PRESENT DENSITY EXCEEDS THAT ALLOWED BY ZONING

PRESENT DENSITY IS 50% TO 90% OF THAT ALLOWED BY ZONING

PRESENT DENSITY IS LESS THAN 50% THAT ALLOWED BY ZONING

VACANT LAND

FIGURE 8.2 EXISTING INTENSITY OF DEVELOPMENT

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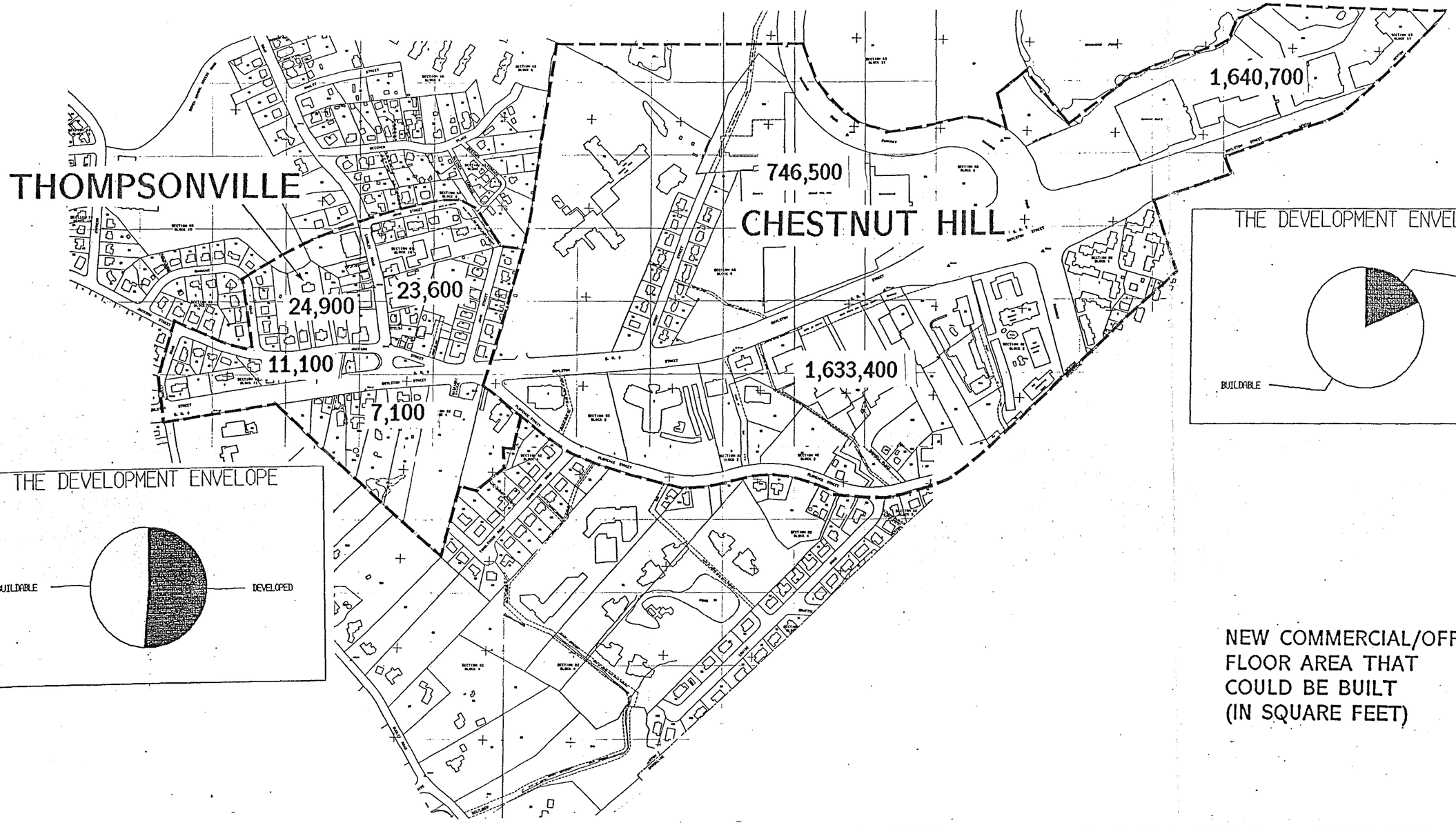
CHESTNUT HILL/THOMPSONVILLE



THE DEVELOPMENT ENVELOPE

THE DEVELOPMENT ENVELOPE

NEW COMMERCIAL/OFFICE FLOOR AREA THAT COULD BE BUILT (IN SQUARE FEET)

FIGURE 8.3 THE DEVELOPMENT ENVELOPE

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