Newton Village Study

Newton Highlands Report

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THE NEWTON VILLAGE STUDY

NEWTON HIGHLANDS SURVEY REPORT

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2.2.0 INTRODUCTION AND SUMMARY OF FINDINGS

INTRODUCTION

The Newton Village Study is a two year effort to examine and prepare a comprehensive plan for the future of the City's fifteen village centers. The study was begun in response to the growing community awareness and concern of the land development pressures that are being experienced throughout the City,particularly in the village commercial centers.

The study was designed to have four phases, each phase building on the next so that effective input of all citizens of Newton can be obtained.

I. A kickoff phase, in which the study was announced and its design publically presented in meetings before the Board of Aldermen, the Economic Development Commission, and a land use forum conducted by the Newton Conservators and the League of Women Voters. In cooperation with the Economic Development Commission, a full scale citizen participation process was also designed in this phase.

II. A survey phase, to examine and discuss the development issues and problems from a city-wide as well as village perspective. The problems of traffic, parking, urban design, zoning and the economy are examined and presented in survey reports for each village center.

III. An alternative plans phase, to examine and discuss a number of alternatives for the future of the village centers, and the impacts of the alternative futures on the City's quality of life.

IV. A final plan phase, to prepare consensus plans and the necessary zoning amendments and other public actions necessary to achieve it.

SUMMARY OF FINDINGS

In market orientation, development density, and character, there are two distinct commercial centers in Newton Highlands. One is a traditional village center serving the immediately surrounding neighborhood; the other serves a wider area and is oriented to the Route 9 corridor in outlook and development potential.

One area retains a charming "village" atmosphere, the other is typical suburban style roadside development.

Traffic is heaviest and vehicle conflicts are most common at the Route 9/Centre Street ramps. This congestion causes additional by-pass traffic on Lincoln and Woodward Streets.

Traffic delays at the Lincoln/Walnut intersection are moderate and related primarily to the commercial character of the area, rather than traffic volume.

At the Walnut/Centre intersection, traffic delays do result more directly from heavy volumes.

Level of Service analysis indicates that the Walnut Street intersections can and should operate properly with minimum delay, but the Route 9 ramp intersections cannot operate well because of heavy volumes. These will require redesign or new signalization; both approaches are being examined by the Massachusetts Department of Public Works.

With regard to parking supply and demand, there are also two distinct areas. There is a surplus of spaces in the Route 9 shopping area where parking is supplied in large, private lots. There is a small deficit of 55 spaces concentrated in the blocks bounded by Lincoln, Columbus, Standish, Walnut and Chester Streets.

Parking use is very high in the Lincoln Street area, as most spaces are taken during most of the shopping day.

The lack of sufficient long term parking results in parking intrusion into abutting residential areas, particularly on Floral and Columbus Streets.

Substantial new development could occur in Newton Highlands, particularly south of Route 9.

A total of 510,210 square feet of non-residential floor area could be built under present zoning and market potential. Of this amount 334,000 s.f. or 65% of the total, could be built in the commercial area on Route 9.

The number of dwelling units that could be built (15) is small compared to the non-residential development capacity.

New development will most likely consist of office and retail uses, served by surface parking garages.

The older village center on Walnut Street could change over time, as the traditional convenience uses are replaced with office and "upscale" retail businesses.

NEWTON HIGHLANDS SUMMARY 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 show that the businesses in Newton Highlands are primarily neighborhood oriented, but the study boundaries really encompass two different centers.

Newton Highland's neighborhood center is Lincoln and Walnut Streets. The stores in this area are mostly small and serve a local market. However, the Highlands has become a popular shopping area and is beginning to attract "upscale" retail shops (boutiques, specialty goods) that normally serve a wider market. Still, this area retains its village character.

The retail shopping center on Boylston Street is oriented to and serves a wider market. The larger supermarket most likely attracts shoppers from areas such as Upper Falls and Waban as well as the Highlands. The large plumbing supplier clearly serves a city-wide and/or regional market in the Route 9 corridor.

TABLE 1.1

MARKET ORIENTATION OF BUSINESS ACTIVITY IN NEWTON HIGHLANDS BY BLOCK AND FLOOR AREA

	Blocks	Floor Area	
1. Neighborhood Convenience Shops and Services	52007	12657	
	52008	74133	
	52021	10395	
	52036	31431	
	52037	15963	
	52038	7189	
	52039	8692	
	52040	7057	
	52043	8346	
	54041	2052	
		Sub Total	177915
2. Community-wide Business and Services	51025	56048	
	51026	12670	
	52037	8273	
	54041	7671	
		Sub Total	84662
3. City wide/ Regional Shopping Centers and Services	51025	16996	
		Sub Total	16996
		Total	279573

NEWTON HIGHLANDS 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.

The perceived center of Newton Highlands is at the intersection of Walnut, Lincoln and Hartford Streets. This arrangement provides for an enclosed space whose limits are defined by a consistent, "hard edge" to the north, south and west. Recent improvements in this area (at Bread and Chocolate) have enhanced the character of this block. Facade and signage improvements would, however, serve further toward this end. The character of this "central core" is further enhanced by public off-street parking which provides the opportunity for the type of pedestrian shopping available at shopping malls and downtown areas.

The linear commercial block along Walnut Street has a more negative streetscape identity. To the east, parking at the front of these commercial structures reduces spatial definition. To the west, a "hard edge is perceived but, again, poor facade/signage conformance contributes to an overall discordant image. Also, in this area thru vehicular traffic dominates, especially when approaching Centre Street.

At the west end of Newton Highlands on Route 9, the Purity Supreme shopping plaza (to the south of Route 9) and the smaller commercial structures (to the north of Route 9) serve as a negative, ill-defined, city-wide gateway to those approaching from the west.

NEWTON HIGHLANDS 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

In Newton Highlands there is presently a total of 309,923 square feet of commercial office and mixed uses on 13 acres of land. The overall density of this non-residential development expressed as floor area ratio (FAR) is .54 This density is about average for such development in Newton's Vilage Centers.

However, there are two distinct commercial centers: Boylston Street and Lincoln/Walnut Streets. The former, characterized by one story buildings and large parking lots has a density of .35 FAR, typical of such centers. The Lincoln/Walnut Street area is denser than the city-wide average, which is typical of older, traditional village centers.

Institutional uses will be examined in the alternative plans phase of the study. However, the Hyde School is shown in its proposed new use as predominantly residential condominiums.

The numberr of dwelling units in the study area is 313, consisting of a mix of single, 2 and 3 family homes at an overall density of 7 units/acre. This density is about average for the residential areas around Newton's village centers.

There is little vacant land in the study area, but as will be shown in Section 2.2.8, there are many parcels that are "underused" relative to that allowed under present zoning.

TABLE 3.1

NEWTON HIGHLANDS

EXISTING LAND USE CHARACTERISTICS

CATEGORY	LAND AREA IN ACRES	FLOOR AREA IN SQ. FT.	FAR%	DWELLING UNITS
Residential:				
Single Family	25.15	--	--	120
2 and 3 Family	17.98	--	--	184
Apartments/Condos	1.82	--	--	9
Commercial	9.19	204,864	.510	--
Office	1.66	52,094	.722	--
Industrial/Manufacturing	.00	--	--	--
Mixed Use - mostly Commercial	1.22	38,497	.717	--
Mixed Use - mostly Residential	0.93	14,438	.350	--
Transportation/Parking	NA	--	--	--
Institutional	NA	--	--	--
Open Space/Recreation	NA	--	--	--
Vacant Land	2.41	--	--	--
Non-Residential Uses South of Boylston Street	5.56	85,714	.35	--
Non-Residential Uses Lincoln/Walnut Streets	5.82	210,498	.83	--

NEWTON HIGHLANDS/LINCOLN STREET SURVEY REPORT

2.2.4 TRAFFIC CONDITIONS

This report conveys the results of the manual and automatic traffic counting program initiated in October 1985, together with pre-existing traffic count data, from previous City counts and consultant studies, made available to us 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.

NEWTON HIGHLANDS/LINCOLN STREET

Traffic Conditions

The principal streets traversing Newton Highlands include Route 9, Walnut and Centre Streets, and Lincoln and Woodward Streets. Route 9 serves regional rather than local traffic, but provides direct access to the Newton Highlands area at several locations. Walnut and Centre Streets are both major through streets within Newton, but their intersection, though a heavy traffic location is not a particular focal point. The focal point of Newton Highlands, rather, is at Walnut and Lincoln Streets, where small-scale commercial uses and the Newton Highlands MBTA stop provide the main sources of street activity.

Walnut Street through Newton Highlands provides 1-2 travel lanes in each direction, depending on whether on-street parking is permitted. Parking meters are located along most of Walnut, except close to the Lincoln Street and Station Avenue approaches. Metered parking is also provided along Station Avenue, the one-way-only (inbound) street leading to the MBTA station, and along most of Lincoln Street, limiting that street to 1 lane in each direction except where it flares out to accommodate 2 lanes at its eastbound approach to Walnut. At the intersection, right-turning traffic can easily pass queued left-turning vehicles; at mid-block on Lincoln, however (i.e., at Hartford Street), parked cars limit the ability of through traffic to bypass left turns destined for the public parking lot on Hartford or other locations.

The Walnut/Lincoln Street intersection is governed by a simple 2-phase signal, as is the Walnut/Centre Street intersection. The latter intersection is dominated by left turns from Cent Eastbound to Walnut Northbound, and right turns making the reverse move, from Walnut Southbound to Centre Westbound, presumably representing traffic connections between (a) the Walnut Street corridor of central Newton and (b) Route 9 and/or Route 128 and the industrial areas of Winchester/Needham Street. A Newton police officer controls traffic at this intersection during the evening peak hour.

The Route 9 ramps on Centre Street are heavily used during peak hours, but controlled only by stop signs. Consequently, vehicle conflicts at this point are common. Local bypass routes of the congested Centre Street-to-Route 9 link reportedly use Lincoln and Woodward Streets through Newton Highlands.

Automatic 24-hour traffic counts on Centre and Walnut Streets were collected in October 1985 by the Newton Public Works Department. These counts were factored to represent 1985 Average Daily Traffic (ADT). The resulting ADT volumes are illustrated in Figure 4.1

Peak hour turning movement counts were also conducted at several Newton Highlands intersections in October/November 1985:

Walnut/Lincoln Street
Walnut/Centre Street
Centre Street/Route 9 ramps

These counts were adjusted to represent average annual existing peak hour traffic volumes, and balanced. The resulting Existing Traffic network is depicted in Figure 4.2 Peak hours observed from the current counts were 7:45-8:45 AM and 4:30-5:30 PM.

During the turning movement counts, moderate volumes were observed on Walnut Street at Lincoln, but no significant delays were noted. Slow traffic speeds through the retail center result mainly from the character of the area, the existence of on-street parking, and pedestrian volumes, rather than from any notable capacity deficiencies.

At the Walnut/Centre Street intersection, delays do result more directly from heavy volumes, particularly the turning movements cited above.

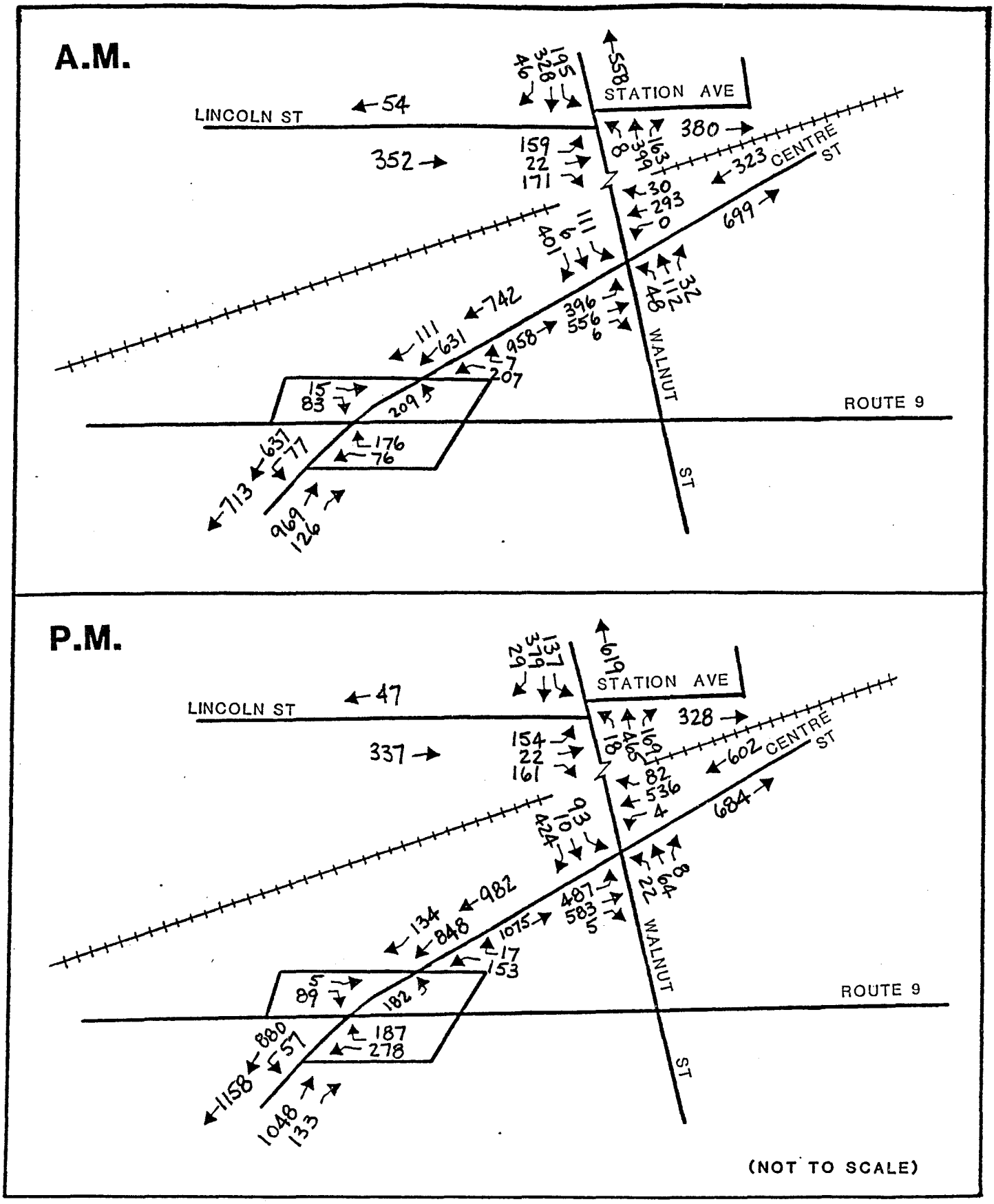
Existing operations at Walnut/Lincoln Street and Walnut/Centre Street were analyzed using Level of Service analysis procedures for signallized intersections. The purpose of the analysis was to determine how well the intersections could function, given their present geometric design and ideal or desirable signal timing, and existing traffic volumes, as a measure of how much potential capacity at these intersections 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.

In addition, the Route 9 ramp intersections with Centre Street were analyzed using similar procedures based on the unsignallized intersection methodology of Transportation Research Board's Circular 212. These procedures yield results which are also expressed as Level-of-Service letter values, but which apply to each critical movement (mainly left turns into and out of the minor street--in this case, ramps), rather than to the intersection as a whole.

The results of both analysis modes are illustrated on Figure 4.3. As can be seen, the signallized intersections can function at adequate-to-good levels of service, given existing volumes and geometrics.

As the "E" Levels of Service for left turns suggest, the ramp intersections operate with difficulty, mainly because on-off volumes are fairly high and so are Centre Street volumes. Left turns from Centre Street onto the ramps function reasonably well for both eastbound and westbound Route 9 directions; but exiting volumes, particularly left turns, are subject to considerably more delay. This same condition exists at many of the Route 9 access points in Newton and Wellesley, but especially on the busier access roads, like Centre Street. Short of redesigning the interchange, or providing signals to create gaps in the main street traffic flow (which would create additional delay on Centre Street if done in isolation), there is little which can be done to alleviate backups at such locations.

A study is underway to examine the feasibility of redesigning or signallizing this intersection.



NEWTON VILLAGE STUDY	PEAK HOUR TRAFFIC VOLUMES - NEWTON HIGHLANDS	FIGURE 4-2

NEWTON HIGHLANDS SURVEY REPORT 2.2.5 PARKING

INTRODUCTION

This report presents the results of the following parking studies and analyses performed for the Newton Highlands study area.

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 Consultants and the City, 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 use survey was conducted on Friday, November 8, 1985, between the hours of 8 a.m. and 2 p.m. The area surveyed included all the public metered and posted on-street parking spaces and the public parking lot on Hartford Street. In addition, parking counts were conducted for Chester and Columbus Streets and the lower portion of Walnut Street near the intersection of Route 9.

The purpose of the survey was to measure the actual level of use (as a percent of capacity) and the turnover rate, or parking duration, of all metered spaces and, in many cases, posted spaces. Friday was chosen as the day of survey since it is traditionally the busiest day, combining end-of-week convenience shopping and local employee and commuter parking.

SUMMARY OF FINDINGS

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

1. The analysis of parking supply and demand resulted in a small surplus of spaces for the study area as a whole. However, if the Route 9 shopping center is deleted, the remaining Highlands Village Center parking demand is estimated to be approximately 10% greater than existing supply, a deficit of 55 spaces.

2. The parking deficit is concentrated in the blocks bounded by Lincoln, Columbus, Walnut, Standish and Chester Streets. This finding is consistent with the parking use survey data showing spillover parking on residential streets in this area.

b. Parking Use Survey

1. Overall parking use is very high, and there are periods of peak use when the legal capacity is attained. The Highlands gives the appearance of being full from mid morning to business closing hours.

2. The average parking turnover rate (38 minutes) at metered spaces is high, and underscores the essentially "village convenience" orientation of the Highlands.

3. The Hartford Street Parking Lot is primarily used for short term parking purposes and supplements the core area on-street spaces. Except for a few instances, it is not used for long term parking.

4. The lack of sufficient long term parking has created long term parking demands on surrounding residential streets, and on other one-hour posted parking areas.

SUPPLY VS DEMAND

Table 5.1 indicates that there are 788 parking spaces within the project area. Of this number, 281 are private parking spaces located in the shopping center on Route 9 (Sec/Bl #51025). The parking supply for the remaining portions of the study area is a mix of public and private parking spaces, a mix traditionally associated with village centers. The older Newton Highlands village center has all the public parking spaces resulting in an overall parking supply mix of 59% private and 41% public. With regard to parking demand, the commercial area on Route 9 has no relationship to the older Highlands Center.

Thus, while the area as a whole shows an overall parking surplus of 46 spaces, the greatest concentration of surplus parking is in Section/Block number 51025 (the first entry in Table 5.1), the shopping center south of Route 9. However, the traditional Highlands Center has a deficit of 90 parking spaces. The deficit condition is consistent with the parking use survey data which indicated a very high use of parking spaces in the village center, reaching total capacity for several periods during the day. Table 5.1 also shows that, within the village center, the block bounded by Walnut,Lincoln, and Columbus Streets (Sec/Bl #52008) shows the largest parking deficit, 97 spaces. The block bordered by Walnut, Floral and Centre Streets (Sec/Bl #52037) shows a surplus of 25 spaces. This area is outside the core commercial area of the village center and has a mixed residential and business character.

Overall, the parking supply and demand analysis is consistent with the parking use findings that there is a very strong and steady demand for parking spaces in Newton Highlands.

PARKING USE CHARACTERISTICS -- ON STREET

Within the survey area, there were 141 on-street one-hour metered and posted parking spaces. The average level of use for the period 8 a.m. to 2 p.m. was 81%, with the peak occurring at 1:30 p.m. at 100%. For the period 12 noon through 2 p.m., the use was a very high 92%, and while parking use declined by 2 p.m., it remained above the 85% "perceived capacity" rate.

Averaging 41 minutes, the area in general had a rapid turnover rate. Residential streets had spill-over long-term on-street parking. For example, parking on Columbus Street averaged 2 hours 40 minutes; the north side of Station Avenue, over 6 hours; the northerly portion of Chester Street, 3 hours and 20 minutes; Floral Street, 1 hour and 25 minutes.

PARKING USE CHARACTERISTICS -- OFF STREET

The Hartford Street Parking Lot has 53 spaces, of which 6 are designated for long-term parking (12 hours) and 47 are designated for 3 hour parking. Our survey indicated that 12 cars used the lot in excess of 5 hours. Since almost 25% of the lot was used for long-term parking, the average duration was 1 hour and 52 minutes. However, examination of parking duration of the remaining 41 spaces indicates an average turnover rate of 41 minutes. Thus, while the Hartford Street Lot is essentially metered for long-term parking, the majority of use is short term (less than one hour). Excluding the long term 12 hour spaces and "meter feeders", the lot's turnover rate is the same as the on-street system. Its level of use also mirrors the on-street spaces. The use of the Hartford Street Lot is directly related to the on-street demand, in that both parking areas are serving the needs of the short term convenience oriented user.

CORE AREA PARKING CHARACTERISTICS

For the Highlands, we have identified the Core Area as the Lincoln Street on-street spaces up to Chester Street, Hartford Street spaces at the library, and the Walnut Street spaces one block north and south of the Lincoln/Walnut intersection.

Of the 36 spaces identified, the average level of use was 91% of capacity as compared to 81% for the entire area. During the 12 noon to 2 p.m. period, the average level of use was 97% and reaching 100% on several occasions. Similar to core areas in other centers, the turnover rate in the core was more than the average turnover rate for the entire study area; i.e. a duration of 38 minutes versus 42 minutes. While the data indicates that the Highlands operates above the 85% "perceived capacity" for most of the day, the core area

operates near the actual capacity for most of the day. It was not unusual to see people circling the block, waiting in parking lots or double parking while waiting for spaces to clear.

PARKING IN RESIDENTIAL AREAS

Aside from the long-term parking spaces (12 hours) in the Hartford Street Lot, there are no other public long-term spaces in the Highlands. Presently, long-term parking on several residential streets, Floral, southerly portions of Hartford Street, Chester Street, Lake Street, and Columbus Street, was high, averaging 40 to 50 vehicles during the 10 a.m. to 2 p.m. period.

Further, the Hyde School was observed to accommodate approximately 60 vehicles all day. When the Hyde School reuse project is occupied, it will generate a need for parking which presumably can be met on site. However, the 60 vehicles now on site will require long-term parking elsewhere in the Highlands.

Our findings indicate that business oriented vehicles are already parking in the residential area in significant numbers.

The small commercial block on Woodward Street at Route 9 has a relatively heavy use in the afternoon hours and again around the 4 to 6 p.m. period. During these periods, as many as 10 cars were observed parked on Woodward Street near the Route 9 intersection. The total level of parking from this commercial block did not, however, have any noticeable impact on other surrounding residential streets. Further, the use of available parking in this area was not related to Lincoln Street and vice versa. Clearly, this business area is oriented to Route 9 and serves a wider market area.

Parking in residential areas is exacerbated by the lack of long-term spaces to serve MBTA commuters.

PARKING MANAGEMENT

In the Highlands, the City incorporates metered and posted spaces as part of its parking management system, and the regulations for metered spaces are generally enforced. Coupled with shorter trip times of a convenience oriented center, the one hour metered spaces have, on average, a turnover rate below the legal limit. As is the problem in other centers, the posted parking areas are not well enforced and become the location of long term parking. Given the lack of public long term parking, the rigid enforcement of the one and two hour posted spaces would most likely cause employees to "hop scotch" their cars every few hours to no one's advantage. An effective management system can most likely not be developed until long-term parking supply is increased.

TABLE 5.1 NEWTON HIGHLANDS

PARKING SUPPLY AND DEMAND BY BLOCK

SEC/BL	DEMAND	PRIV	OFFST	ONST	PUBL	SPPLY	SURPLUS
51025	180	281	0	0	0	281	101
51026	26	50	0	0	0	50	24
52007	88	25	0	6	6	31	-57
52008	169	48	0	24	24	72	-97
52021	25	16	11	36	47	63	38
52036	93	74	0	5	5	79	-14
52037	26	38	0	13	13	51	25
52037	24	6	0	9	9	15	-9
52039	18	17	0	9	9	26	8
52040	98	19	53	20	73	92	-6
52043	17	9	0	0	0	9	-8
54041	14	0	0	7	7	7	-7
52041	0	0	0	12	12	12	12
TOTAL	777	583	64	141	205	788	11

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

NEWTON HIGHLANDS SURVEY REPORT

2.2.8 ZONING/THE DEVELOPMENT ENVELOPE

INTRODUCTION

This report presents the results of the analysis of existing zoning in Newton Highlands. The purpose of the analysis is to provide an understanding of the present and future development environment of the study area, 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 this village center?

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.

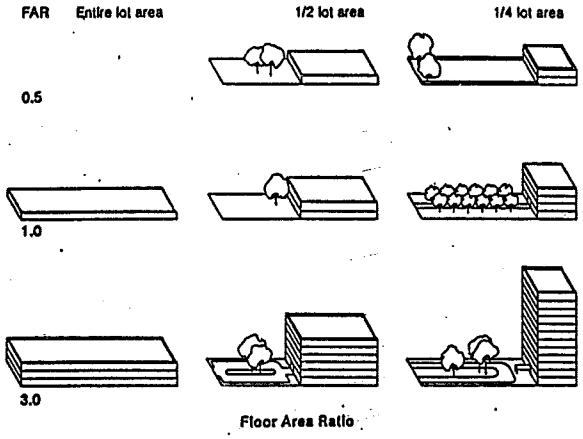
The Development Envelope: This is an estimate of the amount of development that could and is more likely to occur when existing and recent development is considered along with present zoning. This development envelope, or umbrella, combines the concept of zoning "right" and the realities of the marketplace 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.

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	----
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 offices above - surface prkg. 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	(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 Newton Highlands

. TOTAL NEW COMMERCIAL FLOOR AREA ALLOWED	375,596 s.f.
. TOTAL NEW OFFICE FLOOR AREA ALLOWED	727,266
. TOTAL NEW DWELLING UNITS ALLOWED	15

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 very 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 surfce 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 than 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 offices, 1 story retail, 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

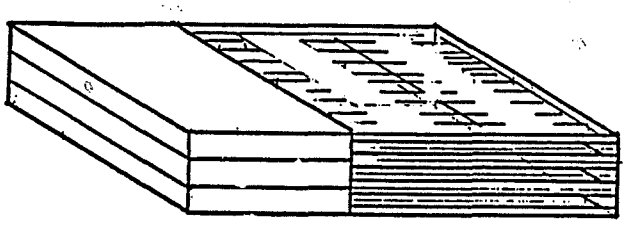
****

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

A MODEL 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 Newton Highlands, the following non-residential development type is expected to continue to be built for the forseeable future:

Figure 8.2 A MODEL OF RECENT OR EXPECTED DEVELOPMENT



3 STORY BUILDING – SURFACE PARKING GARAGE

FAR = 1.41

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

DEVELOPMENT TYPE	ZONES/ALLOWABLE FLOOR AREA RATIO				
	BA	BB	M	BAA	LM
Surface Parking Garage					
3 Story Office/Retail	1.41	1.41	1.41	.75	.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.

As indicated, a total of 507,215 square feet of non-residential floor area could be added as of right under present zoning, representing an increase of 171.7%.

The number of new dwelling units that could be added is 15, for a small increase of 4.8%. Thus, zoning in the study area is heavily weighted toward commercial/office growth.

TABLE 8.3

THE PRESENT DEVELOPMENT ENVELOPE:

GROWTH THAT COULD OCCUR IN NEWTON HIGHLANDS

New Commercial/Retail Floor Area that could be added	130,850
Existing Commercial/Retail Floor Area	243,361
Percent Added	54
New Office Floor Area that could be added	376,365
Existing Office Floor Area	52,094
Percent Added	722
New Dwelling Units that could be added	15
Existing Dwelling Units	313
Percent Added	4.8
Total New Commercial/Retail/Office Floor Area that could be Added	507,215
Total Existing Commercial/Retail/Office Floor Area	295,455
Total Percent Added	171.7%

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.

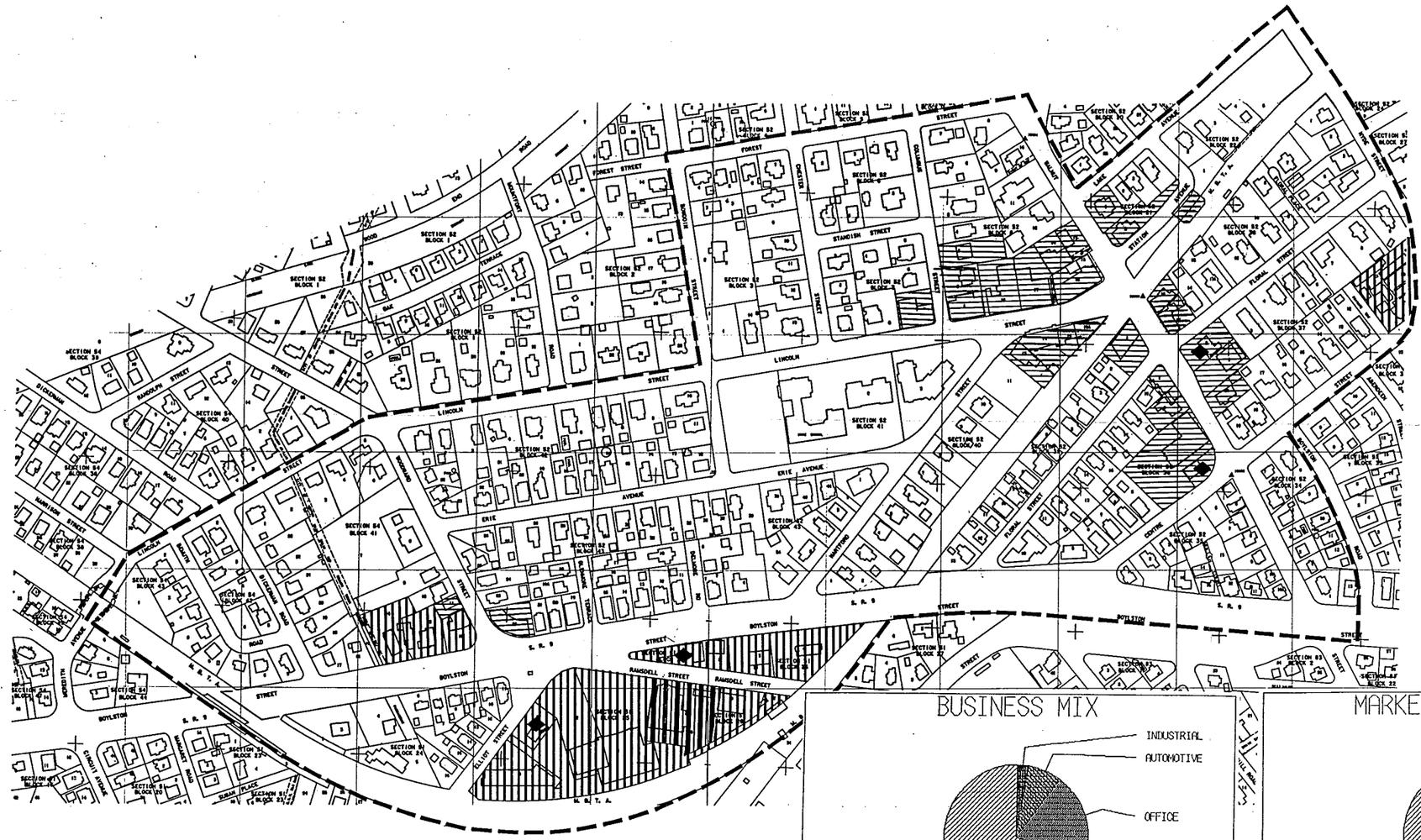
As indicated by Figure 8.2, both commercial areas could experience growth as the density of use on most parcels is significantly less than allowed by zoning. However, the lower scale buildings and large parking lots south of Boylston Street provide significant development opportunities. Fronting on Route 9, this area would be expected to change first and be redeveloped into office and retail uses oriented to a regional (Route 9 corridor) market. (Figure 8.3)

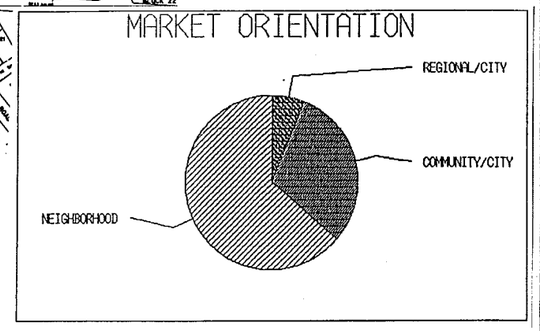
In the Lincoln/Walnut area, the food market parcel at Walnut and Centre Streets has the largest overall potential of an additional 48,000 square feet of the total 60,400 square feet shown for this block.

The floor area that could be added in the remaining blocks along Walnut Street would result from incremental increases over time.

The charming village character of Lincoln Street enhances its appeal as a shopping and working area. This very appeal will attract additional development, so that the estimate of growth that could occur appears realistic in the foreseeable future. The same can be said for potential redevelopment of the commercial area on Boylston Street. It is not far from Chestnut Hill and the new office complex under construction there on the old Vallee's site.

NEWTON HIGHLANDS





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

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NEWTON HIGHLANDS

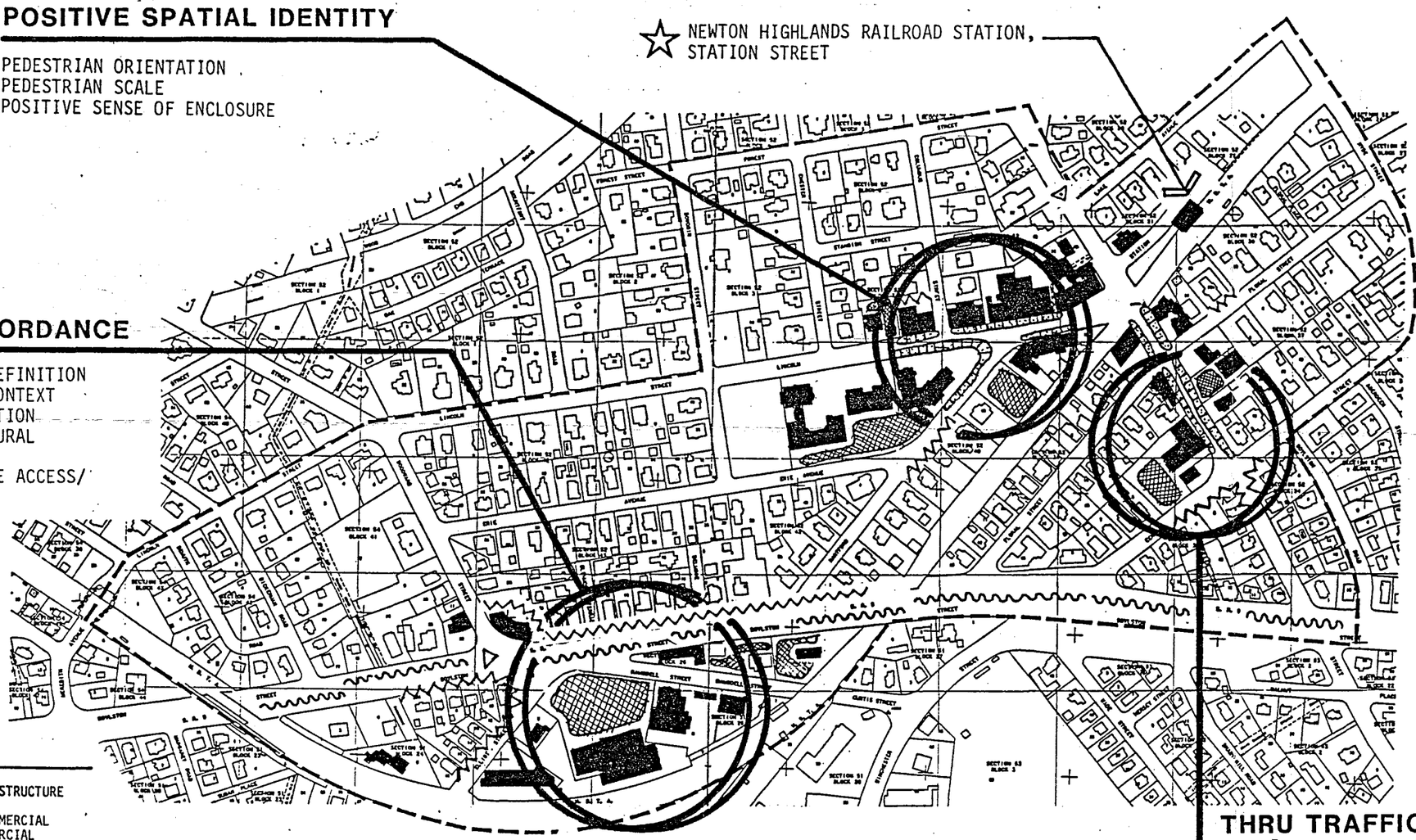
POSITIVE SPATIAL IDENTITY

- PEDESTRIAN ORIENTATION
- PEDESTRIAN SCALE
- POSITIVE SENSE OF ENCLOSURE

☆ NEWTON HIGHLANDS RAILROAD STATION, STATION STREET

VISUAL DISCORDANCE

- LACK OF SPATIAL DEFINITION
- NEGATIVE VISUAL CONTEXT
- VEHICULAR ORIENTATION
- LACK OF ARCHITECTURAL CONTINUITY
- POINT OF CITY-WIDE ACCESS/ EGRESS



THRU TRAFFIC/VEHICULAR DOMINANCE

- VISUAL DISCORDANCE
- LACK OF SPATIAL DEFINITION

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

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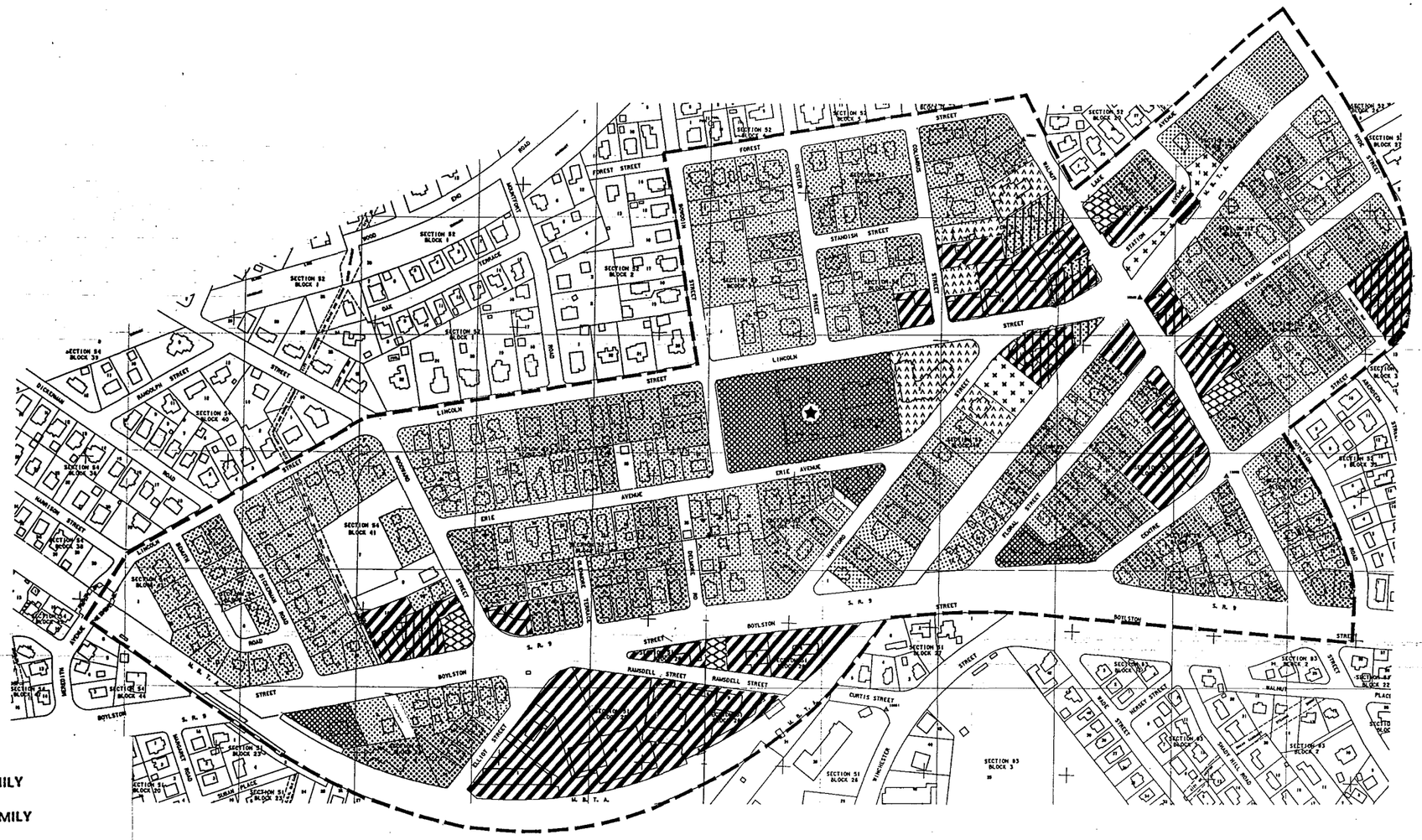

- RESIDENTIAL–SINGLE FAMILY
- RESIDENTIAL– 2 and 3 FAMILY
- RESIDENTIAL–APARTMENTS/CONDOS
- COMMERCIAL
- OFFICE
- INDUSTRIAL/MANUFACTURING
- TRANSPORTATION/PARKING
- MIXED USE–MOSTLY RESIDENTIAL
- MIXED USE–MOSTLY COMMERCIAL
- INSTITUTIONAL
- OPEN SPACE/RECREATION
- ★ PROPOSED OR UNDER CONSTRUCTION

FIGURE 3.1 EXISTING LAND USES

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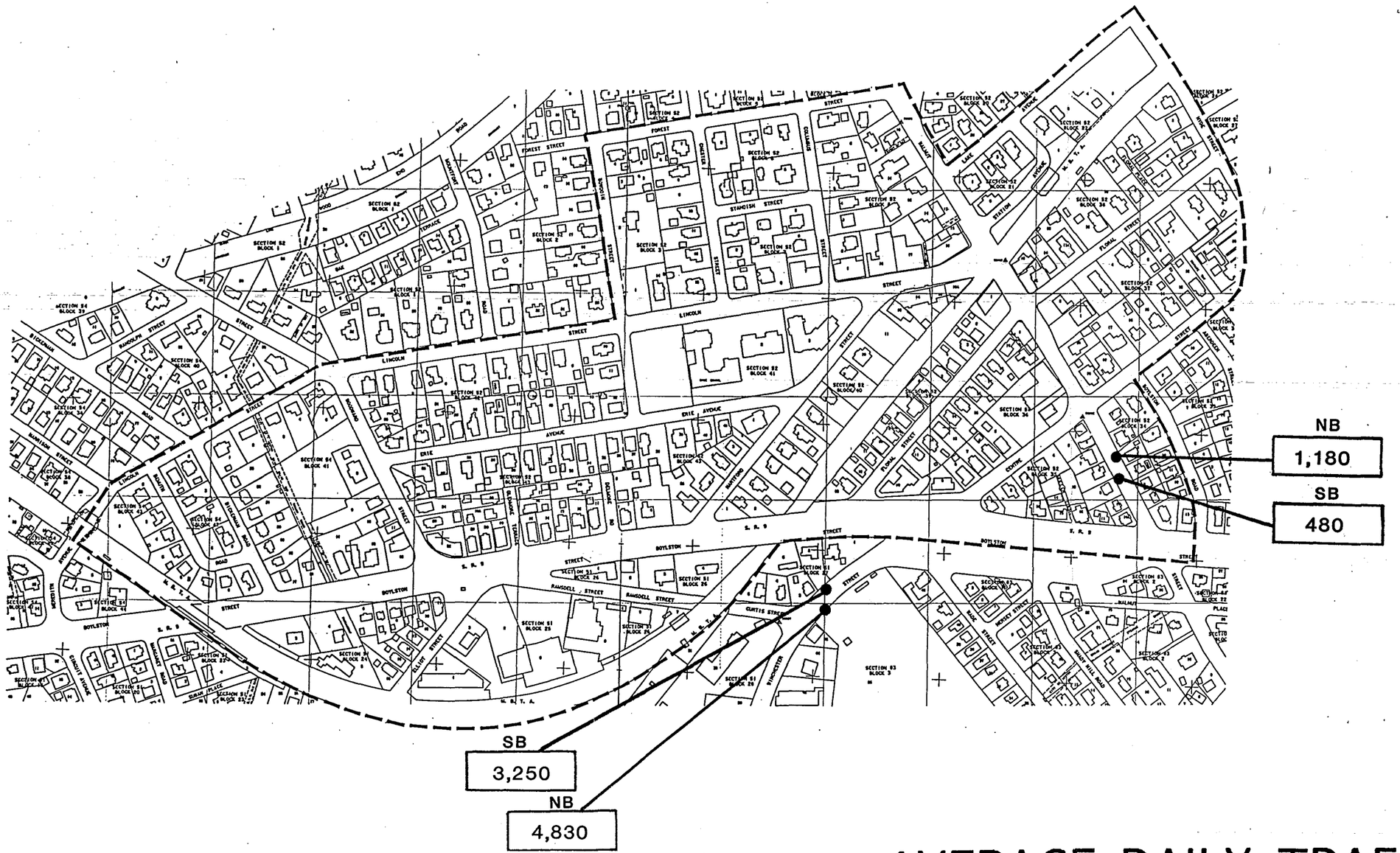

FIGURE 4.1 AVERAGE DAILY TRAFFIC

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NEWTON HIGHLANDS

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

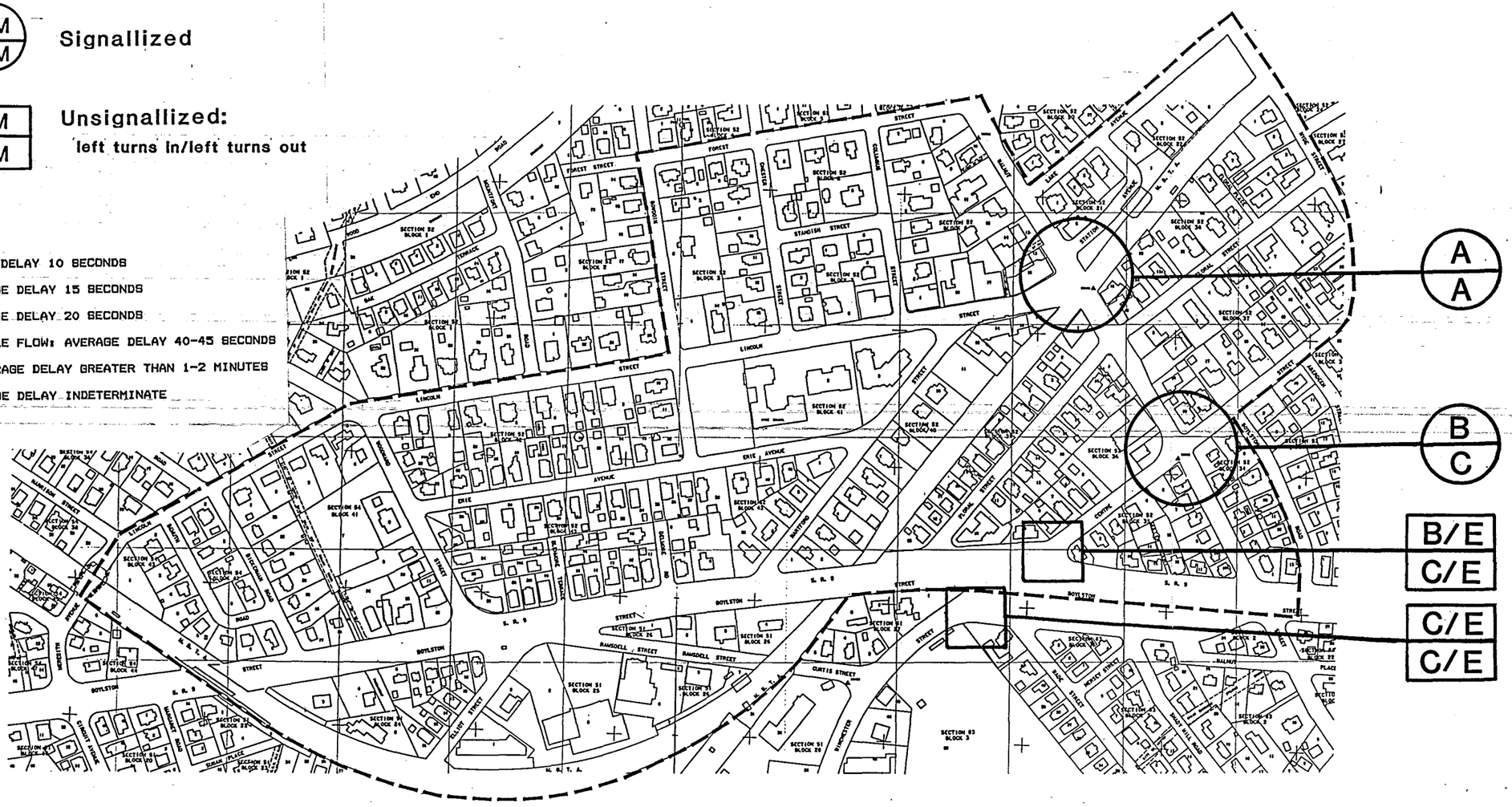

FIGURE 4.3 OPTIMAL INTERSECTION LEVEL OF SERVICE

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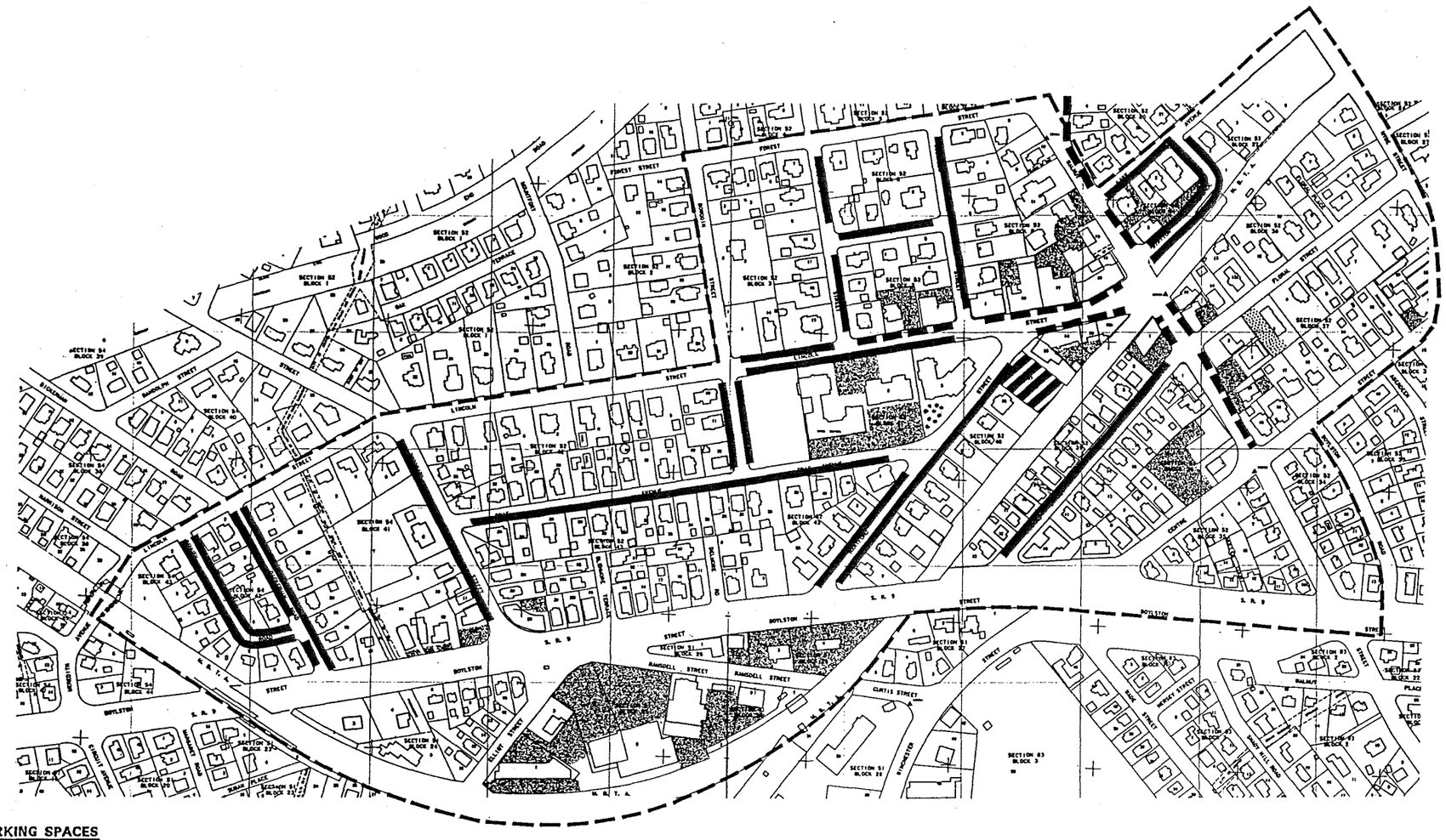

PRIVATE BUSINESS PARKING SPACES

- 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

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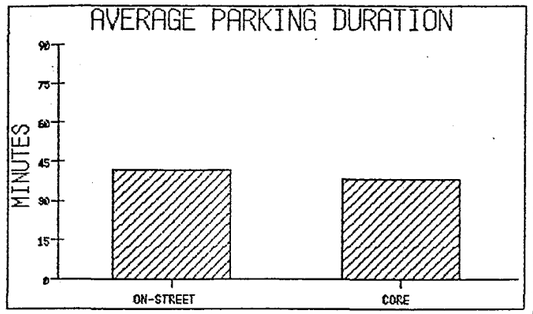

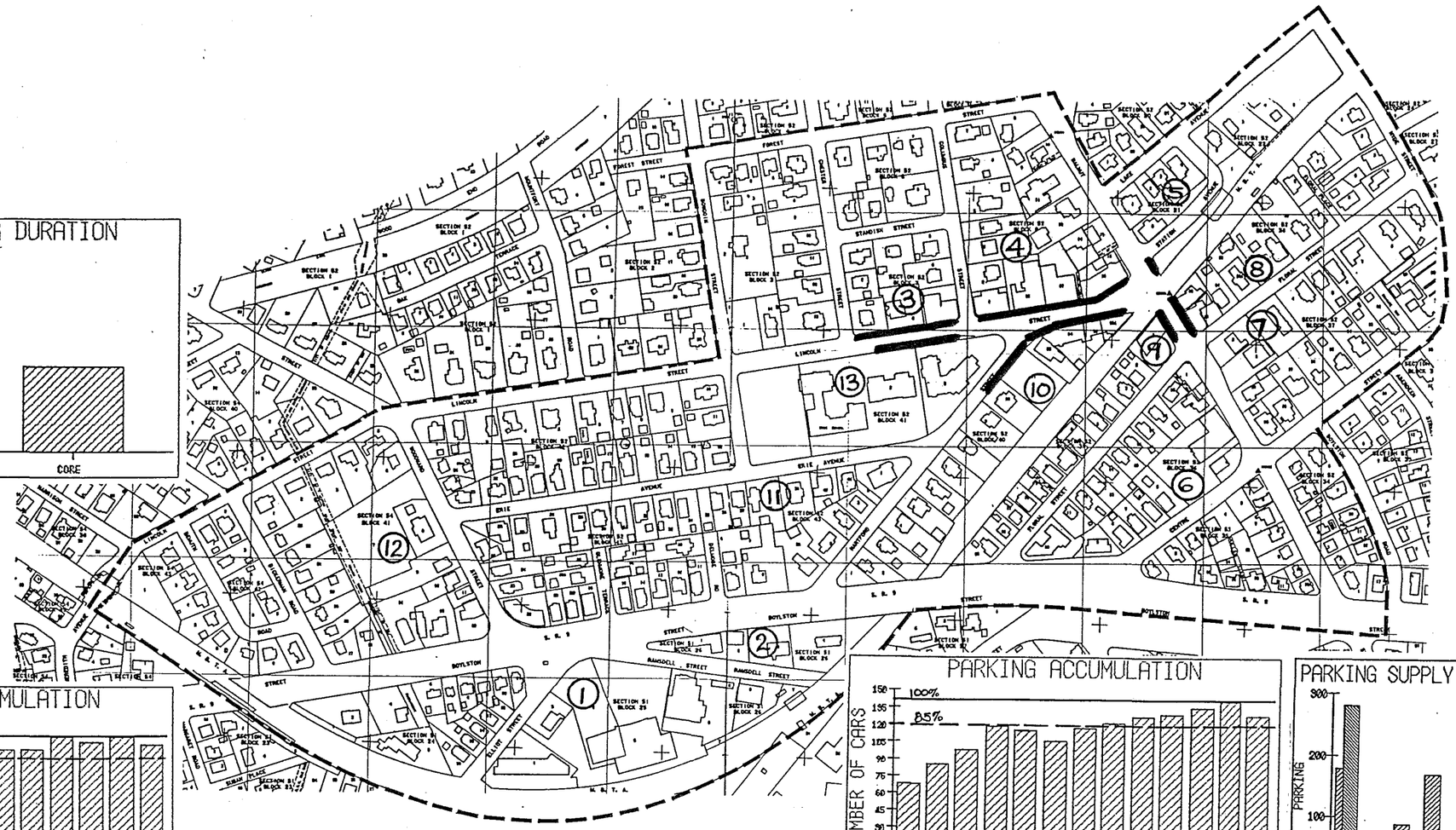

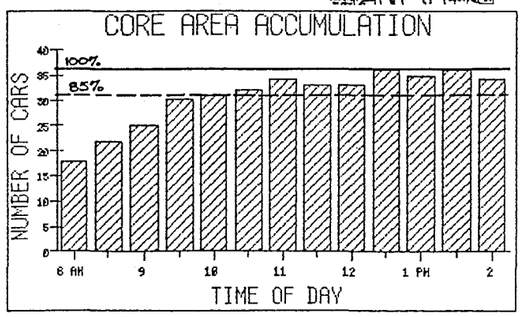

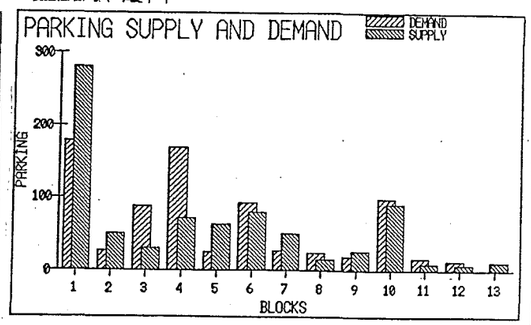

FIGURE 5.2 PARKING CHARACTERISTICS

CORE AREA PARKING

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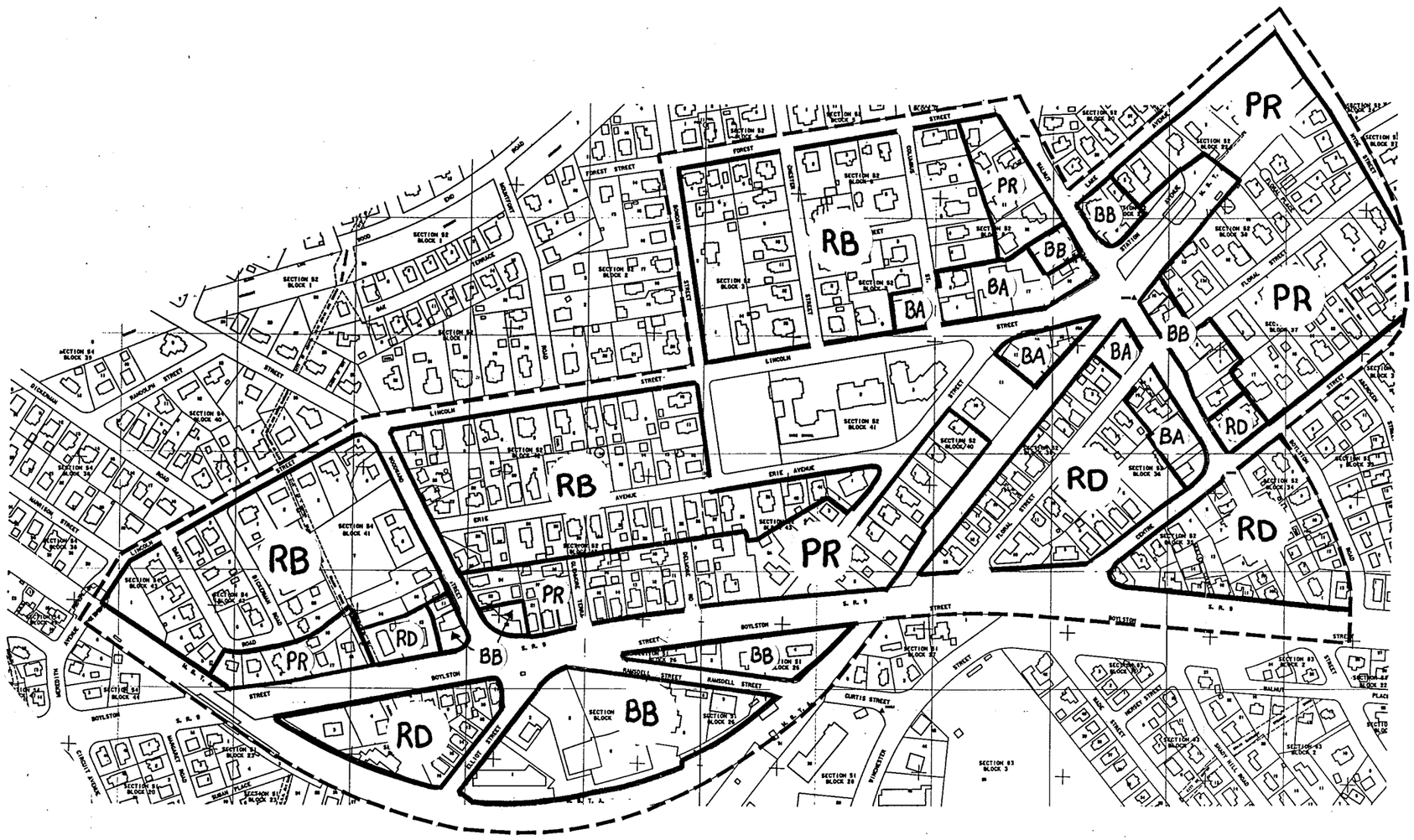

RA RESIDENCE A

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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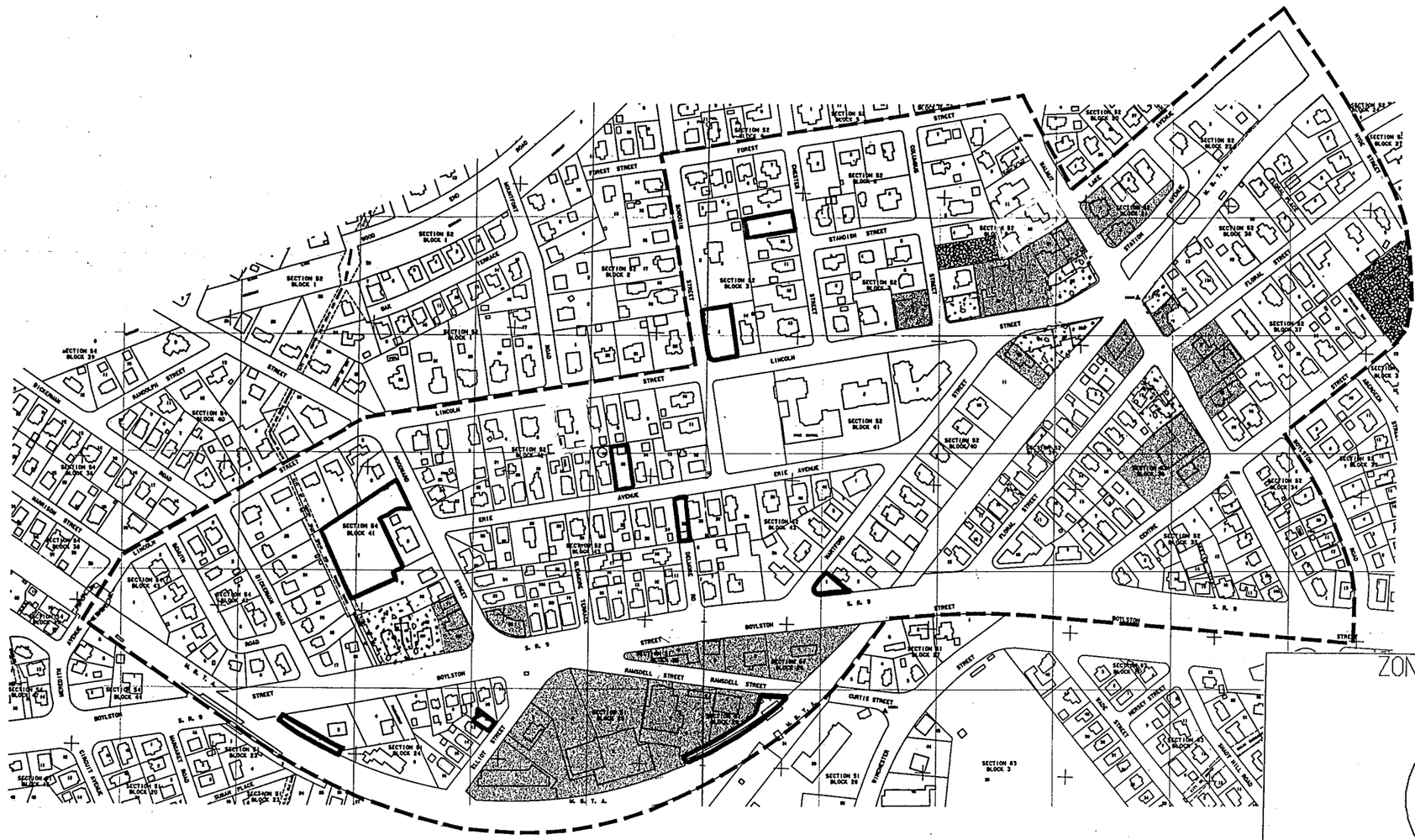

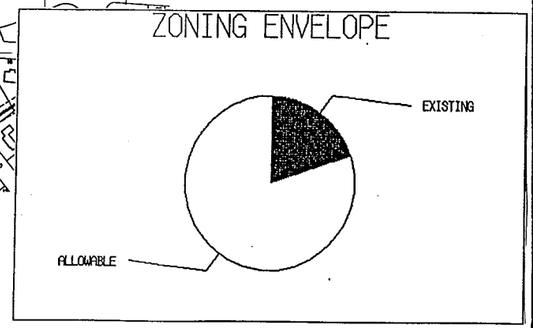

PRESENT DENSITY EXCEEDS THAT ALLOWED BY ZONING

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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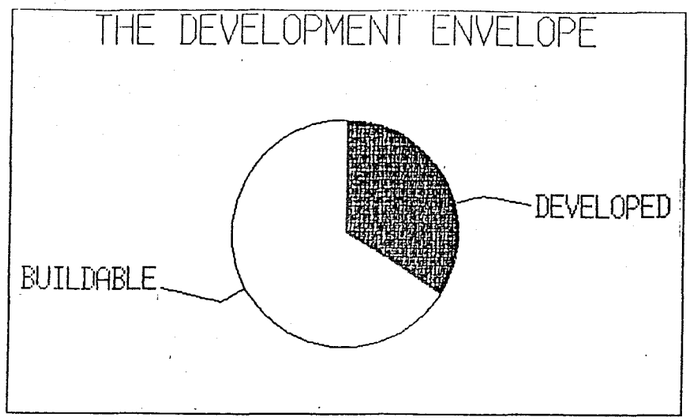

NEW COMMERCIAL/OFFICE
FLOOR AREA THAT
COULD BE BUILT
(IN SQUARE FEET)

FIGURE 8.3 THE DEVELOPMENT ENVELOPE

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