

# Newton Village Study

## Newton Corner Survey Report

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NEWTON collection

NEWTON VILLAGE STUDY

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

January 1986

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## NEWTON CORNER SUMMARY REPORT

### 2.2.0 INTRODUCTION AND SUMMARY OF FINDINGS

#### INTRODUCTION

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

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

- I. A kickoff phase, in which the study was announced and its design publically presented in meetings before the Board of Aldermen, the Economic Development Commission, and a land use forum conducted by the Newton Conservators and the League of Women Voters. In cooperation with the Economic Development Commission, a full scale citizen participation process was also designed in this phase.
- II. A survey phase, to examine and discuss the development issues and problems from a city-wide as well as village perspective. The problems of traffic, parking, urban design, zoning and the economy are examined and presented in survey reports for each village center.
- III. An alternative plans phase, to examine and discuss a number of alternatives for the future of the village centers, and the impacts of the alternative futures on the City's quality of life.
- IV. A final plan phase, to prepare consensus plans and the necessary zoning amendments and other public actions necessary to achieve it.

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

- Newton Corner has clearly become regionally oriented in development character and outlook. It has lost its "village" center atmosphere and is rapidly losing its neighborhood convenience function.
- The center is very urban, but the automobile dominates the scene with regard to traffic and recent parking garage construction. The center's larger urban images, the Turnpike air rights development, is stark and inaccessible by pedestrians.
- Newton Corner is becoming very dense, as new development fills up lot line to lot line. Office development has been substantial, and new upscale retail space will cater to the office worker rather than the surrounding neighborhoods.
- As it is a major access point for the Mass Pike, traffic is heavy in the "rotary". The traffic is exacerbated by a large number of uncontrolled merge/weave points where vehicular conflicts are frequent.
- The level of service of the Washington/Park/St. James Street intersection will probably not improve as a result of urban systems construction, since the construction is not designed to add capacity.
- There is a large parking deficit in Newton Corner, mostly the result of application of the parking credit. Deficits occur in those blocks where recent development has occurred or is occurring.
- Public parking will need to be increased to offset this deficit.
- There is some intrusion of parking in residential areas. This will grow as the area develops further.
- Despite the growth that has occurred here, present zoning allows significantly more growth, up to 654,000 square feet more than existing base of 1.2 million.
- There are a number of vacant and underused parcels to the west along Washington Street. It is expected that growth will occur here, as presently allowed by zoning.

## NEWTON CORNER 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 market. Large shopping malls or office complexes and employment centers tend to attract shoppers, and business from throughout the metropolitan area. Although the Chestnut Hill Mall and shopping center may contain small shops, the area as a whole is a regional attraction.

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

## FINDINGS

Table 1.1 and figure 1.1 describe the present orientation of Newton Corner, which has clearly become "regionally-oriented". The development of the Gateway Center and the office complexes recently completed or under construction have shifted the focus of Newton Corner away from neighborhood conveniences. Older retail establishments have given way to "upscale" retail oriented to serve the burgeoning office employment. The intersection of Washington and Centre Sts., dominated by the Gateway Center and One Newton Place, is now a densely urban place with a metropolitan outlook.

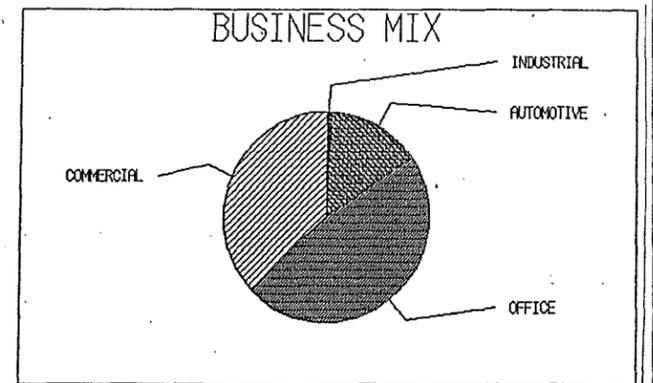
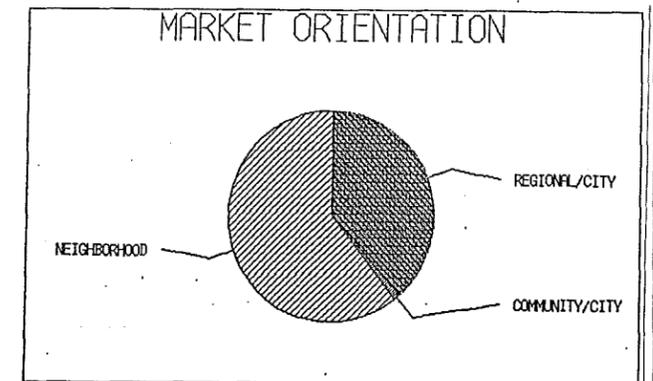
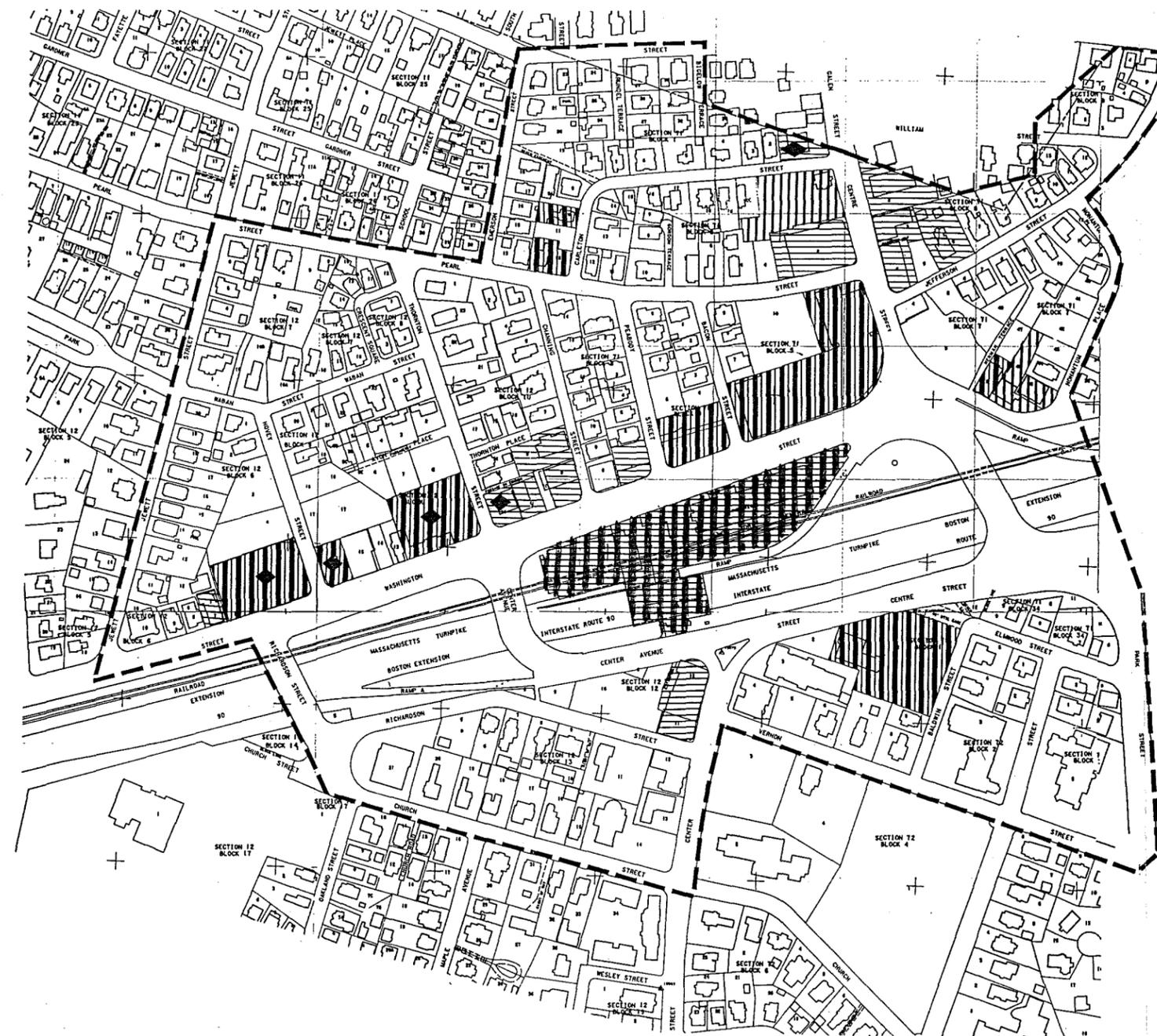
Newton Corner's business mix presently includes a variety of automotive services. These uses will also give way to office and retail uses.

TABLE 1.1

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

	<u>Block</u>	<u>Floor Area</u>	
1. Neighborhood Convenience Shops and Services	12006	7322	
	12010	23915	
	12012	47046	
	71001	1979	
	71002	26588	
	71003	4774	
	71008	31128	
		Sub Total	142752
2. Community-wide Business and	71002	2520	
	71007	7879	
	71008	13189	
		Sub Total	23588
3. City wide/ Regional Shopping Centers and Services	12006	34286	
	12009	67751	
	12011	542194	
	71004	84396	
	71005	00000	
	71007	113870	
	72001	59000	
	Sub Total	901497	
	Total	1067837	

# NEWTON CORNER



-  NEIGHBORHOOD CONVENIENCE BUSINESS AND SERVICES
-  COMMUNITY/CITY-WIDE BUSINESS AND OFFICES
-  REGIONAL/CITY-WIDE BUSINESS CENTERS AND OFFICES
-  AUTOMOTIVE SERVICES

FIGURE 1.1 MARKET ORIENTATION OF BUSINESS USES

## NEWTON VILLAGE STUDY

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

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## NEWTON CORNER SURVEY REPORT

### 2.2.2 URBAN DESIGN AND ENVIRONMENT

#### INTRODUCTION

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

#### FINDINGS

Figure 2.1 presents the findings of the visual survey.

Newton Corner functions visually as the largest of Newton's city-wide gateways, while displaying an uncharacteristically urban image. In this area taller commercial structures function to provide a "sense of enclosure" and a pleasing "spatial definition" despite the great width of Washington Street. Here again, the automobile dominates the streetscape and, although much of the area is under construction, it appears that significant auto/pedestrian conflicts might present a problem.

To the south upon entering this center from Centre Street the entry is clearly defined yet mixed in visual appearance. The low commercial buildings to the left and the library to the right stand in stark, human scale contrast to the larger urban images looming ahead (Howard Johnson's Motor Lodge and the Mass Pike).

To the north (on Galen Street) and east (on Washington Street) the sense of entry is less pronounced and the streetscape suffers from more strip development.

# NEWTON CORNER

## NEGATIVE STREETScape IDENTITY

- NEGATIVE COMMERCIAL/RESIDENTIAL INTERFACE
- LACK OF FACADE/SIGNAGE CONFORMANCE
- THRU TRAFFIC

## STRONG URBAN IDENTITY

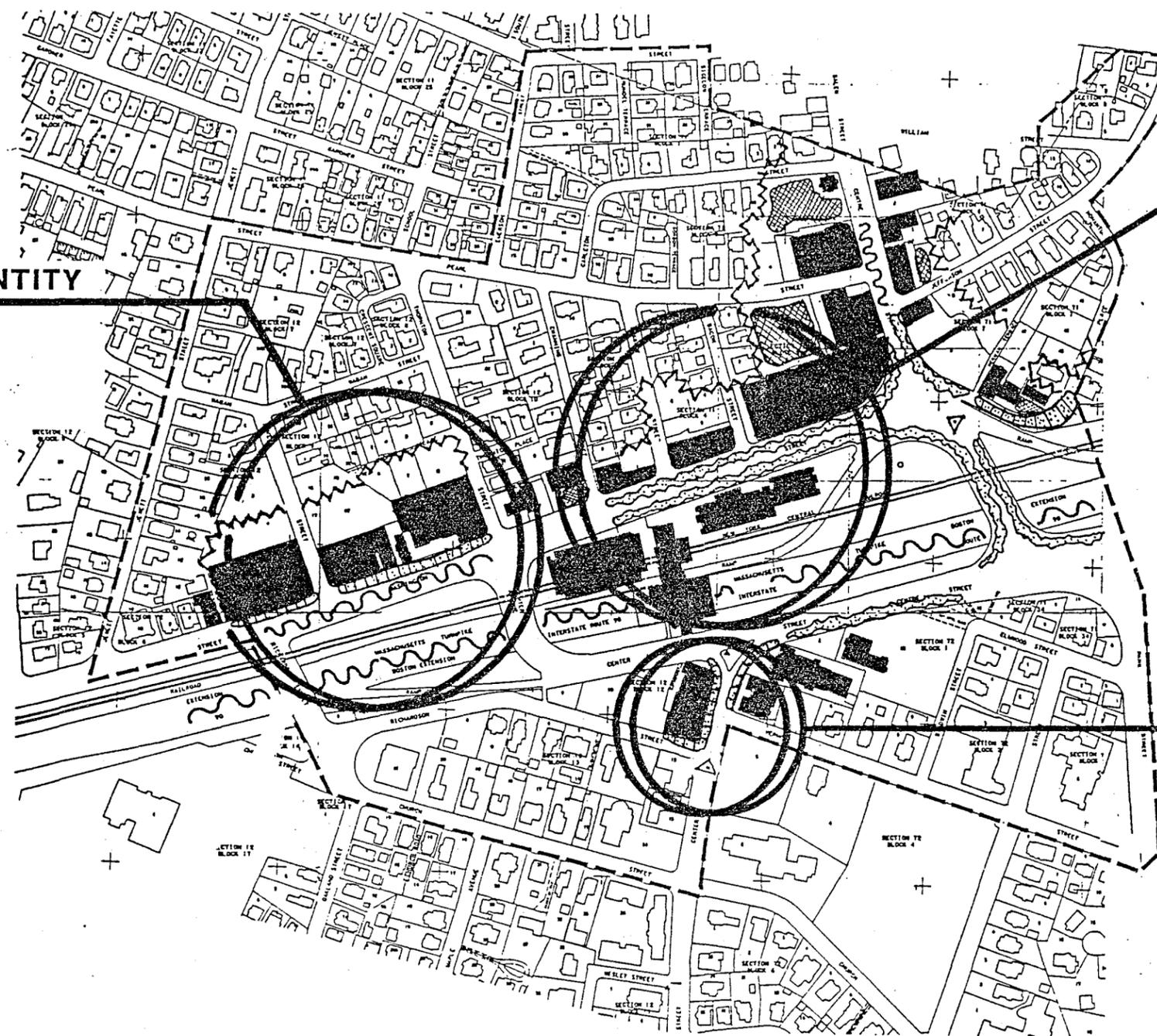
- THRU TRAFFIC
- STREETScape UNDER CONSTRUCTION
- POSITIVE CONTEXTUAL CONTRAST
- STRONG LINEAR DEFINITION
- POINT OF CITY-WIDE ACCESS/EGRESS

## PEDESTRIAN SCALE / VEHICULAR PARTICIPATION

- THRU TRAFFIC
- ACCESS/EGRESS POINT
- LACK OF FACADE/SIGNAGE CONFORMANCE

## LEGEND

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

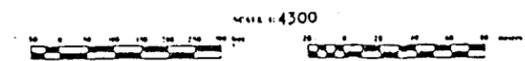


### FIGURE 2.1 URBAN DESIGN SURVEY

## NEWTON VILLAGE STUDY

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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 benefit 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 delineate 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 accommodates 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 accommodating 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 achievement of visually attractive interrelationships 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 imagery 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.

NEWTON CORNER 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

The predominant use in Newton Corner is office space. The category "Mixed Use-Mostly Commercial" is primarily offices, so that in Newton Corner close to 900,000 square feet of floor area is devoted to office uses. A good portion of this space is relatively new or under construction and soon to be on line.

Newton Corner is an urban place, and becoming more so as older, smaller buildings are replaced with new buildings covering most of their sites. The density of recent construction appears high because parking garages have been built on surface and very little setback is required.

There is very little vacant land, so that new development will replace existing uses. It is expected that Newton Corner will continue to grow as a regional office center, and its older retail convenience uses will be replaced with "comparison" retail oriented to the office employees.

Within the study boundary, most residential units are in "multi-family" structures, predominantly 2- and 3-family homes. The residential areas closest to Washington and Centre Sts. in Newton and Galen St. in Watertown are most vulnerable to the disruption occasioned by the office development in Newton Corner and commercial expansion on Galen St.

A final note: the automobile and its parking garage now totally dominate Newton Corner. Washington and Centre Sts. are certainly not "pedestrian-oriented", and the Gateway complex is essentially inaccessible except by automobile.

Table 3.1

## EXISTING LAND USE CHARACTERISTICS IN NEWTON CORNER

<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	9.37	--	--	69
2 and 3 Family	18.16	--	--	248
Apartments/Condos	2.40	--	--	79
Commercial	3.71	215,546	1.3	--
Office	9.64	711,095	1.7	--
Industrial/Manufacturing	0	0	--	--
Mixed Use - mostly Commercial	2.15	253,125	2.7	--
Mixed Use - mostly Residential	0.42	32,800	1.8	--
Transportation/Parking	NA	--	--	--
Institutional	NA	--	--	--
Open Space/Recreation	--	--	--	--
Vacant Land	4.62	--	--	--
TOTAL		1,202,566	1.73	396

# NEWTON CORNER



-  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

## NEWTON VILLAGE STUDY

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## NEWTON CORNER 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 signalized and unsignalized intersections to characterize existing operations, with one important caveat related to signalized 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 signalized intersections operating with less-than-ideal phasing and timing.

## NEWTON CORNER

### Traffic Conditions

Newton Corner is the major access point for the Massachusetts Turnpike in Newton. Washington Street and Centre Avenue, the major streets in Newton Corner, form a rotary around the Howard Johnson motel over the Turnpike, with ramps on and off the Turnpike in both directions. Apart from Turnpike access, Washington Street and Centre Street are major arterials connecting Newton Corner with the other village centers of Newtonville, West Newton, and Newton Centre, as well as with Watertown Square and Brighton Center. Access to Nonantum Road and Soldiers Field Road is provided via Charlesbank Road. Newton Corner is therefore a key transportation node within the city, serving a citywide rather than merely local function, and handling very high volumes of non-local traffic.

In addition, and partly because of its transportation importance, Newton Corner has been the focus of development pressures within recent years, resulting in increased trip generation in Newton Corner itself--most notably, the Druker office development on the north side of the Turnpike. This and other developments have been the subjects of traffic impact studies which have supplied information about traffic volumes in and around the main Newton Corner rotary.

Finally, an Urban Systems project is currently under construction at Newton Corner, both north and south of the Turnpike, which will make only minor changes in circulation, involving mainly channelization, installation of curbing and plantings, and sidewalk-widening. The principal recent circulation change of note is the designation of Washington Street south of the Turnpike as one-way northbound only; all southbound traffic destined for Brighton Center or intermediate points must now use Park and Tremont Streets to Oak Square.

Automatic traffic counts, conducted over a 24-hour period, were assembled from the Druker study mentioned above\*; in addition, a automatic count was conducted on Centre/Galen Street north of the Turnpike. The results of these volume counts, factored to represent Average Daily Traffic (ADT) are illustrated in Figure 4.1. Peak hour turning movement counts from the same source were assembled, and an additional count, at Park Street/Centre Street south of the Turnpike, was undertaken in November 1985. These counts were factored to represent existing traffic volumes at the major Auburndale intersections. The resulting volumes are depicted in Figure 4.2. Peak hours observed during the recent count were 7:45-8:45 AM and 5:00-6:00 PM.

Heavy traffic was observed during the count periods, particularly on the Washington Street/Centre Avenue "rotary". There is room for 3-4 moving traffic lanes at most points around the rotary; but there are also a large number of uncontrolled merge/weave points where vehicle conflicts are frequent, notably: (a) on Centre Avenue, where east- and west-bound Washington Street traffic merge; (b) at the Turnpike Ramp A (east-bound

off) merge with Center Avenue; (c) at Centre Street in front of the Newton Public Library; (d) on Washington Street north of the Turnpike, where Galen/Centre Street traffic merges with Turnpike bridge and Ramp D traffic. Newton police officers are available to direct traffic during the evening peak hours at the Centre Street/Center Avenue intersection.

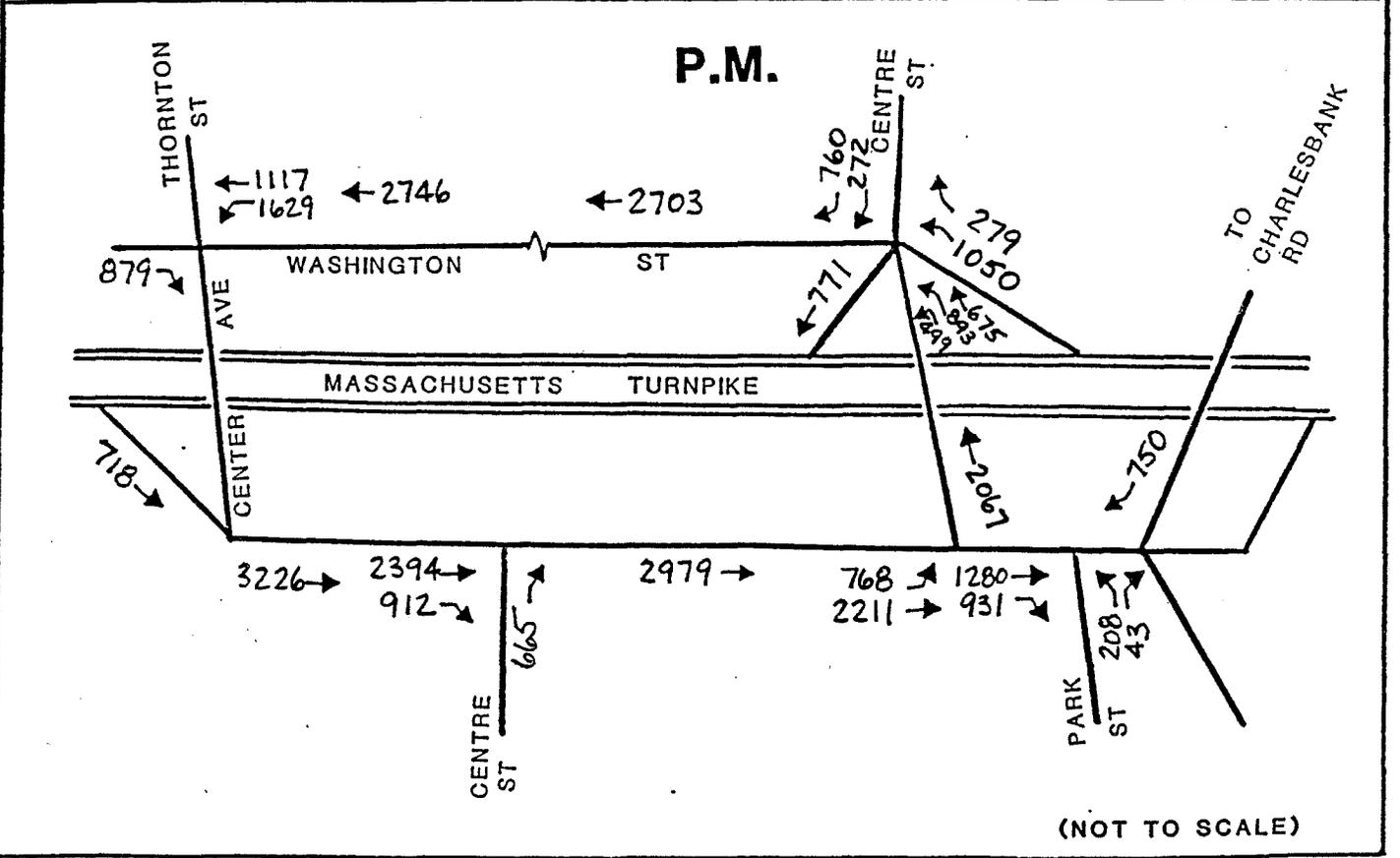
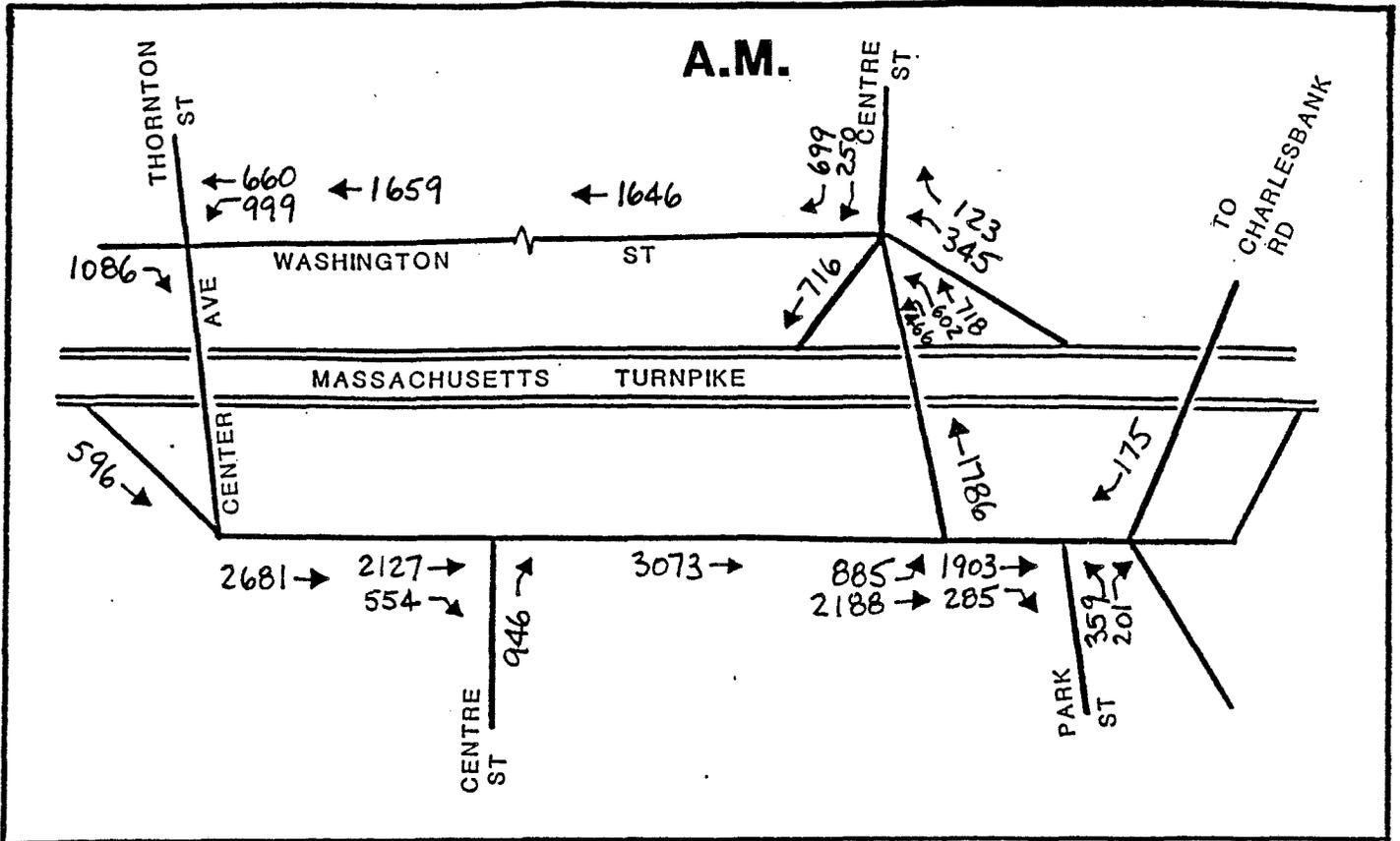
Given the large volumes of traffic passing through this area, the rotary design probably handles this traffic as efficiently as it is possible to do without major redesign and rerouting of some movements. At present, local drivers use nearby residential streets, including Church Street south of the Turnpike, and Pearl Street north of the Turnpike, to bypass heavy traffic at the Newton Corner rotary.

Existing operations at 3 locations in Newton Corner were analyzed using Level of Service analysis procedures for signalized intersections. The purpose of the analysis was to determine how well these 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 each intersection is presently utilized. Consequently, the Centre Street/Centre Avenue "T" intersection was assumed signalized, even though a green light at the Centre Street approach to Centre Avenue does not indicate that opposing traffic (on Centre Avenue) is stopped, allowing a safe exit. At a later phase of the study, projected volumes can be compared against present volumes, assuming an optimal signal timing and traffic throughput at each existing intersection.

The results of this analysis are illustrated on Figure 4.3. As can be seen, the signalized intersection at Washington and Centre/Galen Streets north of the Turnpike functions adequately during the morning peak hour, but breaks down during the evening peak hour when volumes on the westbound Turnpike off-ramp are at their highest levels. South of the Turnpike, the Washington/Park/St. James Street intersection theoretically has adequate capacity (LOS C) to handle demand volumes during both peak hours. Since the current Urban Systems project is not designed to add capacity at either location, but rather to rationalize existing moves, it is unlikely that these potential LOS levels will be changed significantly as a result of this construction.

At the Centre Street approach to Centre Avenue, in front of the Newton Public Library, however, very high volumes on this leg of the Newton Corner rotary make it extremely difficult for Centre Street traffic to enter the rotary traffic stream. If one assumes a signal phasing which stops Centre Avenue traffic to allow Centre Street traffic to exit, the resulting LOS remains "E".

\*Vanasse/Hangen, August 1980.



(NOT TO SCALE)

<b>NEWTON VILLAGE STUDY</b>	<b>PEAK HOUR TRAFFIC VOLUMES - NEWTON CORNER</b>	<b>FIGURE 4-2</b>
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# NEWTON CORNER

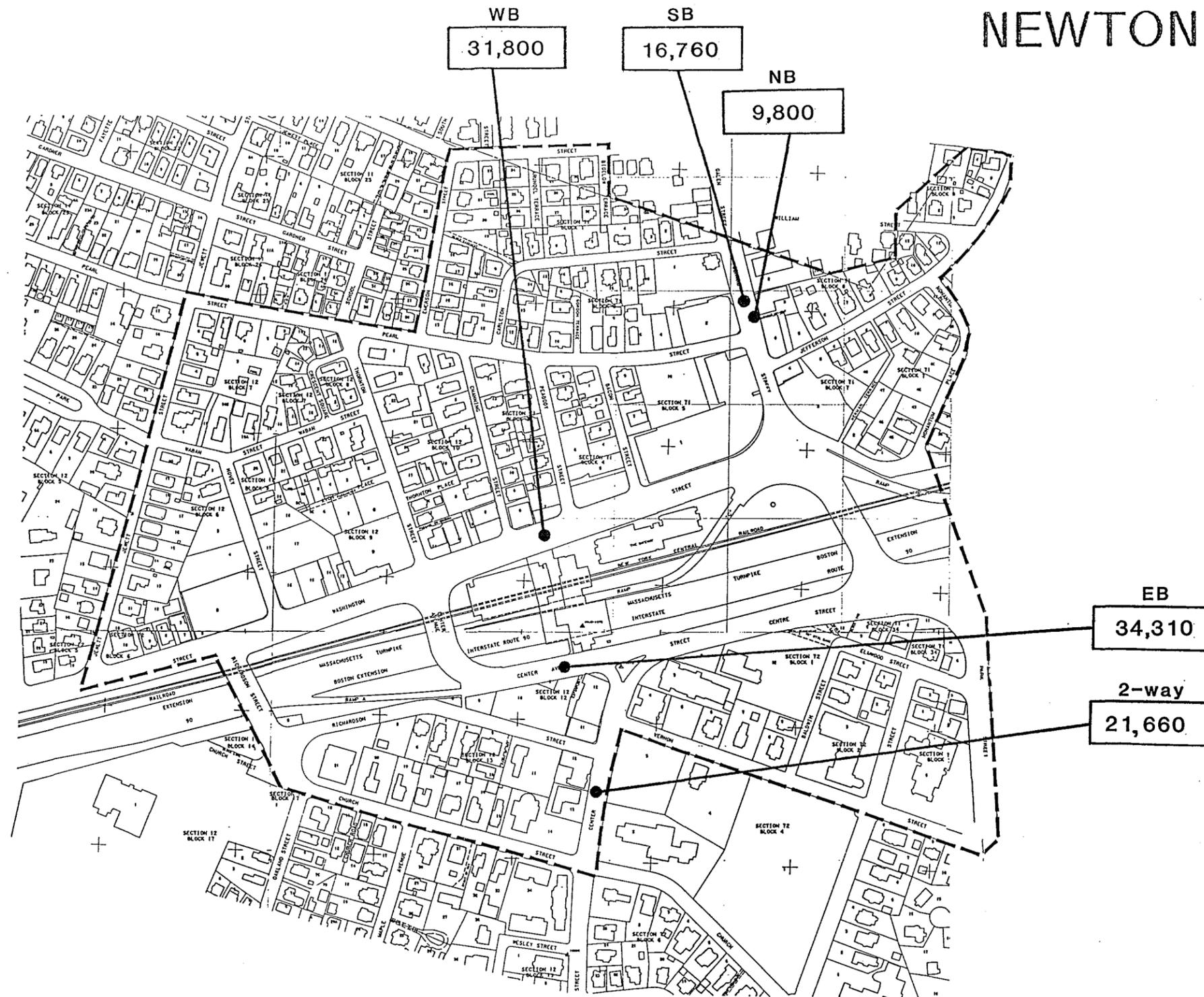
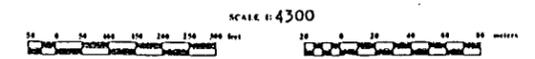


FIGURE 4.1 AVERAGE DAILY TRAFFIC

## NEWTON VILLAGE STUDY

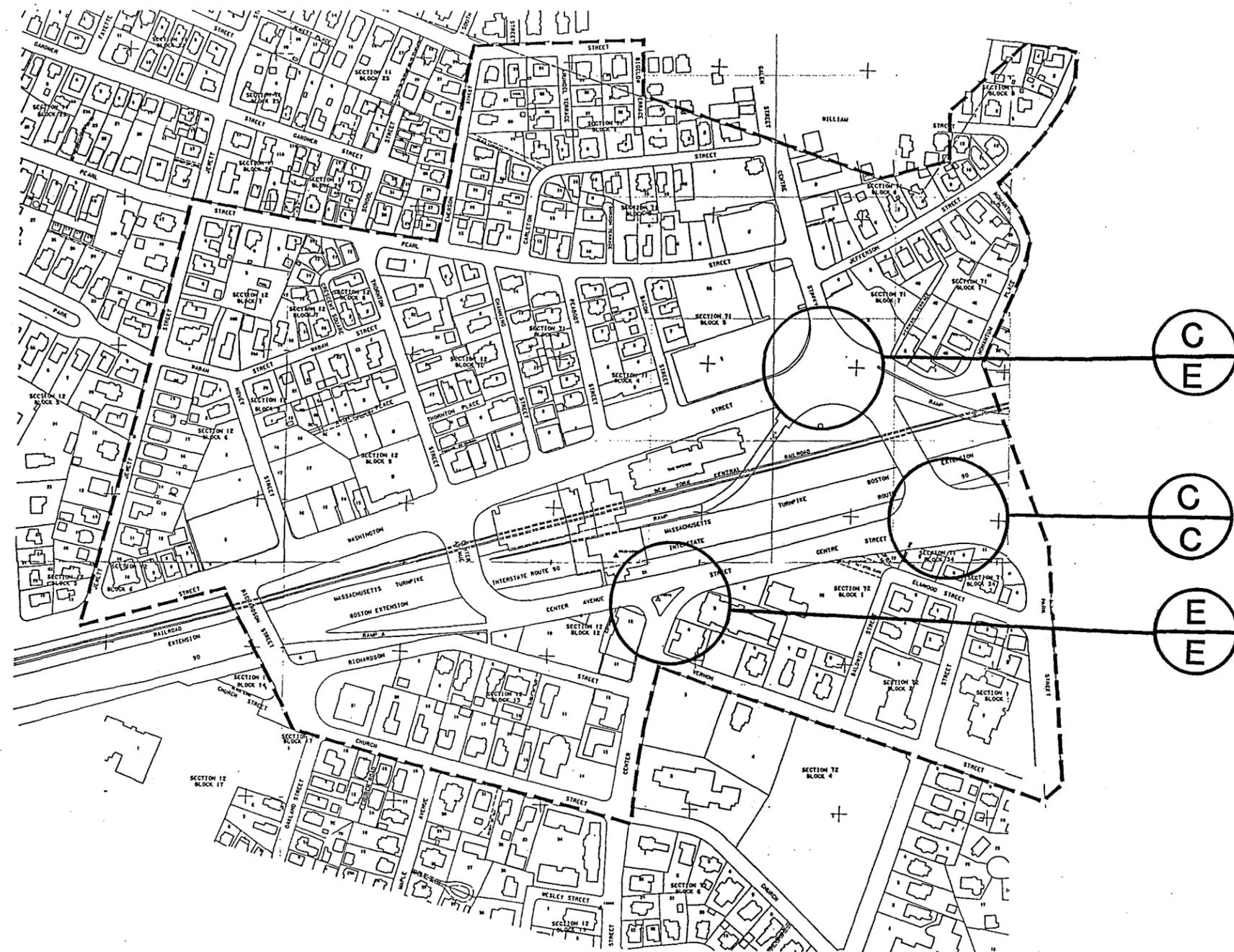
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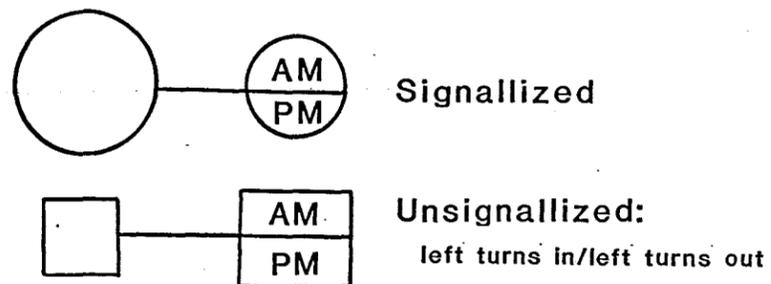


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# NEWTON CORNER



## KEY TO INTERSECTIONS

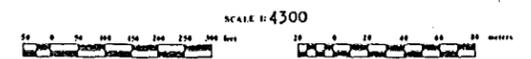


### FIGURE 4.3 OPTIMAL INTERSECTION LEVEL OF SERVICE

## NEWTON VILLAGE STUDY

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## NEWTON CORNER SURVEY REPORT 2.2.5 PARKING

### INTRODUCTION

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

A parking inventory (figure 5.1)

A parking supply/demand analysis (figure 5.2)

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 identified 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.

Because of the ongoing on- and off-street construction presently occurring in Newton Corner, a parking use survey will be conducted at a later date. However, observations of the present parking situation were made during the field survey phase and at other times.

### SUMMARY OF FINDINGS

#### a. Supply vs Demand

1. It is estimated that there will be a total deficit of 532 parking spaces in Newton Corner, or a shortage of 20%, at the time of completion and occupancy of the recent office development projects in Newton Corner. That is, the deficits are concentrated in those blocks where recent development has occurred or where new development has been proposed.
2. The parking deficit appears to be primarily the result of the parking credit.
3. Presently, the parking supply in Newton Corner relies heavily on the provision of private parking (92% of the supply). Public on-and off-street parking contribute only 10% of the total supply of spaces.
4. Parking management (eg. aggressive enforcement of regulations to increase turnover and hence increase supply) will have little effect on the parking deficit. New public supply is needed. Also, elimination of the parking credit will help prevent the deficit from increasing.

#### b. Parking Use Survey

1. Our observations confirm the opinion that there is presently some spillover business parking in the residential areas north of Newton Corner. This parking occurs on some posted streets.

#### SUPPLY VS DEMAND

Table 5.1 shows that Newton Corner has a large parking deficit of an estimated 575 spaces. Most of the deficit (467 spaces) is the result of a severe shortfall of spaces in block 12011, comprising the Gateway and Howard Johnson complexes. The remaining major deficits in blocks 71002, 71004, 72001, and 71007 result from the shortfall of spaces in recently constructed or approved office development.

A good example of this is the deficit of 107.6 or 108 spaces in block 71004. A new 75000 sf. retail office building and 153 car parking garage are under construction in this block, the foundation permit having been granted. Without the parking credit, this building would require an estimated 253 spaces. Therefore, the shortfall of 100 spaces is largely the reason for the deficit in this block.

The analysis results hold true in the other deficit blocks, indicating that continual application of the parking credit to large scale commercial developments will result in parking problems far more severe than those experienced today.

#### PARKING USE CHARACTERISTICS -- ON STREET

The on-street parking appears to occur in clusters corresponding to the posted areas. The parking hours appear to be observed, so that the only parking observed was in posted areas. There were 25 to 30 cars parked in the posted area on Pearl Street at most of the times observed. Some spillover parking was observed on Peabody Street as well.

#### PARKING MANAGEMENT

Enforcement of parking regulations appeared good, but the existence of what appeared to be long-term parking on posted streets indicates a lack of enforcement of posted regulations.

TABLE 5.1

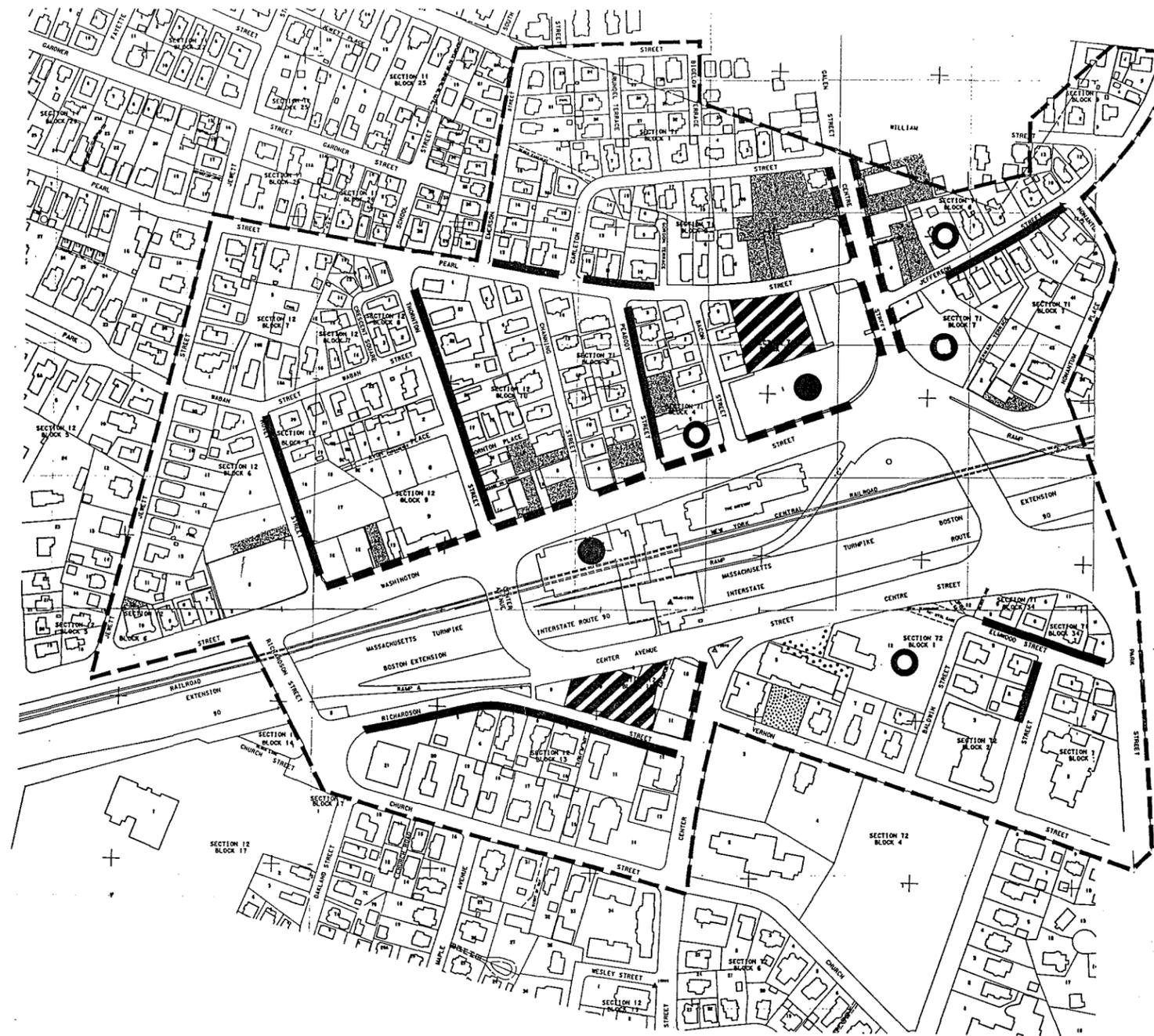
## NEWTON CORNER

## PARKING SUPPLY AND DEMAND BY BLOCK

SEC/BL	DEMAND	PRIV	OFFST	ONST	PUBL	SPPLY	SURPLUS
12006	9	5	0	0	0	5	-4
12007	4	0	0	0	0	0	-4
12009	0	0	0	8	8	8	8
12010	51	42	0	0	0	42	-9
12011	1067	600	0	0	0	600	-467
12012	73	0	62	5	67	67	-6
12013	0	0	0	0	0	0	0
71001	0	0	0	0	0	0	0
71002	145	75	0	6	6	81	-64
71003	23	15	0	0	0	15	-8
71004	261	153	0	0	0	153	-108
72001	164	121	0	0	0	121	-43
71005	371	437	67	4	71	508	137
71007	377	283	0	0	0	283	-94
74108	6	78	0	15	15	93	87
TOTAL	2551	1809	129	38	167	1976	-575

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

# NEWTON CORNER



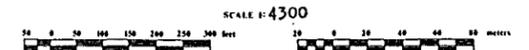
- PRIVATE BUSINESS PARKING SPACES**
- IN SURFACE LOTS
  - IN PARKING GARAGES/PROPOSED
- PUBLIC PARKING SPACES**
- OFF-STREET METERED
  - OFF-STREET NON-METERED
  - ON-STREET METERED
  - ON-STREET POSTED
- SPACES IN RESIDENTIAL LOTS
  - SPACES IN INSTITUTIONAL LOTS

## FIGURE 5.1 EXISTING PARKING INVENTORY

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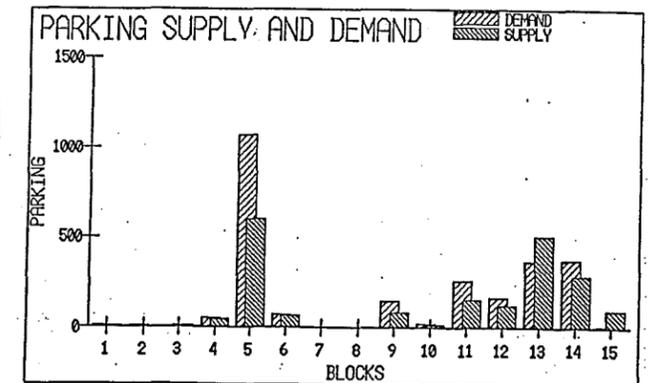
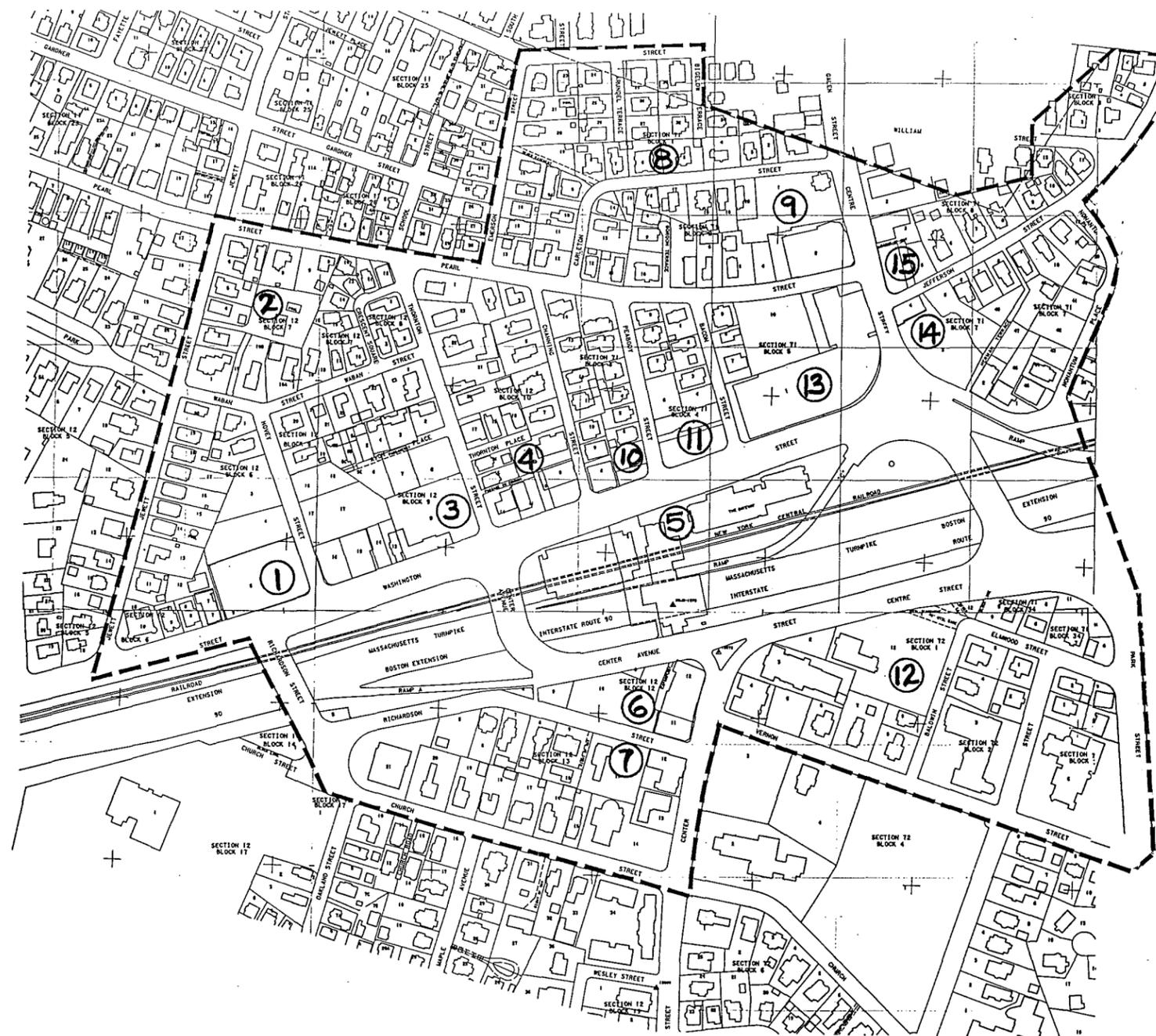


FIGURE 5.2 PARKING CHARACTERISTICS

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## INTRODUCTION

This report presents the results of the analysis of existing zoning in Newton Corner. 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.

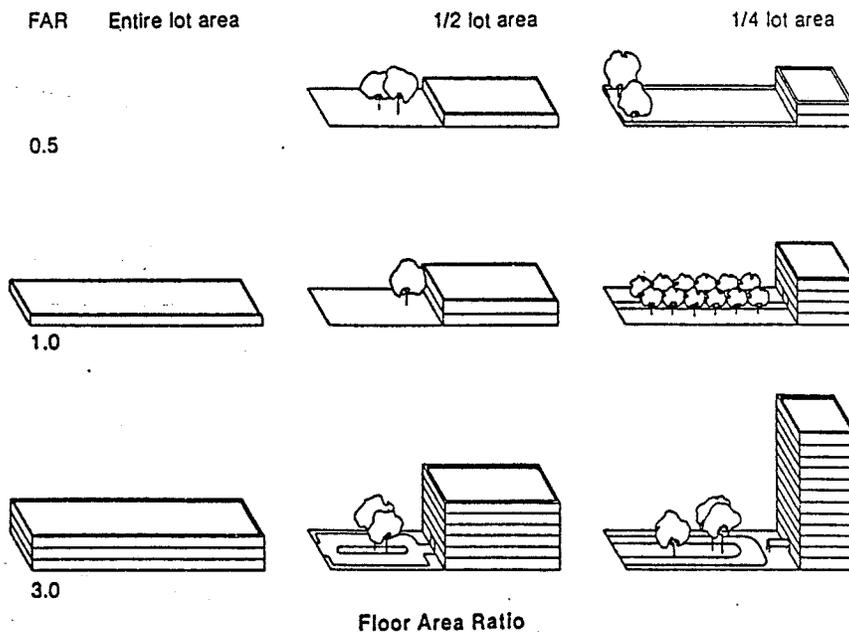
SUMMARY OF FINDINGS

1. Despite recent extensive new construction in Newton Corner, considerably more development could occur under present zoning. An estimated 654,000 square feet of new commercial/office space could be built, compared to the 1.2 million square feet which presently exists, or is under construction.
2. The number of new residential dwelling units that could be built under present zoning is very small (23 units), representing a very small proportion of the total amount of new development that could occur.
3. New development will follow the pattern of recently built and approved projects. Newton Corner will be transformed over time into a densely developed office/retail center.

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	----
. 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 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)	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 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 Newton Corner

. TOTAL COMMERCIAL FLOOR AREA ALLOWED	263,932 Sq.ft.
. TOTAL NEW OFFICE FLOOR AREA ALLOWED	628,726
. TOTAL NEW DWELLING UNITS ALLOWED	23

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.

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>
<b>AUBURNDALE</b>			
1. 3 story offices, surface parking	11 Bennett St.	0.56	BB
2. 2 story offices, surface parking	73 Lexington St.	0.48	BB
<b>CHESTNUT HILL</b>			
1. 3 story offices, parking garage	300 Boylston St.	2.38	BA
<b>NEWTON CENTRE</b>			
1. 4 story offices, parking garage	1320 Centre St.	2.59	BB
<b>NEWTON CORNER</b>			
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
<b>NONANTUM</b>			
1. 5 story offices, surface parking	459 Watertown	0.55	MFG
<b>NEWTONVILLE</b>			
1. 5 story offices, parking garage	29 Crafts St.	2.23	MFG
<b>UPPER FALLS</b>			
1. 3 story offices, surface parking	75 Oak St.	0.34	BA
2. 4 story offices, surface parking	138 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

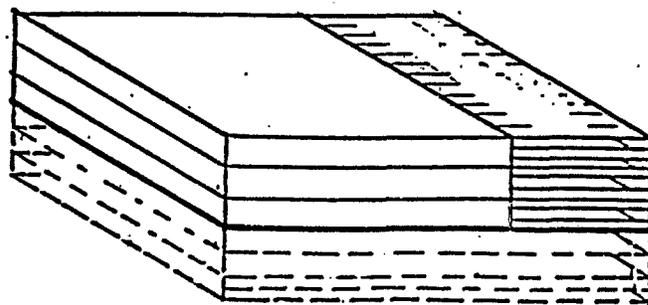
In other village centers, recent development has occurred at considerably less density. Surface parking lots are more the rule than the exception in these centers. Land values and marketable rents result in an economic environment in which the "suburban style" development is feasible and economically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

A MODEL OF RECENT DEVELOPMENT

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

Figure 8.2 A MODEL OF RECENT OR EXPECTED DEVELOPMENT



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

FAR = 2.34

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
75% Parking Underground 25% Parking Surface Garage					
• 3 Story Office/Retail	2.34	2.34	2.34	----	----
• 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 NEWTON CORNER

• New Commercial/Retail Floor Area that could be added	122,851 Sq. Ft.
• Existing Commercial/Retail Floor Area	468,671 (1)
• Percent Added	26%
• New Office Floor Area that could be added	531,437
• Existing Office Floor Area	701,095 (2)
• Percent Added	76%
• New Dwelling Units that could be added	23
• Existing Dwelling Units	396
• Percent Added	7.8%

(1) Includes mixed use buildings

(2) Includes development proposed and under construction

## THE PATTERN OF POSSIBLE NEW DEVELOPMENT/REDEVELOPMENT

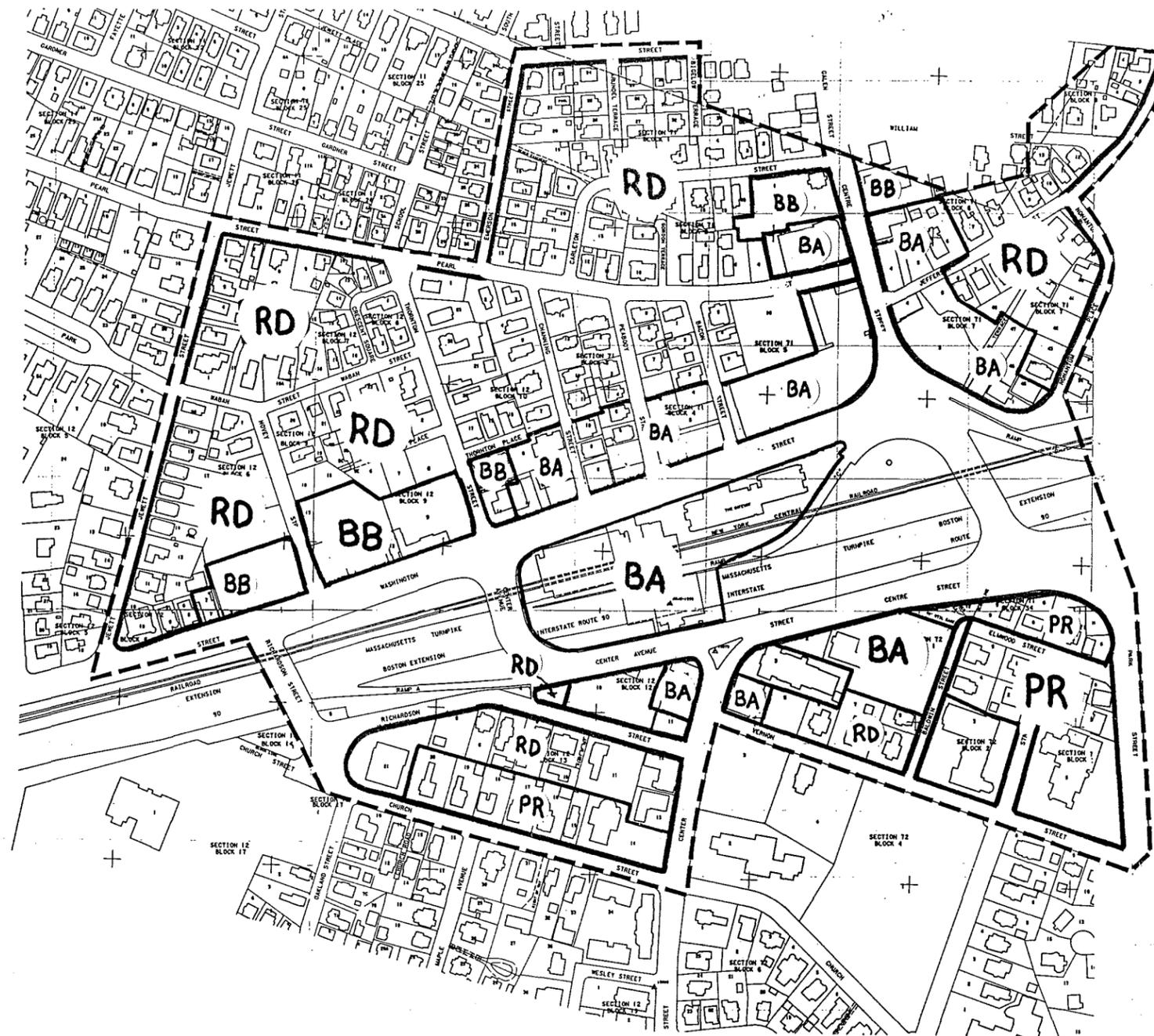
Figures 8.2 and 8.3 show the amount and probable pattern of possible new development or redevelopment.

Figure 8.2 indicates the present intensity of use in the study area, 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.

Newton Corner is experiencing considerable new office development, and this is expected to continue. Blocks 12-6 and 12-9 facing on Washington Street between Thornton and Jewett have the largest amount of vacant land and possible development potential. Development of these parcels and those underused lots facing on Galen/Centre Street will create difficulty for existing close by residences.

Figure 8.3 confirms these development possibilities by showing that relatively large amounts of new floor area could be built in these blocks.

# NEWTON CORNER



- 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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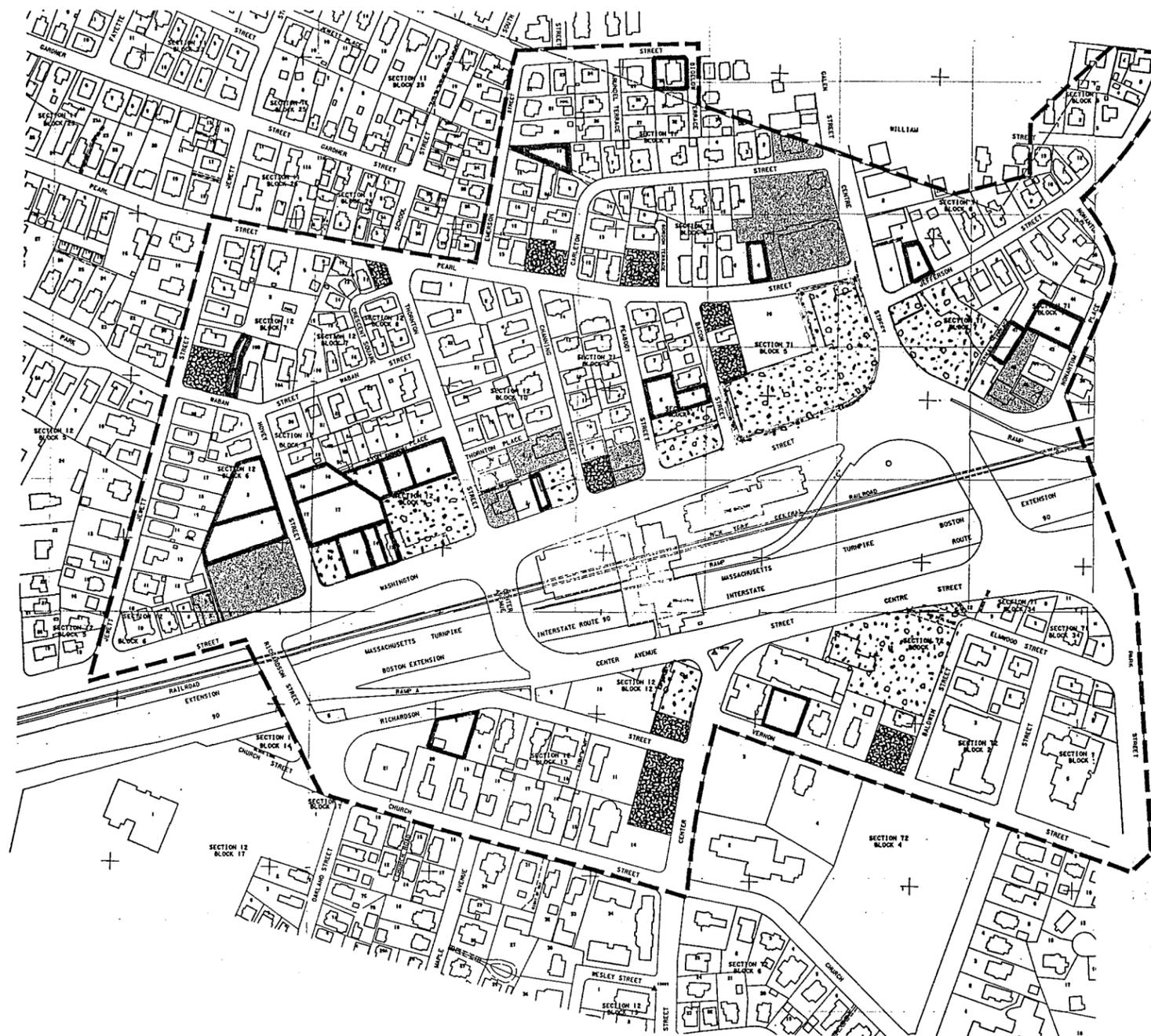
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# NEWTON CORNER



-  PRESENT DENSITY EXCEEDS THAT ALLOWED BY ZONING
-  PRESENT DENSITY IS 50% TO 90% OF THAT ALLOWED BY ZONING
-  PRESENT DENSITY IS LESS THAN 50% THAT ALLOWED BY ZONING
-  VACANT LAND

FIGURE 8.2 EXISTING INTENSITY OF DEVELOPMENT

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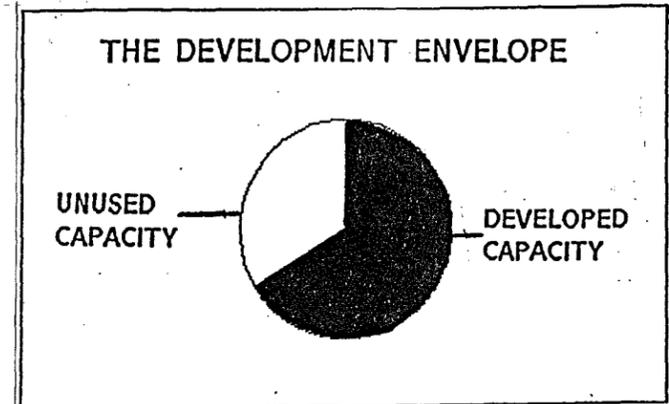
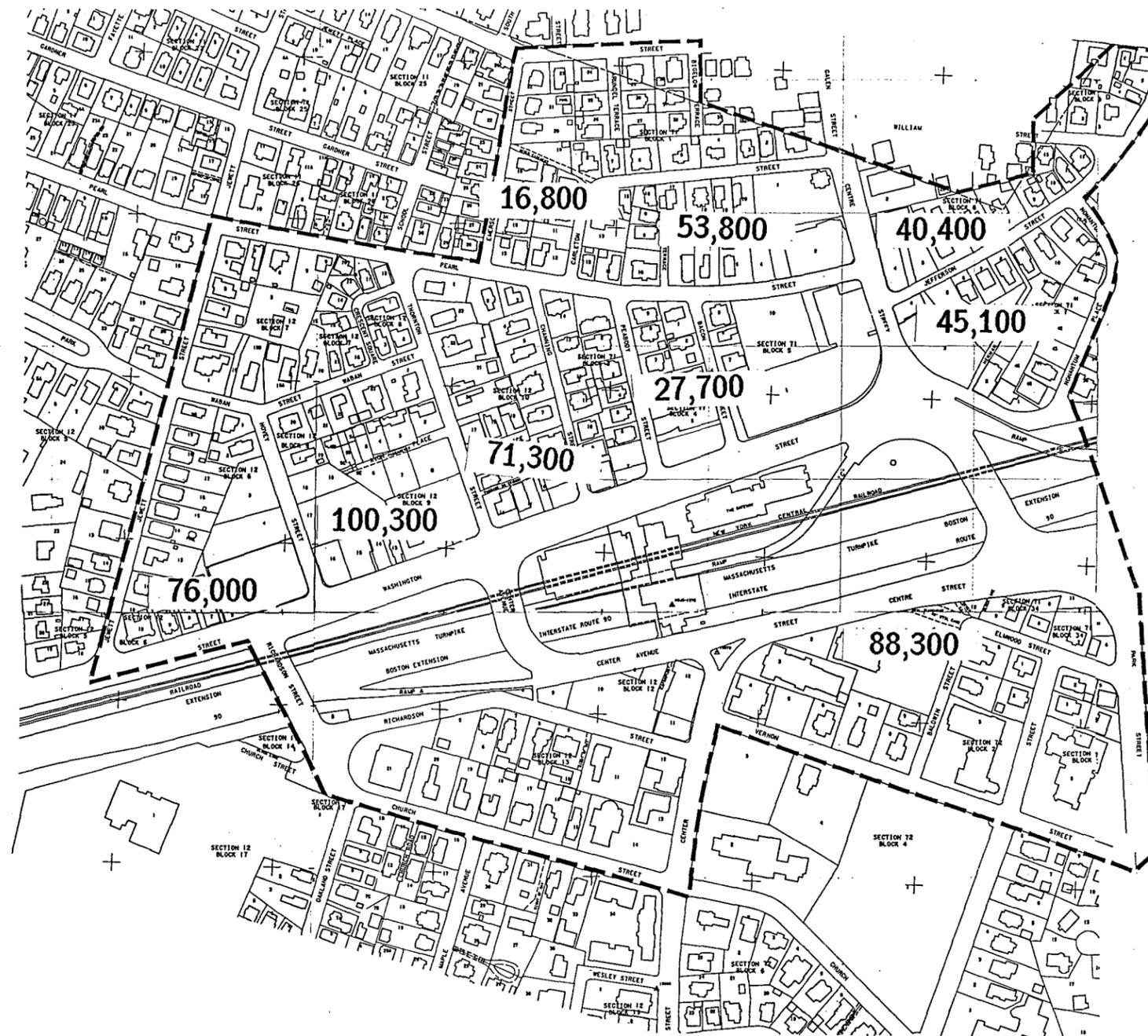
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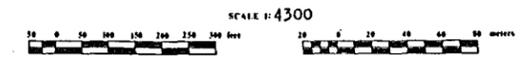
NEW COMMERCIAL/OFFICE FLOOR AREA THAT COULD BE BUILT (IN SQUARE FEET)

## FIGURE 8.3 THE DEVELOPMENT ENVELOPE

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