

LAND USE PLAN ELEMENT

ADOPTED MARCH 17, 1983

Borough Of Metuchen
Middlesex County, N.J.

1983
LAND USE PLAN ELEMENT

PREPARED BY

 FROST ASSOCIATES
CONSULTING ENGINEERS & PLANNERS

BOROUGH OF METUCHEN
MIDDLESEX COUNTY, NEW JERSEY

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The preparation of this report was financially aided through a Federal grant from the Department of Housing and Urban Development, under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1965, as amended.

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The original copy of this report has been signed and sealed in accordance with N.J.A.C. 13:41-1.3 (b) and transmitted to the client.

Marshall Frost, P.E., P.P. DATE

Elizabeth C. McKenzie, P.P. DATE



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INTRODUCTION

The land use plan element of a master plan is the foundation of the municipal planning process in that it establishes the basis for zoning.

The Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.) provides that a municipal governing body "may adopt or amend a zoning ordinance relating to the nature and extent of the uses of land and of buildings and structures thereon... (only) after the planning board has adopted the land use plan element of a master plan..." Moreover, the Law states that "all of the provisions of such zoning ordinance or any amendment or revision thereto shall either be substantially consistent with the land use plan element of the master plan or designed to effectuate such plan element ..."

According to the statute, the land use plan element is a document

(a) taking into account the other master plan elements and natural conditions, including, but not necessarily limited to, topography, soil conditions, water supply, drainage, flood plain areas, marshes, and woodlands, (b) showing the existing and proposed location, extent and intensity of development of land to be used in the future for varying types of residential, commercial, industrial, agricultural, recreational, educational and other public and private purposes or combination of purposes, and (c) including a statement of the standards of population density and development intensity recommended for the municipality.

The land use plan element thus synthesizes and balances the other considerations affecting land use planning policies.

The Borough of Metuchen has been the subject of numerous planning studies. In 1967, Candeub, Fleissig Associates prepared a Master Plan for the municipality which reviewed all phases of Metuchen's development, including existing land use patterns, housing conditions, transportation and traffic circulation, community facilities, population trends and demographic characteristics, the economic base and fiscal considerations.

The firm of Boorman and Dorram evaluated the feasibility of low-rise versus high-rise apartment buildings in another report entitled Zoning for Multi-Family Housing in Metuchen, New Jersey. This report, published in 1973, evaluated housing needs and demands in Metuchen and proposed zoning for low-rise garden apartments and townhouses in a number of locations.

In 1976, following the adoption of the Municipal Land Use Law, Candeb, Fleissig Associates prepared an update of the land use plan element of the Master Plan based upon changes in policies directed particularly toward the selection of new locations for multi-family housing development. Their report, adopted as the Amendment to the Master Plan, incorporated the proposals in the 1973 Boorman and Dorram study and recommended additional sites for multi-family use, as well. These sites were subsequently rezoned for multi-family use.

Candeb, Fleissig Associates also undertook a study of the downtown area of Metuchen for the Parking Authority in 1971. The study focused on land use and circulation in the downtown area and specifically suggested that higher density retail and office development be considered using the Parking Authority as the vehicle for land assembly for such purposes. The proposals also included the creation of a multiple-decked parking garage at the Halsey Street lot.

The Rutgers Urban Design Studio, 1979-1980, evaluated the potential for redevelopment of Metuchen's downtown in a study entitled Metuchen 2001. Five proposals for the downtown were set forth. One was primarily a landscaping plan with no changes in land use; the other four involved high density redevelopment of the blocks bounded by Conrail (Penn Central Railroad), Main Street, Middlesex Avenue and Lake Avenue with a mixture of office, retail and residential development in a variety of proportions and configurations.

The purpose of this analysis is to update the land use plan presented in the 1976 Amendment to the Master Plan in light of the proposals discussed in the Metuchen 2001 report with respect to the central business district and also to specifically evaluate the northwest quadrant of the Borough for possible alternative uses of vacant and underdeveloped land which has heretofore been zoned for industrial purposes.

A separate Housing Plan Element has been prepared by Frost Associates which presents certain background data and goals and objectives pertaining to housing and summarizes previous and current recommendations with regard to housing issues. These recommendations will be weighed in the Land Use Plan Element against concerns for natural conditions, traffic circulation, parking, existing development and the plans and policies of Middlesex County, the State of New Jersey and Edison Township, which surrounds the Borough of Metuchen. The sections of the report which follow present the issues which constrain the development of Metuchen, set forth the specific proposals embodied in the Land Use Plan and suggest implementation strategies, evaluate the probable impacts of the Land Use Plan in terms of public services and facilities, traffic, energy conservation, the environment and historical sites, and evaluate the Plan's relationship to the policies of other political jurisdictions.

PLANNING CONSIDERATIONS AND ISSUES

Regional Location

The Borough of Metuchen consists of 2.8 square miles situated in the north-central portion of Middlesex County. It is surrounded entirely by the Township of Edison and is located approximately twenty-five (25) miles from Manhattan.

Metuchen is bordered on the southwest by Route 287, which intersects with Route 1 at the municipality's southernmost corner. Route 27 bisects Metuchen. These three (3) routes in turn provide linkage to the rest of the regional road network, including the Garden State Parkway and the New Jersey Turnpike. The Borough is also served by the main line and two lesser lines of Conrail. These railroad lines cut through in several different directions.

Metuchen's location has both advantages and disadvantages. On the one hand, Metuchen residents are within easy commuting distance of New York City, Newark Airport and the New Jersey shore area. On the other hand, the heavy traffic flows along Route 27 and the amount of land occupied and affected by the railroad lines are contrary to the essentially suburban residential character of most of the Borough and an impediment to planning efforts.

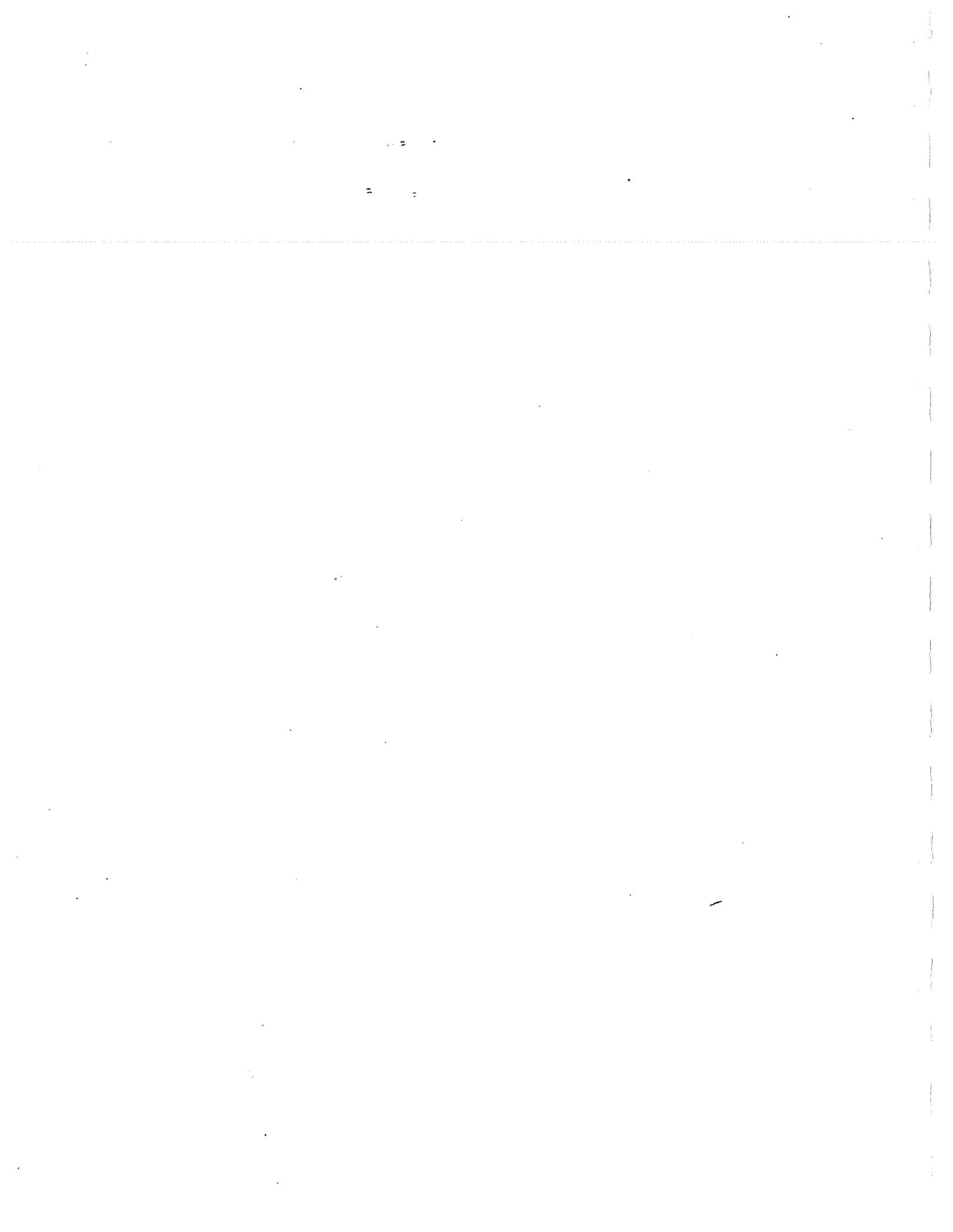
Development History

As documented in the Housing Plan Element prepared by Frost Associates, Metuchen's peak period of development occurred during the 1940's and 1950's, after World War II. In the 1960's, its rate of population growth slowed and, in the 1970's, actually reversed. The Borough's 1980 population of 13,751 persons represents a decrease of 14.2% from its 1970 population level. Nevertheless, 137 new housing units were constructed in the past decade (122 of them for senior citizens).

PLATE 1

Existing Land Use, June 1981

See Large Scale Map on
Display in the Borough Hall



The most significant land use conflicts occur in the northwest quadrant of the Borough where there is a relatively large amount of vacant land remaining and, in addition, some vacant industrial buildings (four (4), at the time the survey was conducted). Residential neighborhoods include an area north of Durham Avenue where unpaved streets and lack of sewerage (now being corrected) combine with poor housing quality. The visual blight associated with nearby industrial properties contributes further to the deteriorated housing conditions in this area. Immediately adjacent to this neighborhood, however, is a single family residential area of attractive and well-maintained homes, most of which lie within Edison Township. Clearly, location alone is not responsible for the poor housing and neighborhood conditions north of Durham Avenue in Metuchen.

Most of the northwest quadrant has been zoned for industrial and commercial purposes for many years. However, the presence of vacant buildings and lots in the industrial zone suggests that the area's desirability for industrial purposes may have waned. A reevaluation of present land use policies in the northwest quadrant should consider ways of improving the residential neighborhoods as well as making the area more attractive for developers.

Another area where land use conflicts exist and may evolve further is in the northeast corner of the Borough, north of the Conrail line, adjacent to Edison Township. While the zoning in this area is "R-1" single-family residential, except for the apartment complex, which is zoned "R-4" multi-family residential, a number of properties are developed with non-residential uses. This reflects the area's proximity to commercial development in Edison Township and also the access and visibility provided by Route 27. However, the area needs clarification. A reevaluation of the current zoning, and a recommendation to either reaffirm or revise, may help to avert improper development of some potentially redevelopable parcels on the south side of Middlesex Avenue.

Metuchen's central business district provides a wide range of goods and services oriented to a local market. Two issues arise in considering its future: the availability of parking (to be discussed in a later section of this report) and the maintenance of its viability by restricting retail and

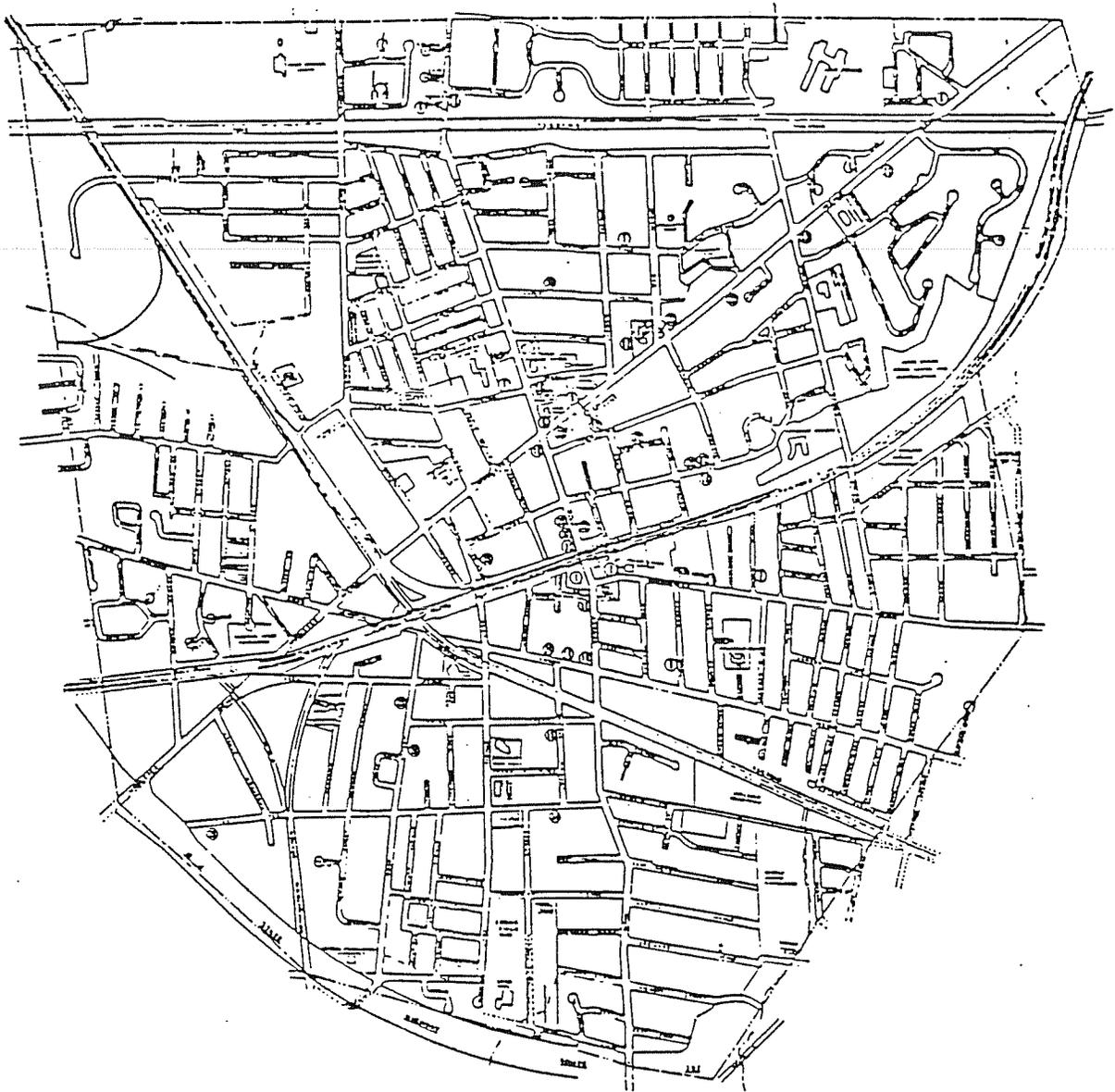
service commercial development in other commercial zones to uses which do not duplicate those which exist or are sought in the downtown. At this time, the zoning of the central business district permits the full range of uses which already exist there. However, these uses are also permitted in other commercial zones in the Borough which have potentially better access and greater parking availability. A more organized approach to the uses which should be permitted in each of the business zones is warranted.

Historic Sites

Plate 2 presents the locations of historic sites within the Borough of Metuchen as mapped by Candeub, Fleissig and Associates in the Natural Resources Inventory prepared for the Metuchen Environmental Commission in 1976. The NRI documents the existence of 37 separate historic sites and describes their historic significance. However, only two (2), the Old Franklin School House (#12 on the plate) and the Fairweather House at 191 Middlesex Avenue (#11 on the plate), are actually included in the National Register of Historic Places.

Environmental Considerations

The Natural Resources Inventory prepared for the Borough in 1976 by Candeub, Fleissig and Associates reviewed both the natural and man-made environmental features of the Borough. Although Metuchen is "approximately 90% developed for urban use", about five percent (5%) of its land area is in parks and playgrounds and about five percent (5%) in scattered vacant land. The NRI contains an extensive analysis of the various open spaces, both public and private, within the Borough. Portions of that analysis pertaining to vacant, potentially developable parcels of land are excerpted in the Housing Plan Element, prepared by Frost Associates, with a recommendation that the Land Use Plan Element evaluate their suitability for various forms of new development. Plate 3 shows the significant parcels of vacant land identified in the Natural Resources Inventory as well as two additional vacant parcels not considered by the Environmental Commission. The physical characteristics of each parcel are described in the ensuing paragraphs.



HISTORIC SITES

1. OLD PRESBYTERIAN CEMETERY
2. PRESBYTERIAN CHURCH
3. A. OLD PRESBYTERIAN PARSONAGE
4. PRESENT PRESBYTERIAN PARSONAGE
5. MRS. CATHERINE ALLEN'S TOWER
6. OLD STABLEBACH HOUSE
7. ALLSTONE HOUSE (THURLE)
8. THE DANIELS HOUSE
9. THE BOES HOUSE
10. THE SHERMAN'S HOUSE
11. THE JOSE HANFORD HOUSE
12. THE FAIRBANKS HOUSE
13. THE OLD FRANKLIN SCHOOL HOUSE
14. THE LEVY THOMAS HOUSE
15. THE REV. T. BRADSHAW HOUSE
16. THE BOVVS BRADSHAW THOMAS HOUSE
17. THE APPEL (AYERS) HOUSE
18. ST. LUKE'S EPISCOPAL CHURCH
19. THE OLD CATHEDRAL METHODIST EPISCOPAL CHURCH
20. THE CYPRIAN B. HOLVE HOUSE
21. THE TWO BUCKLE HOUSE

22. HETHCOTE'S FIRST LIBRARY
23. THE BARRINGER HOUSE
24. THE OLD HOPKINS WATERING TROUGH
25. THE CRITCHFIELD HOUSE
26. THE OLD FRODY HOUSE
27. THE PATTERSON HOUSE
28. THE FOX HOUSE
29. THE OLD THORNHILL FARM
30. FISHOP BROTHERS WALL AND BIRD'S HALL (102 MAIN ST.)
31. THE OLD HENNING'S BARN
32. THE OLD CHURCH'S LIVESTOCK STABLE AND FEED STORE
33. THE EAGLE HORN AND LAMBER GEORGEY BUILDING
34. THE WASHINGTON HOME GEORGEY BUILDING
35. THE OLD THOMAS HOUSE
36. THE ANGLE OF HETHCOTE'S OLD HOUSES IN AN SCHOOL, LATER THE AMERICAN LEADERS BUILDING
37. HETHCOTE'S FORMER OLD FIELDS HOME (118 MAPLE AVE.)
38. THE HOPKINS HOME (151 MAIN ST.)

PLATE 2

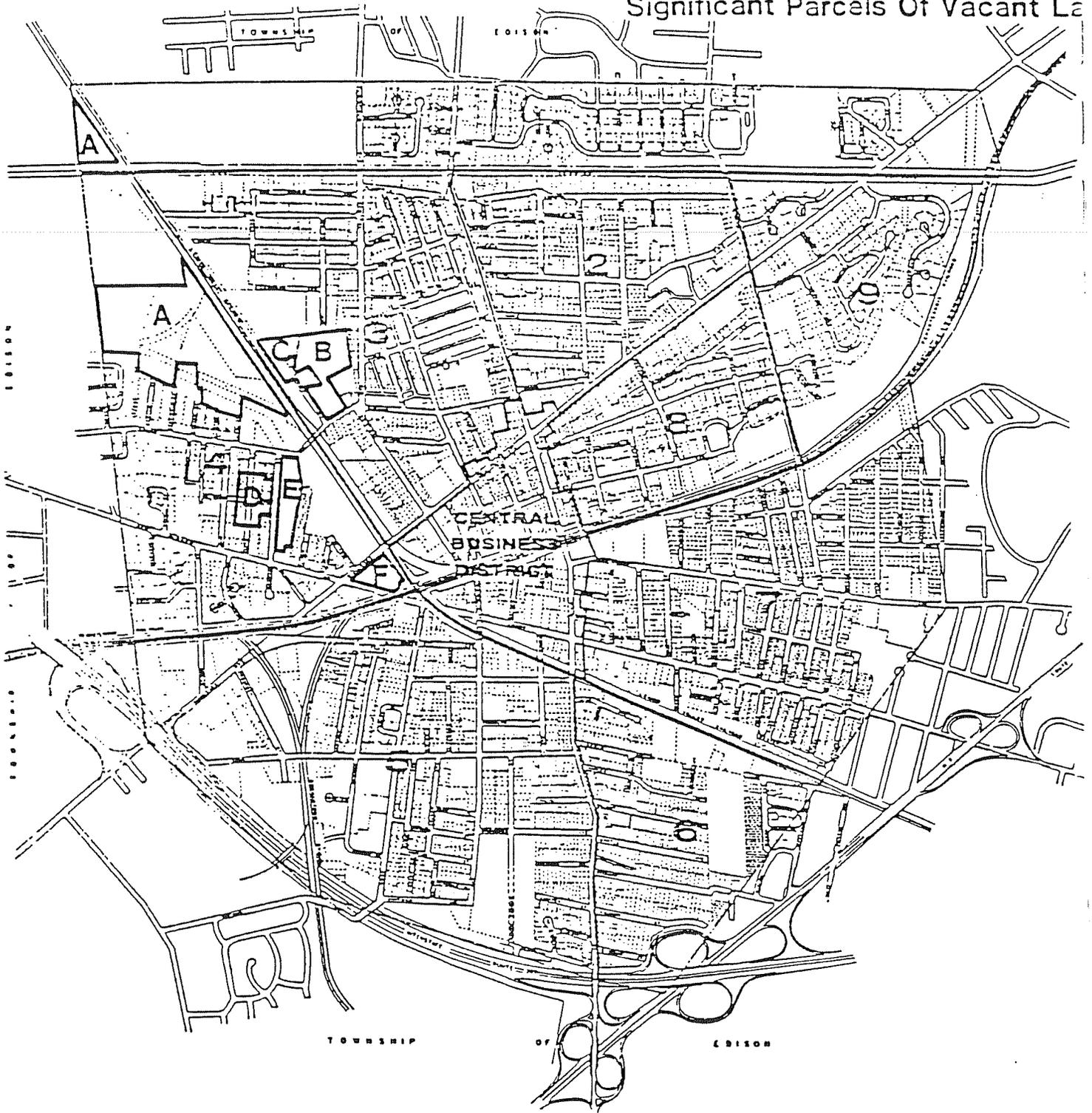
Map 6
Historic Sites

METUCHEN ENVIRONMENTAL COMMISSION
BOROUGH OF METUCHEN, NEW JERSEY

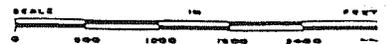
PLANNING CONSULTANTS: CARROLL, FLETCHER AND ASSOCIATES



Significant Parcels Of Vacant Land



- A Dismal Brook Area
- B Lawler Property
- C Borough Garage Property
- D Hampton And Smith Street Lots
- E Vacant Industrial Land
- F Vacant Commercial Land



BOROUGH OF METUCHE
MIDDLESEX COUNTY, NEW JERSEY
PLANNING COMMISSION / CAMERON PLUMB AND ASSOCIATES INC. FOR THE

Graphic Display Prepared By Frost Associates.

Parcel A consists of several undeveloped lots, both privately and publicly (10.83 acres) owned, in the vicinity of Dismal Brook in the Borough's northwest corner. The land is low in elevation and flat, with a high water table. Dismal Brook receives much of the Borough's storm drainage, both directly and indirectly, through ditches and streams which flow into it. The area tends to act as a natural detention basin during periods of heavy rainfall. Access to much of the area is poor or nonexistent; development of the more environmentally stable portions of Parcel A would involve access through streets intersecting with, or properties fronting on, Durham Avenue to avoid encroachment on Dismal Brook.

Parcel B consists of 9.9 acres of privately owned land surrounding the grocery store and bank at the intersection of Jersey and Durham Avenues. It is traversed by drainage easements and much of it currently serves as a storage yard for discarded heavy metal equipment.

Parcel C encompasses the 3.01 acres of Borough-owned land surrounding the Borough garage. The land is used as a storage yard for materials and debris by the Department of Public Works. Formerly, portions of the property near Forrest Street were used as a dump.

Parcel D is comprised of undeveloped lots and paper streets lying between Hampton and John Streets. At one time the Borough owned 1.68 acres of the total of nearly ten (10) acres, according to the Boorman and Dorram report (1973); however, that land has recently been sold and is now privately owned by a corporation which owns no other parcels in the immediate vicinity. The land slopes from an elevation of 118 feet at New Durham Road to 90 feet at Durham Avenue and from 122 feet at John Street to 108 feet at Smith Street. Much of the change in elevation is due to previous land disturbance involving excavation and filling. Development would require extensive regrading and the use of retaining walls. The area is within a single family residential neighborhood.

Parcel E, which was not evaluated by the Environmental Commission in the NRI, consists of five (5) acres of vacant, relatively flat land which was, at one time, considered for a subsidized housing project by a local non-profit

sponsor. The site is industrially zoned and is located adjacent to the Oakite factory and opposite Gulton Industries, but residences exist to the east, on the other side of the Lehigh Valley Railroad tracks, and to the west, on both sides of Durham Avenue.

The second of the two (2) vacant parcels not considered by the Commission in the NRI is Parcel F, a 2.7 acre piece which is vacant and zoned for business. The parcel is flat and fronts on Middlesex Avenue. It is virtually surrounded by railroad tracks and industrial and business uses.

Of particular importance to the Land Use Plan Element is the delineation of flood prone areas. Plate 4 presents those portions of the Borough which are subject to flooding, according to the Flood Insurance Rate Map prepared by the Federal Insurance Administration for the U.S. Department of Housing and Urban Development. For planning purposes, the one hundred (100) year flood boundaries have the greatest significance in terms of the State and Federal regulations which affect development. Clearly, much of the vacant land in the northwest quadrant is subject to periodic flooding.

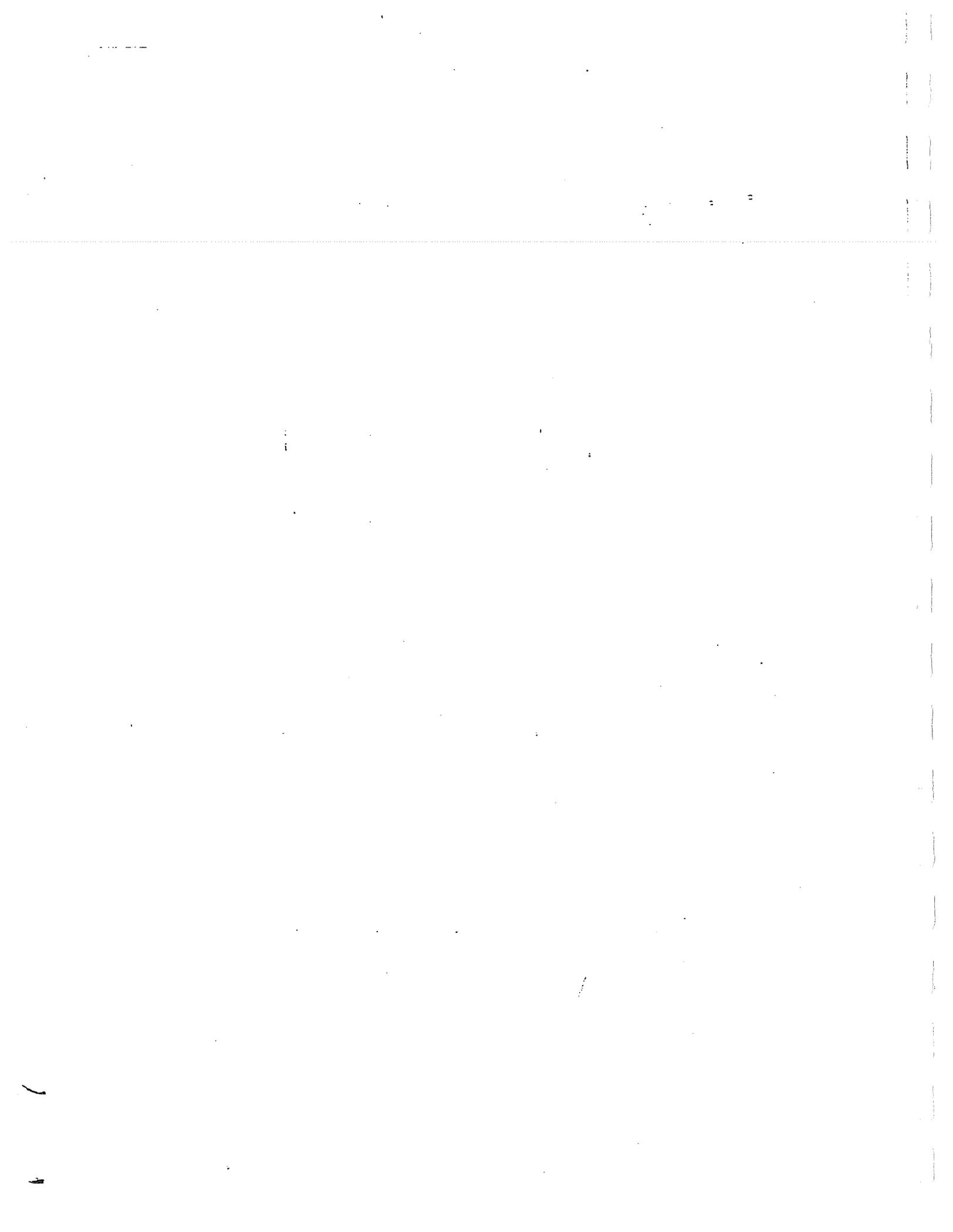
BOROUGH OF METUCHEN
Middlesex County, New Jersey



Source: Flood Insurance Rate Map, December 4, 1979
U.S. Dept. Of Housing And Urban Development

PLATE 4

100 Year Flood Boundary Map



Metuchen 2001 Proposals

The Rutgers Urban Design Studio 1979-1980 undertook an extensive study of Metuchen's central business district, concluding with five (5) alternative proposals for the redevelopment of the blocks bounded by Conrail, Main Street, Middlesex Avenue and Lake Avenue. The five (5) proposals are encapsulized in the paragraphs below. Illustrative site plans showing four (4) of the five (5) proposals are also reproduced herein.

Proposal #1

The first proposal is a phased landscaping and beautification program for the downtown. It does not attempt to provide for any new development or redevelopment.

Proposal #2

The second proposal, reproduced on Plate 5, calls for three and four-story brick condominium/townhouses with some retail development, which would essentially replace existing space, and 24,000 square feet of office space. The proposal includes studio, one, two, and three bedroom dwelling units oriented for solar energy use. A total of 248 dwelling units are proposed to be constructed within the 7.9 acres of land lying in the two (2) blocks between Lake Avenue and Pearl Street, south of Middlesex Avenue, for a total residential density of 31.4 dwelling units per acre. Parking would be provided within the dwelling units and out-of-doors at ground level.

Proposal #3

Proposal #3, shown on Plate 6, is a mixed-use development proposal involving 462 dwelling units at a density of 30 dwelling units per acre, 89,000 square feet of office space, and 8,800 square feet of retail space. The proposal involves the 15.85 acres within the four (4) blocks between Lake Avenue and Main Street, south of Middlesex Avenue. Parking is proposed in subsurface garages and decks. Structures are intended to be as high as eighteen (18) stories.

Proposal #4

Proposal #4 calls for 322 family dwelling units and 84 units of senior citizen housing. In addition 153,000 square feet of office space and 52,000 square feet of retail space are also proposed, all within the four (4) block study area. Parking spaces for 1640 vehicles would be provided in the redevelopment area within a five (5) level parking structure, on a second level deck, and at ground level. Proposal #4 is presented on Plate 7.

Proposal #5

Proposal #5 calls for the development of 15.4 acres of land with 184 dwelling units, 102,858 square feet of office space, and 95,484 square feet of retail space. It is reproduced on Plate 8. Parking is to be provided in a five (5) level structure which will be located to function as an acoustical barrier between the railroad and the residences. Buildings of up to ten (10) stories in height are proposed.

In discussions of the four (4) Metuchen 2001 proposals which involve active redevelopment, Planning Board members and other municipal officials have indicated a preference for low-rise residential development with some office/retail space. The overall density of development, both residential and non-residential, is a concern to Borough officials since it has a direct bearing on traffic and parking considerations.

Housing Considerations

The Housing Plan Element, prepared by Frost Associates, evaluates low and moderate income housing needs, journey to work patterns and demography as well as the characteristics of Metuchen's existing housing stock. Opportunities for new residential development are explored with particular emphasis on the physical constraints to the creation of new housing in Metuchen. The Housing Plan Element concludes with the recognition that housing needs must be balanced against such other planning factors as environmental constraints and

METUCHEN
NO 1002



PLATE 6

**ILLUSTRATIVE
SITE PLAN**

METUCHEN



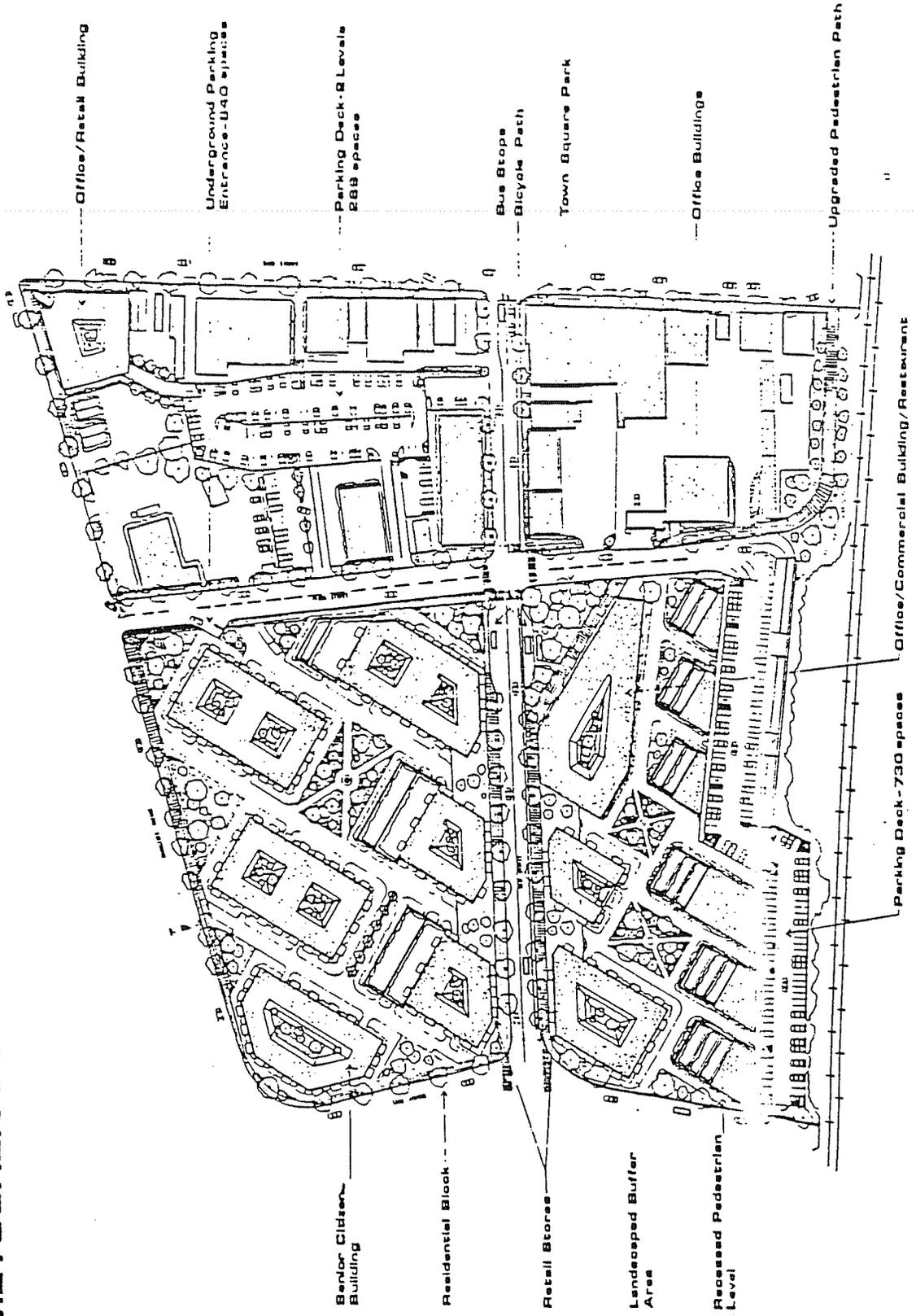
- pedestrian plaza
- pedestrian access from deck
- two story parking deck
- surface pedestrian access
- town center
- retail residential
- restaurant/cafe
- retail office residential
- existing offices
- office level pedestrian access
- rail buffer

- offices complex
- residential tower
- surface parking access
- residential
- retail/offices/residential
- bikeway
- surface deck access
- three story parking deck
- to commuter parking

illustrative site plan

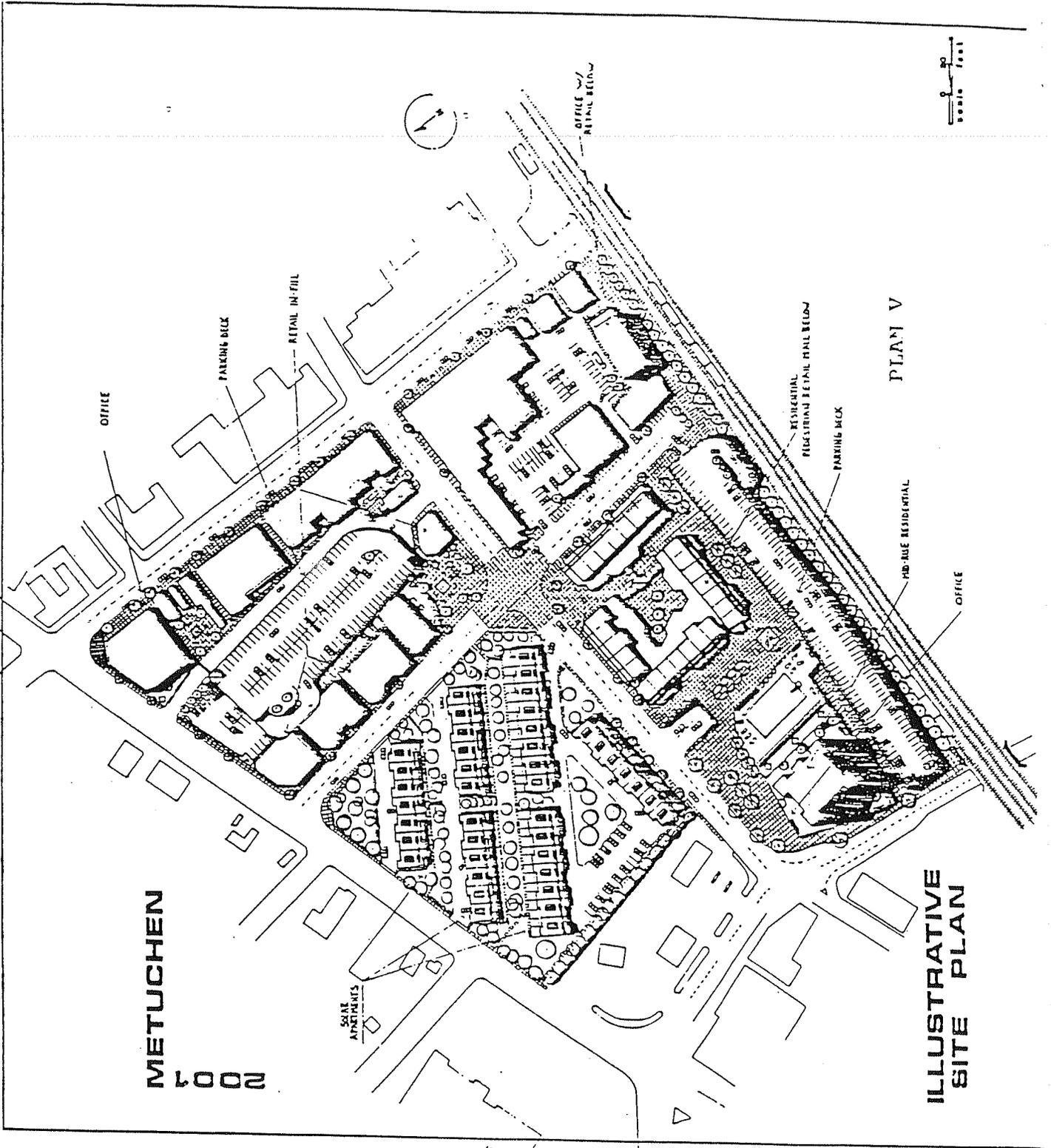


METUCHEN 2001: TOWN SQUARE DESIGN



Development Scheme IV

Designed by:
Robert D. Greenberg



METUCHEN
2001

PLAN V

ILLUSTRATIVE
SITE PLAN

infrastructural limitations in a land use plan element. However, that element recommends that vacant and redevelopable parcels be selected for rezoning for residential purposes with an eye to the eventual construction of between 300 and 500 units of new housing of various types and sizes. Specific areas where rezoning should be considered are recommended in the Housing Plan Element to be the northwest quadrant and the central business district. Densities are recommended to be high enough to encourage development but also respect traffic circulation, parking and environmental limitations.

Fiscal Considerations

In an effort to determine the most productive use of vacant or redevelopable land areas in terms of the municipal fisc, a comparison was made of the equalized valuations per acre of different types of properties which exist in the Borough. Specifically, a condominium/townhouse development, medical offices and a supermarket were compared on a per acre basis to determine the type of use that would yield the highest property tax return and therefore the greatest number of dollars to sustain services in the municipality. In understanding the material presented, it is important to remember that valuations can vary according to the method used, are often subject to judgement on the part of the assessor, and may be highly inaccurate when the difference between the assessed valuation and equalized valuation is pronounced, as it is in the Borough of Metuchen (the County equalization ratio for Metuchen is 56.84).

The Iron Gate Condominiums, constructed at a density of eight (8) units to the acre, have an equalized valuation per acre of \$708,033. A three (3) story office building on Highland Avenue has an equalized valuation of \$2,270,162 per acre. However, it should be noted that the particular office building used in the example occupies virtually its entire lot and provides no parking on-site. If sufficient parking were to be provided to accommodate a building of its size, a lot of roughly one (1) acre would be required, and the equalized valuation per acre would be closer to \$600,000. The Foodtown supermarket has a per acre equalized valuation of \$717,876, not much higher than the Iron Gate Condominiums.

Projected equalized valuations for five different types of uses were developed based upon certain assumptions regarding land and improvement values and the method of taxation. Single-family residential development at six (6) dwelling units per acre was projected to be valued at \$690,000 per acre. Condominium/townhouses at ten (10) dwelling units to the acre were projected to be valued at \$765,000. Condominium flats at sixteen (16) dwelling units per acre were projected to be valued at \$960,000. 21,000 square feet of office space in a three-story building was projected to produce an equalized valuation of as much as \$1,500,000. However, this figure reflects the high construction costs per square foot associated with office space, and this is usually not the method employed in assessing properties used for business purposes. Such properties are more often valued based on the income per square foot produced for the owner. Finally, an acre of land developed with 14,000 square feet of retail space in a two-story building was projected to have an equalized valuation of \$945,000. Again, if the income approach to the valuation of business properties is utilized, this figure would not be valid.

The point of the analysis is that residential development, particularly at higher densities, is competitive with non-residential space in terms of its ability to produce tax revenues for the municipality in order to cover the costs of services.

Traffic Considerations

The existing traffic conditions within the Borough of Metuchen are well known to the Borough's residents and to persons who must utilize the Borough's through streets, particularly during peak periods. Traffic has been, and will continue to be a problem. While there are tracts of land within Metuchen which are either undeveloped or underdeveloped, the intensity of existing development makes it impractical, if not impossible, to institute major improvements to the circulation system. Furthermore, the cost of improvements to the road network severely limits the possibility of obtaining adequate funding. Consequently, major changes to the roadway system are not envisioned.

Plate 9 shows the roadway network within Metuchen by jurisdiction. As can be seen from the map, the roadways within the Borough are owned and maintained by the State of New Jersey, the County of Middlesex, and the Borough of Metuchen. Of the roadways within the Borough, 2.32 miles are under the jurisdiction of the New Jersey Department of Transportation (including both federally funded and non-funded roads), and 4.69 miles are under the jurisdiction of Middlesex County.

Plate 10 classifies the roadways within the Borough by function. The classifications used are principal arterial, secondary arterial, principal collector, secondary collector, and local. I-287 is classified as a principal arterial. Secondary arterials include Middlesex - Lake - Essex - Avenues (New Jersey Route 27), Amboy Avenue, New Durham Road, Central Avenue, and Main Street south of Middlesex Avenue. New Jersey Route 27 bisects the Borough of Metuchen on a generally southwest-northeast axis and carries high volumes of through-traffic. Main Street, Amboy Avenue, Central Avenue and New Durham Road also carry significant volumes of local and through traffic. Collector roads include Main Street north of Middlesex, Plainfield Avenue between Central and Main, Durham Avenue, Lake Avenue south of Essex, High Street, and Woodbridge and Grove Avenues.

The railroad rights-of-way bisecting Metuchen have a significant impact upon the flow of traffic through the Borough. This is evident on the preceding plates. Conrail's main line runs northeast to southwest through Metuchen. In addition, Conrail's Perth Amboy Branch cuts through Metuchen from its northwest corner to the southeast corner, and the Conrail Port Reading branch crosses Metuchen parallel to the Borough's northern boundary line. These three railroads, in addition to the various connecting branches within Metuchen, interrupt traffic patterns by funneling vehicles through a limited number of rail crossings. An example of the impact of these rail lines on traffic movement can be seen when Middlesex Avenue is examined. While the Middlesex Avenue right-of-way line proceeds directly through Metuchen, it is interrupted by Conrail's main line in the southwestern sector of the Borough. Consequently, Route 27 is diverted south onto Lake Avenue and then west onto Essex Avenue before rejoining the alignment of Middlesex Avenue at the Metuchen-Edison Township municipal boundary.

As in many older communities, the road system as it developed over the preceding centuries did not reflect today's dependence upon the private automobile, and, consequently, rights-of-way and the roadways themselves are not designed for the high volumes of traffic that occur today. The road network is constrained by railroad crossings, offset intersections, insufficient roadway widths for the volume of traffic required to be carried, and limited potential for improvement.

Over the years, a number of possible traffic circulation improvements have been investigated by and within the Borough of Metuchen. In the 1970's, as part of the Middlesex County TOPICS Program, a number of intersection improvements were planned within the Borough. For the most part, these improvements have been implemented and have resulted in an improvement in traffic circulation. A number of years ago, the New Jersey Department of Transportation designed a solution to the Route 27/Conrail problem, described above, which would have allowed traffic to continue directly through on Middlesex Avenue, removing the need to use Essex and Lake Avenues to cross the railroad. However, practical difficulties apparently prevented that improvement from being made at the time it was designed. At this point, the probability of such an improvement being made is hampered by funding as well as practical limitations. The desirability of this major improvement to the Borough's traffic circulation system still exists, however, despite the implementation difficulties. Consequently, the Borough should assume a pro-active posture in urging the State to continue to consider, and ultimately implement, such a plan.

The location of the existing interchanges with Route 287 pose another problem for Borough residents, particularly in the northwest quadrant of Metuchen. Traffic flowing between South Plainfield and the Route 287 interchange with Route 27 in Edison uses residential streets in Metuchen, especially John Street, to bypass the Middlesex/Central Avenue intersection. A draft study has been prepared for the New Jersey Department of Transportation by the traffic engineering firm of Garmen Associates in which the feasibility of constructing a new full interchange with Route 287 at Talmadge Road in Edison Township is evaluated. This proposal, which is conceptual at this point,

BOROUGH OF METUCHEN
Middlesex County, New Jersey

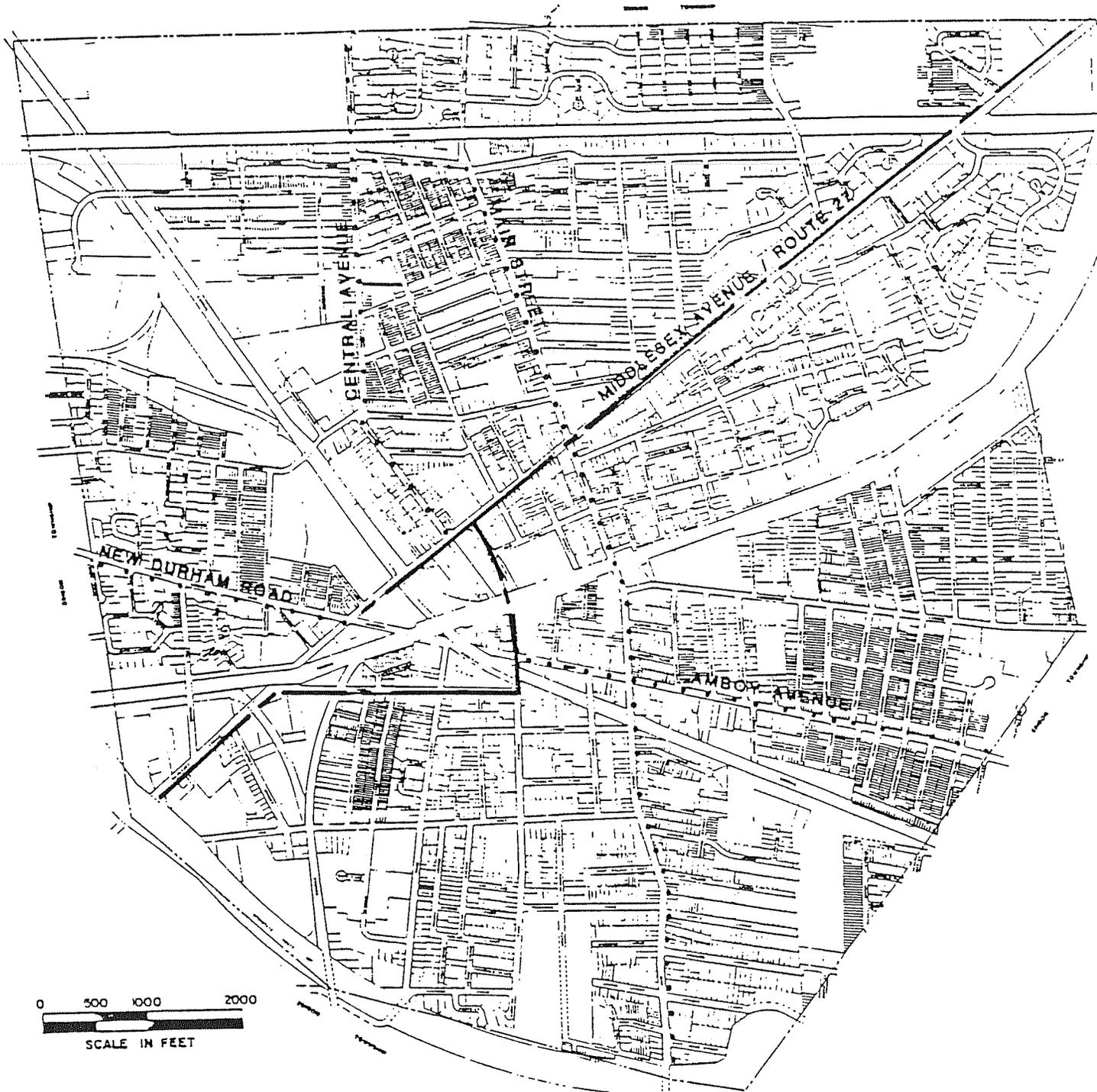


PLATE 9

Road Jurisdiction Map

COUNTY ROAD - - - - -
STATE ROAD _____

BOROUGH OF METUCHEN
Middlesex County, New Jersey



0 500 1000 2000
SCALE IN FEET

PLATE 10

Functional Classification

- PRIMARY ARTERIAL
- - - - SECONDARY ARTERIAL
- COLLECTOR

would realign Talmadge Road to the east and eliminate the existing partial interchange at New Durham Road. If the Talmadge Road interchange proposal were to be implemented, there would be an improvement in local traffic conditions, since a direct link would be created between Route 287 and employment centers in Edison and South Plainfield. Thus, the construction of such an interchange is endorsed. Meanwhile, the Planning Board maintains its position that a full interchange should be constructed between Route 27 and Interstate 287, since it is felt that such an improvement would significantly reduce traffic congestion within Metuchen.

As indicated previously, the roadway system within the Borough is characterized by significant traffic volumes and, during various times of the day (both peak and off peak hours), by congestion. The congestion experienced is a result of the total volume of traffic on the roadways, the disjointed roadway network, and ingress and egress activity resulting from existing land uses along the roads.

Land development and the traffic associated with that development are obviously interrelated. Any new development in Metuchen is going to have an impact on traffic, and that impact will be unquestionably negative. If it is improbable that major improvements can be made to the road system to increase the capacity of the roadways and improve traffic operations, then Borough officials must recognize that they are making a conscious decision to increase the traffic and congestion already experienced. Therefore, in evaluating development alternatives for Metuchen's vacant and redevelopable land areas, particularly but not only in the central business district, the traffic issue becomes a question of how much additional inconvenience Borough residents would be willing to endure.

Traffic impacts per acre for various land use types were projected as part of this study. They are summarized in tabular form on the succeeding page.

Land Use Type	Gross Density/ Floor Area	Total Trip Ends	AM Peak	PM Peak
Res./S.F.	6 D.U./Acre	60	6	7
Res./Condo-Townhouse	10 D.U./Acre	51	6	6
Res./Condo-Flat	16 D.U./Acre	86	8	10
Office (3 story)	21,000 sq. ft.	258	25	34
Retail (2 story)	14,000 sq. ft.	1610	28	202

Clearly, residential development, even at relatively high densities, would have a far lesser impact on traffic circulation within the Borough than both kinds of non-residential development, particularly retail development. Moreover, it is interesting to note that an increase in residential densities does not markedly affect peak hour traffic impacts.

Metuchen's development over time was accelerated because of the numerous rail facilities existing within the Borough. Despite the steady reduction in rail passenger service experienced on a national and regional basis, Metuchen residents continue to benefit from the the Borough's location with respect to rail transit. The advantages of proximity to rail transit within the Borough are offset by certain disadvantages. First, as previously mentioned, the railroad rights-of-way which transect the Borough have adversely affected traffic circulation. Second, the need to provide parking for rail commuters has resulted in the significant commitment of acreage in the downtown area to parking lots. Nevertheless, the local and regional need for this parking exists and will continue, and quite probably increase, in the future.

Parking Considerations

The Metuchen 2001 Study referred to previously contains information on parking facilities within the Borough of Metuchen. While this information offers a generalized picture of available parking within the Borough, it does not relate parking demand to the number of spaces available, nor does it address the convenience of the existing parking supply.

Table 2 gives the theoretical parking demand in each of eleven study areas within the Borough of Metuchen. Plate 11 illustrates the parking study areas. In computing the demand, one (1) space was used for each 250 square feet of gross retail space and 350 square feet of gross office space. While many retail uses actually require more parking, the study did not examine each specific use, and the ratio of one (1) space for every 250 square feet was felt to adequately represent the overall demand. Table 3 summarizes the available parking by study area and indicates whether those spaces are located on or off street. Commuter parking provided by the Parking Authority is not included in the figures shown. Table 4 compares the theoretical parking demand and the available supply. Table 5 groups the study areas according to location: east side of Main Street, west side of Main Street and south of the railroad line, in order to evaluate deficiencies within those areas.

TABLE 2

PARKING DEMAND BY STUDY AREA

<u>Study Area</u>	<u>Retail</u>	<u>Office</u>	<u>Total</u>
1	120	72	192
2	123	61	184
3	136	68	204
4	164	109	273
5	99	39	138
6	63	7	70
7	198	29	227
8	69	43	112
9	26	0	26
10	148	3	151
11	47	100	147
TOTAL	1193	531	1724

BOROUGH OF METUCHEN
Middlesex County, New Jersey

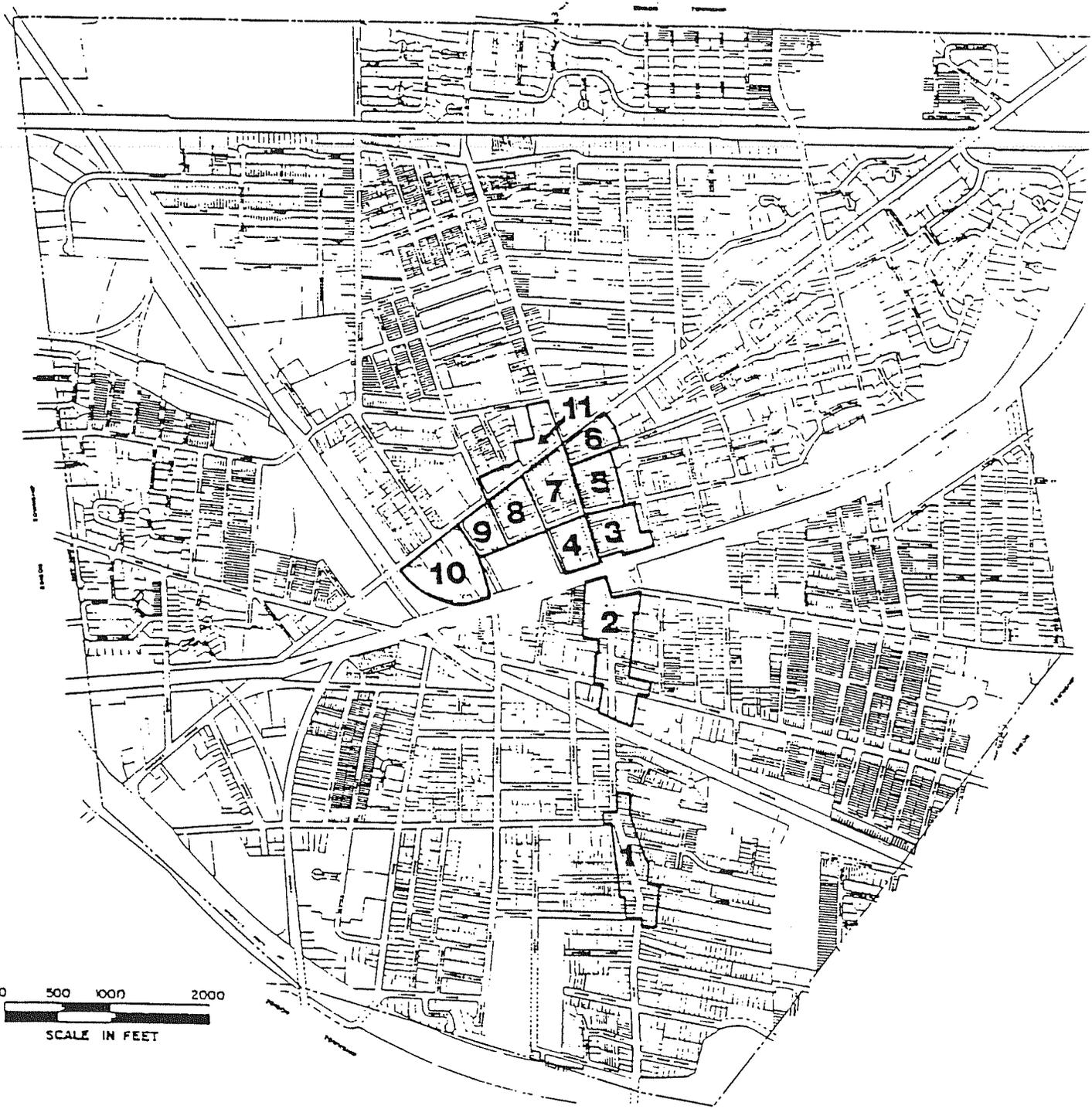


PLATE 11
Parking Study
Analysis Zone

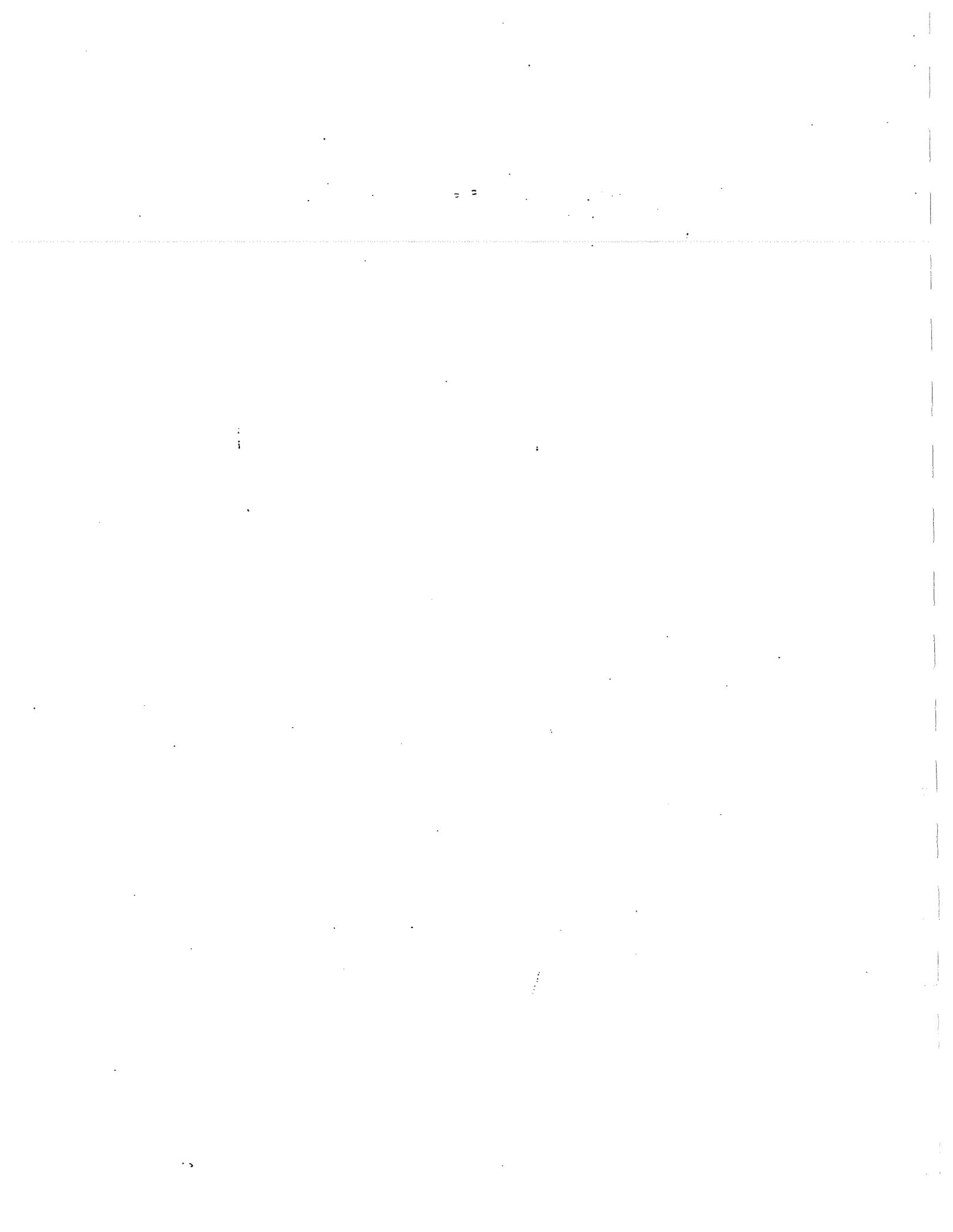


TABLE 3
 PARKING SUPPLY BY STUDY AREA

<u>Study Area</u>	<u>On Street Spaces</u>	<u>Off Street Spaces</u>	<u>Total Spaces</u>
1	82	35	117
2	96	96	196
3	27	47	74
4	29	43	72
5	24	111	135
6	18	16	34
7	47	170	217
8	40	139	179
9	18	-0-	18
10	-0-	228	228
11	-0-	117	117
TOTAL	381	1002	1383

TABLE 4

PARKING DEMAND VS. SUPPLY
BY STUDY AREA

<u>Study Area</u>	<u>Parking Demand</u>	<u>Available Spaces</u>
1	192	117
2	184	192
3	204	74
4	173	72
5	183	135
6	70	34
7	227	217
8	112	179
9	26	18
10	151	228
11	147	117
TOTAL	1724	1383

TABLE 5

PARKING DEMAND VS. SUPPLY
 MAIN STREET STUDY AREA

<u>Study Area</u>	<u>Parking Demand</u>	<u>Available Spaces</u>	<u>Deficiency</u>
East Side			
3	204	74	-130
5	138	135	- 3
6	70	34	- 36
TOTAL	<u>412</u>	<u>243</u>	<u>-169</u>
West Side			
4	273	72	-201
7	227	217	- 10
TOTAL	<u>500</u>	<u>289</u>	<u>-211</u>
South of RR			
1	192	117	- 75
2	184	192	+ 8
TOTAL	<u>376</u>	<u>309</u>	<u>- 67</u>

While parking is a problem in Metuchen, the actual conditions are not as severe as the analysis indicates, especially along Main Street. To some extent, this is a reflection of the current volume of retail business. If business activity increased, the parking problem would increase, possibly to the theoretical levels indicated by this study.

An analysis of the data presented yields several conclusions. First, as indicated in the Metuchen 2001 Study, and reproduced on Table 6, in excess of 1,000 spaces of commuter parking exists. While a majority of these spaces are apparently used by non-residents, it is difficult to envision the elimination of a significant number of them or the revenues they produce for the Parking Authority. The second conclusion is that parking for the retail area along Main Street between the railroad and Middlesex Avenue is inadequate. While additional retail development in the downtown may appear to be desirable, the resulting parking demand will intensify existing problems. Finally, the current total parking deficiency in the blocks west of Main Street, which is the area of the central business district identified in the Metuchen 2001 Study as having the greatest potential for redevelopment, totals 211 spaces. Redevelopment of this area would eliminate the Parking Authority's Pearl Street lot and would also generate its own parking demand. Thus, a major consideration would be how to provide sufficient parking to meet the existing deficiency and the anticipated demand and continue to provide for local and regional commuter parking needs.

For comparative purposes, the parking demand generation rates for various types of land uses were compared on a per-acre basis. These are presented below:

<u>Land Use Type</u>	<u>Density Floor Area</u>	<u>Parking Ratio</u>	<u>Parking Demand</u>
Res./S.F.	6 D.U./Acre	2.0/Unit	12 Spaces
Res./Condo-Townhouse	10 D.U./Acre	2.0/Unit	20 Spaces
Res./Condo-Flat	16 D.U./Acre	2.0/Unit	32 Spaces
Office	21,000 sq. ft.	1.0/300 sq. ft.	70 Spaces
Retail	14,000 sq. ft.	1.0/200 sq. ft.	70 Spaces

TABLE 6

PARKING AUTHORITY LOTS *

	<u>Sticker</u>	<u>Meters</u>	<u>Total</u>
Halsey Street	118	82	200
New Street	49	60	109
Pearl Street	251	274	525
Station Place	14	23	43
Penn Plaza	--	103	103
Penn Avenue	--	75	75

* There is an additional Parking Authority lot located on South Main Street between West Walnut and High Streets which was not listed in the Metuchen 2001 Study. It does not serve commuters.

Source: Metuchen 2001 Study, Rutgers Urban Design Studio, 1979-1980

The residential parking need projections assume a two-space per unit standard, and thus the requirement appears to increase directly with the number of dwelling units. However, smaller dwelling units may not demand as many as two (2) spaces per unit, particularly considering Metuchen's location with respect to the railroad station. Summarily residential development at densities of up to thirty-four (34) units per acre would require the creation of fewer parking spaces to service it than would either retail or office use.

Any redevelopment of the downtown which would involve the Pearl Street parking lot would require the cooperation of the Parking Authority in its willingness: a) to make the parcel available for development and b) to invest in replacement parking elsewhere in the downtown area within reasonable proximity to the railroad station. Because of the scarcity of land in the central business district, the construction of a deck may be necessary. While decks are not, in and of themselves, economical to construct, it is conceivable that the Parking Authority could carry the additional cost of providing the deck if recent and anticipated increases in parking revenues were sufficient to offset that cost. Essentially, the Parking Authority would need to determine if it could absorb the cost of creating the deck and still be responsible to its bondholders. The potential for utilizing a deck approach to meeting existing and future parking requirements is critical in planning for any significant redevelopment of Metuchen's downtown.