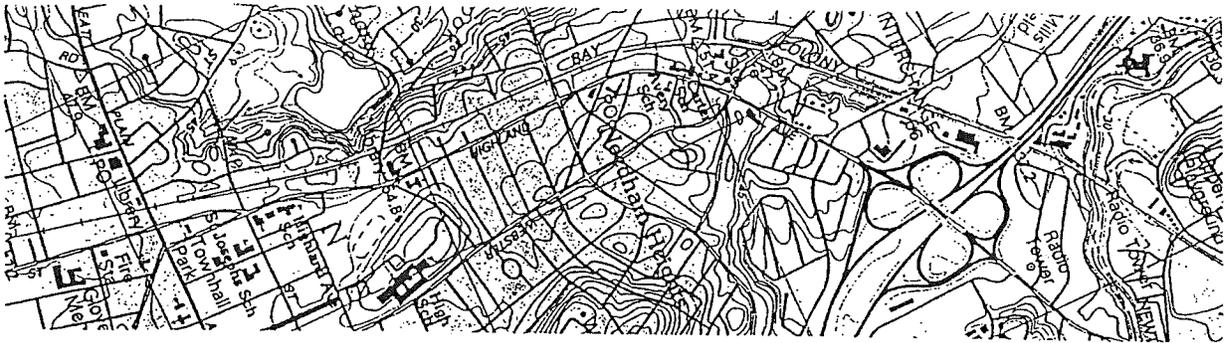


HIGHLAND AVENUE PLANNING PROJECT



Materials prepared for the Highland Avenue Task Force

| | |
|------------------|-----------------------|
| Paul Cooley | Susan Herman |
| Sally Davis | Jeanne McKnight |
| Frank Flynn | Andrew Picariello |
| Alan Fryer | Joanne H. Roth, Chair |
| Frank S. Gallelo | Charles S. Sahagian |
| Susan Glazer | Betsy Tedoldi |

Sponsored by the Needham, Massachusetts Planning Board

| | |
|------------------------|-------------------|
| Frank S. Gallelo | Joanne H. Roth |
| David C. Gerber, Chair | Stanley R. Tippet |
| Paul Killeen | |

Lee Newman, Planning Director

HIGHLAND AVENUE PROJECT OVERVIEW

ZONING APPROACH

Philip B. Herr & Associates, Consultants
447 Centre St., Newton Corner, MA 02158

HIGHLAND AVENUE PROJECT OVERVIEW

BACKGROUND

Highland Avenue Task Force.

Created by the Planning Board in 1990 to develop proposals for the vicinity of Highland Avenue between Gould Street and May Street. Members drawn from area residents, various Town agencies and organizations, and the Planning Board.

Townwide Trends.

Jobs in Needham still well above levels of ten years ago, but retail sales and employment have fallen. Purchases by Needham residents are hugely larger than sales within Needham, creating the potential for large retail growth in the vicinity.

Study Area Development.

Study area now has 1.7 million square feet of floor area, about 1.0 million square feet of that in business use, supporting about 2,800 jobs. Current zoning would allow business floor area to more than double at full development.

Development Impacts: Current Zoning.

| | Existing | Potential | Buildout |
|-------------------------|-------------|-------------|-------------|
| Housing units | 260 | 40 | 300 |
| Business floor area | 980,000 | 1,060,000 | 2,040,000 |
| Employment | 2,800 | 2,300 | 5,000 |
| Daily vehicle trip ends | 30,000 | 33,000 | 63,000 |
| Annual tax payments | \$1,200,000 | \$1,100,000 | \$2,300,000 |

INTENTIONS

- Build on the Avery Square neighborhood focus.
- Encourage development which serves the neighborhood rather than the region.
- Encourage pedestrian orientation, scale consistent with the neighborhood.
- Match development intensity to tolerable traffic levels.
- Protect integrity of residential premises in the vicinity.

ZONING PROPOSALS

Avery Square Business District.

- Replaces Business and Industrial districts around Avery Square.
- Provisions similar to Chestnut Street Business District: 2-story buildings, 10 foot landscaped front yards (a maximum of 15 feet for Avery Square), orientation to the street, limits on floor area relative to site area, Site Plan Review required for most developments.
- Parking requirements include a maximum ratio of parking to floor area, maximum size of surface parking lot, refinements making regulations more flexible and performance-oriented.
- Special permit allowing Complex Development required for stores exceeding 10,000 square feet and offices exceeding 20,000 square feet.

Hillside Avenue Business District.

- Replaces Business between Hillside Avenue and the T from West Street to Hunnewell Street.
- Rules similar to Avery Square district, except that retail uses sharply limited, landscaped front yards 20 feet rather than 10 feet.

Local Business-1.

- Replaces Business between Highland Avenue and the T from May Street to Rosemary Street.
- Rules similar to Avery Square, except permitting take-out and fast food uses, and is not subject to parking and front setback maximum limitations.

Webster to Gould General Residence.

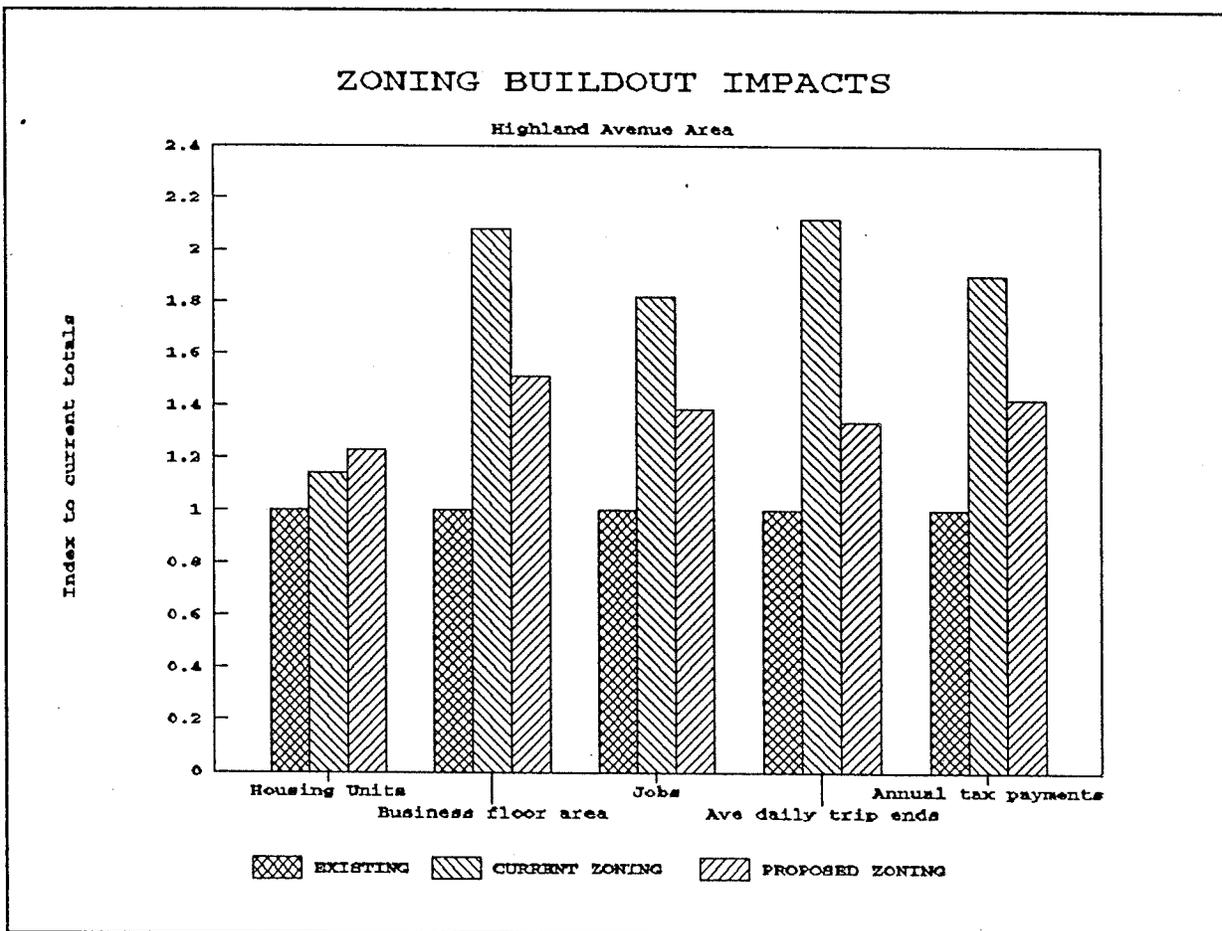
- All parcels now in Single Residence B in the Highland-to-MBTA Webster-to-Gould block to be rezoned to General Residence, affirming Town intention that this area is to remain residential, and allowing owners more intensive use of their property.

Other Highland Avenue Residential Areas.

- Any rezoning to non-residential use is contrary to Town policy, and will not be supported.

Traffic-based Floor Area Ratio Limitation.

- Floor area limited so that vehicle trip generation won't exceed 15 daily trips per 1,000 square feet of lot area from Avery Square District uses, 10 daily trips from Hillside Avenue uses, but in no event will floor area be limited to less than 0.35 times lot area or allowed to be more than 0.7 times lot area.



Summary: New District Differences From Business District Rules

Only major departures listed: see text for full proposals.

| | Avery Sq | Hillside | Local-1 |
|-----------------------------------|----------|----------|---------|
| Use rules eased | | | |
| Multifamily | SP | SP | SP |
| Genetics research | | SP | SP |
| Use rules tightened | | | |
| "Complex Development" rules | SPC | SPC | SPC |
| Auto sales lots | N | N | N |
| Other outdoor display | | N | |
| Retail over 5750 sf | | N | |
| Theatres | SP | N | SP |
| Game arcades | N | N | N |
| Bowling | N | N | N |
| Gas stations | N | N | N |
| Repair shops | N | | N |
| Car wash | N | N | N |
| Lumber yard | N | | N |
| Motel | N | | N |
| Take-out, fast food | N | N | |
| Other restaurants | | N | |
| Vets with boarding | N | N | N |
| Wholesaling | N | | N |
| Industrial service | N | | |
| Equipment rental | SP | SP | SP |
| Unspecified uses | N | N | N |
| Dimensional refinements | | | |
| FAR rather than coverage rule | 0.7 | 0.7 | 0.7 |
| Height limitation (stories) | 2 | 2 | 2 |
| Front setback minimum (ft) | 10 | 20 | 10 |
| Front setback maximum (ft) | 15 | | |
| Side, rear buffer (ft) | 10 | 10 | 10 |
| Parking rule refinements | | | |
| Easier to reduce # of spaces | Y | Y | Y |
| Credit for on-street spaces | Y | | Y |
| Easier to share parking | Y | Y | Y |
| Special permit if over 50 spaces | Y | Y | |
| Special permit for "extra" spaces | Y | Y | |
| Other changes | | | |
| Site plan threshold 1,000 sq. ft. | Y | Y | Y |
| Entrance oriented to street | Y | Y | Y |

BACKGROUND ANALYSIS

On the following pages are a series of tables and graphs containing the results of analysis of Assessor's records and other selected data, intended to give perspective on what currently exists within the Highland Avenue study area, what capacity there is for growth within the limits of current zoning, and what demand there likely is going to be for such growth.

The Highland Avenue study area extends for about a mile from May Street to Gould Street. Data has been collected and analyzed for an area generally limited to lots fronting onto Highland Avenue, or near it and zoned non-residentially.

TOWNWIDE TRENDS

Employment [Table 1, figure 1].

Employment in Needham grew by a quarter between 1980 and 1990. Growth was led by a doubling of employment in services, and near-doubling of employment in manufacturing (though manufacturing employment has declined since 1983). On the other hand, employment in wholesale and retail trade fell by about 25%. Jobs located in Needham exceed the Needham labor force by about a third, resulting in net in-commuting.

Retail Sales [Table 2, figure 2].

Needham's retail sales of \$243 million in 1987 (the most recent year for which Census data is available) totalled about \$9,000 per resident, compared with likely purchases per resident of over \$11,000, based on Statewide averages and Needham's average income per capita. Apparel and furniture, two of the traditional "downtown" goods for which comparison shopping is important, are the strongest in Needham relative to resident's purchases. Having no store categorized as "general merchandise" results in that category having the largest "deficit" of local sales versus resident purchases.

If 1987 retail sales averaged \$200 per square foot, a reasonable estimate, these figures indicate a little over one million square feet of retail space in Needham, compared with just over 200,000 square feet of such space in the Highland Avenue study area.

Between the 1982 and 1987 Censuses of Business, sales in Needham rose 36%, including the effect of inflation, while sales Statewide grew nearly 56%. After accounting for inflation, Needham's sales grew less than 20%, only about half of the Statewide "real" growth.

To accommodate retail sales in Needham equivalent to the total of purchases by Needham residents would require (or support) addition within the Town of floor area

equivalent to the total now in that use within the study area, or a doubling of the area in that use along Highland Avenue if all of the Town's growth were to be focussed there.

Housing [Table 3, figures 3 and 4].

From 1980 through 1990 Needham added about 900 dwelling units, or almost a 10% increase in housing stock. Massachusetts as a whole added about 13% to its housing stock over the same period, indicating that Needham had quite a substantial amount of residential development for a "mature" suburb. Most of the building came in the early '80s, and was in the form of multi-family housing.

Population [Table 4].

Despite substantial housing development, Needham's population has been essentially stable for two decades, actually declining slightly. That decline despite added housing is the result of reduced family and household size, a phenomenon which seems to have no end. Population stability eases demands for added housing, jobs, and services.

STUDY AREA CONDITIONS

The following analyses are based upon January 1, 1991 data provided by the Assessors, later computer-analyzed by Herr Associates. We have treated lots as indivisible, even when straddling district boundaries or put to two or more uses, sorting each lot into a single category of use and zoning. The coding system used by the Assessors is State mandated, and not always appropriate for planning purposes, so in some instances we have reclassified lots.

Zoning Districts [Tables 5 and 6].

The area analyzed is fairly evenly divided among three major zoning districts, with Single Residence B being the largest, covering 1.4 million square feet. That district generally only allows single-family dwellings on 10,000 square foot lots. The Business district covers about one million square feet, and allows a broad range of non-industrial business uses. The Industrial district, covering about 900,000 square feet, allows a broad array of uses ranging from single-family dwellings to manufacturing. The Apartment A-1 district covers only a small portion of the district, and is fully developed for multifamily dwellings. There is even less land in the study area zoned General Residence, which is much like Single Residence B in its requirements except for allowing two-family dwellings.

Land Use [Tables 5 and 6, figure 5].

Developed land uses cover about 90% of the land area of the study area, excluding streets. Residential use dominates in area, covering more than a third of the tallied land, and being found in every district except Industrial (where in fact there are a few residences

on premises chiefly put to another use). The impact of a long history of zoning enforcement is apparent: there are relatively few lots in any of the residential districts which are used principally for business purposes.

Residential uses not only dominate land area tallies, they dominate frontage, as well (see figure 5). Of nearly 11,000 linear feet of Highland Avenue frontage counted, over 4,000 feet are in residential use. To many observers, Highland Avenue has a strong business character, but businesses occupy only 42% of the frontage tallied.

Development Configuration [Figures 6, 7 and 8].

To understand the relationship between existing uses and present and potential zoning limits, we examined parcels in the Business and Industrial districts, excluding the residentially-zoned parcels. Figures 6, 7 and 8 rank order those commercial parcels first by the total floor area on the lot, second by the percentage of lot area which is covered by structures, and third by the ratio of floor area to lot area.

The main Carter's parcel has over 300,000 square feet of floor area on it, another industrial lot has over 120,000 square feet of floor area on it, and only four additional parcels have floor area exceeding 25,000 square feet of floor area, the threshold typically triggering State review under MEPA, and proposed as the threshold triggering special permit review in new districts being proposed. More than fifty developed parcels in the B and I districts fall below that threshold.

Zoning currently limits lot coverage depending upon number of floors, use, and whether the lot is on a corner or not. The most commonly applicable limit is 25% of lot area. About half of the existing developed parcels in the B and I districts exceed that limit, either being allowed a higher limit because of special circumstances or being "grandfathered" as preexisting nonconforming structures. No such limit is proposed in the new Avery Square or Hillside Avenue districts.

Floor area ratio (FAR, the ratio of floor area to lot area) is not directly controlled in any of the districts currently in the study area. The amount of floor area which is feasible depends upon building height, amount of parking, whether parking is multi-level, and various setback and yard requirements. With a three-story building and two-level parking, most uses could fit just about as much floor area on a site as there is lot area, reaching an FAR of 1.0. Only two sites in the study area are developed more intensively than that. In the proposed Avery Square and Hillside Avenue districts, as presently on Chestnut Street, FAR is proposed to be basically limited to 0.7, a level exceeded on about a dozen properties now within the study area.

Assessed Valuation and Taxes [Tables 7 and 8].

This is a \$100 million dollar district in terms of valuations, which includes some but not all institutional values. Residential uses collectively are the largest category, but are

only about a third of the total. Taken together, business valuations comprise about 60% of the area total. Despite somewhat higher business than residential tax rates, residential use is the largest single category of tax payer.

It is interesting to note that the Industrial District, though not the largest in land area, is the largest in tax assessments and payments, chiefly attributable to the extent of multi-level buildings in that district.

Floor Area [Table 9].

There now is about 1.7 million square feet of building floor area within the study area, about 500,000 square feet of that being residential, 150,000 being institutional, the rest being business. The Industrial District has half again as much floor area as the next largest, the Single Residence B district.

Auto Trips [Table 11].

A trip end is the beginning or end of a vehicle trip: a trip from home to store has two trip ends, one at the house and one at the store. The uses now within the study area can be expected to generate about 30,000 trip ends per day on average. Almost half of those trip ends occur at retail premises, by far the area's largest trip generator. Residences, the area's dominant land use, generate less than 10% of the daily total.

The 30,000 trip end total is coincidentally close to the number of vehicles travelling per day on Highland Avenue now, also about 30,000. Each of those vehicles counted at a given point on Highland Avenue reflects two trip ends. The vehicle traffic from corridor development splits between east-bound and west-bound. Taking those two considerations into account, it appears that perhaps a third of the traffic on Highland Avenue in the study area begins or ends there, with two-thirds passing through. That is nicely consistent with the trip end estimate.

Housing and Jobs [Table 13].

Tabulations of housing and jobs were made less elaborately than the preceding. There are about 260 housing units within the study area, with only a few of those being in business-zoned locations. That much housing probably serves about 600 residents. On the other hand, there are nearly 3,000 jobs within the study area by our estimate, 1,700 of them in the Industrial district, most of the rest in the Business district.

FUTURE POTENTIAL

We have analyzed the future potential of this area for further development within the constraints of current zoning, using computer models to estimate what could be built, and its consequences. The results are shown in part in tables 10 and 12 and are summarized

in table 13. In doing the analysis, we assumed that all non-business uses would be removed and replaced with business in locations zoned for Business or Industry, but that no business would develop outside of those zones, and no residences would develop within them. We assumed that the full extent of development permitted on each lot would occur, whether through additions or reconstruction, but that buildings now exceeding current zoning limits on floor area would remain. We assumed that business would, on average, use two-level parking.

The residential development potential is small, limited by sites under current zoning, not by market. We estimate that current zoning supports fewer than 40 additional dwelling units.

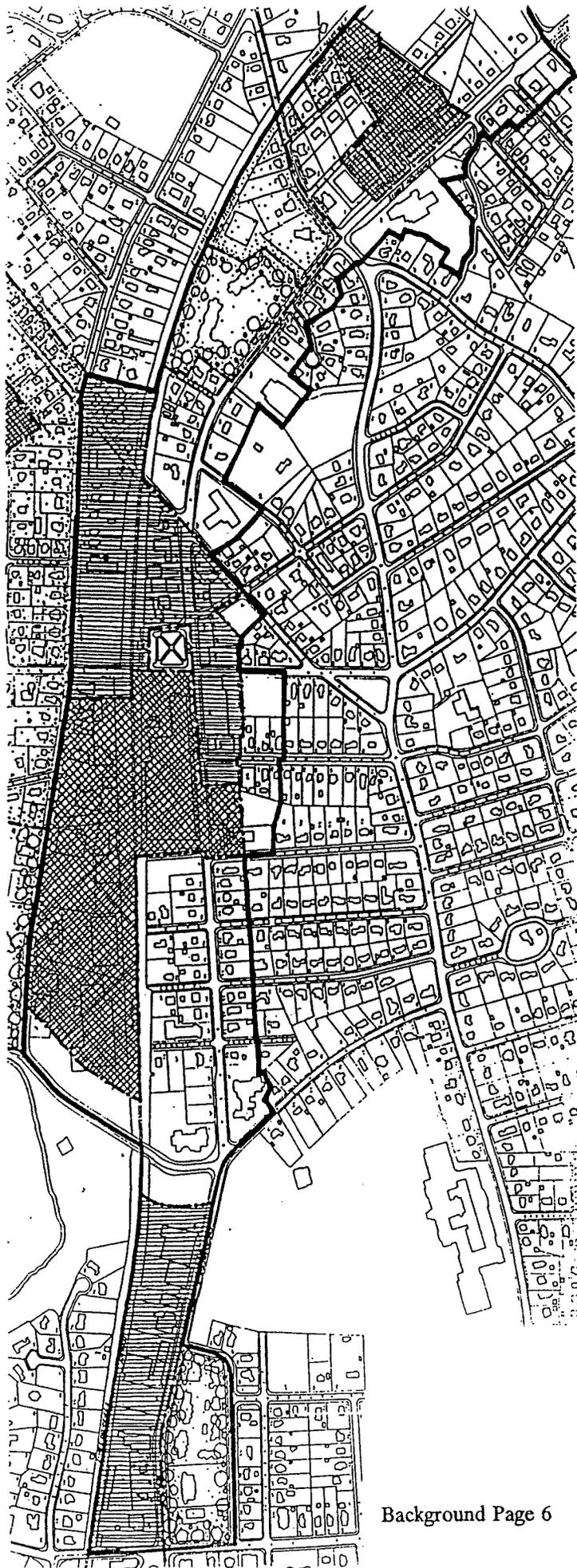
Business expansion potential, on the other hand, is robust. Current zoning would allow more than doubling of the floor area in business use, which would nearly double the number of workers accommodated.

Putting the residential and business buildout potentials together, fully developing the zoning "blueprint" which the Town has established would mean more than doubling the number of auto trip ends generated within the corridor, and nearly doubling the tax revenues paid on behalf of properties within it.

IMPACT OF CHANGING ZONING

To illustrate the potential impact of amending zoning, the calculations shown in tables 14 and 15 were made. The key variable is the floor area ratio (FAR). A stipulated limit might be established, as was done for Chestnut Street, or changes in parking requirements or other controls might be made, indirectly doing the same thing, reducing potential FAR.

We estimate that the present zoning-limited FAR is 0.99 for most uses on most business zoned lots, given two-story parking. We tested various levels down to half that intensity, producing estimates of traffic and taxes related to each. Reducing allowable floor area ratio to the Chestnut Street level of 0.7 would reduce potentially added floor area by nearly 50%, but because of the large amounts of traffic and taxes based on existing uses, that cutting of development potential in half reduces buildout traffic by only a quarter, and "costs" only a fifth in loss of tax potential from the study area.



HIGHLAND AVENUE

Analysis Area

Zoning

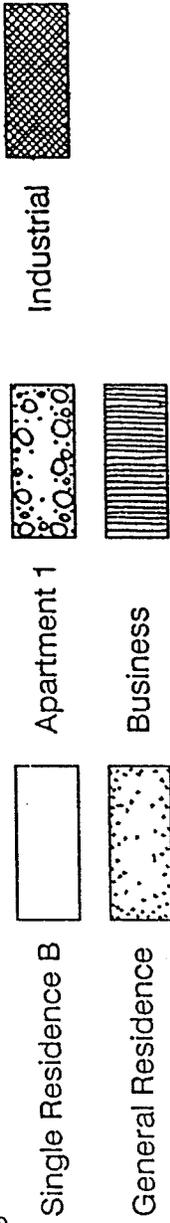


Figure 1
EMPLOYMENT

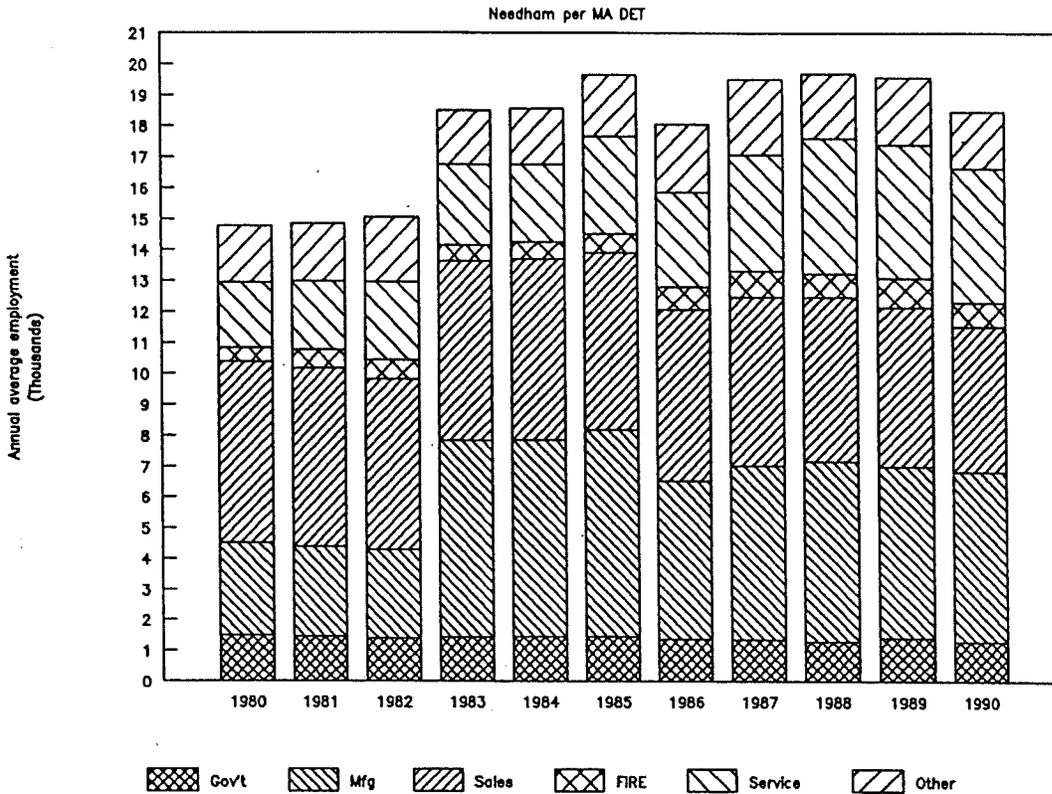


Table 1.

NEEDHAM EMPLOYMENT, 1980-90

| | Total Jobs | Government | Manufacture | Wholesale, retail | Fin, insur, real est | Services | Other |
|------|---------------|------------|-------------|----------------------|-------------------------|----------|-------|
| 1980 | 14,755 | 1,499 | 3,016 | 5,854 | 447 | 2,121 | 1,818 |
| 1981 | 14,846 | 1,449 | 2,941 | 5,769 | 592 | 2,230 | 1,865 |
| 1982 | 15,047 | 1,388 | 2,893 | 5,544 | 608 | 2,520 | 2,094 |
| 1983 | 18,503 | 1,433 | 6,399 | 5,815 | 512 | 2,592 | 1,752 |
| 1984 | 18,561 | 1,453 | 6,388 | 5,856 | 545 | 2,511 | 1,808 |
| 1985 | 19,670 | 1,450 | 6,729 | 5,731 | 623 | 3,144 | 1,993 |
| 1986 | 18,040 | 1,383 | 5,132 | 5,547 | 737 | 3,056 | 2,185 |
| 1987 | 19,514 | 1,342 | 5,682 | 5,447 | 837 | 3,748 | 2,458 |
| 1988 | 19,690 | 1,301 | 5,868 | 5,298 | 759 | 4,368 | 2,096 |
| 1989 | 19,570 | 1,415 | 5,577 | 5,160 | 936 | 4,315 | 2,167 |
| 1990 | 18,449 | 1,292 | 5,539 | 4,690 | 771 | 4,348 | 1,809 |

Source: Massachusetts Department of Employment & Training

NEEDHAM DATA\JOBS.WK1

03-Jan-92

Figure 2
PER CAPITA SALES

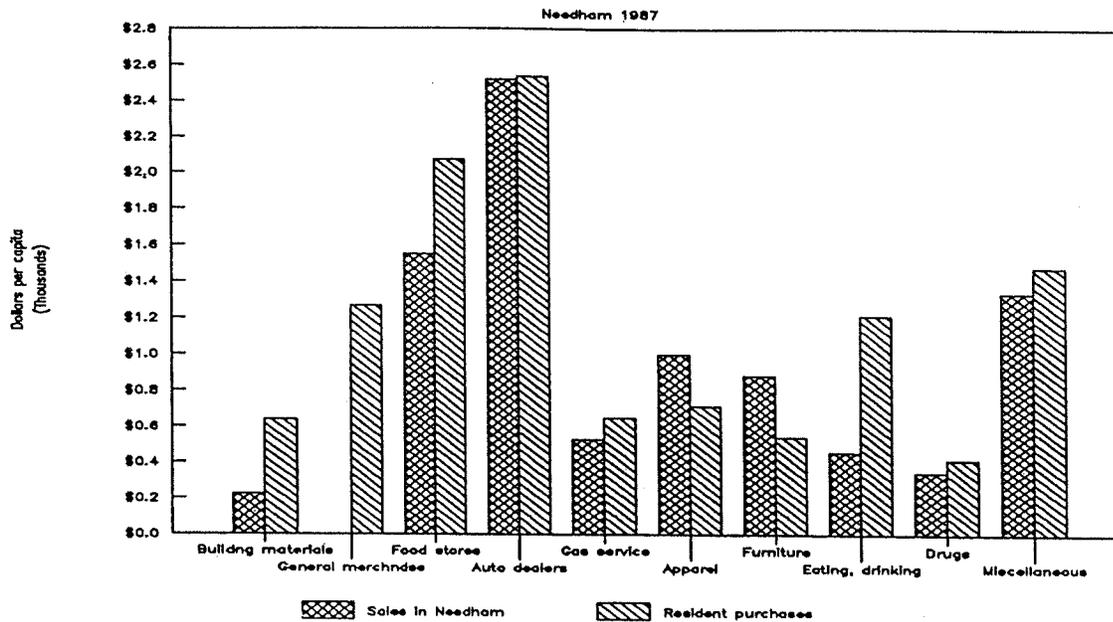


Table 2.
RETAIL SALES ANALYSIS - 1987

| Type establishment | Massachusetts | | Needham | | | |
|---------------------|-----------------|----------------|------------------|----------------|--------------------|-------------------|
| | Sales (\$mill) | Sales (\$/pop) | Sales (\$thous) | Sales (\$/pop) | Purchases (\$/pop) | Balance (\$thous) |
| Building materials | \$2,492 | \$422 | \$6,236 | \$226 | \$641 | (\$11,433) |
| General merchandise | \$4,927 | \$835 | \$0 | \$0 | \$1,267 | (\$34,933) |
| Food stores | \$8,075 | \$1,369 | \$42,760 | \$1,551 | \$2,077 | (\$14,493) |
| Auto dealers | \$9,855 | \$1,670 | \$69,385 | \$2,517 | \$2,534 | (\$488) |
| Gas service | \$2,517 | \$427 | \$14,526 | \$527 | \$647 | (\$3,320) |
| Apparel | \$2,779 | \$471 | \$27,488 | \$997 | \$715 | \$7,784 |
| Furniture | \$2,098 | \$356 | \$24,295 | \$881 | \$540 | \$9,420 |
| Eating and drinking | \$4,708 | \$798 | \$12,653 | \$459 | \$1,211 | (\$20,727) |
| Drugs | \$1,613 | \$273 | \$9,555 | \$347 | \$415 | (\$1,881) |
| Miscellaneous | \$5,754 | \$975 | \$36,910 | \$1,339 | \$1,480 | (\$3,887) |
| Total | \$44,818 | \$7,596 | \$243,808 | \$8,843 | \$11,526 | (\$73,958) |
| Population 1987 | 5,900,000 | | 27,570 | | | |
| Per cap income 1979 | \$7,632 | | \$11,580 | | | |

Source: US Census of Business, 1987.

NEEDHAM DATA\SALES.WK1

19-Sep-91

Table 3.
HOUSING GROWTH ANALYSIS

| | 80-90 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| Housing units authorized | | | | | | | | | | | | |
| Massachusetts (1000s) | 292 | 16 | 17 | 15 | 23 | 29 | 39 | 45 | 40 | 30 | 21 | 15 |
| Needham | 908 | 25 | 102 | 92 | 263 | 230 | 36 | 42 | 42 | 24 | 33 | 19 |
| Annual % increase in housing | | | | | | | | | | | | |
| Massachusetts | | 0.7% | 0.8% | 0.7% | 1.0% | 1.3% | 1.7% | 1.9% | 1.7% | 1.3% | 0.9% | 0.6% |
| Needham | | 0.3% | 1.1% | 1.0% | 2.7% | 2.3% | 0.4% | 0.4% | 0.4% | 0.2% | 0.3% | 0.2% |
| Cumulative % increase in housing | | | | | | | | | | | | |
| Massachusetts | | 0.7% | 1.5% | 2.2% | 3.2% | 4.5% | 6.3% | 8.3% | 10.2% | 11.6% | 12.5% | 13.2% |
| Needham | | 0.3% | 1.3% | 2.3% | 5.1% | 7.5% | 7.9% | 8.3% | 8.8% | 9.0% | 9.4% | 9.6% |

Massachusetts sources:

1980 existing: Census of Housing, U.S. Bureau of the Census.

1980-84: Bureau of the Census Construction Reports, C40-81-13, etc.

1985-88: Unpublished Census data from the Homebuilders Assn of MA

Where other data unavailable, interpolations made. Adjustments for local data made in some communities.

1989: Bureau of the Census Construction Reports from MISER

Needham sources:

1986-90 - Needham Annual Report. Earlier from above.

NEEDHAM DATA\PERMITS.ALL

Table 4.
POPULATION ANALYSIS

| | 1970 | 1975 | 1980 | 1985 | 1990 | Increase 1970-90 |
|----------------------------------|--------|--------|--------|--------|--------|---------------------|
| Population | | | | | | |
| Mass (1,000s) | 5,690 | 5,770 | 5,734 | 5,753 | 6,016 | 62 |
| Needham | 29,748 | 29,936 | 27,901 | 27,870 | 27,557 | (2,191) |
| % increase over previous census. | | | | | | |
| Massachusetts | | 1.4% | -0.6% | 0.3% | 4.6% | 5.7% |
| Needham | | 0.6% | -6.8% | -0.1% | -1.1% | -7.4% |

Source: Massachusetts State Census & U.S. Bureau of the Census
Herr Associates analysis.

NEEDHAM DATA\POP.ALL

18-Sep-91

Figure 3
DWELLING UNITS AUTHORIZED

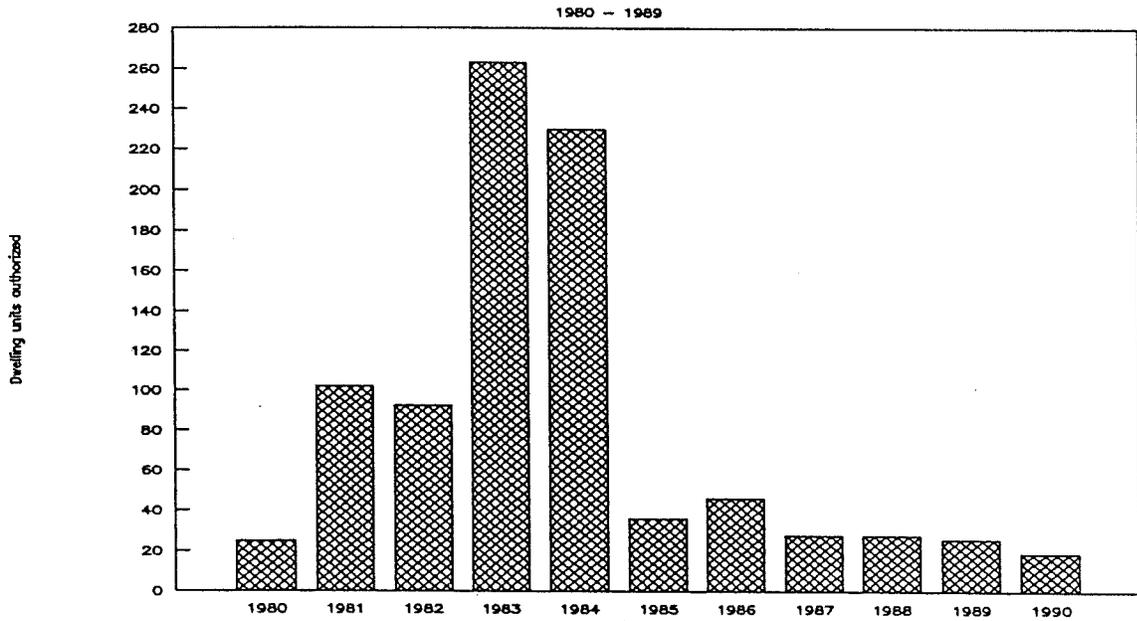


Figure 4
CUMULATIVE % INCREASE

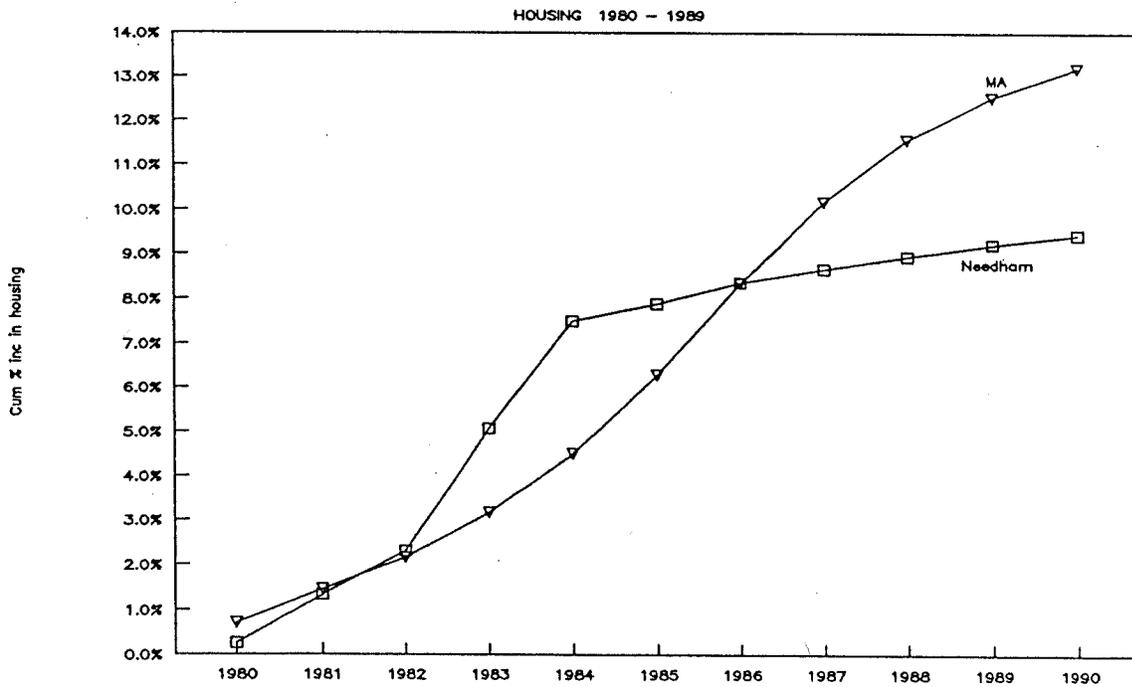


Table 5.

EXISTING LAND USE: (sum of lot areas in square feet)

Highland Ave. Corridor

| Land Use | Z O N I N G D I S T R I C T | | | | | Total |
|---------------|-------------------------------|-------------------|------------------|------------------|----------------|------------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | 91,505 | 840,711 | 299,039 | 62,497 | 0 | 1,293,752 |
| Commercial | | | | | | |
| Retail | 0 | 8,085 | 0 | 426,075 | 126,716 | 560,876 |
| Office | 0 | 17,688 | 0 | 88,133 | 349,742 | 455,563 |
| Other | 0 | 25,462 | 0 | 160,424 | 37,297 | 223,183 |
| Industrial | 0 | 0 | 0 | 46,421 | 326,973 | 373,394 |
| Institutional | 83,797 | 203,602 | 0 | 143,640 | 0 | 431,039 |
| Vacant | 0 | 302,410 | 0 | 88,304 | 29,823 | 420,537 |
| Total | 175,302 | 1,397,958 | 299,039 | 1,015,494 | 870,551 | 3,758,344 |

Source: Needham Assessor's data.

Table 6.

HIGHLAND AVENUE FRONTAGE (feet)

Highland Ave. Corridor

| Land Use | Z O N I N G D I S T R I C T | | | | | Total |
|---------------|-------------------------------|-------------------|------------------|--------------|--------------|---------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | 0 | 3,375 | 988 | 126 | 0 | 4,489 |
| Commercial | | | | | | |
| Retail | 0 | 0 | 0 | 2,154 | 276 | 2,430 |
| Office | 0 | 100 | 0 | 200 | 292 | 592 |
| Other | 0 | 281 | 0 | 335 | 0 | 616 |
| Industrial | 0 | 0 | 0 | 185 | 722 | 907 |
| Institutional | 217 | 699 | 0 | 561 | 0 | 1,477 |
| Vacant | 0 | 226 | 0 | 98 | 0 | 323 |
| Total | 217 | 4,681 | 988 | 3,658 | 1,290 | 10,833 |

Source: Needham Assessor's data.

Figure 5 STREET FRONTAGE

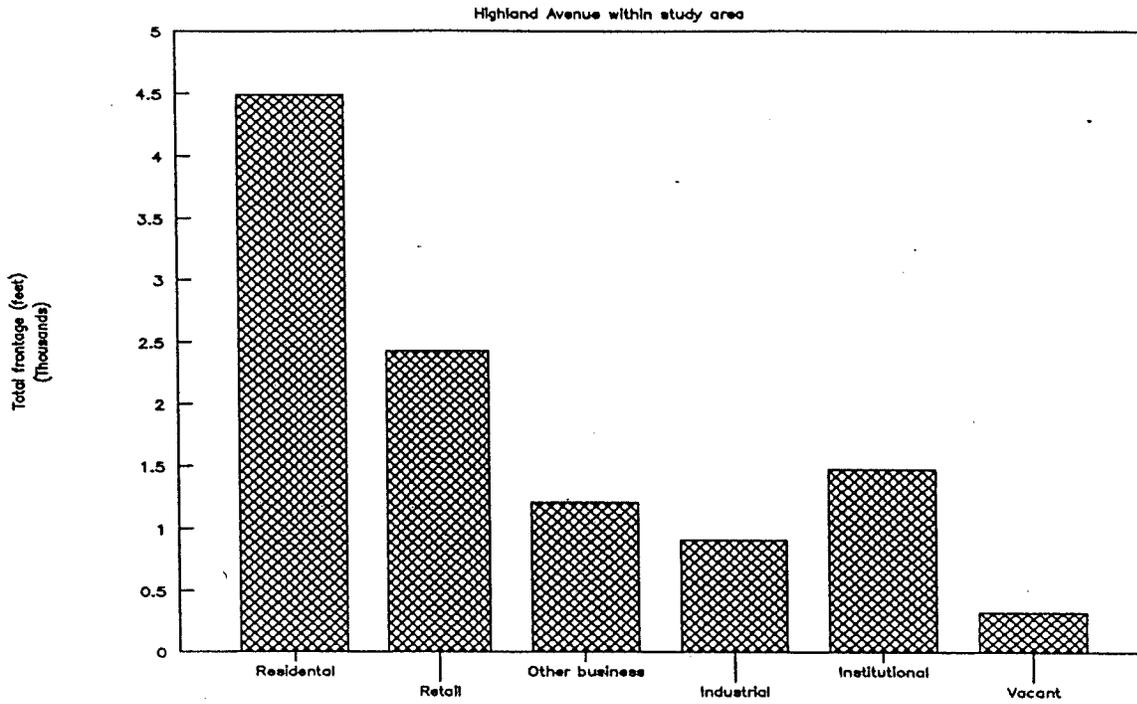


Figure 6 TOTAL FLOOR AREA

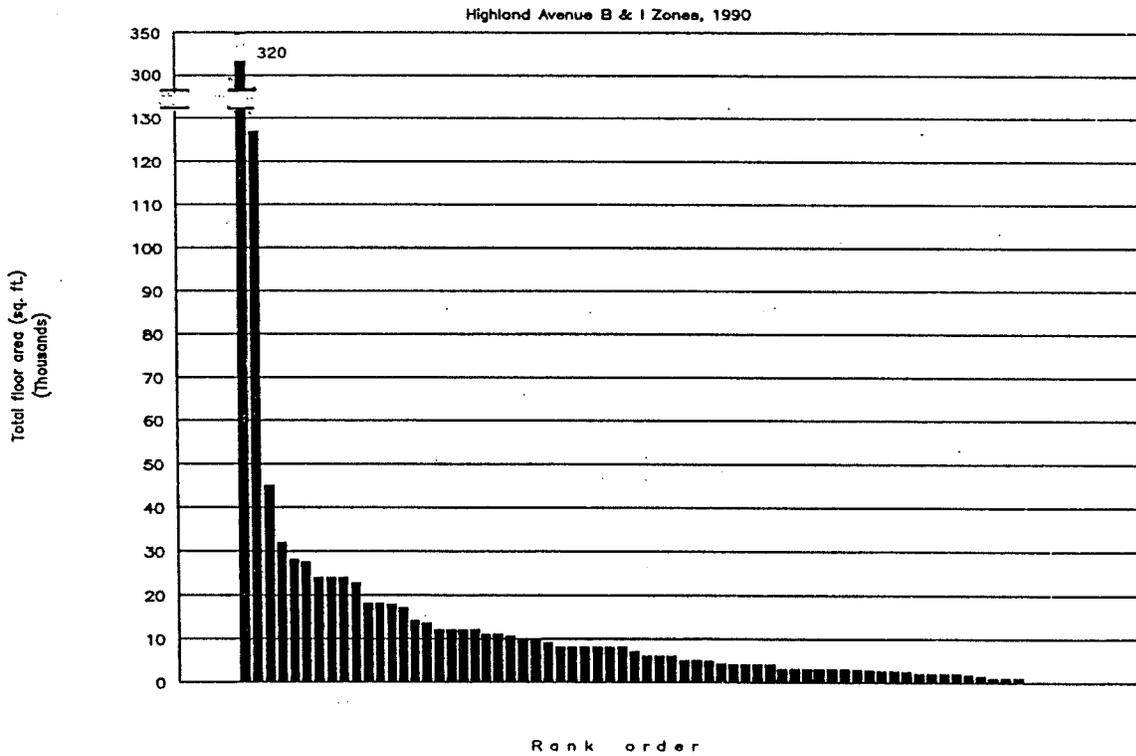


Figure 7
PERCENT LOT COVERAGE

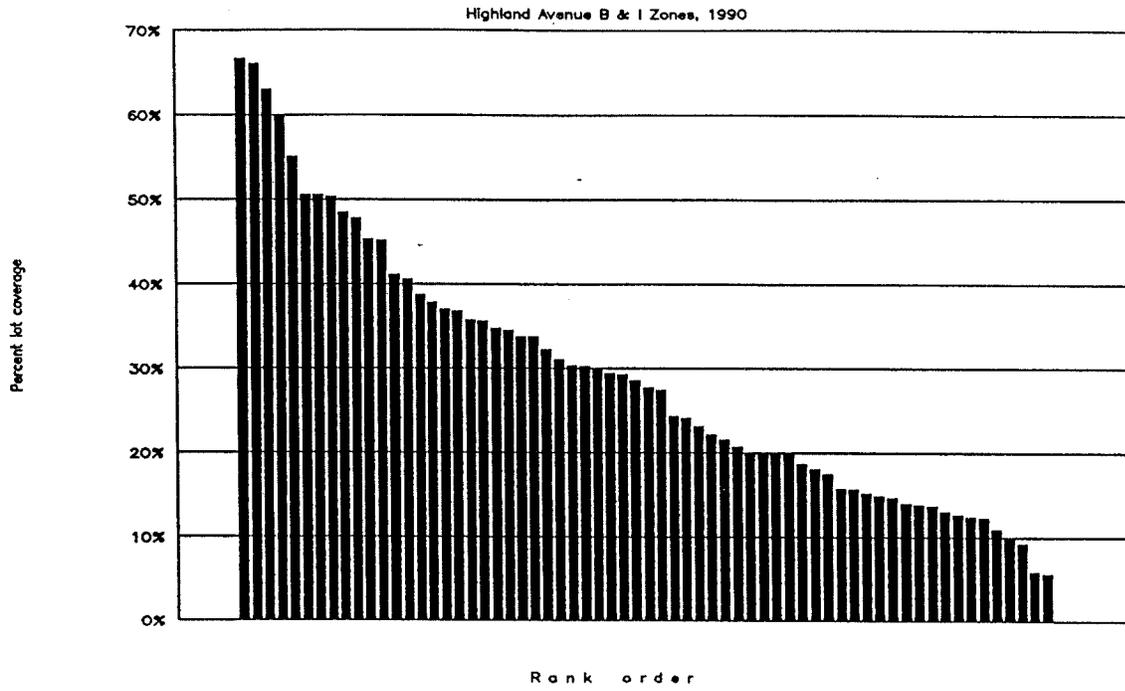


Figure 8
FLOOR AREA RATIO (FAR)

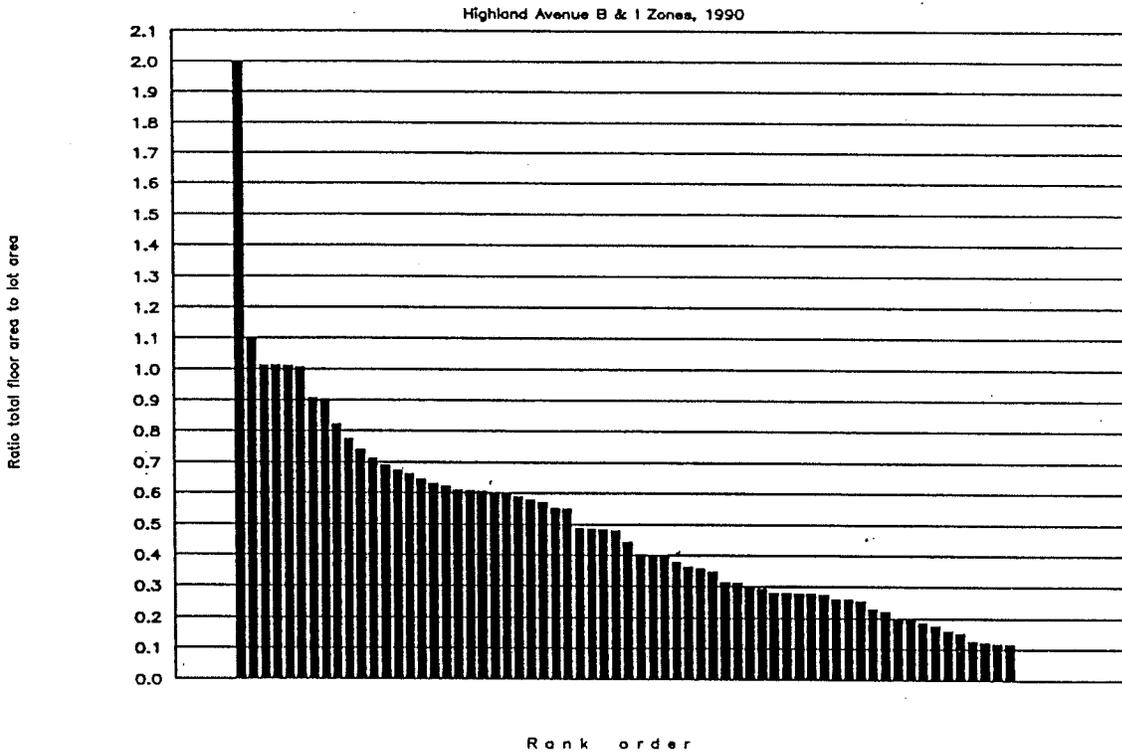


Table 7.

ASSESSED VALUATION (January 1, 1990, in \$1,000s)

Highland Ave. Corridor

| Land Use | Z O N I N G D I S T R I C T | | | | | Total |
|---------------|-------------------------------|-------------------|------------------|-----------------|-----------------|------------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | \$1,892 | \$19,368 | \$12,884 | \$3,489 | \$0 | \$37,633 |
| Commercial | | | | | | |
| Retail | \$0 | \$292 | \$0 | \$14,027 | \$3,083 | \$17,402 |
| Office | \$0 | \$2,554 | \$0 | \$5,146 | \$17,105 | \$24,805 |
| Other | \$0 | \$994 | \$0 | \$5,186 | \$1,290 | \$7,470 |
| Industrial | \$0 | \$0 | \$0 | \$1,856 | \$10,758 | \$12,614 |
| Institutional | \$440 | \$1,527 | \$0 | \$550 | \$0 | \$2,517 |
| Vacant | \$0 | \$1,666 | \$0 | \$1,550 | \$491 | \$3,707 |
| Total | \$2,332 | \$26,401 | \$12,884 | \$31,803 | \$32,727 | \$106,148 |

Source: Needham Assessor's data.

Table 8.

ANNUAL TAX PAYMENT (Fiscal Year 1991)

Highland Ave. Corridor

| Land Use | Z O N I N G D I S T R I C T | | | | | Total |
|---------------|-------------------------------|-------------------|------------------|------------------|------------------|--------------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | \$19,615 | \$200,848 | \$133,612 | \$36,184 | \$0 | \$390,259 |
| Commercial | | | | | | |
| Retail | \$0 | \$3,682 | \$0 | \$176,875 | \$38,877 | \$219,434 |
| Office | \$0 | \$32,211 | \$0 | \$64,885 | \$215,690 | \$312,786 |
| Other | \$0 | \$12,532 | \$0 | \$65,393 | \$16,268 | \$94,193 |
| Industrial | \$0 | \$0 | \$0 | \$23,399 | \$135,661 | \$159,060 |
| Institutional | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Vacant | \$0 | \$17,271 | \$0 | \$19,551 | \$6,197 | \$43,019 |
| Total | \$19,615 | \$266,544 | \$133,612 | \$386,287 | \$412,693 | \$1,218,751 |

Tax rates: Residential: \$10.37 / \$1,000. Business: \$12.61 / \$1,000.

Source: Needham Assessor's data.

Table 9.

EXISTING FLOOR AREA (square feet)

Highland Ave. Corridor

| Land Use | Z O N I N G D I S T R I C T | | | | | Total |
|---------------|--------------------------------|-------------------|------------------|----------------|----------------|------------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | 29,311 | 305,861 | 176,624 | 34,928 | 0 | 546,723 |
| Commercial | | | | | | |
| Retail | 0 | 6,000 | 0 | 173,200 | 37,000 | 216,200 |
| Office | 0 | 30,000 | 0 | 40,000 | 200,000 | 270,000 |
| Other | 0 | 6,000 | 0 | 40,000 | 20,000 | 66,000 |
| Industrial | 0 | 0 | 0 | 32,000 | 391,500 | 423,500 |
| Institutional | 32,000 | 66,600 | 0 | 54,000 | 0 | 152,600 |
| Vacant | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 61,311 | 414,461 | 176,624 | 374,128 | 648,500 | 1,675,023 |

Source: Needham Assessors. Entire floor area on mixed-use parcels assigned to major land u 19-Sep-91

Table 10.

POTENTIAL ADDED BUSINESS FLOOR AREA (square feet)

Highland Ave. Corridor

| 1990 Land Use* | Z O N I N G D I S T R I C T | | | | | Total |
|-----------------|--------------------------------|-------------------|------------------|----------|------------|-----------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | 0 | 0 | 0 | 62,109 | 0 | 62,109 |
| Commercial | | | | | | |
| Retail | 0 | 0 | 0 | 250,326 | 88,929 | 339,255 |
| Office | 0 | 0 | 0 | 47,726 | 147,570 | 195,295 |
| Other | 0 | 0 | 0 | 129,428 | 22,065 | 151,493 |
| Industrial | 0 | 0 | 0 | 14,133 | 92,420 | 106,552 |
| Institutional | 0 | 0 | 0 | 88,748 | 0 | 88,748 |
| Vacant | 0 | 0 | 0 | 87,756 | 29,638 | 117,393 |
| Potential added | 0 | 0 | 0 | 680,224 | 380,621 | 1,060,846 |
| Potential total | 0 | 42,000 | 0 | 965,424 | 1,029,121 | 2,036,546 |

*Note: rows indicate existing land use, not the use of the added floor area!

Assumes development to full allowed floor area constrained by 1991 height, setback, coverage and parking rules (2-level parking assumed); displacement of all non-business uses.

NEEDHAM DATA\HIGH-M.WK1

19-Sep-91

Table 11.

EXISTING DAILY TRIP ENDS

Highland Ave. Corridor

| Land Use | Z O N I N G D I S T R I C T | | | | | Total |
|---------------|--------------------------------|-------------------|------------------|---------------|--------------|---------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | 120 | 1,060 | 1,050 | 360 | 10 | 2,600 |
| Commercial | | | | | | |
| Retail | 0 | 360 | 0 | 10,392 | 2,220 | 12,972 |
| Office | 0 | 600 | 0 | 800 | 4,000 | 5,400 |
| Other | 0 | 240 | 0 | 1,600 | 800 | 2,640 |
| Industrial | 0 | 0 | 0 | 224 | 2,741 | 2,965 |
| Institutional | 640 | 1,332 | 0 | 1,080 | 0 | 3,052 |
| Vacant | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 760 | 3,592 | 1,050 | 14,456 | 9,771 | 29,629 |

Source: Computed by Herr Assoc from above data, ITE "Trip Generation Manual", 5th Edition.

Table 12.

BUILDOUT DAILY TRIP ENDS

Highland Ave. Corridor

| Land Use | Z O N I N G D I S T R I C T | | | | | Total |
|---------------|--------------------------------|-------------------|------------------|---------------|---------------|---------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Residential | 160 | 1,390 | 1,050 | 360 | 10 | 2,970 |
| Commercial | | | | | | |
| Retail | 0 | 360 | 0 | 25,412 | 7,556 | 33,327 |
| Office | 0 | 600 | 0 | 1,755 | 6,951 | 9,306 |
| Other | 0 | 240 | 0 | 6,777 | 1,683 | 8,700 |
| Industrial | 0 | 0 | 0 | 323 | 3,387 | 3,710 |
| Institutional | 640 | 1,332 | 0 | 2,855 | 0 | 4,827 |
| Vacant | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 800 | 3,922 | 1,050 | 37,481 | 19,587 | 62,840 |

Source: Computed by Herr Assoc from above data, ITE "Trip Generation Manual", 5th Edition

Table 13.

POTENTIAL DEVELOPMENT IMPACTS

Highland Ave. Corridor

| | Z O N I N G D I S T R I C T | | | | | Total |
|-------------------------------|---------------------------------|-------------------|------------------|-------------|------------|-------------|
| | General Residence | Single Resid B | Apartment A-1 | Business | Industrial | |
| Housing units | | | | | | |
| Existing | 12 | 106 | 105 | 36 | 1 | 260 |
| Potential | 4 | 33 | 0 | 0 | 0 | 37 |
| Buildout | 16 | 139 | 105 | 36 | 1 | 297 |
| Business floor area (sq. ft.) | | | | | | |
| Existing | 0 | 42,000 | 0 | 285,200 | 648,500 | 975,700 |
| Potential | 0 | 0 | 0 | 680,224 | 380,621 | 1,060,846 |
| Buildout | 0 | 42,000 | 0 | 965,424 | 1,029,121 | 2,036,546 |
| Jobs | | | | | | |
| Existing | 32 | 215 | 0 | 800 | 1,720 | 2,767 |
| Potential | 0 | 0 | 0 | 1,221 | 1,046 | 2,268 |
| Buildout | 32 | 215 | 0 | 2,021 | 2,766 | 5,035 |
| Average daily trip ends | | | | | | |
| Existing | 760 | 3,592 | 1,050 | 14,456 | 9,771 | 29,629 |
| Potential | 40 | 330 | 0 | 23,025 | 9,817 | 33,212 |
| Buildout | 800 | 3,922 | 1,050 | 37,481 | 19,587 | 62,840 |
| Annual tax payments | | | | | | |
| Existing | \$19,615 | \$266,544 | \$133,612 | \$386,287 | \$412,693 | \$1,218,751 |
| Potential | \$6,538 | \$62,528 | \$0 | \$788,393 | \$238,583 | \$1,096,042 |
| Buildout | \$26,154 | \$329,072 | \$133,612 | \$1,174,680 | \$651,275 | \$2,314,793 |

Housing unit potential based on lot area in excess of that required for any existing dwellings, based on 1991 rules. New units assumed built only in residential districts.

Jobs based on usual floor area per employee.

Tax payments based on FY91 assessments and tax rates.

Other data from or based on earlier tables.

Table 14.

IMPACT OF FAR LIMITS

| FAR Limit | Potential added business floor area | Study area Buildout total | |
|-----------|-------------------------------------|---------------------------|--------------|
| | | Daily trip ends | Annual taxes |
| 1.0 | 1,061,000 | 63,000 | \$2,315,000 |
| 0.9 | 904,000 | 58,000 | \$2,166,000 |
| 0.8 | 739,000 | 53,000 | \$2,010,000 |
| 0.7 | 578,000 | 47,000 | \$1,857,000 |
| 0.6 | 426,000 | 43,000 | \$1,715,000 |
| 0.5 | 306,000 | 38,000 | \$1,597,000 |

Source: Herr Associates calculations.

Table 15.

IMPACT OF FAR LIMITS: PERCENTAGE

| FAR Limit | Potential added business floor area | Study area Buildout total | |
|-----------|-------------------------------------|---------------------------|--------------|
| | | Daily trip ends | Annual taxes |
| 1.0 | 0% | 0% | 0% |
| 0.9 | -15% | -8% | -6% |
| 0.8 | -30% | -16% | -13% |
| 0.7 | -46% | -25% | -20% |
| 0.6 | -60% | -32% | -26% |
| 0.5 | -71% | -40% | -31% |

Source: Herr Associates calculations.

Figure 9
BUSINESS FLOOR AREA

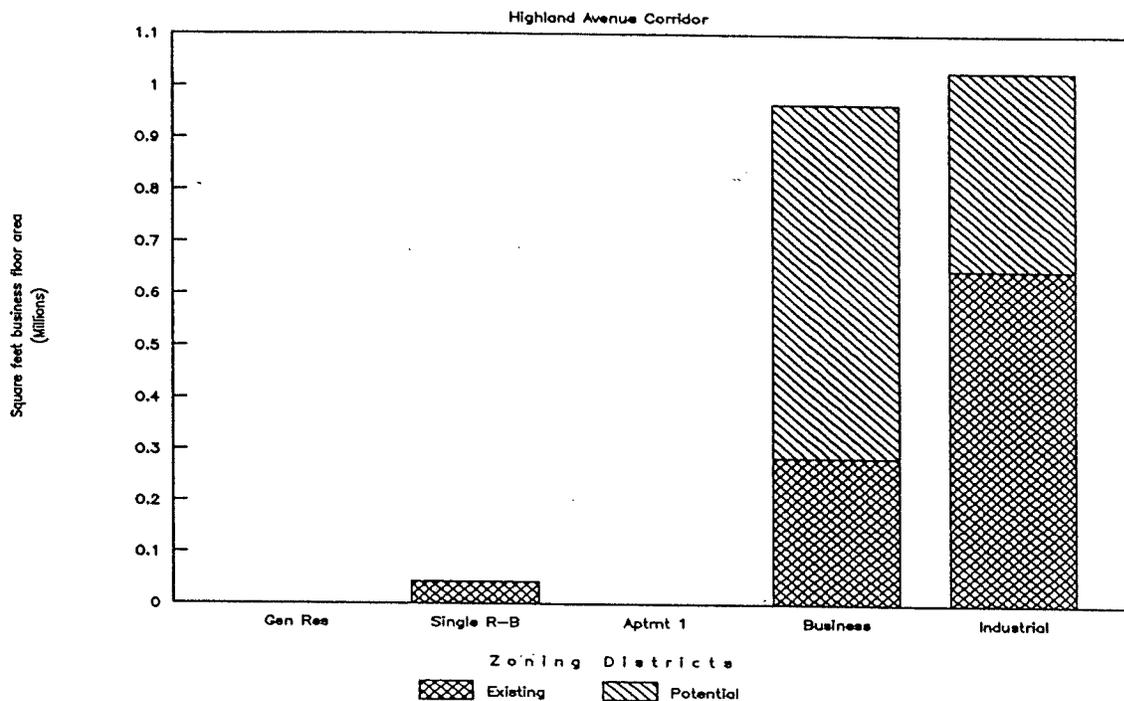


Figure 10
BUSINESS JOBS

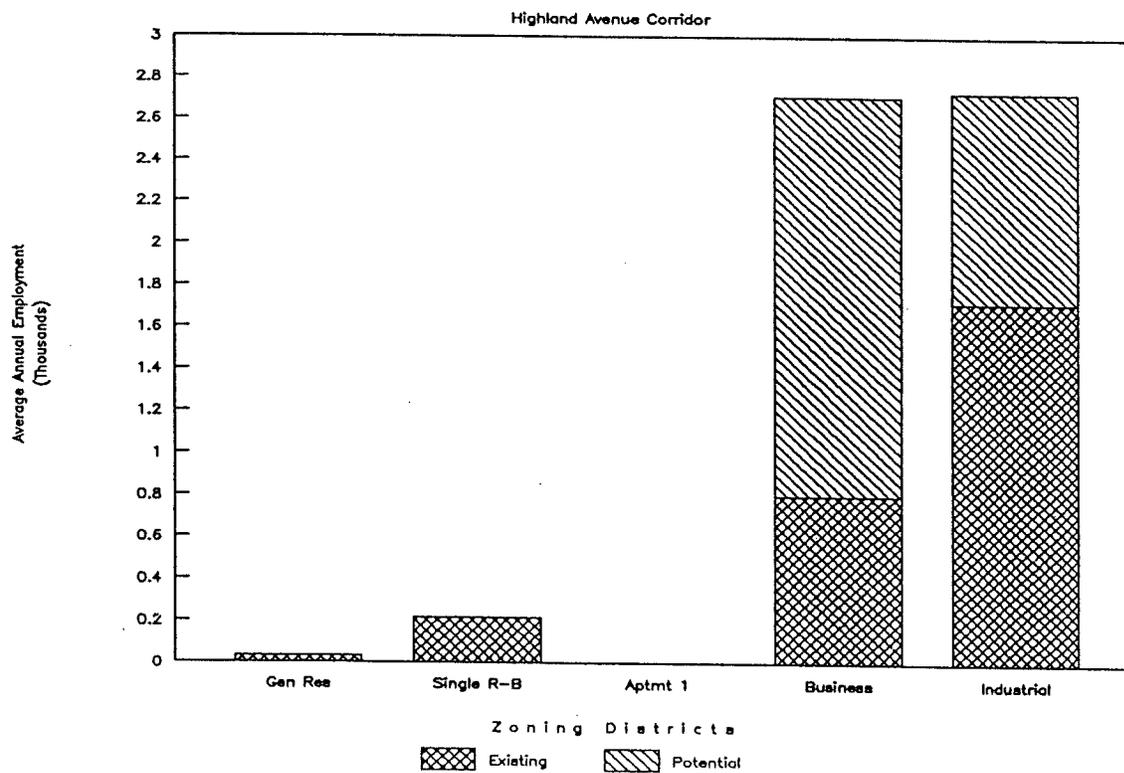


Figure 11
DAILY TRIP ENDS

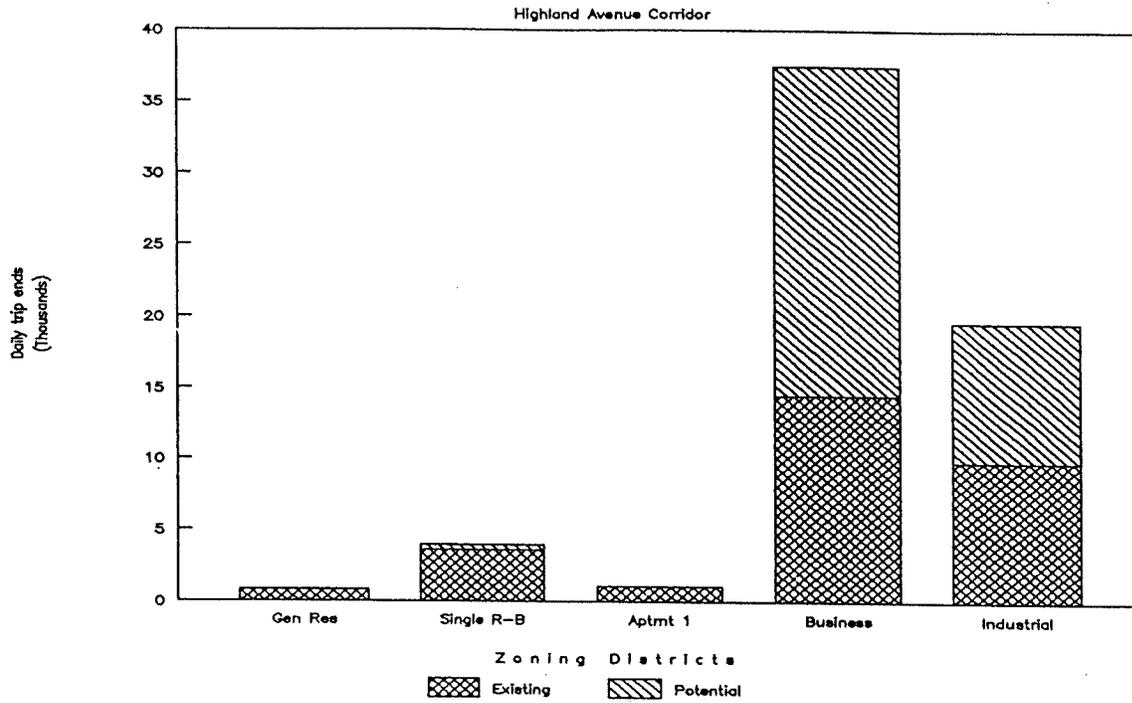
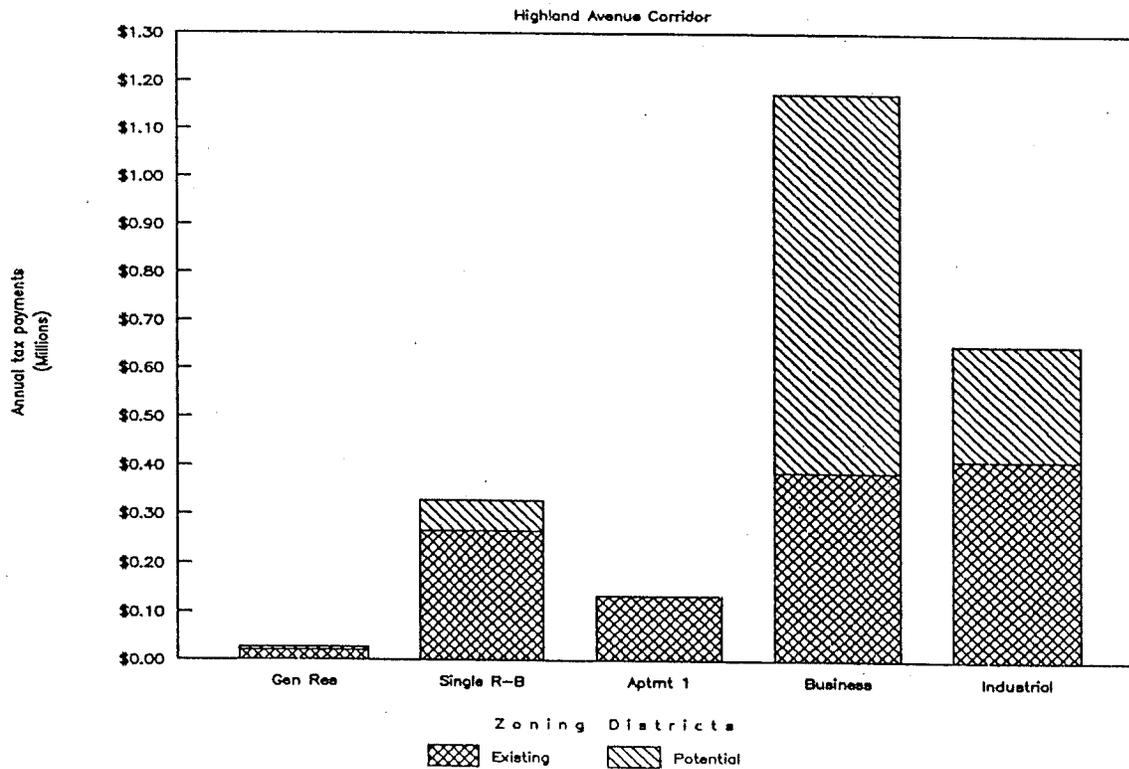


Figure 12
ANNUAL TAX PAYMENTS



ZONING APPROACH

Based on analysis of background information, public workshops and forums, comments from a variety of individuals and organizations, and discussion with the Task Force and Planning Board, directions for possible zoning change in the Highland Avenue Study Area have been developed. Below are descriptions of the major proposals.

There are several guiding principles for reconsidering how development in the Highland Avenue Study Area should be guided. Residents of the area want compatibility with neighborhood character. Everyone using Highland Avenue wants assurance that traffic conditions aren't worsened. Property owners want fair return on their investments. Jobs and taxes are potential benefits of development, but are not to be gained at the expense of neighborhood character and traffic congestion.

Much of the development on Highland Avenue has been oriented to serve the whole Town or even the region, rather than primarily serving the neighborhood. Some retailing along that corridor serves much of eastern Massachusetts. Institutional uses along it chiefly serve the entire Town, as does much of the retailing which isn't region oriented. That orientation can't entirely be reversed, but new development, to the degree feasible, would preferably be scaled and oriented to serve that neighborhood. Making this area work better for pedestrians both helps achieve that orientation and is supported by it.

It is important that the zoning for this area fit appropriately into the Town-wide zoning framework, both mechanically and in policy terms. For some years the Planning Board has been implementing steps in a Town-wide approach to managing business development, generally following guidelines of the 1983 Master Plan. This effort should be seen as one element in that consistent Town-wide approach.

Current zoning certainly does not give assurance that those principles will be observed. Zoning invites manufacturing use at locations where it would be out of character with the desired image, and would serve no local interests. Allowable uses and densities are so intense that traffic volumes could nearly double if all the space zoning will allow were to be built and filled. There is minimal protection for residential properties from the environmental over spills from business uses. Only a weak real estate market prevents incompatible development which could be highly destructive of the qualities which have attracted people to live in that vicinity, and could be highly destructive to the image of Needham which this critical gateway location conveys.

A series of zoning changes could greatly enhance the likelihood that future development will improve, rather than degrade, the vicinity. These are the major provisions which should be established. For discussing them, a map identifying sub-areas numbered 1 - 6 has been drawn, with those districts generally bounded along current zoning district boundaries.

Figure 1.

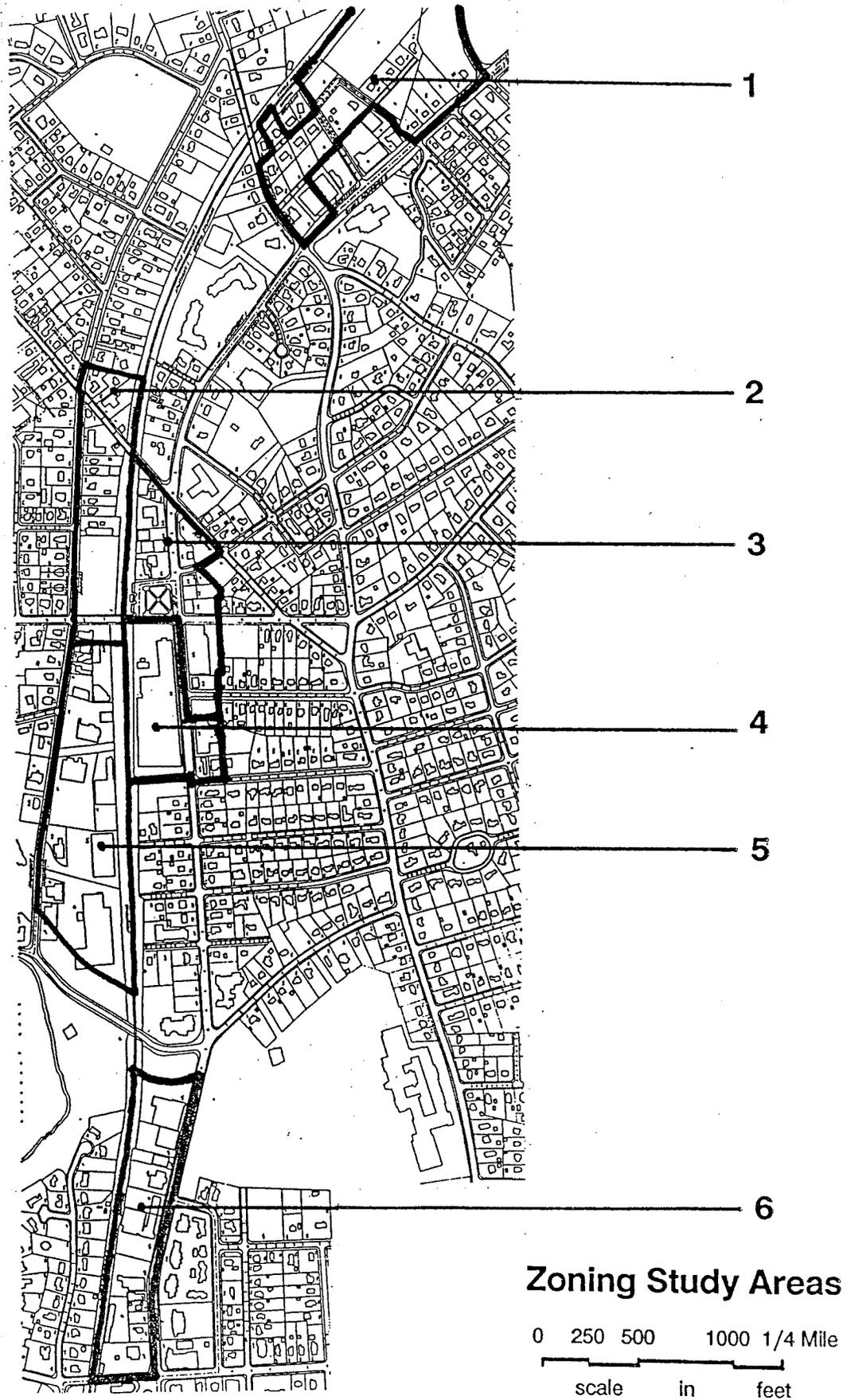
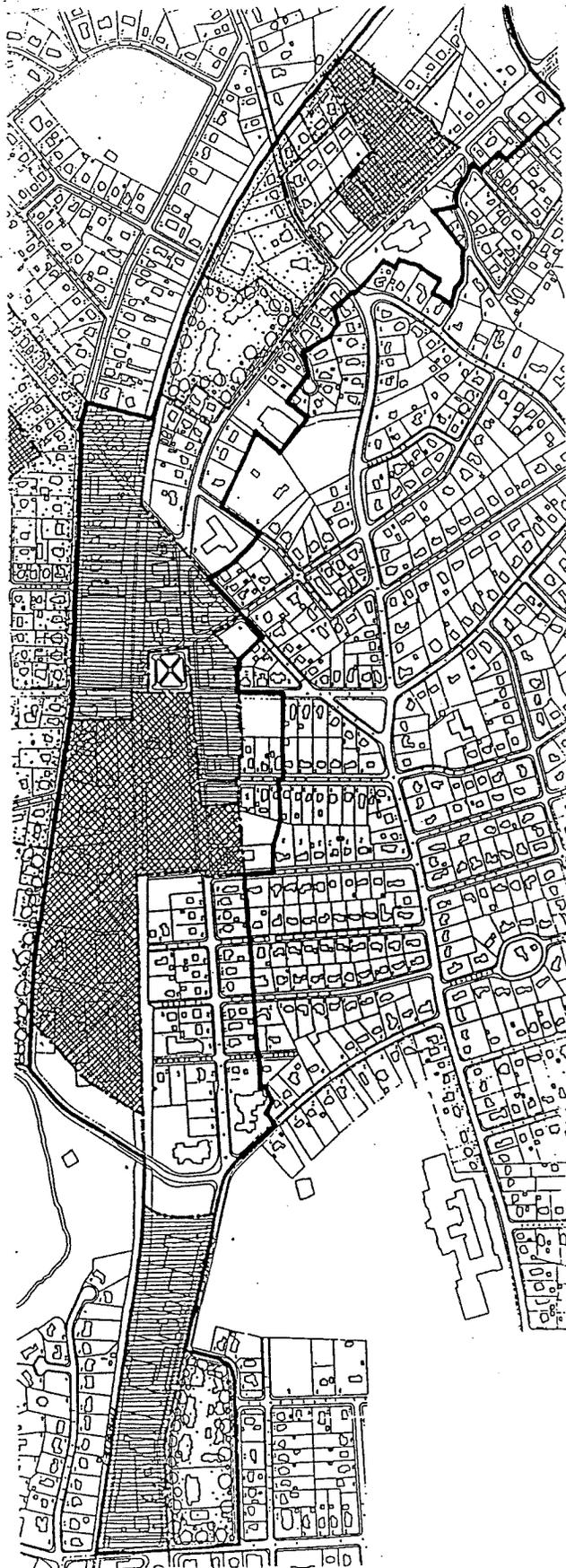
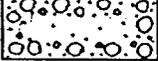


Figure 2.

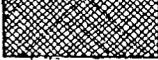


Single Residence B 

General Residence 

Apartment 1 

Business 

Industrial 

Analysis Area 

Zoning

0 250 500 1000 1/4 Mile
scale in feet



AVERY SQUARE

"Avery Square" is the term we're using for the areas fronting on Highland Avenue from Hunnewell Avenue to Morton Street, areas 3 and 4 on the Zoning Study Areas map. That area provides an unusual opportunity for development to contribute to an improved environment, rather than the usual '90s case of trying to keep building from being harmful. The essential elements for a community's center are already there: local-serving shops, Post Office, churches, open spaces, a wide variety of housing types and costs, and even a commuter rail station. Appropriate development can help knit those together into an even more integrated neighborhood focus.

Making the vicinity work well for pedestrians is one key to an improved Avery Square area. That requires close proximity among destinations, amenities along the way, and continuity of interest for pedestrians as they move along sidewalks: no long "dead" frontages, but rather frequent entrances and display windows. It means that supportive use of every square foot within the primary area is vital, because people won't walk far. Vacant parcels and land in uses which don't interrelate with others in the vicinity dilute the critical concentration needed for real "village" functioning.

The hoped-for role of Avery Square is primarily service to the surrounding neighborhood, though in this era inevitably the district's services will need support from a wider market, whose patrons will come by car, and become pedestrians only after that. That hoped-for role of serving nearby residents should reflect in the character of new building. New development should respond in its height, scale, and traces of greenery to the area's residential surroundings. On the other hand, lower buildings aren't always better. A sense of enclosure for the street would be desirable, and that takes buildings of two stories or their equivalent. Since retailing seldom flourishes on second floors in vicinities like this, that suggests rules which invite offices or dwellings above stores, to provide the desired enclosing volume, as well as adding to district vitality.

Much of the existing business development in the Avery Square area fails to meet one or more of those criteria of a hoped-for environment. If carefully guided, development or redevelopment over time can improve on what exists. It therefore is important that the rules imposed on development be realistic in light of market conditions, and let building occur, because Avery Square is a case where that process of building is the key to improvement.

CREATE A NEW "AVERY SQUARE" BUSINESS DISTRICT.

A new "Avery Square" set of zoning provisions should be created, into which the Avery Square vicinity, present Business and Industrial districts in that vicinity east of the MBTA tracks (areas 3 and 4) would be placed. The key elements of that proposed district would be these.

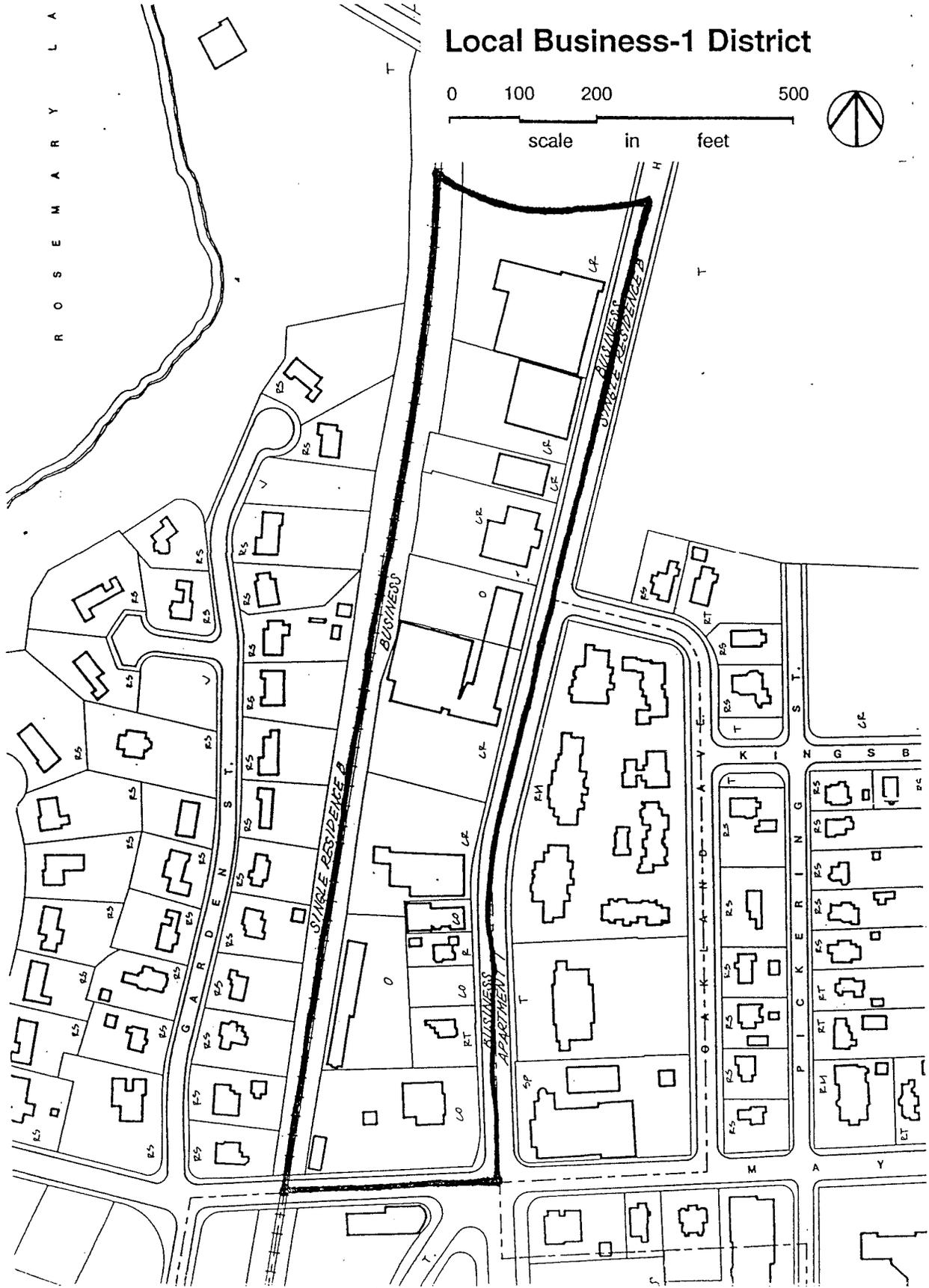
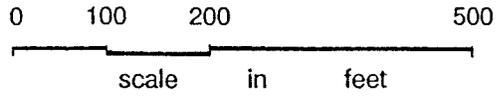
- A1. Large-scale developments would require a special permit for use, not just for site plan review. Any development even half the size of the recently proposed Star Market would have such large impacts upon the community that it would inevitably provoke major public concern and dialogue. The special permit process provides structure and setting for that dialogue, allows for the use of conditional approval as a means of assuring compatibility, and allows the Town to refuse proposals which are clearly outside the stated objectives for the zoning.
- A2. Intensity standards would be tightened. Rules might be similar to those established for Chestnut Street, effectively limiting height to two stories, and limiting bulk to 70% as much floor area as the area of the lot. The reason for those limitations is in part compatibility with the scale of surroundings, but also in part to limit the degree to which traffic volumes might grow. Setbacks would be moderate, to maintain pedestrian-scale compactness, but buffering at residential districts would be required.
- A3. Design and performance rules would be established. There might be limitations on trip generation, resulting in heavy trip producers such as banks and restaurants being limited even below the standard bulk limitations on floor area. Individual entrance orientation to Highland Avenue would be required. Assuring new buildings in scale with the neighborhood would be indirectly encouraged.
- A4. Refinements in the approach to parking are proposed. Shared parking, rather than each site having its own, would be made an easier option, as would reduced parking in return for assurance of trip-reducing efforts, such as van pools. Existing on-street parking could be credited towards meeting parking requirements. Current minimums for parking in relation to floor area might be joined by parking maximums: no more than some limited number of spaces in relation to floor area, as a way of avoiding the worst of traffic impacts. The number of spaces in any individual parking area might be limited: parking lots are already the largest-scale elements in parts of the study area.

LOWER HIGHLAND AVENUE

In this vicinity, study area 6 on the Zoning Study Areas map, from May to Rosemary Street, the large number of nearby residences and easy proximity to the Center business area give pedestrian convenience and amenity special importance, even though this area can't be considered a community "center" like Avery Square. Walking along Highland Avenue in this area should be a pleasure, not a journey dominated by autos on all sides. The many nearby dwellings again underscore the importance of height, scale and landscaping as compatible with the residential surroundings as is feasible for business uses.

R O S E M A R Y L A

Local Business-1 District



As with Avery Square, disappointingly few existing premises meet those intentions, so again it is through redevelopment that improvement will come. That underscores the value of regulations tuned to make that redevelopment economically attractive, while still assuring the desired qualities.

For what appear to be only historic reasons, the district boundary near Rosemary Street ends in the middle of a parking lot. Resolving that apparent anomaly deserves attention as part of a later reexamination of such conditions elsewhere in the Town.

CREATE A NEW "LOCAL BUSINESS-1" DISTRICT

This district would share many of the controls which are common to both the Chestnut Street district and the proposed Avery Square District, including the dimensional controls. Recognizing the differences which existing uses make, use regulations would allow a few more activities, and there would be no setback and parking maximums such as proposed for Avery Square.

UPPER HILLSIDE AVENUE

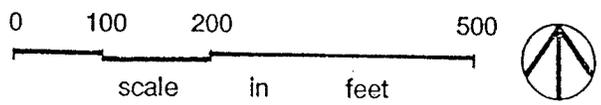
This area, from just above Hunnewell Street to just below West Street (study area 2) between Highland Avenue and the "T" is distinct from the adjacent Avery Square area and deserves different treatment. It fronts a relatively small and lightly traveled road, and existing structures are sited like their residential neighbors across the street, with front and side yards, and largely have residential scale. Uses are very mixed, but at this point those uses don't include retailing.

Accordingly, the intention here is for less intensive land uses than in Avery Square, and physical configuration consistent with what exists on both sides of Highland Avenue, including front lawns and small-scale structures. Pedestrian access is desirable, but in reality less likely to be a major consideration than in Avery Square.

The vacant parking lot at West and Hillside has crucial potential. It is believable that a skilled design would both benefit the area and depart from whatever zoning might now be adopted, since the site has such varied possibilities. At the same time, it is important to note that although that site is essentially adjacent to the real Avery Square and has visibility from Highland Avenue, it is accessed from the relatively constricted Hillside Avenue and will powerfully impact the Hillside residential vicinity. Any design or use should respect those considerations.



Hillside Avenue Business District



CREATE A NEW "HILLSIDE AVENUE" BUSINESS DISTRICT

This district (Area 2) contains the largest vacant parcel in the study area plus a number of other sites on which the value of structures relative to land value is low, suggesting the possibility of owners redeveloping. Current zoning invites retail use, which in much of the district would be disruptive and unconnected to the Avery Square pedestrian zone. Because of there being homes in a residential district directly across Hillside Avenue and because of Hillside Avenue's limited traffic suitability, it is important that this area be carefully managed for compatibility. No existing zoning district category seems entirely appropriate.

A new district might therefore be created. It would limit business uses to ones similar to those now there, such as storage, wholesaling, or very light industrial. Retailing would require a special permit. A wonderful design including retailing can easily be imagined for the parking area at West Street, but not elsewhere in that district. Mixed residential and business use would be welcomed in this district, and rules would encourage but not require that.

Intensity regulations would be strict, including a 20 foot front lawn requirement to complement the other side of the street, and a trip generation rule like that proposed for Avery Square.

LOWER HILLSIDE AVENUE

Between Hillside Avenue and the MBTA between West Street and Rosemary Street (Area 5) a mix of office and industrial uses provides economic support for the Town without unreasonable demands upon infrastructure or impact on residential surroundings. Continuing that pattern of use would serve the Town, owners, and abutters well. Accordingly, there appears to be no substantial reason to suggest change from the current Industrial zoning. Currently applicable rules appear reasonable in relation to existing and prospective uses of the area and its surroundings.

UPPER HIGHLAND AVENUE

This area (study area 1) is absolutely critical to Town interests since it is a key part of the Town's major "gateway", and occupies a crucial location from a traffic perspective. Unfortunately, it has been subject to controversy and less-than-coherent Town guidance for decades, resulting in a mix of business, industry, and residences, some speculatively owned and receiving minimal current investment pending regulatory (and market) change.

Ideally, uses here would project a positive image of Needham, with strong landscaping and residential scale to signal the nature of the Town. Uses here should not

add a large number of vehicle movements onto and off of Highland Avenue. The Town would benefit to the degree that some of the "back" land can be utilized in preference to further burdening the Highland Avenue frontage.

WEBSTER TO GOULD: REZONE TO GENERAL RESIDENCE

In light of those concerns, rezoning of any residential land for business use would be unsupportable, but more intensive residential use than allowed by the present Single Residence zoning could be compatibly developed. To signal that intent, the General Residence district should be extended to include all of the Single Residence-zoned lots in the vicinity, plus two parcels now zoned Industrial but lacking industrial-level access.

It is possible that even more intensive residential use could eventually be compatibly developed: zoning to allow for that would be acted upon, if at all, only following the land owners involved designing a concrete proposal for development. For now, allowing two-family dwellings, as General Residence would do, provides owners with reasonable use opportunities and the Town with adequate protection.

OTHER PARTS OF RESIDENTIAL HIGHLAND AVENUE

No other Town-initiated changes in zoning for the study area appear to be appropriate. However, policy should be made clear, and it is very different in different areas.

Except as proposed in the Gould Street - Webster Street area west of Highland Avenue (Area 1) any changes in residential zoning districts would be contrary to defensible Town policy. There is concern that business will creep into areas abutting business and industrial districts. Some owners of residentially-zoned property along Highland Avenue reportedly are interested in gaining approval for business use. However, between May Street and Gould Street there is not a single lot which should be rezoned from residential to business district.

In some blocks, such as that west of Highland Avenue north of Dana Place and south of Carters, pressure for change may be great, but firm retention of current controls is critical to the overall future of Highland Avenue. Within the study area, the majority of Highland Avenue frontage and the majority of land use is residential. Because of social, traffic, and community character concerns, it is critical that the residential dominance remain.

THE RESULTING ZONING SYSTEM

The amendments to the Zoning Bylaw to implement these intentions would add three districts to the 16 already existing, and further additions onto the already complex structure of existing regulations. As the result of other initiatives, at least two further types of business zoning district might later be added, one for the neighborhood business areas, and one for Highland Avenue between Gould Street and the Newton line.

The resulting Zoning Bylaw will lack the organizational coherence and clarity which would ideally be provided. That should be a temporary circumstance. The Planning Board has recognized that reorganization and partial rewriting of the Bylaw is necessitated as a result of the many amendments made in recent years, even without these further changes. However, to delay action on these proposals pending those revisions to the Bylaw's format would jeopardize timely action on important substance, putting form ahead of content. Accordingly, the following proposals are formatted for the existing Bylaw, making only minimal changes to what exists, with the understanding that in the near future the needed format improvements will be undertaken.

NEEDHAM\APPROACH.WP5

ARTICLE 10 AMEND ZONING BY-LAW - ESTABLISHMENT OF NEW LOCAL BUSINESS-1 DISTRICT, AVERY SQUARE BUSINESS DISTRICT AND HILLSIDE AVENUE BUSINESS DISTRICT

To see if the Town will vote to amend the Needham Zoning Bylaw as follows:

1. Amend Section 2.1 Classes of Districts so that it reads as follows:

"2.1 Classes of Districts

"Residential

| | | |
|-----|---|------------------------------|
| RRC | - | Rural Residence-Conservation |
| SRA | - | Single Residence A |
| SRB | - | Single Residence B |
| GR | - | General Residence |
| A-1 | - | Apartment - A-1 |
| A-2 | - | Apartment - A-2 |
| A-3 | - | Apartment - A-3 |

"Commercial

| | | |
|------|---|--------------------------|
| B | - | Business |
| CSB | - | Chestnut Street Business |
| CB | - | Center Business |
| ASB | - | Avery Square Business |
| HAB | - | Hillside Avenue Business |
| LB-1 | - | Local Business 1 |

"Industrial

| | | |
|-------|---|-----------------|
| IND | - | Industrial |
| IND-1 | - | Industrial-1 |
| IND P | - | Industrial Park |

"Institutional

| | | |
|---|---|---------------|
| I | - | Institutional |
|---|---|---------------|

"Overlay

| | | |
|----|---|----------------------|
| FP | - | Flood Plain |
| AP | - | Aquifer Protection." |

2. Amend Section 3.1 Basic Requirements by inserting the following above the "N (No) Use Prohibited" row:

"SPC (Complex Development) Use allowed under a special permit under the provisions of Section 6.6 Complex Projects"

and by deleting the second paragraph which reads in part:

"In addition, no building or structure ... in Section 3.2.1".

3. Revise Section 3.2 Schedule of Use Regulations as follows:

- a. Delete Section 3.2.1, and redesignate the remaining present content of Section 3.2 as "Section 3.2.1 Uses in Districts Except Commercial Districts", and add the following introductory paragraph:

"The following schedule of use regulations shall apply in the RRC, SRA, SRB, GR, A-1,2, &3, I, IND, IND-1, and IND-P districts."

b. Delete the "B" column from the new Section 3.2.1.

c. Insert a new Section 3.2.2, to read as follows:

"3.2.2 Uses in Commercial Districts.

"The following schedule of use regulations shall apply in the B, CSB, CB, ASB, HAB, and LB-1 districts."

| USE | D I S T R I C T | | | | | |
|---|-----------------|-----|----|-----|-----|------|
| | B | CSB | CB | ASB | HAB | LB-1 |
| Farm, greenhouse, nursery, truck garden, provided the subject property contains a minimum of 2 1/2 acres | Y | Y | Y | Y | Y | Y |
| Salesroom or stand for agricultural and horticultural products provided all products sold are grown or produced on the premises of the farm, greenhouse, nursery or truck garden, provided the subject property contains a minimum of 2 1/2 acres | Y | Y | Y | Y | Y | Y |
| Sale during the Christmas season at a nursery or greenhouse of cut Christmas trees and wreaths grown or fabricated elsewhere than on the premises | Y | Y | Y | Y | Y | Y |
| Church or other place of worship, parish house, rectory, convent and other religious institution | Y | Y | Y | Y | Y | Y |
| School - public, religious, sectarian or denominational | Y | Y | Y | Y | Y | Y |
| Dormitory for a school with no provisions for private cooking or housekeeping | Y | N | N | Y | Y | Y |
| Public library and museum and philanthropic institution | Y | Y | Y | Y | Y | Y |
| Public park and playground and municipal structure including a water tower and reservoir | Y | Y | Y | Y | Y | Y |
| Public passenger station | Y | SP | SP | Y | Y | Y |
| Child care facility | Y | Y | Y | Y | Y | Y |
| Other private school, nursery, or kindergarten | SP | SP | SP | SP | SP | SP |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|--|-----|-----|-----|-----|-----|------|
| Convalescent or nursing home, hospital | SP | SP | SP | Y | Y | Y |
| Cemetery | SP | N | N | Y | Y | Y |
| Private club not conducted as a business | SP | SP | SP | Y | Y | Y |
| Single family detached dwelling | Y | N | N | Y | Y | Y |
| Planned residential development | N | N | N | SP | SP | SP |
| Residential compound | N | N | N | SP | SP | SP |
| Two-family detached dwelling | Y | N | N | Y | Y | Y |
| Conversion of a single family dwelling to a two-family dwelling ... | N | N | N | Y | Y | Y |
| Apartment or multifamily dwelling .. *Allowed on second floor only; consistent with density requirements for A-1 | N | SP* | SP* | SP | SP | SP |
| The use of an owner-occupied structure for shared elderly housing for up to six elderly occupants (60+); provided, (1) that such structure so used shall not be subdivided into separate apartments, (2) that occupancies therein by nonowners shall be pursuant to an agreement specifying a term of occupancy of not less than one year, (3) that at any time there shall be in the town no more than fifty structures for which permits have been issued under the authority of this section, (4) that no more than 20% of such structures shall be located in any one precinct of the town, and (5) that the number of structures for which permits are granted in any one year shall not exceed 5 | SP* | N | N | SP | SP | SP |
| *Applies only to structures in existence prior to Dec. 31, 1982, otherwise N | | | | | | |
| Boarding house with no arrangements of any description for private cooking or housekeeping | Y | N | N | Y | Y | Y |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|-----|---|-----|----|-----|-----|------|
|-----|---|-----|----|-----|-----|------|

Creation of 10,000 or more gross sq. ft. of floor area for retail use serving the general public, whether through new building, addition, or change of use from a non-retail use ("Complex Development"):

| | | | | | | |
|--|---|---|---|-----|---|-----|
| Grocery store | Y | Y | N | SPC | N | SPC |
| Outdoor parking, storage or display of motor vehicles in conjunction with the sale or leasing of new or used motor vehicles on applications filed after September 28, 1978 | Y | N | N | N | N | N |
| Other outdoor display of goods .. | Y | N | N | SPC | N | SPC |
| Retail trade or shop for custom work or the making of articles to be sold at retail on the premises | Y | Y | Y | SPC | N | SPC |
| Other retailing | Y | Y | Y | SPC | N | SPC |

Retail establishments serving the general public if containing 5750 or more gross sq. ft. of floor area, but not a "Complex Development" as categorized above:

| | | | | | | |
|--|---|---|---|---|---|---|
| Grocery store | Y | Y | N | Y | N | Y |
| Outdoor parking, storage or display of motor vehicles in conjunction with the sale or leasing of new or used motor vehicles on applications filed after September 28, 1978 | Y | N | N | N | N | N |
| Other outdoor display of goods .. | Y | N | N | Y | N | Y |
| Retail trade or shop for custom work or the making of articles to be sold at retail on the premises | Y | Y | Y | Y | N | Y |
| Other retailing | Y | Y | Y | Y | N | Y |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|-----|---|-----|----|-----|-----|------|
|-----|---|-----|----|-----|-----|------|

Retail establishments serving the general public if containing less than 5750 gross sq. ft. of floor area or incidental retail sales which are accessory to a permitted principal use which does not involve 50% of the total floor area or 5750 square feet of the principal use, whichever is lesser. In multi-tenanted structures the provisions of the section will individually apply to each tenant or use and not to the aggregate total of the structure:

| | | | | | | |
|---|----|---|----|-----|-----|-----|
| Grocery store | Y | Y | Y* | Y | SP | Y |
| * If under 1,000 sq. ft. of gross floor area | | | | | | |
| Outdoor parking, storage or display of motor vehicles in conjunction with the sale or leasing of new or used motor vehicles on applications filed after September 28, 1978 | SP | N | N | N | N | N |
| Other outdoor display of goods .. | Y | N | N | Y | N | N |
| Retail trade or shop for custom work or the making of articles to be sold at retail on the premises | Y | Y | Y | Y | Y | Y |
| Other retailing | Y | Y | Y | Y | SP | Y |
| Manufacturing clearly incidental and accessory to a retail use on the same premises and the product is customarily sold on the premises. | Y | Y | Y | Y | Y | Y |
| Banks | Y | Y | Y | Y | Y | Y |
| Creation of 20,000 or more gross sq. ft. of floor area for office use, whether through new building, addition, or change of use from a use other than a retail or a principal use listed in this table below this one, such as garment manufacturing ("Complex Development"): | | | | | | |
| For consumer sales or service ... | Y | Y | Y | SPC | SPC | SPC |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|---|----|-----|----|-----|-----|------|
| Others | Y | Y | Y* | SPC | SPC | SPC |
| * Allowed on second floor only | | | | | | |
| Office use which is not a "Complex Development" as categorized above: | | | | | | |
| For consumer sales or service ... | Y | Y | Y | Y | Y | Y |
| Others | Y | Y | Y* | Y | Y | Y |
| * Allowed on second floor only | | | | | | |
| Craft, consumer, professional or commercial service establishments dealing directly with the general public and not enumerated elsewhere in this section | Y | Y | Y | Y | Y | Y |
| Theatres and indoor moving picture shows; pool and billiard rooms | Y | SP | SP | SP | N | SP |
| Electronic game and amusement arcades | Y | N | N | N | N | N |
| Bowling alleys, skating rinks, and similar commercial amusement or entertainment places | Y | N | N | N | N | N |
| Automobile service station, excluding repair services | SP | SP | N | N | N | N |
| Other commercial garage for the storage or repair of vehicles; gasoline and oil filling station; trucking terminal, truck rental agency and similar material hauling enterprise; the parking of vehicles involved in rubbish disposal and oil delivery and the private parking of vehicles for compensation | SP | N | N | N | SP | N |
| Car wash | SP | N | N | N | N | N |
| Laundry; coin operated or self-service laundry or dry cleaning establishment | SP | SP | SP | SP | SP | SP |
| Lumber or fuel establishment; contractor's, stone mason's, junk or salvage yard | SP | N | N | N | SP | N |
| Airport, heliport, landing strip or | | | | | | |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|--|----|-----|----|-----|-----|------|
| area for any type of aircraft | N | N | N | N | N | N |
| Hotel or motel | SP | N | N | N | SP | N |
| Eat in or take out restaurant or other eating establishment except a lunch counter incidental to a primary use: | | | | | | |
| Restaurant serving meals for consumption on the premises and at tables with service provided by waitress or waiter | SP | SP | SP | SP | N | SP |
| Take-out operation accessory to the above | SP | SP | SP | SP | N | SP |
| Take-out food counter as an accessory to a food retail or other non-consumptive retail establishment | SP | SP | SP | SP | N | SP |
| Retail sales of ice cream, frozen yogurt and similar products for consumption on or off the premises | SP | SP | SP | SP | N | SP |
| Take-out establishment primarily engaged in the dispensing of prepared foods to persons carrying food and beverage away for preparation and consumption elsewhere | SP | SP | N | SP | N | SP |
| Fast-food establishment offering over-the-counter sale of on/off premises prepared food or beverage primarily intended for immediate consumption and prepared in such a manner to be readily eaten from easily disposable containers | SP | SP | N | N | N | SP |
| Veterinary office and/or treatment facility: | | | | | | |
| With boarding of animals | SP | N | N | N | N | N |
| Without boarding of animals | SP | SP | SP | SP | SP | SP |
| Medical clinic | SP | SP | SP | SP | SP | SP |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|--|----|-----|----|-----|-----|------|
| Wholesale distribution facilities or storage in an enclosed structure, excluding the storage of flammable liquids, gas or explosives | SP | N | N | N | SP | N |
| Industrial services, for example, machine shop, plumbing electrical or carpentry shop or similar service | SP | N | N | N | SP | N |
| Welding shop | N | N | N | N | N | N |
| Stone cutting, shaping, or finishing in an enclosed building.. | N | N | N | N | N | N |
| Autobody or auto paint shop, provided that all work is carried out inside the building | N | N | N | N | N | N |
| Outside truck service or repair for others including body work | N | N | N | N | N | N |
| Food processing primarily for wholesale use | N | N | N | N | N | N |
| Bottling plant | N | N | N | N | N | N |
| Equipment rental service | Y | N | N | SP | SP | SP |
| Garment manufacturing | SP | N | N | SP | SP | N |
| Laboratory or place where scientific experimental research is conducted not including genetic or biological research laboratory | SP | N | N | SP | SP | SP |
| Genetic biological research | N | N | N | N | SP | N |
| Radio or television studio | SP | N | N | SP | SP | SP |
| Medical reference laboratories other than accessory to a medical office | SP | N | N | SP | SP | SP |
| Dental prosthesis laboratories other than accessory to a dental office | SP | N | N | SP | SP | SP |
| Light non-nuisance manufacturing providing that all resulting cinders, dust, flashing, fumes, | | | | | | |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|--|----|-----|----|-----|-----|------|
| <p>gases, odors, smoke, noise, vibration, refuse matter, vapor, and heat are effectively confined in a building or are disposed in a manner so as not to create a nuisance or hazard to safety or health</p> | SP | N | N | SP | SP | N |
| <p>Any lawful purpose or special use not enumerated elsewhere in this By-law</p> | SP | N | N | N | N | N |
| <p>More than one non-residential building or use on a lot where such buildings or uses are not detrimental to each other and are in compliance with all other requirements of this By-law</p> | SP | SP | SP | SP | SP | SP |
| <p>Use of a room or rooms in a single or two-family dwelling as an office or studio by a resident professional person provided not more than one other person is regularly employed therein in connection with such use and that not more than 25% of the gross floor area, not in excess of 600 sq. ft., is regularly devoted to such use</p> | Y | N | N | Y | Y | Y |
| <p>Customary home occupation engaged in by a resident of a single or two-family dwelling which may include carpentry, cooking, preserving, dressmaking, handicrafts, repair of small appliances or other small items and similar activities, provided that (1) not more than one person is regularly employed therein in connection with such operation, (2) there is no exterior storage of material or equipment nor other exterior evidence of variation from the regular residential character of the premises, and (3) there is no advertising and signing and no public display or sale of goods on the premises</p> | Y | N | N | Y | Y | Y |

D I S T R I C T

| USE | B | CSB | CB | ASB | HAB | LB-1 |
|--|----|-----|----|-----|-----|------|
| The taking of not more than four non-transient borders or the leasing of not more than two rooms with no provisions for private cooking by a resident family in a single family dwelling | Y | N | N | Y | Y | Y |
| Cafe or lecture room associated with a private school | SP | N | N | SP | SP | SP |
| Research laboratory or statistical office associated with a private school, including printing, binding, and electrotyping as incidental uses | SP | N | N | SP | SP | SP |
| Lunch counter incidental to a principal use | Y | SP | SP | Y | Y | Y |
| Other customary and proper accessory uses, such as, but not limited to, garages, tool sheds, greenhouses and cabanas | Y | SP | SP | Y | Y | Y |
| Other accessory uses incidental to lawful principal uses | Y | SP | SP | Y | Y | Y |

4. Retitle Section 4.4 as "4.4 Dimensional Requirements for Commercial Districts", and add the following introductory paragraph directly thereunder:

"The following regulations shall apply to Business, Chestnut Street Business, Center Business, Avery Square Business, Hillside Avenue Business, and Local Business-1 districts."

5. Amend Section 4.4.2 by retitling it as "4.4.2 Maximum Building Bulk"; by relocating paragraphs (b) and (c) to below TABLE I; and by adding paragraphs (d), and (e) to read as follows:

"(d) Buildings and structures which are located on property in the Avery Square Business, Hillside Avenue Business, or Local Business-1 districts are not limited to the maximum lot coverage requirements of this Section 4.4.2 as specified in Table I, but shall have a maximum floor area ratio of 0.7.

"(e) In the Avery Square Business, Hillside Avenue Business, and Local Business-1 districts, the amount of floor area shall be further limited such that the resulting trip generation from uses other than dwelling units on an average weekday would add to the street system (excluding pass-by but not diverted trips) not more than ten vehicle trips per day per 1,000 square feet of site area in the Hillside Avenue District, or 15 trips per day per 1,000 square feet of site area in the Avery Square Business or Local Business-1 districts, with estimates based upon the ITE Trip Generation Manual, 5th edition, or an alternative technical source determined by the Town Planning Director to be equally or more applicable. Regardless of trip generation rates, however, the floor area ratio shall neither exceed 0.70 nor be obliged to be reduced below 0.35."

6. Amend Section 4.4.3 by revising the second paragraph thereof so that it reads as follows:

"Notwithstanding the above, no building or structure which is located on property in the Chestnut Street Business, Avery Square Business, Local Business-1, or Hillside Avenue Business districts shall exceed two and one-half (2 1/2) stories, including ground level covered or enclosed parking, no more than two (2) stories of which shall be occupied except for storage, nor shall the building or structure exceed a total height of thirty-five (35) feet."

7. Amend Section 4.4.4 as follows:

- a. Retitle the Section as "**4.4.4 Front Setback**".
- b. Add the following two paragraphs at the end of Section 4.4.4:

"In the Avery Square Business and Local Business-1 districts, there shall be a front setback of not less than ten (10) feet, or a setback consistent with the setbacks for principal buildings existing on the premises as of the effective date of this provision, or the average of the setbacks of buildings on adjoining lots, whichever is less restrictive. Principal buildings in the Avery Square Business District shall have a front setback of not more than fifteen (15) feet on Highland Avenue, if having frontage upon it. In both districts, the setback, if any, shall be kept open and landscaped with grass or other plant materials and unpaved except for walks and driveways, as defined in Section 4.4.5.

"In the Hillside Avenue Business District, there shall be a minimum front setback of twenty (20) feet. The setback shall be kept open and landscaped with grass or other plant materials and unpaved except for walks and driveways, as defined in Section 4.4.5."

8. Amend Section 4.4.5 Driveway Openings by revising the first sentence to read, "In the Business, Chestnut Street Business, Avery Square Business, Hillside Avenue Business, and Local Business-1 districts, the following regulations shall apply."
9. Amend Section 4.4.8 Side and Rear Setbacks Adjoining Residential Districts, by deleting the first set of paragraphs denoted (a) through (d); by designating the first paragraph "**4.4.8.1 Business District**", the second paragraph "**4.4.8.2 Chestnut Street Business District**", and the third (remaining) paragraph "**4.4.8.3 Center Business District**"; and by inserting the following after paragraph 4.4.8.3 and above the paragraph denoted (a):

"4.4.8.4 Other Business Districts

"In an Avery Square Business, Hillside Avenue Business, or Local Business-1 district no building or structure for a use not allowed in a residential district shall be placed within fifty (50) feet of a residential district boundary, and the ten feet closest to such boundary shall be suitably landscaped as specified at Section 4.4.8.5. The remainder of the setback may be used for an accessory use not including a building or structure.

"4.4.8.5 Landscaping Specifications

Where 'suitable landscaping' is called for in paragraphs 4.4.8.2, 4.4.8.3, or 4.4.8.4, the following shall be complied with."

10. Amend Section 4.4.9 Building Entrances on Chestnut Street so that it reads as follows:

"4.4.9 Building Entrances in the Chestnut Street Business, Avery Square Business, Hillside Avenue Business, and Local Business-1 districts.

"First-floor businesses shall have individual entrances accessed from the exterior of the building, except by Special Permit to be granted by the Planning Board in cases where such requirements would restrict

redevelopment of an existing building.

"Building entrances providing access to first and second-floor space shall be available from one or more streets on which the building fronts. The primary building entrance must be from Chestnut Street, Highland Avenue, or Hillside Avenue unless the premises do not have frontage on one of those streets, or unless lot configuration makes it impractical to place all individual entrances on those streets."

11. Insert the following into the fourth paragraph of Section 5.1.1.5 (considerations warranting reductions in parking), redesignating following paragraphs as required:

"(c) in the Avery Square, Hillside Avenue Business, and Local Business-1 Districts, shared parking for uses having peak demands at different times, unusual age or other characteristics of site users, or user-sponsored demand reduction devices, such as car-pooling."

12. Add the following sentence at the end of Section 5.1.1.7:

"In the Avery Square Business and Local Business-1 districts, legal on-street parking may be credited towards meeting these requirements if located between the premises' side lot lines on the same side of the street."

13. Insert the following into Section 5.1.1:

"5.1.1.8 Parking Maximums

"The number of parking spaces provided for any use in the Avery Square Business District shall not exceed the number required in Section 5.1.2 by more than the larger of 20% or two spaces, unless a larger number of spaces is authorized on special permit, to be granted only upon determination that despite all reasonable efforts being made to reduce parking demand through car pooling and other management efforts, a larger number of spaces is required to accommodate demand.

"Further, in the Avery Square Business or Hillside Avenue Business districts no surface parking lot shall be constructed or enlarged so as to contain more than 50 parking spaces. Parking spaces on the same premises shall be considered to be within the same parking lot unless there is at least a forty foot separation between them principally occupied by either building or vegetated areas. The Planning Board may grant a special permit for a larger number of spaces in a single lot only upon determination that no feasible parking demand management or site design reconfiguration would allow adequate parking without additional spaces, and that acceptable efforts are committed to be made to reduce the visual and microclimate impacts of an over-scale paved area."

14. Add the following at the end of Section 5.1.3 (m):

"In the Avery Square Business or Local Business-1 district, required parking for non-residential uses shall be either on the same premises as the activity it serves, or on a separate parcel, which may be shared with other uses, if the parcel is located within five hundred (500) feet (800 feet for employees) walking distance of the building entrance to be served, is located in a zoning district permitting or allowing on special permit the activity it serves, and is permanently committed to serving the use involved. In the Avery Square Business and Local Business-1 districts, no parking shall be located within 10 feet of a street line."

15. Insert a new Section 6.6 Complex Developments, to read as follows:

"6.6 Complex Developments

"6.6.1 Intent

"The intent of Complex Development provisions is to assure that in the Avery Square Business, Hillside Avenue Business and Local Business-1 districts large-scale developments are carefully tested against the Town's decision criteria relating locations and uses, and to assure that adequate provisions are made for impacts of development.

"6.6.2 Applicability

"Uses made subject to Section 6.6 by designation ("SPC") in Section 3.2 Use Regulation Schedule are defined as "Complex Developments", and shall comply with the following.

"Complex Developments require authorization through a special permit granted by the Planning Board under this Section, which shall serve in lieu of any special permit otherwise required under Section 3.2 Use Regulations. Application for any other special permits which might be required by the project, such as those under Section 3.4 Aquifer Protection District, regardless of agency designations elsewhere in the Bylaw, may be consolidated with the Complex Development application, and acted upon by the Planning Board as Special Permit Granting Authority, proceeding as provided at Sections 7.5.2 and 7.6.1.

"6.6.3 Submittal Requirements

"The applicant shall submit the following materials, in report format, to allow the Planning Board to determine potential compliance with the decision criteria of Section 6.6.4 and other provisions of this Bylaw without need for extensive further analysis by the Planning Board. This will entail:

- "(a) Site plans with contents as required for Site Plan Review under Section 7.4, except that only schematic-level detail is required; and schematic building plans.
- "(b) Description of the amounts and kinds of proposed on-site activities, including the amount of retail floor area, broken down by 'convenience' versus 'comparison' retailing.
- "(c) Analysis indicating the anticipated primary market area, and how the proposal serves needs of Needham residents.
- "(d) Impact analyses on topics which are germane to the case, including identification of public facility improvements anticipated to be made by others and those being committed by the applicant.
- "(e) Description of the project timing and phasing.

"6.6.4 Decision Criteria

"The following shall be the basis for decisions on special permits for Complex Developments. Special permits for Complex Developments shall be granted by the Special Permit Granting Authority only upon its written determination that the proposed use will be in general harmony with the purpose and intent of the Zoning Bylaw, and will not have adverse effects which over-balance its beneficial effects for either the neighborhood or the Town, in view of the particular characteristics of the site and of the proposal in relation to that site. The determination shall indicate consideration of each of the following considerations which are applicable, among others. At the time of application, the applicant shall submit complete documentation regarding each of these considerations which are applicable, including description of any discussion efforts made with neighborhood groups or other affected parties.

"6.6.4.1 Social, economic, and community needs

"Non-residential use is more beneficial to the degree that it serves needs and interests of local residents, or provides them with economic opportunity.

"6.6.4.2 Circulation

- "(a) Increases in either average daily or peak hour vehicular traffic are adverse effects, even if coupled with capacity increases maintaining the level of service.
- "(b) Causing the diversion of traffic onto residential streets is an adverse effect.
- "(c) To avoid adversity, pedestrian and vehicular movement to, from, and within the site should be safe and convenient, and arranged so as not to disturb abutting properties.

"6.6.4.3 Utilities and other public services

"Any unusual public problem in providing adequate water, sewerage, drainage, public safety, or other public services for a use would be an adverse effect.

"6.6.4.4 Environmental impacts

- "(a) Environmental damage due to wetland loss, habitat disturbance, erosion, or damage to valuable trees or other natural assets are adverse effects.
- "(b) Damage or risk to air, land, or water resources because of planned processes or unplanned contingencies are adverse effects.

"6.6.4.5 Land use compatibility

- "(a) Preempting land having special qualities suiting it for other uses, such as land having rail access being preempted from use by a non-rail using activity, is an adverse effect.
- "(b) Damaging the utility and enjoyment of nearby land uses through off-site impacts is an adverse effect.

"6.6.4.6 Visual compatibility

- "(a) Visibility of parking and service areas from nearby public streets is an adverse effect which can be minimized through site arrangement, use of tree cover, and other means.
- "(b) Increases above the architectural scale of buildings on abutting and nearby premises is an adverse effect, except where the departure would serve some community design purpose.

"6.6.4.7 Process

- "(a) Discussion in advance between applicants and those whose interests are likely to be substantially impacted by it is a benefit.
- "(b) Compensatory actions providing benefits, such as planting trees beyond the number required by this Bylaw, can be used to offset any negative consequences for other parties or the Town.

"6.6.5 Conditions

"The Planning Board shall impose appropriate conditions to its approval as necessary to assure implementation of the intent of these provisions."

16. Amend Section 7.4.2 Definitions, third and sixth paragraphs, so that they read as follows:

[Third paragraph]

"In a Chestnut Street Business, Avery Square Business, Hillside Avenue Business, or Local Business-1 District, a MAJOR PROJECT is any construction project which involves an increase in gross floor area of 1,000 or more square feet; or any project which results in the creation of 10 or more new off-street parking spaces; or any project which results in any new curb- or driveway-cut."

[Sixth paragraph]

"In a Chestnut Street Business, Avery Square Business, Hillside Avenue Business, or Local Business-1 District, a MINOR PROJECT is any construction project which involves an increase in gross floor area of less than 1,000 square feet - and the project cannot be defined as a Major Project."

17. Amend Section 7.6.1 Special Permit Granting Authority, to read as follows:

"The Planning Board shall act as a Special Permit Granting Authority only where so designated in Sections 3.4, 4.2.4, 4.2.5, 4.2.6, 4.4.5, 4.4.9, 4.4.10, 5.1.1.6, 5.1.1.8, 6.6 and 7.4 of this By-Law. In all other cases, the Board of Appeals shall act as the Special Permit Granting Authority. Procedures and decision criteria for the Planning Board shall be the same as specified in Section 7.5.2 and Section 7.5.3 (second and fourth paragraphs) for special permits acted on by the Board of Appeals, except where alternative or supplemental criteria are specified, such as at Sections 3.4, 5.1.1.8, and 6.6."

or take any other action relative thereto.

ARTICLE 11 AMEND ZONING BY-LAW - MAP CHANGE TO LOCAL BUSINESS-1 DISTRICT, AVERY SQUARE BUSINESS DISTRICT AND HILLSIDE AVENUE BUSINESS DISTRICT

To see if the Town will vote to revise the Zoning Map as follows:

- (a) Place in the Local Business-1 District all that land now zoned Business and lying between May Street and Rosemary Street between Highland Avenue and the MBTA right-of-way centerline.
- (b) Place in the Avery Square Business District all that land now zoned Business or Industrial and lying between Hunnewell Street and Morton Street and Hildreth Place east of the MBTA right-of-way centerline and west of the present district boundaries east of Highland Avenue.
- (c) Place in the Hillside Avenue Business District all that land now zoned Business and lying between Hillside Avenue and the MBTA right-of-way centerline, between the Industrial district south of West Street and the SRB district north of Hunnewell Street.

or take any other action relative thereto.

ARTICLE 12 AMEND ZONING BY-LAW - MAP CHANGE TO GENERAL RESIDENCE DISTRICT

To see if the Town will vote to amend the Needham Zoning Bylaw by amending the Zoning Map as follows:

- (a) Place in the General Residence District all that land now zoned Single Residence B and lying in the area bounded by Highland Avenue, Webster Street, the MBTA right-of-way centerline, and Gould Street, comprising lots 1, 2, 3, 4, 5, 6, 12, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 28, 29, 30, 31, and 33 on Assessor's Plan No. 77, and various portions of street rights-of-way.
- (b) Place in the General Residence District all that land now zoned Industrial and lying between the centerline of Putnam Street and the MBTA right-of-way centerline in the vicinity of Arbor Street and Cross Street, comprising lots 20 and 36 on Assessor's Plan No. 77, and various portions of street rights-of-way.

or take any other action relative thereto.

TECHNICAL APPENDIX: FLOOR AREA RATIO LIMITS

One key element in the proposed zoning is a limitation upon the ratio of floor area to lot area, or "floor area ratio", proposed to be related in part to auto trip generation. The tables on pages 32 and 33 outline the analysis behind the proposal.

The "Floor Area Ratio Analysis" spreadsheet explores the relationship among various dimensional controls and the floor area ratio which is realistically feasible on a typical lot, taken here to be 10,000 square feet in area, not on a corner, used for retailing. For each of the types of existing or proposed Commercial district, we have analyzed the impact of setbacks for buildings and parking, height limitations, landscaping rules, building coverage limits, and parking requirements upon the floor area ratio which can actually be achieved through development.

Interestingly, the limitations of meeting parking demands and setback and height limits restrict building on such a lot to slightly less floor area than the adopted floor area ratio limits of 1.0 in the Central district and 0.7 in the Chestnut Street district. The FAR rule, instead, only impacts other cases, for example where the lot is larger, or parking requirements are lower. Similarly, the 0.7 FAR limit suggested for the Avery Square and Hillside Avenue districts is more permissive in many cases than the limits of other rules on a typical lot. However, for high trip-generation uses, the FAR limitation drops, and may well be the constraining consideration for how much floor area can be built.

The spreadsheet "Trip Generation Analysis" was used in developing the suggested limitations on floor area ratio based on trip generation. The general rationale is that the limited capacity of the street system should be allocated equitably among users. Since some users generate trips at a rate more than 100 times higher in relation to floor area than others, simply restricting everyone's floor area ratio to the same level in order to avoid excessive traffic penalizes such relatively low-generation uses as offices to offset demand by such high-generation uses as convenience markets. It is more equitable, though complex, to base allowable floor area at least in part on the amounts of traffic uses are likely to generate.

As proposed, there would be a floor area ratio above which no property would be allowed to go, regardless of how few trips they generate, dictated by other considerations, such as consistency with the scale of the community. That upper level is suggested to be an FAR of 0.7, the same as the Chestnut Street Business District. Similarly, each property would be allowed some amount of floor area regardless of trip generation intensity, in part to assure that this rule precludes nothing categorically, and in part for conceptual and administrative simplicity. The trip-unrestricted level is suggested to be just one-half of the maximum, or an FAR of 0.35.

The present trip generation from properties within the Highland Avenue study area is under 10 trips per 1,000 square feet of lot area, but for business-zoned land is apparently

about 15 trips per 1,000 square feet of lot area, based upon the figures in "Background Analysis" report. Considering that and the feasibility of meeting such rules given present property values, we have initially suggested 10 trips per 1,000 square feet to be the limit for FAR increases on Hillside Avenue, and 15 trips per 1,000 square feet to be the limit for Highland Avenue. We also analyzed 20 trips per 1,000 square feet for comparison, but don't propose that as a rule.

At those levels, permissibility for most uses will be clear. Many uses, such as restaurants and banks, will clearly be allowed only the base 0.35 FAR, which is an unusually high FAR for those high-intensity trip generators in a setting such as Highland Avenue. Those cases are lightly shaded in the lower right-hand corner of the Trip Generation Analysis table. Most of the trip-constrained uses in the analysis are ones which, like retailing, seldom exceed one story in this context, and as a result generally can exceed an FAR of 0.35 only with structured parking, which is still unusual here.

On the other hand, such uses as manufacturing and offices unarguably could be allowed the full FAR 0.7 without encountering trip-generation-based constraints. Those cases are darkly shaded in the upper right-hand corner of the table. Because relatively few uses fall in the range of trip generation where allowable FAR might fall between 0.35 and 0.7 (the unshaded cases), the administrative problem of determining compliance will arise only for a minority of cases, unfortunately including mixed-use development, which is a use we would like to encourage.

We have based the trip rule on daily rather than peak hour trips, in part because that is a less complex calculation, but more importantly because off-peak traffic degrades the community quality of life almost as fully as peak hour traffic does. Congestion is not the sole concern. For example, noisy evening traffic during off-peak hours may be more troubling to abutters than that at the rush hour. We are excluding "pass-by" trips, which are those involving a car just stopping off at some business on a trip it would have made on that street anyhow. "Diverted" trips, which we do not exclude, are ones involving a change of route to stop by a destination while on a journey which would have been made in any event.

A template much like the Trip Generation Analysis table on the following page can be developed to facilitate calculations, especially for mixed use. Even so, the estimation of trip generation is more complex than perhaps any other current zoning rule. Although the ITE provides a universally accepted source for base estimates, applicants can always claim special circumstances, such as employing only the handicapped, none of whom drive. Without regard to the current individuals involved, the Planning Director is more appropriate than the Inspector of Buildings to be burdened with that determination. It may be judged that the determination should be made by a board, rather than by a single staff member, in which case the Planning Board is probably the appropriate agency.

FLOOR AREA RATIO ANALYSIS: NEEDHAM ZONING

| District | Business | Chestnut Street | Center | Avery Square | Hillside Avenue |
|---|----------|--------------------|--------|-----------------|--------------------|
| Lot configuration: | | | | | |
| Area (sq. ft.) | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Width (ft.) | 82 | 82 | 82 | 82 | 82 |
| Depth (ft.) | 122 | 122 | 122 | 122 | 122 |
| Required unpaved/unbuilt (ft.): | | | | | |
| Front | 10 | 20 | 0 | 10 | 20 |
| Side | 5 | 5 | 0 | 5 | 5 |
| Rear | 5 | 5 | 0 | 5 | 5 |
| % interior planting | 2.5% | 2.5% | 0.0% | 2.5% | 2.5% |
| Resulting open area (sq. ft.): | | | | | |
| Front | 816 | 1,633 | 0 | 816 | 1,633 |
| Side | 1,125 | 1,025 | 0 | 1,125 | 1,025 |
| Rear | 358 | 358 | 0 | 358 | 358 |
| Interior | 193 | 175 | 0 | 193 | 175 |
| Max allowed bldg coverage | 25.0% | n/a | n/a | n/a | n/a |
| Percent open space: | | | | | |
| Coverage—rule based | 20.8% | — | — | — | — |
| Yards, parking based | 24.9% | 31.9% | 0.0% | 24.9% | 31.9% |
| Controlling ratio | 24.9% | 31.9% | 0.0% | 24.9% | 31.9% |
| Floor area (sf) requiring one parking space: | | | | | |
| Ground | 300 | 300 | 300 | 300 | 300 |
| Upper | 300 | 300 | 300 | 300 | 300 |
| Sq. ft. needed / parking space | 325 | 325 | 325 | 325 | 325 |
| Number of levels: | | | | | |
| Principal use | 3.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Parking | 1.5 | 1.5 | 2.0 | 1.5 | 1.0 |
| Floor area ratio: | | | | | |
| Maximum allowed by rule | n/a | 0.70 | 1.00 | 0.70 | 0.70 |
| Maximum feasible | 0.76 | 0.62 | 0.96 | 0.65 | 0.48 |
| Controlling ratio | 0.76 | 0.62 | 0.96 | 0.65 | 0.48 |

WEEKDAY TRIP GENERATION ANALYSIS

FAR allowed without trip limit: 0.35
 FAR never to be exceeded: 0.70

| ITE Code | Use | Trips/ 1000 sf floor area | Percent pass-by trips | Trips/1000 sf lot area (net of pass-by) | | Max FAR allowed if trips/1000 sf limit for increases is: | | |
|----------|----------------------------------|---------------------------------|-----------------------------|--|----------|--|------|------|
| | | | | FAR 0.35 | FAR 0.70 | 10 | 15 | 20 |
| | | | | | | | | |
| 140 | Manufacturing | 3.85 | 0% | 1.35 | 2.70 | 0.70 | 0.70 | 0.70 |
| 230 | Condo/townhouse (1200 sf) | 4.88 | 0% | 1.71 | 3.42 | 0.70 | 0.70 | 0.70 |
| 220 | Apartment (1000 sf) | 6.47 | 0% | 2.26 | 4.53 | 0.70 | 0.70 | 0.70 |
| 210 | Single-family dwelling (1400 sf) | 6.82 | 0% | 2.39 | 4.78 | 0.70 | 0.70 | 0.70 |
| 110 | Light Industrial | 6.97 | 0% | 2.44 | 4.88 | 0.70 | 0.70 | 0.70 |
| 560 | Church | 9.32 | 0% | 3.26 | 6.52 | 0.70 | 0.70 | 0.70 |
| 530 | High school | 10.90 | 0% | 3.82 | 7.63 | 0.70 | 0.70 | 0.70 |
| 710 | General office (50,000 sf) | 16.62 | 0% | 5.82 | 11.63 | 0.60 | 0.70 | 0.70 |
| 492 | Racquet club | 17.14 | 0% | 6.00 | 12.00 | 0.58 | 0.70 | 0.70 |
| 320 | Motel (500 sq. ft./rm.) | 20.38 | 0% | 7.13 | 14.27 | 0.49 | 0.70 | 0.70 |
| 710 | General office (20,000 sf) | 20.78 | 0% | 7.27 | 14.55 | 0.48 | 0.70 | 0.70 |
| 710 | General office (10,000 sf) | 24.61 | 0% | 8.61 | 17.23 | 0.41 | 0.61 | 0.70 |
| 814 | Specialty retail center | 40.67 | 25% | 10.68 | 21.35 | 0.35 | 0.49 | 0.66 |
| 720 | Medical office building | 34.17 | 0% | 11.96 | 23.92 | 0.35 | 0.44 | 0.59 |
| 815 | Discount store | 70.13 | 25% | 18.41 | 36.82 | 0.35 | 0.35 | 0.38 |
| 820 | Shopping center (100,000 sf) | 70.67 | 25% | 18.55 | 37.10 | 0.35 | 0.35 | 0.38 |
| 820 | Shopping center (50,000 sf) | 91.65 | 25% | 24.06 | 48.12 | 0.35 | 0.35 | 0.35 |
| 565 | Day care center | 79.26 | 0% | 27.74 | 55.48 | 0.35 | 0.35 | 0.35 |
| 850 | Supermarket (Saturday) | 177.59 | 50% | 31.08 | 62.16 | 0.35 | 0.35 | 0.35 |
| 831 | Restaurant, quality | 96.51 | 0% | 33.78 | 67.56 | 0.35 | 0.35 | 0.35 |
| 820 | Shopping center (10,000 sf) | 167.59 | 25% | 43.99 | 87.99 | 0.35 | 0.35 | 0.35 |
| 911 | Bank, walk-in | 140.61 | 10% | 44.29 | 88.58 | 0.35 | 0.35 | 0.35 |
| 832 | Restaurant, hi turnover | 205.36 | 25% | 53.91 | 107.81 | 0.35 | 0.35 | 0.35 |
| 912 | Bank, drive-in | 265.21 | 25% | 69.62 | 139.24 | 0.35 | 0.35 | 0.35 |
| 851 | Convenience market | 737.99 | 67% | 85.24 | 170.48 | 0.35 | 0.35 | 0.35 |
| 834 | Fast food, drive-thru | 632.12 | 35% | 143.81 | 287.61 | 0.35 | 0.35 | 0.35 |
| 833 | Fast food, no drive-thru | 786.22 | 35% | 178.87 | 357.73 | 0.35 | 0.35 | 0.35 |
| 853 | Convenience market w/pumps | 1,855.65 | 67% | 214.33 | 428.66 | 0.35 | 0.35 | 0.35 |

Source: Herr Associates analysis from ITE Trip Generation, 5th Edition

FAR DIAGRAMS

The following diagrams were developed to illustrate what the various floor area ratio rules really translate into on actual Needham sites. Drawings 1A, 1B, and 1C use a vacant parking lot at the corner of Highland Avenue and Mellen Street. Drawings 2A, 2B, and 2C use three fully developed lots adjacent to Avery Square, arbitrarily chosen to show redevelopment at a larger scale. Note that building 1B is just over the threshold requiring approval for Complex Development if the use is retail, and the office threshold falls between buildings 2B and 2C.

In each case the "A" drawing shows an FAR of 0.35. With a one-story building, the building footprint, parking, and required landscaping essentially fill the lot. The "B" drawings show an FAR of 0.7. Even with a two-story building and crediting on-street parking spaces, it is not possible on either site to meet the setback and parking requirements unless parking is placed on two or more levels, or is provided off-site in a shared lot (which is a desirable outcome).

The "C" drawings explore the maximum amount of floor area which the sites can accommodate with surface parking meeting the rules. In both cases the resulting FAR is under 0.50.

These are just sketches. We did not, for example, verify how many on-street spaces could actually be credited for parking, or exhaustively explore getting every last square foot of space on site.

| Drawing | 1A | 1B | 1C | 2A | 2B | 2C |
|------------------|--------|--------|--------|--------|--------|--------|
| Lot area | 14,700 | 14,700 | 14,700 | 36,500 | 36,500 | 36,500 |
| Floor area | 5,100 | 10,300 | 6,900 | 12,800 | 25,500 | 18,000 |
| FAR | 0.35 | 0.70 | 0.47 | 0.35 | 0.70 | 0.49 |
| Parking spaces | | | | | | |
| Required | 17 | 34 | 23 | 43 | 85 | 60 |
| On-street credit | 7 | 7 | 7 | 11 | 11 | 11 |
| Shown on-site | 10 | 16 | 16 | 32 | 38 | 49 |
| Deficit | 0 | 11 | 0 | 0 | 36 | 0 |

