

1976

MASTER

PLAN

**Borough of Waldwick
Bergen County
New Jersey**

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BOROUGH OF WALDWICK

BERGEN COUNTY, NEW JERSEY

07463

PLANNING BOARD

April, 1976

TO THE CITIZENS OF THE BOROUGH OF WALDWICK

The pages that follow represent virtually countless hours of work by a small but very dedicated group of citizens who are vitally interested in the future growth and development of Waldwick. The objective in revising the Master Plan was to look ahead five -- six -- or perhaps seven or more years to hopefully anticipate the growth of the community -- and plan so that "our town" can meet the wants and needs of its' people in the 1980's.

The completion of this Master Plan and its adoption by the Mayor and Council represent the initial step in planning the future of Waldwick. Now, the joint efforts of the Governing Body, the Planning Board, and the Zoning Board of Adjustment in properly implementing the plan in the months and years ahead will be to the benefit of everyone who lives in the Borough of Waldwick.

Respectfully

A handwritten signature in black ink, which appears to read "Robert C. Rakers", is written over the word "Respectfully".

Robert C. Rakers
Chairman,
Planning Board

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Background Studies

"When the object is to raise the permanent conditions of a people, small means do not merely produce small effects: they produce no effect at all."
John Stuart Mill

INTRODUCTION

PERSPECTIVE

Waldwick was chosen early in our country's history as a fine place to live. Easy access was the key to its growth. It was the Saddle River and the Ho Ho Kus Brook which provided both access to its fertile land and sustenance for the area's first recorded residents — the Lenni-Lenape Indians. Much later it was the highway and railroad that spurred Waldwick's growth. Today, Waldwick is characterized as predominantly a single-family, commuting town.

The railroad has probably had the most important influence upon Waldwick's development. Some suggest that it was the early locomotive that gave birth to the name Waldwick, meaning "light in the forest." In the early 1900's Waldwick was a bustling freight yard. Most of its residents were employed by the Erie. Today it is the railroad that divides the Borough almost equally in half and controls east - west access to the town's central business area. Curiously enough, access and the railroad are the central theme of discussions today.

HISTORY

The long and varied historical development of Waldwick is illustrated by many changes in the area near the intersection of Franklin Turnpike and Prospect Street. First, as the site of an Indian camp, the center of Waldwick was the hub of activity for members of the Lenni-Lenape

Indian Tribe. Next as part of New Barbadoes Township, which was formed in 1709, it was farmland for the Dutch and English farmers who first settled this area. When Gen. George Washington's troops passed through New Jersey during the Revolutionary War, it was part of Franklin Township (incorporated 1772) and provided a campground for his weary soldiers. Later it was the site of the first schoolhouse and now it is part of the central business district.

Numerous name changes for the area now known as the Borough of Waldwick resulted from the rapid growth of this area. It formerly was part of Ho-Ho-Kus Township, Orvil Township, and the Borough of Orvil. When the Erie Railroad established its depot and freight yards here, the Township Committee changed its name to the Borough of Waldwick.

THE MASTER PLAN

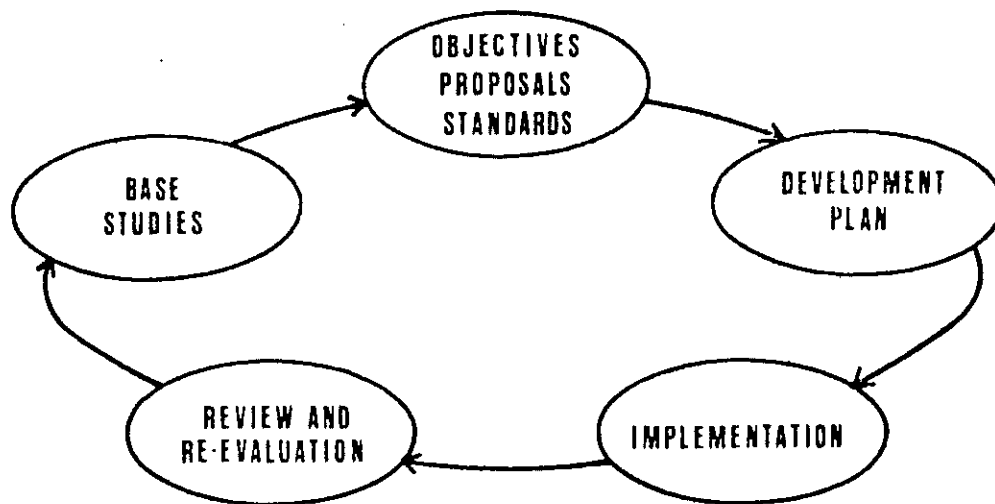
This report constitutes Waldwick's second Master Plan study. The Borough's original Master Plan was prepared in 1955. A special report which evaluated the "Land Use Proposal for Five Sites" was completed for the Municipal Council in late 1967. Then in the later part of 1974, the Planning Board and Council initiated a complete re-evaluation of its future development objectives, the results of which are presented herein.

Over the last 20 years, many changes have taken place in Waldwick. During this period the Borough's population has more than tripled. This growth has resulted mainly from construction of new homes. This rapid population growth has greatly increased the need for expanded school facilities, water and sewer utilities, municipal services and transportation facilities. Some of these developments were not anticipated in 1955.

The purpose of the Master Plan is to provide guidance for the Planning Board in its day-to-day deliberations and also in its planning for the future.

PLANNING AS A PROCESS

Waldwick's Master Plan is the end product of a cooperative effort of many concerned citizens. It represents the best thinking of all those involved about development opportunities and overall developmental policy at this particular point in the planning process. The comprehensive planning process is a continuous program of study, discussion, coordination and direct action which is intended to provide perspective and understanding to both long- and short-range developmental decisions. The process is comprehensive in three ways. First, it involves both the short- and long-range in terms of time. Second, though centered on physical development and guidance of physical change, the Development Plan does give appropriate consideration to social and economic factors. Third, while implemented by local action, there has been careful consideration given to regional and state implications.



Planning is an ongoing process. By keeping the planning process current the people of Waldwick will have the opportunity to plan for themselves. Done incrementally, waiting for the inevitable growth, others will plan for them.

Simply outlined, the comprehensive planning process follows logical steps. BASE STUDIES are the starting points. These studies involve research and analysis, fact finding and problem definition. Without a clear understanding of Waldwick's specific problems and potentials, decisions about the courses of action would be blindly made.

The DEVELOPMENT PLAN evolves from the Base Studies, outlining in broad terms developmental choices which seem logical in the context of past trends, present conditons and informed assumptions about future growth. The Development Plan coordinates in one document all relevant objectives, proposals and standards felt appropriate in determining and clarifying developmental policies applicable on a municipal basis. The next step following the adoption of the Development Plan may take several forms.

Because the Development Plan is a guide, it is adopted only by the Planning Board. The tools to IMPLEMENT the Development Plan, however, are the responsibility of the governing body. These include the adoption of a Subdivision Ordinance, a Capital Improvements Program, a Zoning Ordinance and an Official Map. While elements of the Development Plan should be incorporated in each of these documents as adopted by the governing body at the recommendation of the Planning Board, their adoption is the responsibility of the elected officials, not appointed boards.

REVIEW AND RE-EVALUATION on a systematic basis is the only way to prevent rapid obsolescence of the plan. Rate, location or character of actual growth may require adjustment of basic assumptions in the light of new knowledge and changed conditions. The degree of success in implementing the plan may suggest desirable shifts in the general approach. The re-evaluation procedure is a part of the comprehensive planning process necessary to keep the plan attuned to current and future needs which can be more clearly foreseen and dimensioned as time passes.

"As a matter of law, environmental factors may justify a Zoning Ordinance and underlying Master Plan that are restrictive in the variety and intensity of land use they permit. As a corollary, a Zoning Ordinance that is not firmly rooted in local and regional environmental considerations does not promote the general welfare and is arbitrary."

Richard J. Sullivan, Commissioner
of Environmental Protection, 1972
Amicus Curiae in, Allan-Deane Corp.
vs. Township of Bedminster case.

PHYSICAL CHARACTERISTICS

INTRODUCTION

The analysis of physical characteristics is presented to illustrate the effects of different natural constraints on both existing and potential development in Waldwick. Special attention has been given to those characteristics that act as impediments to community development.

GEOLOGY

Waldwick comprises 1,314 acres and lies entirely within the Piedmont Plateau, a physiographic province which forms the basic geologic structure of Bergen County. The Piedmont Plateau is generally characterized as a gently undulating plateau having favorable soil conditions conducive to urban development.

The original geologic formation of Bergen County occurred during the Triassic Period, about 205 million years ago. Between 30,000 and 40,000 years ago three of four known glaciers covered Bergen County with layers of ice thousands of feet thick. It was this glacial action which produced the surface features of the County as seen today. The southward

movement of the glaciers modified the county's original surface contours by eroding mountains and filling river valleys.

As the glaciers melted, the materials that they transported across the North American Continent were deposited in the form of low irregular hills of assorted size boulders known as glacial moraines. Several of these mounds are evident in and around Walldwick. The farthest advance of ice in the last glacier was less than 20 miles south of Walldwick, in line roughly with Phillipsburg and Perth Amboy.

When glaciers receded during the warmer periods, a large inland lake known as Lake Passaic was formed. Lake Passaic covered substantial portions of Bergen, Passaic, and Morris Counties. The portion of Walldwick east of Route 17 is believed to have been part of this large lake.

There are two principal geologic formations in Walldwick — Stratified Drift and Brunswick Formation. The Brunswick Formation, which consolidated during the Triassic period over 200 million years ago, underlies the entire Borough. It is characterized by soft red shale with abundant sandstone beds in this area. In the past this formation has supplied materials to the building industry but today it is most important as a source of water. The Brunswick Formation has a safe water yield of 300,000 gallons a day per square mile. The continued dependence on this formation as the sole public water source is not deemed advisable.

Stratified Drift can be found in Walldwick in two locations: east of Route 17 and north of Wyckoff Avenue between Crescent Avenue and the Franklin Turnpike. The stratified drift found in the Borough was deposited here during the Wisconsin glacial epoch, which was the last glacier occurring one million years ago. Wisconsin Stratified Drift is characterized by sand and gravel plains, deltas, eskers, kames, and terraces found chiefly north of the terminal moraine. It also includes

the sand and gravel and clay deposits of the extinct Lake Passaic. Successive alluvial deposits account for materials deposited which are of origins other than these formations found on the Piedmont Plateau.

SOILS

The surface depths of soils are relatively thin when compared with the geologic formations they mantel. However, the basic physical properties of each soil group are as important to proper development as topographic or drainage conditions. They each represent a significant consideration effecting future development in Walldwick.

The Engineering Soil Survey of New Jersey, conducted jointly by Rutgers and State Highway Department recognizes over ten soil types within Walldwick. For ease of presentation and understanding, they will be generalized into three basic groups.

Local soils are all classified as alluvial. The three principal soil groups found in Walldwick are:

1. Holyoke Soils- The Holyoke soils are very stoney and sometimes shallow. They are formed from the underlying glacial material, which is high in traprock. The soil is acid brown, silt loam and is usually well drained although there are localized areas of poor drainage. This soil is not suitable for farming because of its steeper slopes and stoney composition. Some urban development is possible, provided a spacious standard is maintained.
2. Wethersfield Soils- The Wethersfield and Gloucester gravelly loam soils make up the major soil type in the Borough. These soils are common throughout glaciated areas with glacial debris consisting of local red shale. Loams and silt loam soils with good drainage and firm subsoils cover much of the upland. Generally, these soils are agriculturally productive and suitable for urban development.
3. Dunellen Soils- The Dunellen and Merrimac gravelly loam soils form the predominant soils found in valleys and where the topography is flat. The soil may be wet because of its location in areas of high water table.

Three characteristics of these various soils are expected to limit urban development, namely drainage, slope, and bedrock outcroppings. Fortunately, there are not many bedrock outcroppings in Waldwick. Wet, steeply sloped land is generally developed last. However, as land becomes scarce as it is in Waldwick, these lands tend to be developed too.

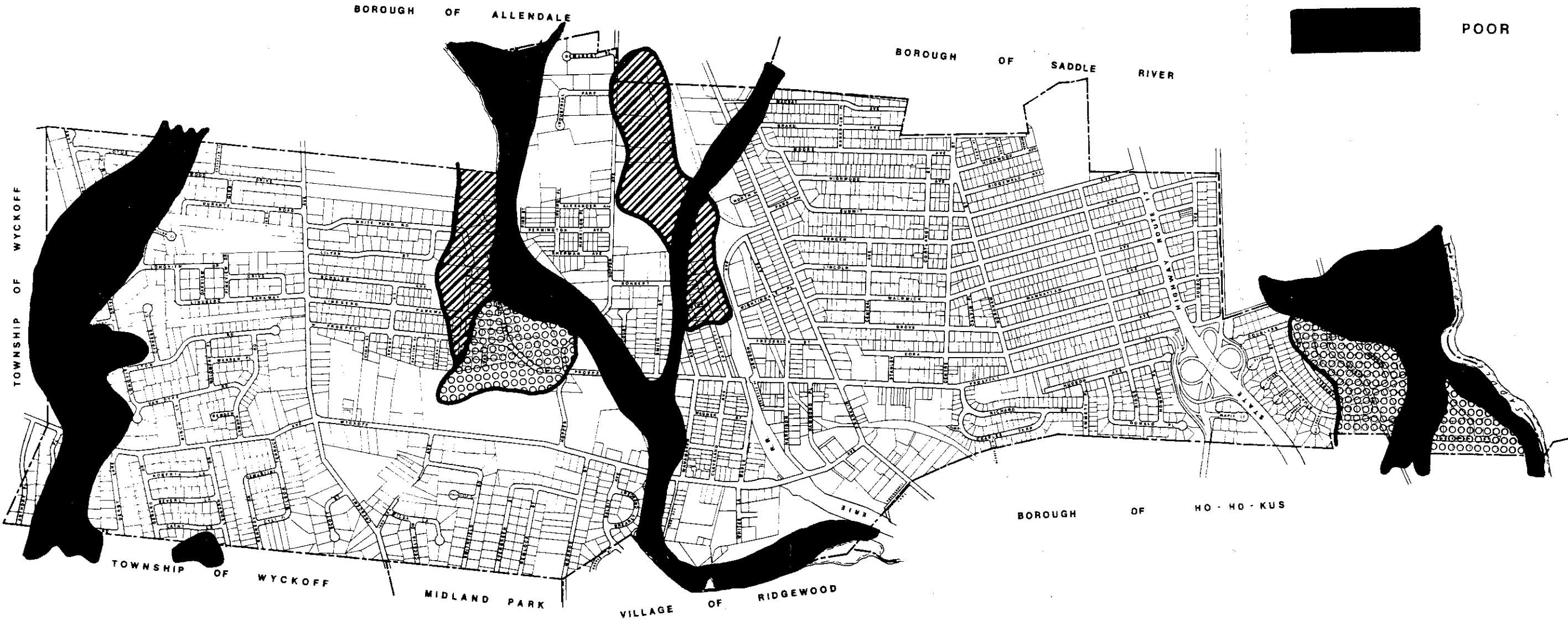
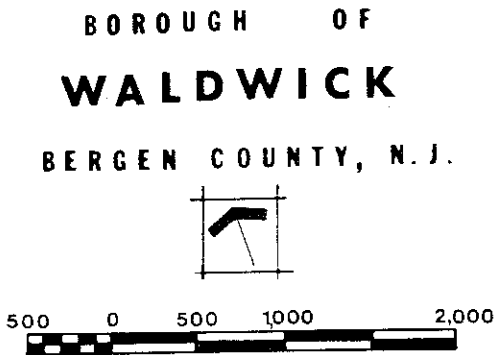
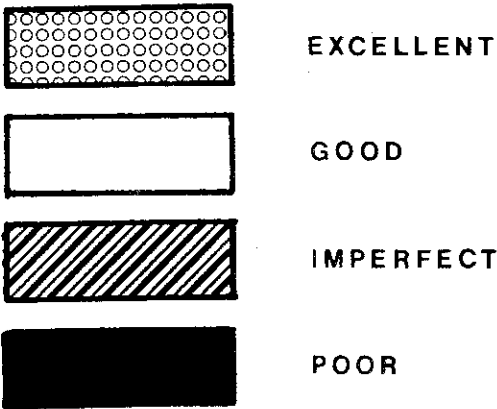
Development is influenced by three basic soil characteristics: surface drainage, subsurface drainage, and pavement or foundation support. Within Waldwick, each of these characteristics is distinguished by a unified rating which illustrates each as either: Excellent, Good, Imperfect or Poor. These are shown on the Soil Characteristics Map - Exhibit 1. While this map will under no circumstances substitute for a proper survey of individual parcels, it will suffice as an analytic tool for the Planning Board in their initial round of reviews of new applications.

DRAINAGE

Waldwick is fortunate, in that most of the Borough has generally good drainage conditions. The least desirable drainage conditions in Waldwick occur along river and stream courses. These poorly drained soils follow thin north - south strips adjacent to the Saddle River and Ho-Ho-Kus Brook, and the Town's western boundary with Wyckoff. The three areas of excellent drainage are small glacial moraines located at the base of White's Pond and off West Saddle River Road.

Waldwick is divided into two major natural drainage areas - the Saddle River and Ho-Ho-Kus Brook Basins. A third - the Passaic River Basin covers only a small area in Waldwick's southwest corner. The Saddle River, Passaic River, and Ho-Ho-Kus Brook Basins are the third, fourth, and fifth largest drainage areas respectively in Bergen County. Each of these basins drains areas beyond the boundary of the County. Because of their shared drainage basin, it is obvious that water supply and stream pollution in these areas can be affected by

SOIL CHARACTERISTICS



conditions created outside the County. The Saddle River Basin drains 21,150 acres or 14% of the County's land area. The Passaic River Basin encompasses 14,300 acres or 10% of the County. The Ho-Ho-Kus Brook drains an area of 12,750 acres or about 8% of the County.

TOPOGRAPHY

Waldwick's elevation rises from 110 feet above sea level near Saddle River to around 350 feet near the Wyckoff border line on the west. The Borough is composed of a series of low broad hills which run in a north - south direction almost parallel to the Appalachian Mountains, making elevations generally rise as one goes from east to west.

The U.S. Geological Survey is the primary source of topographic information for most communities. The ten foot contour intervals shown on the Topographic Map in Exhibit 2, were derived from the U.S.G.S.

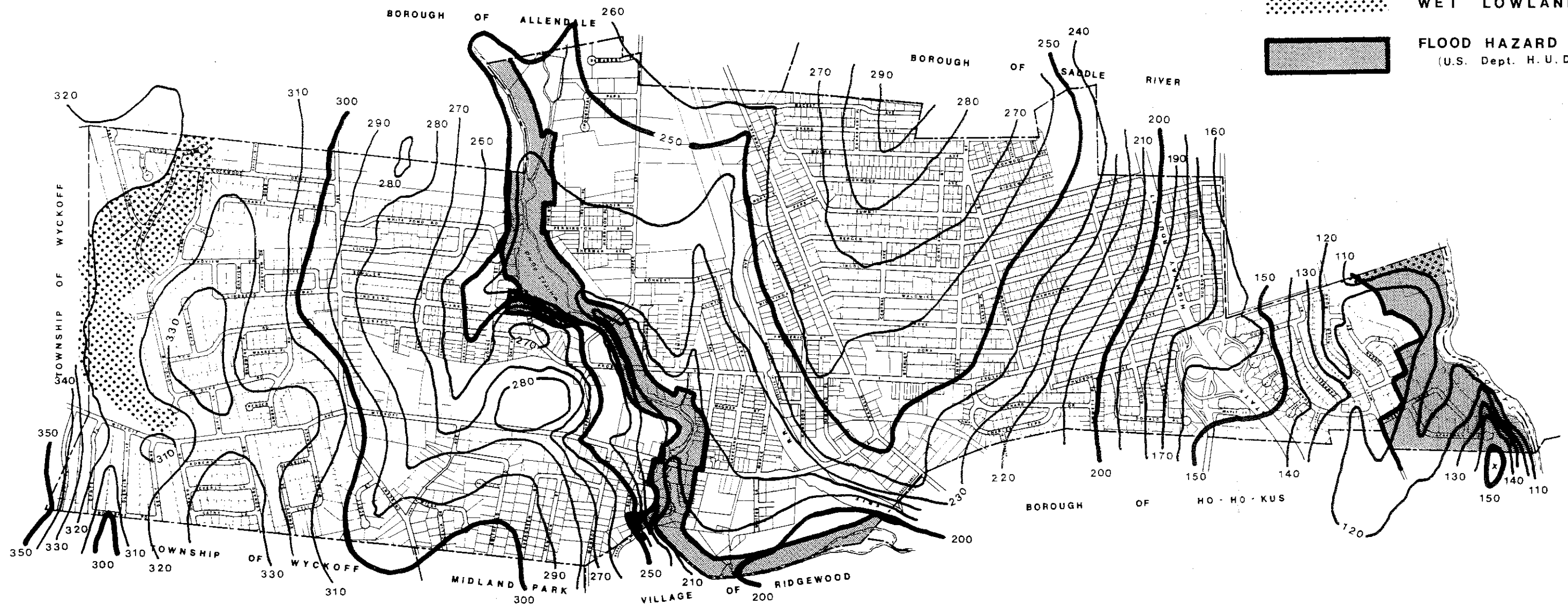
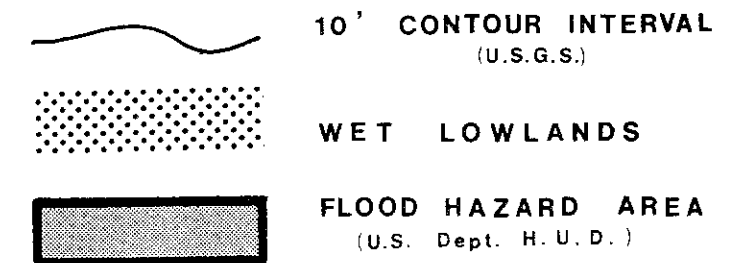
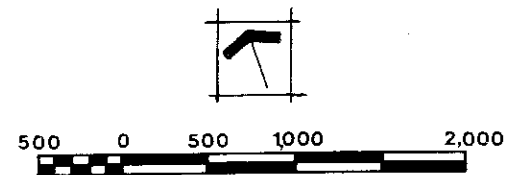
Slope conditions within Waldwick are moderate, posing few limits on urban development. The greatest slope occurs between N.J. Route 17 and the Franklin Turnpike, which was the principal location of Waldwick's early development. Those areas with a slope of less than 1% have proved greater deterrents to development than those with the greatest. Exhibit 2 shows two principal wet lowlands within the Borough. They are located along the western boundary with Wyckoff and the northeast boundary at the Saddle River.

FLOOD HAZARDS

In 1970 Congress passed legislation regulating construction in flood prone areas and providing federally subsidized flood insurance. The Department of Housing and Urban Development was asked by Congress to delineate by 1975 all areas in the U.S. subject to flooding once in every 100 year period, and administer the flood insurance program. As of March 31, 1972, residents were eligible to file for flood insurance. On

TOPOGRAPHY & FLOOD HAZARD AREA

**BOROUGH OF
WALDWICK**
BERGEN COUNTY, N.J.



WILLIAM J. NIESEN - PLANNING CONSULTANT
Ocean, New Jersey 07712 / 201-922-1445

December 28, 1973 those areas of Waldwick subject to special flood hazard were identified by H.U.D. . These areas are shown on the Topographic Map Exhibit 2. They are currently located along the Ho Ho Kus Brook and the Saddle River.

There are two ways to minimize future damage and loss of life and property from floods: 1.) construct protective works such as bulk heads, and 2.) regulate development in flood hazard areas. The latter is the feasible course of action for Waldwick. By regulating types and densities of development in potentially dangerous flood hazard areas, Borough Officials can minimize the degree of damage that results from floods. On July 15, 1974 the Borough Council passed an ordinance regulating development in those areas identified by H. U. D. .

In developing the Master Plan for Waldwick, recognition must be given to the risk associated with flood hazard areas. Under no circumstances should community facilities be constructed in any of these areas. Only structures of minimal value or those unaffected by high water should be permitted in these areas.

GROUND WATER

The major ground water resource in Waldwick is the Brunswick Formation , which underlies the entire Borough. The Brunswick Formation is estimated by the New Jersey Bureau of Geology and Topography to reflect a safe sustained water yield of 300,000 gallons per day per square mile. Pumping in excess of the water budget might under periods of drought and dry streams deplete domestic water supplies.

The water budget is used to balance supply capabilities against consumer demands. An example of Waldwick's water budget would be as follows:

SUPPLY

Safe yield of geologic formation x geographic area = supply

$$300,000 \text{ gal/day/sq. mi.} \times 2.04 \text{ sq. mi.} = 615,000 \text{ gal/day}$$

DEMAND

$$\text{Population (1970)} \times \text{per capita average use} = \text{Demand}$$

$$12,300 \times 50 \text{ gal/person/day} = 615,000 \text{ gal/day}$$

Waldwick operates its own municipal water supply system from seven developed well sites. It currently is pumping at a rate slightly less than one million gallons per day. The potential for a water shortage in Waldwick must be afforded careful consideration.

LAND USE

INTRODUCTION

Exactly twenty years have passed since the Borough's existing development was surveyed. During this time, Waldwick has evolved into a settled urban community with but a handful of scattered vacant parcels to be developed. In 1955 almost half of the Borough was undeveloped; today only 6% of its 1314 acres remain vacant.

A survey of existing land use and development is fundamental to the planning process. Such a study provides insight into the character of the community and its physical and economic growth. An appraisal of the community's development establishes the necessary background for intelligently guiding future growth and appropriate utilization of land.

SURROUNDING ZONING

A major factor relating to the community's growth and development is its location. Waldwick, which is 2.05 sq. miles in area, is located 20 miles northwest of New York City. The zoning and planning policies of each adjoining community affect a town's growth. Six municipalities border Waldwick. To the north are the Boroughs of Allendale and Saddle River. To the west lies Wyckoff Township. Midland Park, the Village of Ridgewood, and the Borough of Ho-Ho-Kus form the southern boundary.

All the surrounding towns have zoning ordinances. All of the zone districts which abut Waldwick are for single family residential use. Since the preparation of Waldwick's 1955 Master Plan there has been little change in the zoning of adjacent municipalities. These changes have generally tended to increase minimum lot sizes. The following shows the changes that have occurred in minimum lot size since 1955. Only Allendale and Ridgewood and a portion of Ho-Ho-Kus east of Rt. 17 have changed.

BOUNDARY ZONE CHANGES

<u>Town</u>	<u>Minimum Lot Size</u>	
	1955	1975
Allendale	15,000 and 26,000 sq. ft.	20,000 and 40,000 sq. ft.
Ho-Ho-Kus	10,000	10,000 and 1 acre
Midland Park	12,500	12,500
Ridgewood	7,500	14,000
Saddle River	2 acres	2 acres
Wyckoff	25,000	25,000

Today, land along Waldwick's borders is fully developed with the exception of Saddle River.

METHODOLOGY

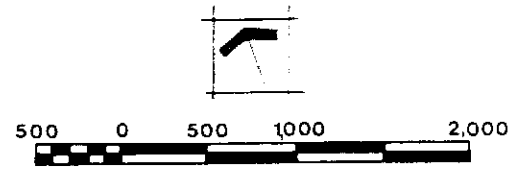
The Existing Land Use Map of Waldwick, shown on Exhibit 3, is an accurate portrayal of the land uses as they existed in March 1975, when a lot-by-lot field survey was completed. The base map upon which the land use data is plotted was prepared from the Borough tax maps and, with some subsequent modification, represents an accurate portrayal of road and lot alignments within the Borough.

The detailed land use information collected during the field survey was analyzed and then subdivided into the following categories: Residential - single family, two family and apartments; Commercial - retail, service, office food and drink, gas stations and auto repair; Mixed Uses; Industrial; Municipal; Quasi-public; and vacant. Table 1 indicates the acreage within Waldwick devoted to each of these land use classifications and their respective percentages. Table 2 compares the 1955 land use findings to those of today.

LAND USE DISTRIBUTION

Exhibit 3 gives a visual illustration of the location of different land uses. The detailed use designations have been generalized for graphic purposes.

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



EXISTING LAND USE MAP
MARCH 1975

- | | |
|--|---------------------------------|
| | SINGLE FAMILY RESIDENTIAL |
| | TWO FAMILY RESIDENTIAL |
| | MULTI-FAMILY (3 or more D.U.'s) |
| | COMMERCIAL |
| | INDUSTRIAL |
| | PUBLIC |
| | SEMI-PUBLIC |
| | VACANT |

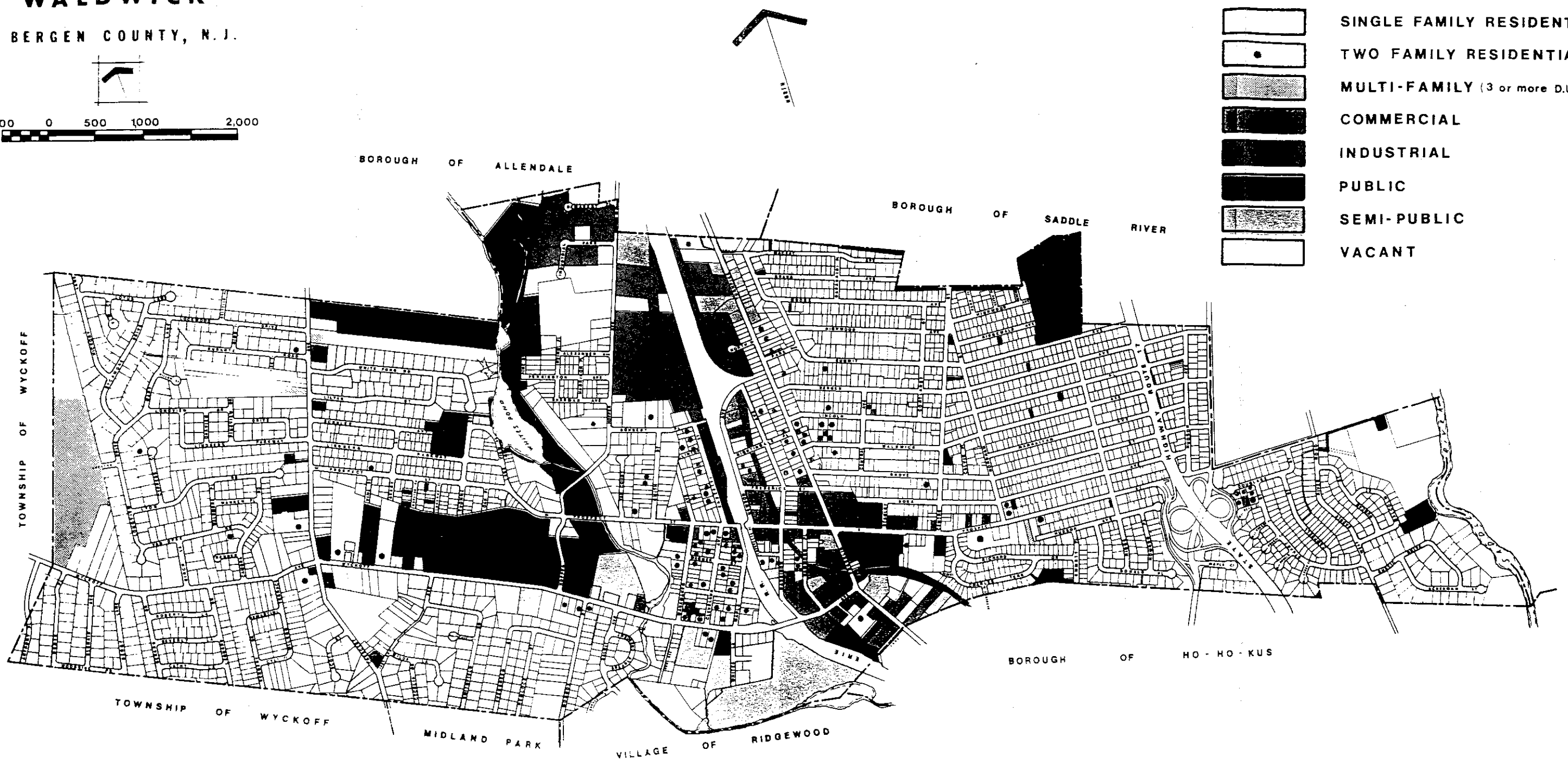


Table 1 indicates more precisely the composition of the generalized categories, while Table 2 analyses the growth that has occurred between 1955 and 1975 land use surveys. The classifications used in the 1955 survey have been maintained in Table 2 for comparison purposes.

Over half (53.9%) of Waldwick's land is used for residential purposes, as shown in Table 1. Single family homes (the largest category) occupy 49.7% of the town's land area. Multiple unit residences take up 4.2%. The principal non-residential land uses - commercial and industrial - utilize only 7.5 % of the area. It is easy to see from these figures why Waldwick is characterized as a single-family commuter town.

The second largest percentage of land in the Borough (20.3%) is devoted to the street network. This constitutes a relatively large proportion for transportation and access. Generally this category ranges only between 10 % and 15 %.

Public and quasi-public combined comprise 11.5 % - the third largest category. Like streets it is relatively large for a community the size and configuration of Waldwick. It should be noted that the municipal portion of this category is largely derived from scattered, irregular lots not suitable for either building or recreational purposes. Those municipally owned lots not required for R.O.W. purposes or suitable for "tot " lots should be returned to the tax rolls. By combining the streets, public and quasi-public group, one sees that 1/3 of Waldwick's land area is devoted to tax exempt uses.

Waldwick's commercial district is the focal point and geographic hub of the Borough. While commercial land uses(2.6%) utilize a relatively small portion of the Borough's land area compared with its population needs, it does have one distinct advantage in that it is compact and well centrally located. Exhibit 3 illustrates the aggregation of commercial uses in the 15 block area around Franklin Turnpike and Prospect Street. Other scattered commercial uses have a common orientation along either Crescent Ave. or

TABLE 1
LAND USE DISTRIBUTION
WALDWICK, MARCH 1975

<u>LAND USE CATEGORIES</u>	<u>ACRES</u>	<u>%</u>
<u>RESIDENTIAL</u> (2971)	<u>708.3</u>	<u>53.9</u>
Single Family (2847)	653.8	49.7
Two Family (111)	31.0	2.4
Apartments (13) **	23.5	1.8
<u>COMMERCIAL</u> (143)	<u>35.5</u>	<u>2.6</u>
Retail (50)*	9.5	.7
Service (54) *	13.0	1.0
Office (5)	1.8	.1
Food and Drink (17)	5.6	.4
Gas and Auto Repair (17)	5.6	.4
<u>MIXED USES</u> (33)	<u>4.6</u>	<u>.4</u>
Business and Residential (25)	3.6	.3
Office and Residential (8)	1.0	.1
<u>INDUSTRIAL</u> (18)	<u>58.5</u>	<u>4.5</u>
Assembly and Storage (17)	32.7	2.5
Public Service (1)	25.8	2.0
<u>PUBLIC</u> (54)	<u>116.9</u>	<u>8.9</u>
Parks (3)**	7.7	.6
Schools (4)**	59.4	4.5
Municipal (47)**	49.8	3.8
<u>QUASI PUBLIC</u> (11)	<u>34.9</u>	<u>2.6</u>
Churches (3)	6.6	.5
Semi Public (7)	8.0	.6
Sewer Authority (1)	20.3	1.5
<u>VACANT</u> (103)	<u>89.2</u>	<u>6.8</u>
<u>STREETS AND RAILROAD</u>	<u>266.1</u>	<u>20.3</u>
	1,314.0	

Source: March 1975 Field Survey

*** number of structures devoted to each use

* denotes number of units.

** denotes number of parcels

the Franklin Turnpike. It should be noted from Table 1 that the commercial uses in Walldwick are predominantly service in nature, with the bulk of the residents' retail needs being filled by the many large regional shopping centers located close by. Circulation and parking needs of the central business district must be a principal concern of the Development Plan.

Industrial uses, principally of the assembly and storage type, occupy 4.5% of the Borough. The property of Public Service listed in this category, represents almost half of the total. The map shows that these uses are exclusively located along the railroad. However, most of these uses do not depend on rail access.

The combined commercial and industrial uses occupy only about 7% of the town's land area. This is generally considered small, for most towns in this state have between 10% and 20% of their total area devoted to these non-residential uses. From a fiscal standpoint, this places added pressure on the quality of non-residential uses to help stabilize taxes and defray the generally high municipal costs associated with single-family homes. While "fiscal zoning" is illegal per se, a town must still be attentive to the balance and diversification of revenue sources needed to sustain an adequate level of municipal services. It is Walldwick's responsibility to both stimulate and regulate development so that the proper land use balance will be achieved, thus meeting the needs of the residents.

EATING AND DRINKING ESTABLISHMENTS:

As an adjunct to recent litigation, it has become locally important to ascertain the future role of eating and drinking establishments in Walldwick. For this reason, four sub-classes of this category were enumerated during the field survey: restaurants, restaurants and bars, bars and fast food. Table 3 shows the number of establishments in each class and the acreage.

TABLE 3

EATING AND DRINKING ESTABLISHMENTS

<u>NUMBER</u>	<u>TYPE</u>	<u>ACRES</u>
7	Restaurant	2.0
3	Restaurant and Bar	2.0
4	Bar	.1
<u>5</u>	Fast Food	<u>1.5</u>
17		5.6

" Restaurants " included lunchrooms which are establishments having seating facilities, which serve prepared food and beverages selected by a patron from a full menu. The group referred to in " Restaurant and Bar" is the same as those in " Restaurants" with the addition that they serve alcoholic beverages. "Bar" includes those establishments which are principally engaged in the sale of alcoholic beverages - food may be served. " Fast Food " establishments sell primarily limited lines of refreshments for either on or near the premises consumption or " take home" consumption, i. e. pizza, hamburgers , and fried chicken.

LAND DEVELOPMENT

Table 2 compares land development as it existed in 1955 with development today. In twenty years, Waldwick has changed from a developing community with 42.7 % of its area vacant to an almost totally developed community with only 6.7 % of its land vacant.

Over half of the vacant land that existed in 1955 has been developed for residential purposes. The number of industrial units has tripled and the acreage devoted to industry has increased eight fold. Similar large gains have been made in the Public and Semi - Public category which almost tripled its acreage.

Commercial development increased by only 15 acres or 1.2% during

TABLE 2
LAND USE COMPARISON
1955--1975 FIELD SURVEY

<u>CLASSIFICATION</u>	<u>1955 UNITS</u>	<u>1975 UNITS</u>	<u>CHANGE</u>
1 Family House	2014	2846	+832
2 Family House	70	111	+ 41
Businesses	60	143	+ 83
Businesses and Apartments	12	33	+ 21
Industries	8	24	+ 16
Public or Semi Public	6	67	+ 60
Churches	3	3	0
Business and 2 Family Apartments	1	3	+ 2
Vacant	—	103	
Multi-Family	—	13	

ACREAGE AND PERCENT OF TOTAL

<u>CLASSIFICATION</u>	<u>Acres</u>		<u>%</u>	
	<u>1955</u>	<u>1975</u>	<u>1955</u>	<u>1975</u>
1 Family Residence	414	653.89	31.4	49.8
2 Family Residence	23.4	30.95	1.8	2.4
Multi-Family Res.	—	23.56	—	1.8
Business	20.4	35.23	1.5	2.7
Industry	7.4	58.48	.6	4.5
Vacant	561.2	89.26	42.7	6.7
Business and Res.	12.0	4.66	1.0	0.4
Streets and R.R.	210.5	266.24	16.0	20.3
Public or Semi Public	60.0	151.73	4.6	11.5
Other	5.1	—	.4	—
TOTAL	1,314.0	1,314.0	100.0%	100.0%

this period. The rate of commercial development in Waldwick has been roughly 3/4 acre per year since 1955. While this is a small rate of growth compared to that of the population and housing, one must remember that back in 1955 much of Waldwick's commercial center was established.

DEVELOPMENT POTENTIAL

Growth in Waldwick will come from development of the 6.8% vacant land and the re-development or change of select existing uses. While development of the remaining vacant land in Waldwick is important, the greatest impact will come from redevelopment of existing, developed properties. Except for say five larger parcels, most of the vacant land is scattered throughout the Borough in small lots. These will probably be developed in conformity with the existing uses which surround them today. The larger parcels will be subject to somewhat different pressures.

For the purpose of establishing a maximum impact, let us assume that the entire 89.2 vacant acres were to be developed under the highest density standard permitted today - senior citizen project. Further, assuming that at 10 dwelling units per acre, each unit was to be occupied by 2.0 persons, Waldwick would experience an increase in population of 1,784 persons. This would represent roughly a 10% population increase at some unknown future time. This maximum would not have a profound impact. Therefore it is safe to say that the next decade of development in Waldwick will be characterized as a period of re-development and refinement of what exists today.

There will be no radical surges in population or development like the ones experienced during the 50's. However, this period of refinement will be the most important, busiest period in the Borough's development history, requiring a more precise review process. The site planning process is more exacting than the subdivision process. Capital budget planning will play a vital role in improving the quality of life in Waldwick. Adjustments in regulatory controls will be more frequent in order to bring the Master Plan and existing conditions into closer harmony.

POPULATION AND ECONOMIC BASE

INTRODUCTION

The fundamental measurement of a community's planning needs is its population - its social and economic characteristics - as well as its numbers. The characteristics of the population along with its rate of growth will determine the need for and timing of new municipal facilities, housing and other public and private development features. The purpose of a demographic analysis of the social and economic characteristics of Waldwick is to provide a factual basis for public policy.

Owing to the highly developed character of the area and the fact that open land available for development is minimal in Waldwick, this analysis is not aimed at determining the feasibility of extensive expansion within the Borough. It can be reasonably assumed that future development of the Borough will assume a small, incremental profile, continuing the predominantly residential character of the town. However, the possibility of redevelopment increases as land becomes scarce. Thus the population and economic base analysis provides a clear understanding of the trends that have produced Waldwick as it exists today as well as a perspective for future development or redevelopment alternatives.

POPULATION GROWTH

Waldwick's population has steadily increased since 1910. The Borough's population in 1900 and 1920 was almost exactly the same, because of a 20% drop in 1910. Table 4 shows that the highest rate of population growth in the Borough occurred between 1950 and 1960. This Table also illustrates that the County's population grew faster than Waldwick's between 1910 and 1930. The opening of the George Washington Bridge in 1931 stimulated growth in this area, however, causing Waldwick's population to grow faster than that of the County. Today, Waldwick's population is almost the same

TABLE 4
POPULATION GROWTH
1900 - 1970
WALDWICK

	<u>WALDWICK</u>	<u>% CHANGE</u>	<u>BERGEN COUNTY</u>	<u>WALDWICK As a % COUNTY</u>
1900	1,207		78,441	1.54
1910	970	- 20	138,002	.70
1920	1,296	34	210,643	.62
1930	1,728	33	364,977	.47
1940	2,475	43	409,665	.60
1950	3,963	60	539,139	.74
1960	10,495	165	780,255	1.35
1970	12,313	17	898,012	1.37

OFFICIAL STATE POPULATION ESTIMATES **
WALDWICK

1975	1975	12,725*
	1974	12,645*
	1973	12,580*
	1972	12,500*
	1971	12,435*
	1970	12,345*

* Source: U.S. Census Bureau

** Estimates N.J. Department of Labor and Industry

percentage of the County's as it was back in 1900.

Table 4 also gives the estimated population to 1975. As of July 1, 1975 the N. J. Department of Labor and Industry estimates Waldwick's population to be 12,725 or roughly a 3.4% increase over the decennial census.

Table 5 compares Waldwick's growth to that of surrounding towns. It is interesting to note from this table that after the George Washington Bridge improved access to this area, periods of rapid growth were experienced by each town on Route 17. Moving north in turn, first Ridgewood in 1920-30 and then Ho Ho Kus in 1940. Waldwick's turn covered two decades 1950 and 1960, followed by Allendale and Saddle River in 1970

Waldwick had the largest rate of growth of all surrounding towns in both 1950 and 1960. In 1970 Waldwick ranked third in size among this group, exceeded only Ridgewood and Wyckoff.

COMPONENTS OF POPULATION CHANGE

Population growth is accomplished in two ways-by natural increase and by in migration. A natural increase in population occurs when the number of births exceeds the number of deaths. Migration of people in or out of a community is subject to much more fluctuation than the natural increase.

Waldwick's natural population change from 1960 to 1972 is shown on Table 6. It is interesting to note that in recent years the trend toward natural increase in population has been changed--the birth rate has decreased. As a result the United States in general is experiencing a trend toward Zero Population Growth, which emerges as the birth and death rates become equalized. Table 6 illustrates Waldwick's decline in births and net change, in spite of the increase in marriages and new family formations.

Waldwick's good transportation access make it highly susceptible to migration changes. But as labor markets and employment centers shift, the Borough's highways and commuter rail access will enable it to sustain large out migrations. While the overall population for Waldwick is not expected

TABLE 5

POPULATION GROWTH

WALDWICK AND SURROUNDING TOWNS

	Waldwick	Allendale	Ho-Ho-Kus	Midland Park	Ridgewood	Saddle River	Wyckoff
1970	12,313	6,240	4,348	8,159	27,547	2,437	16,039
	Number						
	% Change	17	52	8	8	37	43
1960	10,495	4,092	3,988	7,543	25,391	1,776	11,205
	Number						
	% Change	165	70	77	46	77	100
1950	3,963	2,409	2,257	5,164	17,481	1,003	5,590
	Number						
	% Change	60	17	39	14	23	42
1940	2,475	2,058	1,626	4,525	14,948	816	3,924
	Number						
	% Change	43	19	76	24	24	31
1930	1,728	1,730	925	3,638	12,188	657	3,001
	Number						
	% Change	33	48	58	62	30	133
1920	1,296	1,165	586	2,243	7,580	506	1,288
	Number						
	% Change	34	24	20	12	5	-15

TABLE 6
NATURAL POPULATION CHANGE
BIRTH---DEATHS
1960 --1972
WALDWICK

<u>YEAR</u>	<u>BIRTHS</u>	<u>DEATHS</u>	<u>CHANGE</u>	<u>MARRIAGES</u>
1972	135	49	+86	18
1971	143	64	+79	36
1970	172	67	+105	25
1969	186	64	+122	13
1968	179	57	+122	18
1967	169	57	+112	18
1966	206	49	+157	13
1965	229	63	+166	18
1964	228	50	+178	15
1963	259	46	+213	15
1962	280	45	+235	10
1961	234	43	+191	13
1960	266	39	+227	11

Source: N. J. State Department of Health- Annual Health Statistics

to alter sharply, its make-up (age, income, race) may change markedly in the decades ahead.

In order to analyze the nature of population change in Waldwick, it is useful to separate the net migration from the natural increase. The results are displayed in Table 7. Based upon the prevailing fertility and survival rates of the decade, the total population of Waldwick (estimated survivors) was predicted to increase by 1,327 persons between 1960 and 1970 reaching a total of 11,822. Actually the population increased by 1,818 persons during this interval to reach a total of 12,313. The difference between what was estimated on the basis of vital health statistics and what actually occurred is attributed to persons moving into the Borough, in-migration (1,818 actual - 1,320 estimated = 491 migration factor.)

The percentage of net migration by age cohort illustrates the age composition of families moving to Waldwick. The overwhelming majority of people in 1970 moving into the community were between the ages of 25 and 44, the largest portion being in the 25-34 group. Significant immigration was experienced in the two cohorts below 14 years of age. The single largest change was in the 15-24 group which experienced a phenomenal out-migration. All age groups over 45 showed an out-migration.

The picture that emerges from the net migration patterns in Waldwick is that young families with pre-school and elementary school-aged children are entering the community, while the generally older and larger size families with high school and college age children are departing. Overall the average age of the Borough's citizenry is decreasing and is significantly below that of the County and the State. Table 7 shows that almost half of Waldwick's population in 1970 was below age 24. The 5-14 group, the single largest cohort, is almost twice the size of the next largest group.

Also evident from Table 7 is the fact that not all age cohort or groups increased proportionately—three actually decreased between 1960 and 1970. They were: under 5; 25 to 34; and 35 to 44. Exhibit 4 shows interestingly enough that while these groups declined during the last decade they were

TABLE 7
COMPONENTS OF POPULATION CHANGE
WALDWICK
1960 --- 1970

<u>Age</u>	<u>1960 Actual</u>	<u>1970 Estimated Survivors *</u>	<u>1970 Actual</u>	<u>% of Net Migration</u>
Under 5	1,578	2,236**(808)***	1,175	+ 74.8%
5 - 14	2,672	1,578 (2,696)***	3,081	+ 78.4%
15 - 24	762	2,654	1,708	-192.7%
25 - 34	1,662	752	1,555	+163.5%
35 - 44	1,944	1,627	1,874	+ 50.3%
45 - 54	922	1,851	1,571	- 57.0%
55 - 64	519	822	743	- 16.1%
65 & Over	436	612	606	- 1.2%
TOTALS	10,495	11,822	12,313	491 (100%)

MEDIAN AGE 1960-1970

<u>WALDWICK</u>		<u>BERGEN COUNTY</u>		<u>NEW JERSEY</u>	
26.9	26.3	33.2	33.0	32.4	30.1

Source: U.S. Census of Population 1960 and 1970

* Survival Ratios Determined by U.S. Public Health Service
Vital Statistics of the U.S. 1967

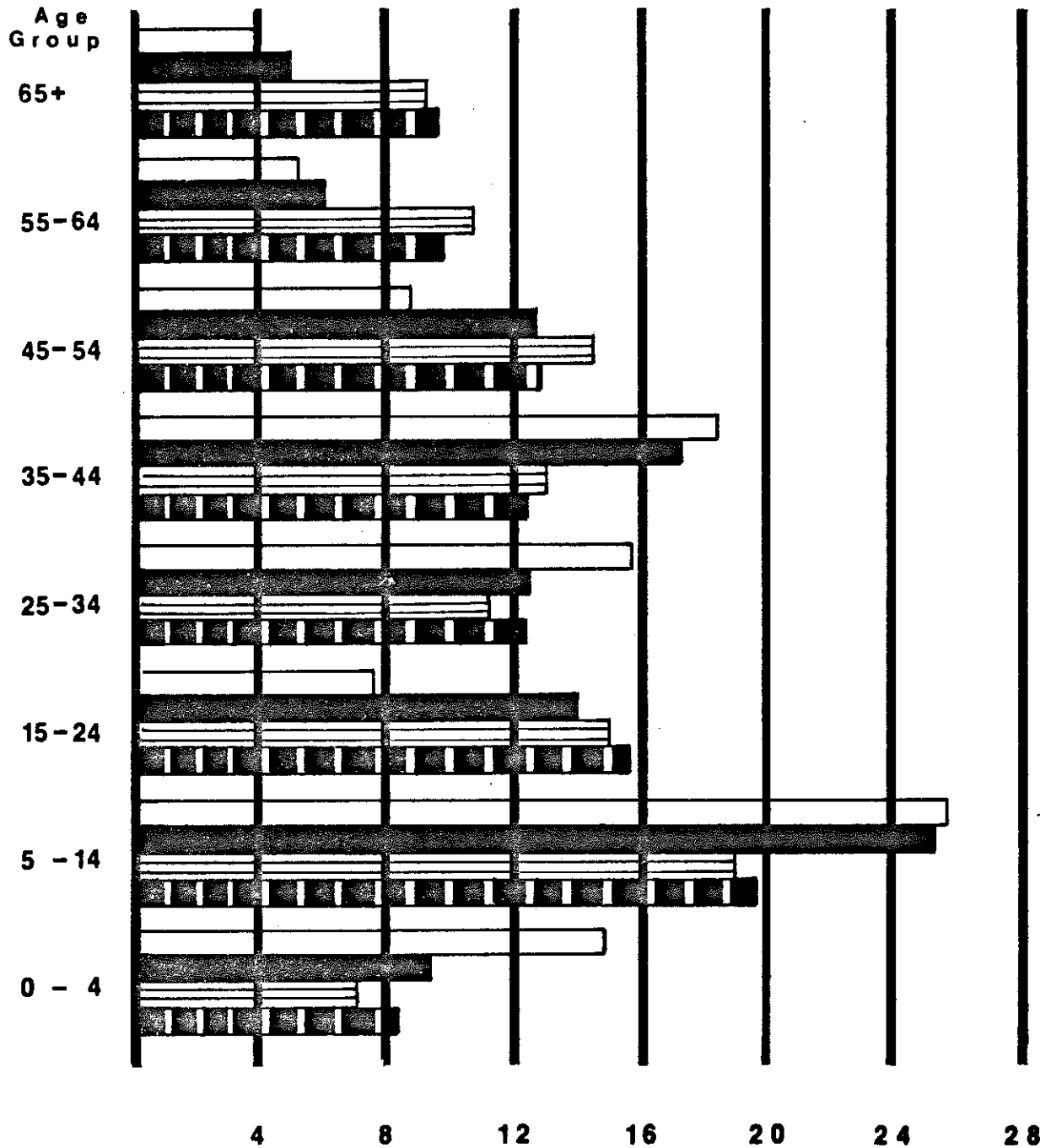
** Total Births for Borough from 1960 - 1970

*** Total Age Group Where 1960 - 1970 Births are Included

Exhibit 4

AGE COMPOSITION 1970

WALDWICK - BERGEN COUNTY - NEW JERSEY



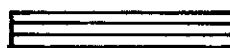
Percent Total Population



60 Waldwick



70 Waldwick



70 Bergen Co.



70 New Jersey

still significantly larger than those of both the County and State.

Waldwick's population as compared to that of the larger components of the region is shown on Exhibit 4. The Borough's 1970 component of population in the under 14 and 25 to 44 age groups was much larger than either the State or County's. In 1960 these same components were much larger and still Waldwick reduced its median age. If any particular observation is to be made from Exhibit 4 it is one of extremes. Waldwick's population significantly leads the region in elementary (5-14) age children and pre-school (0-4) aged children; but it lags behind in the two cohorts which comprise the 55 and over groups.

The profile which emerges regarding the Borough's population, therefore, is not typical of the region as a whole. Migration into Waldwick is characterized by the replacement of older families by larger and younger families. Over $\frac{1}{4}$ of the town's population is between 5 and 14 years of age. In 1970, 61% of Waldwick's population was under 34, and 41% of that was under 18 years old. Less than 5% of the population is of retirement age, 65 or over. This unusually high percentage of young families with school aged children would appear to indicate that the Borough is viewed as an attractive place in which to raise and educate ones family. Young adults and the elderly have been the least attracted to the Borough.

SOCIAL CHARACTERISTICS

Waldwick is similar to many other area communities in Bergen County in that it has a smaller percentage of Negroes and other minorities than the State average. This group represents 70 persons or less than 1% of the total population. Of these races over half were Asian and one-quarter were negro.

In 1970, 93% of Waldwick's residents were native born and 7% were foreign born. At least 71% of the Borough residents were at least second generation Americans, (mother and father native born) with 27% of foreign or mixed parentage.

Those residents of foreign stock came from the following countries: Italy 75%, Germany 14%, United Kingdom 11%, Ireland 8%, Canada 5%.

ECONOMIC CHARACTERISTICS

The economic base of a community may be roughly defined as the way in which the population collectively earns a living. Understanding the economic composition of a community is fundamental to assessing the service and facility needs of its residents. Knowing the sources of the community's income and the probable trends for these employment sectors is as important as knowing the amount. A region's employment opportunities directly affect its population growth. The amount of disposable income available to a region's families affects their preferences for housing and other consumer habits. These preferences are ultimately accounted for in the Development Plan which is designed to provide an affordable mix of housing for the community's population.

In examining the economic characteristics of the residents of Walldwick several general categories of economic data must be reviewed. For instance, the examination of trends in family income, type of employment pursued, and level of educational attainment all serve, when combined, to demonstrate the economic complexion of Walldwick.

Family Income

Family income is a very important measure of the economic well-being of a community. It can be seen from Table 8 that the percentage of families with income below \$4,000 in Walldwick is significantly less than that of any of the larger towns of the region. The County had twice the portion of the Borough and the State had more than three-times the amount below \$4,000. At the other end of the spectrum Walldwick had 8% of its families earning in excess of \$25,000 per year. While this amount is comparable to the State at 7%, it is substantially below that of the neighboring towns 26% and the County's 12%.

However, a more significant part about family income in Walldwick is the percentage of upper middle income households earning between \$10,000 and \$25,000. Almost three quarters of Walldwick's households (71.3%) are in this category compared to only $\frac{1}{2}$ (53%) found in the State, 60% in the County

TABLE 8
FAMILY INCOME COMPARISON
WALDWICK
1970

	WALDWICK	NEIGHBORING TOWNS	BERGEN COUNTY	NEW JERSEY
UNDER \$3,999	2.7	3.0	5.4	9.2
4,000 - 4,999	1.4	1.3	2.1	3.6
5,000 - 5,999	1.0	1.9	2.6	4.2
6,000 - 6,999	2.0	2.0	3.3	4.8
7,000 - 7,999	3.8	2.6	4.1	5.6
8,000 - 8,999	5.2	2.3	5.1	6.5
9,000 - 9,999	4.5	3.5	5.4	6.6
10,000 - 14,999	38.7	21.4	30.1	30.0
15,000 - 24,999	32.6	36.2	29.7	22.5
25,000 - 49,999	7.4	20.7	10.3	6.0
50,000 or more	.7	5.1	1.9	1.0
	100.0	100.0	100.0	100.0
MEDIAN INCOME	13,839	18,778	13,597	11,407
MEAN INCOME	15,052	21,644	15,852	13,025

Source: 1970 Census

and 58% in neighboring towns. The aggregate of family income in excess of \$10,000 shows Waldwick having 79% which is exceeded only by the neighboring towns at 83%, then followed by the County's 72% and finally the State at 60%.

The final statistic that provides meaningful insight into family income trends is the median income level in Waldwick. Table 8 shows that New Jersey as a whole registered a median income of \$11,407. In Bergen County the median level was \$13,597 in 1970. But the median income of neighboring towns at \$18,778 eclipsed even Waldwick's median income of \$13,839.

Thus, it appears that while residents of the Borough sustain a high level of family income they are noticeably less affluent than residents of surrounding towns. Waldwick exhibits a very strong economic homogeneity,

Educational Attainment

The educational attainment of the population is a significant indicator in determining the occupational profile of a community. The education levels of the population bear a direct correlation to the type of employment that can and will be pursued. It is typically found that in areas of relatively high family income levels, educational advancement is very important to residents.

In Bergen County the median education level in 1970 was 12.3 years and 60.1% of the county's residents had completed high school. The median education for the state as a whole was 12.1 years, but 64.6% of the New Jersey's residents had completed high school. However, in Waldwick 67.6% of the labor force completed high school, generating a median education level of 12.5 years in the Borough. Thus on Table 9, it can be seen that a larger proportion of Waldwick's population received a high school diploma and went on to some college education, than did the regional population.

The effects of Waldwick's higher educational level will be witnessed in both the type of occupation and type of industry in which residents are employed.

Employment

Certain trends in the employment patterns of residents emerge almost immediately upon the examination of Tables 10 and 11. It can be seen in

TABLE 9
EDUCATIONAL ATTAINMENT OF RESIDENTS
WALDWICK, BERGEN COUNTY, AND THE STATE 1970

<u>Years of School Completed for persons 25 years and over</u>	<u>Waldwick</u>	<u>Bergen County</u>	<u>New Jersey</u>
No school completed (115)	1.8%	1.4%	1.6%
Elementary			
1-4 years (107)	1.7	1.9	3.1
5-7 years (377)	6.0	7.3	10.2
8 years	8.2	12.3	13.1
High School			
1-3 years (934)	14.7	17.0	19.5
4 years (2,468)	38.9	33.5	31.8
College			
1-3 years (790)	12.5	11.0	8.9
4 years or More (1,030)	16.2	15.6	11.8
Median education level	12.5 years	12.3 years	12.1 years
Percent High School Graduates	67.6%	60.1%	64.6%
Percent having some college education	28.7%	26.6%	20.7%

Source: 1970 U. S. Census

Table 10 that manufacturing at (28.6%) comprises the single largest source of employment for Waldwick residents. While the same characteristic is displayed for the county and state, manufacturing is less prominent factor in Waldwick's employment picture. A more significant trend is the larger percentage of the local labor force employed with the "Wholesale and Retail Trade" industrial groups. In Waldwick 22.5% of the labor force worked in the Wholesale and Retail Trades, smaller proportions were employed in this category by the County (21.8%) and State (18.9%). The other industry group employing a significantly large portion of the Borough's residents is the Service group, in which 21% of the workers are involved. This group includes professional, health and educational services as well as personal, business and repair services. Together the categories of manufacturing, service, wholesale and retail trade represent over 72% of the employed residents of the Borough.

It should be noted that for Waldwick the employment patterns by industrial group display a similar degree of distribution as that of the County and State. This fact can be related to the overall accessibility of the Borough provided by Route 17 and the fact that most of the residents travel outside the town to their places of work. Sixty-four (64) percent of the total labor force work within Bergen County, roughly 8% in Passaic County. Over 25% of Waldwick's workers are employed outside these two county area with most of them traveling to New York.

64.4% of Waldwick's labor force falls within the "White Collar" occupation group, as shown in Table 11. This is a much larger proportion than found in the state (53.2%) and the county (62.3%), and shows the correlation with Borough's higher level of educational attainment. Over 28% of the residents are employed in occupations related to professional and managerial skills. This percentage is almost identical to that of the Borough's residents having some college education. The sales and clerical workers occupations, while exhibiting the same ranking with the state and county, are proportionately larger in Waldwick. As a result, the profile of the working population emerges with an emphasis upon business and professional services and an orientation toward the wholesale

TABLE 10

EMPLOYMENT BY INDUSTRY
WALDWICK AND BERGEN COUNTY

1970

<u>Industrial Group</u>	<u>Waldwick</u>		<u>Bergen</u>	<u>New</u>
	<u>No.</u>	<u>%</u>	<u>County</u>	<u>Jersey</u>
Construction	254	5.2	5.1	5.3
Manufacturing	1,384	28.6	29.9	31.6
Transportation, Communication & Utilities	458	9.4	8.0	7.4
Wholesale & Retail Trade	1,087	22.5	21.8	18.9
Finance Insurance & Real Estate	391	8.1	6.7	8.4
Services	1,015	21.0	23.5	23.5
Government	202	4.2	3.6	5.1
Other Industries	47	1.0	1.4	-
	4,838	100.0	100.0	100.0

TABLE 11

OCCUPATIONS
WALDWICK AND BERGEN COUNTY

1970

<u>Occupation Group</u>	<u>Waldwick</u>		<u>Bergen</u>	<u>New</u>
	<u>No.</u>	<u>%</u>	<u>County</u>	<u>Jersey</u>
White Collar	3,116	64.4	62.3	53.2
Professional & Technical	811	16.8	18.3	16.2
Managers & Administrators	550	11.4	12.0	8.9
Sales Workers	572	11.8	9.5	7.7
Clerical Workers	1,183	24.4	22.5	20.4
Blue Collar	1,622	33.5	34.6	42.4
Craftsman, Foreman	665	13.7	12.8	13.8
Operatives (Except Transport)	486	10.1	10.2	14.8
Transport Operatives	126	2.6	3.3	3.9
Service Workers	345	7.1	8.3	9.9
Unskilled	100	2.1	3.1	4.4
Farm Laborers	-	-	.2	.6
Other Laborers	100	2.1	2.9	3.8
TOTAL	4,838*	100.0	100.0	100.0

Source: 1970 U.S. Census

* Total Employed, 16 years old and over

and retail trades. Waldwick's residents are generally employed in more skilled occupations. Because of the lack of a strong local industrial base, they are commuters who will proportionately reflect the job composition of the metropolitan industrial market. This out-of-town commutation to work is a rather typical pattern for the State's municipalities, despite the fact that there is about one job in New Jersey for every job holding resident.

Local business establishments are another source of employment which represents an important part of the community's economic base. Even where only a small minority of employed citizens work within the municipality of residence, as is the case in Waldwick, local businesses are an important secondary influence to both population and economic growth. Local businesses are part of the multiplier effect brought on by industrial growth. Since jobs generally influence the location of a population, they similarly stimulate the need for other jobs and services, which when aggregated represent a "ripple effect" which touches every corner of the social order. Exhibit 5 illustrates the "multiplier effect" that every 100 jobs in industry have upon local business.

Exhibit 5 is included to illustrate the fact that local industry itself generates almost an equal amount of secondary jobs outside of those in the plant. This exhibit shows that for roughly every 100 jobs in industry, an additional 65 jobs are created in support of that industry. These 65 secondary jobs come as both direct and indirect support of that industry. Examples of direct support would be doctors, lawyers, engineers and architects, bank clerks and electricians who perform services to the industry but are not part of its regular payroll. Some examples of indirect support are the firemen and policemen, bus drivers, teachers and store clerks who are required to either support the employees of the industry or make the industrial process safe and efficient. The latter category is not paid directly by industry.

Additional Jobs Created By 100 Industrial Jobs

 bus driver .42	 dept. store clerk 2.5	 lawyer & judge .44	 waitress 1.6	 plumber .13	 doctor .57	 painter 1.0	 firemen .30
 dressmaker .44	 bank clerk .66	 stenos typist 2.2	 cleaners 1.6	 carpenter 2.6	 musician 4.4	 truck driver 4.0	 gas station attendant .40
 printer .22	 beautician barber 1.0	 policeman .57	 highway worker .10	 librarian .14	 food clerk 1.3	 cook .66	 newsboy .09
 architect .06	 electrician .22	 miner 2.2	 real estate agent .16	 nurse 1.0	 shoe repairmen .16	 teacher .50	 pharmacist .25
 editor & reporter .25	 florist .13	 plasterer .13	 mechanic 2.2	 postmen .50	 bookkeeper 2.0	 dentist .20	 telephone operator 1.0
 technical engineer .14	 shoe clerk .20	 photographer .14	 entertainer .13	 baker .33	 farmer 28.5	 tailor .40	 hardware clerk .44

SECONDARY JOBS are regionally factored by up to 7 based upon urbanization.

POPULATION PROJECTION

Waldwick has seen a transition in its job market during the last 70 years. At the turn of the century just about all jobs focused upon the busy railroad yard. Today Waldwick depends more on the metropolitan region for employment than local industry. The Borough's location, good roads and good rail service give easy access to the nation's largest and most diverse job market. Its location and attractive housing will continue to cause growth.

Attention will be focused during the next decade upon the development of the few remaining larger undeveloped tracts of land. Emphasis will gradually shift during the latter part of the planning period to the business district and re-development of those older portions of the Borough in which mixed land uses exist.

However, the almost complete development of all land in the Borough will limit the future population in direct proportion to the amount of open land remaining for development. The 17% population increase between 1960 and 1970 adds over 1800 people to the Borough, but also continued the residential development pattern which has covered over 20% of the land area with paved roads and left less than 7% of Waldwick undeveloped.

The 1950's were the years during which the Borough literally developed overnight. Future development will be basically relegated to filling in undeveloped areas. Discussions will be centered on the effect that varied densities and housing types will have upon the environs.

The various densities of different development types will, of course, generate varying numbers of people. For instance, apartments will certainly accommodate a larger potential population than single family homes on the same acreage. Thus the prediction of future population for the Borough is subject to these various development alternatives. For this reason, in Table 12 the survival rate and birth rate have been used to determine the natural increase during the next ten years, but migration has not been estimated. Rather, a comparison has been made in Table 13 of the potential population increase resulting from development of all remaining acreage in the Borough. This comparison contrasts the population

TABLE 12
POPULATION PROTECTION
FOR WALDWICK

1980

BASED UPON NATURAL INCREASES

<u>Age</u>	<u>1970</u>	<u>1980 Estimated Survivors</u>
Under 5	1,175	2,107** (1,154)***
5 - 14	3,081	1,169 (2,122)***
15 - 24	1,708	3,059
25 - 34	1,555	1,686
35 - 44	1,874	1,522
45 - 54	1,571	1,784
55 - 64	743	1,400
65 - and over	<u>606</u>	<u>845</u>
Total	12,313	13,572

Source: U.S. Bureau of Census 1970 Population

* Survival ratios determined by U. S. Public Health Service; Vital Statistics of the U. S. 1967.

** Estimated total births for 1980.

*** Total age cohort when estimated 1970-1980 births are included.

TABLE 13

POTENTIAL RESIDENTIAL DEVELOPMENT
OF
WALDWICK

A. All Single Family Development

	(1)		(2)		(3)	
Existing vacant land	x	D. U./ac.	x	#people/D/U.	=	
89.2 ac	x	3	x	3.8	=	1,016 people

B. Both Single Family and Multi-Family Development

(estimating 20 acres for probable apartment development)

Single Family

(Existing vacant land — apartment ac)	x	D. U./ac	x	people/D. U.	
(89.2 ac — 20 ac)	x	3	x	3.8	= 789 people

Multi-Family

	(4)		(5)
(est. apartment ac — 15% streets)	x	D. U./ac	x People/D. U.
(20 ac — 3 ac)	x	10	x 3 = <u>510 people</u>

Total people 1,299

(1) Derived from Land Use Analysis

(2) Based upon average 15,000 square feet lot according to Zoning Ordinance.

12,313

(3) 1970 population / 1970 # of dwelling units 3,225

(4) Based on an average 10 D. U. / ac for multi-family housing.

(5) Based upon an even number of apartments and townhouse apartments having one and two bedrooms (two or three people)-townhouses having two and three bedrooms (three and four people).

generated by strictly single family development with the possible multi-family development of a portion of the total undeveloped area.

According to the Land Use analysis there are 89.2 acres of vacant land. If all of this acreage were developed as single family houses, Table 13 shows that the population generated by such a development would be 1,016 people.

For contrast, we can assume that 20 acres of the undeveloped land is suitable for multi-family housing and the balance is usable for single family homes. Then, the 69.2 acres of vacant land would yield 789 people from single family development. The remaining 20 acres, when developed with a balanced mixture of one and two bedroom apartments and two and three bedroom townhouses, (after subtracting 15% of the tract for streets, etc.) would yield 510 people. The combined total population of the mixture of single and multi-family development would be 1,299 people.

In summary, then, limiting development to single family units would result in a potential 1980 population increase of 2,275 people (1,259 due to natural increase and 1,016 as shown in Table 13). The percentage increase over the 1970 population would be 18.5% resulting in a total population of 14,588.

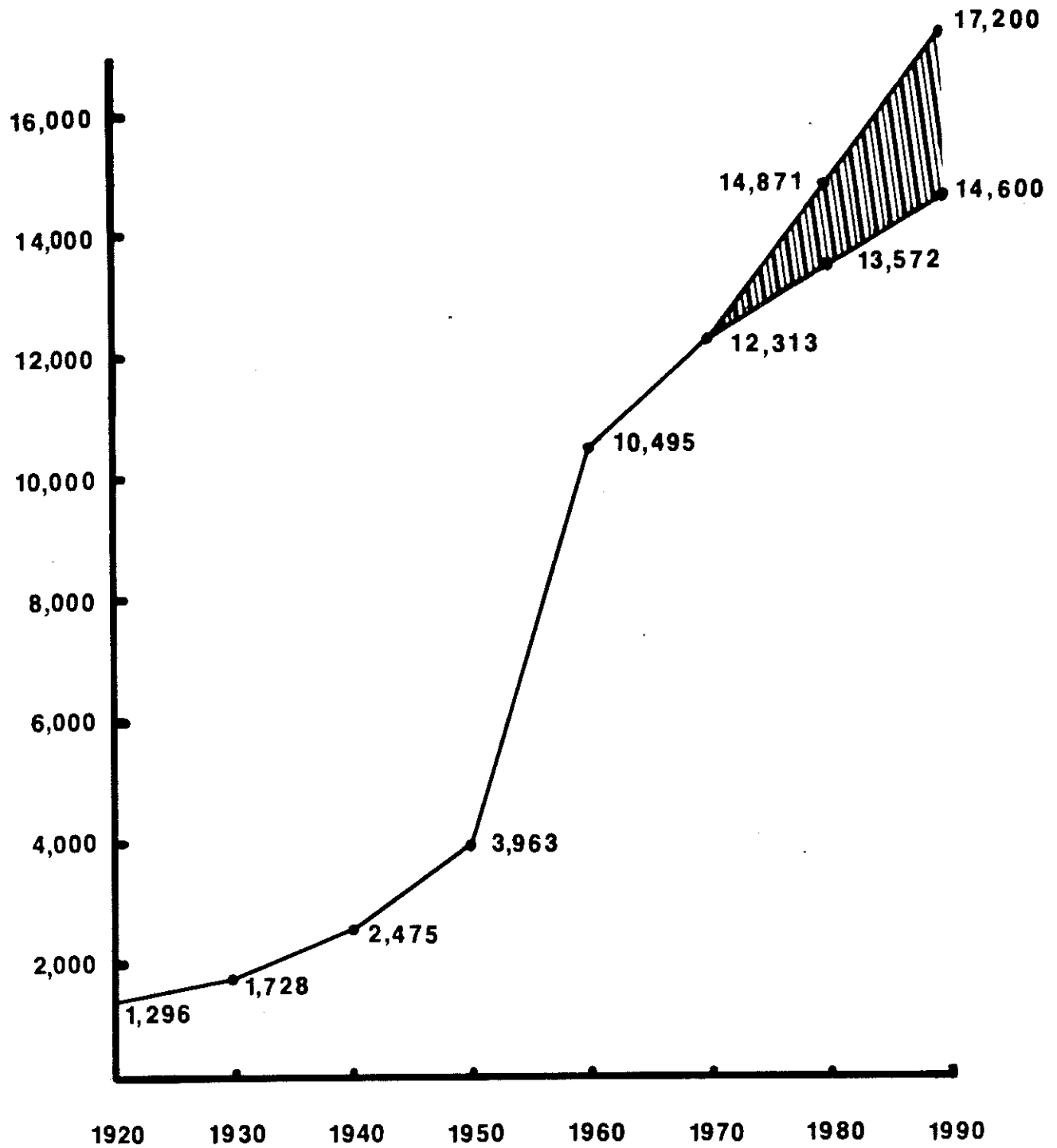
The alternate, allowing some multi-family development while continuing single-family development throughout the remainder of the Borough would result in a potential 1980 population of 14,871. This would include a natural increase of 1,259 persons plus the 1,299 people shown in Part B of the Table 13. The total increase would be 2,558 people or 20.8% more than the 1970 population level.

The difference in population increase resulting from exclusively single family home development compared to a mixture of both single and multi-family dwellings is of 283 persons or a 2.3% larger population in 1980.

Exhibit 6 illustrates the past population trends since 1920 and projects the population through 1990. The high-low range established for 1980 was derived from Table 12 and 13. The low population of 13,572 is just the estimated natural increase shown in Table 12. The high was a combination of natural increase plus Part B from Table 13. The low for 1990 is derived from the natural increase plus total single family development of all vacant land. The high in 1990 of 17,200 is a continuation of the 1970 - 1980 trend line.

Exhibit 6

PAST AND PROJECTED POPULATION TRENDS
WALDWICK



TRAFFIC AND CIRCULATION

INTRODUCTION

The purpose of a Traffic and Circulation Report is to first document the characteristics of the existing road network; second— analyze how this network operates under present traffic loads and third— to guide the operation of the system in light of the future development potential and changing traffic loads.

During this last generation we have seen the automobile evolve as the primary mode of transportation. This rapid evolution raises the question of how well equipped is the present road system to handle swelling volumes. Further, it emphasizes the major importance of traffic and circulation as major considerations in developing future planning proposals.

TRANSPORTATION TRENDS

The most obvious purpose of a road network is to transport people and goods from one location to another. The location of early roads tended to be determined largely by the natural terrain. In many instances, the terrain adjacent to streams provided level enough stretches to construct roads and railways.

The early efforts toward road building were directed toward reaching into the wilderness. The present pattern of expansion, especially in urbanized areas such as Bergen County, tends to be in the opposite direction. More specifically it is aimed at filling in the gaps in the road network and improving the function of the system. Recent expansions are influenced by the existing land uses and the existing road network. The rationale for improvements may be solely to relieve some of the burden from the existing network or to service new high-density land uses.

Road networks are a major factor in the locational decisions for industries and residences. As a prospective resident, characteristics of easy access to employment, the safety of local streets for both local traffic and pedestrians,

the appearance of the physical network, as well as its adequate maintenance, all rate highly when considering a residential site. On the other hand, an entrepreneur generally prefers locations adjacent to high volumes of traffic. — preferably at the intersection of major roads with access to other commercial or industrial locations in the region.

There rarely will be one totally satisfying solution to transportation problems since, in a balanced community, business, residences, recreational and other centers must exist together. A certain amount of conflict is inevitable. It is the task of those in a planning role to minimize this conflict by segregating certain land uses and densities and planning for a transportation system which, on the whole, will best serve the community both for the present time and in the future.

REGIONAL LOCATION

Waldwick's location - less than 20 miles northeast of New York City on the county's primary rail and highway lines has been a key factor in its development. Early development of the transportation facilities serving the Borough influenced the general economic and development patterns of the community and reflected its orientation to the New York — Northeastern New Jersey Metropolitan Area.

The evolution of Waldwick as a predominantly single-family residential community has been generated largely by the easy accessibility of the greater New York business area. Also, the fact that all major highways and rail lines in the area run north-south, and lack any east-west connections within the Borough, has reduced the development pressures for major commercial or industrial development.

A significant portion of the vehicles which use the streets and roads of Waldwick during any given day are driven by people from outside the community.

This is because of the extensive county highway system within Bergen County. Therefore, to fully understand the pattern of traffic circulation in the Borough, one must view the regional significance of the major highways and understand how the County system serves them.

The major highways in Bergen County are oriented to serve the access points to New York City. Major north - south routes are New Jersey Route 17 and the Garden State Parkway. The Garden State Parkway is undoubtedly the most significant highway facility in Bergen County, as it has greatly reduced the automobile commuting time to commercial and industrial centers of the region. New Jersey Route 17 is the backbone of the County serving northern New Jersey's major industrial centers.

County roads within Waldwick principally move traffic north and south. Wyckoff Avenue - County Route S - 84 has its eastern terminals in the center of Waldwick, stopping $\frac{1}{2}$ mile short of connecting four western communities with New Jersey Route 17.

JURISDICTION OF ROADS:

In Waldwick, there are 64 miles of public roads. The State of New Jersey maintains two miles of road, of which $\frac{3}{4}$ of a mile is New Jersey Route 17 and the balance is support roads at the interchange. Bergen County has jurisdiction over four miles of road in the Borough. They are: Wyckoff Avenue (Route 84 - 1.7 miles) ; Crescent Avenue (Route 81 - .9 miles) ; Franklin Turnpike (Route 62 - .9 miles ; and Sheridan Avenue (Route 77 - .5 miles). Road jurisdiction usually is a strong indication of road function and to date this correlation generally holds true in Waldwick.

STREET RIGHT - OF - WAY WIDTHS:

Exhibit 7 shows existing road conditions showing R.O.W. widths, sidewalks and traffic controls, plus those locations where the pavement lacks curbing for control of drainage. Just about all municipal streets have 50 feet R.O.W widths with 30 foot pavements. The right-of-way of Route 17 - 120 feet - is the only one

appreciably larger than 50 feet. There are three municipal streets with 60 foot R. O. W. - Lindberg Parkway - east of Crescent Avenue; Lake View Drive - by Whites Pond; and East Prospect Street - in the commercial area between Franklin Turnpike and the Library.

All the County roads in the Borough are below the County 60 foot R. O. W. standard, except small unconnected portions of Wyckoff Avenue. Furthermore, they exist with pavement widths of only 30 - 34 feet. This is generally considered far below the design standards for the traffic volumes that they are currently serving. The deficiencies in the County Road System's carrying capacity, coupled with the lack of an east-west connection of Wyckoff Avenue to New Jersey Route 17 should receive considerable attention during this planning period.

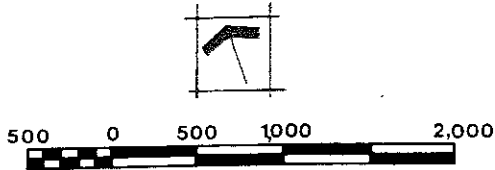
There are relatively few local streets that fall below the 50 foot R. O. W. width criteria, these are illustrated in Exhibit 7. Special attention should be given to the up-grading of Hopper Avenue, John Dow Street, Monroe Street and Mac Kay Avenue, along with the curbing and drainage improvements noted.

Data shown on traffic control devices and sidewalks was taken from a survey conducted by the Waldwick Police Department Traffic Bureau conducted at the beginning of the year. The streets shown to lack curbing were listed in the 1971 survey of the Borough Engineer. This survey should be up-dated. Emphasis should be placed upon the drainage problems and assessing their priorities.

EXISTING ROAD FUNCTIONS:

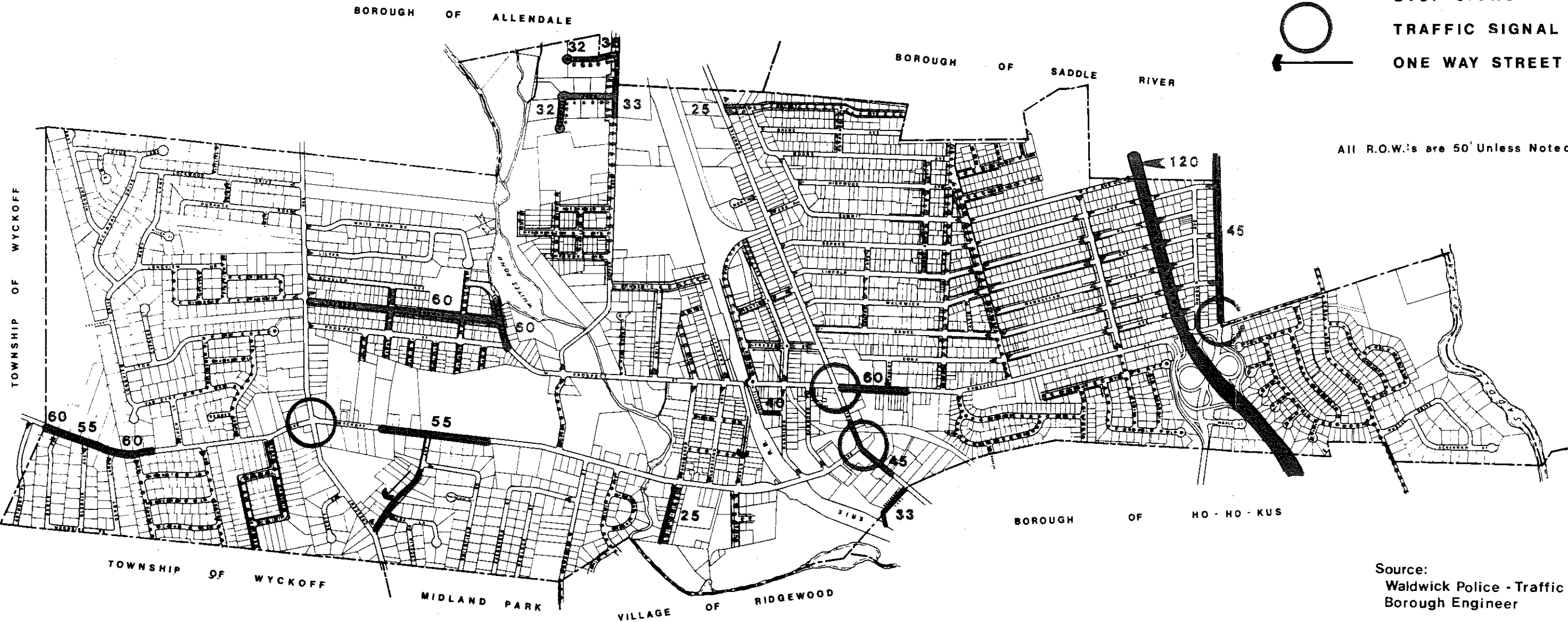
There are various functions of a transportation network. Not only does the network move vehicles and people, but it provides access to properties, provides right-of-way for utilities and serves as an element of design. For planning purposes, roads are generally classified as one of three major types: arterial, collector, or local. Each of these types defines a certain range of functions. Local streets should function primarily as access points to abutting properties - both for vehicles and pedestrians.

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



EXISTING ROAD CONDITIONS

-  33 R.O.W. LESS THAN 50'
-  60 R.O.W. GREATER THAN 50'
-  PAVEMENT LACKS CURBS
-  STREET LACKS SIDEWALKS
-  STOP SIGNS
-  TRAFFIC SIGNAL
-  ONE WAY STREET



Source:
Waldwick Police - Traffic Bureau
Borough Engineer



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In theory, collector streets should gather traffic from the local streets before the design capacities of the local streets are exceeded. This traffic is then funnelled to traffic generators such as shopping centers or to arterial roads. Depending upon the volumes and the source and composition of traffic flows, collector roads may be further classified as either primary or secondary collectors. Primary collectors are those roads which run between arterial roads or link major traffic generators with the arterial network. Traffic characteristic of this type of collector tends to have a higher percentage of trucks than secondary collectors.

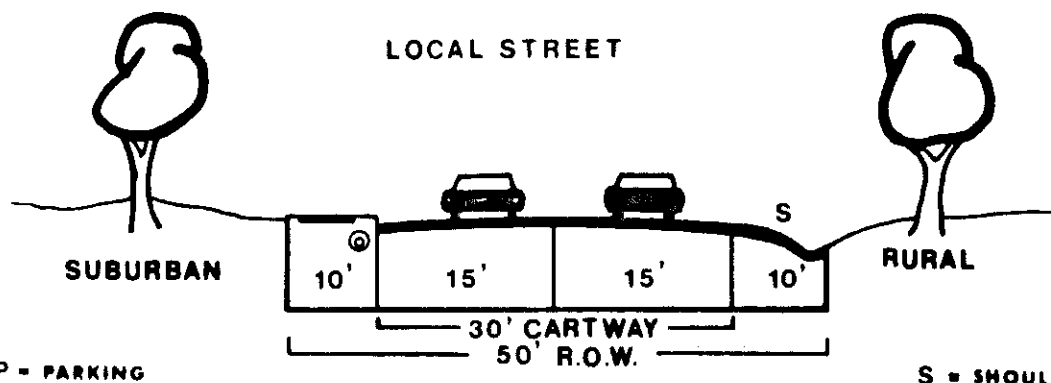
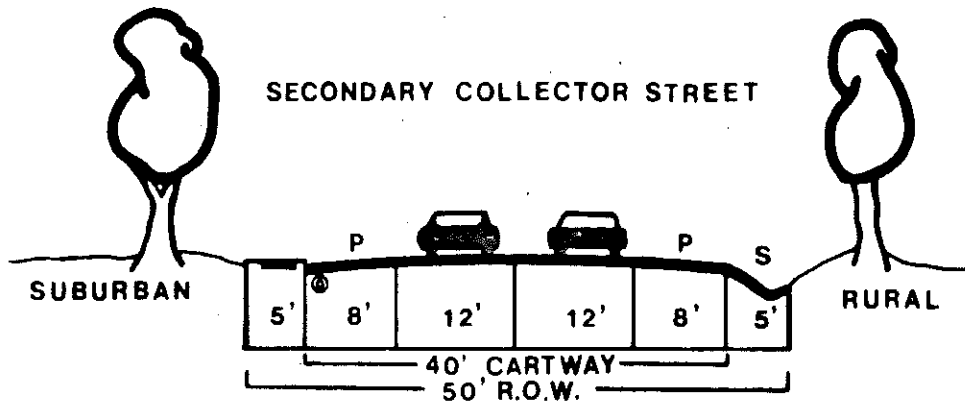
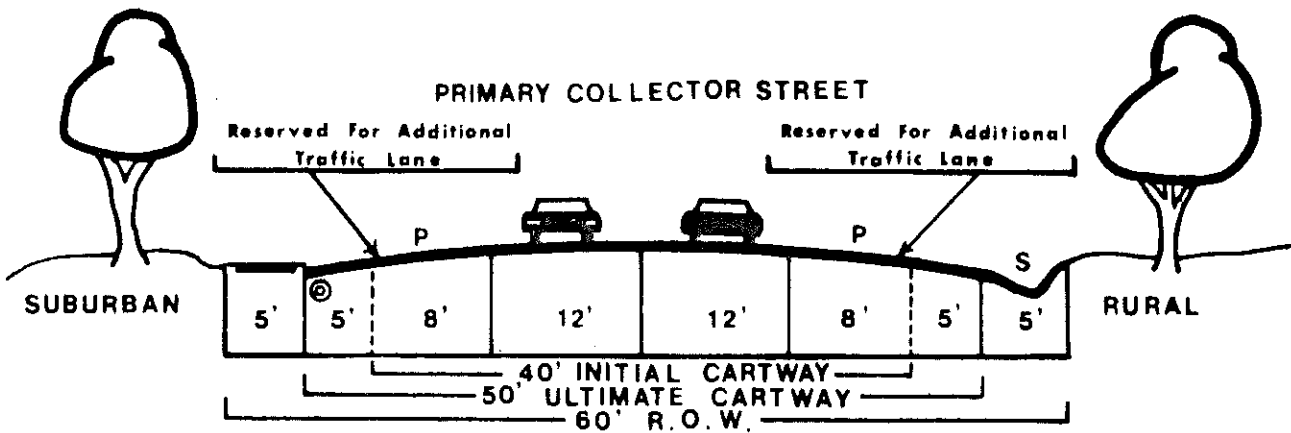
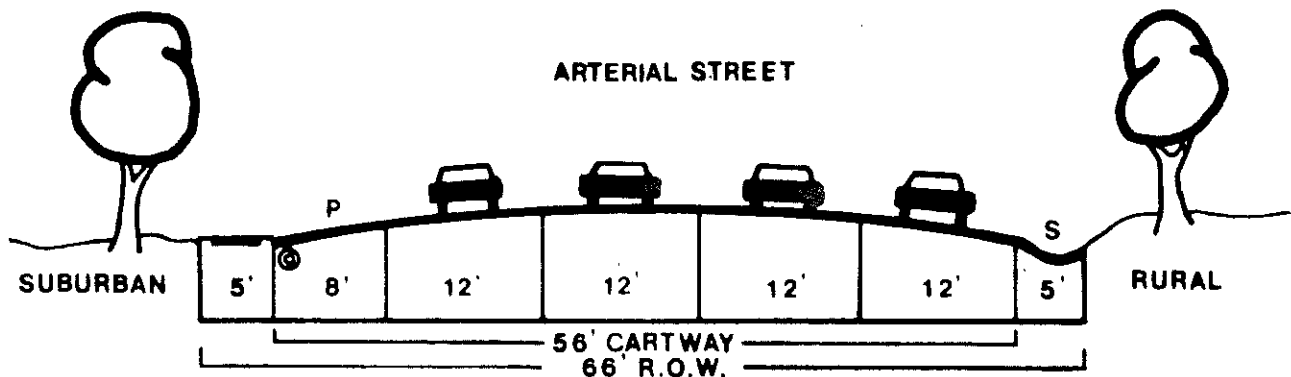
Roads which tend to carry primarily residential traffic and so, in general, carry lower volumes, are termed secondary collectors. Because of these lower volumes and non-commercial characteristics, secondary collectors may be designed with smaller right-of-way widths and road surface bearing capacities.

Finally, arterial roads have as their prime function the transport of regional traffic -- traffic characterized by high volumes, extended destinations and substantial numbers of commercial vehicles. Ideally, the arterial roads, as well as the collector roads, should strictly limit the points of access to adjacent properties and permit turning movements which do not interrupt the traffic flow.

These functional classifications are clearly ideal types since they rarely exist in pure form. One of the most obvious defects in existing arterials, for instance, is the occurrence of many points of access to abutting commercial properties. Such commercial "strip" development decreases the design volume of the road and is frequently a serious friction point causing accidents. On the other hand, streets within poorly designed subdivisions may perform collector functions when intended for local functions, thus producing more trucks and more local traffic than should be associated with strictly residential sections.

As a general guide to the composition of street rights-of-way as related to functional classification, Exhibit 8 contains some recommended street cross-sections. The New Jersey Department of Transportation minimum design

RECOMMENDED STREET CROSS-SECTIONS



P = PARKING

S = SHOULDER

standards for State Aid for roads by function are: Arterial - 66 foot R. O. W. with a 56 foot cartway; Collector - 50 foot R. O. W. with a 34 foot cartway; Local Street - 33 foot R. O. W. with a 26 foot cartway. Normally, greater widths are recommended. However, even when measured against the State minimum standards many of the major roadways in the Borough are clearly deficient.

Since most of Waldwick's road system has been constructed, road building efforts during this planning period will be focused upon improving the carrying capacity of major streets, connecting and acquiring some R. O. W. on some streets in order to have the physical space to make the road system function more efficiently.

In many highly developed communities where the road patterns and abutting land uses were established prior to rapidly increasing traffic volumes and additional space is unavailable, it may be necessary to use the regulation of speed limits and "on street" parking in order to control function. This may also be the case in discouraging strictly local streets from performing a collector function.

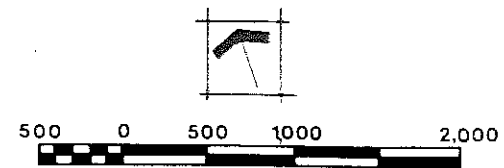
Exhibit 9 suggests the functional classification under which the current system operates. This map quickly points out the functional confusion that exists on streets between Franklin Turnpike and New Jersey Route 17. Much of this is due to the grid pattern of the streets, which was more acute several years ago when many of these streets ran through to Route 17. Similarly, the lack of a strong functional identity has troubled the central commercial area.

TRAFFIC VOLUMES

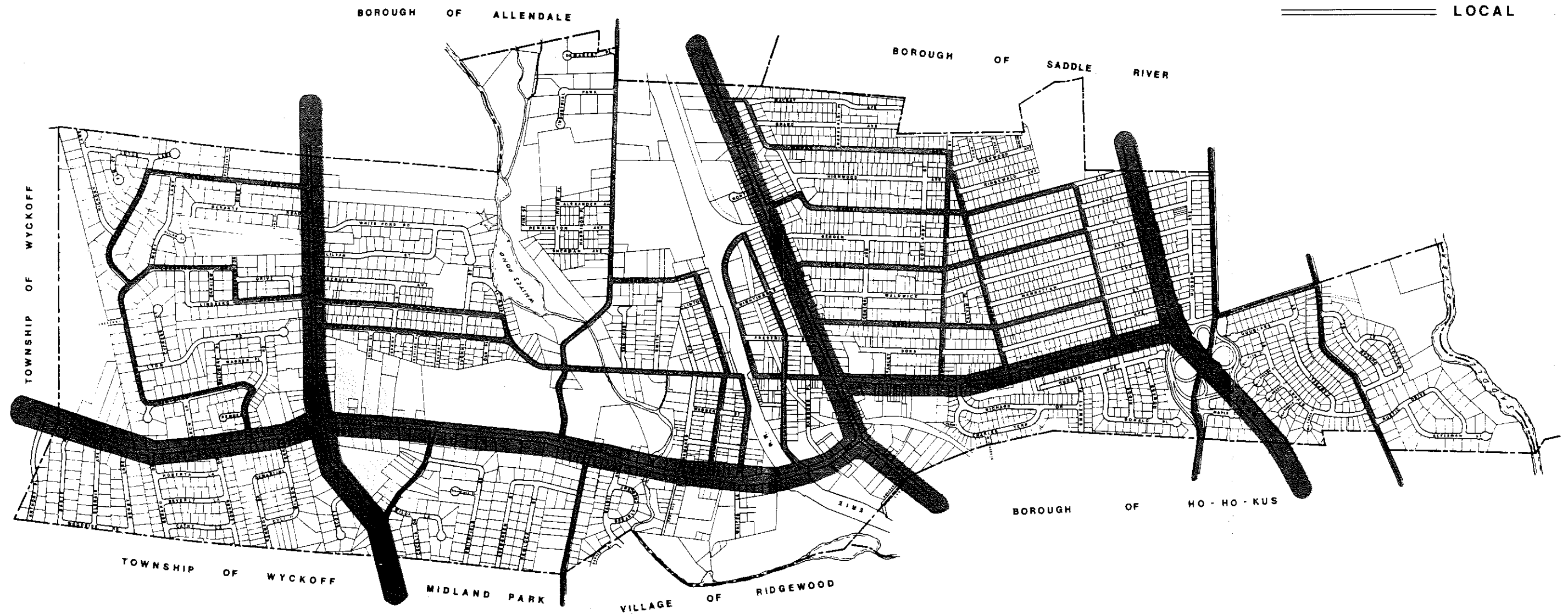
Having examined the physical and functional characteristics of the road network the operational characteristics are now presented. One basic element of operation is the volume of traffic carried. As a general index of volume, Exhibit 10 illustrates the estimated Annual Average Daily Trips (AADT) for select roads in Waldwick. It should be noted that the volumes indicated are only those which have been collected by the New Jersey Department of Transportation and Bergen County Engineers office. Not all of the high volume roads have been considered, nor have four way counts been taken at all key intersections.

EXISTING FUNCTIONAL CLASSIFICATIONS OF ROADS

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



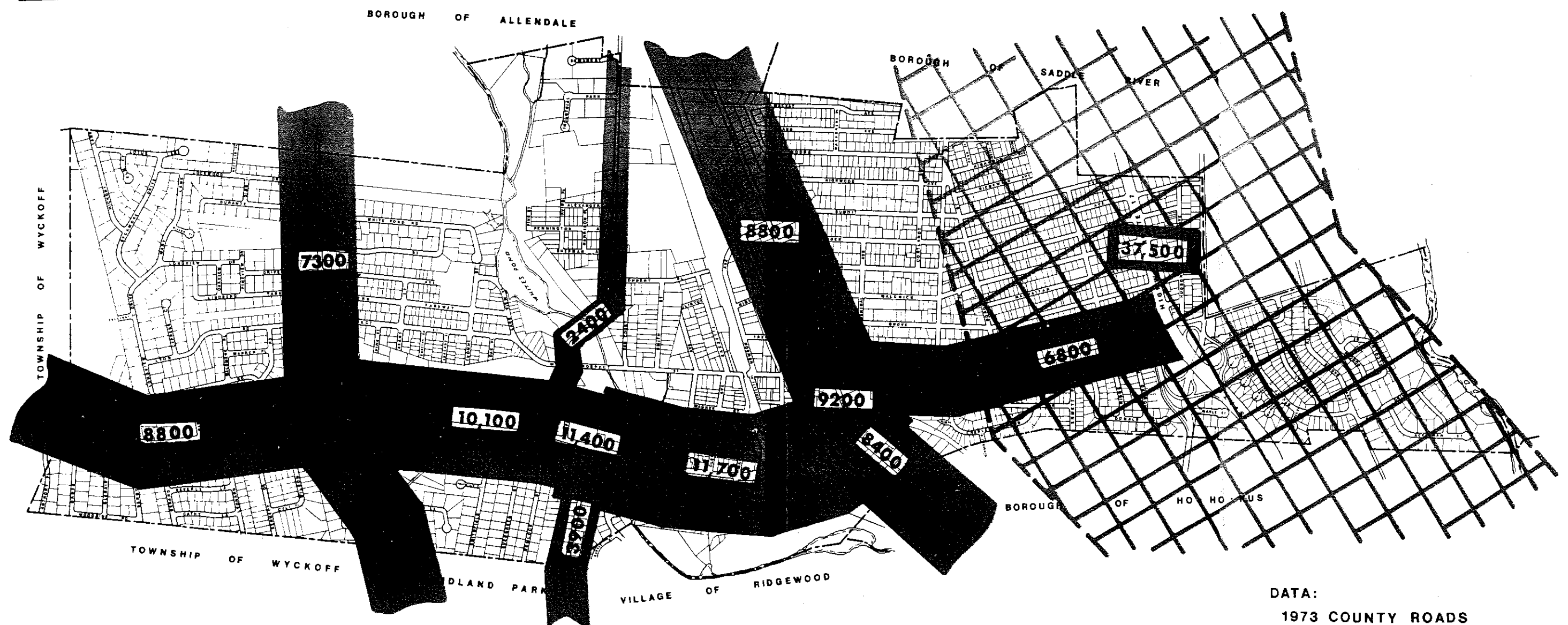
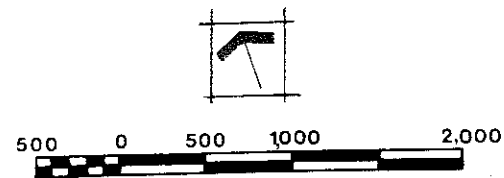
ARTERIAL
COLLECTOR
LOCAL



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BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.

TRAFFIC VOLUMES



DATA:
1973 COUNTY ROADS
1974 N.J. ROUTE 17



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The AADT tabulation is an approximation of the two-way traffic expected to have traveled on a road on an average day of the year, i.e. , the total yearly traffic divided by 365 days per year. Operationally, traffic counts are only made for a few days and then the yearly traffic is extrapolated from these totals. Generally, during the early morning and afternoon hours, the traffic volume is intensified. As a basic standard it is assumed that roughly 10 to 15 percent of the AADT volume occurs during the morning and evening peak hours. That percentage is closer to 10 percent on heavily traveled roads and closer to 15 percent on lightly traveled roads such as those in exclusively residential areas.

A review of the major streets' physical characteristics and the volumes which they are shown to carry, quickly points to the fact that these capacities have been exceeded. The estimated practical carrying capacity of a two-lane road is only 340 vehicles per hour. For example, the average peak hour volume on Wyckoff Avenue, assuring 10 percent of the 24 hour volume , would range from 880 to 1,170 depending on location. The practical capacity of most of Wyckoff Avenue is estimated at 600 vehicles per hour indicating that the capacity has been exceeded.

TRAFFIC ACCIDENTS:

One indicator of how well the road network functions is the frequency and location of accidents. Exhibit 11 documents the location of the accidents which occurred in Waldwick during 1973. This data was compiled with the cooperation of the Waldwick Police Department.

The map indicates that most of the accidents occurred on the interchange at New Jersey Route 17. The single, most prone location being the intersection of Franklin Turnpike and Prospect Street. The combined portions of East and West Prospect Street had the greatest number of accidents (46) for any single thoroughfare. Wyckoff Avenue ranked second with 38 accidents followed by Franklin Turnpike with 34 and Crescent with 19.

Exhibit 11 helps show the critical locations having the highest accidents frequency. As mentioned earlier, Franklin Turnpike and Prospect Street had the largest number (15) — of this due to the complicated left hand turns which have to be

made by large volumes of traffic - right in the heart of the business district.

One must recall that Wyckoff Avenue and Prospect Street are the prime east - west corridors in Waldwick connecting New Jersey Routes 17 and 202. Neither runs the entire length of the town and they are not directly connected. Prospect Street and Stanley was the site of 10 accidents — second most in the Borough. The flow of traffic in this area is impeded by the angle parking provided in this portion of the business district, which necessitates the backing out of vehicles into on-coming traffic. Thus a high accident frequency is to be expected in this area. The New Jersey Route 17 overpass and the Wyckoff — Crescent Avenue intersection ranked third with 8 accidents. Monroe Street, Cleveland and Harrison Avenues intersecting with Wyckoff Avenue all ranked fourth with 6 accidents apiece. Several other intersections also witnessed multiple accidents. The cause of these is apparently a combination of conflicting traffic patterns and a failure by motorists to adhere to rights-of-way as created by stop signs.

PUBLIC TRANSPORTATION

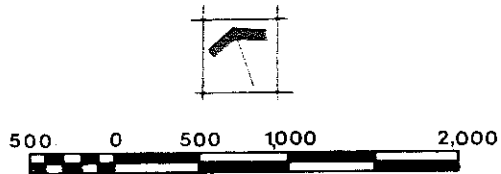
Good transportation access has been a significant factor in Waldwick's development. The 1970 census reported for the first time, on the means of transportation and place of work. This information gives us a better understanding of how the transit system is used by Waldwick residents.

Car Pooling:

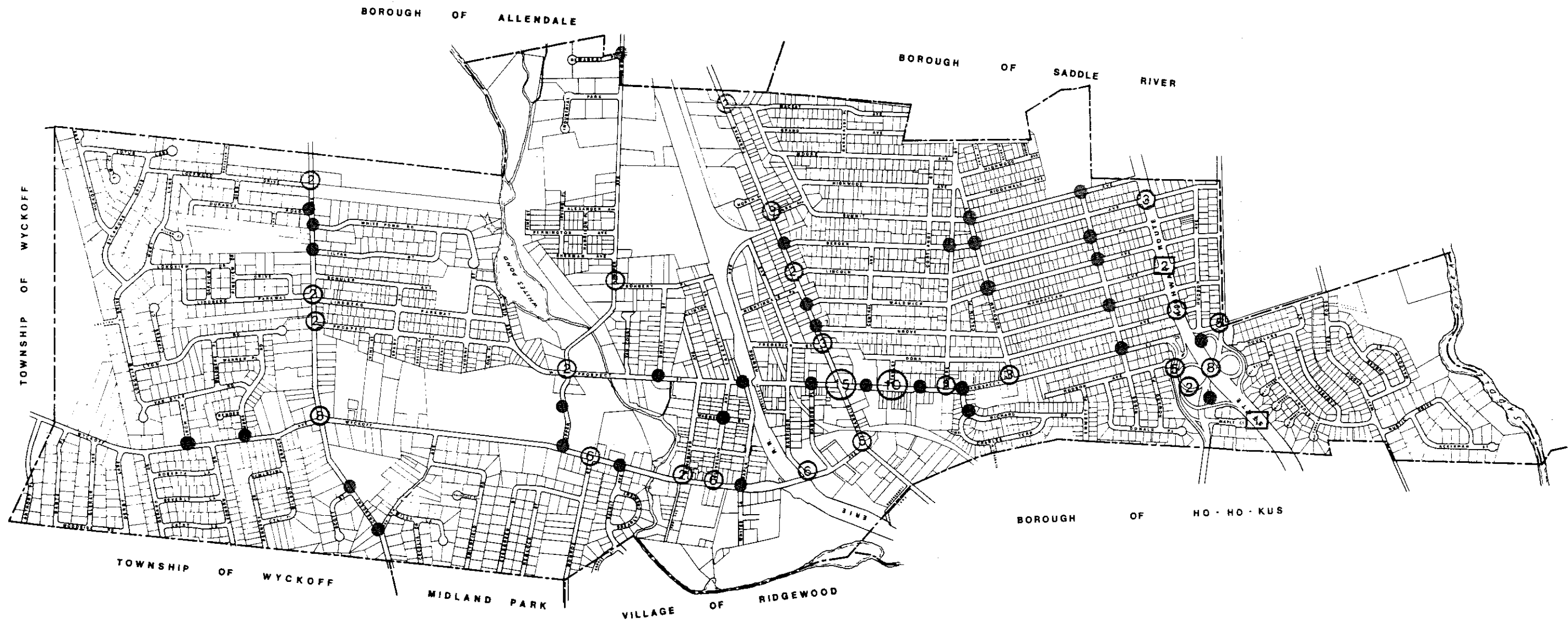
The private automobile is still the predominant mode of travel in the Borough, with 81.2 percent of the residents using this mode compared to 75.4 percent for the County. Waldwick, however, appears to do more car pooling than the County with 10.8 percent of its auto riders as passengers and 70.4 percent drivers as compared to 9.9 percent passengers for the County. This is somewhat unusual because 54.3 percent of Waldwick's residents have two or more cars available for their use compared to only 45.3 percent for the County. The following table illustrates automobile availability. The energy crisis helped make car pooling the newest and most popular mode of public transit.

TRAFFIC ACCIDENTS

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



- FATAL
- ACCIDENT
- MULTIPLE ACCIDENTS



Auto Availability

1970

	Waldwick		Bergen County	
	#	%	#	%
1	1333	41.7	124,126	44.4
2	1468	45.9	106,001	37.9
3 or more	267	8.4	20,782	7.4
none	127	4.0	28,716	10.3

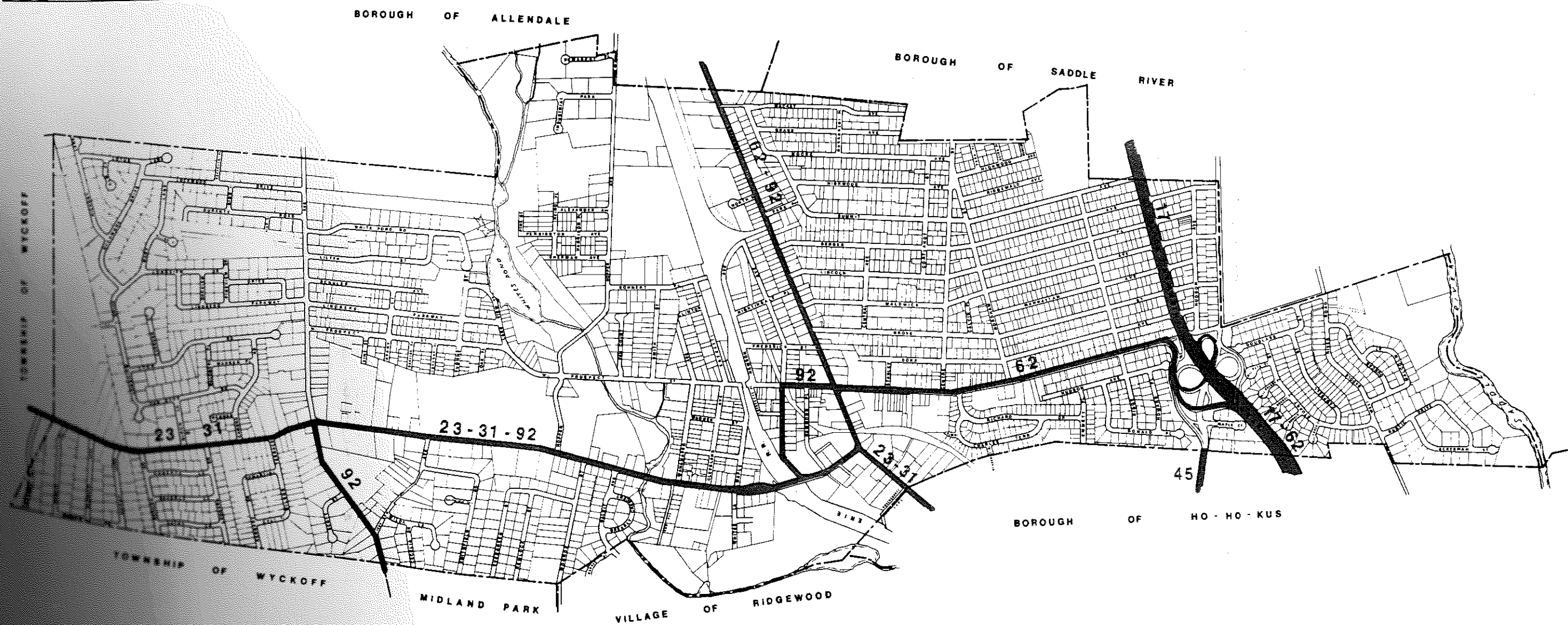
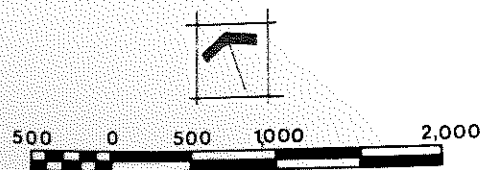
Trip Destination: The census further reported that of all the trips generated from Waldwick to work 74.5 percent were within Bergen and Passaic Counties. The larger portion 64.1 percent being in Bergen County. Trips outside the SMSA accounted for 25.5 percent.

Rail Transit: The Erie— Lackawanna Railroad provides daily passenger service from Waldwick to Hoboken with P. A. T. H. connections to New York City. The Erie also provides freight service to Waldwick's industrial area, having two freight sidings. A greater percentage of Waldwick residents use the railroad (7.1%) than do County (3.4%) residents. Currently, plans are underway for the construction of a new railroad station served by a 175 car parking lot. With the move toward "skip-stop" scheduling Waldwick may play a greater roll as a community center.

Bus Transit: Waldwick is presently served by several bus lines. Bus routes are confined largely to the County road system. Buses rank third in resident transit preferences (55%) while the County shows a stronger reliance with 12.2 percent. This is simply due to the fact that Waldwick lies on the rail line and has good service, while the County as a whole is more reliant upon a bus system which can travel the County road system. Hudson Transit Lines provides daily round trip service to New York City via four lines which cover the Borough. Associated Bus Company provides weekday round trip service to Ramsey and Paterson. The Maplewood Equipment Company provide daily round trip service starting at the

BUS ROUTES

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



Borough line on Sheridan Avenue to the up-town (178th Street) Port Authority Terminal in New York City.

FUTURE TRAFFIC IMPROVEMENTS:

Vast changes in the need for transportation facilities can be expected in future years. As population growth continues, as new industries are established and older sites yield to more intense uses, an increasing burden will be placed on existing facilities.

Future improvements to the street system of Waldwick must be designed both to rectify existing inadequacies and accommodate future development. In addition to upgrading of inadequate pavement and R. O. W. widths on major roads, the Borough should consider a plan for expansion and improvement of the major road network so that development does not preclude the goal of establishing a safe and efficient system. Toward this end the long sought connection of Wyckoff Avenue and East Prospect Street should be designed along with a second major crossing of the Erie Railroad line.

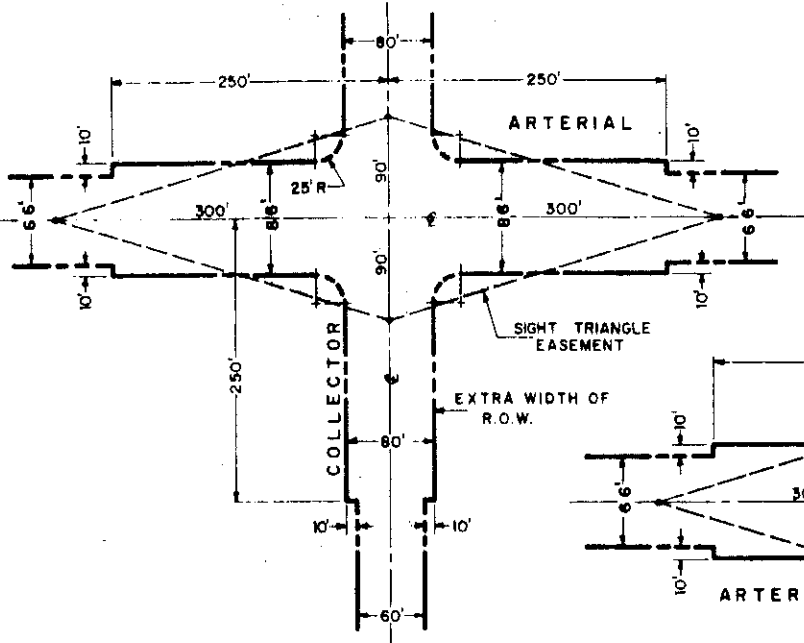
While the above additions to the road system are being made, improvements must be designed for the critical intersections shown on Exhibit 11. These are: Franklin Turnpike and Prospect Street; Franklin Turnpike and Wyckoff Ave; Wyckoff Avenue and Crescent Avenue ; Monroe - Hopper - Wyckoff. Exhibit 13 indicates a method of insuring a clear line of vision for automobiles approaching intersections in the Borough. This should be employed in the review of all site plans at developed intersections. Additional R. O. W. may often be required for additional turning lines a distance of 250 feet long at some of the major intersections.

Much of the upgrading of the existing major street system will have to be done within the confines of the existing R. O. W.. Because of the extent of existing development along these routes further R. O. W. acquisitions should be extremely difficult. Exhibit 8 takes into account the design of cross-section alternatives that could increase present capacities by minor pavement improvements and elimination of on street parking.

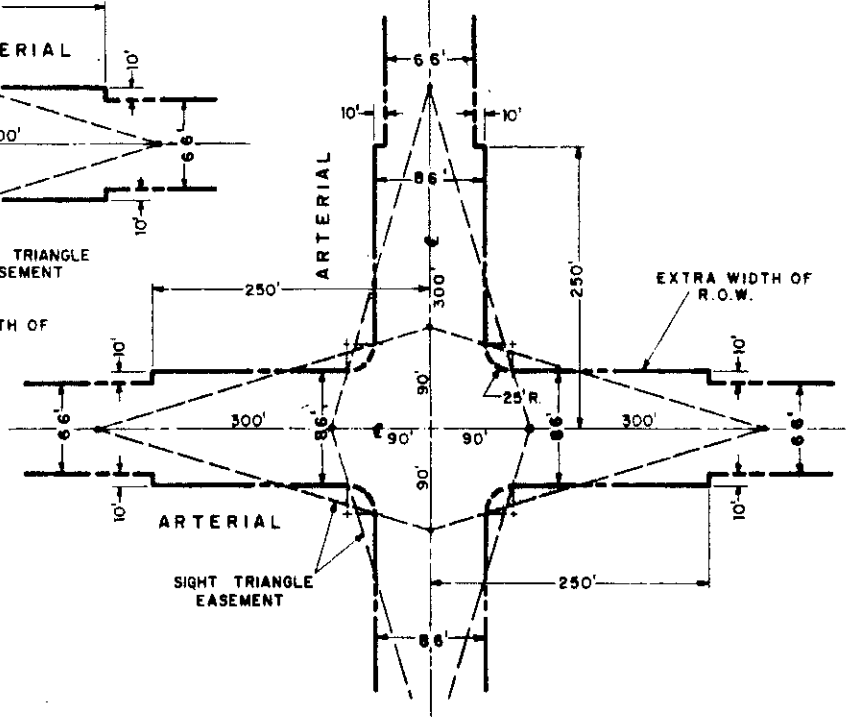
Of course, improved transportation access also tends to generate development pressures in the area in which such improvements are located. A sound development

SIGHT TRIANGLE EASEMENTS INTERSECTION DIAGRAMS

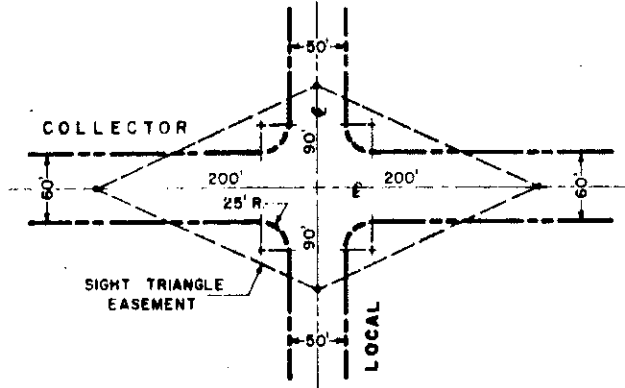
ARTERIAL - COLLECTOR



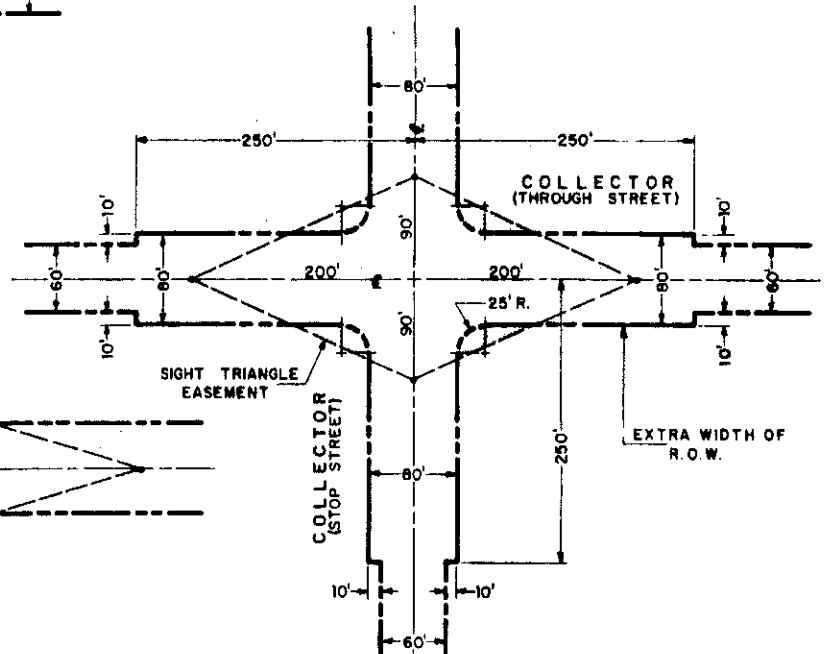
ARTERIAL - ARTERIAL



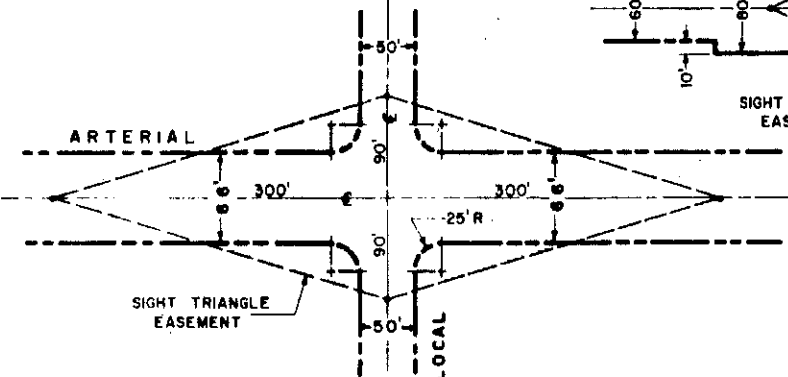
COLLECTOR - LOCAL



COLLECTOR - COLLECTOR



ARTERIAL - LOCAL



strategy would be to closely coordinate the delivery of such improvements , in a manner that would help maximize redevelopment efforts.

In summary some of the major improvements sought are:

- Connection of Wyckoff Avenue and E. Prospect Street
- Development of a second major railroad crossing.
- Elimination of hazardous commercial parking along E. Prospect St.
- Improvement of the geometric design of critical intersections
- Improvement of the carrying capacity of major roads
- Development of a functional hierarchy of roads

COMMUNITY FACILITIES

INTRODUCTION

The Community Facilities Report is an essential part of the Master Plan for it is by reviewing the community facilities which exist and projecting future needs in light of anticipated changes in development that the Community Facilities Plan is developed. The Community Facilities Plan gives the Planning Board an opportunity to relate short term decisions regarding land use changes to long term goals prescribing the balanced development of community services. This plan is normally put into operation through the adoption of a Capital Improvements Program which schedules the financing and development of the Borough's capital projects.

The Community Facilities Plan is an element in the comprehensive plan which, according to the New Jersey Municipal Planning Enabling Act, may cover proposals for the following community services:

- 40:55-1.11 "... water supply, utilities, sewerage, and other like matters... conservation -- water, forest, soil, flood control, and other like matters... semi-public facilities -- civic center, schools, libraries, parks, playgrounds, senic sites, historic sites, firehouses, police structures, hospitals, ... and other elements of municipal growth and development..."
- 40:55-1.20 " If portions of the Master Plan contain proposals for drainage rights-of-way, schools, parks, and playgrounds within... proposed subdivisions, the Planning Board may ... require that such drainage rights-of-way, school sites, parks or playgrounds be shown in locations and of size suitable to their intended uses. The governing body or the Planning Board shall be permitted to reserve the location and extent of school sites, public parks and playgrounds shown on the Master Plan or any part thereof for a period of one year after the approval of the final part..."

In order to develop a Community Facilities Plan, one must first examine the extent to which public facilities now exist and compare them with standards set by various public and quasi-public agencies for a particular population level. From this, an assessment of both current and future needs can be made on the basis of present conditions and projected populations and development patterns.

EDUCATIONAL FACILITIES

The Walldwick Board of Education operates four (4) schools for children in grades kindergarten through twelve and special programs for atypical children who need services of special education classes. Presently the Borough has a K-5, 6-8, 9-12 system. Both the elementary schools - Traphagen and Crescent - are K through 5, each serving their respective area east or west of the railroad. The Middle School receives all Borough pupils in grades six, seven, and eight. The High School is located on Wyckoff Avenue and accepts all ninth through twelfth grade students.

The existing school plant facilities are shown in Table 14. The Middle School, which was the Borough's original elementary school, is the oldest (35 years) and the Crescent School is the newest facility. Each of the elementary schools is of a different form of construction. The Julia Traphagen School was the State's first campus or cluster type facility and is of a frame construction. The Middle School is a two story masonry building and the Crescent School is a modern one story masonry block building.

Table 14 indicates that the present enrollments of all schools except the Middle School, are below their functional capacity. This means that in terms of State standards, these schools can operate at what is believed to be the functional capacity of 25 students per classroom. Physical capacity is set by the State at 30 students per classroom. While the Middle School enrollments exceed the desired functional capacity, they are well below its physical capacity. The greatest potential for overcrowding exists at the Traphagen School which has been augmented since 1970 by leased re-locatable classroom buildings. According to the present enrollment projections by the Board of Education, it will take until 1980 for the current declining enrollment to drop to the functional capacities of the existing permanent facilities of the Crescent and Traphagen Schools.

Because of the deficiency in recommended site size shown in Table 14 for the Middle and High School sites, the age of and physical limitations of the Middle School, and the need for shifting of elementary school space,

TABLE 14

EXISTING-SCHOOL FACILITIES

BOROUGH OF WALDWICK

1975

School	Year Built	Additions By Years	Grades Served	No. of Classrooms	Special Facilities	Physical Capacity	Functional Capacity	Present** Enrollment	Existing Site Acreage	State Recommended Site Size
Crescent School	1968	—	K-5	22	All purpose/ Gym, Library	660	550	1,141***	13.7	11.6
Traphagen School	1957	1969 (Admin) 1970 (4)*	K-5	24 (4)*	All purpose/ Gym	720 (-120)*	600 (-100)*		13.3	12.2
Middle School	1940	1951 (6) 1953 (8)	6-8	25	Auditorium Gym	750	625	651	9.2	17.5
High School	1963	—	9-12	46	Cafeteria Auditorium Gym, Shop, Home Econ, Library, Art Room, Music Room	1,380	1,150	957	23.2	33.8

*** Combined Total Crescent and Traphagen

** Enrollment as of Feb. 1975

* Relocatable classrooms

Source: Board of Education— Business Admin. Office

TABLE 15

ENROLLMENTS BY GRADE

1965 — 1975

BOROUGH OF WALDWICK

Grade	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975 *
K	358	328	367	322	311	326	265	237	231	204	184
1	286	279	271	292	283	297	278	237	217	198	174
2	267	266	262	275	283	267	253	246	215	183	180
3	248	262	250	262	270	301	232	243	244	209	186
4	219	247	241	259	252	273	276	228	236	227	198
5	225	208	241	231	243	257	253	269	221	213	219
Sub Total	1,603	1,590	1,632	1,641	1,642	1,721	1,557	1,460	1,364	1,234	1,141
6	199	213	219	242	222	252	245	246	267	208	210
7	233	203	205	219	248	225	256	241	241	258	202
8	207	236	199	205	202	246	214	243	225	214	239
Sub Total	639	652	623	666	672	723	715	730	733	680	651
9	194	222	220	224	237	228	267	255	264	249	251
10	183	170	183	194	212	231	214	267	243	244	238
11	155	167	162	172	190	209	195	199	236	224	243
12	0	143	153	155	168	210	196	189	185	230	225
Sub Total	532	702	718	745	807	878	872	910	928	947	957
Total	2,774	2,944	2,973	3,052	3,121	3,322	3,144	3,100	3,025	2,861	2,749
Change	—	—	+29	+79	+69	+201	-178	-44	-75	-164	-112

Source: Board of Education—Business Administrators Office

* Enrollment as of February

an old proposal is quite attractive once again. That proposal is that the High School and Middle School sites be merged by moving Hopper Avenue to the east side of the Middle School site, connecting directly to Monroe Street. This would provide the physical space in which to build a new modern Middle (grades 5-8) or Junior High (grades 6-8 or 9) School could be built. It could be designed in a park setting with shared but improved recreational facilities that would compliment and be connected to the municipal and park property north of W. Prospect Street. For example, the school facilities located south of Prospect Street could share practice and multi-purpose fields, parking and a stadium. The complex on the north side of Prospect could provide a civic indoor-outdoor pool complex, tennis center, and more adult oriented recreational facilities which could be utilized by the schools. This would not only improve traffic flow and minimize a accidents at Hopper and Monroe, it would strengthen the facilities and flexibility of the school system as well as foster the linear park concept along the Ho-Ho-Kus Brook.

Enrollment trends for the past ten years are shown on Table 15. While the total enrollment has dropped slightly from what it was ten years ago, the most significant trends can be seen in the last five years . Between 1965 and 1975 enrollment steadily grew to its peak in 1970 . Since then total enrollment has been declining at a rate of about 115 students per year . Since 1965 the High School has continually increased its enrollments each year. It is the elementary schools, most noticably K-5 that have been declining since 1970. The following enrollment projection prepared by the Board of Education shows that these two trends will continue through 1980, with a drop in the High School students starting in 1977-1978.

TABLE 16

ENROLLMENT PROJECTIONS

TO 1980

Grade	1976-77	1977-78	1978-79	1979-80
K-5	1,101	1,076	1,060	1,045
6-8	614	608	584	564
9-12	983	967	968	939
Total	2,698	2,651	2,612	2,548

continued next page ...

Table 16 Enrollment Projections cont.

GRADE	1976-77	1977-78	1978-79	1979-80
K-4	903	890	880	871
5-8	812	794	764	738
9-12	983	983	967	939
Total	2,698	2,651	2,612	2,548

Source: Superintendent of Schools

Analysis of the Board's projections indicates that they fall within a reasonable range based upon anticipated population growth and pupil-population ratios. (See cohort population projection in Table 12) The enrollment projections shown in Table 16 tend to favor the Board of Education moving toward a 4-4-4 system in their efforts to balance the physical plant.

POLICE SERVICES

The Waldwick Police Department consists of 18 men - one chief, one captain, one lieutenant, 3 sergeants, and 12 regular officers. In addition, the force is supplemented by two special patrolmen. The total force is equipped with one unmarked police car and four marked cars. A 24 hour patrol continuously cruises the Borough's 64 miles of public streets, and a foot patrol covers the central commercial area.

To understand the adequacy of this force it is valuable to compare the measure of protection offered in Waldwick to that of other areas in New Jersey. This is best accomplished by determining the ratio of policemen per 1000 population of the community. The current police/population ratio for Waldwick is below 1.43. By comparison with the various classes of municipalities shown on Table 17 several facts emerge. With a population of 12,315 the Borough is included in Class V where the statewide average police/population ratio is 1.72 for similar size towns. The latest unified crime report for the State of New Jersey showed that the State as a whole had a ratio of 2.4 and Bergen County's average ratio was 2.2 for 1973. This illustrates that Waldwick offers less protection in terms of personnel, almost half the manpower averaged by the State. In terms of manpower these ratios indicated that the Waldwick police force is under staffed and should range between 21 to 30 officers based upon the current population estimate.

TABLE 17

NUMBER OF UNIFORMED POLICEMEN PER 1,000 PEOPLE*
IN NEW JERSEY MUNICIPALITIES
1970

Class of Municipality	Polulation Size	Ratio
(Statewide)		2.19
I	100,00 or greater	3.23
II	50,000 - 100,000	1.81
III	25,000 - 50,000	1.94
IV	15,000 - 25,000	1.68
V	5,000 - 15,000	1.72
VI	2,000 - 5,000	1.39
VII	2,000 or less	1.74

* Source: Uniform Crime Reports, State of New Jersey, 1970

These manpower ratios should not be taken to infer efficiency of management, or that the streets of Waldwick are less safe than other parts of the state. For the crime rates for the Borough do not support this. They do point mainly to the fact that certain levels of service can or cannot be maintained. Finally, the often used indices for police efficiency — crime, crime clearance rates, and traffic accidents — are affected by factors external to the quality of police services.

FIRE AND FIRST AID SERVICES:

Waldwick is served by a volunteer fire department of roughly fifty firemen. The force operates from two locations as shown on Exhibit 14. The first company is located within the Municipal Building at E. Prospect and Stanley Streets. The second one is west of the railroad on Wyckoff Avenue at Whites Lane. Operationally each company serves their area respectively, east and west of the railroad.

According to state standards, the adequacy of fire protection is largely dependent upon location of the stations and their service radius. For instance, a generally accepted standard suggests that stations serving predominantly residential areas have a service radius of one and a half miles. Exhibit 14 shows this radius from the existing stations. This exhibit clearly illustrates those areas falling beyond the $1\frac{1}{2}$ mile radius.

The new Whites Lane Fire Station is so centrally located that just about all properties in the Borough are within $1\frac{1}{2}$ miles of the station. This should not be interpreted to mean that the fire station at the Municipal Building is not needed. It would be sound fire protection policy to keep one fire station on each side of the railroad and Franklin Turnpike due to the east-west movement across them. Due to the stringent demands for space at the Municipal Building, the company located there might in time, be relocated toward Route 17 so as to better serve areas on both sides of the highway. This space could be put to good use for expanding municipal offices. Possibly a long term lease could be secured from the State to relocate this station on state owned property

at the Route 17 interchange. This alternative could provide a desirable location and not remove more land from the tax rolls.

Ambulance and emergency first aid service are handled by the Borough's First Aid Squad located in the center of town on the Franklin Turnpike. The First Aid Squad is well trained and equipped with two ambulances housed at the American Legion Hall.

TRASH COLLECTION :

Trash collection for Waldwick's residents is done by a private contractor under contract to the Borough. The cost of collection is provided for in the municipal budget and represents part of each tax payer's assessment. This method is desirable for it provides consistent, Borough-wide trash collections to all residents, which discourages dumping in wooded areas and public parks.

PUBLIC WATER SUPPLY :

One of the most influential determinants in the development of appropriate land use in a community is the availability of a potable water supply and sanitary sewerage. Whether a proposal involves high density multi-family development or low density single-family houses, the provision of an adequate water supply and proper sewerage disposal is essential to both the individual dwelling and the environment.

Waldwick has its own water supply and distribution system. The Borough currently has seven wells in operation, with an eighth which has been tested at 150 gpm but not developed. The seven operating wells have a combined average flow of 1,740 GPM. The Borough currently uses almost one million gallons of water per day.

It was pointed out earlier in the ground water section of the chapter on Physical Characteristics that the Borough is presently pumping water from this formation in a volume which is very close to estimated safe yield of this geologic formation. It is for this reason that the Borough must study carefully the impact the future development will have upon safe operation of the current water system. The Borough should study the safe supply potential and future storage capacity needs.

SEWERAGE DISPOSAL FACILITIES

Waldwick is a member of the Northwest Bergen Sewer Authority. The Authority operates one treatment plant which is located off White's Lane in Waldwick. The Authority's plant was designed upon an ultimate projected Waldwick flow of 1.44 MGD. The actual flow from the Borough is not presently metered. Borough payments to the Authority are based upon projected volume not actual use. Estimates prepared over six years ago projected that the Authority would be called upon to treat approximately 1.16 MGD of sewerage from Waldwick this year. Plans are being made to fully meter the volume from each sending community in the system. Engineers for the Authority state that the plant has been designed with ample capacity to accommodate Waldwick's future growth.

MUNICIPAL BUILDING AND GARAGE

Waldwick's Municipal Building is located at the corner of E. Prospect Street and Stanley Street. In addition to the various municipal offices, the building also houses the police headquarters and one fire company. The building is used for all official, municipal meetings and functions, including the court. While efforts are being made to modernize parts of the building, it remains inadequate for Borough needs. Efficient operation of several departments is hampered by small quarters and poor internal arrangement.

The Municipal Garage is located next to the pool at the corner of W. Prospect Street and Hopper Avenue. The Borough's Public Works and road equipment are housed on this site.

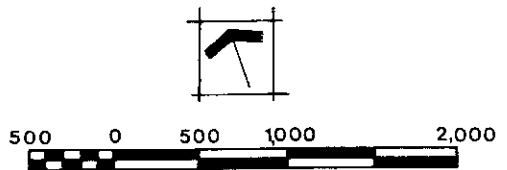
RECREATION FACILITIES

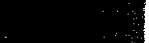
Of the 117 acres of public land that exist today in the Borough, only 7.7 acres are developed for park use. The largest improved tract is Veteran's Park (3.7 acres) on Yvonne Street and Lindberg Parkway. Next in size (3.0 acres) is the W. Prospect-Hopper site which accommodates a municipal pool and garage. There is also a neighborhood park located off Charles Terrace. While there are several other small scattered parcels throughout the town, such as vacant lots and traffic islands, none of these have been improved for use.

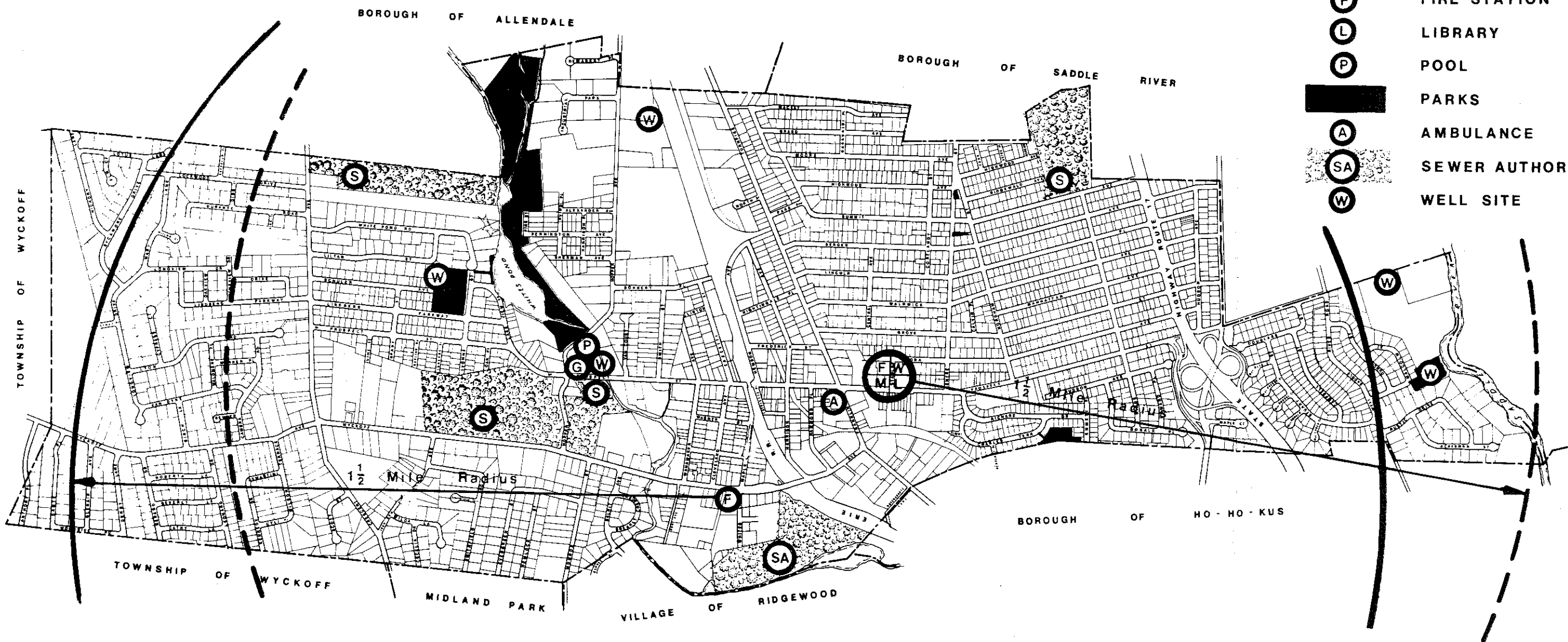
Exhibit 14

EXISTING COMMUNITY FACILITIES

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



-  SCHOOL
-  MUNICIPAL BUILDING & POLICE STATION
-  MUNICIPAL GARAGE
-  FIRE STATION
-  LIBRARY
-  POOL
-  PARKS
-  AMBULANCE
-  SEWER AUTHORITY
-  WELL SITE



WILLIAM J. NIESEN - PLANNING CONSULTANT
Ocean, New Jersey 07712 / 201-922-1445

The single largest recreational resource is the 38 acre White's Pond tract. The only facilities that have been developed on this parcel are the two Little League fields and the police pistol range. Currently, White's Pond is being dredged -- thus expanding the potential of more intense development of this area. The major active recreation facilities of the Borough have been developed as part of school sites.

Possibilities exist for two potential great recreational complexes within the Borough. Waldwick has applied for Green Acre funds to acquire those lands west of the Saddle River located in the flood plain. The proposed Saddle River Park would provide sufficient area to develop several ballfields, some large multi-purpose play areas, picnic grove and nature learning center. The acquisition and development of the Ho Ho Kus Brook Linear Park would tie together the White's Pond complex with the pool and the Middle and High School sites, with additional R.O.W. acquisition along the flood plain of the Brook down to the Sewer Authority site.

For the first time this year Green Acres will also provide funds for park and open space development in addition to acquisition. This has been made available by last year's passage of a change in the Green Acres Law and a new bond issue. Green Acres will provide 50% of the funds needed for acquisition and development. The Bureau of Outdoor Recreation (B.O.R.) under certain conditions will fund all or part of the remaining 50% of project costs. The Bergen County Planning Board and the County Park Commission have long advocated the acquisition of stream and river front easements for integration into the County Park system, for drainage control and alleviation of flood hazards due to development encroachments.

LIBRARY FACILITIES

Waldwick's public library is located next to the Municipal Building on E. Prospect Street. The library is operated by the Library Association which is a private, non-profit organization which depends on the goodwill of the Borough for financial support. In addition, funds are raised through private donors. See Table 18 for the national and State Library Standards recommended for communities of comparable size.

TABLE 18

COMMUNITY LIBRARY STANDARDS
(based on an estimated 1974 population of 12,600)

	National (American Library Association)	New Jersey State Library
Hours per week	45 - 66 hours	45 minimum hours
Size of collection	25,200 volumes (2 volumes per capita)	12,600 volumes (1 volume per capita)
Number of titles purchased annually		1,260 approximate (1 volume per 10 persons)
Linear feet of shelving	4,200 l.f. (1 linear foot per 3 persons)	
Number of magazines and newspapers received annually	78 - 100	75
Staff	2 professionals 4 clerical (1 professional & 2 clerical per 6,000 population)	5 full-time employees
Readers seats	52 (40 seats plus 4 per 1,000 population over 10,000 population)	
Total space	8,820 sq. ft. (.7 sq. ft. per capita)	8,560 sq. ft. (7,000 sq. ft. plus 6 sq. ft. per capita over 10,000 population)

Source: Standards Committee of Public Library Association, American Library Association, Minimum Standards for Public Library Systems, 1966.
Chicago: ALA, 1967.

Public and School Library Services Bureau, New Jersey State Library,
Rules and Regulations, State Library Aid Act, Trenton, New Jersey:
New Jersey State Library, December, 1969.

Development Plan

PART III

THE DEVELOPMENT PLAN

INTRODUCTION

The Plan

A comprehensive analysis of existing conditions and trends relating to the development of the Borough has been made in the foregoing Part I of this report. The purpose of this analysis was to assess the future needs of the Borough and provide the data base for a comprehensive plan for future development.

The term "Development Plan" is used here to mean that the plan encompasses all functional elements that bear on the development of the community. There are three basic parts of the plan : 1.) a Land Use Survey; 2.) a Circulation Plan; 3.) a Community Facilities Plan.

The Development Plan that is presented here was formulated after careful analysis of all the data and consideration of the best interests of the Borough and its citizens. The Planning Board and its consultants have considered and evaluated various proposals. The resulting plan reflects desirable relationships between various urban activities with due consideration for social and economic implications.

A Development Plan is the Planning Board's official statement of community policy concerning the physical development of the Borough. While the plan attempts to reflect the development goals of the community, it is not intended to be an inflexible document. But rather, it is to be a general guide for desirable growth. Most importantly, the plan should serve the Planning Board, Borough Council, and the Board of Adjustment as a guide for establishing development policies and for processing applications and matters before them. It is intended to be used by both town officials and private citizens whose development decisions will shape the future of Walldwick.

The importance of the Development Plan lies in its ability to coordinate public and private actions on an identified overall development policy. Sound planning and timing of governmental actions should encourage and promote desirable development patterns and not rely entirely upon regulations to produce desired ends. In some instances the Development Plan proposals look beyond immediate feasibility. Not all the proposals will necessarily be initiated at this time since they represent long-range future planning. In some instances, the proposals are related to other accomplishments such as new roads and rezoning.

It must be remembered that while the Development Plan sets forth the best community thinking at a particular point in time, it is but part of the "continuous planning process". To remain viable in the public eye, major changes will occasionally be made to deal with new situations which arise. Moreover, with each successive revision of the plan, it should be expected that the development policies and goals will be brought into sharper focus.

General Objectives

The establishment of general policies and objectives for community development is an important aspect of the Development Plan. Through the use of sound goals and guidelines, each development proposal can be evaluated and properly related to community needs as set forth in the Plan. The Plan seeks to attain the following general objectives:

- 1.) To establish the proper relationship between different land uses.
- 2.) To promote safe and convenient traffic circulation.
- 3.) To provide ample public facilities throughout the Borough in relation to existing population concentrations and anticipated ones.

LAND USE PLAN

INTRODUCTION

The Land Use Plan is concerned primarily with proposals for future private development of land for residential, commercial, and industrial purposes. It will provide day-to-day guidance for the Planning Board in their deliberations on applications before them as well as planning Waldwick's future.

The pattern of the future land uses in Waldwick is designed to serve as a guide to both private developers and public officials. By knowing what the Borough's plans are for various areas, private developers can act accordingly - coordinating their plans with those of the areas as a whole. On the other hand, the land use plan is an even more essential guide for public officials, who must make almost daily decisions affecting the Borough's future. New street improvements, schools, parks, and other public facilities are too costly to be placed haphazardly.

The Land Use Plan represents the goals and ideals of a community and consequently contains a combination of both existing patterns of development and future proposals for land use. Thus it is a means of recognizing existing conditions and using them to adopt long range goals and objectives. To the extent that Waldwick is developed the Land Use Plan must accept certain facts.

The major objectives of the Land Use Plan are:

- 1.) To provide compatible relationships among residential, commercial and industrial land uses.
- 2.) To provide a diversity of housing for its residents.
- 3.) To develop land uses which will strengthen Waldwick's economic base.

MAJOR LAND USE ISSUES

The future land use issues which will confront Waldwick are urban in nature, for Waldwick has developed all but 6% of its land area. Effecting change where required, upon already developed private property is vastly more

complex than effecting change on undeveloped real estate. It is then that public desire for change is frustrated by its own limited ability.

During the next decades Waldwick residents and their public officials will be pressed to respond to:

- Re-use and development of declining areas
- Pressure to increase residential density and develop new modes of housing currently not existing in the Borough
- Traffic and parking problems associated with the central business area
- The impact future industrial and commercial development will have upon Waldwick's basically residential character.

The following Land Use Plan has endeavored to address these and many other issues in a manner that will provide reasonable alternatives for orderly growth and development.

PROPOSED LAND USE DISTRIBUTION

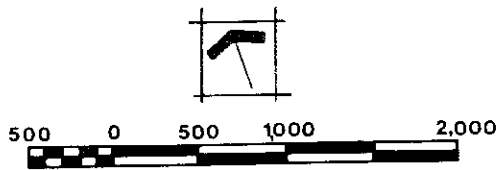
The following table summarizes eight classifications proposed in Exhibit 15.

APPROXIMATE ACREAGE OF PROPOSED LAND USE CATEGORIES

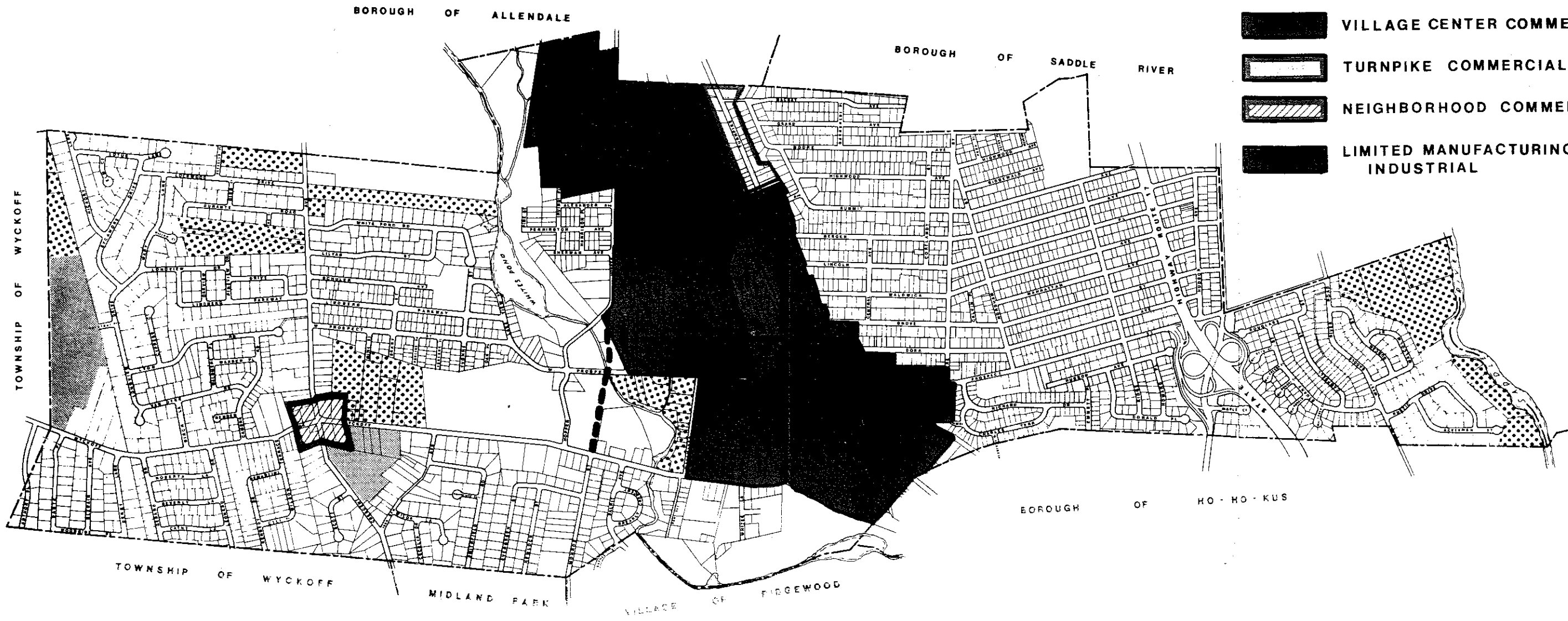
<u>District</u>	Approximate	
	<u>Acres</u>	<u>%</u>
Low Density Residential	964	73
Medium Density Residential	28	2
Village Residential	83	6
Cluster Single Family	99	7
Village Commercial	65	5
Highway Commercial	8	1
Neighborhood Commercial	7	1
Limited Manufacturing	60	5
Total		100

LAND USE AND HOUSING PLAN

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



-  LOW DENSITY RESIDENTIAL
-  MEDIUM DENSITY RESIDENTIAL
-  VILLAGE RESIDENTIAL
-  CLUSTER SINGLE FAMILY RESIDENTIAL
-  VILLAGE CENTER COMMERCIAL
-  TURNPIKE COMMERCIAL
-  NEIGHBORHOOD COMMERCIAL
-  LIMITED MANUFACTURING-INDUSTRIAL



The outstanding difference between the existing and proposed land use pattern is that the latter provides a greater array of housing choices with an effort to promote new and more extensive development in the non-residential uses districts.

Residential Uses

Four categories of residential use are illustrated on the Land Use Plan. Between the four residential areas, a variety of housing types and densities are provided for. The Housing Plan considers the need for different housing and development techniques and will provide for different housing opportunities within the zoning ordinance. The different densities and types of housing to be established are based upon existing development, accessibility by public transit and prevailing physical conditions in the area.

The Low Density Single-Family Residential Area covers the greatest portion of the Borough. For the most part, this area incorporates what is now included in the R-2 and R-3 Residential Zones. It is intended that any new development that takes place in this area be at the same density as now required in the R-2 Zone. The residential density of this area is intended not to exceed three dwelling units per acre. Most of this area has already been developed with the exception of a few larger parcels. Those deemed suitable for cluster development are shown and will be permitted a development option to reduce lot sizes under Cluster Development standards.

The Medium Density Residential Areas are intended for apartments as well as single-family residential use. This use category has been designated in two areas. They include the existing senior citizens town house development on Wyckoff Ave. at the Borough line and the property between Crescent and Wyckoff Avenues just north of John Dow Avenue. Residential densities for multi-family construction in this area will be between 6 and 10 dwelling units per acre.

The Village Residential Area covers the central portion of the Borough on both

sides of the railroad between the industrial and commercial districts. This area incorporates most of the property zoned R-4. This district was devised to upgrade and preserve the charm of the earliest village settlement of the Borough. This area is characterized by mixed commercial, industrial, and older residential use, some combined all on one property. The proposed residential density of this area does not exceed the twelve dwelling units per acre which currently exists. (The two family homes on a 7500 square foot lot) Special provisions will pertain to the Village Residential Area to insure compatible future development. The permitted uses in this area will include single family homes, the conversion of single family homes into two family homes, the construction of two family dwellings, planned residential developments, home occupations and limited expansion of existing businesses and industrial operations.

The Cluster Single-Family Residential Areas are located on the Land Use Plan to provide a development option for specific locations within the Low Density Single-Family Residential Districts - allowing for a reduction in the minimum lot size. The essence of the "Cluster" or "Open Space Zoning" concept is to provide open space for recreation areas, green preservation, and public purposes. This is achieved by reducing the minimum lot sizes for a major subdivision while maintaining the same density and overall number of lots permitted for the tract. The surplus gained from all the smaller minimum lots becomes public open space. The use of cluster development offers several advantages to both developer and the Borough. The developer benefits through reduced length of road and utility improvements and increased saleability of lots because of convenient open space. The Borough benefits through the acquisition of an open space at no cost, little if any difference in total ratables, reduced road maintenance costs and no basic change in density or neighborhood character.

Several of the conditions required for cluster development would be as follows:

- 1.) Limitation to major subdivisions of a specified size.
- 2.) Agreement by the Planning Board that a particular property is suitable for cluster zoning.

- 3.) Mutual agreement on the area of the parcel to be dedicated for public use.
- 4.) Dedication of a specified minimum area .
- 5.) Specified limitation on the amount of lot size reduction, generally not to exceed 20%.

Commercial Uses

The Land Use Plan includes three categories of commercial use as opposed to the two categories now provided for in the Zoning Ordinance. The Village Commercial Area enlarges slightly on the existing "B" business zone. This district is intended to be the largest and main commercial center of the Borough. The enlargement of this area east of the Franklin Turnpike is based upon the extension of Wyckoff Avenue through to E. Prospect Street. The uses allowed in this area will include: retail sales and services, general offices, theatres, restaurants and shopping centers.

The Highway Commercial Area is the new commercial area proposed. It is located along both sides of the Franklin Turnpike just north of North Street. This district has been established based upon existing land uses and travel patterns with the intent to confine the "strip" development along Franklin Turnpike. The type of uses included are: retail sales such as hardware, furniture, appliances, garden supplies, sporting goods, paint, pets and hobby equipment; as well as restaurants, car washes, banks, auto service stations and new automobile sales.

There is one Neighborhood Commercial Area proposed for the four corners of Wyckoff and Crescent Avenues. The proposed Neighborhood Area is slightly larger than the present "BL" zone. It is intended to serve the convenience needs of the immediately surrounding areas. The types of uses include: grocery store, delicatessen, meat market, luncheonette, drug store and newspaper and magazine stores. Local services such as barber and beauty shops, coin operated laundries and branch banks are also included.

Industrial Uses

The Limited Manufacturing Area reflects a consolidation of some of the current "I" zone. This area is delineated based upon existing industrial - manufacturing use in the area, with the inclusion of one contiguous area on the west side of Hopper Avenue to allow for expansion and the construction of new industries. Emphasis is placed upon the use of industrial performance standards to define allowable uses. The area will include: non-intense forms of manufacturing, warehousing and building material sales and storage that will not have adverse affects upon nearby residential development.

LAND USE PLAN AND ZONING

Often the Land Use Plan is construed to be synonymous with the Zoning Map - this should not be so. The Land Use Plan is intended to provide a long-range comprehensive view of the entire community. It is intended as a guide to aid decision making concerning specific proposals. Its proposals are broad in scope with the specific controls being set forth in the Zoning Ordinance. Its proposals sometimes look beyond immediate feasibility. While the Zoning Ordinance may not immediately reflect all of the objectives of the Plan, it is expected that gradual changes will be made over a period of years, which will bring the zoning controls and the Plan into closer harmony. The zoning ordinance should represent a means toward this end objective.

CIRCULATION PLAN

INTRODUCTION

One of the most demanding problems in any community is meeting its current and future transportation needs. The street system provides for traffic movement which enables people to meet, conduct business, transfer goods and use their leisure time. Therefore, plans for vehicular and pedestrian movement through the Borough are of special interest and public concern.

The Circulation Plan represents a coordinated system of highways, streets and roads designed to carry present and future traffic volumes safely throughout the Borough. Due to the developed nature of the Borough, drastic changes to its street system are precluded. Therefore, the Circulation Plan places emphasis upon the improvement of the existing street pattern and proposals that will substantially improve the functioning and efficiency of its streets and circulation.

The major goal of the Circulation Plan is to provide for an efficient pleasant, safe transportation system in the Borough. The Circulation Plan is based upon the following objectives:

- 1.) To improve the movement of people and goods within and through the Borough.
- 2.) To separate local traffic and through traffic as much as possible.
- 3.) To minimize unrelated traffic in residential areas.
- 4.) To provide better access to commercial, industrial and residential areas.
- 5.) To reduce the number of hazards and potential accidents on all streets.

STREET FUNCTION

The Circulation Plan delineates those streets which fall into one of three functional classifications — arterial, collector and local. With the exception of East Prospect Street and State Highway 17, all arterial streets shown are County roads.

Within a street system there exists a hierarchy of roads in which local streets feed the collectors, collectors feed the arterials and the arterials feed

highways. For example, highways connect cities, arterials connect communities, collectors tie together neighborhoods and local streets provide access to real estate.

Arterial streets are used primarily for heavy volumes of fast moving traffic proceeding between communities, distant points or commercial and industrial centers. Collector streets carry traffic from local streets to the major system of arterial streets and highways. Local streets are those which need be entered only for stopping at a destination on that street, and need not be used for general traffic circulation through the Borough.

MAJOR STREET PROPOSALS

The Circulation Plan sets forth several major improvement proposals as follows:

Connection of Wyckoff Avenue and New Jersey Route 17

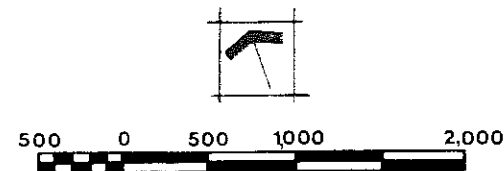
Exhibit 16 shows the construction of approximately 900 feet of new roadway extending Wyckoff Avenue to East Prospect Street in the vicinity of Centre Street. This proposal recommends that upon completion of the new connector road, that East Prospect Street be taken over as a County road. This project should be undertaken jointly by the Borough and the County. The project's purpose would be to construct the final link in a 20 mile road network connecting State Highway 202 and Route 17. The justification for this proposal would be the elimination of the present indirect route between Wyckoff Ave. and Route 17, which causes considerable congestion and high accident rates on Franklin Turnpike.

This is a long range proposal and can be accomplished only through cooperation with the County and State. Therefore, meetings with the County and State should be initiated as soon as possible to secure funding and a right-of-way alignment commitment.

Second Railroad Crossing

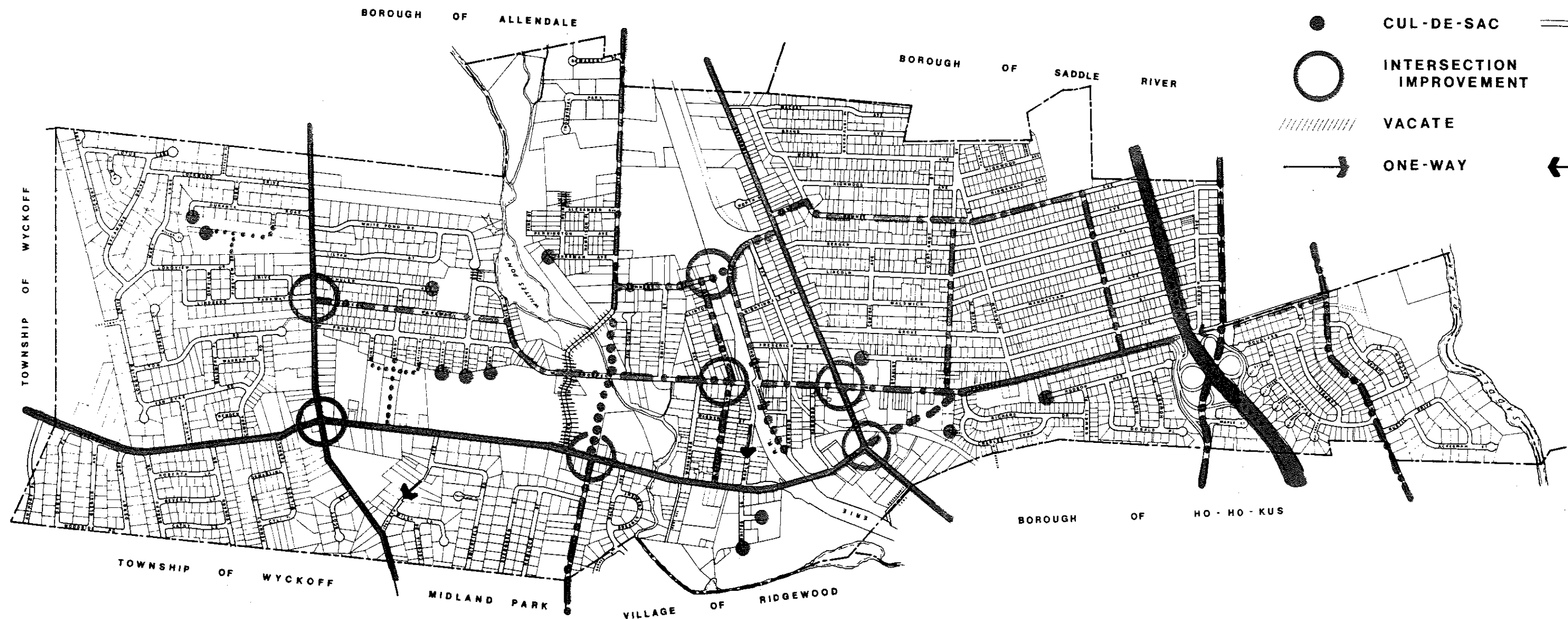
Due to recent difficulties, it has become necessary to secure a second crossing

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



CIRCULATION PLAN

PROPOSED	EXISTING
ARTERIAL	
COLLECTOR	
LOCAL	
CUL-DE-SAC	
INTERSECTION IMPROVEMENT	
VACATE	
ONE-WAY	



of the railroad which divides the Borough in half. The bridge closing this year, when residents had to drive outside the Borough to get from one side of town to the other, underscored the urgency of this problem. There are two possible crossing points - Prospect Street and Bohnert - Hewson. At Prospect Street there is a pedestrian crossing bridge and an old abandoned pedestrian tunnel which could complicate the crossing. The Circulation Plan opts for the Bohnert - Hewson crossing because it could be readily accomplished with a grade crossing, at the least cost. Again, this is a long range project requiring the co-operation of and approval of State and Railroad officials. A formal proposal should be made as soon as possible.

Hopper Avenue Alignment

It is proposed that Hopper Avenue south of Bohnert Place be re-aligned to connect with Monroe Street. Each road is experiencing annual increases in the inter-municipal traffic volumes. The present circuitous alignment of the roadway, the short intersection offset on Wyckoff Ave., and the division of Board of Education property are all contributing factors for this proposal.

INTERSECTION IMPROVEMENTS

Several of the Borough's intersections require careful study to improve safety and alleviate congestion.

Wyckoff - Franklin

This, the busiest intersection in town, requires R.O.W. improvements to allow better channelization of traffic. County improvements are presently planned.

Prospect - Franklin

This intersection has experienced the most accidents. Partial improvements have been initiated on one corner, but have not been completed. For over a year, a telephone pole has remained well within the road. The County should move quickly to complete its total widening and channelization plans.

Wyckoff - Crescent

The intersection should be widened as planned. Driveways to new commercial development should not be within 150 feet of the intersection.

Wyckoff - Monroe - Hopper

The present offset intersection is very hazardous. Re-alignment and signalization should be undertaken.

Prospect - Cleveland

Minor adjustments in the alignment at one corner would resolve most problems.

MINOR STREET PROPOSALS

Most of the proposals relating to local streets involve the connection of existing streets to improve circulation or the creation of cul-de-sacs on non-through streets. There are several locations where streets have ended with no provision for turnarounds.

STREET VACATIONS

When streets serve little or no purpose, it is recommended that they be removed from the official map. Right-of-ways not needed for traffic purposes can be returned to productive use in two ways : vacation and street closing. If the street is not needed and there is no public interest in the R. O. W., the Street should be "vacated", which returns equal amounts to the adjoining property owners. However, if there is a public interest in the R. O. W. for say a park or recreational purposes, the street should be "closed" thus prohibiting through traffic while retaining public ownership.

ONE-WAY STREETS

The Circulation Plan proposes certain one-way streets. In most instances this technique is used where streets are quite narrow and widening is impractical. Where random or uncontrolled access to narrow streets, exists such as in commercial areas, traffic flows can be improved with greater safety by one-way street movement.

STREET WIDTHS

Under the analysis of " Existing Road Function" contained in Part I, recommended street cross-sections were set forth in Exhibit 8 (page 54). Shown in this exhibit are desirable right-of-way and pavement widths for both present and future arterial, collector, and local streets. There are numerous variations on the four schemes illustrated depending upon whether or not you permit street parking on one or both sides of the street. Exhibits 8 (Street Cross Sections - page 54) and 13 (Sight Triangle Easements - page 64) contained under earlier section entitled " Future Traffic Improvements " should be adopted as part of the official Circulation Plan.

RAILROAD IMPROVEMENTS

Plans have been finalized for a new railroad station and a 175 car commuter parking lot. These new facilities coupled with the proposed " skip stop " schedule improvements will enhance both local and area residents' access to good commuter mass transportation. There are no known proposals affecting freight service that would detract from the excellent service presently afforded Walldwick's industrial areas.

Development around the new railroad station should focus on making it a " commuter center " including facilities for buses and taxis . Office development should be encouraged to take advantage of these transportation facilities. Special efforts must be made to include the new railroad station as an interesting part of the " Village Center" so it does not become just an " out of the way " place at the commercial edge. Development in the Village Center should be designed to stimulate and encourage pedestrian movements through the area and discourage the use of automobiles to go from one store or block to another.

AMENITY IMPROVEMENTS

While the Circulation Plan principally focuses upon improving traffic movement, it must also relate the street right-of-ways to the adjoining land use. This is best done by giving streets a " sense of place " through the use of

street furniture and amenities. For example, outside of the downtown area the planting and maintenance of shade trees, by a Shade Tree or Environmental Commission, gives the streets a desirable sense of residential and rural America quality. In the downtown area a more intensive use of coordinated street furniture such as: trash receptacles, benches, lights, plantings, good signs and even street murals contributes to a "sense of place" and creates a desirable image for the Borough and its parts. For instance, one portion of the business community may wish to create a special identity through the creation of attractive pedestrian ways and special street lighting or furniture. If not financed independently by the merchants, a special tax district could be established.

The care and attention the Borough gives to the selection of amenity improvements for its streets system will immediately be noticed and distinguish it from all other towns. The purpose of amenity improvements is to make the streets exciting and pleasant.

COMMUNITY FACILITIES PLAN

INTRODUCTION

The Community Facilities Plan shows the location of land and facilities within the Borough which should be devoted to public use. The Plan shows both existing and proposed facilities located to best serve Waldwick residents. Within the confines of the existing development pattern, facilities and services were placed according to population distribution.

The elements of the Community Facilities Plan are protected through their inclusion in the Official Map. Implementation of the Plan must be programmed in the Capital Improvements Program. Waldwick's Community Facilities Plan is based upon the following objectives:

- To provide an ample amount of public facilities and services conveniently located to serve all the residents.
- To provide a variety of recreational, cultural, and educational opportunities for Borough residents.
- To promote the health, safety, and welfare of Waldwick residents by providing proper utilities and services.

EDUCATIONAL FACILITIES:

It is recommended that the Borough's policy of joint school-park-playground combination be continued. This will provide the major recreational areas that are essential to most neighborhoods, deriving economies by eliminating duplication of facilities.

As covered in the Background Studies (page 67-71 and Table 14), the Middle and High School sites are 19 acres below the State recommended size. This site deficiency can not be simply resolved. However, the re-location of Hopper Avenue, resulting in the merger of the two school sites will help provide broader flexibility in the use of the land and economies from some shared space. Additional lands required could be secured from the current intersection of Prospect and Hopper Streets and a westerly expansion of the High School boundary. The proposed

cluster development area west of the High School should be designed to provide open space that could be included in the " educational park " .

Waldwick's school plant, while adequate at present, will require future attention. The future elementary school age population distribution west of Franklin Turnpike will strongly influence whether or not Traphagen School will have to convert its "temporary" classrooms into permanent space. Eventually the present Middle School will have to be replaced. At that time additional public land should be available to implement this idea of an " educational park".

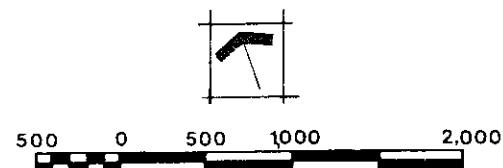
A site plan detailing educational and recreational improvements should be developed jointly by the Borough and the Board of Education as a Master Plan for development of the Ho-Ho-Kus Brook (Whites Pond) Linear Park and the Educational Park system. Property acquisition should be programmed over a long period of time, securing parcels given highest priority according to the Park Master Plan. Key parcels will possibly have to be condemned for acquisition in order to maintain a development schedule. Others may be obtained later on as development conditions change (i.e. as gifts or bequests; homes totally destroyed by fire etc. should not be allowed to be re-constructed in order that the land might be purchased by the Borough.)

OPEN SPACE AND RECREATION FACILITIES:

The Community Facilities Plan focuses the Borough's open space needs into the categories of parks and playgrounds. There are three principal parkland additions proposed along with several playgrounds to be conveniently located to serve the neighborhoods.

Playgrounds are the principal outdoor play centers of the neighborhoods. Playgrounds should be designed and equipped to meet the active recreational needs of each neighborhood. They can range in size from a 2000 square feet "tot lot" intended for pre-school children under parental supervision to a five acre area including "tot lot" , playground, basketball or tennis courts, and ball fields. Due to the developed nature of Waldwick, playgrounds have been proposed mostly in neighborhoods which still have some development potential. When possible, cluster development should be encouraged to provide open space for neighborhood

BOROUGH OF
WALDWICK
BERGEN COUNTY, N.J.



COMMUNITY FACILITIES PLAN

PROPOSED

EXISTING



SCHOOL-PLAYGROUND

PLAY-GROUND

MUNICIPAL BUILDING-
POLICE STATION

FIRE STATION

LIBRARY

GARAGE

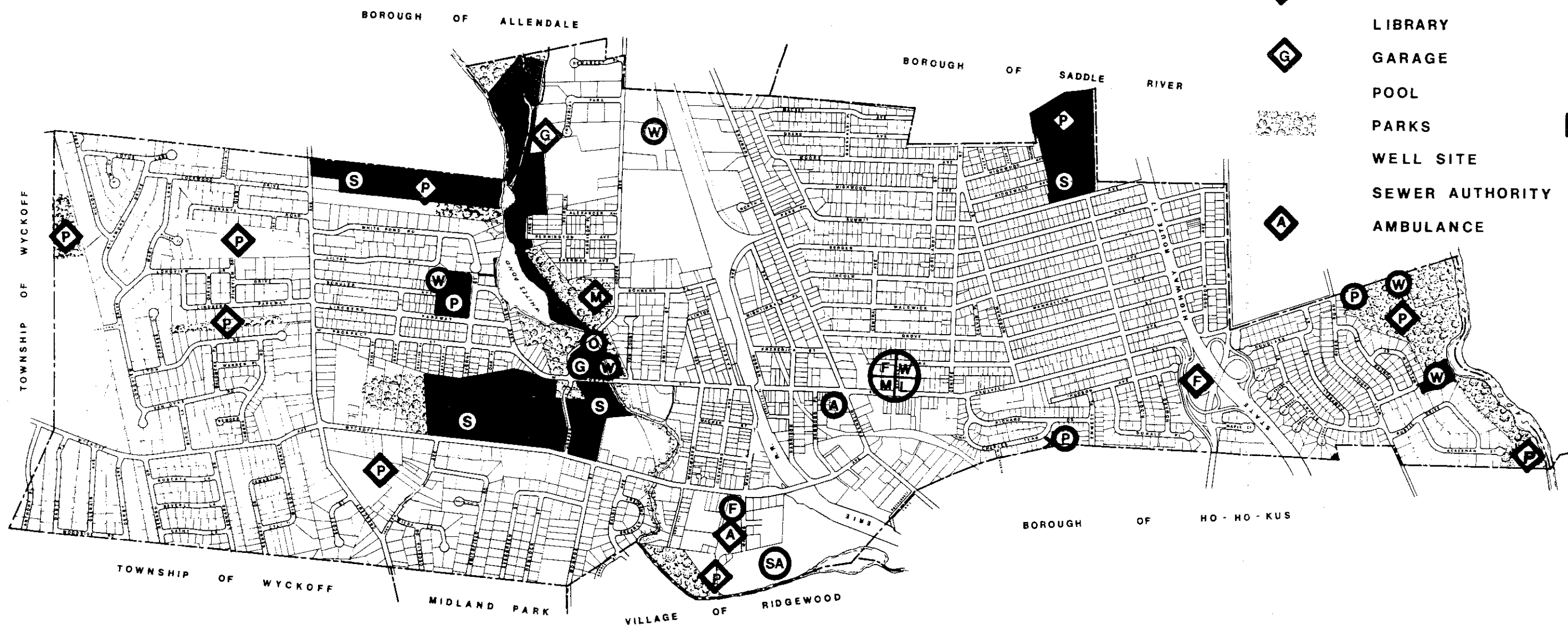
POOL

PARKS

WELL SITE

SEWER AUTHORITY

AMBULANCE



WILLIAM J. NIESEN - PLANNING CONSULTANT
Ocean, New Jersey 07712 / 201-922-1445

LIBRARY FACILITIES:

Due to small population growth projected , the library site is considered adequate. Growth in the demand for library service in a community the size of Waldwick could best be served by a book mobile or auxiliary services provided at the High School library during evening and weekend hours.

IMPLEMENTATION

INTRODUCTION:

A Master Plan is effective only to the degree to which it is used to guide action. The Plan sets forth long range objectives which if used to guide short range actions, can yield significant benefits for the entire community. As pointed out in the beginning of this report, the completion of this Master Plan is not the end of the planning program but only one of its intermediate stages. The Master Plan is a start. Action by Borough Officials must follow to insure that the potentials and prospects envisioned in this plan are realized.

The Master Plan is primarily a guide to the Planning Board and Borough Council for establishment of a framework with which to review necessary public improvements and proposals for private development. On the other hand, the tools required to implement the Development Plan are not guides, but local laws which should reflect this Plan. It is strongly recommended that the long range concepts embodied in the Development Plan not be implemented all at once, but over a period of years as the need arises.

ADOPTING THE MASTER PLAN:

New Jersey statutes provide for the adoption of all or part of the Master Plan by the Planning Board following a public hearing. The Master Plan can also be amended from time to time as the need arises, but only after a public hearing. Adoption of the Master Plan is the function of the Planning Board alone and requires no further action by any other public body.

Due to the long range nature of the many proposals in the Master Plan, its implementation will fall under the leadership and direction of many different individuals who are not part of today's official family. It will be the Planning Board's responsibility to provide the proper continuity of community development objectives and to maintain its integrity in administration of its statutory planning functions.

EXPENDITURE OF PUBLIC FUNDS:

New Jersey statutes (40:55 - 1.13) provide that following the adoption of the Master Plan any public agency proposing a project requiring the expenditure of public funds must submit a proposal to the Planning Board for its review and recommendation. The Planning Board is obligated to comment within 45 days, during which time the requesting agency must defer taking any action. The purpose of this portion of the planning statutes is to provide coordination through the Planning Board of public agency proposals relating to the Master Plan prior to agency implementation. In commenting on a proposal that does not conform to the Master Plan, the Planning Board can either disapprove the proposal or consider the proposal more valid than the Master Plan and amend the Plan. To over-ride the Planning Board's recommendations , the agency must refer the matter to the governing body which must then pass the proposal by a majority vote.

RESERVATION OF LAND FOR PUBLIC USE:

State planning statutes (40:55 - 1.20) provide that the Planning Board may require subdivision proposals to show streets and drainage R.O.W. to conform in design and width to those in the adopted Master Plan. Sites for schools, public facilities, parks or playgrounds shown on the Master Plan within the vicinity of the proposed subdivision may be reserved for a period of one year after the final plot approval to enter into a contract to purchase or institute condemnation proceedings.

ZONING AND SUBDIVISION ORDINANCES:

Waldwick's most important instrument for development control and implementation of the Master Plan is the Zoning Ordinance. Zoning regulates three principal aspects of development: 1.) the use of land and buildings; 2.) the intensity of development; and 3.) the provision of off-street parking and other supportive facilities. A separate document forming the basis of an entirely new Zoning Ordinance is being studied by the Planning Board.

The Land Subdivision Ordinance contains design standards regulating the development of land. The Subdivision Ordinance places emphasis upon the proper construction of streets, utilities, curbs, and sidewalks, street lighting, and their effects upon traffic and storm water runoff. A review of the Borough's Subdivision Ordinance indicates that it can provide effective control over new development with no major revisions at this time.

OFFICIAL MAP:

The Official Map is another legislative control made available to the Governing Body under the Official Map and Building Permit Act of 1953 for implementation of the Master Plan. By State Statute (40:55 - 1.32) the Official Map is a definitive document with respect to the location and width of streets, drainage rights-of-way, and the location and extent of public parks and playgrounds, whether existing or proposed. It contains a provision similar to 40:55 - 1.20 regarding the one year reservation of land. The second feature of the Official Map (40:55 - 1.38) prevents the erection of buildings in the bed of mapped streets or drainage rights-of-way.

CAPITAL IMPROVEMENT PROGRAM:

The annual preparation of a six year Capital Improvement Program is one of the Planning Board's most important functions. Capital Improvement planning is a process of coordinating public needs with private development. It insures that community needs are met at its convenience rather than through emergency appropriations. A Capital Improvement Program is simply a common sense way of seeing that needed improvement is made on a timely basis at the lowest cost to the community. It is a complex process which tries to foresee public needs and match them up with available funding sources, while setting up a system of priorities so that proper development may proceed.

Instinctively most tax payers want to keep property taxes as low as possible, regardless of what does not get done as a result. However, it must be remembered that essential public service must be provided and sooner or later paid for.

The need for improvement can not be eliminated merely by failing to appropriate funds. The Capital Improvement Program should be used as a guide in the preparation of the annual budget.

BUILDING, HOUSING, AND PROPERTY MAINTENANCE CODES

Building and Housing Codes are needed to assure that building occupancy and construction meet minimum standards. A building code establishes minimum requirements for building construction and safety, based on authoritative technical research, so that occupants and users of all buildings are assured protection of the minimum conditions under which existing and new buildings or parts of buildings may be occupied for residence purposes. Included within the framework of such a code are minimum standards governing space per occupant, required basic sanitary equipment and facilities, light and ventilation, structural conditions of the buildings, heating equipment, and safe and sanitary maintenance of the building structure and installed equipment and facilities. A Property Maintenance Code is utilized in order to prevent the continuance of substandard residential or non-residential structures as well as accessory structures or the possible creation of new blighted structures. It establishes a level of property maintenance in keeping with the standards of the neighborhood. It would include standards applying to landscaping, signs and billboards, windows, store fronts, awnings and marquees, cleanliness of the premises, storage of refuse or other materials, and other general building exterior qualities.

CONTINUING PLANNING

Conducting and administering, the functions of the Planning Board are time-consuming jobs. Since statutes state the class four (private citizens) members of the Planning Board can not be compensated for the valuable time they devote to this important Borough business, the Borough may find it necessary to obtain professional assistance and technical advice on planning matters. Limited funds are available from the State through the State Continuing Planning Assistance Program to help the Borough meet its continuing planning responsibilities.

Appendix

STANDARDS FOR COMMUNITY FACILITIES

EDUCATION FACILITIES

General Standards

The school should not be viewed merely as a center of education for children. It should also be the site of social, cultural, and recreational activities for the whole community. A school system's good reputation is vital to attracting new families to a community. The Planning Board should carefully consider the location and capacity of the existing school facilities against future needs when developing their community facilities plan. School needs should be programed along with other facility needs in a capital improvements spending program. Measuring enrollment trends and school capacities against commonly accepted standards will enable the Planning Board to assess the adequacy of the existing school plant and its role in community activities.

Before any action is taken to acquire land for new or expanded school facilities it is recommended that the consultation services of the Bureau of School Planning Services in the Department of Education be requested. This preliminary step will insure a thorough investigation of the various factors affecting school site location. This action will also facilitate the later approval that is required from the State Department of Education. This approval should help create a favorable reaction among voters when a referendum is required.

The following guidelines for elementary, junior high and senior high schools were issued by the New Jersey Department of Education in their publication "Guide for Schoolhouse Planning and Construction" as amended in 1971 and 1972.

Elementary Schools

An elementary school should be the center of interest and activity for each individual neighborhood. The elementary school should serve a neighborhood of about one square mile if it is composed of low density residential areas. An adequate school plant should have ample administrative office space, separate space for remedial instruction; special activities like art, music, or gym; a teachers' rest room; cafeteria; library; general purpose room or auditorium as well as academic classrooms. Because of increased awareness of the need for off-street parking for staff and visitors, increased services and recreational areas, the site requirements for elementary schools have been raised from five acres minimum to ten acres minimum with an additional acre for every 100 students enrolled. An extra 3 or 4 acres may be added if special neighborhood recreation or sports facilities are desired.

Because of their central location, elementary schools can also function as neighborhood centers for social, cultural and educational activities. Summer day camps and special recreation programs can make use of these facilities after school hours.

An elementary school can serve 300 to 500 pupils. The exact number will fluctuate according to the growth of a community. Student safety while traveling to and from school should be given special consideration. Major streets with high volumes of fast moving traffic should serve as the outer limits of residential neighborhoods served by elementary schools.

Junior High Schools

Traditionally an intermediate school or junior high houses grades 6 through 8. It provides a transitory stage between the one classroom teaching characteristic of the elementary school and the various schedules and change of classroom found in the High School. An intermediate school should serve approximately 500 to 750 students or four residential neighborhoods. The actual service area will vary according to the population density of the area. Intermediate or junior high school site requirements are generally set at a minimum of 20 acres plus one more acre for each 100 children because of the higher demand for recreational space by these older students. As with the elementary school, it is desirable to use the school facilities year-round for recreational, social and cultural purposes.

Senior High Schools

In a school system with an intermediate school, the senior high serves grades 9 through 12. Because older children can travel farther, the service radius for a senior high school is not as important a factor as it is in the intermediate and elementary schools. More important is the securing of adequate sites which are accessible to transit facilities. 30 acres plus one acre for each 100 pupils is considered necessary for a modern high school of from 750 to 1,200 students. Competitive sports facilities should be located on the school site. Where there is no community center, the high school plant can serve as such, as well as the civic auditorium and special events center.

RECREATION FACILITIES

With increased population and shortened work weeks, the need arises for more recreational facilities. On the other hand, increased community demand for ratables and the competition among transportation, commerce and industry, and housing for land make it more difficult each year to meet these increasing recreational requirements.

Every balanced community needs recreation and park facilities in direct proportion to its population and development. We can no longer think of such facilities as luxuries. The amount of and type of recreational facility desired will vary according to the population served but the following generally accepted standards can be used as guides in development of recreational sites.

Standards for Recreational Facilities

The car has modified the way in which recreation and park sites should be selected and dedicated by municipalities. Because of the mobility afforded us by the automobile, extensive tracts of park land can be best provided by the State or County governments with the local government providing the more intense recreation sites. The increasing number of cars has also created a need to place facilities for younger children where they can be reached with minimum crossing of streets. Sound recreation programs must provide all age groups

within the municipality with a wide range of facilities. The types of facilities which could be included in a recreation program are as follows:

Tot Lots

These are small recreation areas designed especially for children under six. Older children are generally excluded from play there. Tot lots are generally fenced areas one or two lots in size with small swings and slides, see-saw and climbing devices. Benches are necessary for parents. Neighborhood initiative should be encouraged in setting up these play areas. The municipality should provide financial aid by providing the land and equipment. To assist the municipality, neighborhood maintenance should be encouraged.

Playgrounds

Children 6 to 14 years of age need larger areas in which to play. Playgrounds ranging from 2 to 6 acres in size with large swings, ladders and other climbing equipment, slides, seesaws, basketball courts and handball and/or tennis practice walls. These playgrounds must serve larger areas and can be operated at elementary school sites. Again, the number of major streets that have to be crossed by children who use the area should be kept to a minimum - a prime consideration in selection of a site. Preschool equipment and benches should be provided so that older children can watch the young ones at play. There should be one acre of tot lots or playgrounds per 1,000 population.

Playfields

Playfields of from 5 to 20 acres in size can serve the whole municipality. One acre of playfields should be maintained per 1,000 population. The secondary school is an ideal location for a community's playfields. There can be court games such as tennis, volleyball, handball and basketball can be played and shower and locker room facilities provided.

Little League

Little League has become an important part of the recreational program for most communities. A Little League baseball diamond which should be located in an accessible area with plenty of parking can be publicly supported or financed by local businessmen. The entire field should be enclosed.

Swimming and Golf

Swimming pools and golf courses are taking a place in the recreational facilities offered by a municipality. They are public facilities if they are owned and operated by the municipality. Private development of such facilities should be encouraged.

Neighborhood Park

A neighborhood park is designed to provide a restful place for the adults in the community. It should be centrally located with a well landscaped setting,

sidewalks, benches and possibly a fountain or other facility as a focal point. It should consist of one or two lots in a more intensely developed area. It can be located to take advantage of natural features such as streams or wooded areas.

Reservations

These are generally large areas of undeveloped land. They should remain undeveloped. They should be reserved for low intensity recreational activities such as picnicing, horseback riding, hiking or camping. Land not suitable for development because of location in a flood plain, poor drainage, or excessive slope are often devoted to this purpose on a regional basis by the county or state .

Liberal standards for recreation facilities suggest a ratio of 10 acres of recreation area for every 1,000 population. Of these ten acres, one should be devoted to neighborhood tot lots and playgrounds, one should be devoted to municipal playfields and the remaining eight should be devoted on a regional basis to parks and reservations.

FIRE PROTECTION FACILITIES

The location of fire stations, the types of fire fighting equipment and the availability of manpower are the most important of several factors which determine the quality of fire protection. The fire station location standards used by fire underwriter organizations are based on the types of land use and the density of development. Generally stations covering areas which are predominantly commercial and industrial in nature should have a maximum service radius of three-quarters of a mile. Those covering predominantly residential areas have a maximum service radius of one and a half miles while those in outlying areas have an extended one of three miles. Each fire station should have at least one pumper.

POLICE PROTECTION FACILITIES

An evaluation of police facilities can not be based on simple standards for several reasons. Crime and crime clearance rates and traffic accident rates are all affected by factors external to the community and the quality of local police services. The lack of staffing standards and formulae is due to the fact that no two cities are precisely alike. The level of police services is related to the quality of department leadership, efficiency of management and organizational practices and the extent of personnel training.

The State Attorney General's Office annually releases a uniform crime report in which state , regional, county and local personnel levels are reported. These only help compare area manpower levels. The New Jersey Police Training

Commission provides consultation services which help determine proper manpower and administrative policies.

Station Facilities

The location of the station should be at the center of the geographic area to be served, on a major thoroughfare, with good access to all parts of the service area. Interior space planning is more a matter of architectural arrangement.

Many smaller police departments are located in the same building as other municipal offices. In this instance, the police department should occupy one floor or a portion of one floor which can be secured when other areas of the building are closed. A separate entrance should be provided for the police department which will permit the public to enter other departments without passing through the police station. If arrested persons are to be detained over night at the station, public access should not conflict with prisoner passageways or areas.

LIBRARY FACILITIES

Because of our increasing amount of leisure time, a modern public library can not only fulfill its traditional role as an educational, informational and cultural center; but it can also become a recreational center. Books are but one resource of a modern library. Pamphlets, documents and non-printed materials such as discs, films, and tapes can be added to the collection of materials available to the community. To be of real value to the community, access to the resources of the library must not be an occasional thing - it must be sufficient to enable the library to become a dependable source for most of the people most of the time.

Standards for Library Facilities

Central Location

Central location must be a prime consideration in the establishment of a public library. Maximum accessibility and use are fundamental to the successful operation of a public library and low unit costs. The greater the number of users the less cost per user. Major shopping centers and central business districts are good locations. This heavy concentration of stores, offices, banks and public transportation and parking facilities which draw people; allows pedestrian access, which surveys show is extremely desirable. Libraries are dynamic learning centers which should not be located in remote locations such as parks, civic centers and other quiet surroundings. Activities in these areas usually cease at 5:00 p. m. and on weekends-the prime time for use of libraries.

Site

A good library site should be prominent; level; suitable for a street entrance; spacious enough for expansion and service vehicles, and a little landscaping; and rectangular since libraries function best with rectangular interiors.

Distribution and Space Requirements

There are no established standards for distribution of libraries over a large area, but there are for the size of book collection, shelving, seating and physical space. They have been established by the American Libraries Association and the New Jersey State Library.

FLOOD PLAIN AND DRAINAGE RIGHT-OF-WAY RESERVATION

The Planning Board using the Master Plan and Subdivision Ordinance can preserve the natural drainage patterns with the community by insuring that new development does not alter such patterns in a way that would be detrimental to the community as a whole. This could be done by purchasing land required to maintain the natural drainage pattern or by requiring site plans and improvements which insure proper drainage.

A flood plain is a fairly flat area adjoining a stream, brook, or river which has been or may be at some time flooded with water from the stream. An abnormal event which may take place only once in every 10, 25, or 50 years. The bed and banks of the stream, river or brook which normally carry the water are commonly called the channel. The floodway includes the normal water channel and the adjacent area where the swift heavy flow occurs during flood conditions. The flood hazard area is the remaining portion of the flood plain that would become inundated during a flood with relatively static water.

Zoning within a flood plain can prohibit the building of permanent structures in the floodway and direct the building within the flood plain to be one foot above the estimated flood level. Flood plain delineation must be detailed in a comprehensive engineering study to render flood plain zoning valid.