Rehabilitation of Newton Corner

by

James S. Rowley

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Head, Department of City Planning

Author

Massachusetts Institute of Technology

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Professor Frederick J. Adams
Department of City Planning
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Professor Adams:

In partial fulfillment of the requirements for a Master in City Planning Degree, I submit this thesis entitled, Rehabilitation of Newton Corner.

Respectfully submitted,

James S. Rowley

Acknowledgements

I wish to express my gratitude for the assistance given me in writing this thesis, by members of the faculty in the Department of City and Regional Planning at M.I.T.; to personnel of the city government in Newton, particularly those in the Engineering Department, the Assessor's Office, and the Building Department.

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*Maps and Design Plans follow the page number listed above.
Example: Map on Land Use will be found after Page 10.

PART I

Introduction

The contents of this thesis include a general analysis of an area of mixed use in a reasonably wealthy suburban city.

The area in question is not the only section of this city which needs redevelopment, nor is it conceivably the worst from any particular aspect. However, it contains more problems of varied types than any of the others, including such characteristics as substandard housing, obsolete business structures, arrested retail sales, traffic congestion, and pedestrian safety hazards.

An attempt will be made in this thesis to define the exact nature of the more important problems, and to bring to light the serious need for rehabilitation in the area. It may not be possible to prove that this area should have priority on redevelopment funds over areas in adjacent cities or towns, or possibly over other areas of the city, but a clear picture of conditions should have some value in stimulating serious thought and possibly some action concerning this and other areas.

Visually, the problems of this area are not strikingly impressive. The fact that one can easily circumvent the worst sections and quickly pass into residential areas of high quality housing perhaps makes it easy to overlook the area, and to assume that it will satisfactorily continue to exist as it always has.

Before attention can be paid specifically to the Newton Corner section, a background of the city of Newton itself must be furnished as well

as an explanation of the writer's attitude toward the boundaries on the North and East sides of Newton Corner, and the areas to the South and West. A more complete analysis would not allow us to stop where we have on any one of the four sides.

City of Newton

The City of Newton, with an estimated population of 85,129*, is a fairly wealthy suburb of Boston. It is predominantly a residential city, eighteen square miles in area. There are six main retail centers, of which Newton Corner is one, and there is very little active industry.

83.9% of its population is native-born, and, except for two small predominantly Negro areas within the city (neither in the Newton Corner area) there is no marked segregation of races.

The city has an assessed valuation of $169,681,050.00 and a tax rate of $29,00 per $1,000.00 indicating that it is generally well-off. There is a bonded debt of $4,823,000.00 but a veterans' project built by the city in Oak Hill accounts for a large part of this.

Its school system, while not entirely adequate for the present population, compares more than favorably with those of the surrounding cities and towns. Approximately 11,033 pupils attend the public schools in the city. Its school department claims an average of 65% of graduating students go to institutions of higher learning.

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*See section on Population.

Its pattern of population growth is shown in the following table:

Population - City of Newton

Year	Population
1900	33,587
1905	36,827
1910	39,807
1915	43,113
1920	46,054
1925	53,003
1930	65,276
1935	66,000
1940	69,873
1945	77,257
1950 (estimated)	85,129

A reflection of the general wealth of the city lies in the fact that the average income lies between $5,000 and $6,000 per year. The highest income is roughly $80,000 per year, and the lowest below $2,000. As Newton is largely a residential city, its revenue comes largely from outside sources. Only 15% is known to come from retail sales within the city, the largest proportion is derived from jobs held in Boston.

Areas of Substandard Housing within the City

Newton Corner - This area which, as already explained, contains more redevelopment problems than any other will be more thoroughly treated in the main text of this thesis.

Nonantum - A section of Newton which stretches to the Northwest of Newton Corner, and has been separated from the limits of our redevelopment area by a belt composed of Boyd Park, the Eliot School, and property owned by a parochial school which covers the whole of Block 186, and is bordered by Waban and Walnut Park and Jackson Road. The Nonantum section is characterized by a more consistent grid system of roads, has spotted commercial uses all through the residential area, substandard housing and a large amount of open land indicating arrested development. It does not, however, have the same marked congestion of dwelling units in the business area or the traffic problems shown in Newton Corner.

Auburndale - A smaller section of Newton marked mainly by substandard housing.

Newton Lower Falls - Again a smaller area, its main characteristic being substandard housing. At one time, Newton Lower Falls showed some industrial activity, but it no longer relies on this as a source of income.

Watertown and Brighton Boundaries

To the North of Newton Corner lies the Newton-Watertown Boundary. Where it leaves the Charles River and cuts West across the land, no marked contrast can be seen between conditions on the Newton side of the line and those on the Watertown side. A thorough redevelopment study should cross this line and cover an area both in Watertown and Newton. There will not be time for that in this study, but it is hoped that a satisfactory redevelopment of Newton Corner would lead to

further work in Watertown. It is felt that the solutions proposed in this thesis would in no way arrest proper redevelopment in Watertown or create conflicts between the two districts. The predominantly multi-family dwelling use on the Newton side continues for several blocks into Watertown and the indication is that much of the area should remain in this use.

On the East side lies the Newton-Brighton boundary, and much the same situation exists as in the Newton-Watertown area. It seems less of a problem, however, since there is less need for redevelopment in the Newton side of this boundary than there is on the Northern boundary. Consequently, there is less danger of detrimentally affecting Brighton.

To the South of Newton Corner, as illustrated in Maps 1,2, 3, and 4. (Land Use, Average Rents, Dwelling Unit Distribution, and Assessed Valuation of Residential Buildings respectively) there becomes a striking improvement in quality of residential conditions. The southern boundary is therefore chosen to run (West to East) along Newtonville Avenue, to Centre Street, down Franklin to Eldredge, up Eldredge to Vernon; up Waverly to Tremont, and from there East to the Brighton line. High cost single-family residence below this line shows little need to be included in a redevelopment scheme.

Determination of this Southern boundary was not made until after all the studies shown in the maps mentioned above were completed. It was not felt that one study alone was a sufficient basis on which to make a decision, but the combination of all of them show a consistency of indication.

The Area (General)

The total land coverage of the area is 281 acres, of which 191 acres is in residential lots and public land; 55 acres is in streets and 21 acres in property leased by the Boston and Albany Railroad.

Of the area zoned for business, approximately 60.8% is actually in business use, and of this there are strong indications that too great an area has been devoted to retail sales.

A small area in the center and South of the railroad is zoned for industrial use, and is roughly 50% employed for industry and wholesale storage.

The remainder of the area is in residential use, and ranges in character from lots with high cost single family homes to substandard apartments crowded over stores in the business center.

While a serious problem exists in traffic circulation and lack of sufficient off-street parking space, no extensive research has been made to determine the amount of space needed. A redesign of the business area will be included in the thesis, however.

Community facilities, in most instances, are well within the standard distances, but fall down in lack of size and adequacy. More careful analysis of this fact will be seen later in the thesis. Block numbers shown on several maps and listed in tables are those used by the U. S. Census in Block Statistics taken in 1940.

Population

A population estimate was arrived at by the following method. It was observed that the population for the City of Newton in 1940 was 69,873 persons. At that time the U. S. Census reported 18,338 dwelling units for the city.

Dividing the population by the number of dwelling units, we found that there was an average of 3.8 persons per dwelling unit and this was used as an average family size.

From the 1940 Block Statistics, the Newton Corner area was found to have 1,491 dwelling units, and on the basis of 3.8 persons as a family size, the population for Newton Corner in 1940 was estimated to be 5,665 persons.

By observation, in collecting the land use data, it was determined that in the spring of 1950 there are approximately 1,651 dwelling units in Newton Corner. (Conversion of structures into more dwelling units may have been missed in some instances.)

Using the same family size for 1950, as used in 1940 for the Newton Corner area, the 1,651 dwelling units were multiplied by 3.8, giving an estimated population for 1950 of 6,274 persons.

A second method was used as follows:

On the basis of 1940 figures, the population of Newton Corner was determined to be 8% of the total population of the City of Newton, or 5,665 out of 69,873 persons. Assuming this 8% is generally true

to-day, the present population of the city was estimated using the formula of the Annual Report on the Vital Statistics of Massachusetts.*

The results of this formula's application gave us an estimated population for all of Newton of 85,129 persons. 8% of 85,129 is equal to 6,810 persons, the population of Newton Corner for 1950 by this method.

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* Annual Report on the Vital Statistics of Massachusetts, for year ending Dec. 31, 1947, Population Statistics, p. 276.

> "Estimated Population.
>
> "The method of calculating estimates of population for the intercensal years is shown in the following example.
>
> "Massachusetts had a population of 4,493,281 at the state census of 1945 (Jan. 1) and of 4,316,721 at the Federal Census of 1940 (April 1). The increase during the intercensal period (4 years, 9 months) was 176,560 and the monthly increase according to the arithmetical method of estimating population was
>
> $$\frac{4,493,281 - 4,316,721}{57} = 3,097.5$$
>
> "The same annual increase is also assumed to occur until the next census shall have been taken. The population for July 1, 1947 is estimated by adding to the population as it existed at the preceding census (Jan. 1, 1945), 3,097.5 for each month intervening between the date of enumeration and the date for which the estimate is desired (July 1, 1947). There being 30 months between these dates, the calculation would be
>
> $$4,493,281 + (30 \times 3,097.5) = 4,528,206$$"

The difference in results, between the two methods is 536 persons and the discrepancy is believed due to error in both methods. The first method is believed low due to the fact that certain dwelling units which have come about through doubling up and conversion were probably overlooked in making the land use study. The second method is believed to

have been high since the formula assumes a consistent increase per month of 123 persons for the City, which probably did not occur.

For purposes of this study a population of 6,500 persons will be assumed, lying generally half way between the two results. The figure 6,500, when divided by 1,651, the number of dwelling units in the Newton Corner area, gives an average family size of 3.9 persons, and this seems reasonable. Discovery of additional dwelling units would decrease the size of the average family, but not substantially.

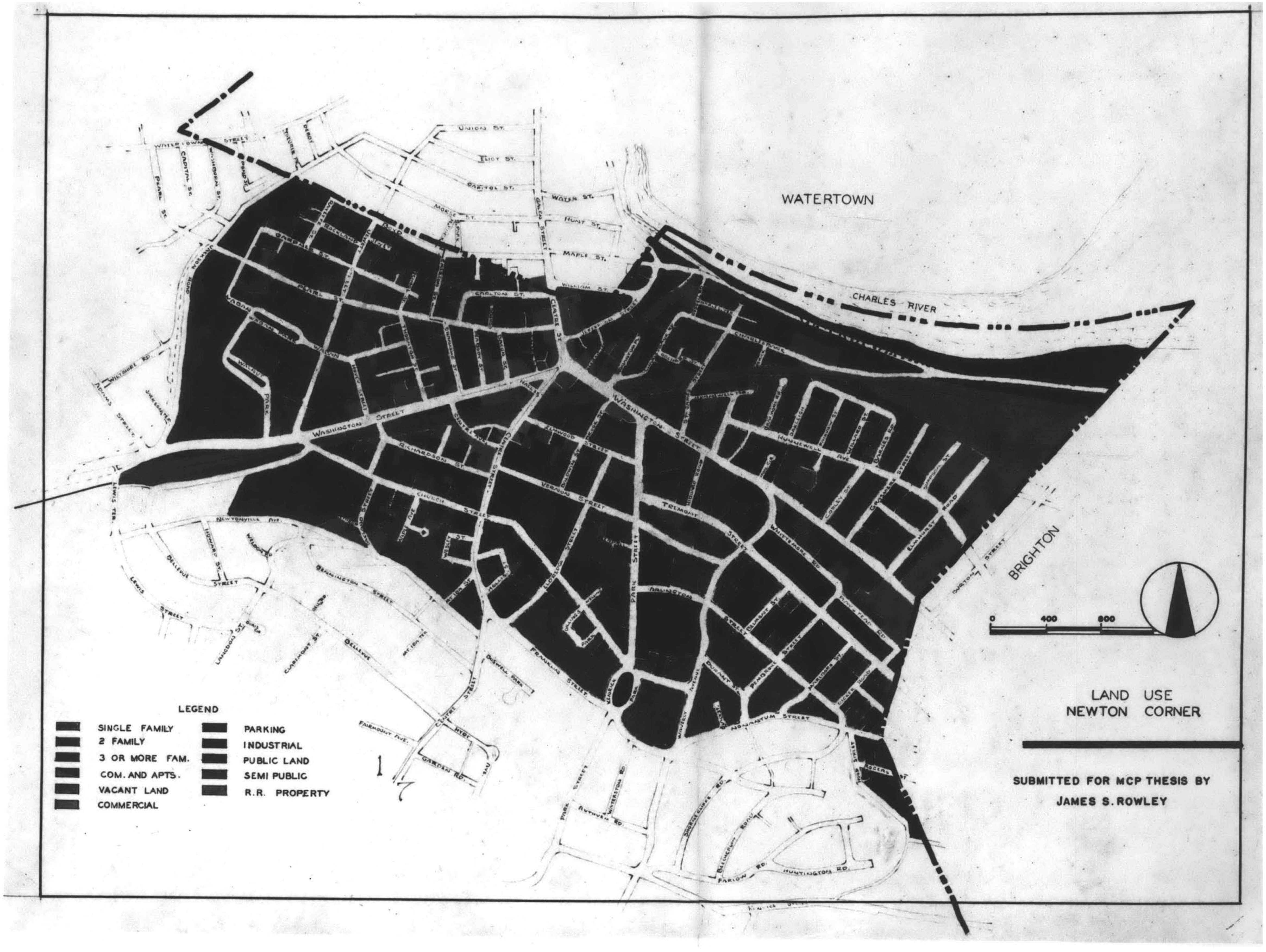
As a further check, using the new family size of 3.9 persons per family and multiplying this figure by the number of dwelling units we observed the result would be 6,439.

Land Use

The results seen in Map I are based on an actual physical study of the area. A map at scale 1'' = 400', supplied by the Engineering Department of the City of Newton was reproduced in part to include the Newton Corner area. Lot Lines were added from larger scale drawings, used and kept up to date by the Assessor's Office.

In many cases buildings not listed elsewhere as two or more dwelling units are shown on the map as housing two or more families. This was found to be true by actual observation, and these are the cases referred to above.

A comparison should be made of the Land Use Map with the Zoning Map. Probably the most striking distortion is the number of 2-family


WATERTOWN
CHARLES RIVER
BRIGHTON
WASHINGTON STREET
TREMONT STREET
VERNON STREET
CHURCH STREET
RICHARDSON ST.
ELMWOOD STREET
CENTRE STREET
FRANKLIN STREET
PARK STREET
ARLINGTON STREET
NONANTUM STREET
WHITTEMORE RD.
HUNNEWELL AVE.
WALNUT PARK
NEWTONVILLE AVE.
BELLEVUE STREET
LEWIS STREET
UNION ST.
ELIOT ST.
CAPITOL ST.
WATER ST.
HUNT ST.
MAPLE ST.
WILLIAM ST.
GALEN STREET
CARLTON ST.
0
400
800
LEGEND
SINGLE FAMILY
2 FAMILY
3 OR MORE FAM.
COM. AND APTS.
VACANT LAND
COMMERCIAL
PARKING
INDUSTRIAL
PUBLIC LAND
SEMI PUBLIC
R.R. PROPERTY
LAND USE
NEWTON CORNER
SUBMITTED FOR MCP THESIS BY
JAMES S. ROWLEY

units in the area North-east of Newton Corner, which is still zoned as a "C" district.

Briefly, the regulations on a Single Residence "C" District are as follows: Permitted Uses: Dwelling Unit for one family; church, non-profit schools; proper accessory buildings; and garages for not more than two cars. Included in the exceptions which can be granted by the Board of Aldermen is #12: Conversion to 2-family dwellings of buildings with ground floor area greater than 1,200 feet and area is not to be increased more than 15%. A question arises as to whether all cases of 2-family buildings have been granted permission according to this ruling.

Spotted uses of industry and business, and less restrictive residential districts shown on the Land Use map are found to conform more or less to the zoning, but many should probably be considered non-conforming uses. A breakdown of the various uses within the area is shown in the following table, (p. 11).

The area shows itself to be predominantly residential in character with 157.0 acres or 56.5% of the total land in residential use. Of this, the largest percentage is in 2-family units, with scattered multi-family structures and single family houses throughout. To the South, the use becomes predominantly single family.

While the large proportion of residential use is impressive, it must be remembered that the City of Newton as a whole is over 90% residential and therefore, the 56% in Newton Corner would indicate greater activity in other types of uses than other sections of the city.

Table 2: LAND USE

TYPE OF USE	ACRES	%
Industrial	2	.7
Business	12	4.2
Railroad property	21	7.4
Public and semi-public	12	4.2
Vacant Land	22	8.0
Residential Land (built on)	157	56.5
Streets	55	19.0
Total	281	

In business use, 4.2% or 12 acres is shown in a pattern that indicates more or less natural, unplanned growth, strung out along Washington and Centre Streets, it is in no way organized for efficient shopping, parking, or community use. A number of duplicate types of retail business, and an increasing number of vacant stores indicates overuse.

Another indication of this overuse is shown by a comparison of the amount of land zoned for business, and the amount in use as business, with the same conditions in other sections of Newton.

The following table indicates the above for the seven main business districts in Newton. It should be remembered that Newton Corner is the oldest shopping district, the only one with direct access to railed rapid transit and the first developed to present size. It's rating is only fifth among the other sections.

Table 3: AMOUNT OF LAND IN BUSINESS USE IN BUSINESS DISTRICT

SECTION	% IN USE	RATING
Newton Corner	60.8	5
Nonantum	33.0	7
Newtonville	75.0	3
West Newton	60.0	6
Auburndale	65.0	4
Newton Centre	78.0	1
Newton Highlands	78.0	1

Public land includes two schools, a library, one playground, a fire station, and five lots of open land.

Semi-public land includes a Y.M.C.A., four churches, two men's clubs, a community service bureau, and a parochial school which covers all of Block 186.

Vacant land, of which there are 22 acres, is fairly well distributed throughout the area, and would indicate arrested development to a certain extent.

The total area of streets and public ways is 55 acres, which is 19% of the total acreage. Considering the size of the area, this is only fair as a ratio. Redesign of the road pattern might make possible a reduction in this figure.

A small industrial district, at the center and to the South of the railroad property, is roughly 50% in use as industry and is hindered in its expansion by older uses surrounding it. Although bordering the railroad, this industry has no access to sidings and is not easily accessible to truck

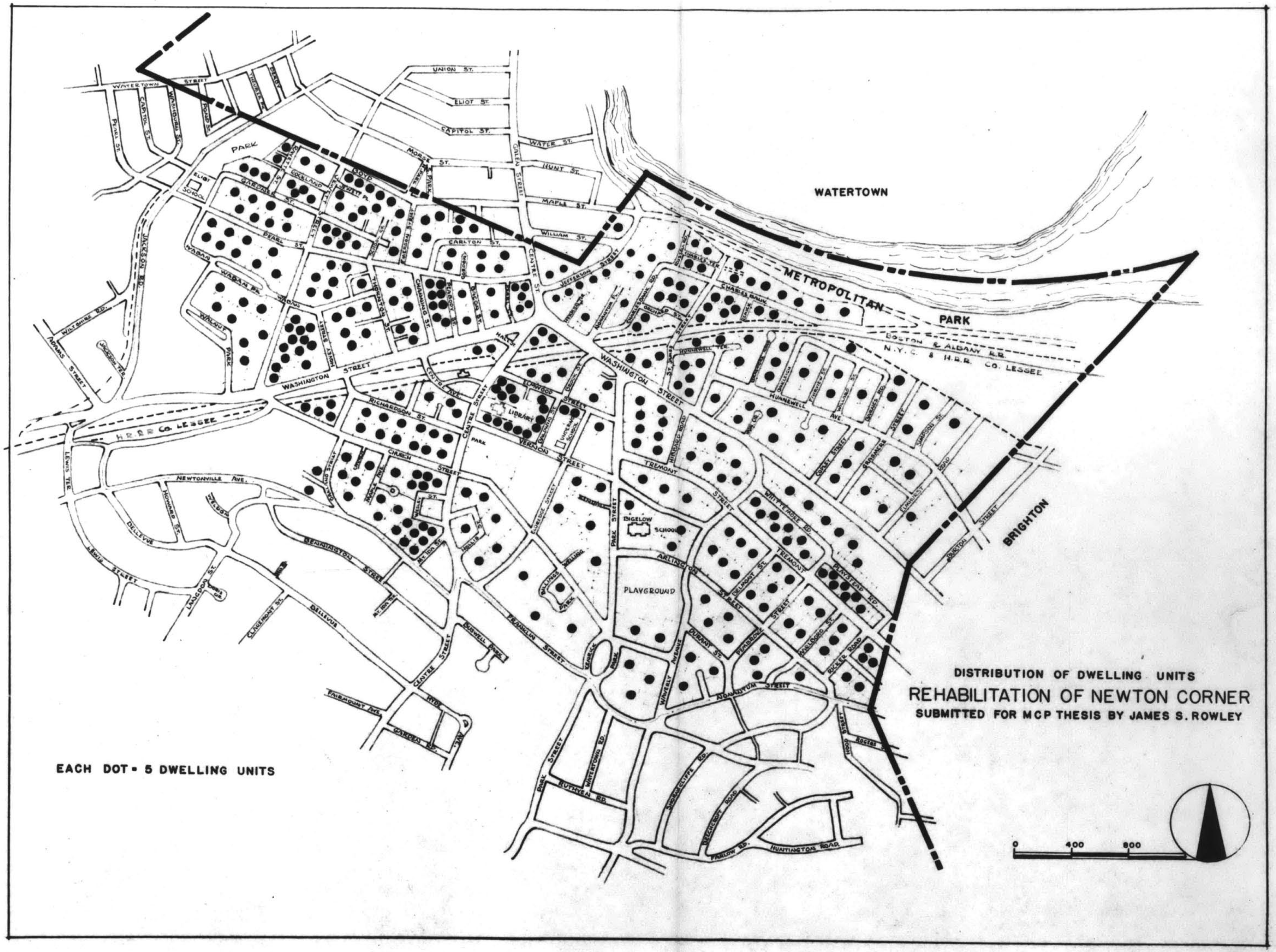
routes. Its proximity to land largely residential in character makes it doubtful whether more land should be allotted to industry in this area.

Twenty-one acres of land leased to the Boston and Albany, and New York Central Railroads cuts roughly through the middle, which would account partially for the deterioration of the area. In several sections it detrimentally affects residential property. There are, however, no grade crossings as the railroad is depressed all the way to the East end of Charlesbank Road.

Land used for off-street parking at the present time totals approximately 1.0 acres, is very inadequate, and rather than having been planned, apparently just happened.

Vacant land indicated at the corner of Pearl Court and Washington Street is the site of the Bacon Block which recently burned, necessitating its removal.

General comments: Predominantly residential, the area is split sharply into sections by Centre and Washington Streets and the railroad. Business has grown up largely along the main roads in a disorganized fashion. Open area for recreation is somewhat inadequate and traffic flow and parking problems are pronounced. A large number of buildings, which has been converted from single to two or more family structures, plus new construction of two or multi-family structures indicates change in that direction. A half-hearted development of industry in the center, does not indicate encouragement.


WATERTOWN
METROPOLITAN
PARK
BOSTON & ALBANY R.R.
N.Y.C. & H.R.R. CO. LESSEE
H.R.R. Co. LESSEE
BRIGHTON
WASHINGTON STREET
WATERTOWN STREET
UNION ST.
ELIOT ST.
CAPITOL ST.
WATER ST.
HUNT ST.
MAPLE ST.
WILLIAM ST.
MORSE ST.
GALEN STREET
CARLTON ST.
CENTRE ST.
JACKSON RD.
PEARL ST.
WABAN
WALNUT PARK
ELIOT SCHOOL
RICHARDSON ST.
CHURCH STREET
VERNON STREET
LIBRARY
TREMONT STREET
BIGELOW SCHOOL
ARLINGTON STREET
PLAYGROUND
NEWTONVILLE AVE.
BELLEVUE
LEWIS STREET
BENNINGTON STREET
FRANKLIN STREET
CENTRE STREET
FAIRMOUNT AVE.
GARDEN RD.
PARK STREET
WATERTOWN RD.
RUTHVEN RD.
NONANTUM STREET
HUNTINGTON ROAD
FARLOW RD.
WHITTEMORE RD.
PLAYSTEAD RD.
HUNNEWELL AVE.
EACH DOT = 5 DWELLING UNITS
DISTRIBUTION OF DWELLING UNITS
REHABILITATION OF NEWTON CORNER
SUBMITTED FOR MCP THESIS BY JAMES S. ROWLEY
0
400
800

Densities

Determination of Net Dwelling Densities was accomplished by first compiling reference tables which are now listed as Appendix A. In these tables were listed, by census blocks, 1. total square footage; 2. total square footage of buildings; 3. total square footage of open area; 4. percentage of open area; 5. percentage of building coverage; 6. average square footage of open area per dwelling unit. Land use data was also organized and is found in Appendix A.

The data for these tables were collected by reference to the Assessor's files in the City of Newton, and Assessor's Block System Maps (at scale 1''=100', showing lot square footage, building location, size and street numbers.) Building sizes were determined by scaling the individual buildings on these maps.

To prevent eventual averages from becoming too general, the area was divided into six separate sections which defined themselves as having slightly different characteristics. They are <u>not</u> redevelopment areas. As shown on Map III they are as follows:

Section I: North-west portion bounded by Watertown boundary on the North, Waban Street and Walnut Park on the West, the railroad property on the South, and Centre Street on the East.

Section II: South-west portion bounded by railroad property on the North, Bellevue Street on the West, Newtonville Avenue on the South, and Mt. Ida and Centre Streets on the East.

Section III: Center protion, bounded by Centre and Washington Streets on the North, Centre Street on the West, Franklin Street on the South, and Eldredge, Vernon, and Park Streets on the East.

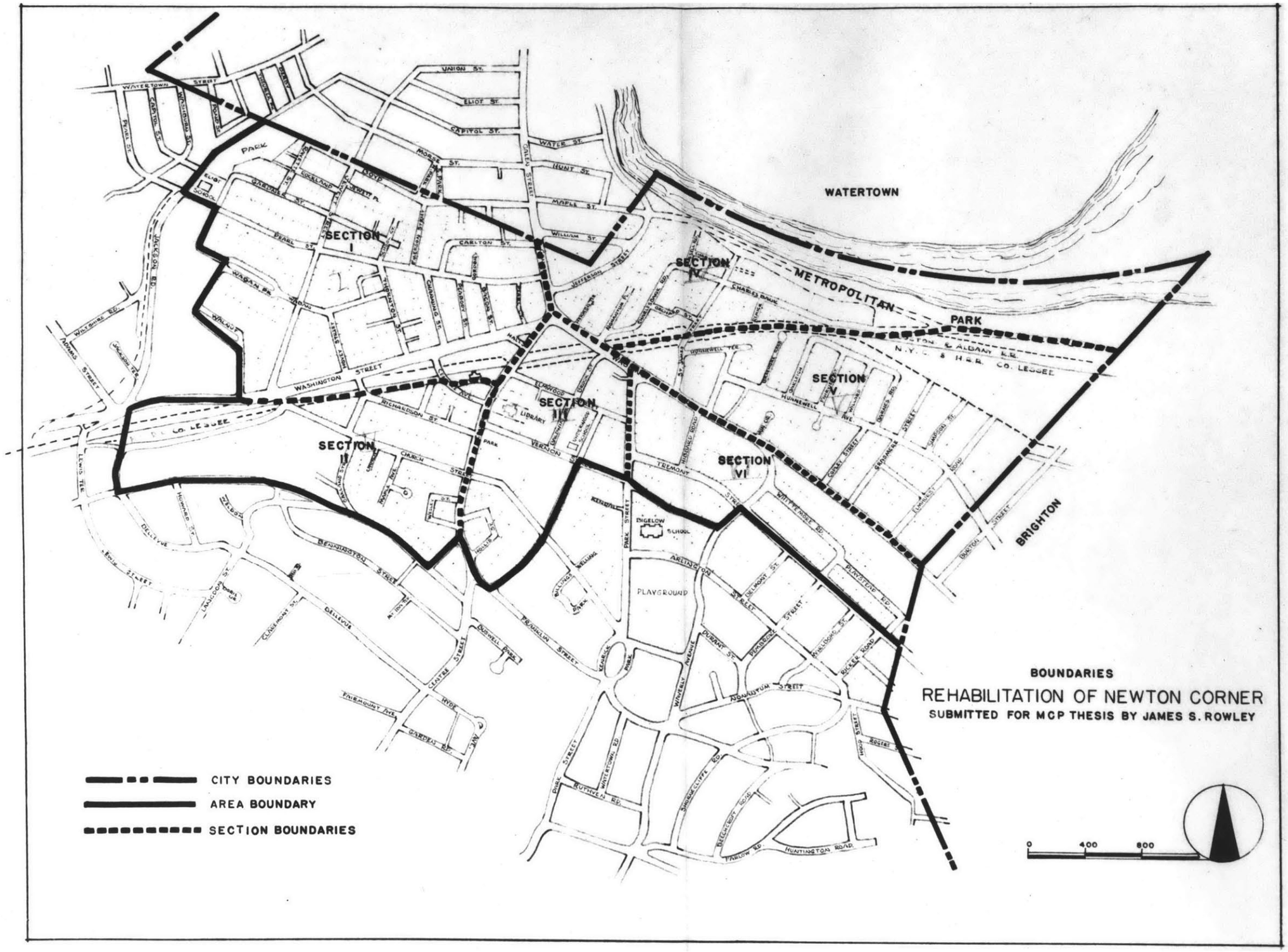
Section IV: North-east portion located East of Centre Street and North of railroad property.

Section V: East portion bounded by railroad property Washington Street and Brighton boundary.

Section VI: South-east portion covering the remaining area below Washington Street and to the East of Park Street.

Square footage and acreage of the following uses were taken from Appendix A, Table I, and the Land Use Map: Business, manufacturing, semi-public and public; and residential land (in use--not vacant). This was done principally to distinguish the land in residential use from any of the other uses. Areas devoted to other than residential use have not been figured in the net dwelling densities. Dwelling units in the business blocks over retail stores present a special problem in themselves and do not need the same density analysis.

A first attempt was made by figuring residential vacant land in the density calculations, but the results did not indicate weakness to the extent believed existent, so it was refirgured, first deducting the acreage of this vacant land. Therefore, new structures could be built on these vacant lots, still maintaining the densities obtained.



BOUNDARIES

REHABILITATION OF NEWTON CORNER

SUBMITTED FOR MCP THESIS BY JAMES S. ROWLEY

Following the break down of uses, the types of dwelling units were calculated and distinguished as single-family, 2-family, and multi-family. The acreage in each of these types was determined for the total area. This again was broken down for each of the six sections.

A determination of net dwelling densities could then be calculated. Work sheet information for each section was now in the stage shown below. (See also Appendix A)

WORK SHEET ON DENSITIES

SECTION I:

Total Residential Land (built on) = 46 acres

Type of Dwelling	Acreage	#Units	Units/acre
single	17	95	5.6
2-family	24	314	13.0
multi-family	5	175	35.0
Totals	46	584	12.6

The total for the area, and the breakdown of the six sections are seen in Tables 4 and 5 respectively. While the overall density for the area seems reasonably low, different degrees of intensity show up when it is broken into sections.

Table 4: NET DWELLING DENSITIES:

TOTAL RESIDENTIAL LAND (in acres)	TOTAL DWELLING UNITS (all types)	NET DWELLING DENSITY (Units per acre of net residential land)
157	1,651	10.5

Table 5: NET DWELLING DENSITIES BY SECTIONS

SECTION	TOTAL RESIDENTIAL ACREAGE	TOTAL DWELLING UNITS	NET DWELLING DENSITY (Units per acre of net residential land bult on)
I	46	584	12.6
II	22	217	9.8
III	12	145	12.
IV	17	254	14.9
V	38	239	6.3
VI	22	212	9.6

With no consideration for land devoted to types of dwelling units, the figures in Tables 4 and 5 still appear meaningless, indicating an undesirable density for an area of single family units, but a better than standard density for two or multi-family dwelling types. This led to the next step for closer definition of uses. The amount of land in use for each of the three types of dwelling structures having been determined, it was related to its intensity of use. The densities for each type were then determined.

Again, for the whole area, shown in Table 6, a most satisfactory relationship is shown between the existent and the desirable density. Comparing our findings in Table 6 for the Newton Corner Area with Table 7 (taken from Planning the Neighborhood) very little could be asked.

Table 6: NET DWELLING DENSITIES: TYPES OF UNITS

TYPE OF DWELLING UNITS	TOTAL ACREAGE	TOTAL UNITS	NET DWELLING DENSITY (units per acre) EXISTENT	DESIRABLE
One family, (detached)	65	338	5.2	5
2-family, (detached)	75	834	11.1	10
Multi-family, (2-6 stories)	17	479	28.	25-40

Table 7: NET DWELLING DENSITIES AND BUILDING COVERAGE*

DWELLING TYPE	(UNITS/ACRE OF NET RESIDENTIAL LAND) STANDARD DESIRABLE	STANDARD MAXIMUM	NET BUILDING COVERAGE (PERCENT OF NET RESIDENTIAL LAND BUILT OVER) STANDARD	MAXIMUM
One and 2-family:				
1 family, (detached)	5	7	30	
1 family, (semi-detached) 2 family, (detached)	10	12	30	
1 family, attach 2 family, semi-detached	16	19	30	
Multi-family				
2-story	25	30	30	
3-story	40	45	30	
6-story	65	75	25	

*Planning the Neighborhood, p. 39.

This is still not significant, so breakdowns by dwelling types and sections were used. The results are seen in Table 8 on the following page.

In Table 8 more discrepancies appear. In 2-family use, Section II, III, and VI meet the standard. Sections I, IV, and V show need of future restriction.

In multi-family use, only Section III shows a marked lack of space with 67 dwelling units per acre. The significance of this discrepancy must not be judged, however, until it is noticed that only 1.0 acre of the total residential land of Section III is devoted to multi-family use. The total residential acreage of Section III is 12 acres, so that this problem lies in only 8% of the residential land.

Additionally, the large amount of open park in the center of Section III makes a difference. This does not imply that the density is desirable, but it might mean that it can be partly justified.

The figures for 2-family units in Sections I, IV, and V do not meet the standard for this type, and indicate a different significance in each section.

In Section I and IV a large percentage of 2-family structures are conversions from single family use.

Table 8: NET DWELLING DENSITIES: TYPE AND SECTION

***

DWELLING TYPE	ACREAGE	#UNITS	NET DWELLING DENSITY (units/acre of residential land, built on)	
			EXISTENT	DESIRABLE STANDARD
		SECTION I		
Single	17	95	5.6	5
2-family	24	314	13.0	10
Multi-family	5	175	35.0	25-40
		SECTION II		
Single	4	22	5.5	5
2-family	13	104	8.0	10
Multi-family	4	91	22.7	25-40
		SECTION III		
Single	4	24	6.0	5
2-family	7	54	7.7	10
Multi-family	1	67	67.0	25-40
		SECTION IV		
Single	4	28	7.0	5
2-family	10	134	13.4	10
Multi-family	3	92	30.6	25-40
		SECTION V		
Single	29	126	4.3	5
2-family	6	80	13.3	10
Multi-family	3	33	11.0	25-40
		SECTION VI		
Single	6	43	7.0	5
2-family	15	148	9.8	10
Multi-family	1	21	21.0	25-40

Observing the density of the singles for these sections it can be noted that they already exceed the standard. This could mean that densities for the original singles, before conversion, could have been sufficiently cramped, and sufficiently small, so that by adding one more dwelling unit to each building, the density was increased beyond the standard.

In Section V, the largest percentage of 2-family structures were built for that purpose, and not converted from other uses. The greatest number of buildings were built later than 1920, and the pattern here shows a more intentional high density development. Buildings in this area would be harder to thin out, and reduced densities less easy to accomplish.

It should be noted here that no multi-family structure in the area exceeds 6 stories and most do not exceed 3, so that 25-40 units per acre is judged to be reasonable. It should also be explained that the last column in Table 8 entitled "NET DWELLING DENSITIES (Units per acre of residential land built on)" means that vacant land in a residential section, not now used for dwelling units, has not been included in the calculations.

Building Coverage

Building coverage was determined by again consulting the material in Appendix A (Tables III, IV) for area covered by buildings as compared to total residential land. The percentage of coverage was then calculated.

In Table 9 coverage is shown for the whole area, in Table 10 for the six different sections. Again referring to the Table from Planning the Neighborhood, (Table 7, p. 19) building coverage is not found to be excessive as a whole. Compared with the figure recommended, it is way above standard. In no case does it exceed the maximum of 30% recommended.

Table 9: BUILDING COVERAGE FOR AREA

TOTAL RESIDENTIAL BUILDING COVERAGE IN ACRES	TOTAL RESIDENTIAL LAND BUILT ON IN ACRES	TOTAL % OF BUILDING COVERAGE
26	157	16.5%

Table 10: BUILDING COVERAGE FOR SIX SECTIONS

SECTION	RESIDENTIAL BUILDING COVERAGE IN ACRES	RESIDENTIAL LAND IN ACRES	%BUILDING COVERAGE
I	7.9	46	17
II	4.0	22	18
III	1.2	12	10
IV	3.2	17	18
V	5.5	38	14
VI	4.2	22	18

General: Net dwelling densities in themselves are not necessarily strong indications of weakness or strength unless related to other statistics, especially as the area analyzed becomes larger.

However, weaknesses may show themselves in a study such as this.

In general, the picture for the total area is favorable, since, except for the business district, buildings rarely exceed the height of four stories. Excessive crowding shows up no where except in multi-family districts. The amount of vacant land interspersed throughout, has not been figured in as part of the residential open land, and control and proper utilization of it would go far toward preserving a sufficient amount of open space.

Sections III, IV and VI show definitely an overuse of land for single family structures, and Sections I, II and V should not be allowed to expand in single family use, unless important adjustments are made, their densities now being respectively 5.6, 5.5, and 4.3 units per acre.

Sections I, IV and V indicate an overuse of two-family structures, probably for the reasons stated previously, and correction of this overload is necessary. As noted, correction will probably be more difficult in Section V as the buildings are newer, assessed at higher values, and are less easy to prove obsolete. Buildings in Section I are immediately in need of rehabilitation for many reasons besides density.

In multi-family use, no section appears to be below standard density except for Section III which has produced a peculiar situation in its 67 units per acre for 1.0 acre. The park referred to in the center of this section is 5.5 acres in size, providing a good amount of open space. It is not equipped or designed to be used as a playground. The proximity of Burr Playground to these units is again significant, and

is accessible to all of these multi-family units, without interruption by major streets.

Section V, though not the best for two-family density, will show up in other studies with a higher rating than the other sections. While slightly below standard in the two-family type, it is superior in single and multi-family densities and its area of vacant land, (9 acres), gives it more available open land than any other section.

The average net dwelling density for the area is 10.5 units per acre (Table 4) which looks all right. Through the process of breaking down the area into sections, and further into types of dwelling uses, it becomes evident that the land is taxed to the extent that further development would be unwise without careful planning. While net residential density probably can be increased, types and areas must be carefully chosen. New uncontrolled building seems to be getting started even now, and too much time should not be wasted before measures to control it are taken.

Neighborhood Densities

The following two tables have been derived from tables 12 and 14 in the section on "Determination of Neighborhood Densities" in Planning the Neighborhood. While certainly not the whole picture, they serve as a basis for general comparison.

For simplification the following changes have been made. Square footage per family has been left out; streets serving dwellings and streets

serving community facilities have been combined; and multi-family unit figures have been averaged to include two, three, and six story standards. Standards to meet our needs of 1,651 families were determined by using the ratio of the two figures and adjusting the desirable percentages to fit the Newton Corner area.

Table 11: NEIGHBORHOOD DENSITIES: FAMILIES PER ACRE

DWELLING TYPE	1,651 FAMILIES	
	EXISTENT FAMILIES PER ACRE	STANDARD FAMILIES PER ACRE
One family, detached	3.6	6.2
2-family, detached	8.2	8.3
Multi-family	10.9	18-32

Table 12: LAND AREA PER FAMILY FOR NEIGHBORHOOD OF 1,651 FAMILIES.

	TYPE OF DWELLING UNIT		
	SINGLE	2-FAMILY	MULTI-FAMILY
NET RESIDENTIAL			
Acres	65	75	17
Existing %	41.4	46.0	16.3
Standard %	73.	70.	55-38
STREETS			
Acres	55	55	55
Existing %	19.5	19.0	30.1
Standard %	25.	25.	26.
COMMUNITY FACILITIES			
Acres	45.5	45.5	45.5
Existing %	33.8	31.6	52.3
Standard %	8.	10.	25-41
TOTALS			
Acres	165.5	175.0	117.0

Even several types of densities considered together are not proof of a well-planned community, nor are high density figures proof that a community is an undesirable place to live in, if it has been cleverly designed. However, the resultant figures of this study can be further indication of bad spots in the area. Land allotted and used for industry, and property leased by the railroad, have been deducted from the total area, as not pertaining to necessary neighborhood facilities.

In Table 11, overall densities for the three types of residential uses appear satisfactory. For one family, detached, the density is only 60% of what it might be; multi-family density is only 43% of a reasonably satisfactory 25 units per acre; and for two-family units almost exactly what it should be.

It is significant, however, that generally high densities appear in two-family use as they did in the study of net residential densities, a further indication that increase in the number of two-family structures must be carefully planned.

Table 12 shows a marked need for a higher percentage of residential land for all types and a need for a lower percentage of land given over to community facilities. It should be immediately pointed out that over 50% of the area calculated as community facilities is in commercial use, and implies that more land is devoted to business than should be. It does not necessarily mean that other community facilities are way above standard. Later studies will back up this point of view.

Marked contrasts between standard and existing densities for street areas are not evident, but the figures here do not appear to be of much value. Redesign of streets, especially in the business area is drastically needed, and to consider proportions of land devoted to streets as a satisfactory reason for keeping them as they are would be a serious mistake.

General: Densities were found to be highest in the 2-family type (a second indication of this). Community facilities were all out of proportion, suggesting that there is an overexpansion of business, if the business area is to be used exclusively by Newton Corner. Street statistics were not considered significant due to many other factors involved.

The basis for the above study was again the assembled statistics in Appendix A (Table II) and the land use material.

Schools

Now included in the area are three schools, two of them elementary and one junior high.

School	Type	Location	Enroll.
Underwood	elemen.	Vernon and Eldredge St.	439
Lincoln-Eliot	"	Jackson and Pearl Sts.	195
Bigelow	jr. high	Arlington and Park Sts.	316

A central high school at Newtonville services the entire city, and proposals have been considered for another high school to be located in the

Southern half of the city relieving the load on the existing school. This would not directly affect our area.

Table 13: ASSUMED AGE DISTRIBUTION

GROUPS	CHILDREN/1,000 PERSONS	CHILDREN/ NEWTON COR. POP. 6,500
CHILDREN BY SCHOOL AGE GROUPS		
Nursery School		
2 1/2 through 4 years	37.5	243.8
Kindergarten		
5 years	15.0	97.5
Six-grade elementary		
6-13 years	90.0	585
TOTAL		682.5
CHILDREN BY PLAY AGE GROUPS		
Play Lot		
2 1/2 through 5 years	52.5	310.5
Playground		
6-13 years	120.0	709.8

Actual enrollment in six-grade elementary schools and kindergarten (which is included in the elementary schools in Newton) equals 624 pupils. The total assumed number for Newton Corner, according to our population estimate in the above table is 682.5. The relationship of these two figures is satisfactory.

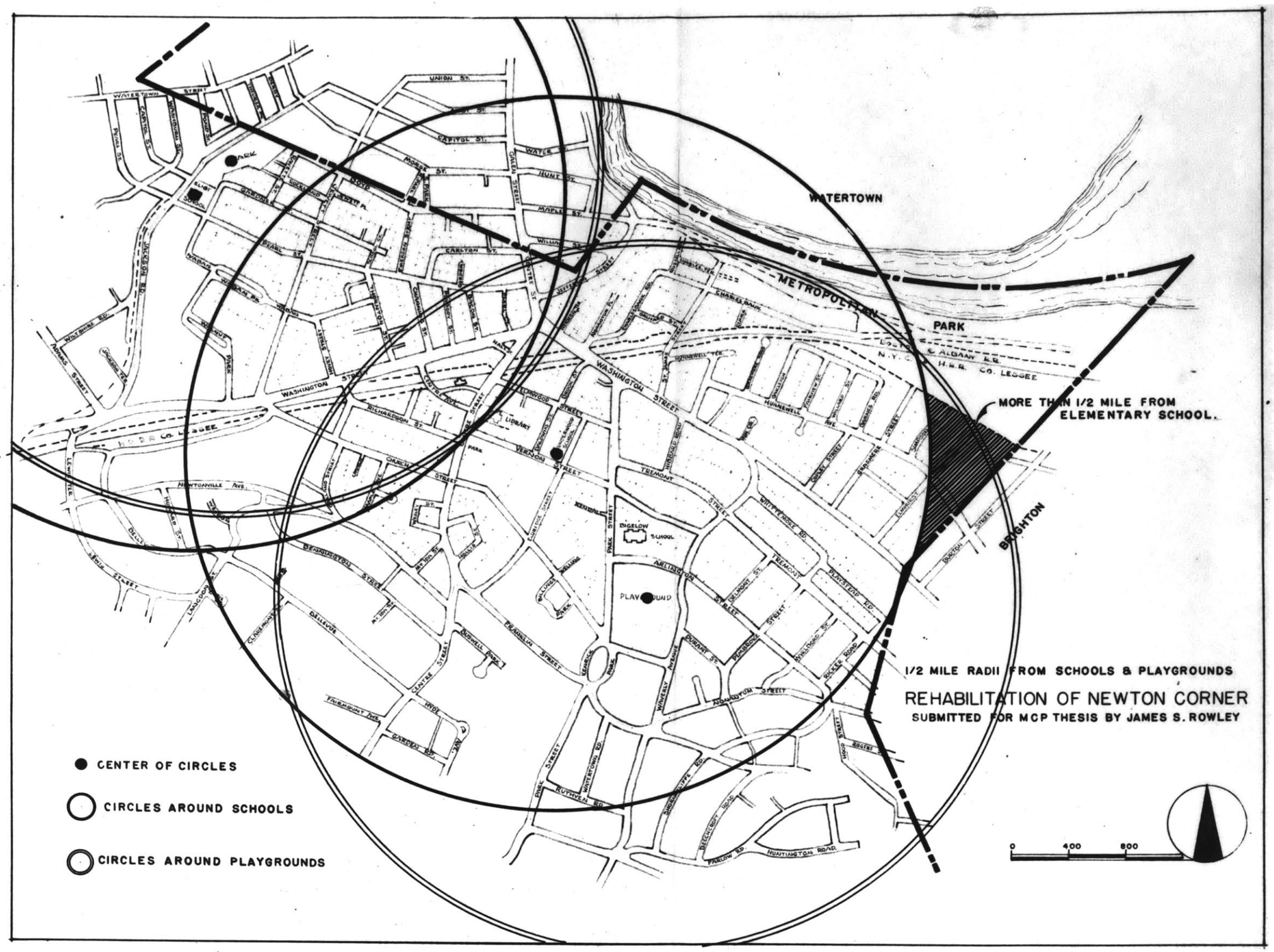
School facilities for the area are in all cases within desirable walking distances with the exception of a small area at the North-east

corner (See Map IV, area cross-hatched.) In this case, the maximum walking distance is exceeded by only 500 feet for the farthest structure which is not serious. The standard distance used as a basis by the City of Newton School Department is a maximum of 1/2 mile for elementary schools, one mile for junior high school.

Present school improvement plans for this area are low on the priority list, as the existing facilities meet present needs much more satisfactorily than they do in other sections.

Of the ten newest schools in the system, two are in our area, the Lincoln-Eliot, and the Underwood School. These are both elementary schools. The area covered by the Lincoln-Eliot School is now overlapped by the area of another older school, and future plans call for the elimination of the older school, and expansion and improvements to the Lincoln-Eliot School.

The present location of the two elementary schools would be good if it were not for the fact that a large percentage of children attending the Underwood School have to cross Washington and Tremont Streets to get there. It is most likely that redesign of the area would make it feasible to expand present facilities where they now stand. The only existent plans for schools in this area are the addition of five new class rooms to the Lincoln-Eliot School in 1950 to absorb the attendance of the Stearns School when it is abandoned.


WATERTOWN
METROPOLITAN
PARK
MORE THAN 1/2 MILE FROM ELEMENTARY SCHOOL.
BRIGHTON
WASHINGTON STREET
PLAYGROUND
ENGELOW SCHOOL
LIBRARY
1/2 MILE RADII FROM SCHOOLS & PLAYGROUNDS
REHABILITATION OF NEWTON CORNER
SUBMITTED FOR MCP THESIS BY JAMES S. ROWLEY
CENTER OF CIRCLES
CIRCLES AROUND SCHOOLS
CIRCLES AROUND PLAYGROUNDS
0
400
800

For the entire school program, borrowing has been recognized as the only possible means of financing, but Newton finds itself strapped with a debt limit of 2 1/2% of the assessed valuation. This would mean only $600,000, obviously not enough.

The total number of children attending the Lincoln-Eliot School now is 195, and the Underwood School, 439. Generally, with properly planned plants, this would not be too large a number, although inclusion of the kindergarten in the elementary schools tends to reduce the efficiency of the system as a whole.

Table 14: ELEMENTARY SCHOOL SITE SIZE*

SCHOOL SITE AREA	NEIGHBORHOOD POPULATION 1,651 FAMILIES	
	EXISTENT SPACE	STANDARD SPACE
COMPONENT USES		
1. Covered by bldgs. sq. ft.	33,000	44,173
2. Service lawn & Parking, sq. ft.	46,254	46,254
3. Margin for expansion, sq. ft.	7,171	18,039
TOTAL AREA		
4. Acre	2.0	2.5
5. Acres per 1,000 persons	.33	.50
6. Sq. ft. per family	54	78

*Derived from Table 7, p. 46, Planning the Neighborhood

Uses of land in the combined elementary school sites is shown in Table 14 above, compared with an arbitrary standard based on the number of families in the area and a proportional number used in Planning the Neighborhood. The results show a definite need for increased space for elementary school facilities. The need is actually greater than shown in Table 14 when it is considered that two separate schools make up the total in our area, and a greater amount of land and building coverage is required for two schools than one. Junior high school facilities will also require comparable expansion.

Recreation

Playground space presents approximately the same picture. Two playgrounds are located in the area, adjacent in both cases to schools. Walking distances bear the same relationship to the play areas as they do to the schools. Reference to Map IV will show that again the small area in the North-east corner is left out.

Adjusted to meet our population, requirements from Planning the Neighborhood would look like Table 16, (p. 32.)

Playground space is generally not lacking. It should, however, be mentioned that Burr Playground is in the Bigelow School area, and does not have a good relationship to the Underwood Elementary School. Its availability to children living across Washington Street is also limited.

Table 15: PLAYGROUNDS IN NEWTON CORNER

PLAYGROUND	RECREATION EQUIP. AND SERVICES	1948 IMPROVEMENTS
Boyd Playground Acres: 6.6 Land Value: $21,500 Bldg. " : 0 Construction cost: 6,814	2 tennis courts 1 baseball diamond & backstops 1 basketball court Junglegym swings slides sandbox teeters children's area drinking fountain School building game rooms shower kitchen auditorium	junglegym basketball court & backboards fences & backstops repaired
Burr Playground Acres: 5.12 Land Value: $77,000 Bldg. " : $23,000 Construction cost: $ 3,685	Field House & shelter 2 drinking fountains 4 tennis courts 3 baseball diamonds & backstops Children's area wading pool swings, slides, teeters, sandbox Indoors gamerooms showers craft classes	new tennis backdrop general repair

Table 16: RECREATION SPACE: STANDARD & EXISTENT

	1,651 FAMILIES	
PLAYGROUND AREA	STANDARD	EXISTENT
Acres: Total	7.1	11.72
Acres/1,000 persons	1.4	1.8
Sq. ft. per family	227 sq. ft.	309 sq. ft.

This is another instance where space is not lacking, but the complicated pattern of the area makes conditions hazardous and unsatisfactory.

No organized system of Tot lots has been used throughout the area, and evidence that there is great need is especially noticeable around the business district. Dwelling units over the retail stores provide no place for children to play other than in the space now used for off-street parking. Where densities, away from the business district, are not high, and a fair percentage of land is vacant, there is no immediate need for Tot lots.

Farlow Park in Section III, already mentioned with 3.76 acres is useable as open space but not as a playground. While it is conveniently located and essential to this area, care must be taken that this area is not over-taxed. The high net residential density for multi-family dwellings in this area will cause overloading of this park if it is allowed to continue increasing.

In the South-west section, a large area of open land in Block 228, belonging to the Y.M.C.A. is useable as open land by the public. The main problem, then, exists in the location of Burr Playground in the South-east section and its availability to roughly 30% of those using it. Playground area for the Underwood School must also be more carefully worked out.

At the present, no community indoor facilities exist outside of the schools, and they are badly needed. Delinquency rates are high in

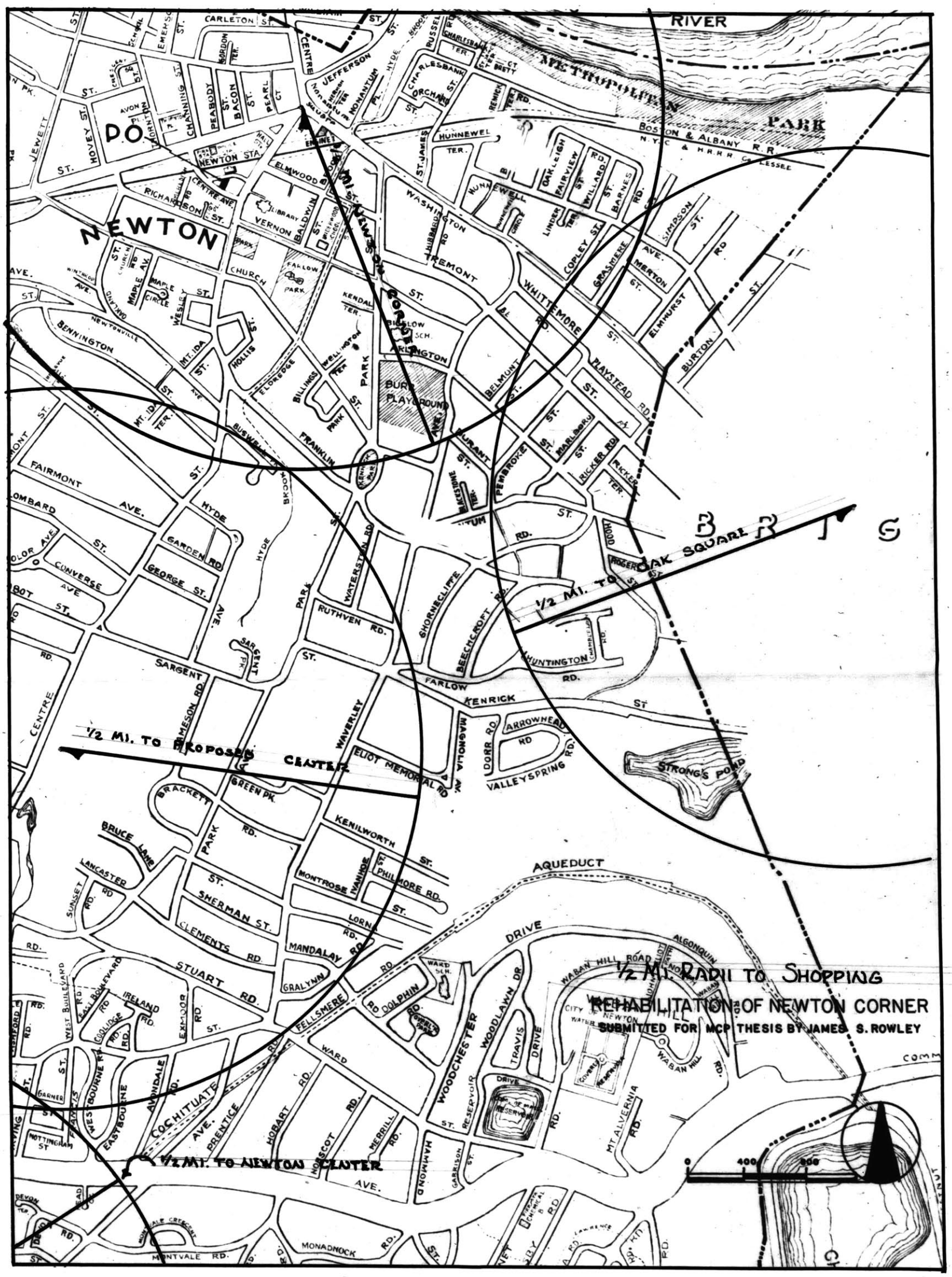
Newton Corner and there is a serious lack of community organization.

Shopping Facilities

In every respect, the commercial area of Newton Corner is out of proportion to its use. With a size of 12 acres, it is crowding more important uses to the side, and forcing values and maintenance down to unreasonable lows.

To compare a business district such as this to a neighborhood shopping center, may at first seem absurd, as it is assumed to be one of the largest business districts in Newton, and probably the most accessible to public transportation. However, changes have taken place which have decreased its importance. While in part it served Newtonville, West Newton, Newton Centre, and Nonantum before, it now is bordered on three sides by shopping areas, as well if not better equipped to serve people's needs.

If a circle with a 1/2 mile radius is drawn with Newton Corner proper as its center it will cross or be tangent to similar circles drawn around the following centers; Watertown Square to the North; Oak Square, Brighton, to the East; and Newtonville Square to the West. The Nonantum shopping center to the North-west would fill in any gaps that might exist in that direction. The Nonantum Center is no more up to date or adequate than Newton Corner but it is at least sufficient to discourage people from that area going to Newton Corner.


NEWTON
P.O.
NEWTON STA.
NEWTON CORNER
CHURCH PARK
BURR PLAYGROUND
PARK
RIVER
METROPOLITAN PARK
BOSTON & ALBANY R.R.
N.Y.C. & H.R.R.R. CO. LESSEE
CARLETON ST.
JEFFERSON
CHARLESBANK
HUNNEWELL TER.
ELMWOOD
CENTRE AVE.
RICHARDSON ST.
VERNON
BALDWIN
WASHINGTON
TREMONT
COPLEY ST.
GRASMERE
SIMPSON ST.
MERTON ST.
ELMHURST
BURTON
WHITTEMORE
PLAYSTEAD RD.
CHURCH
MAPLE AV.
MAPLE CIRCLE
WESLEY ST.
KENDAL TER.
BENNINGTON
NEWTONVILLE
MT. IDA ST.
HOLLIS ST.
ELDREDGE
BILLINGS
WELLINGTON TER.
FRANKLIN
BUSWELL
BELMONT ST.
GRANT ST.
MARLBORO ST.
RICKER RD.
PEMBROKE
BLAKESTONE TER.
FAIRMONT AVE.
HYDE
GARDEN RD.
GEORGE ST.
CONVERSE
BROOK
WATERSTON RD.
RUTHVEN RD.
SHORNECLIFFE
BEECHCROFT RD.
HUNTINGTON RD.
FARLOW
KENRICK ST.
SARGENT
SARGENT PK.
JEMISON RD.
WAVERLEY
ELIOT MEMORIAL RD.
MAGNOLIA AV.
DORR RD.
ARROWHEAD RD
VALLEYSPRING RD.
STRONG'S POND
BRACKETT
GREEN PK.
PARK RD.
KENILWORTH ST.
BRUCE LANE
LANCASTER RD.
SUNSET RD.
SHERMAN ST.
CLEMENTS RD.
MONTROSE
IVANHOE
PHILMORE RD.
LORNA RD.
MANDALAY RD.
AQUEDUCT
DRIVE
ALGONQUIN
WABAN HILL ROAD
STUART RD.
GRALYNN
FELLSMERE
DOLPHIN RD.
WARD SCH.
WARD
WOODCHESTER
WOODLAWN DR.
TRAVIS DRIVE
RESERVOIR
WABAN HILL
MT. ALVERNIA RD.
IRELAND RD.
EXMOOR RD.
AVONDALE RD.
COCHITUATE
AVE.
PRENTICE
HOBART RD.
NORCOT RD.
MERRILL RD.
HAMMOND
GARRISON ST.
EASTBOURNE
WESTBOURNE TER.
GARNER ST.
NOTTINGHAM ST.
DEVON RD.
MONADNOCK RD.
MONTVALE RD.
1/2 MI. TO OAK SQUARE
1/2 MI. TO PROPOSED CENTER
1/2 MI. TO NEWTON CENTER
1/2 MI. RADII TO SHOPPING
REHABILITATION OF NEWTON CORNER
SUBMITTED FOR MCP THESIS BY JAMES S. ROWLEY
0
400
800

To the South, there is nothing closer than Newton Center, but there is good reason to believe that people within shopping distance of Newton Corner go to the Center to do their buying. If it were not for this gap in distance to the South, the indications would be that Newton Corner could no longer support shopping facilities for more than its immediate population.

Assuming, for the moment, that this was the case, Table 17 was made showing the disproportionate amount of retail sales equipment existing in the area.

Table 17: NEIGHBORHOOD SHOPPING CENTER SIZE

SHOPPING CENTER	NEIGHBORHOOD POPULATION 1,651 FAMILIES	
	EXISTENT	RECOMMENDED
COMPONENT USES:		
1. Ground area of bldgs. square feet	266,133	28,090
2. Customer parking, sq. ft.	44,000	57,800
3. Circulation service & set back, sq. ft.	14,000	28,900

A look at the figures in this table will show too great an area devoted to this use and inadequate parking and service areas. This tells a small part of the story, and general observation of any of the maps included in the thesis will show overdevelopment especially in light of additional facilities on all four sides.

Included as Appendix B is a list of stores and specific uses found in the area, listed by block, type of business, square footage of land, and square footage of buildings. It will be noticed that many instances of vacancies occur.

Proposals for rebuilding the block which recently burned, have been made already, and careful thought should be given before these proposals are allowed to materialize.

Reference is made again to the figures on use and zoning in Table 3 at the beginning of the thesis. Even the 60.8% of the land zoned for business is plainly too much as indicated by the amount of vacant stores.

While zoning has probably been fitted to existing use rather than making the use fit the zoning, opportunities for changes may be possible before too long due to the fact that most buildings around the center are obsolete and will not be usable by good standards for many more years.

Average age of buildings for the central block are as follows:

Built 1899 or before	112 buildings	50 years or more
Built 1900-1920	25 buildings	30 years or more
Built 1920-1929	4 buildings	20 years or more
Built 1930-1940	1 building	10 years or more

As noted, 78% are over 50 years old. The state of repair of most of these buildings is poor. Twenty eight units were reported by the U. S. Census in 1940 from the blocks selected above, as being in need of repair or adequate plumbing.

In no way can the district be considered convenient. Referring again to Table 17, figures for customer and for circulation service and set back prove this alone, and a glance at the Land Use Map will show how it is strung out, rather than integrated.

One authority[1] classifies shopping centers as being one of five types. They are as follows:

1. Central district -- center of Mother City
2. Outlying business center -- at fringe of Mother City
3. Principal business thoroughfare -- on main route with convenient curb parking.
4. Neighborhood shopping center -- for local patronage, within walking distance.
5. Isolated cluster -- one or two stores at block corner (delicatessan, drug store, etc.)

To more definitely classify the Newton Corner shopping center, use could be made of these types.

1. Central district: It is not part of the Mother City.

2. Outlying business center: It no longer qualifies as a shopping center of the outlying district type where people can get their shopping done on the fringe of the big city without entering it. Adequate parking or convenience is not supplied and centers such as the development at Route 9 and Hammond Parkway, Coolidge Corner, Brookline, and Newton Center will more adequately fill these needs.

1. Proudfoot, M. J.: "City Retail Structure", Economic Geography, Vol. 13, October 1937, pp. 425-28.

3. Principal business thoroughfare: Its location on Washington and Centre Streets partially fulfills this requirement, but inconvenience in parking and disorganized arrangement spoils its usefulness.

4. Neighborhood shopping center: Serving local needs within walking distance of 1/2 mile. Actually, this is its present use, and redevelopment would mean its efficiency in this capacity.

5. Isolated store cluster: Naturally, it is not this.

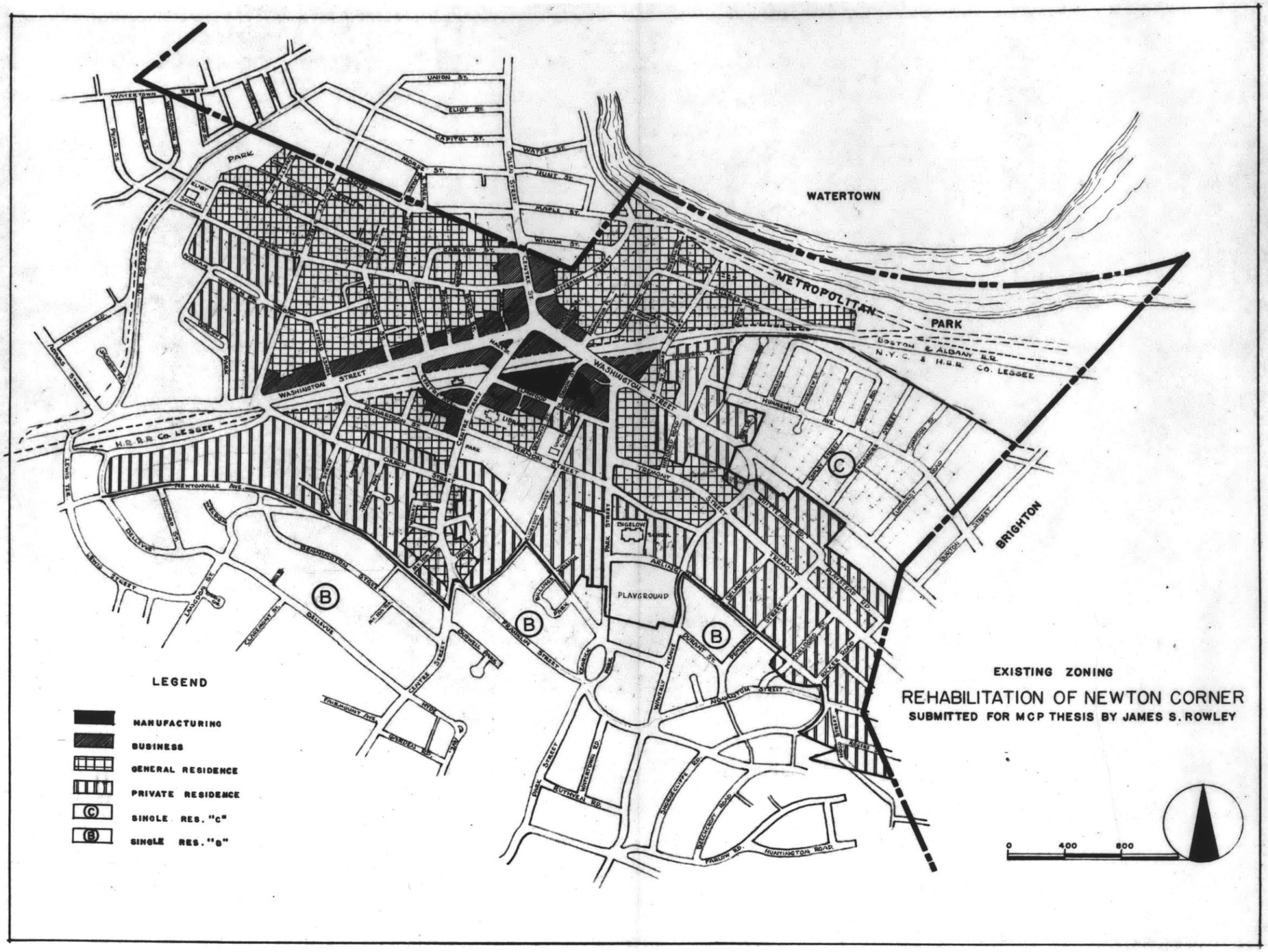
Conclusions, in general: Redesign of the entire retail district is necessary. Without question, its importance as a business center has decreased, vacancies are occurring significantly, developments around it have lessened its importance, zoning is obsolete, buildings are ready for demolition and reconstruction, and convenience is sadly lacking.

A new shopping center should be developed to meet the needs of a much smaller population.

Zoning

Information on existing zoning regulations has been included with a map showing the various areas and their zoning classifications. Included zoning classifications. Included also as Appendix D, is a breakdown of the regulations governing each type district appearing in the area. It was not felt necessary to include the whole zoning ordinance, as this breakdown more simply, with less bulk, shows the requirements to be enforced.

Within our area, there are six types of districts. For the City of Newton as a whole seven types of districts have been used, but in Newton


WATERTOWN
METROPOLITAN PARK
BOSTON & ALBANY R.R.
N.Y.C. & H.R.R. CO. LESSEE
H.R.R.R. Co. LESSEE
BRIGHTON
WASHINGTON STREET
PLAYGROUND
LEGEND
MANUFACTURING
BUSINESS
GENERAL RESIDENCE
PRIVATE RESIDENCE
SINGLE RES. "C"
SINGLE RES. "B"
EXISTING ZONING
REHABILITATION OF NEWTON CORNER
SUBMITTED FOR MCP THESIS BY JAMES S. ROWLEY
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Corner no Single Residence "A" District appears. It should be mentioned, however, that directly South, starting at Kenrick Park, an "A" District appears, and as such is one of the most restricted areas in the City of Newton -- another indication of the reasons for our Southern boundary.

Reference should be made to Appendix D for specific districts and their permitted uses and restrictions. Briefly, they are as follows:

A District: Single family residence permitted, 30% coverage plus accessory buildings. B District: Single family residence, 30% coverage plus accessory buildings, minimum lot area of 10,000 square feet (where A District has a minimum lot area of 15,000 square feet). C District: Single family residence, same coverage allowed, minimum lot area is 7,000 square feet, with a minimum lot width of 70 feet. (A large part of Section V is in this category.) Private Residence District permits 2-family dwellings with the same lot area requirements as "C" District; General Residence District permits dwellings for more than 2-families with same minimum lot requirements, a height of 80 feet or 5 stories is allowed where 55 feet or 4 stories was allowed in the preceding districts; Business District permits stores and offices without minimum lot requirements, and a permitted height of 80 feet or six stories; Manufacturing District permits manufacturing of any sort not listed in Paragraph A of Section 567, (See Appendix D).

Generally, the zoning map is a reflection of good and bad conditions appearing in other studies, the least restricted areas appearing North of

Washington Street and closing in on Centre. To the South of Washington more restricted areas appear closer to the business area. If zoning has been made to fit existing conditions this would indicate earlier and more marked deterioration to the North.

The area in Section V, which is zoned "C" Residential reflects far superior residential development than prevails in other sections until the Southern boundary is reached.

The small area of General Residence to the South along Centre Street, provokes questioning. Probably, its accessibility to Farlow Park is partly responsible for permitting it to be there.

Zoning for business reflects the pattern of its present development, and a gradual reduction, and better distribution of this district is indicated. The amount of space allotted to industry is less than 50% used as such and possibly the requirements for this space will necessitate reducing it or doing away with it completely.

With the exception of business and manufacturing, it would not appear that stricter controls were necessary. However, anything which could be done to reduce the amount of area given over to these two uses, seems, at this point, a good idea.

Buildings in the General Residence District to the South on Centre Street are largely recent construction and it would not appear to have any relationship to the general growth of the area, except for its nearness to Farlow Park, which even then is across a fairly heavily-used thoroughfare.

Height of buildings allowed has had no serious effect on the area except in the business center. It has been pointed out already, in the section on shopping facilities, that buildings here are obsolete, and adjustment may be feasible before too long a period has elapsed.

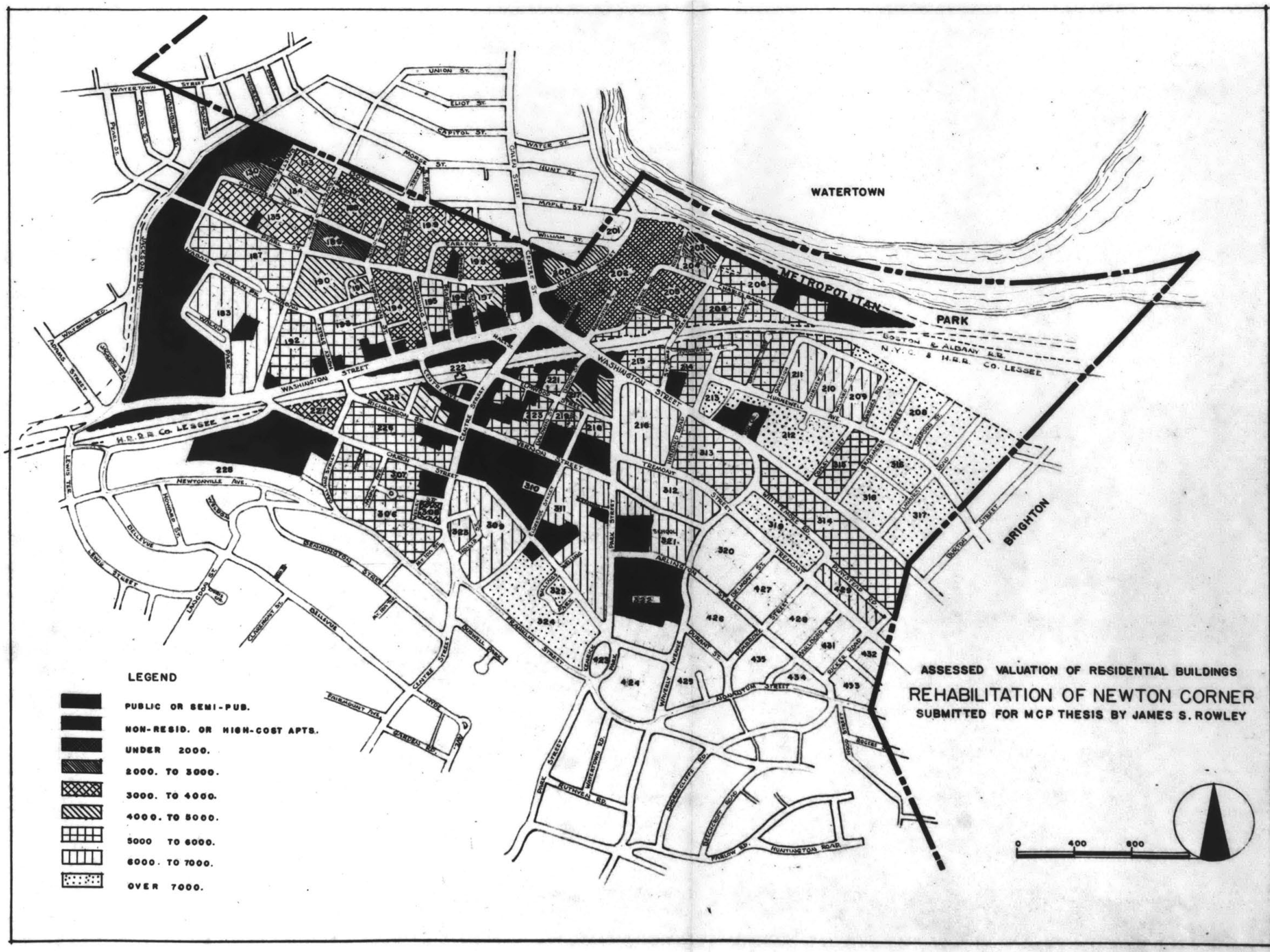
In conclusion, adjustments appear necessary in the business district, the manufacturing district, and the General Residence district, South on Centre Street.

Assessed Valuation

As a further index of deterioration and its main location, a study was made of assessed valuations of buildings and land. Results of this study are seen in Map VII. The construction of the map is based on the following process.

Only current assessments have been used for the study for two reasons: 1. current assessments only are accessible in the Assessor's files; 2. it is believed that assessment trends are not a reliable index due to the fact that they change at periods which do not necessarily reflect actual building or land values, but rather the mechanical processes of the particular assessor's office.

From the Assessor's file this information was taken on all residential land and buildings (Public, Semi-public, business, and manufacturing uses were not included); Street number, square footage of lot; value of building; value of land; and total value. (See sample work sheet included in Appendix E).



ASSESSED VALUATION OF RESIDENTIAL BUILDINGS
REHABILITATION OF NEWTON CORNER
SUBMITTED FOR MCP THESIS BY JAMES S. ROWLEY
LEGEND
PUBLIC OR SEMI-PUB.
NON-RESID. OR HIGH-COST APTS.
UNDER 2000.
2000. TO 3000.
3000. TO 4000.
4000. TO 5000.
5000 TO 6000.
6000. TO 7000.
OVER 7000.
0
400
800
WATERTOWN
METROPOLITAN
PARK
BRIGHTON
BOSTON & ALBANY R.R.
N.Y.C. & H.R.R. CO. LESSEE
H.R.R.R. Co. LESSEE
WATERTOWN STREET
WASHINGTON STREET
CENTRE STREET
VERNON STREET
TREMONT STREET
CHURCH STREET
PARK STREET
FRANKLIN STREET
NEWTONVILLE AVE.
ARLINGTON STREET
NONANTUM STREET
HUNNEWELL AVE.
UNION ST.
ELIOT ST.
CAPITOL ST.
WATER ST.
HUNT ST.
MAPLE ST.
WILLIAM ST.
MORSE ST.
CARLTON ST.
GALEN STREET
JACKSON RD.
BELLEVUE

The above data was restudied to give the information found in the first part of Appendix E: Block numbers; Top Valuation in dollars; Lowest Valuation in dollars; Mean Average Valuation in dollars; Median Valuation in dollars; and the number of buildings included in each block. (Block numbers have been listed corresponding to our six sections, and spaces have been left where one section ends and the next one starts.)

Figures used for making Map VII were from the column entitled "Mean Average Valuation in Dollars". Areas not in residential use or in high-cost reasonably new apartment buildings have been blacked out to prevent averages from becoming distorted. Valuations range from below $2,000 to over $7,000. Lowest values appear above Washington Street and close to the business center and railroad. Blocks in the North-west corner show generally low valuations and is a further indication of poor living conditions. Block 132 in the very corner has the lowest average valuation of $1,750. Blocks 202 and 205 are significantly low for this section. Valuations increase in the directions of West, South-west, South and East. Section V shows up quite consistently in high valuations, as it did in density figures, building coverage, and zoning restrictions.

Suggested before, Section VI has a high density in 2-family use that will be difficult to correct because of its fairly recent construction. This is backed up further by the assessed valuation Map, showing Block 319 with building valuations of over $7,000. Valuations in Block 208 and 215 become lower as they approach the railroad and the business center.

Comparisons of these symbols with block statistics in the appendices on crwding, age of buildings, and state of repair or plumbing show a generally significant correlation. This map with assessed valuation will be valuable in helping to arrive at a more feasible rehabilitation plan.

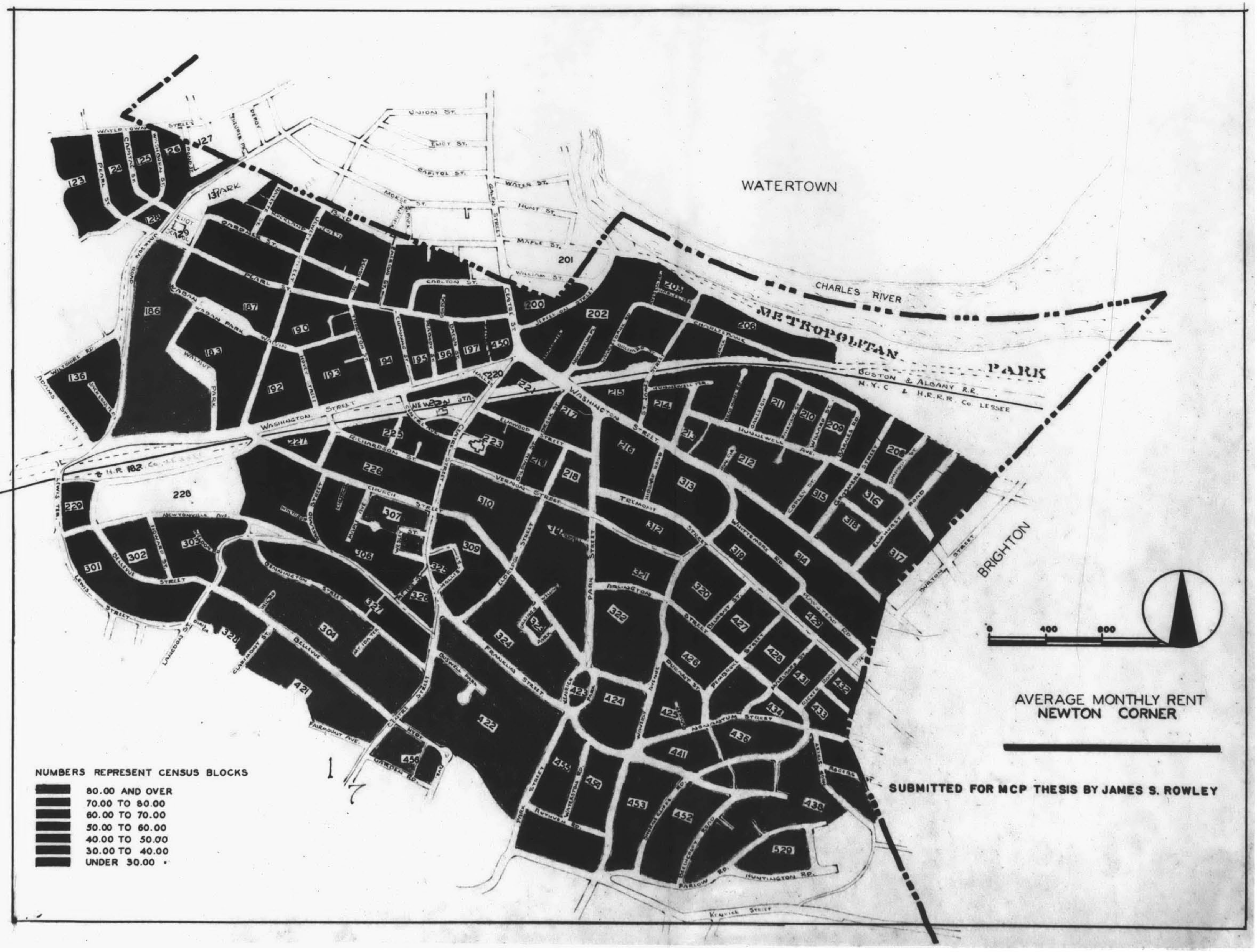
Average Rents

While rents have gone up anywhere from 50% to 75% within the last ten years in the Newton Corner area, the lowest and highest rents are in the same general location as they were before.

Based on U. S. Census Statistics, shown in Appendix A, an average monthly rent map was made (Map VIII) as a further index. While it is not valuable in itself, it backs up other indications and shows up certain peculiarities of its own.

Consistent with other conditions, the North-west corner shows the lowest rents while they remain quite low around the business center. To the South and in a large part of Section V rents of $80.00 and over show again the high value of these sections.

Most inconsistent, in the light of previous studies, are the low rents in Blocks 429 and 306. Assessed valuations of buildings average for Block 420 from $6,000 to $7,000, which is quite high for the area, while rents in this block come into the third lowest bracket. Rents in Block 306 fit into the same bracket but this might be explained by a small section of poor housing on the embankment at the South-west corner.


WATERTOWN
CHARLES RIVER
METROPOLITAN PARK
BOSTON & ALBANY R.R.
N.Y.C & H.R.R.R. Co. LESSEE
BRIGHTON
WASHINGTON STREET
NUMBERS REPRESENT CENSUS BLOCKS
80.00 AND OVER
70.00 TO 80.00
60.00 TO 70.00
50.00 TO 60.00
40.00 TO 50.00
30.00 TO 40.00
UNDER 30.00
0 400 800
AVERAGE MONTHLY RENT
NEWTON CORNER
SUBMITTED FOR MCP THESIS BY JAMES S. ROWLEY

Generally, again indications of poor residential conditions point to the North-west corner, the area around the business center, and land abutting the railroad.

Public Transportation

Facilities for public transportation are not badly lacking. Probably better services are offered from this section than any other place in the City of Newton. On the basis of these services, public transportation is not considered a problem in this area. The following is a time table of the present lines.

Metropolitan Transit Authority
(Rapid Transit)

Cars from Watertown to Lechmere, passing through Newton Corner are run, one car on 4 minute time all day. During the peak hour, 7:10 AM to 8:10 AM, cars are run on 3 minute time with two cars. At 8:10 AM schedule returns to 4 minute time.

The afternoon rush, 4:30 to 5:30 PM, is provided with cars running from Park Street to Watertown on 3 minute time and two cars. (This is considered adequate public transportation between Newton Corner, Boston, and Watertown.)

Middlesex and Boston Street Railway Co.

Newton to Framingham:

Leaves Newton: 6:36 AM, Every 1/2 hour until 10:36 PM; 11:36 PM; 12:06 AM.

Newton Corner to Oak Hill (via Newton Center)

Leaves Newton: 7:10 AM; 8:10 AM; 8:35 AM; 9:10 AM; Every hour until 12:10 PM; every half hour until 7:10 PM; every hour to 11:10 PM.

Newton Corner to Waverly, (via West Newton and Waltham)

Leaves Newton: 6:15 AM; 6:50 AM; 7:25 AM; 7:48 AM; every 30 minutes to 6:48 PM; every hour to 11:43 PM.

Boston and Albany Commuter Service

Services by train to Boston: (via: Faneuil, Brighton, Allston, University, Huntington Avenue., and Boston.)

Leaves Newton: 6:19 AM; 7:21 AM; 7:49 AM; 8:05 AM; 8:25 AM; 8:38 AM; 9:06 AM; 10:40 AM; 1:26 PM; 2:34 PM; 3:33 PM; 5:27 PM; 7:05 PM:

Leaves Boston: 8:05 AM; 10:15 AM; 12:00 Noon; 12:30 PM; 12:35 PM; 1:15 PM; 2:05 PM; 2:55 PM; 4:30 PM; 4:50 PM; 5:25 PM; 5:50 PM; 6:12 PM; 7:10 PM; 9:45 PM; 11:50 PM:

Mention should be made at this point of the fact that the M.T.A. has no plans for rerouting its tracks in the Newton Corner area.

Extension of Rapid Transit facilities to the West will probably not occur for many years. Eventually, they plan to extend over the same general course as the Boston and Albany Highland Circuit now follows. Priorities for extensions and improvements in other directions, however, put this far into the background.

The Highland Circuit proposal was made in the 1947 Metropolitan Transit Recess Commission Report, and was questioned on the basis of intermediate stations which would be left out. No answers were given to

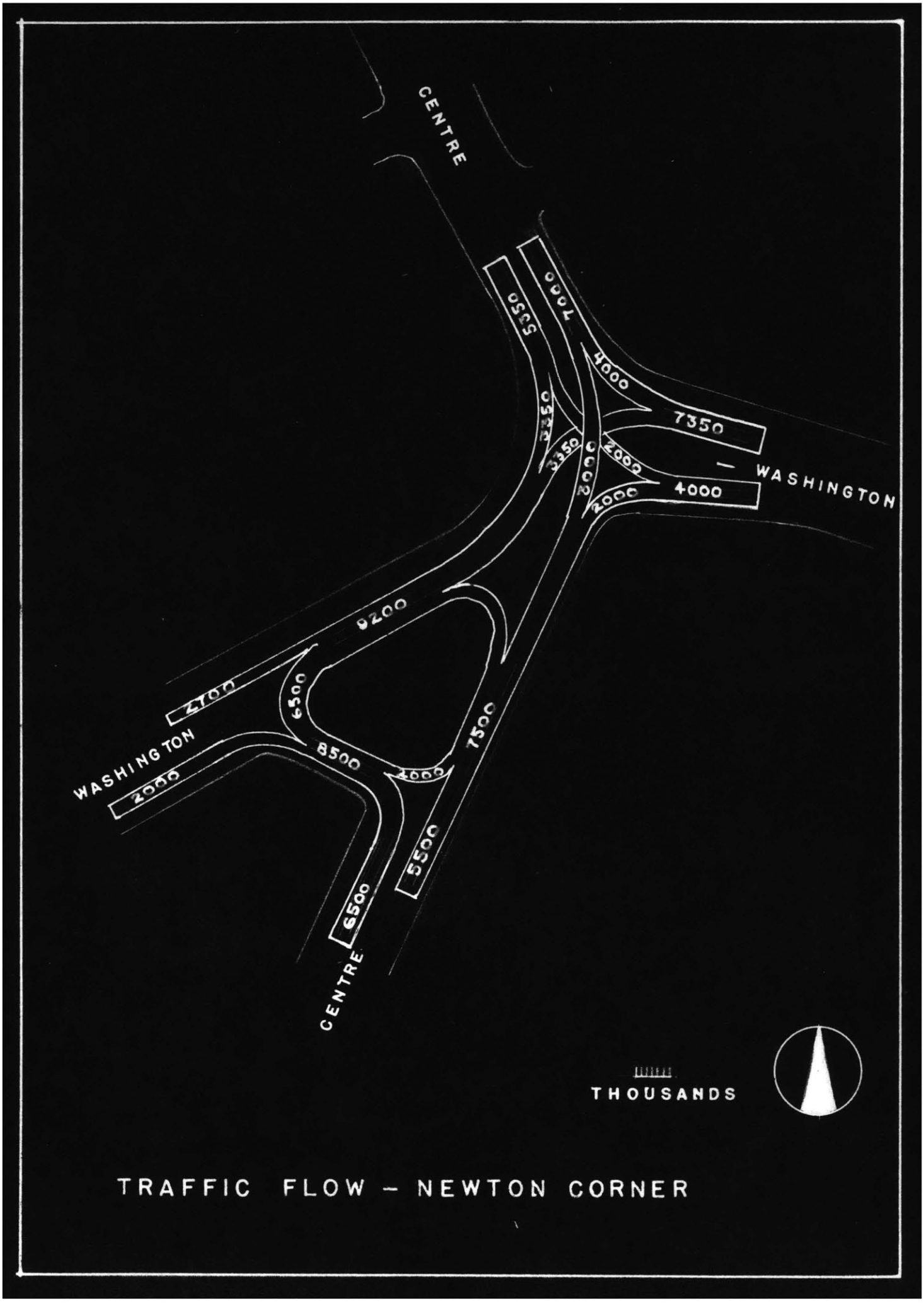
these questions, and the matter has not been studied further. The plans for this thesis, therefore, have been made on the assumption that no change in rapid transit routes is pending.

Traffic Circulation

Traffic is so badly handled in the direct center at this point, that analysis is hardly needed to prove the necessity for redesign. More serious than the complicated routes which vehicles must take to get through Newton Corner, is the hazardous arrangement for loading and unloading street car passengers. Surrounded on all sides by streets entering a busy intersection, passengers must cross the street at blind corners to reach the loading platform in the center. Correction of this condition must come along with a redesign of the shopping center, improved traffic flow, and increased off-street parking facilities. Busses now load at the curb of Block 450, and also make their contribution to the confusion.

A traffic flow map is submitted as partial illustration of the problem which exists. It is by no means an accurate count of traffic conditions at peak hours, but the general characteristics are true. Based on traffic counts taken by the Massachusetts Dept. of Public Works over an average 24 hour day, it shows where the heaviest load occurs, and makes obvious the necessity for the removal of the bank building.

With the heaviest bands on the section North of the bank building on Washington Street, and on Hall Street West of the bank building, it produces an awkward and dangerous situation.



TRAFFIC FLOW – NEWTON CORNER

Where Washington Street becomes narrowest, the band is widest, reason: the bank building.

Where the sharpest turns and the greatest amount of weaving occurs, (on Hall Street) the street is narrow, reason: the bank building.

Designs submitted must include the removal of this building although it would have been preferable to first remove buildings containing substandard housing.

Conclusions of Part I

This is an area which needs redevelopment perhaps less than areas in surrounding cities. In some respects it may need redevelopment less than some areas within the City of Newton itself. However, the multiplicity of problems in the Newton Corner area is more marked than elsewhere.

Common characteristics in the Watertown and Brighton sections abutting Newton Corner, should be treated in a like manner, but have not been considered in this study. It is not felt that recommendations made in this thesis will be detrimental to either Watertown or Brighton.

Population: Increases in population are judged to be roughly 8% between 1940 and 1950, although an accurate tabulation is difficult. While population increases for the City as a whole are over 10% for the ten year period, the smaller increase for Newton Corner seems natural as little new construction has taken place, and absorption, to a large extent, was noted in 1940. Conversion of existing dwelling structures to two and multi-family use accounts for a large percentage of the increase, and although this has been noted by City Departments no action has been taken because of the problem of relocation.

Land Use: While the predominant use in the area is residential, a greater proportion of the land is devoted to business than is found in other parts of the city. Considered from the point of view that Newton is predominantly a residential city on the fringe of Boston, a large

percentage of business is not expected. This is the first indication that the business district is too large for present needs and demands.

Manufacturing: A small section of industrial use in the heart of the area does not show an inclination to expand. While it abuts the railroad, it has no access to it for loading, and truck access is not convenient. Indications are that it should not be there.

Railroad property is approximately 21 acres, cutting through the area from East to West. It has been depressed for a great part of the distance, and while it has affected land values to a certain extent, it creates few hazards and should not be considered seriously detrimental. No grade crossings exist.

Schools and Recreation: Land for these purposes is not far below standard in amount or distance. Location would be good if it were not for the poor circulation pattern. More land is needed, but not too great an amount.

Vacant Land: A fairly high percentage of vacant land would indicate arrested development and general sluggishness of the area. Redesign and stimulation might turn this land into valuable use. Much of it should be used for low rent housing, playlots, and general open space for residents. The Land Use Map shows a predominance of 2-family use in the area.

Densities: Studies in net residential and neighborhood densities were made for the area as a whole, and for six sections which defined themselves by more or less definite characteristics.

The overall net residential density was determined to be 10.5 dwelling units per acre; overall neighborhood densities by dwelling unit types were as follows: single family, 3.6 families per acre; 2-family, 8.02 families per acre; and multi-family, 10.9 families per acre.

Generally, densities were not found to be excessively high, but in Sections I, IV, and V 2-family use crowds the wire. In the case of Section I, this was attributed to fairly high single family density before conversion took place in older dwelling structures. In Sections IV and V, age and type of structures indicate that the section was originally built up at fairly high densities.

Multi-family density in Section III appeared high, and further growth should be watched. The proximity of Farlow Park was believe to have had influence.

Neighborhood densities substantiated findings in the study on residential density. The most marked distortion appeared in the excessive amount of land used for business. (A third indication of this.)

Dwelling units included in the business section, and to a large extent in the business buildings themselves are badly overcrowded, and no provision of open space for these units are shown other than land being used for parking. Herein lies a situation badly in need of correction, whereas other density questions are more a matter of adjustment and control.

Section V, which is zoned for "C" Single Family Residence, appeared consistently better from density considerations than any other section.

Schools: There are two elementary schools and one junior high school in or available to the area. Generally they are all fairly adequate, and except for a small area in Section V all schools are within standard walking distance. A comparison of the number of children attending both elementary schools checked closely with our estimated number of elementary and kindergarten school pupils in the area.

A need was seen for increased elementary school facilities space, and provision of nursery school facilities. A large number of the children attending the Underwood Elementary School must cross busy streets to get there. Priorities in the Newton school program for this area are very low, as needs are greater in other parts of the city.

Recreation: Generally, the same picture as schools. A small area in Section V is not within 1/2 mile radius of Burr Playground, and Sections IV, V and VI must cross Washington and Tremont Streets to get to it. Playlots for younger children are needed, especially around the business section, and indoor community recreation facilities are lacking.

Shopping Center: As shown by every study so far, the shopping center was found to be greatly oversized. Maps indicated a disorganized shoe-string type of development.

The proximity of newer and better shopping centers on three sides and the number of vacant stores appearing indicated a change in importance of the Newton Corner shopping district. 78% of the buildings are over 50 years old, and there is a serious lack of space for parking and servicing. Of the area that is zoned for business only 60.8% is actually in that use, as compared with 78% in Newton Centre. Poor circulation and inconvenience are serious problems.

Zoning: Main adjustments are found to be necessary in the business district. It is given too large a proportion of the area. The permitted use of residence in the business district probably will have to be stopped. Land zoned for manufacturing is questionable. Spot zoning for multi-family use along Centre Street to the South does not appear to bear the proper relationship to the rest of the area.

Assessed Valuations: Low assessed valuations for buildings are indicated in the North-west corner; immediately surrounding the business district, and in some cases, on property abutting the railroad.

Average Rents: Generally substantiated findings in the study on assessed valuations.

Public Transportation: Was not considered a problem as rapid transit or bus lines were provided to Boston and other sections of Newton, Watertown, and Waltham. A commuter service of the Boston and Albany Railroad stops here.

Traffic and Circulation: Very much in need of redesign. Vehicles are routed through the center in a complicated fashion, and bus and street car loading and unloading is hazardous and inconvenient.

Recommendations

1. Proposals for redevelopment of business center and land immediately surrounding it.
2. Inclusion of public housing project within the redevelopment schemes.
3. Sample rehabilitation of substandard block.
4. Elementary school and recreation recommendations.
5. Zoning changes.

Plan I

Suggested Redesign of the Business Center

On the basis of remarks made about the present business center, the following design was made as a possible solution. It would provide better circulation, more convenient shopping facilities, more off-street parking, a community recreation center, and better housing to replace existing slums. Explanation of the design follows in various steps. On the basis of its high cost, a second compromise design is submitted afterwards, but the first design can have value from a long range point of view.

Plan I

Circulation: The installation of a traffic circle, 160' in diameter, at the intersection of Washington and Centre Streets would alleviate congestion to a large extent and also provide safer and more convenient loading for street cars. Changing the street car tracks would not be necessary. The circle would involve the clearance of a number of buildings which are substandard, and 90% of which are over 50 years old.

The elimination of the following existing roads would be necessary. Bacon Street, Pearl Court, Nonantum Place, and Hermon Terrace. However, the proposed new road (marked L on the plan), would utilize part of Hermon Terrace and its extension which has been plotted but never developed.

Pedestrian circulation has been quite drastically changed to meet the needs of the new design. Walks in the business development would be roughly five feet wide, and in the shopping center wider.

LEGAND - PLAN FOR NEWTON CORNER

A - New Buildings - Offices over Stores

B - Parking for Shopping Center

C - New Shopping Center

D - Bus Loading

E - Block 198 - Use Present Shopping Facilities

F - New Island - Street Car Loading

G - Pedestrian Underpass

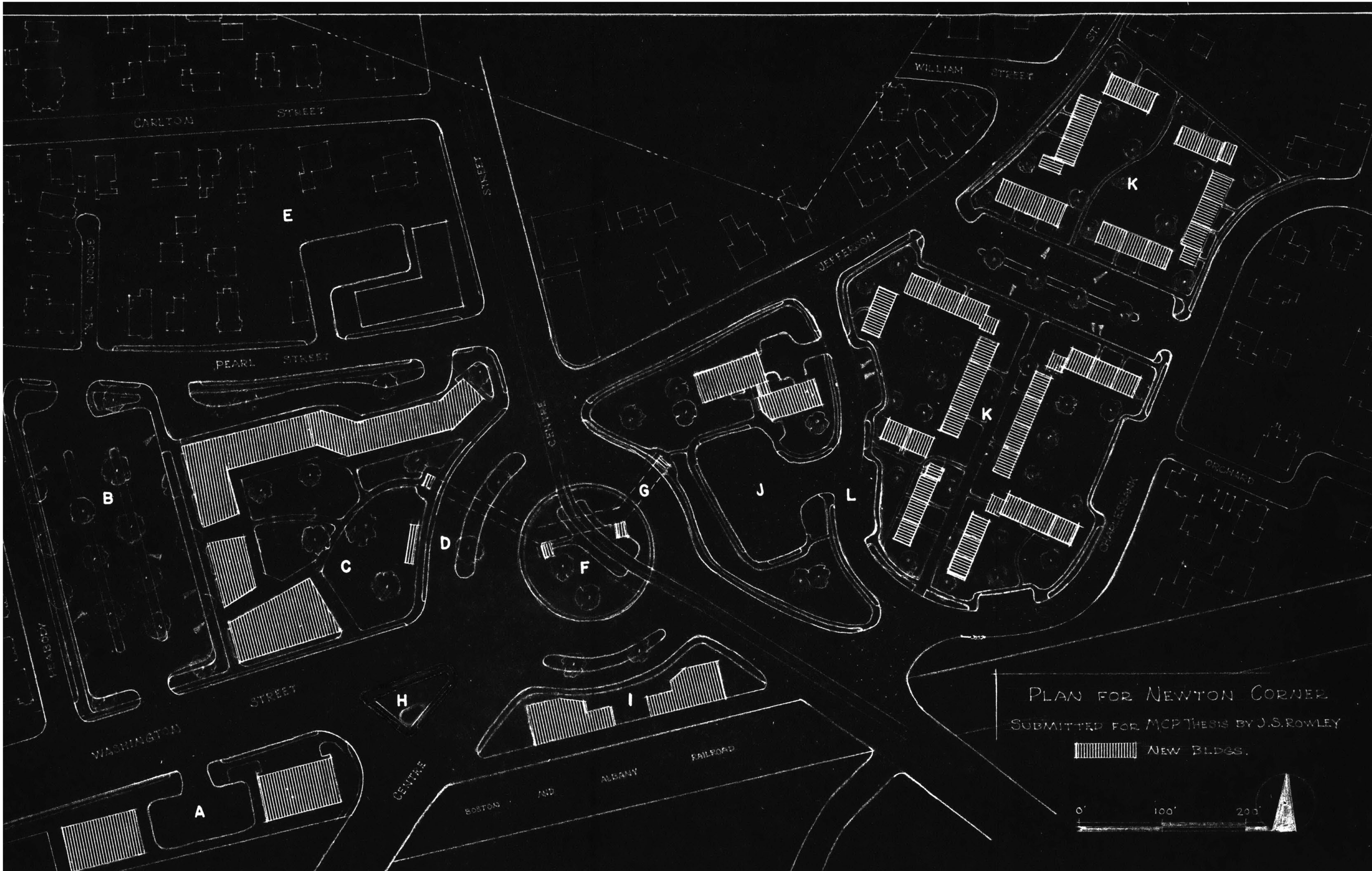
H - Existing Bank Building Removed

I - Automotive Service and Sales

J - Commmunity Center and New Branch Library

K - Public Housing - 129 Units

L - New Road



PLAN FOR NEWTON CORNER
SUBMITTED FOR MCP THESIS BY J. S. ROWLEY
NEW BLDGS.
0'
100'
200'
CARLTON STREET
PEARL STREET
GORDON TER.
PEABODY
WASHINGTON STREET
CENTRE STREET
CENTRE
JEFFERSON ST.
WILLIAM STREET
ORCHARD
CHARLESBANK
BOSTON AND ALBANY RAILROAD
A
B
C
D
E
F
G
H
I
J
K
K
L

Shopping Center: Shown as "C" on the plan, it calls for the complete redevelopment of Blocks 450 and 197, and while it has a slightly larger frontage than now exists in these blocks, all stores in Block 202 have been done away with and retail development along Washington and Centre Streets would eventually be eliminated. It is designed purely as a shopping center not to include other uses. Existing dwelling units are gone. With its open park, it would be attractive as well as convenient. Stores would be serviced both from the parking lot ("B"), and the service drive to the rear off Pearl Street.

The larger part of Block 222 has been redeveloped to include two new buildings with off-street parking space. These buildings would have less frequently used retail stores on the first floor and offices on additional stories. This would also involve the elimination of 11 dwelling units, not to be permitted again within the area.

The top half of Block 221 ("I") would be used for automotive service and repair. This was considered the best area for this use, as there would be less pedestrian circulation between automotive servicing and other activities.

Block 198, (Marked "E") has been allowed to remain as it is, utilizing the recently remodeled super market with its existing off-street parking. Future development of part of this block as additional shopping center facilities, might be allowed if the residential density of the area increased in multi-family units. However, this development should be

cautiously controlled to prevent another over-expansion of business.

The bank building has been eliminated as a result of its poor location. While no great respect is felt for its architectural qualities, it would have been allowed to remain, and buildings with housing eliminated first, had it not been for the traffic situation.

Off-street parking: The clearance of Block 196 is proposed to provide adequate off-street parking space for the shopping center. 77% of the buildings now in the block are 50 years old or older, and are predominantly wooden frame construction of little value. This was considered unquestionably the best location since it was immediately accessible to the shopping facilities, and yet entrances and exits would not be so close to the traffic circle that they would cause congestion and accidents. In the area marked "A" additional parking space has been provided for the two new buildings. In Block 198, off-street parking space is already provided and would still be utilized. Parking for the section marked "J" has been provided and could also be used for overflow if necessary for the other areas.

Bus and Street car Terminals: A bus station is planned at the front of the shopping center with a shelter, and a bus lane off the main street system. Access would be safe and convenient, and busses would no longer be parked in the way of moving traffic.

Street car loading would take place in the circle without undue hazards to passengers. An underpass for pedestrians would provide

access from either side of the square to the loading platforms, and also would provide safe walking from one side of Centre Street to the other.

Library and Community Center: The area marked "J" is developed to include additional open space, a branch library and a community center. At the present time little community organization exists, nor is there much incentive to support community activities. A Newton Youth Center has its headquarters now in a vacant store, but lacks financial support, facilities and interest on the part of older people. It is used and needed by an enrollment of over 150 youths, who would otherwise frequent less desirable institutions in the area. This is only one instance where a community center such as the one proposed is needed.

A branch library is incorporated in this section. This proposal is thought justified inasmuch as the present main library on Centre Street is inadequate and old. The City Planning Board has already proposed that a new main library be built closer to the center of the city. (This is another indication that the importance of Newton Corner as a main business district has lessened.)

Public Housing: In the center portion of Block 202, a public housing development has been proposed to provide those people within 1/2 mile, and would allow the Newton Corner business district to remain the size it should. Circles with 1/2 mile radii around existing centers and the proposed new one are shown on this map to make clearer the reason

for this proposal. The exact site of the new shopping center could be determined later. It is only the general area which is suggested at this point.

Statistics: While an economic or cost analysis is not attempted for the Newton Corner redevelopment, the following statistics are presented as additional facts about the scheme.

Areas Redevelopment--Assessed Values of Bldgs. and Land

Block	Assessed Value of Buildings	Assessed Value of Land	Total Value
196	$ 182,200	$ 230,600	$ 412,800
197	187,500	158,600	346,100
198	-	-	-
450	108,000	82,000	190,000
221	79,000	126,800	205,800
222	86,000	134,300	220,300
202	297,650	415,450	713,100
220	107,000	28,500	135,500
Totals	$1,047,350	$1,176,250	$2,223,600

*1.) Community Facilities----------38,500 square feet
Parking, off-street----------65,625 " "
Dwelling Units Displaced-------117
Dwelling Units Replaced--------129

**2.) Net Dwelling Density of Proposed Public Housing = 32.2 Families/acre.

*Compare with Table 17, p. 37.
**Compare with Table 6, p. 19.

LEGEND - PLAN II FOR NEWTON CORNER

A - Existing Building - Should be removed as soon as possible, contains 12 substandard housing units.

B - Main Parking Lot - Will take care of 80 cars.

C - Bus Stop in New Location

D - New Traffic Circle - Street car loading.

E - Underpass for Pedestrians

F - Bank Building Removed

G - Existing Parking & Shopping Facilities

H - Parking - 45 cars

I - New Road

J - Public Housing

CARLTON STREET

G

EXISTING PARKING OF CARS

GORDON TERR.

PEARL STREET

STATE STREET

EXIST. PARKING 18 CARS

JEFFERSON STREET

JA

58 CARS

I

J

H

46 CARS

B

81 CARS

SERVICE

BUS STA.

BUS STOP

C

E

E

D

F

THEATRE PARK. EXISTING

PEARSON

BACON STREET

PARALLEL PARKING

WASHINGTON STREET

ANGLE PARKING

A

BOSTON AND ALBANY RAILROAD

REMOVE EXIST. BLDGS.

PLAN FOR NEWTON CORNER -2

SUBMITTED FOR M.C.P. THESIS BY J.S. RAWLEY

0 100' 200'

Compromise Design (Plan II)

The analysis of the area having shown marked economic deterioration, it was realized that the first plan, while better suited to the needs of Newton Corner, would cost decidedly more than what was reasonable, so a compromise plan was designed which would cost less, provide the same improvements in housing, improve circulation, and possibly stimulate retail trade by providing better parking facilities. Eventual utilization of Plan I could come about through the use of this plan now.

Site acquisition alone for the first plan would have totaled, at a minimum, according to the present assessed values, $2,223,600. The total site acquisition cost for the compromise plan would be $532,800. Of this, $124,050 would be site acquisition costs for the housing project alone, leaving $408,750 for acquiring land for off-street parking and circulation improvements. Land for improved parking facilities alone would only amount of $21,000 and could be partly amortized by revenue from parking meters placed along Centre Street South of the railroad tracks and on Washington Street West from the arrows marked parallel and angle parking.

Public Housing -- As suggested in the other plan. This project would, in the opinion of the writer, have priority over everything else. As already stated, it would contain 129 units in 3 story walk-ups and would take care of any families displaced from the business area plus an additional 12 units.

If the section of housing marked JA were built first, it would mean the displacement of only 13 families, during its construction. Upon completion of this section, there would be available 48 units, which would take care of the 13 temporarily relocated plus 35 additional families. (Demolition of those buildings in Block 221 North of the railroad tracks, to make room for the traffic circle would displace 12 families, which could be given priority in this part of the new housing.) Clearance of Section J for housing would displace 15 families, but space would be available for them in the section already built.

Total development cost for the project is estimated at $12,000 per unit or $1,548,000. This is a rough figure based on average costs tabulated from 39 existing projects and published in the Journal of Housing, November, 1949.[2] These figures reflect costs for Northern and Eastern cities. This would amount to roughly $10,538.00 per unit construction cost, and $1,462,00 per unit site acquisition and development.*

On the basis of an average rent of $35.00 per month the project would be amortized in 40 years, the limit specified for long term loans if the project were built under the provisions of the Housing Act of 1949.

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2. The Journal of Housing: "Selected Data on Public Housing Development Costs", Table I, p. 51, November, 1949.

* Based on acquisition costs, plus an assumption of $500.00/unit site development, plus an assumed construction cost/unit of $10,538.00. This is felt to be a more than ample estimate.

Again, if a housing or redevelopment authority could be established in Newton and the project were authorized under Title I of the Housing Act of 1949, the city could obtain Federal capital grants to 2/3 the amount required for acquisition, clearance, and preparation of the site. This would amount to approximately $125,700, leaving the city an obligation of roughly $62,850.

Further, any facility improvements which are made by the city and which directly affect the project may be counted as part of the local contribution. If city facility improvements affect a larger area, and the project as only part of this larger area, the proportion deemed beneficial to the project alone may be deducted.

At this point, reference is made to the analysis on schools and recreation, and the fact that improvements to the Underwood School and playground are necessary. If these improvements were made, they could be based partly on the school population in the housing project, and part of this cost counted as part of the city's 1/3 obligation, further reducing the estimated $62,850. Roughly then, the cost of the project itself could be reduced to about $1,200,000.

Condemnation of dwelling units over retail stores should follow completion of the housing project, since there would be more than 65 of these units left which provide substandard living conditions.

Off-street parking: Almost as important as the need for adequate low rent housing, is the provision of better off-street parking facilities.

There now exists in the business district off-street parking space for approximately 70 cars. (This does not include parking space held exclusively by the theatre.) The plan submitted provides for an additional 100 parking bays. In Section "B". land and buildings assessed at a total value of $6,400 would have to be acquired. Cost of grading and improvements for the parking lot would approximate $10,000.* For $18,000 it is believed that this parking lot could be accomplished. Parking space in this area should have priority over other spaces.

Parking in Section "H" would necessitate the acquisition of land and buildings assessed at $17,800, and could be prepared for parking at a cost of $5,300. Approximate cost of this project would be $25,000.

It is believed that both parking areas could be provided for a total of $50,000 at the outside. The provision of space for 100 additional cars should be regarded as a limited statement in that curb parking for approximately 40 cars would be prohibited when the plan went into effect. Even with this prohibition, a gain of 60 cars would be made. Land utilized for any proposals so far, has not included business frontage with the exception of the lot now used for the bus terminal, the site of the Bacon Block which recently burned. Parking bays are designed according to standards for 45° and 60° angles set up by the American Association of State Highway Officials with depths of 16' and 181 for two 11' lanes between.[3]

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* Based on road and pavement average cost given by City of Newton Engineering Dept. $15/lineal foot of 30 ft. roadway.

3. Bateman, J. H.: "Introduction to Highway Engineering", p. 85.

Circulation: The proposed traffic circle in Plan I, has been moved down and redesigned to provide proper lanes and weaving distances where necessary, and still allow the business buildings at the Northeast and Northwest corners of Washington and Centre Streets to remain.

An interchange proposed by the Master highway Plan for Met. Boston, on Galen Street, Watertown, is expected to eventually relieve traffic coming out of Jefferson Street and entering Centre Street where traffic is heaviest.

Provision of a better safety island for street car passengers would again be provided. Rapid transit, practically in its existing route has been maintained on the basis of future plans of the M.T.A. which include no changes for this area. Cost of affecting this circulation change would be approximately $535,000 (site acquisition, wrecking, and pavement changes).

While no careful study of traffic conditions has been made, it is felt that this plan will work as is. It is also sufficiently flexible, so that future study would allow changes easily.

Clearance of buildings in 221 was proposed not only because of their location's interference with traffic problems, but also because of the fact that they contain substandard housing which should be eliminated.

The bank building has been removed. Its removal was given priority in this plain mainly because of its position. It should be noted

that the assessed value of land and building of the bank is $135,500, which is high and greatly adds to the cost of the plan. Unfortunately, it cannot be overlooked if traffic conditions are to improve in the area.

A general estimate of costs of proposals for this plan are as follows:

Public Housing	$ 1,200,000
Off-street parking	50,000
Circulation changes	535,500
Removal of Building A	61,000
Total	$ 1,846,500

Library and Community Center: Whereas in Plan I the business frontage in Block 202 was cleared to make room for a new branch library and community center, this idea has been abandoned for the time being. Instead, it is proposed that the present library facilities be reorganized to house both the community center and a branch library. While this building is no longer adequate as a main library, it may, for the time being, suffice as a branch library and also make room for community center activities. If the Planning Board's proposal to build a new central library near the City Hall becomes real, this would seem logical.

New Shopping Center on Centre Street: The proposal for a new shopping center half way between Newton Corner and Newton Center is not to be abandoned, but should not come about for at least 10 years after

plans have been carried out for the Newton Corner area. It is still believed eventually necessary to have this new shopping center especially since the area in which it will be located is liable to become more dense within the next 25 years. Its immediate construction, however, could hinder economic stimulation in Newton Corner, and therefore it should follow after only at the right time.

Plan II, though decidedly more economical than Plan I, should not be considered the goal, A better integrated design with more limited facilities should eventually be affected.

General Rehabilitation

General rehabilitation of various blocks outside of the area directly surrounding the business center would necessitate in most cases a patching process. In no instance would it mean complete clearance of any block, but rather the renovation of most buildings within the block and an occasional elimination of one or two buildings to provide sufficient open space and the installation of a play lot for small children.

In every block there now exists sufficient vacant land to provide this required open space. In some blocks the demolition of one or two substandard buildings would provide better locations for these open spaces.

On the basis of studies made, (average rents, assessed valuations, densities, and census data indicating buildings in need of repair), the following blocks would need rehabilitation. They are listed in the order of the greatest need.

Block - 189
Block - 132
Block - 135
Block - 133
Block - 188
Block - 190
Block - 193
Block - 227

As an example of what could be done, a sketch is included showing the sort of rehabilitation which could be affected in one block. (Block 189)

Suggestions made in this sketch are of a comparatively minor sort, and do not indicate redevelopment of a full scale nature. It is the frank

opinion of this writer, that it is not a problem for the federal, or state government, or for a specific redevelopment agency. Sufficient land exists to meet the standards, buildings, while in many cases in need of repair, are not beyond renovation, and expensive cars and television aerials are indications that some sort of stimulation would be enough to induce owners and tenants to affect a better standard of living for themselves. Existing zoning restrictions, if not relaxed, will be sufficient to keep densities as they are.

A model block, if it were bought up by the city, rehabilitated, and sold to private owners, with the stipulation that it was to maintain a certain standard, would have a definite affect on the rest of the area. The design for the block included could be used for this reason.

Incidental to this condition, state legislation was passed in 1947. (Chapter 631 of the Acts of 1947). In this act, rules and regulations defining substandard housing for the interpretation of the local health departments were included, and work to bring this bill before the state legislature and get it passed was instigated by a local community organization in Newton, "The Newton Community Council".

Following, a bill entitled "Minimum Standards of Fitness for Human Habitation" was passed December 6, 1949. It was passed under the provisions of Section 128 of Chap. III of the General Laws as amended by Cahp. 468 of the Acts of 1943 and Cahp. 631, the Acts of 1947.

The bill gave cities and towns the right to enforce minimum standards of health and sanitation as specified. However, the bill has to be put before the city council for a vote as to whether it will be adopted by the specific city or town.

Members of the Newton Community Council found no direct opposition on the part of city officials but as yet no action has been taken.[4]

If Newton chooses to adopt this law and to enforce it compulsory improvement of these conditions will be possible.

Notice should be taken of the work this organization has done and is still doing in trying to make this law effective.

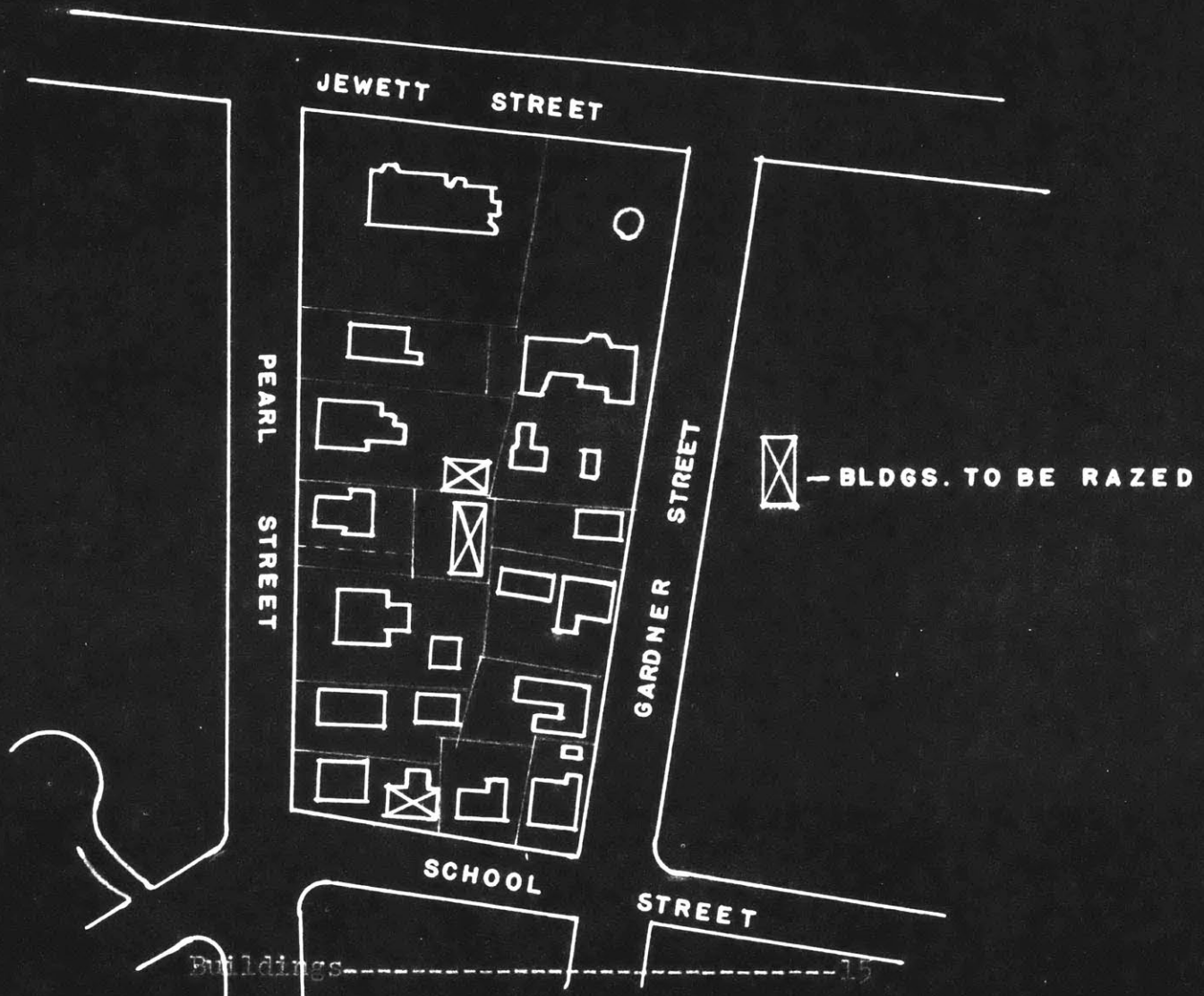
The rehabilitation sketch which follows is made with reference to the material in the appendices and work sheets concerning block statistics of conditions and assessed valuations. It was reported by the Census in 1940 to have the second lowest average rent in the area ($25.80), and contained 13 units in need of reapir, or without private toilets.

In figure I, the existing plan is shown and pertinent data listed. Those buildings marked with a cross would be eliminated, but the same number of families would remain in the block by converting the large building at the top to a three family structure. Buildings to be eliminated are now assessed at a total of $4,400, but are substandard and poorly located.

4. Newton Community Council Bulletin, "Review of Steps Taken Regarding Substandard Housing in Newton", Feb. 1950.

EXISTING PLAN — BLOCK 189

SCALE: 1" = 100'



Buildings----------15

Families----------28

Assessed Valuation of Buildings------$41,200.

Assessed Valuation of Land----------$14,550.

Total Assessed Valuation----------$55,750.

Units Needing Repair----------13

Residential Density----------15.3

Building Coverage (Sq.Ft.-15,800)---------20%

Units Crowded----------3

All but One Unit is 2-Family

Average Rent at present = $37.50; 1940 = $25.20

Square feet of land = 79,542, Acres = 1.82

PROPOSED REHABILITATION PLAN (1" = 50')

In figure II, "A" designated the community open space which would be created with an area of 5,600 sq. ft. It would provide tot lot facilities and a wading pool, and would be accessible for service through the existing right of way "B".

The new buildings in the upper right hand corner, marked "C", are intended as community garages for eight cars. With other existing garages in the block 12 cars could be put under cover, and this is a reasonable number to provide. The small extension to the garage marked "D" would be a utility room to house ground equipment, children's play equipment, etc.

Proper planting and screening would make this area aesthetically attractive and convenient to all units. Sufficient open space would be provided, and small children would have access to play facilities without crossing streets.

Similar rehabilitation could be worked out almost as easily for all substandard blocks in the area.

Schools and Playgrounds

As shown in the analysis, plans have already been made for expansion of the Lincoln-Eliot School in the North-west corner of our area, and ample room is provided for playground and recreation space. Pupils attending this school do not have to cross major streets and land for expansion would not be at all difficult to obtain in that area, if it were necessary. This school with its facilities, now taking care of 195 students presents no particular problem. The building is one of the ten newest fireproof schools in Newton.

It is the students in the Eastern section which we are most concerned with, as an estimated 130 children of elementary school age must cross Washington and Tremont Streets to reach the Underwood School. Increased densities in this North-eastern section could bring that number up to 200, but not over, if the Single Residence "C" District is to be maintained.

The minimum school recommended by Planning the Neighborhood[5] would have an enrollment of 180-240 pupils, and as 200 would be the greatest number of students we would conceivably have in the area North of Washington Street, but probably never reach, it does not seem like a practical idea to propose another elementary school for this area alone.

Rerouting of Tremont and Washington Streets for this reason would be fantastic, and a bad situation must be controlled as well as possible by safety supervision of police at the sections where pupils cross.

5. Planning the Neighborhood, Table 6, p. 45.

Underpasses are not suggested, as this writer does not believe them practical in a situation such as this. After the novelty of using an underpass has worn off, children will cross at any of many convenient places and the location of Washington Street in relation to this section and the Underwood School is such that crossings will not be concentrated at any one point.

A possible exception might be the intersection of Washington and Park Streets where an underpass connecting the North side of Washington Street with the West side of Park would be a safety measure. It would in no way eliminate all hazards, however.

Increased playground area for the Underwood School could easily be attained by purchasing three abutting residential lots in Block 219. The total assessed values of land and buildings of these three lots amounts to a total of $18,000.00

While it does not seem feasible to propose another elementary school North of Washington Street, a proposal of an additional small playground in this area seems logical as land in the North-east corner is available and could probably be purchased at a reasonable cost.

The site referred to is that section of land now held by the railroad in the extreme North-east corner of the area, abutting the Brighton line. While this lot contains over 11 acres of land, and a maximum of two acres would be needed, a small amount could easily be obtained at a reasonable cost. The railroad has no plans for its use, and originally

took it as storage space for freight during World War I. Two acres at the end of Grasmere Street would adequately serve playground needs for all school children North of Tremont Street and East of Centre Street.

Zoning

Foremost for consideration in zoning is the business district just discussed. The excessive amount of land in business use must eventually be reduced. Shown on Map X the new area zoned for business would be decidedly smaller and would include only those areas shown in the redevelopment plan plus a small section in Block 217 at the corner of Washington and Park Streets now used for automotive sales and service, and one lot at the corner of Centre Street and Centre Avenue. This last lot contains a fairly recent building with a super market and drug store. For the convenience of people in that immediate area it would probably be useful and would not detrimentally affect a general residence area.

All other business use would be made non-conforming and should eventually disappear. While this is not good practice generally, in this case it is thought to be a wise expedient to reduce the amount of business land within a fairly reasonable length of time.

Additionally, a clause should be written into the regulations on business districts, that no residential use be allowed. The evidence in Newton Corner that the worst living conditions have come out of the practice of combining the two uses is reason enough for this recommendation, and in an area where densities are not extremely high, there seems little need to crowd dwelling units over the stores.

Two buildings on Centre Street, South of the railroad, also have dwelling units over stores and must be given the same treatment as proposed in the redevelopment plan, although their nearness to parks and open spaces makes the need slightly less immediate.

Manufacturing: -- That portion of Block 221 which is South of the railroad tracks is at present all zoned for manufacturing plus a small section in Block 217. Only about 50% of the district is now in manufacturing use, and it is recommended that the zone be reduced to just the amount now in manufacturing. Light industry in this area, to a small extent, will not be detrimental, but it is not a good location for it and land in the Nonantum section would better serve and be served by manufacturing growth. Access to Newton Corner manufacturing is not convenient and its proximity to schools and residential land does not suggest expansion.

"C" District at North-east corner -- The portion at the top of the map, now in a "C" Single family residence classification should be kept as is. As it now provides the most satisfactory living conditions in the area, and as zoning controls have apparently had their influence in maintaining it, there seems to be no necessity for changing it to a less restricted zone. The overall density of Newton Corner being as low as it is, there is added reason for not changing this section.

General Residence District -- South on Centre Street -- A study of actual land used for multi-family structures in this section should be made and the zone allowing general residence reduced to exactly that amount. It should not be allowed to expand further. With the amount of multi-family use now in this area care should be taken to preserve all park land now existent, and, in the event that new multi-family structures were allowed, rigid requirements should be enforced providing ample open land.

Other Districts -- May be maintained in their present zones, but variances relaxing present requirements should not be handed out freely. All variances should be handled through a board of appeals and not through a board of appeals and not through the board of aldermen. In no residence district should building coverage exceeding 40% be allowed, and regulations governing accessory buildings should be enforced and frequently checked by city inspectors. Makeshift accessory buildings have gotten out of control in the areas North of the railroad tracks and constitute health and safety hazards.

Conclusions

The recommendations made for the rehabilitation of this area are comparatively gentle, except for the area including and surrounding the business district.

The business district has shown itself sufficiently run down and overcrowded to merit redevelopment as soon as possible. The high cost of any plan for this region will become higher if more time is wasted. While fire successfully destroyed one building recently, it cannot be relied upon to complete the job, and other buildings, while old and in bad condition, will continue to be used indefinitely if action is not taken.

Any plan proposed for this district now will be costly and inconvenient, whereas control and general enforcement of standards in the rest of the area will prevent full scale redevelopment from becoming necessary.

The acceptance, by the City, of health and housing regulations, and their enforcement by the building and health departments would go far toward improving the whole area.

If interest is stimulated now, a healthful, efficient area can be created at a minimum cost, and the marked deterioration of housing and commercial uses can be stopped before total redevelopment is necessary.

APPENDICES

Block Statistics:

Table I: Land Use Data

BLOCK	TOTAL SQ. FT. LAND	SQ. FT. PUBLIC & SEMI-P.	SQ. FT. BUSINESS	SQ. FT. INDUS-TRIAL	SQ. FT. VACANT	SQ. FT. RESIDENTIAL
188	212,829	-	-	-	32,935	179,894
130	56,199	-	-	-	7,818	48,381
132	30,285	-	-	-	-	30,285
133	59,298	6,750	-	-	-	52,548
134	58,365	-	-	-	7,269	51,096
135	182,051	-	10,062	7,212	26,360	138,417
187	244,926	-	-	-	22,900	222,026
183	305,233	30,209	-	-	6,786	268,238
189	79,542	4,518	-	-	31,550	43,474
190	148,198	-	-	-	24,623	123,575
191	14,900	-	-	-	-	14,900
192	184,923	-	32,484	-	4,947	147,492
193	191,297	-	22,394	-	4,991	163,912
194	149,779	-	14,349	-	9,919	125,511
195	74,263	-	25,450	-	-	48,813
196	57,948	-	19,953	-	7,500	30,495
197	66,344	-	32,868	-	-	33,476
198	156,284	-	24,088	-	-	132,196
199	183,077	-	7,176	-	11,260	164,641
450	49,036	-	49,036	-	-	-
220	5,500	-	5 500	-	-	-
222	49,419	-	49,419	-	-	-
224	19,806	6,128	13,678	-	-	-
225	157,150	-	48,905	-	17,179	91,070
226	245,695	26,875	-	-	8,015	210,805
227	57,236	-	-	-	2,565	54,671
306	451,949	-	-	-	16,143	435,806
307	128,707	-	-	-	9,708	118,999
308	30,147	-	-	-	6,500	23,647
221	139,033	-	37,013	51,882	-	50,138
217	98,980	-	36,494	23,107	-	39,379
218	86,213	61,650	-	-	-	24,563
219	75,346	43,856	-	-	-	31,490
223	184,676	28,085	21,756	16,367	23,635	94,833
310	297,449	297,449	-	-	-	-
309	218,765	-	-	-	-	218,765
325	38,974	-	-	-	-	38,974
200	92,161	-	16,861	-	20,672	54,628
202	374,636	-	57,243	-	36,251	281,142
203	31,823	-	-	-	-	31,823
204	25,125	-	-	-	-	25,125
205	92,885	-	-	-	3,250	89,635
206	172,936	-	-	-	29,880	143,056

Block Statistics:

Table I: Land Use Data

BLOCK	TOTAL SQ. FT. LAND	SQ. FT. PUBLIC & SEMI-P.	SQ. FT. BUSINESS	SQ. FT. INDUS-TRIAL	SQ. FT. VACANT	SQ. FT. RESIDENTIAL
208	893,585	-	-	-	325,375	568,210
215	152,587	-	-	-	17,138	135,449
214	94,292	-	-	-	-	94,292
213	39,316	-	-	-	-	39,316
212	323,006	-	-	-	18,338	304,668
211	71,878	-	-	-	-	71,878
210	74,677	-	-	-	-	74,677
209	70,551	-	-	-	4,836	65,715
315	124,140	-	-	-	-	124,140
316	91,229	-	-	-	-	91,229
317	160 539	-	-	-	58,846	101,693
318	120,783	-	-	-	-	120,783
216	158,474	-	-	-	-	158,474
312	148,837	-	-	-	31,260	117,577
313	246,264	-	-	-	-	246,264
314	369,313	-	-	-	125,064	244,249
319	120,455	-	-	-	-	120,455
429	79,293	-	-	-	-	79,293

APPENDIX A

Block Statistics
Table II: Land Use Totals, for Sections

I. Neighborhood Totals: 281 acres

Public & Semi-Pub.	12	acres
Business	12	"
Industrial	2	"
Vacant	22	"
Residential	157	"
Railroad	21	"
Streets	55	"

II. Section I:

Total: 59 acres

Pub. & Semi-P.	1.	acre
Business	7.	"
Industrial	.16	"
Vacant	5.	"
Residential	46.	"

III. Section II:

Total: 25 acres

Pub. & Semi-P.	.75	acre
Business	1.	"
Industrial	-	"
Vacant	1.	"
Residential	22.	"

IV. Section III:

Total: 26 acres

Pub. & Semi-P.	10.	acres
Business	2.	"
Industrial	2.	"
Vacant	.6	"
Residential	12.	"

V. Section IV:

Total: 22 acres

Pub. & Semi-P.	-	
Business	2	acres
Industrial	-	"
Vacant	3	"
Residential	17	"

VI. Section V:

Total: 47 acres

Public & Semi-P.	-	
Business	-	
Industrial	-	
Vacant	9	acres
Residential	38	"

VII. Section VI:

Total: 26 acres

Pub. & Semi-P.	-	
Business	-	
Industrial	-	
Vacant	4	acres
Residential	22	"

Block Statistics
Table III: Building Coverage and Open Area

BLOCK	TOTAL SQ. FOOTAGE OF LAND	TOTAL SQ. FOOTAGE OF BUILDINGS	TOTAL SQ. FOOTAGE OF OPEN AREA*	% OF BLDG. COVERAGE	% OF OPEN AREA
130	56,199	10,350	45,849	19	81
132	30,285	7,200	23,085	24	76
133	59,298	11,750	47,548	20	80
134	58,365	12,200	46,165	21	79
135	182,051	34,400	147,651	19	81
187	244,926	43,050	201,876	18	82
183	305,233	44,200	261,033	14	86
188	212,829	39,000	173,829	19	81
189	79,542	15,800	63,742	19	81
190	148,198	22,700	125,490	15	85
191	14,900	3,300	11,600	22	78
192	184,923	53,800	131,123	29	71
193	191,297	43,003	148,294	22	78
194	149,779	25,450	124,329	17	83
195	74,263	21,500	52,763	29	71
196	57,948	15,450	42,498	27	73
197	66,344	29,700	36,644	45	55
198	156,284	33,600	22,684	85	15
199	183,077	36,450	46,627	75	25
450	49,036	23,950	25,086	52	48
220	5,500	5,500	-	100	-
222	49,419	27,600	21,819	56	44
224	19,806	14,640	5,166	73	27
225	157,150	37,900	119,250	24	76
226	245,695	41,900	203,795	13	87
227	57,236	13,450	57,236	23	77
306	451,949	47,750	404,199	11	89
307	128,707	49,500	79,207	38	62
308	30,147	8,550	21,597	18	72
221	139,033	28,400	110,633	20	80
217	98,980	39,400	59,580	40	60
218	86,213	24,600	61,613	29	71
219	75,346	29,700	45,640	30	70
223	184,676	52,900	131,776	28	72
310	297,449	25,000	272,449	8	92
309	218,765	27,250	191,515	12	88
325	38,974	5,900	33,074	20	80

APPENDIX A

Block Statistics

Table III: Building Coverage and Open Area

BLOCK	TOTAL SQ. FOOTAGE OF LAND	TOTAL SQ. FOOTAGE OF BUILDINGS	TOTAL SQ. FOOTAGE OF OPEN AREA*	% OF BLDG. COVERAGE	% OF OPEN AREA
200	92,161	23,900	68,261	26	74
202	374,636	83,100	291,536	22	78
203	31,823	6,600	25,223	21	79
204	25,125	5,750	19,375	22	78
205	92,885	19,500	73,305	20	80
206	172,936	15,050	157,886	9	91
208	893,585	95,850	797,735	11	89
215	152,587	22,850	129,737	14	86
214	94,292	18,159	76,142	19	81
213	39,316	5,500	33,316	14	86
212	323,006	42,600	280,406	13	87
211	71,878	14,700	57,178	21	79
210	74,677	13,750	60,927	18	82
209	70,551	11,000	59,551	16	84
315	124,140	18,150	105,990	15	85
316	91,229	10,100	81,129	10	90
317	160,539	18,600	141,939	11	89
318	120,783	14,800	105,983	12	88
216	158,474	29,700	128,774	19	81
312	148,837	17,400	131,437	12	88
313	246,264	36,400	209,864	15	85
314	369,313	38,800	330,513	11	89
319	120,455	31,150	89,305	26	74
429	79,293	33,400	45,893	42	58

*Includes Vacant land, Public Land, and Semi-Public Land:- not just area around each dwelling.

Block Statistics
Table IV: Open Area Per Dwelling Unit

BLOCK	TOTAL SQ. FOOTAGE OF OPEN AREA	AVERAGE SQ. FOOTAGE OPEN AREA PER DWELLING UNIT (VACANT LAND INCLUDED)
130	45,849	2,865
132	23,085	2,308
133	47,548	6,792
134	46,165	2,429
135	147,651	3,441
187	201,876	4,588
183	261,033	6,869
188	173,829	2,716
189	63,742	2,312
190	125,490	4,149
191	11,600	2,900
192	131,123	2,048
193	148,294	5,113
194	124,329	4,318
195	52,763	1,127
196	42,498	4,722
197	36,644	4,071
198	22,684	732
199	46,627	1,295
450	25,086	1,003
220	-	-
222	21,819	1,983
224	32,666	10,888
225	119,250	5,678
226	203,795	3,287
227	57,236	2,189
306	404,199	4,929
307	79,207	-
308	21,597	10,798
221	110,633	9,529
217	59,580	7,447
218	61,613	15,403
219	45,640	5,071
223	147,843	2,082
310	272,449	136,224
309	191,515	7,093
325	33,074	6,614

Block Statistics
Table IV: Open Area Per Dwelling Units

BLOCK	TOTAL SQ. FOOTAGE OF OPEN AREA	AVERAGE SQ. FOOTAGE OPEN AREA PER DWELLING UNIT (VACANT LAND INCLUDED)
200	68,261	6,751
202	291,536	5,028
203	25,223	2,802
204	19,375	1,761
205	73,305	2,618
206	157,886	7,894
208	797,735	8,398
215	129,737	6,187
214	76,142	3,172
213	33,316	11,272
212	280,406	8,497
211	57,178	9,529
210	60,927	7,615
209	59,551	9,925
315	105,990	8,153
316	81,129	11,589
317	141,939	20,227
318	105,983	9,634
216	128,774	3,534
312	131,437	9,388
313	209,864	5,832
314	330,513	11,017
319	89,305	2,175
429	45,893	1,311

APPENDIX A

Statistics
Table V: Density Work Sheet

Section I:

Total Residential Land (Built on) = 46 acres

Type of Dwelling	Acreage	#Units	#Units per acre
single	17	95	5.6
2-family	24	314	13.0
multi-family	5	175	35.0
Totals	46	584	

Section II:

Total Residential Land (Built on) = 22 acres

Type of Dwelling	Acreage	#Units	#Units per acre
single	4	22	5.5
2-family	13	104	8.0
multi-family	4	91	22.7
Totals	22	217	

Section III:

Total Residential Land (Built on) = 12 acres

Type of Dwelling	Acreage	#Units	#Units per acre
single	4	24	6.
2-family	7	54	7.7
multi-family	1	67	67.
Totals	12	145	

Section IV:

Total Residential Land (Built on) = 17 acres

Type of Dwelling	Acreage	#Units	#Units per acre
single	4	28	7.
2-family	10	134	13.4
multi-family	3	92	30.6
Totals	17	254	

Statistics
Table V: Density Work Sheet

Section V:

Total Residential Land (Built on) = 38 acres

Type of Dwelling	Acreage	#Units	#Units per acre
single	29	126	4.3
2-family	6	80	13.0
Multi-family	3	33	11.0
Totals	38	239	

Section VI:

Total Residential Land (Built on) = 22 acres

Type of Dwelling	Acreage	#Units	#Units per acre
single	6	43	7
2-family	15	148	10
multi-family	1	21	21
Totals	22	212	

Block Statistics
Table VI: Census Data on Dwelling Units

BLOCK	TOTAL STRUC-TURES	DWELLING UNITS	OVER 1.51 PERSONS PER ROOM	REPAIR OR PLUMB.	AVERAGE MONTHLY RENTAL
130	11	16	-	* 8	$ 24.50
132	7	10	-	3	27.50
133	4	7	-	* 3	30.14
134	10	19	-	* 3	31.67
135	28	40	3	*12	26.66
187	26	44	-	* 7	43.77
183	26	38	-	* 4	52.69
188	44	64	1	*23	29.80
189	15	28	3	*13	25.79
190	20	30	-	* 9	35.33
191	3	4	-	* 9	53.75
192	25	64	1	* 9	36.81
193	13	29	1	* 8	32.00
194	19	29	1	* 5	35.70
195	15	38	-	1	41.63
196	7	9	-	1	50.29
197	6	9	-	1	30.33
198	17	31	-	* 4	41.36
199	26	36	-	-	39.38
450	2	25	-	-	31.40
220	(Bank)	-	-	-	-
222	2	11	-	* 2	21.91
224	1	3	-	1	36.67
225	13	21	1	* 6	41.58
226	21	62	1	*11	40.59
227	11	20	-	* 5	33.50
306	48	82	1	*11	44.04
307	(No Data -- New Garden Apartments)				
308	2	2	FEWER THAN THREE UNITS		**NOT REPORTED
221	9	30	-	* 2	34.37
217	6	8	-	* 2	45.75
218	4	4	-	-	85.00
219	4	9	-	-	37.22
223	12	71	1	*16	45.06
310	FEWER THAN THREE DWELLING UNITS				**NOT REPORTED
309	23	27	-	-	73.55
325	3	5	-	-	40.00

Block Statistics
Table VI: Census Data on Dwelling Units

BLOCK	TOTAL STRUC-TURES	DWELLING UNITS	OVER 1.51 PERSONS PER ROOM	REPAIR OR PLUMB.	AVERAGE MONTHLY RENTAL
200	8	11	-	10	$42.00
202	36	58	-	4	39.73
203	6	9	-	8	51.78
204	6	11	-	-	47.00
205	12	28	-	-	39.79
206	12	20	-	-	50.00
208	73	95	-	-	57.35
215	14	21	-	6	39.86
215	12	24	-	-	61.25
213	3	3	-	-	91.67
212	27	33	-	-	82.30
211	6	6	-	-	75.50
210	7	8	-	-	82.75
209	6	6	-	-	83.33
315	12	13	-	2	62.54
316	7	7	-	-	89.57
317	7	7	-	1	98.33
318	10	11	-	-	84.55
216	19	39	-	-	48.78
312	10	14	-	* 3	52.77
313	27	36	-	1	56.71
314	24	30	-	3	63.96
319	23	41	-	-	55.10
429	19	35	-	-	42.82

*Blocks which include units with no private toilet.
(All figures based on 1940 U.S. Census Block Statistics)

APPENDIX B

BLOCK STATISTICS

Table I: Area Devoted to Business Use

BLOCK	TYPE OF BUSINESS	SQ. FT. LAND	SQ. FT. BLDGS.
220	Bank	5,500	5,500
222	Gas Station	6,250	700
	Bowling Alley	6,600	6,600
	Auto Supply	4,500	3,500
	Cafe		
	Gas, Electric	4,692	3,200
	Vacant Land	3,240	
	Antique Shop		
	Hardware	10,334	7,000
	Real Estate		
	Welding	1,603	1,600
224	Real Estate		
	Package Store	3,280	3,000
	Laundry		
	Tailor		
	Florist		
	Super Market	5,840	5,640
	Barber shop		
	Book Store		
	Gas Station	4,558	200
217	Auto sales	8,345	6,000
	Gas station	3,971	400
	Auto service	11,600	4,000
	Wholesale Storage	12,548	5,700
225	Funeral		
	Window supply		
	Beauty Salon	6,200	6,000
	Real Estate		
	Heating & Coal		
	Cleaners	5,190	1,500
	Vacant store	2,114	1,500
	Drug store		
	Plumbing		
	Millinery	12,938	12,300
	Shoes		
	Bakery		
	Super Market		
	Doctor's office	4,463	850

APPENDIX B

Block Statistics
Table I: Area Devoted to Business Use

BLOCK	TYPE OF BUSINESS	SQ. FT. LAND	SQ. FT. BLDG.
194	Drug store		
	Beautry salon		
	Newspaper	7,811	3,500
	Real Estate		
	Printer		
	Gas station	6,538	900
193	Auto sales	7,773	7,773
	" "	7,419	7,000
	" "	7,202	7,100
195	Delicatessan		
	Shoes		
	Toys	2,545	2,500
	Yarn		
	Barber shop		
196	Furniture (closing out)		
	Real estate		
	Hardware		
	Restaurant		
	Cleaners	19,953	8,000
	Dress shop		
	Liquor		
	Radio		
	Drug store		
197	Theatre	10,404	10,400
	Restaurant		
	Photo shop		
	Electric	22,464	10,000
	Market		
	Department store		
	Shoes		
198	Super Market		
	Delicatessan	20,800	6,600
	Laundry		
	Barber shop	3,288	2,500
	Radio		
199	Gas station	7,176	900

APPENDIX B

Block Statistics
Table I: Area Devoted to Business Use

BLOCK	TYPE OF BUSINESS	SQ. FT. LAND	SQ. FT. BLDG.
192	Auto sales & service	32,484	29,520
450	Burned out bldg.	4,352	4,000 (former)
	Real Estate		
	Doctor's office		
	Restaurant		
	Drug	8,448	8,400
	Fruit		
	Candy		
	Donut		
	Dept. store		
	Stationery		
	Shoes		
	Ladies' Dresses		
	Creamery		
	Smokery		
	Children's Shop	11,139	6,500
	Cafe		
	Laundry		
	Restaurant		
	Shoes		
	Cleaners	8,652	5,550
	Drug		
200	Women's Clothes		
	Doctor's office	8,414	5,000
	Funeral Home		
	Restaurant		
	Window blinds	8,447	6,000
	Shoes		
	Photo		
	Paint		
202	Vacant store	3,413	3,300
	Soda fountain		
	Vacant sotre		
	Glass-framing		
	Drug store		
	Clothing		
	Barber shop		
	Jewelry	26,860	19,000

APPENDIX B

Block Statistics
Table I: Area Devoted to Business

BLOCK	TYPE OF BUSINESS	SQ. FT. LAND	SQ. FT. BLDG.
202	Beauty Salon		
	5 & 10 store		
	Restaurant		
	Clothing		
	Beauty Salon		
	Vacant		
	Vacant		
	Upholstering		
	Radio	4,580	3,500
	Glass-mirrors		
	Flooring		
	Clothing		
	Vacant Store	6,133	5,300
	Beauty Salon		
	News Dealer		
221	Auto sales	8,345	6,000
	Tailor - clothing		
	Jeweler	3,740	3,100
	Florist		
	Taxi stand		
	Barber		
	Bakery	5,067	5,000
	Doctor's Office		
	Cleaners		
	Delicatessan		
	Gifts		
	Super Market	5,882	5,800
	Auto supply		
	Novelty		
	Shoes		
	Dry Goods	6,090	6,000
	Jewelery		
	Delicatessan		
	Bakery	3,804	3,400
	Spa		
	Furniture	7,130	6,000
	Restaurant		

APPENDIX B

Block Statistics
Table I: Area Devoted to Business

BLOCK	TYPE OF BUSINESS	SQ. FT. LAND	SQ. FT. BLDG.
223	Bank Stationery Beauty Salon Real Estate Liquor Fruit 5 & 10 Plumbing Cleaners Printing Rugs Sign Printing	9,756 12,000	6,700 7,300

APPENDIX C

Block Statistics
Table I: Age of Buildings: U.S. Census Data

BLOCK	AGE OF BUILDINGS			
	1930-40	1920-29	1900-20	1899-
130	1	-	1	14
132	-	-	2	8
133	-	-	2	4
134	1	12	2	4
135	-	-	6	31
187	-	26	2	16
183	3	14	2	18
188	-	6	41	17
189	-	-	23	5
190	-	9	19	2
191	-	-	3	1
192	-	-	53	11
193	-	-	16	13
194	-	-	25	4
195	12	-	15	23
196	-	-	2	7
197	-	-	2	7
198	-	3	10	17
199	-	-	-	36
450	-	-	-	25
220	(Bank)	-	-	-
222	-	-	2	9
224	-	-	-	3
225	-	-	20	1
226	-	-	59	1
227	-	1	17	-
306	4	5	27	44
307	(NEW GARDEN APTS.)			
308	(FEWER THAN THREE DWELLINGS, NOT REPORTED)			
221	-	1	6	23
217	-	-	6	2
218	1	-	3	-
219	-	-	9	-
223	-	1	69	-
310	(FEWER THAN THREE DWELLINGS, NOT REPORTED)			
309	-	1	-	-
325				
200	-	-	2	9
202	1	3	13	41
203	1	4	2	2
204	-	4	7	-
205	-	1	18	9
206	-	10	10	-

APPENDIX C

Block Statistics
Table I: Age of Buildings: U.S. Census Data

BLOCK	AGE OF BUILDINGS			
	1930-40	1920-29	1900-20	1899-
208	-	8	44	27
215	-	10	5	6
214	-	1	18	5
213	-	-	-	-
212	3	6	13	6
211	-	-	4	2
210	-	-	1	7
209	-	-	3	3
315	-	-	10	3
316	-	1	6	-
317	-	2	1	3
318	1	2	6	2
216	-	15	14	9
312	-	2	10	1
313	-	12	23	-
314	6	9	12	1
319	-	29	11	-
429	-	26	8	-

(All figures based on 1940 U.S. Census Block Statistics)

APPENDIX D

ZONING DISTRICTS

	A DISTRICT
Permitted Uses:	1. Dwelling--one family 2. Church 3. Non-profit school 4. Proper accessory buildings 5. Garage for not more than two
Exceptions by Board of Aldermen	1. Associations of persons living together in one building 2. Hospitals and sanitariums 3. Trade school 4. Library 5. Other educational institutions 6. Clubhouse 7. Removal of subsoil, loam, sand 8. Private garage for 3 or more cars 9. Accessory uses not injurious to neighborhood 10. Chapel on cemetary grounds 11. Radio transmission station 12. Conversion to 2-family dwelling of buildings with ground floor area greater than 1200 feet capacity and area not to be increased more than 15%. Appearance of single residence neighborhood to be maintained.
Minimum Lot Area	10,000 sq. ft.
Minimum Lot Widths	80 feet--measured on street line
Maximum Heights	55 feet or 4 stories--except projections and chimmneys
Maximum Area	30% except accessory buildings
Front Set Back Line	25 ft. or the average of the buildings adjacent thereto
Side Lot Line	7 1/2 ft.--side line 15 ft.--rear line

APPENDIX D

ZONING DISTRICTS

	C DISTRICT
Permitted Uses:	1. Dwelling--one family 2. Church 3. Non-profit schools 4. Proper accessory buildings 5. Garages for not more than two
Exceptions by Board of Aldermen	1. Associations of persons living together in one building 2. Hospitals and sanitariums 3. Trade school 4. Library 5. Other educational institutions 6. Clubhouse 7. Removal of subsoil, loam, sand 8. Private garage for 3 or more cars 9. Accessory uses not injurious to neighborhood 10. Chapel on cemetary grounds 11. Radio transmission station 12. Conversion to 2-family dwelling of buildings with ground floor area greater than 1200 feet capacity and area not to be increased more than 15%. Appearance of single residence neighborhood to be maintained.
Minimum Lot Area	7,000 sq. ft.
Minimum Lot Widths	70 ft.--measured on street line
Maximum Heights	55 ft. or 4 stories--except chimmneys and projections
Maximum Area	30%--except accessory buildings
Front Set Back Line	25 ft. or the average of the buildings adjacent thereto
Side Lot Line	7 1/2 ft. except that not more than 15% of lot required for rear yard

APPENDIX D

ZONING DISTRICTS

	PRIVATE RESIDENCE
Permitted Uses	1. Dwelling for not more than 2-families 2. Church 3. Public school 4. Proper accessory buildings 5. Garage--not more than 3 cars
Exceptions by Board of Aldermen	1. Associations of persons living together 2. Hospital or sanitarium 3. Trade school 4. Library or educ. institution 5. Clubhouse 6. Public or private dump 7. Farm or nursery 8. Riding school 9. Removal of sod or subsoil 10. Garage for more than 3 11. Chapel 12. Radio transmission station 13. Non-profit welfare institutions
Minimum Lot Area	7,000 sq. ft.
Minimum Lot Widths	70 feet
Maximum Heights	55 ft. except for projections or 4 stories
Maximum Area	30%
Front Set Back Line	25 ft. or average of adjacent bldgs.
Side Lot Line	7 1/2 feet
Rear Lot Line	15 feet

APPENDIX D

ZONING DISTRICTS

	GENERAL RESIDENCE
Permitted Uses:	1. Residence for more than 2-families 2. Apartment house 3. Tenement house 4. Boarding house 5. Apartment hotel 6. Proper accessory buildings
Exceptions by Board of Aldermen	1. Associations of persons living together 2. Hospital or sanitarium 3. Trade School 4. Library or educational institution 5. Clubhouse 6. Public or private dump 7. Farm or nursery 8. Riding school 9. Removal of sod or subsoil 10. Garage for more than 3 cars 11. Chapel 12. Radio transmission station 13. Non-profit welfare institutions
Minimum Lot Area	7,000 sq. ft.
Minimum Lot Widths	70 feet
Maximum Heights	80 ft. except for projections or 5 stories
Maximum Area	50%
Front Set Back Line	15 feet
Side Lot Line	7 1/2 feet
Rear Lot Line	15 feet

Paragraph D Section 577

D) No new building shall be constructed and no existing building shall be altered, extended or reconstructed to provide living quarters for more than one family for each 3,000 sq. ft. of lot area in Private Residence and for each 1,200 sq. ft. of lot area in General Residence, Business, and Manufacturing Districts.

APPENDIX D

ZONING DISTRICTS

	BUSINESS DISTRICT
Permitted Uses:	1. Store or sales room 2. Theatre hall or assembly 3. Office, exchange, or bank 4. Place of business of trades 5. Hotel or restaurant 6. Proper accessory uses
Exceptions by Board of Aldermen	1. Public parking space 2. Garage (public) 3. Service station 4. Public or private dump 5. Removal of sod, loam, subsoil 6. Light manufacturing, not obnoxious or injurious
Minimum Lot Area	
Minimum Lot Width	
Maximum Heights	80 ft. except for projections or 6 stories
Maximum Area	60% or 80% of a corner lot
Front Set Back Line	15 feet
Side Lot Line	7 1/2 feet
Rear Lot Line	15 feet

APPENDIX D

ZONING DISTRICTS

	MANUFACTURING DISTRICT
Permitted Uses:	1. Storage warehouse 2. Place of business of cleaner 3. Any purpose not prohibited by paragraph A of Section 576 except: a) public or private dump b) removal of sod, loam, or subsoil
Exceptions by Board of Aldermen	1. Public or private dump 2. Removal of sod, loam, subsoil 3. Plant for mixing asphalt
Minimum Lot Area	
Minimum Lot Width	
Maximum Heights	8 80 ft. except for projections or 6 stories
Maximum Area	60% or 80% of a corner lot
Front Set Back Line	15 feet
Side Lot Line	7 1/2 feet
Rear Lot Line	15 feet

APPENDIX E

ASSESSED VALUATION - BUILDINGS RESIDENTIAL

BLOCK	TOP VALUATION $	LOW VALUATION $	MEAN AVERAGE VALUATION	MEDIAN VALUATION $	# BLDGS. INCLUDED
130	$ 4,000	$ 1,300	$ 2,404	$ 2,300	11
132	5,400	350	1,750	2,000	8
133	5,700	2,500	3,950	3,500	8
134	6,200	2,400	4,727	5,500	11
135	5,700	750	3,358	3,300	23
187	7,500	2,400	5,840	6,660	25
183	16,000	3,200	6,800	6,450	23
188	5,200	1,300	3,023	2,800	29
189	6,500	550	2,550	2,300	16
190	7,900	2,300	4,005	2,600	18
191	4,350	2,800	4,150	4,300	3
192	7,250	2,400	5,159	5,600	16
193	8,800	2,500	5,008	4,500	12
194	8,300	1,500	3,450	3,000	20
195	8,800	4,000	5,858	5,800	12
196	6,800	4,000	5,583	5,000	6
197	5,800	2,800	4,300	4,300	5
198	6,200	2,200	3,900	3,800	14
199	7,200	2,000	2,942	3,450	27
225	7,000	2,220	4,416	4,100	9
226	20,000	3,000	5,692	4,800	20
227	6,200	1,800	3,779	3,800	12
306	10,500	2,000	5,387	5,300	32
307	7,400	3,500	5,128	4,600	7
308	3,800	3,800	3,800	3,800	1
221	6,800	4,000	5,340	4,500	5
217	6,100	2,700	4,400	4,500	8
218	9,400	3,800	5,875	5,100	4
219	7,200	3,800	5,050	4,500	4
223	9,000	4,000	5,907	5,200	7
309	8,600	4,400	6,217	5,800	23
325	8,000	5,500	6,433	5,800	3
200	6,100	3,200	4,535	5,000	7
202	7,900	2,000	4,088	3,850	36
203	6,200	2,500	4,925	5,000	4
204	7,300	6,500	6,860	6,800	5
205	5,000	2,950	3,544	3,200	18
206	7,500	300	5,371	7,200	7
208	12,200	2,000	5,224	5,200	73
215	11,600	3,000	5,142	4,900	14
214	7,500	3,500	5,708	5,500	6

APPENDIX E

ASSESSED VALUATIONS - BUILDINGS RESIDENTIAL

BLOCK	TOP VALUATION $	LOW VALUATION $	MEAN AVERAGE VALUATION	MEDIAN VALUATION $	# BLDGS. INCLUDED
213	$ 8,500	$ 8,300	$ 8,600	$ 8,300	4
212	12,500	3,800	7,008	7,500	28
211	8,500	4,800	6,590	6,500	11
210	8,300	4,800	6,425	6,000	8
209	7,400	6,100	6,585	6,200	7
315	6,550	5,200	5,829	5,600	12
316	9,800	4,500	8,250	8,500	7
317	13,100	6,100	8,038	7,200	9
318	8,600	5,000	6,564	6,500	7
216	12,500	3,000	6,502	8,000	19
312	8,800	3,800	6,477	6,200	11
313	9,200	3,000	5,792	5,700	25
314	11,300	4,000	5,732	6,500	28
319	8,600	5,200	7,252	7,800	19
429	6,950	5,200	6,477	6,600	20

APPENDIX E

Sample Sheet--Assessed Valuations

No.	Val. of Bldg.	Census Block	Sq. Ft. Lot	Val. of Land	Total Val.
			BOYD STREET		
128	$ 3,100	133	8,860	$ 1,200	$ 4,300
124	4,500		7,200	2,000	5,500
114	3,700		6,750	950	4,650
108	3,200		6,750	1,000	4,200
102	4,900	188	7,600	1,200	6,100
96	2,800		7,000	1,000	3,800
84	2,700		14,000	1,500	4,200
80-78	4,400		14,000	1,500	5,900
76	3,800		14,000	1,400	5,200
68	4,000		6,000	1,000	5,000
66-64-62-60	12,100		6,270	1,400	13,500
56	3,200	199	5,626	1,200	4,400
52	3,400		5,062	1,000	4,400

Bibliography

Books

Bateman, John H.: Introduction to Highway Engineering, Fifth Edition, N. T. Wiley & Sons, Inc., 1947.

Periodicals

Adams, F. J.: "Rehabilitation vs. Rehousing," Journal of the American Institute of Planners, Summer Issue, 1945, pp. 11-14.

Proudfoot, M. J.: "City Retail Structure," Economic Georgraphy, Vol. 13, October 1937, pp. 425-28.

Journal of Housing, November, 1949.

Pamphlets

American Public Health Association, Committee on the Hygiene of Housing: "An Appraisal Method for Measuring the Quality of Housing, Part I," 1945.

_____: "Planning the Neighborhood," 1948.

Annual Report on Vital Statistics of Massachusetts, year ending December 31, 1947, p. 276.

U.S. Bureau of Census: Housing, Newton, Block Statistics, 1940, U.S. Gov't Printing Office, 1942.

Housing and Home Finance Agency: "A Guide to Slum Clearance and Urban Redevelopment, Under Title I of the Housing Act of 1949," Feb. 1950.

Newton Community Council Bulletin: "Review of Steps Taken Regarding Substandard Housing in Newton," Feb. 1950.

Newton Public Schools: "School Building Needs," Feb. 1948.