Newton Village Study

Newtonville Survey Report

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NEWTON VILLAGE STUDY

Prepared for the City of Newton, Massachusetts
Theodore D. Mann, Mayor
Barry C. Canner, Director of Planning and Development

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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.

An essential part of each phase is a full-scale public participation process consisting of city-wide and village meetings.

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.

OVERALL SUMMARY OF FINDINGS

Newtonville is one of the City's dominant centers, and it will become more so. Many of its businesses, mostly north of the Turnpike serve a wide audience, but the Austin Street area retains its village atmosphere and orientation.

The area is dominated by the Mass Turnpike and the Washington Street commercial strip, so that the convenience nature of the Washington Street store group suffers as a result.

Although heavy traffic occurs in this busy area, it functions reasonably well, except for some turning movements at Washington/Walnut. There is sufficient physical capacity for all intersections to function properly.

Overall, there is a small deficit of parking spaces in Newtonville. However, north of the Turnpike there is a substantial surplus. As expected, the deficit is concentrated in the convenience areas which attract the most shoppers. Much of the surplus north of the Turnpike is on Washington Street, where many shoppers are reluctant to park.

The spillover of parking into the streets abutting the Austin/Walnut Street convenience area is caused partly and worsened by long term parkers who use these posted spaces rather than the long term spaces provided in the Austin Street lot.

Substantial commercial growth is allowed by present zoning, well over 1.3 million square feet compared to the present base of .6 million.

Future development will be dense, and surface parking will be replaced with parking structures.

The amount of new residential units that could be built is a very small percentage of the total development that could occur, so that Newtonville center will become, over time, a large commercial enclave.

NEWTONVILLE SURVEY REPORT
2.2.1 MARKET ORIENTATION/THE ROLE OF THE CENTER

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 relatively small market and is considered a neighborhood convenience business. An automobile dealer, large plumbing supply outlet or discount store normally serves a wider community or city-wide mnarket. Large shopping malls or office complexes and employment centers tend to attract shoppers, and business from throughout the metropolitan area. Although the Chestnut Hill Mall and shopping center may contain small shops, the area as a whole is a regional attraction.

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

FINDINGS

Table 1.1 and figure 1.1 describe the present orientation of Newtonville.

While Newtonville's overall orientation can be considered "neighborhood", it is actually several centers. It contains two neighborhood-oriented retail "cores", centered on Walnut Street, and a strip and area of business with a wider market along Washington Street to Crafts Street. Automotive dealers and large liquor outlets serve wider market areas. Supermarkets are normally considered neighborhood oriented, but the visibility and size of the Star and Purity markets suggest that they may attract shoppers from a number of neighborhoods in north Newton.

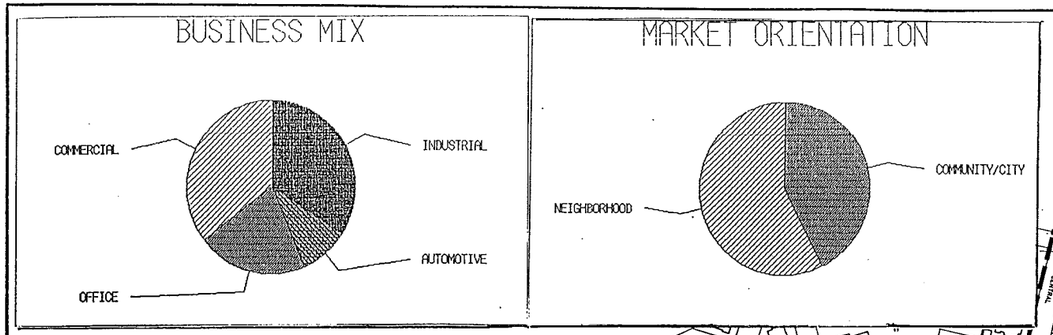
In terms of total retail floor area, Newtonville is neighborhood oriented. While this is a fair characterization of the Walnut and Austin Street areas, Newtonville has a strong city-wide influence as it has a fairly substantial industrial aspect of it business mix.

TABLE 1.1

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

	Blocks	Floor Area	
1. Neighborhood Convenience shops and Services	14023	3600	
	21029	96558	
	21033	8876	
	22001	76682	
	22005	83123	
	22006	34376	
	23015	15550	
	23016	16248	
	23018	12425	
	23019	24205	
	23020	7013	
	23022	74826	
	24009	53076	
		Sub Total	506558
2. Community-wide Business and Services	22004	66382	
	23016	12506	
	23017	59158	
	23018	11030	
	23019	7345	
	23020	145589	
	24001	51512	
	24009	19920	
		Sub Total	373442
		Total	880000

NEWTONVILLE



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

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NEWTONVILLE 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 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 general findings of this visual survey.

The village center of Newtonville is a large commercial area which is bisected by the Massachusetts Turnpike. Those commercial blocks to the south of the "Pike" offer a "village-like" appearance with low, attractive commercial buildings which provide a consistent "hard edge" on either side of Walnut Street. This "perceived" vertical edge provides the space within with a positive "sense of enclosure." However, this part of Newtonville suffers from discordant facade/signage treatments and automobile domination from both busy thru-traffic and poorly screened parking areas.

Entry into this part of Newtonville is clearly defined at the south end of the block. A pleasing "sequestial experience" is encountered while passing the library (to the left) and the old Claflin School Building (to the right).

The commercial area to the north of the "Mass Pike" suffers the typical woes of random strip development. Here, vehicular domination, with it's attendant noise problems, above ground wires and visually discordant storefronts contribute to a decidedly negative environmental experience.

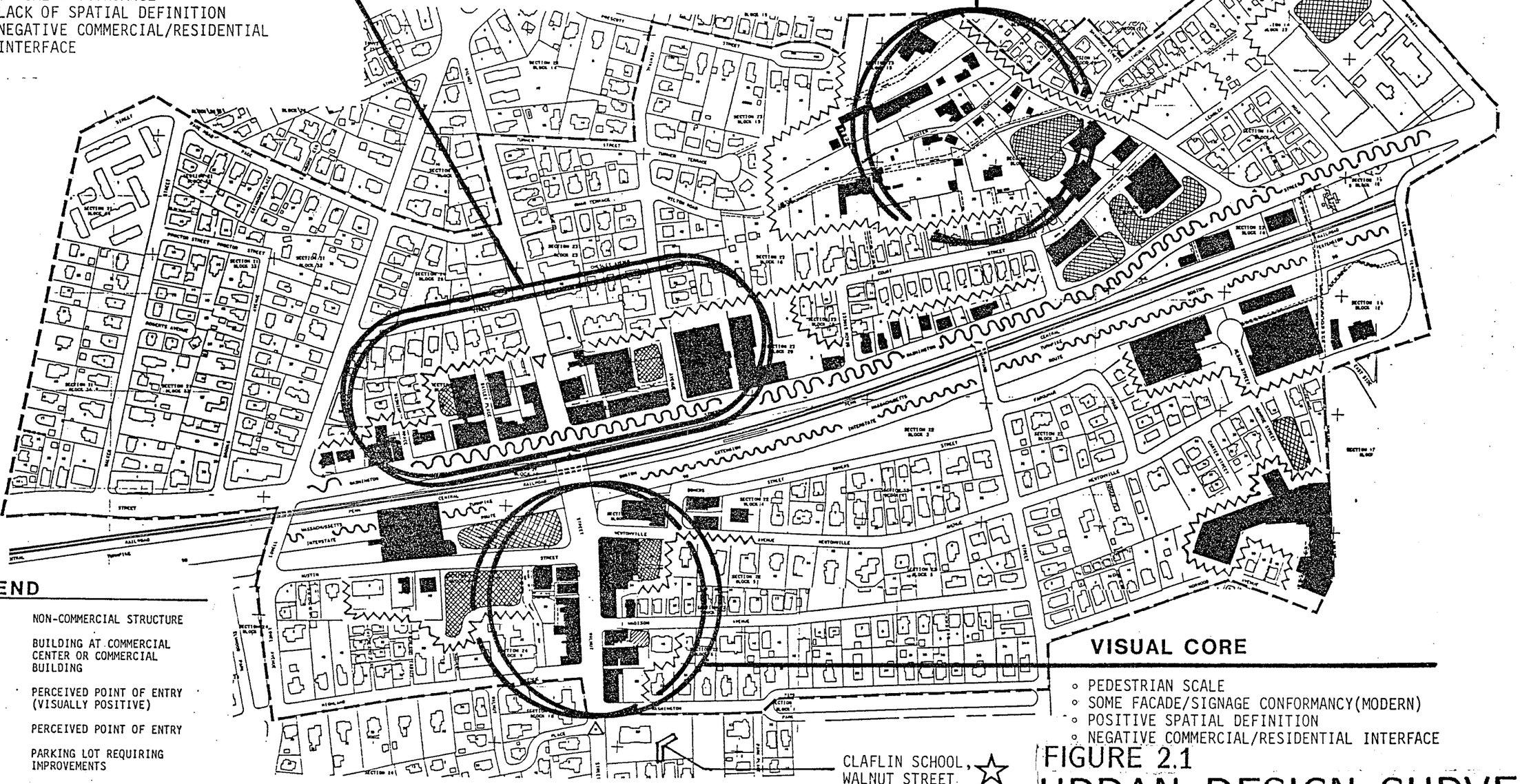
NEWTONVILLE

NEGATIVE STREETSCAPE IDENTITY

- THRU TRAFFIC
- VEHICULAR DOMINANCE
- VISUAL DISCORDANCE
- LACK OF SPATIAL DEFINITION
- NEGATIVE COMMERCIAL/RESIDENTIAL INTERFACE

POOR CONTEXTUAL RELATIONSHIP

- NEGATIVE COMMERCIAL/RESIDENTIAL INTERFACE
- DOMINANT INDUSTRIAL THEME



VISUAL CORE

- PEDESTRIAN SCALE
- SOME FACADE/SIGNAGE CONFORMANCY(MODERN)
- POSITIVE SPATIAL DEFINITION
- NEGATIVE COMMERCIAL/RESIDENTIAL INTERFACE

CLAFLIN SCHOOL, WALNUT STREET

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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FIGURE 2.1

URBAN DESIGN AND ENVIRONMENTAL STUDY

GLOSSARY

Area or Structure of Historic Value- Areas or structures (buildings) which are listed on the National Register of Historic Places.

Area Requiring Streetscape Improvements- An area which exhibits the potential to benifit greatly from one or more of the following improvements:

- Street trees
- New or an improved quality paving
- Defined limits (curbing, bollards, etc.)
- New lighting
- Street furniture

Area Under Construction- An area whose full visual condition cannot be determined at this time.

Asphalt Dominated Landscape- Area containing large expanses of unbuffered parking areas.

Buffer Planting- Plant materials arranged to screen or mollify the visual impact between contrasting or conflicting views.

Building at Commercial Center or Commercial Building- Any building at a commercial center usually, commercial or institutional (churches etc.), which serves to define or deliniate that center.

Cohesive Massing- An arrangement of buildings/structures and major components thereof which interrelate clearly providing a unified appearance.

Dominant Industrial Theme- Area of industrial or heavily commercial function and visual identity.

Exemplary Edge at Commercial/Residential Interface- Edge condition which should serve as a model where visually and functionally dissimilar structures/areas exist.

Facade/Signage Conformance- Existing or improved facades and signage which are visually attractive and contribute to a visual cohesiveness.

High Speed Vehicular Orientation- An area which accommadates high speed traffic while enduring all attendant nuisances (noise, vehicular/ pedestrian conflicts, pollution).

Intimate Streetscape- Streetscape with especially small scale elements, spatial relationships and structures.

Lack of Architectural Continuity- Dissimilar types of structures which relate poorly to one another.

Lack of Spatial Definition- Insufficient vertical elements or poor arrangement of those elements which result in a space without clear limits or enclosure.

Mixed Visual Identity- An image resulting from a combination of both positive and negative visual elements.

Negative Area at the Residential/Commercial Interface- An area lacking in sufficient buffer systems where conflicting residential and commercial uses meet.

Negative Streetscape Identity- A section of the streetscape where many components result in a visually unattractive whole.

Negative Visual Identity- An area whose many components result in a visually unattractive whole.

Non-Commercial Structure-Any structure (building) other than commercial.

Parking Lots Requiring Improvements- Parking lots which suffer either visually or functionally from a lack of the following typical components:

- Defined limits (curbing)
- Defined access/egress (curbing signage)
- Paving
- Sufficient planting buffers at the periphery
- Sufficient plantings within
- Poorly organized parking scheme

Pedestrian Orientation- Disposition toward functional accommodation of the pedestrian (alley ways, uninterrupted sidewalks, linkages to other areas, off street parking).

Pedestrian Participation- Abundant pedestrian activity.

Pedestrian Scale- Small in scale- of a size that relates to human scale visually and functionally.

Pedestrian Scale/Vehicular Participation- Small scale structures and spaces which appear accomodating to the pedestrian yet are dominated by the automobile.

Pedestrian/Vehicular Conflict- The result in areas where pedestrian and vehicular circulation meets unsafely.

Perceived Point of Entry- The point at which a sense of entry is defined and most clearly experienced, while eliciting a moderate to negative response from the viewer.

Perceived Point of Entry (Visually Positive)- The point at which a sense of entry is defined, most clearly experienced, and attractively enframed.

Point of City-Wide Access/Egress- The point at which the traveler (motorist) enters/exits the City of Newton.

Poor Contextual Relationship- Poor integration of conflicting uses.

Poorly Articulated Commercial Edge- Improper placement of commercial buildings and related elements resulting in a poor visual relationship with the street and poor visual linkage between the buildings themselves.

Poorly Utilized Pedestrian Linkages- Pedestrian linkages (alley ways, walks and desire lines) which remain under utilized and unrecognized.

Positive Commercial Identity- An area decidedly commercial in character yet visually attractive.

Positive Contextual Integration- The acheivement of visually attractive interelationships between visually and functionally dissimilar structures or areas (usually buffer systems)

Positive Historic Theme- Attractive identity of an area rich in history.

Positive Residential/Commercial Integration- Visual and functional harmony between residential and commercial structures or areas.

Positive Spatial Definition- Arrangement of vertical elements which result in a visually attractive space, or spaces within.

Positive Visual Identity- An area whose many components result in a visually attractive whole.

Sense of Enclosure- A sufficient number of closely spaced vertical elements which serve to enclose the space within.

Strong Linear Definition- Buildings and associated spaces arranged along a long straight street (longitudinal orientation)

Thru Traffic- Vehicular circulation through an area or center (transitory vehicular participation in the space)

Unique Sense of Place- Special character or imagry which defines and identifies an area while distinguishing it from other areas.

Vehicular Domination- An area containing much vehicular traffic and unbuffered parking areas.

Vehicular/Pedestrian Interface- An area where pedestrian and vehicular circulation meets.

Visual Core- The "perceived" center of a "commercial" area.

Visual Discordance- Without order and/or containing visually conflicting elements.

Visually Incongruous- Relates poorly with surroundings, unharmonious.

NEWTONVILLE 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 Tables 3.1 and 3.2 and figure 3.1. The table shows for each 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

Newtonville is one of the commercial and industrial centers of Newton and provides a wide range of goods and services. Several large auto dealerships and a suburban style convenience shopping center dominate the area along Washington St. north of the Turnpike. This area can be characterized as a "commercial strip". The south side at Austin and Walnut Sts. retains the image of a Newton village center, except for the Star Market development. This area is oriented to neighborhood convenience services and contains few larger commercial and industrial uses.

Although within the study boundaries, the large industrial complex centered on Newtonville Ave. at Albany and Munroe Sts. is not related in any way to the functions of "Newtonville Square" at Austin and Walnut Sts. The eastern edges of Newtonville, both north and south of the Turnpike, are closest to the expanding office complex in Newton Corner. Recent construction in the form of the office building on Crafts St. is a harbinger of further growth to follow in these areas. These areas abut close-in and relatively dense residential neighborhoods (average seven dwelling units per acre), so that potential disruption of those neighborhoods should be a major concern.

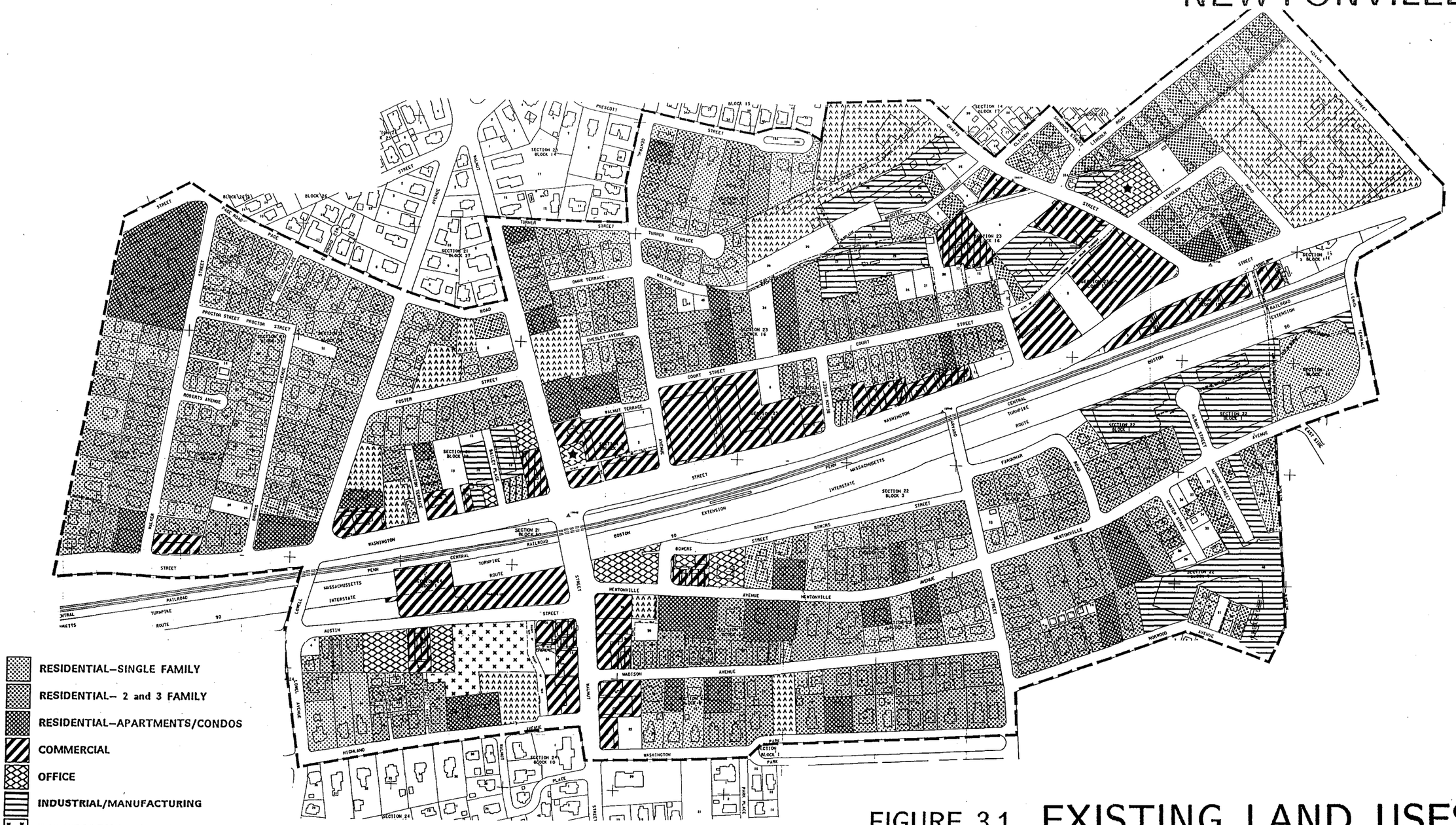
Newtonville is more than a "village center". It functions as one of Newton's major commercial and industrial areas and straddles the Massachusetts Turnpike. It is not unreasonable to suggest that this area will continue to grow and become more dense in accordance with the findings outlined in Section 2.2.8.

TABLE 3.1

EXISTING LAND USE CHARACTERISTICS IN NEWTONVILLE

CATEGORY	LAND AREA IN ACRES	FLOOR AREA IN SQ. FT.	FAR	DWELLING UNITS
Residential:				
Single Family	27.13	--	--	151
2 and 3 Family	43.85	--	--	481
Apartments/Condos	12.13	--	--	217
Commercial	12.46	439,164	.810	--
Office	3.15	145,862	1.358	--
Industrial/Manufacturing	12.80	386,949	.693	--
Mixed Use - mostly Commercial	1.44	37,570	.597	--
Mixed Use - mostly Residential	0.69	28,865	.966	--
Transportation/Parking	NA	--	--	--
Institutional	NA	--	--	--
Open Space/Recreation	NA	--	--	--
Vacant Land	8.28	--	--	--
TOTAL		1,038,410	.78	849

NEWTONVILLE



- 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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NEWTONVILLE SURVEY REPORT

2.2.4 TRAFFIC CONDITIONS

The enclosed reports cover each of the Newton villages included in the current study, and document existing traffic conditions at key intersections in each village center.

Essentially, 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 <u>one important caveat</u> 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 <u>optimal</u> 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.

NEWTONVILLE

Traffic Conditions

The principal streets providing access to Newtonville are Washington Street and Walnut Street, both major Newton arterials. Other streets serving the area include Lowell Avenue, Austin Street/Newtonville Avenue, Harvard Street and Crafts Street. Austin Street, Newtonville Avenue, Harvard Street and Lowell Avenue tend to be used as bypass routes for the major parallel streets (Washington and Walnut Streets, respectively), while Crafts Street is a major local access route to Waltham. The Washington/ Walnut Streets and Washington Street/Lowell Avenue intersections are controlled by traffic signals; all other intersections in Newtonville are unsignallized. There is no direct connection to the Mass. Turnpike in Newtonville.

Walnut Street on the south side of the Turnpike is a moderately busy commercial area, containing 1-story shops and providing access to the large Star Market supermarket located over the Turnpike. Beyond the commercial area is the large campus of Newton High School, as well as Newton Junior College. On-street parking lines Walnut Street within the commercial area. However, the street is wide enough to accommodate 2 lanes of traffic in each direction at this point, in addition to the parking; it narrows down to a single lane in each direction south of the commercial center.

At the Austin Street/Newtonville Avenue intersection and on the Turnpike Bridge (where it is divided by a curb median) , Walnut Street is also quite wide--3 lanes in each direction. The wide pavement area, lack of control or channelization, and offset, "dog-leg" configuration of Austin Street and Newtonville Avenue, make through moves between the 2 streets, as well as left turns from either, difficult.

Automatic 24-hour traffic counts on Washington and Walnut Streets, conducted in April 1981 as part of an earlier study*, and in October 1985 by the Newton Public Works Department, were factored to represent 1985 Average Daily Traffic (ADT). The results are illustrated in Figure 4.1

Peak hour turning movement counts in the area were likewise obtained from a previous study; in addition, new turning movement counts were conducted at the intersection of Washington/Walnut Street in October/November 1985. 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 5:00-6:00 PM.

During the turning movement counts, moderate-to-heavy volumes were observed on Washington Street, with fairly heavy turns in the peak direction. The existing signal provides an advance green to the Washington westbound leg, in lieu of a separate left-turn phase. This works reasonably well, except when the advance is not anticipated by the first driver in the left-turn queue. Even when the queue is led by drivers familiar with the signal

operation, however, the left-turn demand usually exceeds the amount of advance green provided, so that conflicts do occur between eastbound through vehicles and "leftover" left-turning vehicles. The Washington Street/Lowell Avenue signal operates with less friction, mainly because cross-street volumes are lower.

Existing operations at both signallized intersections 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, all unsignallized intersections for which peak hour volume estimates were available 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), 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.

The unsignallized intersections operate as such intersections typically do when located on relatively high-volume roadways; viz., left-turns from the major to the minor roadway function reasonably well at both Craft and Harvard Streets, governed by the volume of opposing traffic on Washington Street. Left turns out of the minor street onto the major are subject to considerably more delay, since these moves must wait for simultaneous gaps in both traffic streams. Operation with such left-turn delays is usually acceptable as long as minor-street left-turn volumes are fairly low, so that queues of 4 or more vehicles do not routinely develop. With higher minor-street volumes, signallization may be justified in order to create gaps in the major street traffic flow for side-street traffic.

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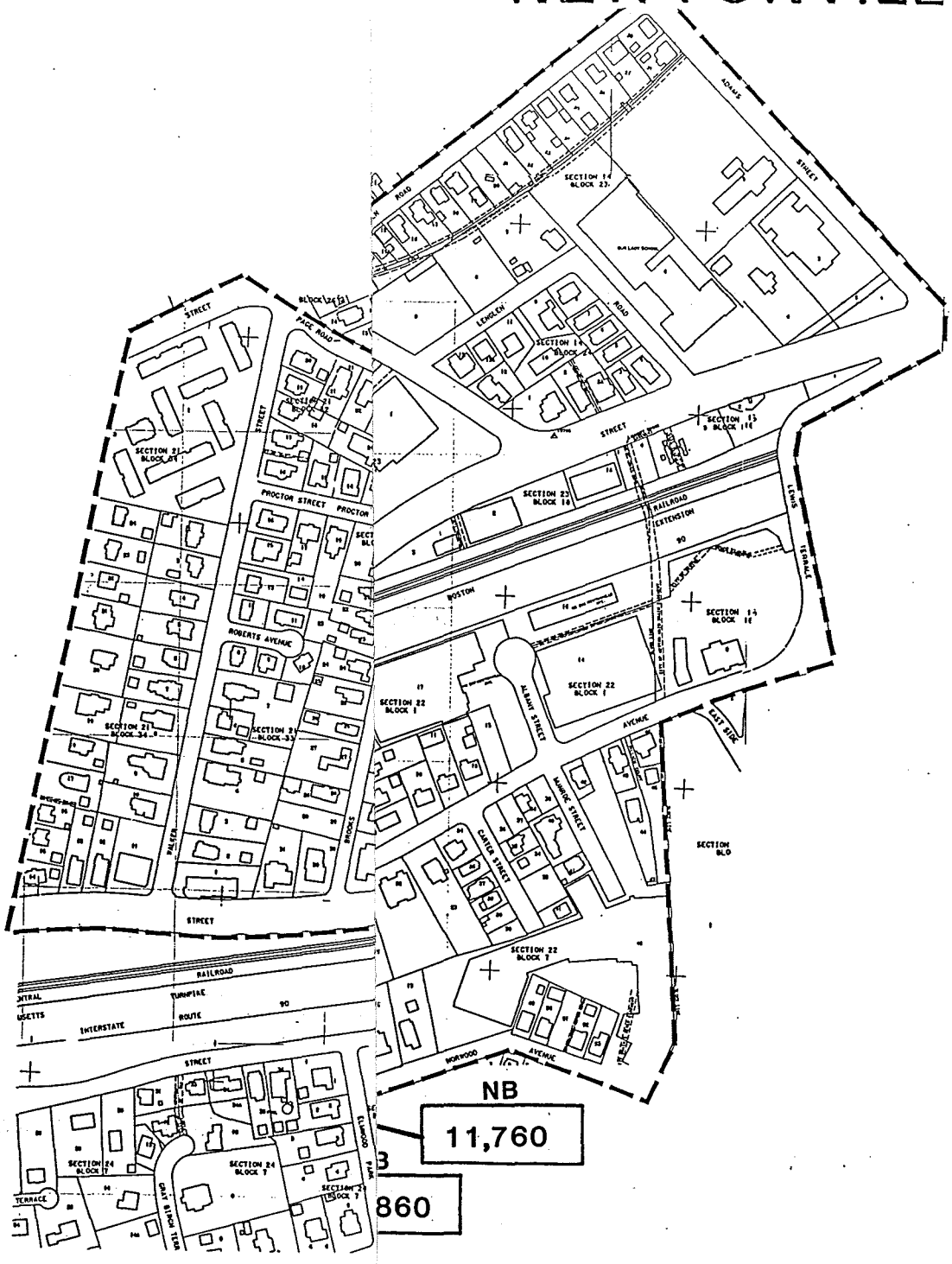

E DAILY TRAFFIC

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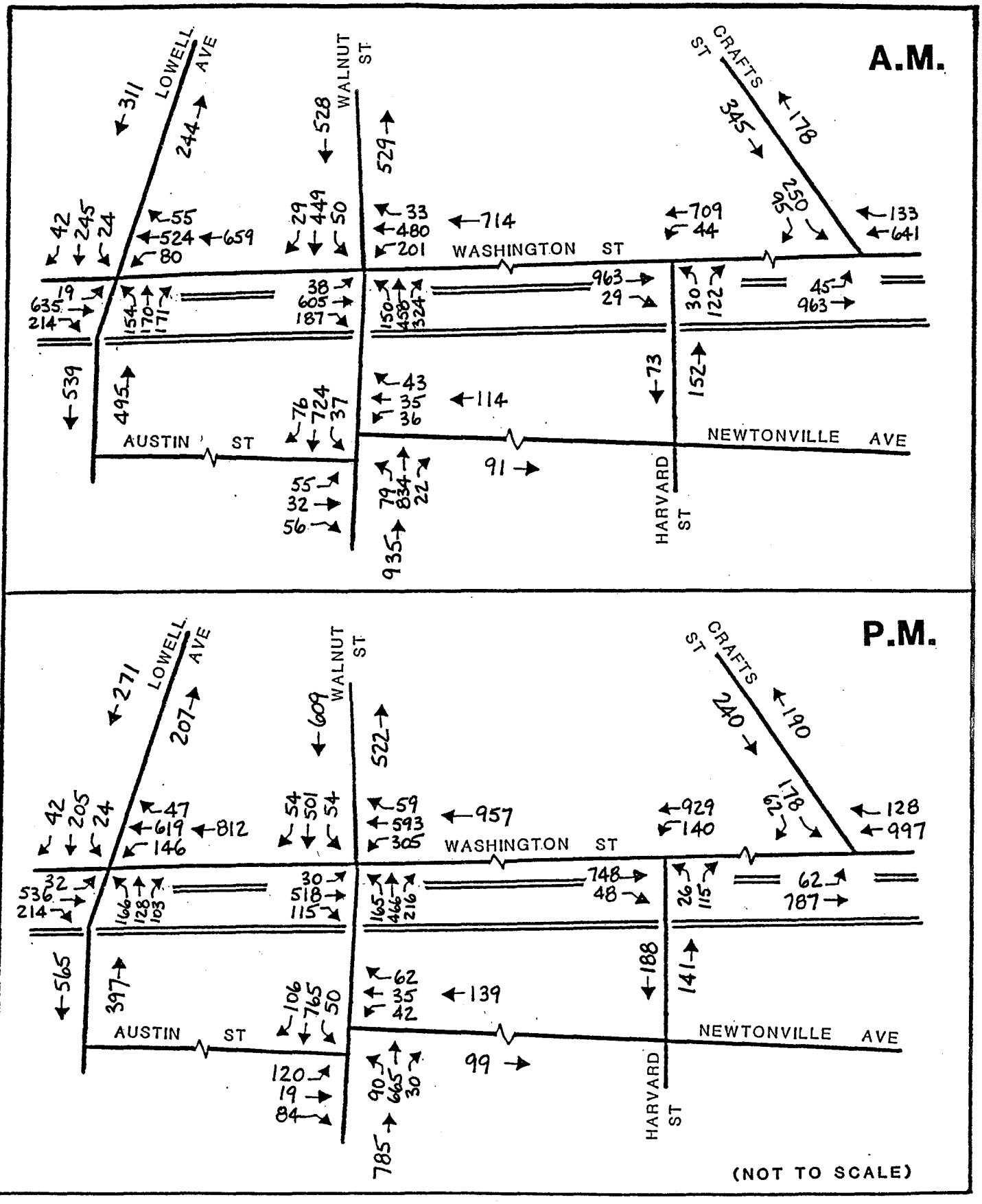

NEWTON VILLAGE STUDY	PEAK HOUR TRAFFIC VOLUMES - NEWTONVILLE	FIGURE 4-2

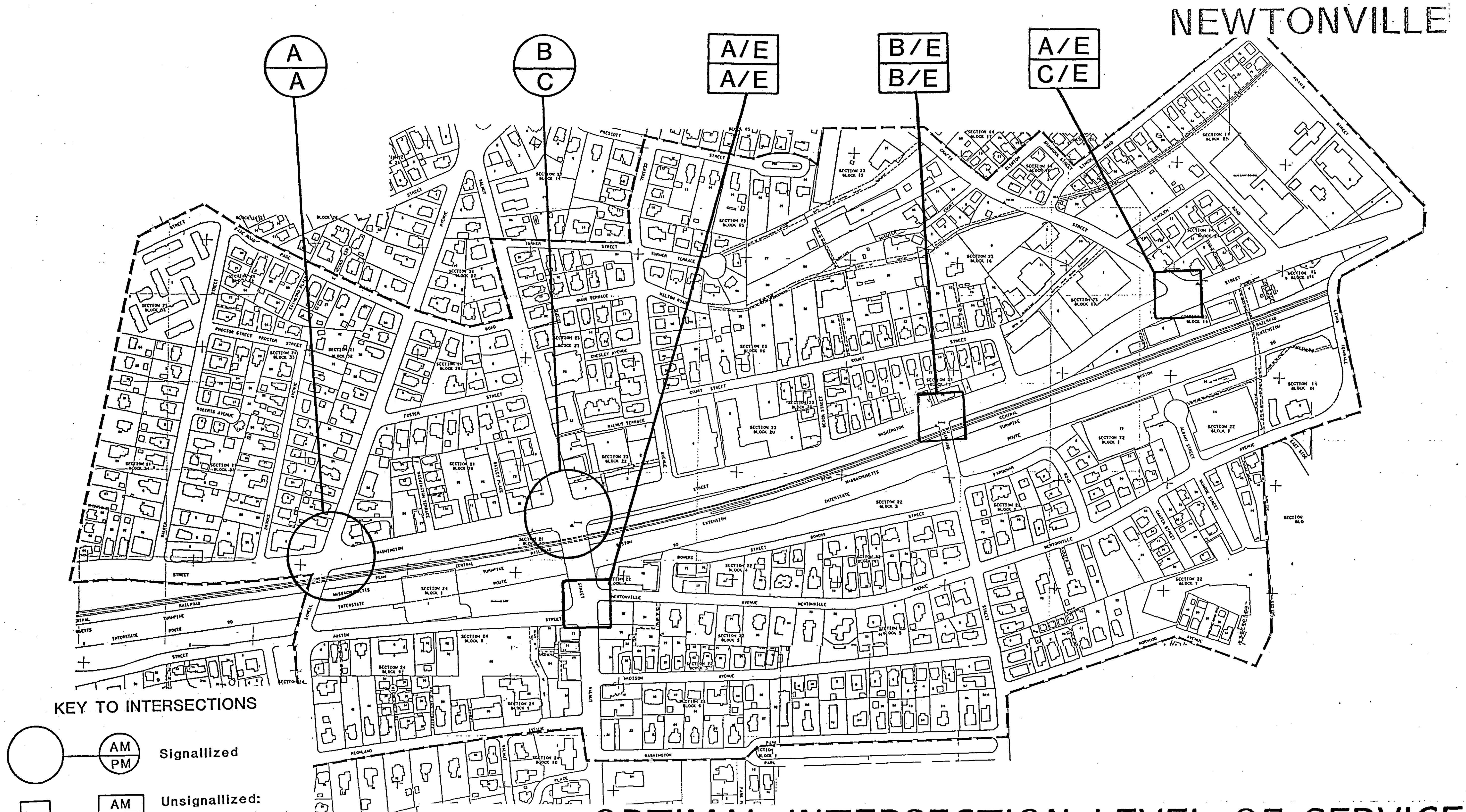

FIGURE 4.3 OPTIMAL INTERSECTION LEVEL OF SERVICE

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NEWTONVILLE SURVEY REPORT 2.2.5 PARKING

INTRODUCTION

This report presents the results of the following parking studies and analyses performed for the Newtonville 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 was performed 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 1, 1985 between the hours of 8 am. and 2:30 p.m. The area surveyed included all on-and off-street metered spaces in the study area. Also, general counts were taken on upper Walnut Street and the residential streets leading to Austin Street.

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 Newtonville commercial area has an estimated parking deficit of 75 spaces. However, the area operates as two distinct areas. The north side (Washington/Chestnut Streets north of the Mass. Turnpike) has a surplus of 90 spaces. The south side (Austin and Chestnut Streets) has a deficit of 123 spaces.

2. The north side surplus is due to a large number of on-street parking spaces on the south side of Washington Street where there are no stores to create parking demand.

3. The parking deficit south of the Turnpike is largely the result of short term parking demand created by the convenience oriented businesses along Walnut Street which do

not have their own private parking supply.

4. Austin Street has a slight surplus (20 spaces), due to the existence of the Austin Street Public Lot which serves much of the demand generated by the businesses in this area, including Star Market.

b. Parking Use Survey

1. Parking use characteristics for Newtonville "Square" (the Austin Street area) are significantly different than those for the area north of the Turnpike, the Washington Street portion, and indicate that the two areas operate independently of each other.

Washington Street:

1. Except for the business area at the intersection of Washington and Walnut Streets, the northern portion of Newtonville did not attain the 85% "perceived capacity" level for any significant period of time. However, the north side of Washington Street gave the appearance of being full while the south side was approximately at 50% of capacity.

2. Average parking duration was one hour and 27 minutes. This relatively low turnover rate reflects the mixed use character of this portion of Newtonville; convenience retail mixed with car dealerships, and professional offices. It also reflects the low use of the spaces on the south side of Washington Street.

3. The twelve hour metered spaces were sparsely used and most long term on-street parking occurred along the unregulated sections of Washington Street.

4. There was some commercial parking in residential areas but mostly along the legally posted areas on Walnut Street. In general, there was little, if any, business-related parking on residential streets. The long term on-street parking that does occur was located along the eastern and western extremities of Washington Street where parking is unregulated.

Newtonville Square (Austin Street):

1. The level of use of on-street spaces was significantly higher in this portion of Newtonville. It was at perceived capacity from 9:30 a.m. to business closing hours, and approached the actual capacity on several occasions.

2. The Austin Street Public Parking lot was not heavily used, less than 50%, and served as a supplement to the on-street short term parking supply. The long term (12 hour) meters were not used to any great extent by either commuters or employees.

3. Average parking duration was approximately half (47 minutes) that recorded for Washington Street, reflecting the more convenience oriented nature of the Austin Street area.

4. Some parking overflow from Austin Street was observed on Madison Street and Newtonville Avenue, and observations indicated that the parking was long term in nature. However, it was not heavy enough to be considered a major problem.

5. In general, parking does not appear to be a major problem in Newtonville. However, the residential area abutting Austin Street will experience moderate overflow parking during peak shopping times and seasons.

6. The spillover into neighboring streets is exacerbated by long term parkers (employees and owners of businesses) who park on these side streets rather than in the long term spaces provided in the Austin Street public lot.

DEMAND VS SUPPLY

Table 5.1 shows that Newtonville has 1767 parking spaces, more than any other center except Chestnut Hill. The large number of parking spaces is an indicator of the large commercial concentrations existing in Newtonville. The 438 public parking spaces comprise 25% of total supply, while the 1329 private spaces comprise the remaining 75%. The large amount of private parking is a major feature of parking supply in Newtonville, as many of the major commercial uses (supermarkets, car dealerships, and industries) supply most of their own parking needs.

There are two distinct areas within Newtonville; the north side (Washington Street north of the Mass. Turnpike) and the south side (the area centered on Austin and Walnut Streets).

The north side is a commercial strip with businesses only on the north side of Washington Street. It has a surplus of an estimated 90 spaces. Many of these spaces are found on the south side of Washington Street and in the New England Telephone Company parking lot on Court Street. Block #23020, which is a core block of the north side, has a deficit of 101 spaces. This finding is consistent with the findings of the use survey for this area, which indicated very high use and relatively rapid turnover.

The Austin Sreet area is distinctly different in terms of parking supply and demand (See Figure 5.2). Parking demand is 15% (123 spaces) greater than supply. The deficit is particularly pronounced along Walnut Street from Austin to Washington Streets where demand exceeds supply by 119 spaces. The Star Market alone has a 147 space deficit (Block 24001).

To some extent, the relatively high turnover rate found for

Walnut Street helps reduce the parking deficit. The parking supply and demand analysis, along with the parking use study for this area indicates that what commercial parking in residential areas does exist is not related to the parking deficit. The deficit is for short term spaces, while business parking in the residential areas is long term and most probably employee parking. The Austin Street Public lot has many 12 hour meters which are usually available at all times of the day.

PARKING USE CHARACTERISTICS - ON STREET

North of the Turnpike:

The 156 one-hour metered spaces had an average level of use of 76% of capacity and the peak hour use (12:30) was 90%. Average parking duration for these spaces was 59 minutes. The 25 twelve-hour spaces were not heavily used, registering an average use of 37% and only 49% at the peak hour. Average duration at the long term meters was 4 hours 30 minutes. The level of use for the total 180 spaces was 66%, with an 81% peak rate. The average parking duration of 1 hour 27 minutes is high, but the south side of Washington Street did not appear to be used for convenience shopping purposes.

In general, this portion of Newtonville never appeared full. At 12:30 p.m. the overall level of use was somewhat below the 85% perceived capacity level. However, in the core area, those 50 meters clustered near the intersection of Walnut and Washington Streets were almost full and were used to 92% of capacity with the peak use of 98%. From 10:30 a.m. to 2 p.m. they maintained a level of use in excess of 90%. Further, the relatively rapid turnover rate of an average 40 minutes reflected a busy commercial area.

The data for the north side of Washington Street provides another perspective on parking demand and use for the area. Since all the businesses are located on the north side of the street and since Washington Street is a formidable street to cross, it is not surprising that the average use of all metered spaces on this side of the street is 92% and in the core area 98%. The empty parking spaces which were visible and available throughout the entire day were almost exclusively on the south side of Washington Street. Thus, while the data as a whole may not indicate a heavy parking demand, this portion of Newtonville does have a strong demand for on-street space, and does appear full all day.

At the eastern and western extremes of the project area along Washington Street, there is unregulated on-street parking. In each of these areas, between 20 and 25 cars were counted parked from periods of from 4 to over 6 hours. Obviously, these cars represent long term parking demand in this portion of Newtonville from either employees or commuters. Given the availability of 12 hour metered spaces closer to the

businesses, the 12 hour meters will be avoided despite the need for long term parking. It should be noted, however, that the 12 hour metered spaces that were used were not necessarily for long term purposes. The data indicate that during the peak hours, many 12 hour spaces were used for less than one hour. They supplement the existing supply of short term metered spaces.

The post office located west of Walnut Street creates a major short and long term parking demand. For all times during the study, there were at least two illegally parked and/or double parked cars in front of the post office. Also, postal vehicles were parked in metered spaces on the south side of Washington Street for significant periods of time.

The Austin Street Area:

On the south side of the Mass. Turnpike, there are different parking use characteristics. The overall on-street level of use was 84% and the peak use was 96% at 1:30 p.m. The average on-street duration was 40 minutes. In comparison to the north side, this portion of Newtonville has a stronger parking demand and more rapid parking turnover for long periods of time. The area exceeds the 85% perceived capacity level, and essentially gives the appearance of being full for a significant portion of the business day.

Austin Street has a large public off-street lot which contains 162 metered spaces of which 28 are for 12 hours. The lot had an average level of use of only 44% and peak use of 46%. Of the 60 to 70 cars that were parked in the Austin Street Lot at any point in time, the overwhelming majority were there for less than one hour. Average parking duration was 52 minutes. The lot essentially supplemented the on-street supply, provided additional short term parking, and provided overflow parking for the Purity Supreme Lot across Austin Street. Survey data indicate that all available private spaces behind buildings that could be used for long term parking were full, and that a nearby church had a significant number of cars parked all day. While parking demand was very heavy most of the day, there was no significant business related parking on abutting residential streets.

Newtonville Center has two distinct commercial areas, and the parking characteristics are also different. The north side has more longer term parking on- street, and has a definite "core area" around the Walnut/Washington Street intersection. This area is heavily used, while the "edges" of Washington Street are less heavily in demand. The south side has no "weaker" areas. All of the on-street spaces indicate a strong demand and a fairly rapid turnover. The peak period on the north side is defined and shorter than on the south side; it occurs near 12:30 p.m. as people come into the area for lunch. The south side essentially establishes a peak period

in the late morning, attains a statistical peak around 1:30 p.m. but does not drop off sharply in the afternoon hours; it maintains a high rate of use (over 85%) throughout the business day while only the north side of Washington Street maintains this characteristic.

Both sections do share one similarity: both have unused all-day metered parking spaces available and these spaces are generally avoided in favor of private spaces or unrestricted on-street spaces.

PARKING IN RESIDENTIAL AREAS

At no time was it observed that the commercial parking demand (short or long-term) spilled over on to abutting residential streets north of the Turnpike. The available parking spaces along Washington Street will most likely have to be used before any significant commercial parking in residential areas would occur.

South of the Turnpike, some parking overflow from Austin Street was observed on Madison Street and Newtonville Avenue, and appeared to be primarily long-term parkers.

PARKING MANAGEMENT

Long term parking on posted streets in residential areas is primarily the result of lack of enforcement of the posted regulations. However, whether long- or short-term, parking in the residential areas in the vicinity of Austin and Walnut Streets will only be reduced by increasing the overall parking supply.

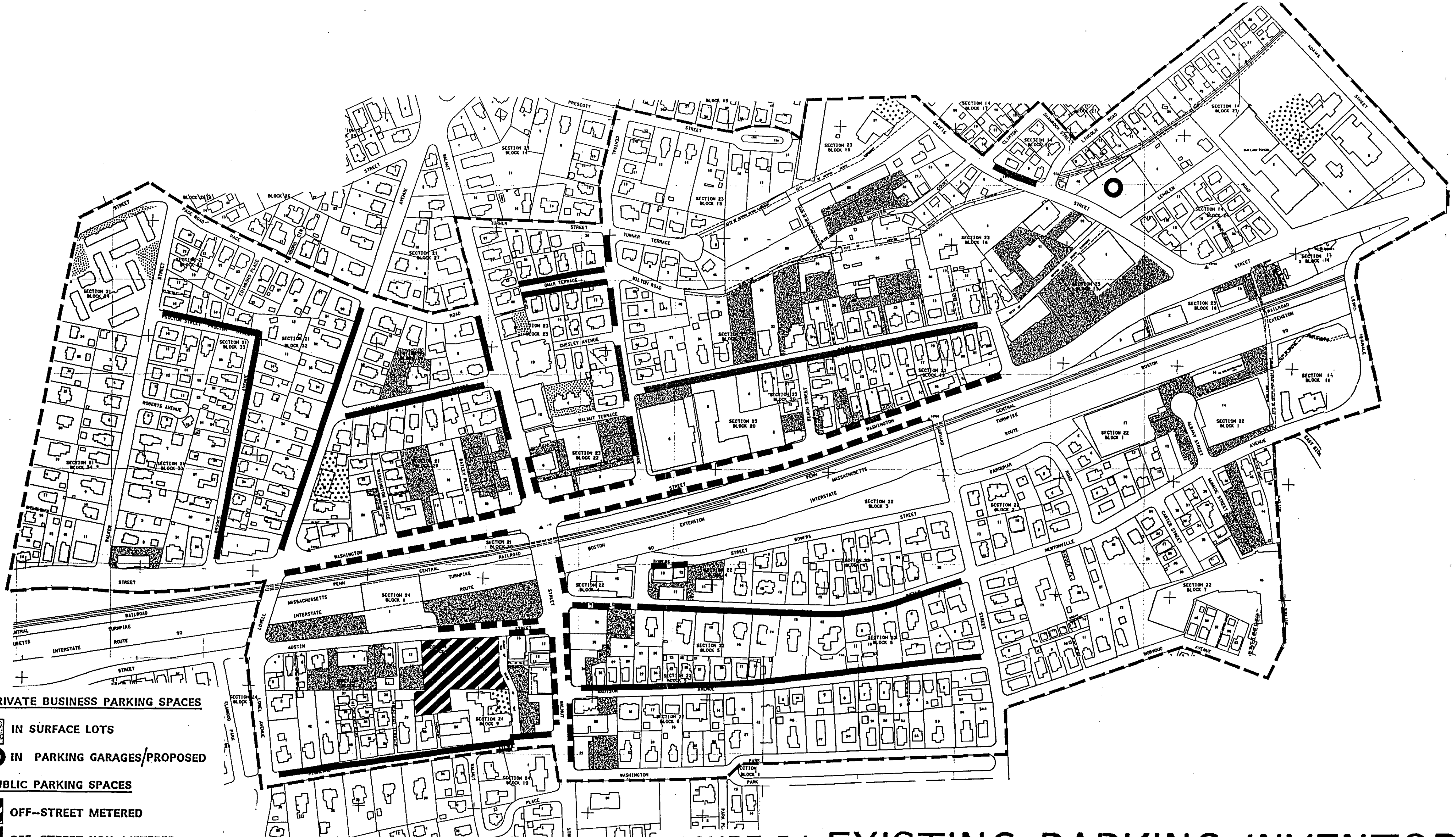
TABLE 5.1 NEWTONVILLE

PARKING SUPPLY AND DEMAND BY BLOCK

SEC/BL	DEMAND	PRIV	OFFST	ONST	PUBL	SPPLY	SURPLUS
14023	1	0	0	0	0	0	- 1
14024	0	0	0	0	0	0	0
21029	235	166	0	39	39	205	-30
21033	18	11	0	0	0	11	-7
21034	0	0	0	0	0	0	0
22001	41	106	0	0	0	106	65
22004	140	30	0	18	18	48	-99
22005	117	63	0	18	18	81	-36
22006	66	38	0	9	9	47	-19
22007	133	62	0	6	6	68	-65
23015	11	35	0	0	0	35	24
23016	48	137	0	0	0	137	90
23017	126	182	0	0	0	182	56
23018	31	39	0	55	55	94	63
23019	111	21	0	37	37	58	-53
23020	160	32	0	27	27	59	-101
23022	139	142	0	38	38	180	41
23023	0	0	0	0	0	0	0
24001	309	148	0	14	14	162	-147
24009	158	117	159	18	177	294	136
TOTAL	1842	1329	159	279	438	1767	-75

PRIV: Pivate 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.

NEWTONVILLE



PRIVATE BUSINESS PARKING SPACES

IN SURFACE LOTS

IN PARKING GARAGES/PROPOSED

PUBLIC PARKING SPACES

OFF–STREET METERED

OFF–STREET NON–METERED

ON–STREET METERED

ON–STREET POSTED

SPACES IN RESIDENTIAL LOTS

SPACES IN INSTITUTIONAL LOTS

FIGURE 5.1 EXISTING PARKING INVENTORY

NEWTON VILLAGE STUDY

DATE__________

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

Connery Associates
2A Winchester Terr Winchester, MA 01890 (617) 721-1964

SCALE 1:4300

50 0 50 100 150 200 250 300 feet

20 0 20 40 60 80 meters

N

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NEWTONVILLE

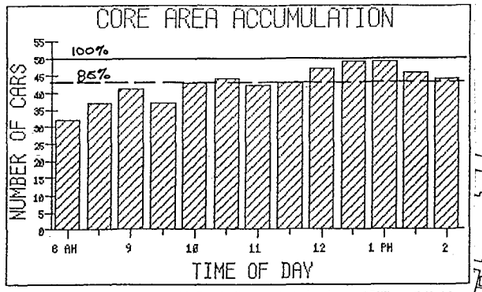

FIGURE 5.2 PARKING CHARACTERISTICS

CORE AREA PARKING

NEWTON VILLAGE STUDY

DATE_____

PREPARED FOR THE CITY OF NEWTON, MASSACHUSETTS
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NEWTONVILLE SURVEY REPORT 2.2.8 ZONING/THE DEVELOPMENT ENVELOPE

INTRODUCTION

This report presents the results of the analysis of existing zoning in Newtonville. 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.

SUMMARY OF FINDINGS

1. It is estimated that over 1.3 million square feet of new commercial/office space could be built in Newtonville. Most of this new floor space will be offices, and represents a major increase over existing non-residential floor area.

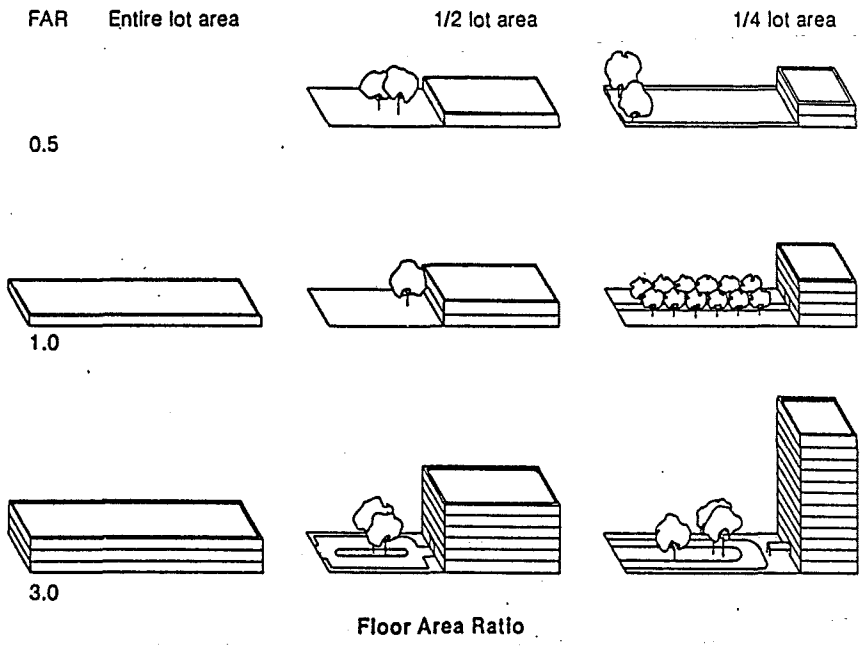
2. The number of new residential dwelling units that could be built under present zoning is relatively small (89 units), and represents a very small percentage of the total development that could occur.

3. Future development will be more dense, and surface parking will be replaced with parking structures. The office building/parking garage under construction on Crafts Street is a forerunner of what could occur throughout the non-residentially zoned areas in Newtonville. However, new buildings would be three stories in height.

WHAT IS FAR?

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

FLOOR AREA RATIOS ILLUSTRATED



WHAT IS THE ZONING ENVELOPE?

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

TABLE 8.1

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

Typical Development	Zoning Districts/FARs BAA	BA	BB	LM	M
1. Retail-surface prkg					
. 1 story	0.25	0.40	0.40	0.25	0.40
. 2 stories	0.50	0.62	0.62	0.44	0.62
. 3 stories	0.62	0.70	0.70	0.60	----
. 4 stories	----	----	----	0.70	0.81
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	----	----	0.60	----
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	----	----	0.58	----
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	----	----	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	----	----	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
. 4 stories	----	----	----	1.00	----

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 developmnent 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 NEWTONVILLE

- TOTAL COMMERCIAL FLOOR AREA ALLOWED 569,726 sq.ft.
- TOTAL NEW OFFICE FLOOR AREA ALLOWED 2,258,886
- TOTAL NEW DWELLING UNITS ALLOWED 89

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

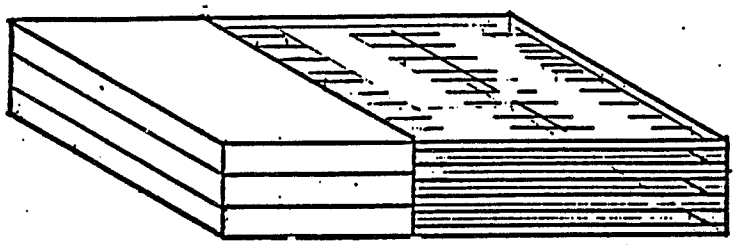
rather than the exception in areas such as Newton Corner, Chestnut Hill and Newton Centre.

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, parking garage	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	31 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. 4 story offices,			

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				
SURFACE PARKING GARAGE	BA	BB	M	BAA	LM
• 3 Story Office/Retail	1.41	1.41	1.41	----	----
• 4 Story Office/Retail	----	----	----	1.00	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.

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

TABLE 8.3

THE PRESENT DEVELOPMENT ENVELOPE:

GROWTH THAT COULD OCCUR IN NEWTONVILLE

• New Commercial/Retail Floor Area that could be added	180,741 sq.ft.
• Existing Commercial/Retail Floor Area	476,734
• Percent Added	38%
• New Office Floor Area that could be added	1,143,722
• Existing Office Floor Area	145,862
• Percent Added	784%
• New Dwelling Units that could be added	89
• Existing Dwelling Units	849
• Percent Added	10.5%

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.

There is a large amount of non-residential zoning in Newtonville, and a significant number of vacant and underused parcels. For this reason, considerable development could occur throughout Newtonville, particularly as Newton Corner reaches saturation. The Crafts Street building under construction is an indicator of the development pressure and market that exists. Much of Newtonville is presently developed at low density, with surface parking lots predominating. These sites, expecially those on Washington Street are large and visible from the Turnpike.

NEWTONVILLE

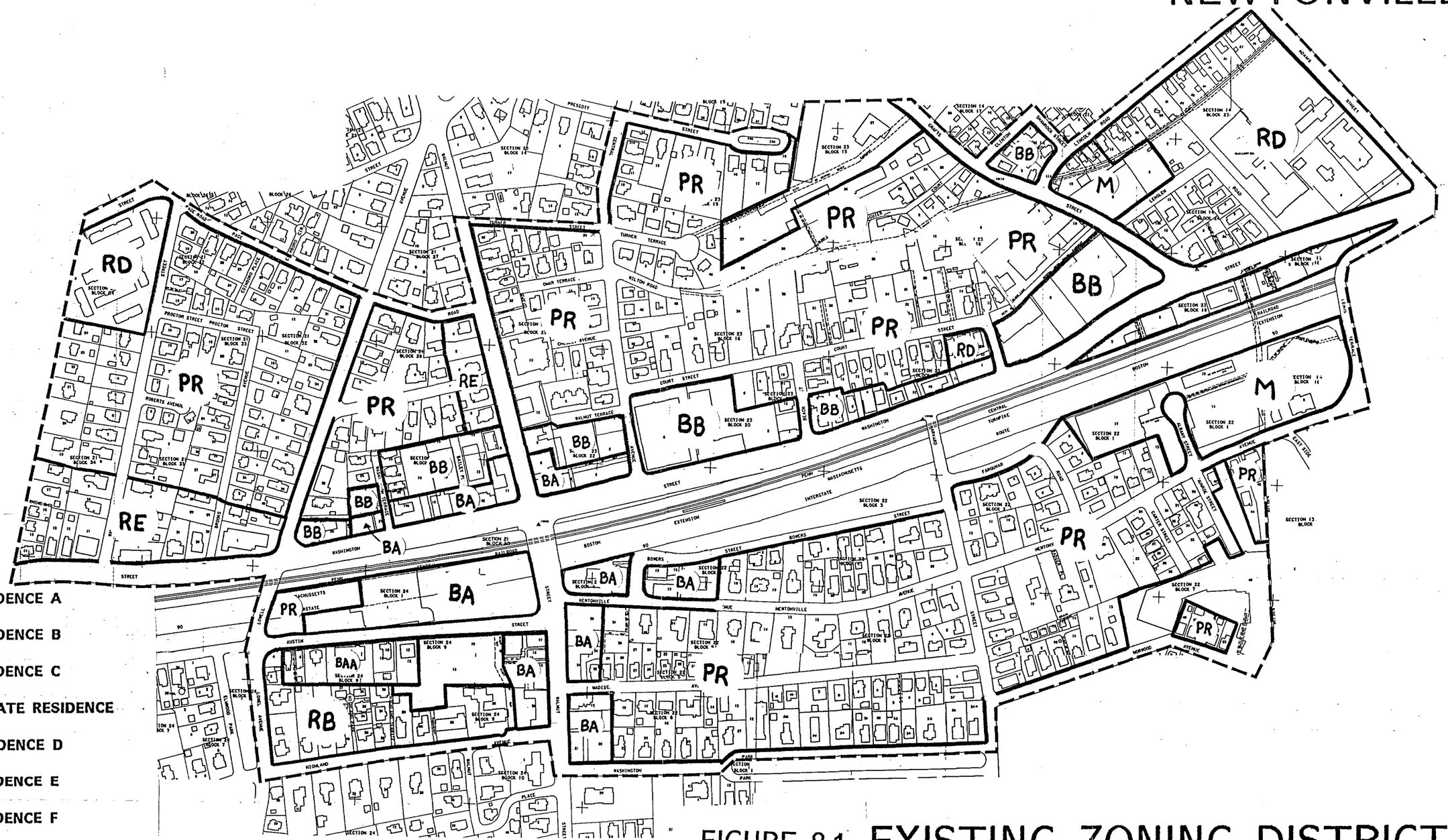


FIGURE 8.1 EXISTING ZONING DISTRICTS

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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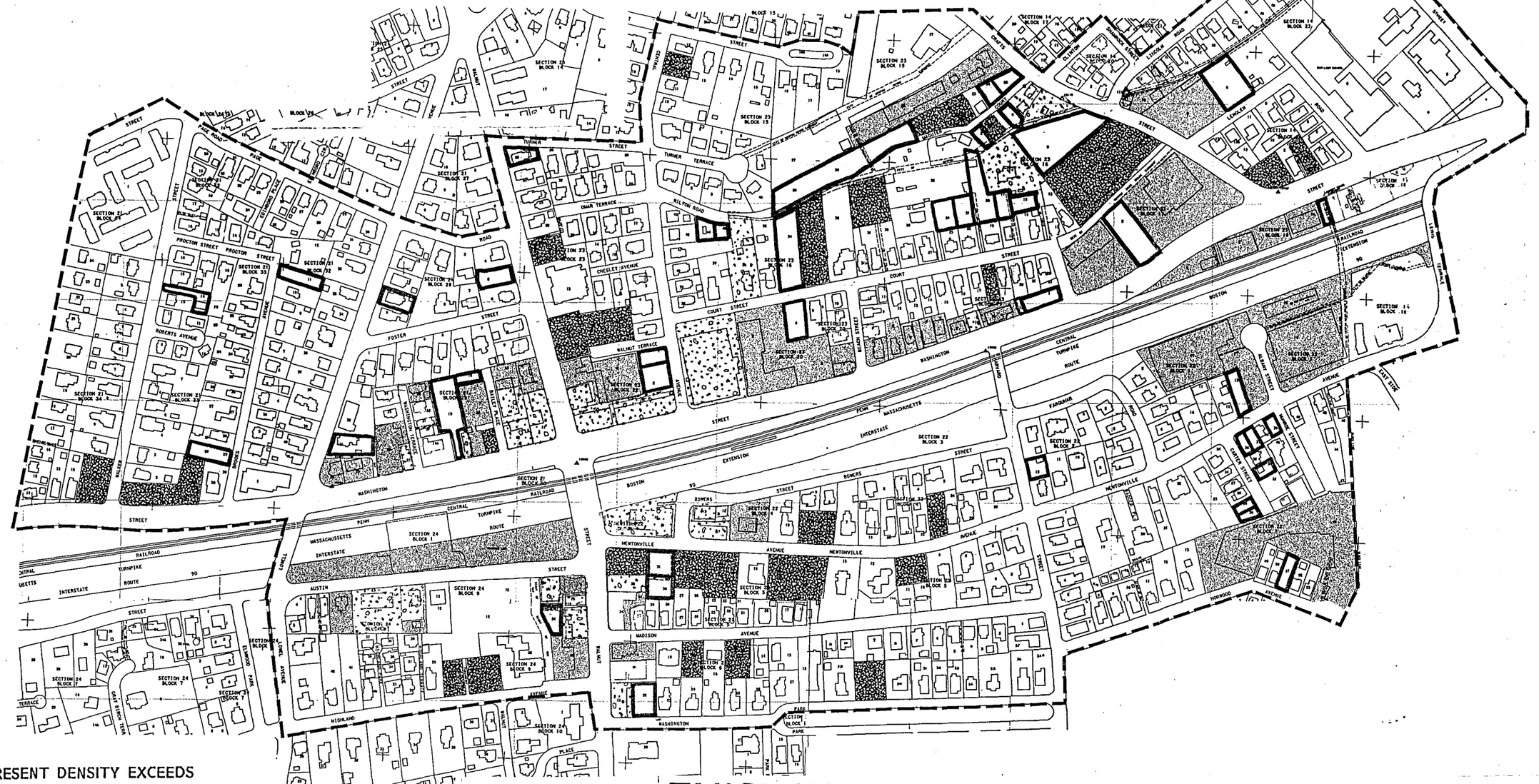
NEWTONVILLE



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

NEWTON VILLAGE STUDY

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

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NEWTONVILLE

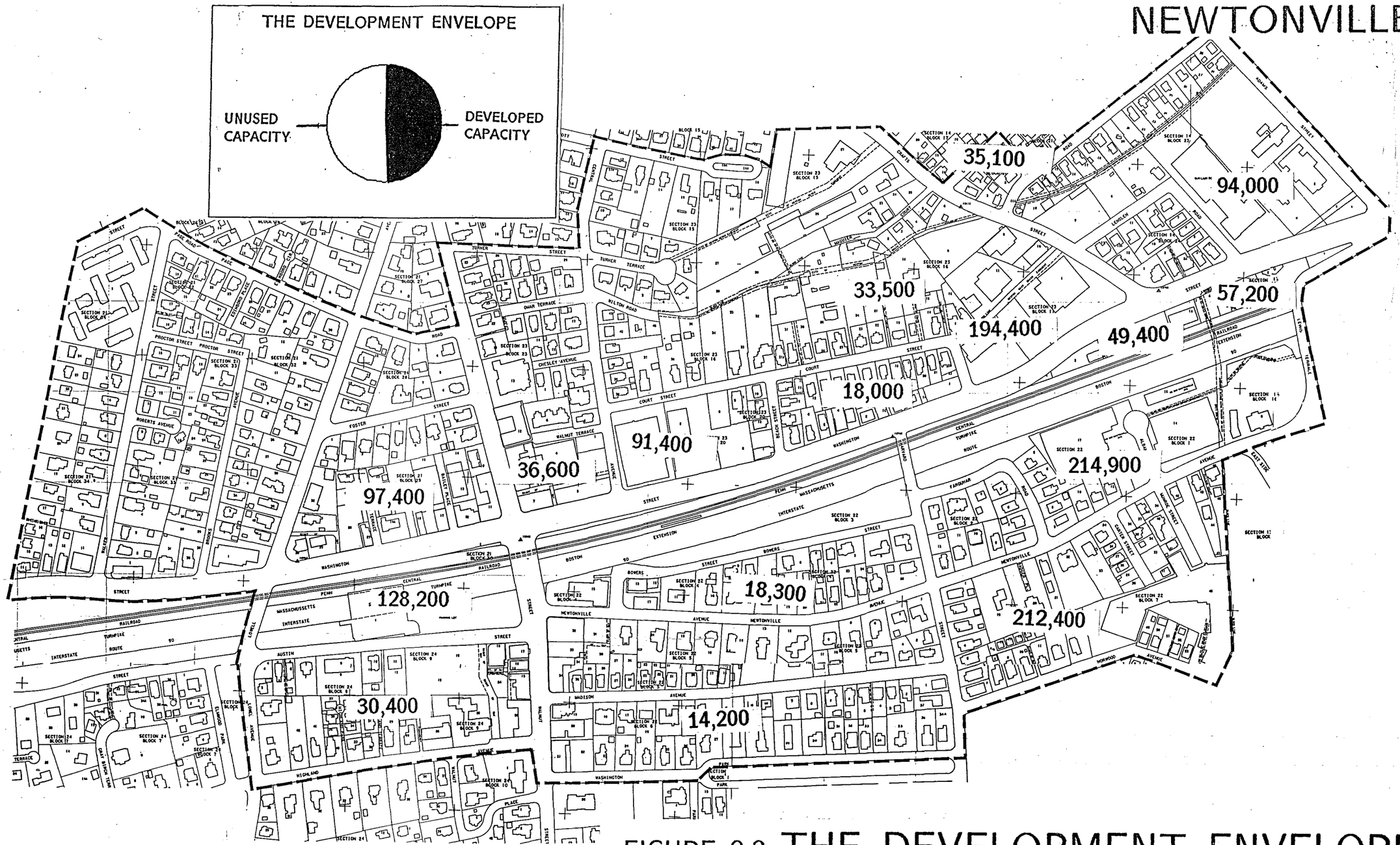

FIGURE 8.3 THE DEVELOPMENT ENVELOPE

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

NEWTON VILLAGE STUDY

DATE_____

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