

Newton Village Study

Four Corners Survey Report

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NEWTON COLLECTION

THE NEWTON VILLAGE STUDY

FOUR CORNERS SURVEY REPORT

February 1986

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FOUR CORNERS SURVEY REPORT

2.1.0 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.

This survey report is one product of Phase II. It presents in detail the findings of four months of study, and is organized as follows: Section 1 highlights all important findings, Sections 2 through 8 present the results of the detailed studies in each subject area; a summary of findings is provided at the beginning of each section for ease of reading and understanding the whole.

SUMMARY OF FINDINGS

- The great majority of businesses in Four Corners provide neighborhood convenience goods and services. However, there are also a number of businesses that serve a broader community-wide market area.
- Four Corners is primarily a commercial strip, where automobile services and large open parking lots predominate. Thus, the area lacks a sense of place and is a difficult environment for pedestrians.
- Commercial land uses in the area have, for the most part, been developed at very low density, characteristic of suburban strips.
- Existing public and private open space uses and rights-of-way provide possible physical limits to further commercial expansion beyond the boundaries of the Four Corners study area.
- Recent counts of traffic on Walnut and Beacon Streets indicate that these streets accommodate moderate to heavy volumes.
- Based upon the volumes and recent counts of turning movements, the Beacon/Walnut Street intersection should and does operate at a high level of service during both a.m. and p.m. peak hours.
- Four Corners has an estimated surplus of 100 parking spaces; the supply of spaces relies exclusively on the private sector.
- There may be some congestion in some areas, as drivers contend for the spaces closest to their shopping or business destination.
- An estimated total of over 230,000 square feet of new non-residential floor space could be developed in Four Corners under present zoning, an increase of 136%.
- Most of this estimated development would occur in the form of three story office buildings with related surface parking lots.
- An estimated total of 21 new dwelling units could be built as-of-right in Four Corners under present zoning. This represents an increase of 50% over the present 42 existing units.
- Located at the intersection of two of Newton's major streets, Four Corners is accessible to a broader city-wide market, an important factor influencing growth potential of this commercial area.

FOUR CORNERS SURVEY REPORT

2.2.1 MARKET ORIENTATION

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

Figure 1.1 and Table 1.1 indicate the market orientation of the businesses in Four Corners. Most are convenience outlets and serve a neighborhood market. Businesses in the relatively new office buildings on Beacon Street and at Beacon/Walnut are in most cases oriented to a larger community area. Although the restaurants have been classified as being neighborhood oriented, they could just as well be considered as serving a wider market.

TABLE 1.1

MARKET ORIENTATION OF BUSINESS ACTIVITY IN FOUR CORNERS
BY BLOCK AND FLOOR AREA

| | <u>Blocks</u> | <u>Floor Area</u> | |
|-------------------|---------------|-------------------|--------|
| 1. Neighborhood | 54022 | 64860 | |
| Convenience shops | 62004 | 30818 | |
| and Services | 64003 | 5138 | |
| | 64005 | 28376 | |
| | | Sub total | 129192 |
| 2. Community wide | 54022 | 29800 | |
| Business and | 64005 | 10560 | |
| Services | | Sub Total | 40360 |
| | | Total | 169552 |

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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.

Four Corners is primarily an auto-oriented commercial strip and lacks scale and a sense of place for auto drivers and pedestrians. There is no gateway or entry into this area beyond the view of the many signs vying for attention.

The gas stations which appear on three of its four corners are typically open in appearance. This lack of a "hard vertical edge" translates into poor spatial definition.

Beyond the intersection, to the west, a small plaza area exemplifies poor facade/signage treatments and suffers further from a poorly defined parking area which faces unbuffered toward residential structures to the north of Beacon Street.

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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 area chosen for the study includes a mix of low density commercial, office and residential uses. The non-residential uses are for the most part extensive in nature, characterized by low buildings surrounded by parking. The density of these uses (FAR .41 and .42) is typical of suburban strips of this character and layout.

Newton Cemetery and Cold Spring Park provide extensive open space buffers between Four Corners and the neighborhoods west and northwest of the study area. The Sudbury and Cochituate viaduct rights-of-way also buffer the eastern edge of Four Corners.

Located beyond the small shopping center on the east side of Walnut Street above Beacon Street are parcels containing transitional uses. That is, they are former residences converted to business (office) use.

TABLE 3.1 EXISTING LAND USE CHARACTERISTICS

| <u>CATEGORY</u> | <u>LAND AREA IN ACRES</u> | <u>FLOOR AREA IN SQ. FT.</u> | <u>FAR%</u> | <u>DWELLING UNITS</u> |
|--------------------------------|-------------------------------|----------------------------------|-------------|---------------------------|
| Residential | | | | |
| Single Family | 6.78 | -- | -- | 27 |
| 2 and 3 Family | 1.38 | -- | -- | 14 |
| Apartments/Condos | 0.39 | -- | -- | 1 |
| Commercial | 6.06 | 109,886 | .414 | |
| Office | 3.20 | 59,666 | .424 | -- |
| Industrial/Manufacturing | 0 | --- | --- | --- |
| Mixed Use - mostly Commercial | 0 | --- | --- | --- |
| Mixed Use - mostly Residential | 0 | --- | --- | --- |
| Transportation/Parking | NA | --- | --- | --- |
| Institutional | NA | --- | --- | --- |
| Open Space/Recreation | NA | --- | --- | --- |
| Vacant Land | 0.86 | --- | --- | --- |

FOUR CORNERS 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.

FOUR CORNERS

Traffic Conditions

Four Corners is the small commercial area at the intersection of Beacon and Walnut Streets, between Newtonville and Newton Highlands. Both these streets are major travel routes within Newton, carrying moderate traffic volumes. At their intersection, the major commercial activities include gas stations on 3 corners, the Heartland Drug Store, several restaurants, and a recently-built office building on the northeast corner. The intersection is governed by a simple, 2-phase traffic signal. There are no separate turning phases, but there is ample room on all 4 legs for straight and right-turning traffic to bypass queued left-turns.

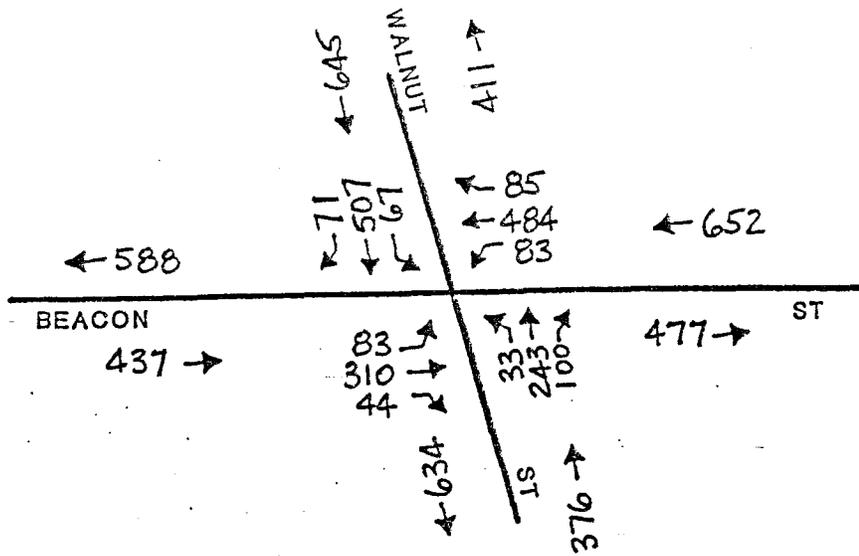
Automatic 24-hour traffic counts on Beacon Street east of Walnut, and Walnut Street north of Beacon were conducted by Newton Public Works personnel during October 1985. The results of these volume counts, factored to represent 1985 Average Daily Traffic (ADT), are illustrated in Figure 4.1.

Peak hour turning movement counts in the area were also made during October 1985. These counts were adjusted to represent average annual existing peak hour traffic volumes; the resulting volumes are depicted in Figure 4.2. Peak hours observed from these counts were 7:45-8:45 AM and 4:45-5:45 PM. No noteworthy delays to vehicles were observed during the traffic count periods, although left-turning vehicles must wait for opposing traffic to clear before moving.

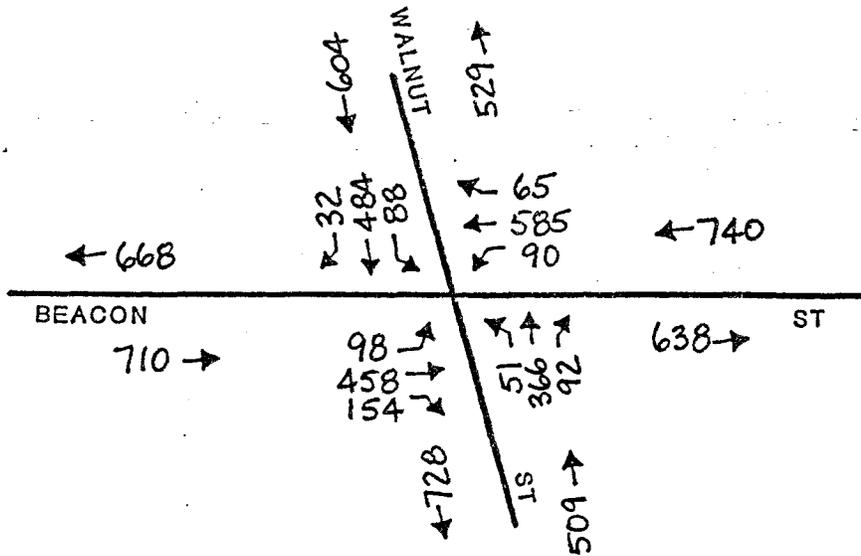
Existing operations at the Beacon/Walnut Street intersection were analyzed using Level of Service analysis procedures for signalized intersections. The purpose of the analysis was to determine how well this intersection could function, given its present geometric design and ideal or desirable signal 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 currently functions at a high level of service (B) during both AM and PM peak hours.

A.M.



P.M.



(NOT TO SCALE)

NEWTON VILLAGE STUDY

PEAK HOUR TRAFFIC VOLUMES - FOUR CORNERS

FIGURE

4-2

FOUR CORNERS SURVEY REPORT

2.2.5 PARKING

INTRODUCTION

This report presents the results of the following parking studies and analyses performed for the Four Corners 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 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 survey was conducted on Saturday, November 9 between the hours of 12 noon and 2 p.m. The survey consisted primarily of observing the number of cars parked on streets in relation to the amount of spaces available on those streets. The streets surveyed were Beaconwood Road and Brentwood Avenue. The purpose of the survey was to document any problems of spillover parking from business in residential areas.

SUMMARY OF FINDINGS

a. Supply and Demand

1. Four Corners has an estimated surplus of 100 parking spaces. This surplus is distributed fairly evenly throughout the area.
2. The supply of parking relies exclusively on the private sector as there is presently no public on- or off-street spaces for business purposes, although Heartland drugs leases space for parking from the City.

a. Parking Use

1. As per the supply/demand analysis, it was observed that the area was not used to its capacity at any time during the Saturday peak period.
2. Friday parking demand may be high for certain businesses,

causing congestion problems in some areas, particularly on Beacon Street in front of the group of commercial uses.

3. No spillover parking was observed in the residential streets.

SUPPLY VS DEMAND

Table 5.1 presents the results of the supply and demand analysis. As shown, there is an estimated surplus of 100 spaces and each block contributes to that surplus. The least amount of surplus is in block 54022 where most of the retail convenience stores are located. Also indicated in the total lack of public on- or off-street spaces in the area (Parking spaces associated with open space or institutional uses are not included as business supply.)

PARKING USE CHARACTERISTICS

On the day surveyed, none of the parking areas were full at any time during the 12 noon to 2 p.m. period. However, there were locations of rapid turnover where some problems were noted. These problems create the impression that Four Corners is a congested area, when in reality the principal problem is the desire of the average customer to park in front of the door of the business he/she wishes to visit. These isolated problems are characteristic of convenience-oriented business areas.

There was no business related parking observed on the residential streets, nor should any be expected given the fairly large surplus of spaces in private parking lots.

TABLE 5.1 FOUR CORNERS

PARKING SUPPLY AND DEMAND BY BLOCK

| SEC/BL | DEMAND | PRIV | OFFST | ONST | PUBL | SPPLY | SURPLUS |
|--------|--------|------|-------|------|------|-------|---------|
| 54022 | 219 | 232 | 0 | 0 | 0 | 232 | 13 |
| 62004 | 62 | 92 | 0 | 0 | 0 | 92 | 30 |
| 64003 | 1 | 23 | 0 | 0 | 0 | 23 | 22 |
| 64005 | 68 | 103 | 0 | 0 | 0 | 103 | 35 |
| TOTAL | 350 | 450 | 0 | 0 | 0 | 450 | 100 |

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

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2.2.8 ZONING/THE DEVELOPMENT ENVELOPE

INTRODUCTION

This report presents the results of the analysis of existing zoning in Four Corners. 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 foreseeable future.

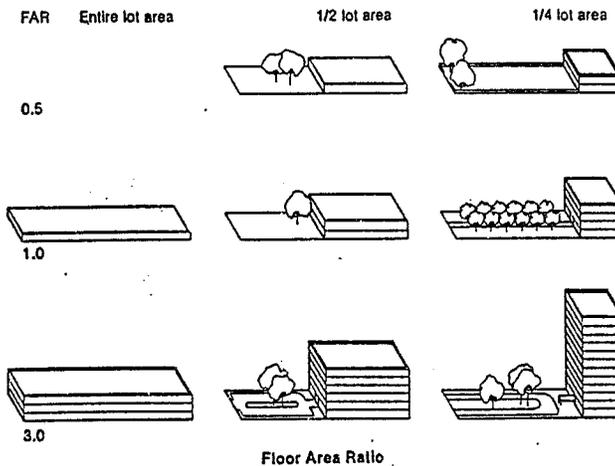
SUMMARY OF FINDINGS

- An estimated total of over 230,000 square feet of new non-residential floor space could be developed in Four Corners under present zoning, an increase of 136%.
- Most of this estimated development would occur in the form of three story office buildings with related surface parking lots.
- An estimated total of 21 new dwelling units could be built as-of-right in Four Corners under present zoning. This represents an increase of 50% over the present 42 existing units.
- Located at the intersection of two of Newton's major streets, Four Corners is accessible to a broader city-wide market, an important factor influencing growth potential of this commercial area.

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 $3 \times .50$, 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 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)

| <u>ZONING DISTRICT</u> | | <u>FAR ALLOWED</u> |
|------------------------|-------|--------------------|
| Business | (BAA) | 1.00 |
| Limited Manu- | | |
| facturing | (LM) | 0.75 |
| 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 straight-forward. 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:

| <u>ZONE</u> | <u>DWELLING UNITS PER ACRE</u> |
|-------------|--------------------------------|
| 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 FOUR CORNERS

| | |
|---|--------------|
| . TOTAL NEW COMMERCIAL FLOOR AREA ALLOWED | 432,277 s.f. |
| . TOTAL NEW OFFICE FLOOR AREA ALLOWED | 871,745 |
| . TOTAL NEW DWELLING UNITS ALLOWED | 21 |

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 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 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

| <u>DEVELOPMENT</u> | <u>ADDRESS</u> | <u>FAR</u> | <u>ZONE</u> |
|--|------------------|------------|-------------|
| 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 |

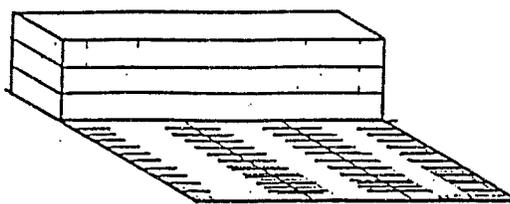
NEWTON HIGHLANDS

| | | | |
|------------|--|------|----|
| 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

Figure 8.2 A MODEL OF RECENT OR EXPECTED DEVELOPMENT



3 STORY BUILDING - SURFACE PARKING LOT

FAR = 0.69

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

| <u>DEVELOPMENT TYPE</u> | <u>ZONES/ALLOWABLE FLOOR AREA RATIO</u> | | | | |
|-------------------------|---|-----|-----|-----|-----|
| | BA | BB | M | BAA | LM |
| Surface Parking Lot | | | | | |
| 3 story office/retail | .69 | .69 | .69 | --- | --- |
| 4 story office/retail | --- | --- | --- | .60 | --- |

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 E.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 over 230,000 square feet of new non-residential floor space could be developed in Four Corners, an increase of 136%.

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.

Figure 8.2 shows that the density of most commercial parcels within the study area is low so that redevelopment or major expansion of existing buildings is possible. The new office building in the heart of Four Corners may be a harbinger of development to come. Beacon and Walnut Streets are important streets in Newton, giving Four Corners accessibility to a city-wide market.

TABLE 8.3

THE PRESENT DEVELOPMENT ENVELOPE:

GROWTH THAT COULD OCCUR IN FOUR CORNERS

| | |
|---|---------|
| • New Commercial/Retail Floor Area that could be added | 64,731 |
| • Existing Commercial/Retail Floor Area | 109,886 |
| • Percent Added | 59% |
| • New Office Floor Area that could be added | 165,992 |
| • Existing Office Floor Area | 59,666 |
| • Percent Added | 278% |
| • New Dwelling Units that could be added | 21 |
| • Existing Dwelling Units | 42 |
| • Percent Added | 50 |
| • Total Non-Residential Floor Area that could be added | 230,723 |
| • Total Existing Non-Residential Floor Area | 169,552 |
| • Total Percent Added | 136% |

FOUR CORNERS

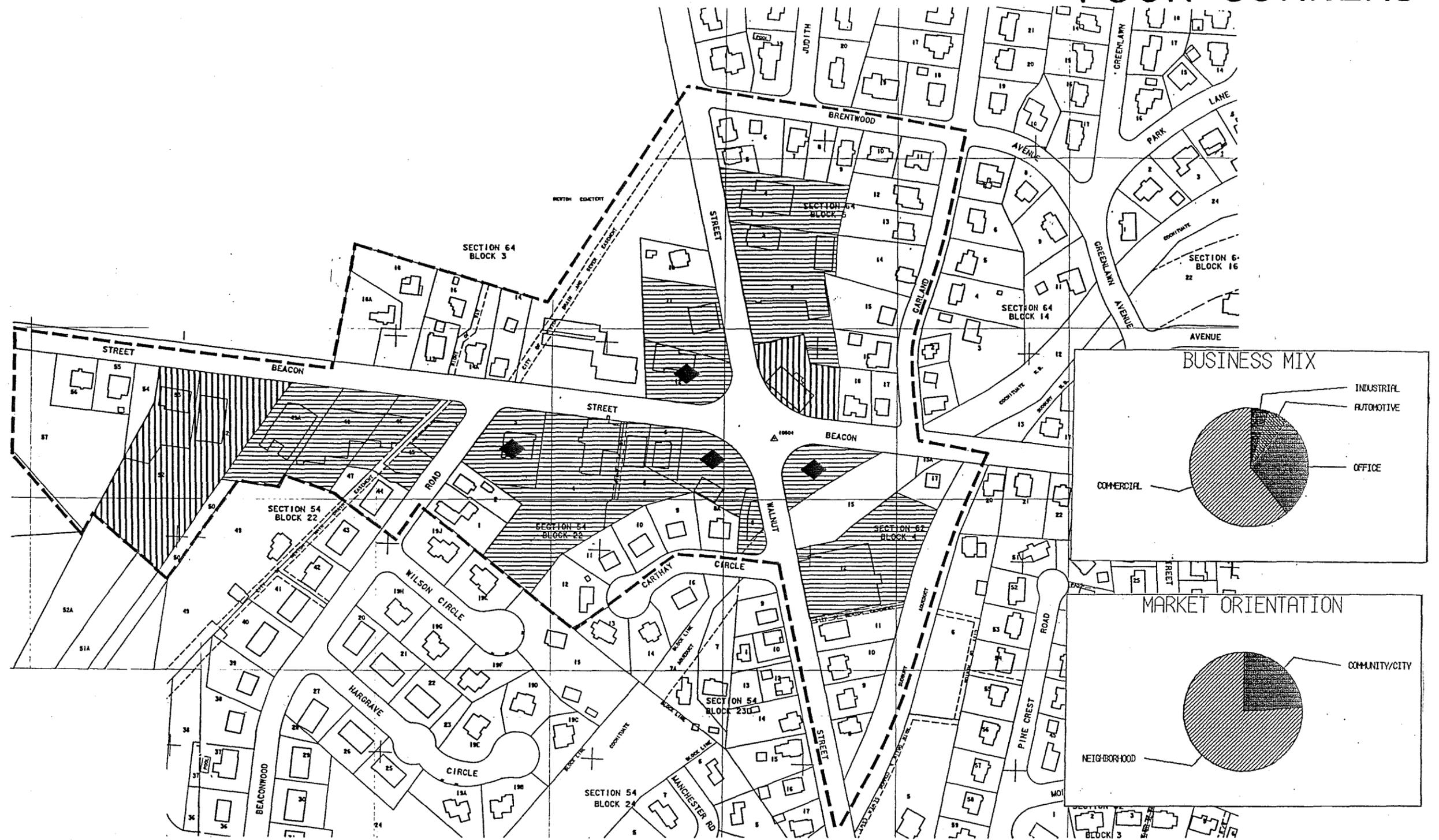


FIGURE 1.1 MARKET ORIENTATION OF BUSINESS USES

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 THEODORE D. MANN, MAYOR
 BARRY C. CANNER, DIRECTOR OF PLANNING AND DEVELOPMENT

Connelly Associates
 120 Washington Street, Boston, MA 02108

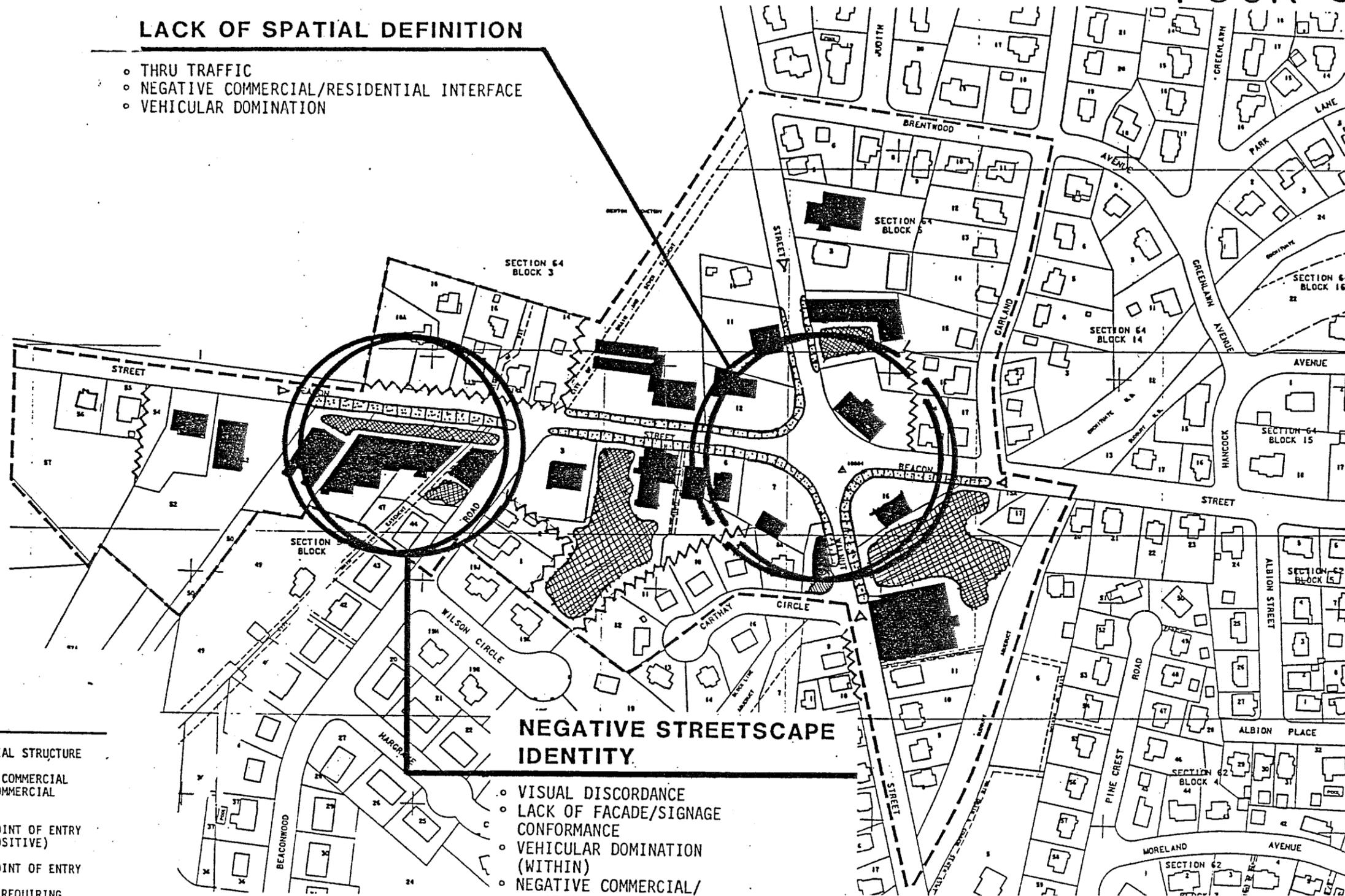


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FOUR CORNERS

LACK OF SPATIAL DEFINITION

- THRU TRAFFIC
- NEGATIVE COMMERCIAL/RESIDENTIAL INTERFACE
- VEHICULAR DOMINATION



NEGATIVE STREETSCAPE IDENTITY

- VISUAL DISCORDANCE
- LACK OF FACADE/SIGNAGE CONFORMANCE
- VEHICULAR DOMINATION (WITHIN)
- NEGATIVE COMMERCIAL/RESIDENTIAL INTERFACE

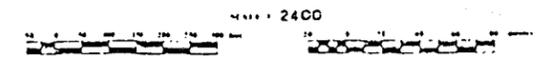
LEGEND

- 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

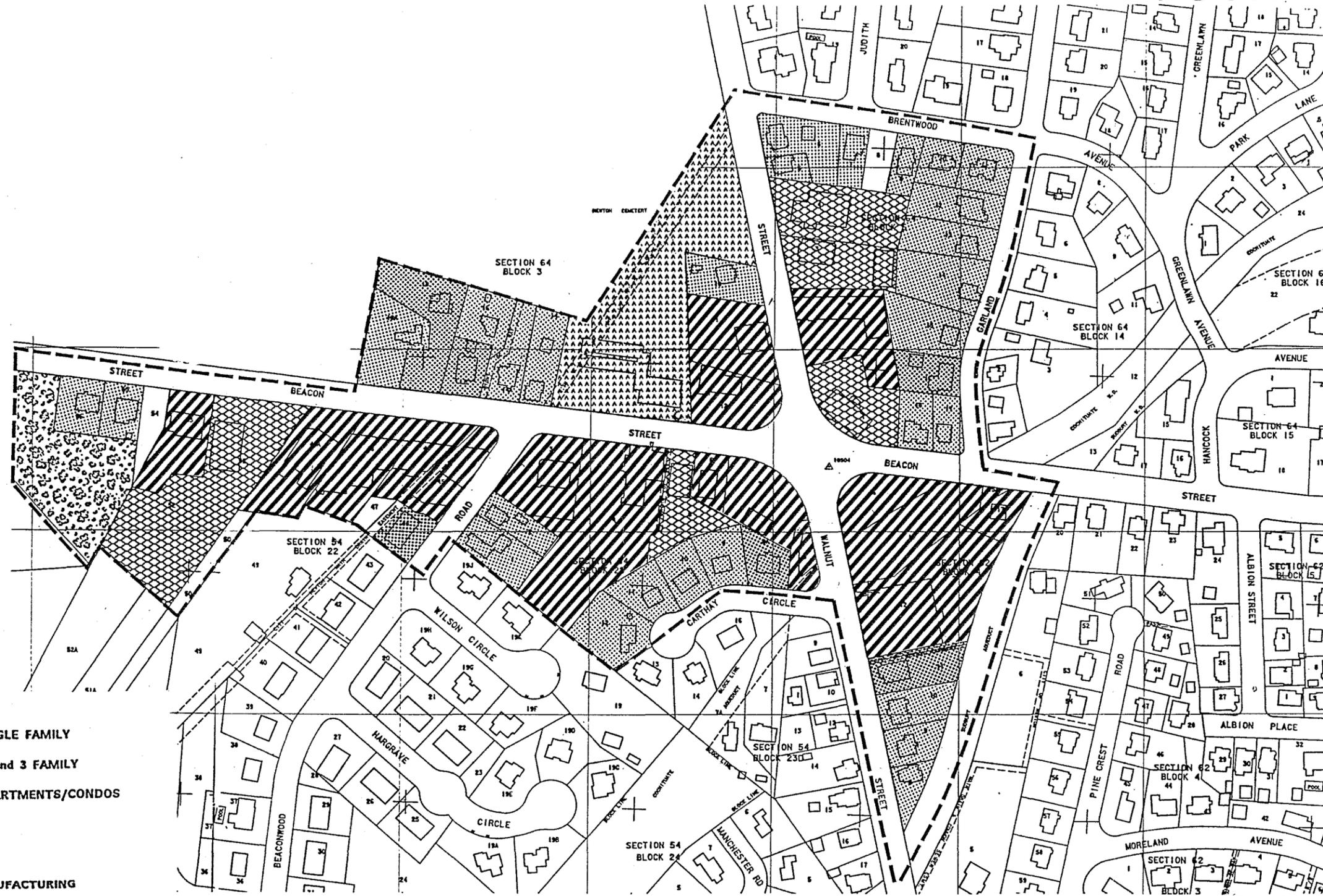
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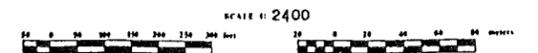
-  RESIDENTIAL-SINGLE FAMILY
-  RESIDENTIAL- 2 and 3 FAMILY
-  RESIDENTIAL-APARTMENTS/CONDOS
-  COMMERCIAL
-  OFFICE
-  INDUSTRIAL/MANUFACTURING
-  TRANSPORTATION/PARKING
-  MIXED USE-MOSTLY RESIDENTIAL
-  MIXED USE-MOSTLY COMMERCIAL
-  INSTITUTIONAL
-  OPEN SPACE/RECREATION
-  ★ PROPOSED OR UNDER CONSTRUCTION

FIGURE 3.1 EXISTING LAND USES

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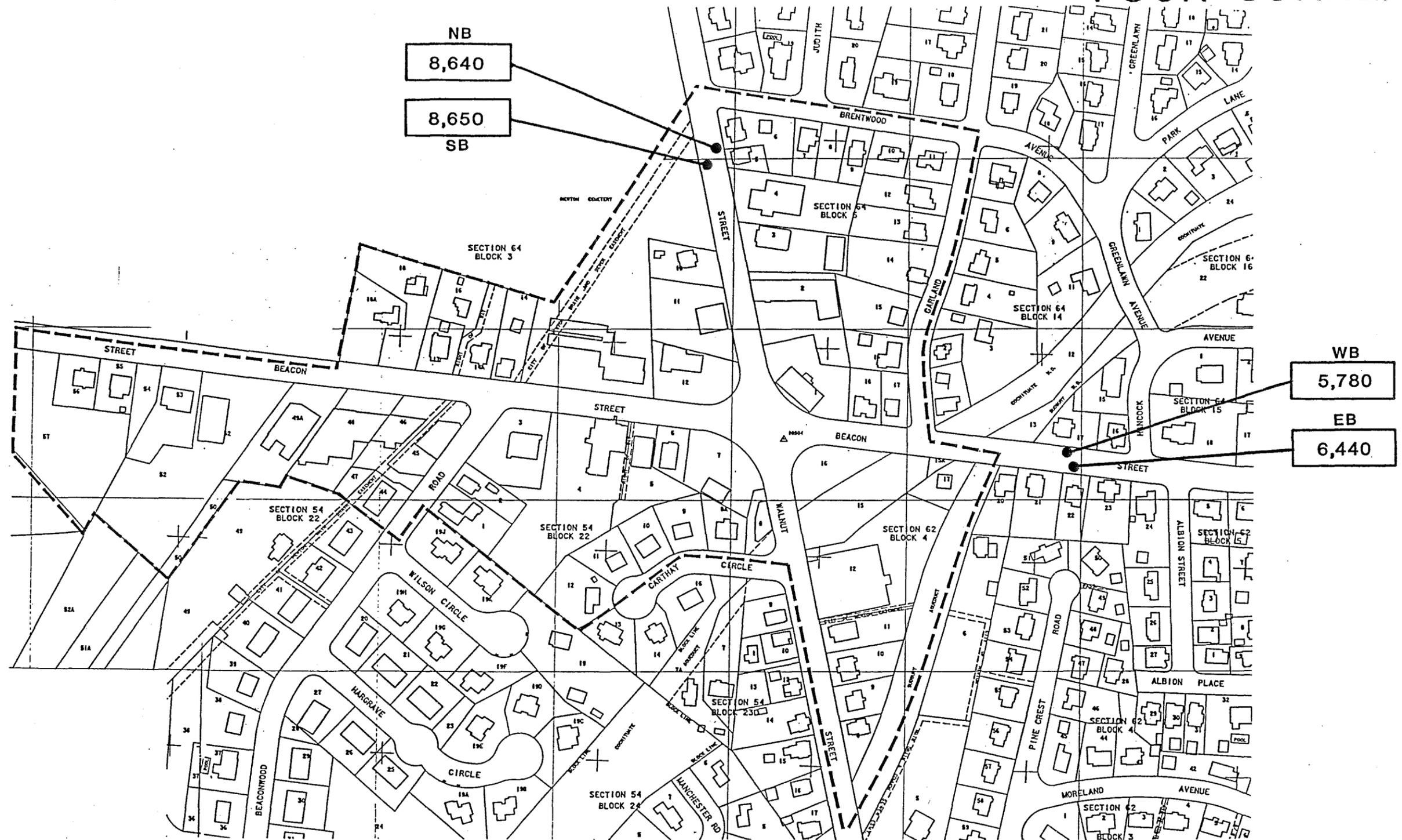


FIGURE 4.1 AVERAGE DAILY TRAFFIC

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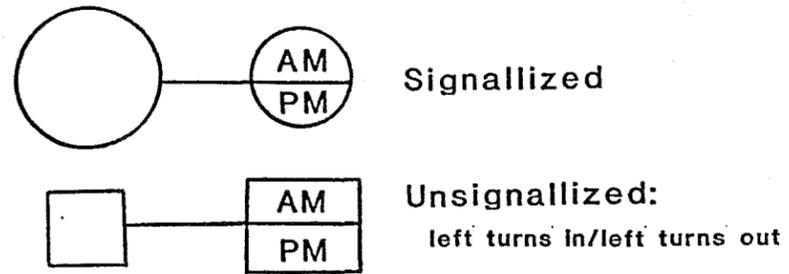
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FOUR CORNERS

KEY TO INTERSECTIONS



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

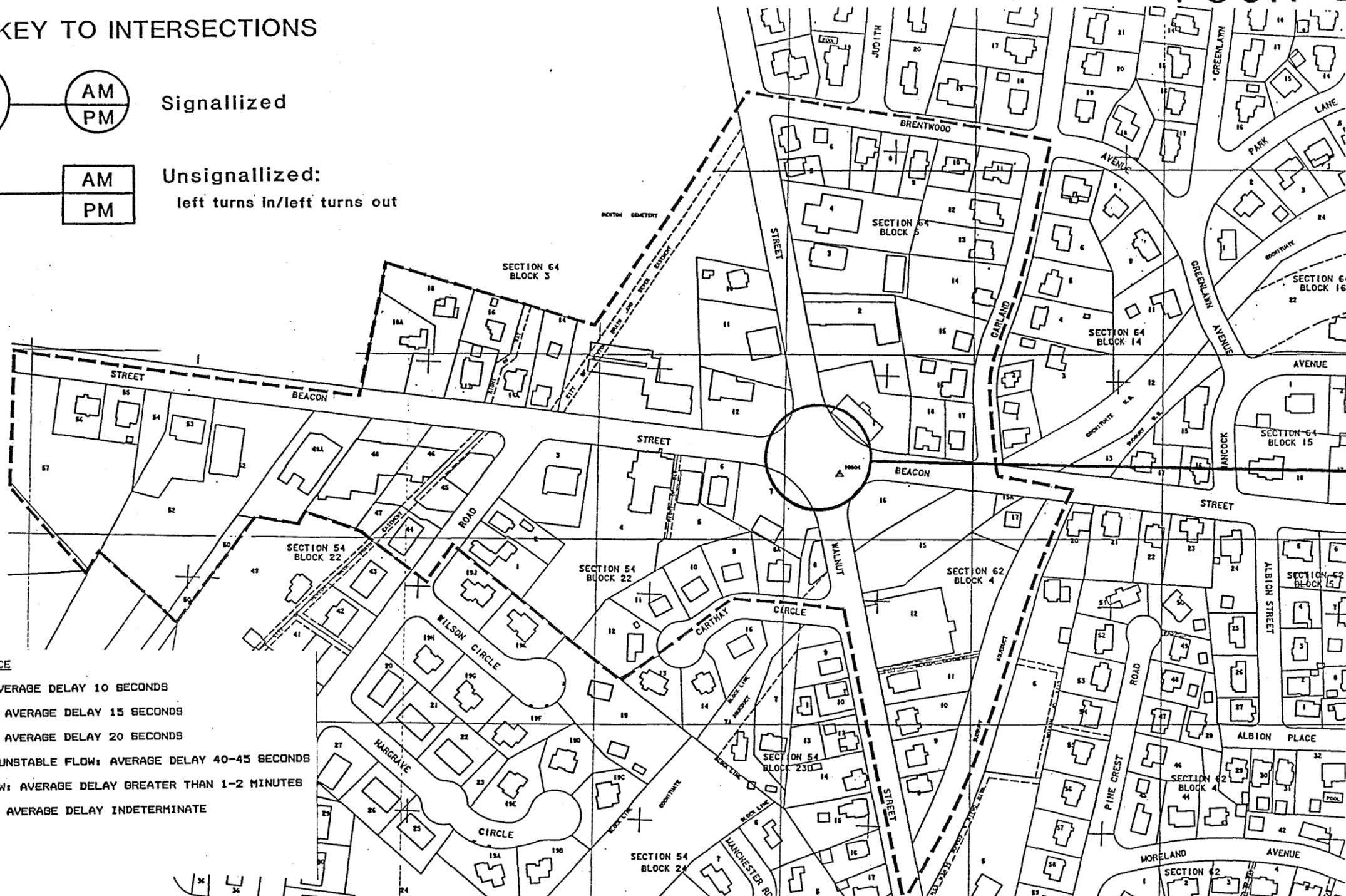


FIGURE 4.3 OPTIMAL INTERSECTION LEVEL OF SERVICE

NEWTON VILLAGE STUDY

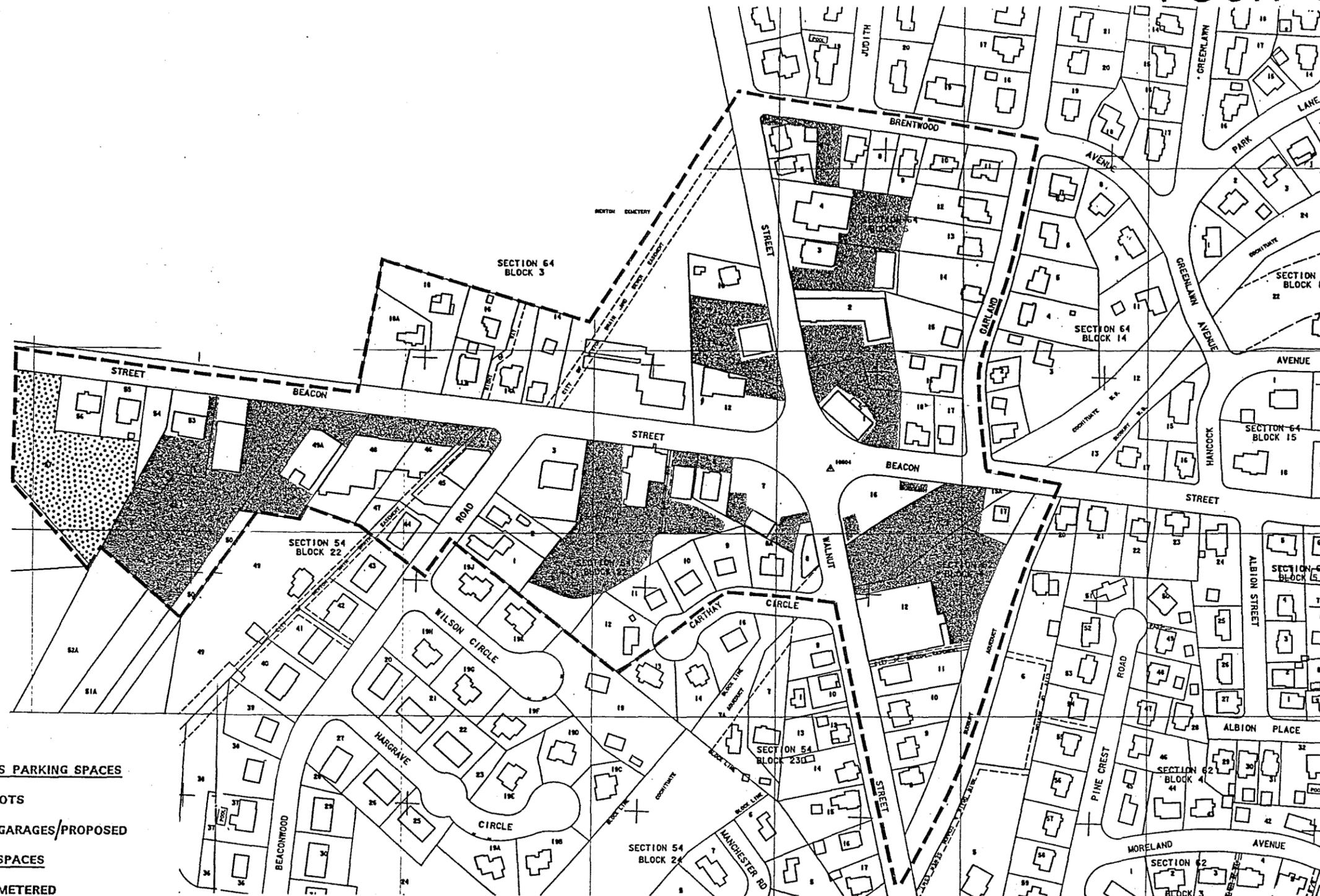
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FOUR CORNERS



- 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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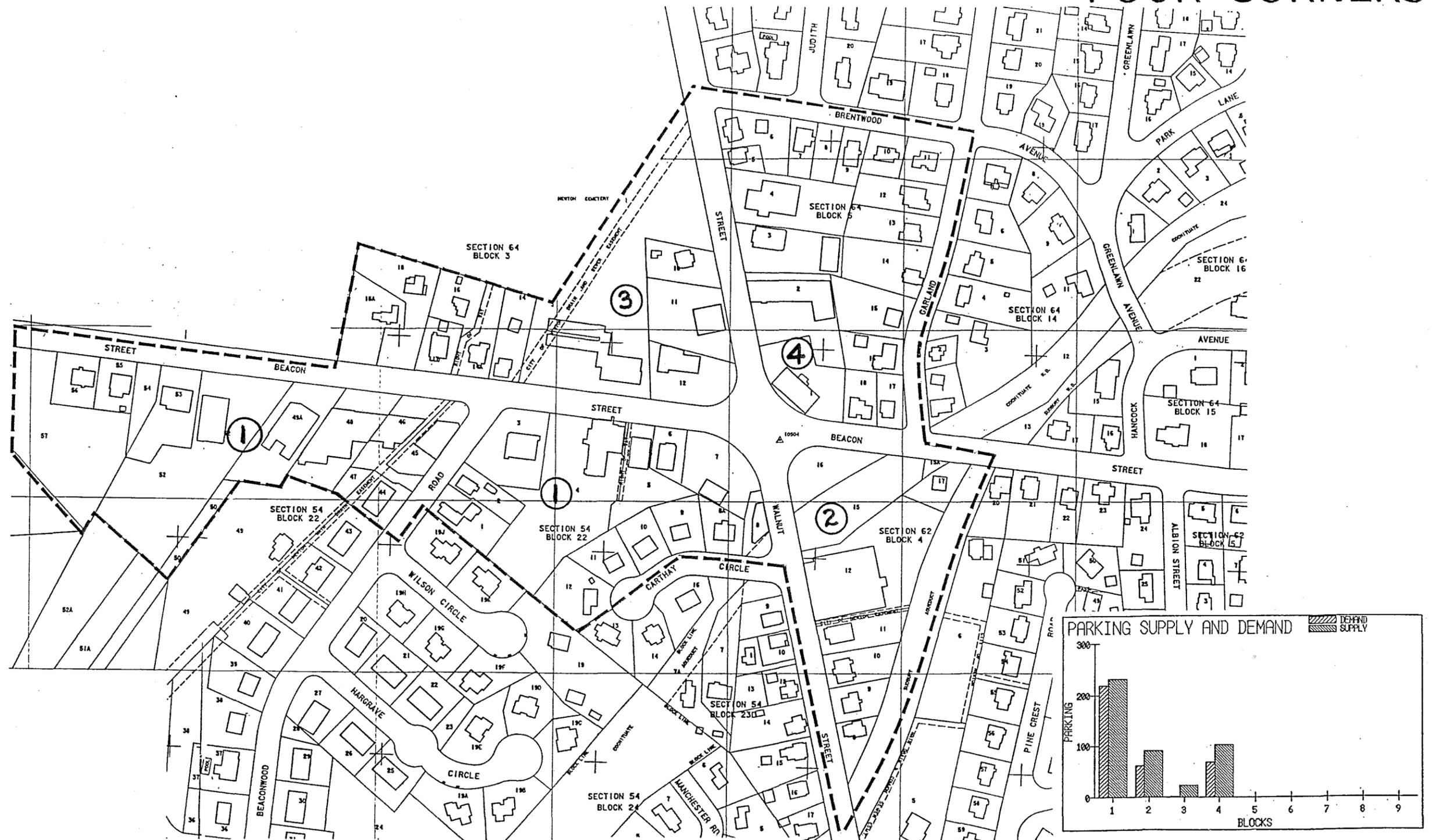


FIGURE 5.2 PARKING CHARACTERISTICS

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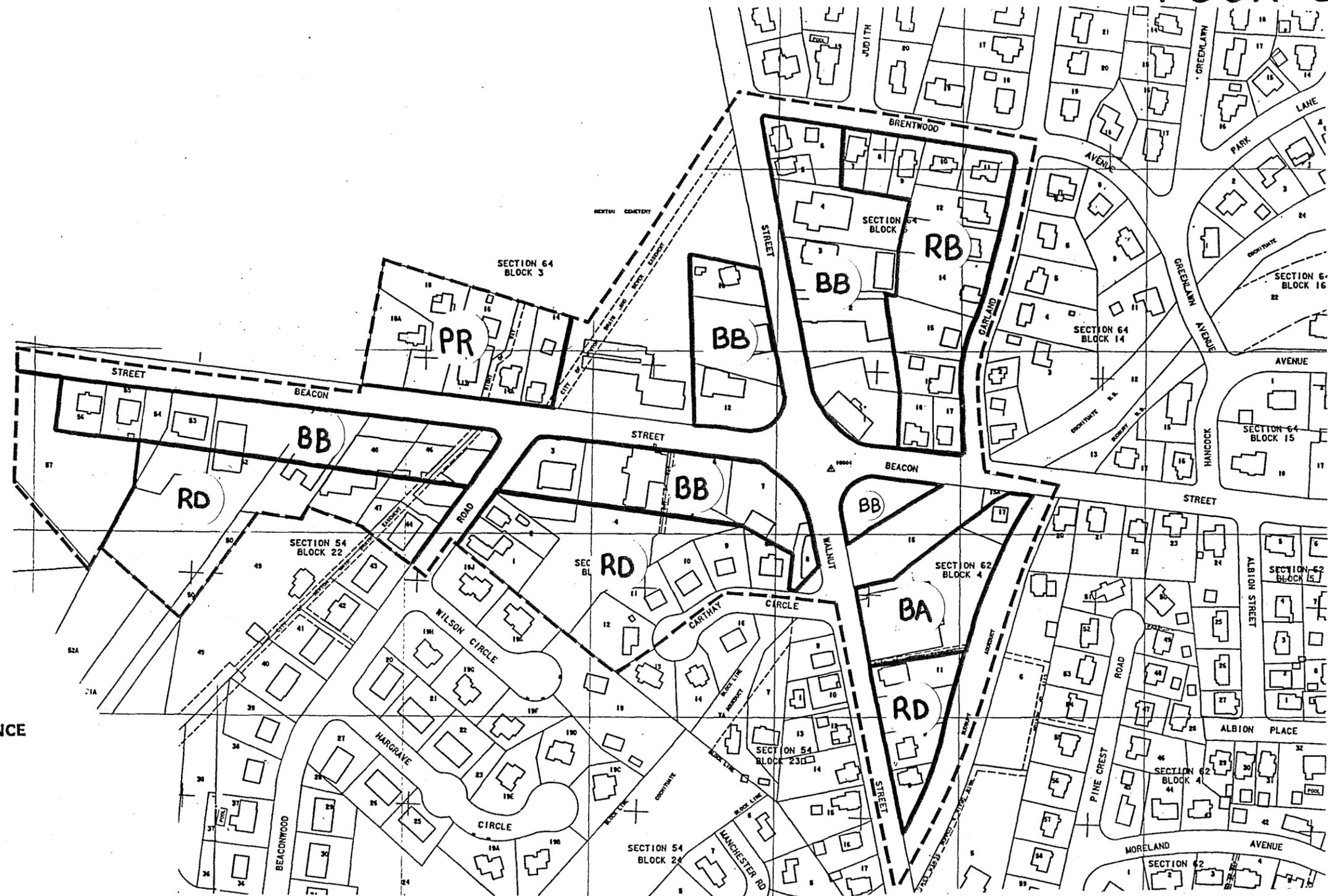
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FOUR CORNERS



- 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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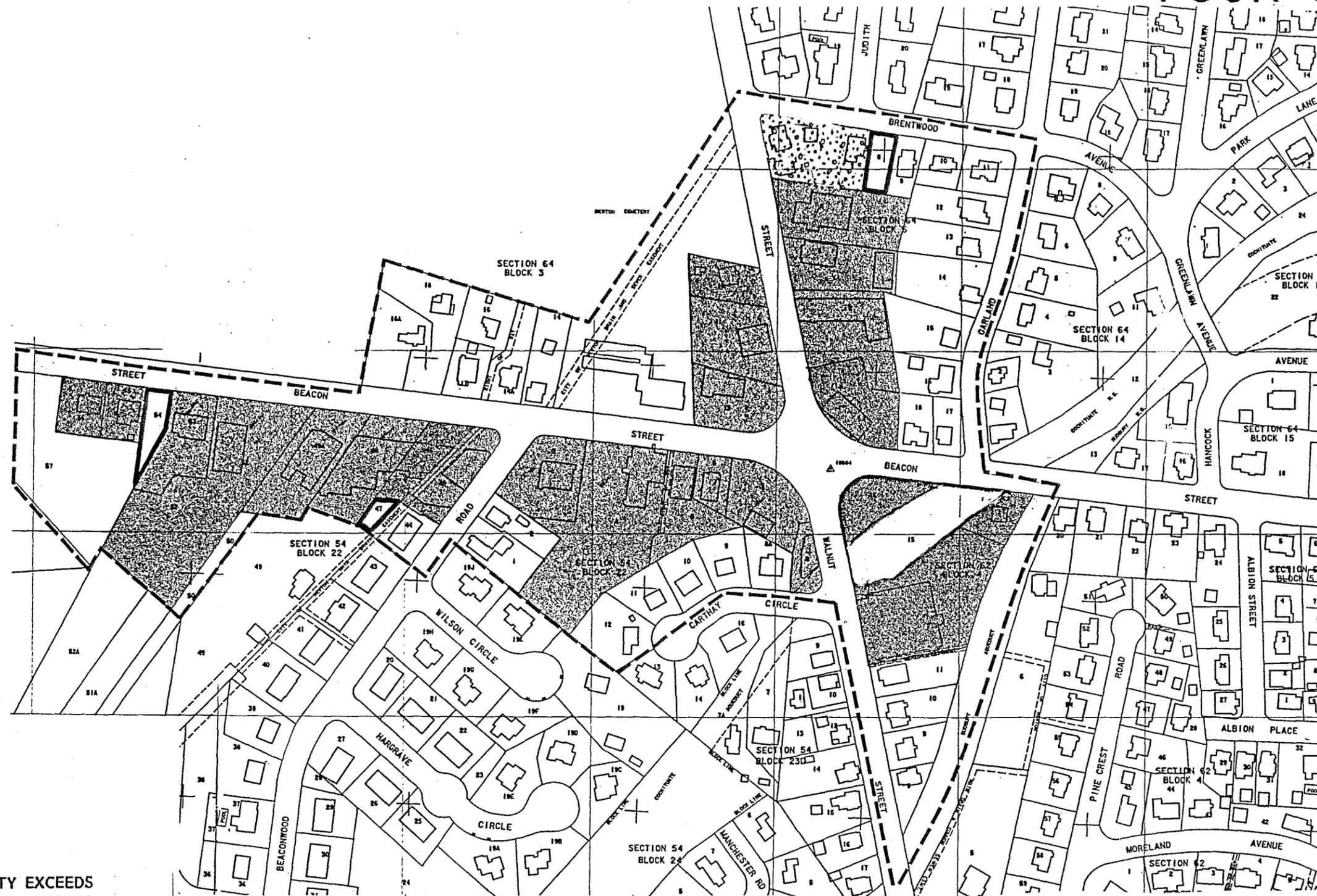


FIGURE 8.2 EXISTING INTENSITY OF DEVELOPMENT

-  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

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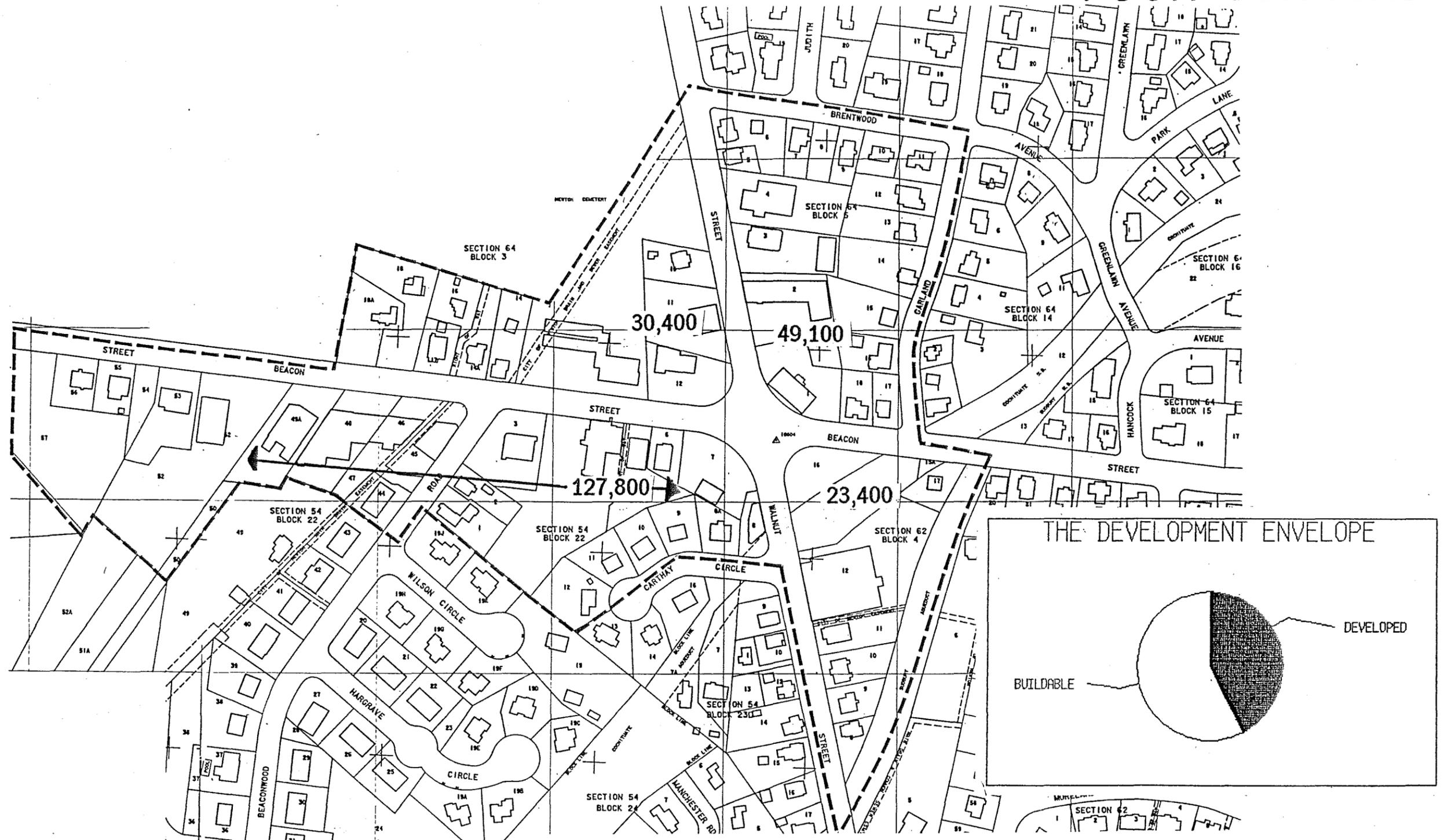


FIGURE 8.3 THE DEVELOPMENT ENVELOPE

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