

ML-Hanover

Feb 14, 1984

Housing Allocation Study, Township of Hanover

pg. 38

note: Fair Share Report

ML 000705 F

**HOUSING ALLOCATION STUDY
TOWNSHIP OF HANOVER
MORRIS COUNTY, NEW JERSEY**

Prepared By
Robert Catlin & Associates

Revised to February 14, 1984

INTRODUCTION

The Study outlined on the following pages is designed to establish a reasonable housing allocation for Hanover Township. It is based on straight forward, objective methodology involving evaluation of available data. The Allocation Study is comprised of three sections:

- * Section I delineates the region within which Hanover is situated and determines the Township's share to satisfy low-and moderate-income housing needs within that region
- * Section II establishes the number of dwelling units required for low-and moderate-income households indigenous to Hanover Township
- * Section III summarizes the Township's total aggregate housing obligation to provide suitable shelter for low-and moderate-income households to the year 1990 based on regional share and indigenous need.

The availability of the methodologies employed is not limited to Hanover Township. They constitute an attempt for universal approach to the problem of housing allocations which avoids subjective judgments and its inherent pitfalls.

Since the allocations are based on projections of trends in previous years and statistical data, periodic review is important. Preferably, such reviews should be performed annually.

SECTION I - ESTABLISHMENT OF HOUSING REGION

The proposed housing region for Hanover Township has been determined on the basis of a reasonable travel time to work. This approach stems from the assumption that there is a direct relationship between job opportunities and the housing market and that people will seek employment within reasonable travel distances of their homes or will locate their residences within reasonable travel distances of their jobs.

Analysis of data from the 1980 U.S. Census reveals that 94.5 percent of Hanover residents employed outside their homes travelled to work by truck, car or van. Another 3.5 percent used public transportation which would largely consist of bus transportation. At the County level the respective percentages were 91.1 and 3.6 (see Table 1). As a result of this data, motor vehicle transportation routes constitute a major element in identifying the housing region.

The proposed housing region was established utilizing a 30 minute travel time from the Township and applying varying travel speeds depending upon the type of roadway. The 30 minute travel time was selected as a reasonable maximum, again based on statistical data available from the 1980 U.S. Census. As shown in Table 2, the Township mean and median travel times to work were respectively 21.4 minutes and 17.7 minutes. Additionally, 74.3 percent of the people travelling to work, travelled less than 30 minutes. Data for the County as a whole, further supports the maximum 30 minute travel time.

The 30 minute travel time was selected for other reasons and specifically the following:

1. Achievement of energy efficient objectives which are a stated purpose in the Municipal Land Use Law.
2. Control of transportation costs which, like housing costs, are of great concern to moderate and low income households and families.

The final step in determining the housing region is to determine travel distances based on the 30 minute travel time and establishing travel speeds for various roads. All distances were determined by highway map measurement from a common point in the Township namely, the intersection of

TABLE 1
MEANS OF TRANSPORTATION TO WORK
WORKERS 16 YEARS AND OVER *
HANOVER TOWNSHIP AND MORRIS COUNTY
1980

	Hanover		County	
	No.	%	No.	%
Car, Truck or Van	5,491	94.5	176,879	91.1
(Drive Alone)	(4,561)	(78.5)	(139,795)	(72.0)
(Carpool)	(930)	(16.0)	(37,084)	(19.1)
Public Transportation	203	3.5	8,682	4.5
Walk	90	1.6	7,093	3.6
Other Means	24	0.4	1,593	0.8
TOTAL	5,808	100.0	194,247	100.0

* Persons working at home excluded.

SOURCE: 1980 U.S. Census

**TABLE 2
TRAVEL TIME TO WORK
WORKERS 16 YEARS AND OVER *
HANOVER TOWNSHIP AND MORRIS COUNTY
1980**

	Hanover		County	
	No.	%	No.	%
Less than 5 minutes	132	2.3	6,064	3.1
5 to 9 minutes	827	14.1	22,130	11.4
10 to 14 minutes	1,357	23.2	27,756	14.3
15 to 19 minutes	1,128	19.3	31,156	16.1
20 to 29 minutes	900	15.4	38,066	19.6
30 to 44 minutes	858	14.7	36,213	18.7
45 to 59 minutes	272	4.6	14,362	7.4
60 or more minutes	377	6.4	18,149	9.4
TOTAL	5,851	100.0	193,896	100.0
Mean	21.4		25.5	
Median	17.7		21.3	

* Persons working at home excluded.

SOURCE: 1980 U.S. Census

Routes 10 and 287. Maximum permitted travel speeds were adjusted slightly downward to compensate for the following conditions:

- a. Travel to common point of measurement or from home to major travel routes.
- b. Time loss at interchanges.
- c. Time loss at traffic signals.
- d. Time lag during commuting hours.

The selected travel speeds were as follows:

Interstate Highway	-	50 mph
State Highway	-	40 mph
County and Local Roads	-	30 mph

The resultant housing region for Hanover, utilizing the foregoing criteria, consists of 114 municipalities in 8 counties, encompasses approximately 872 square miles and contains over 2 million persons. These municipalities are shown in Table 3 and on the accompanying map and include the following:

- 21 Municipalities in Bergen County
- All of Essex County
- 3 Municipalities in Hudson County
- All of Morris County except Washington Township
- 12 Municipalities in Passaic County
- 9 Municipalities in Somerset County
- 2 Municipalities in Sussex County
- 7 Municipalities in Union County

Sample testing through actual driving experience indicates that the limits of the housing region are accurate. Depending upon driving conditions, time of day and other varying conditions the actual limits of the region could increase or decrease slightly. However, the limits shown are considered representative and minor adjustments are unlikely to have any significant impact on eventual housing allocations.

A. PROJECTION OF EMPLOYMENT

The next phase of the Housing Allocation Study involves a projection of employment within the previously established housing region. The basis of the housing allocation methodology is that a direct relationship exists between job growth in an area and housing need or demand in that area. If job growth in the housing region is known, it then becomes a simple task, through statistical evaluation, of determining

LARGE

MAP

**TABLE 3
PROPOSED HOUSING REGION
TOWNSHIP OF HANOVER**

	Population 1980 Census	Area (Square Miles)
BERGEN COUNTY (21)		
Elmwood Park	18,377	2.5
East Rutherford	7,849	3.7
Fair Lawn	32,229	5.3
Garfield	26,803	2.1
Hackensack	36,039	4.0
Hasbrouck Heights	12,166	1.5
Little Ferry	9,399	1.5
Lodi	23,956	2.2
Lyndhurst	20,326	4.7
Maywood	9,895	1.3
Moonachie	2,706	1.6
North Arlington	16,587	2.5
Paramus	26,474	10.2
River Edge	11,111	1.9
Rochelle Park	5,603	1.1
Rutherford	19,068	2.6
Saddle Brook	14,084	2.7
So. Hackensack	2,229	0.5
Teterboro	19	1.2
Wallington	10,741	1.0
Wood-Ridge	<u>7,929</u>	<u>1.1</u>
TOTAL	313,590	55.2
ESSEX COUNTY (22)		
Bellville	35,367	3.3
Bloomfield	47,792	5.4
Caldwell	7,624	1.2
Cedar Grove	12,600	4.5
East Orange	77,025	4.0
Essex Fells	2,363	1.3
Fairfield	7,987	10.4
Glen Ridge	7,855	1.3
Irvington	61,493	2.8
Livingston	28,040	14.0
Maplewood	22,950	4.0

Table 3 (continued)

Millburn	19,543	10.0
Montclair	38,321	6.2
Newark	329,248	24.1
North Caldwell	5,832	2.9
Nutley	28,998	3.4
Orange	31,136	2.2
Roseland	5,330	3.5
South Orange	15,864	2.7
Verona	14,166	2.8
West Caldwell	11,407	5.3
West Orange	<u>39,510</u>	<u>12.1</u>
TOTAL	850,451	127.4
HUDSON(3)		
East Newark	1,923	0.1
Harrison	12,242	1.2
Kearny	<u>35,735</u>	<u>9.3</u>
TOTAL	49,900	10.6
MORRIS (38)		
Boonton	8,620	2.7
Boonton Twp.	3,273	7.5
Butler	7,616	1.8
Chatham	8,537	2.3
Chatham Twp.	8,883	9.0
Chester	1,433	1.6
Chester Twp.	5,198	28.7
Denville	14,380	12.8
Dover	14,681	2.3
East Hanover	9,319	8.4
Florham Park	9,359	7.6
Hanover	11,846	10.8
Harding	3,236	16.7
Jefferson	16,413	44.3
Kinnelon	7,770	19.7
Lincoln Park	8,806	7.0
Madison	15,357	4.0
Mendham	4,899	6.7
Mendham Twp.	4,488	17.6
Mine Hill	3,325	2.8
Montville	14,290	18.3
Morris Twp.	18,486	15.8
Morris Plains	5,305	2.5
Morristown	16,614	2.0
Mountain Lakes	4,153	3.0

Table 3 (continued)

Mount Arlington	4,251	2.7
Mount Olive	18,748	31.6
Netcong	3,557	0.8
Parsippany-Troy Hills	49,868	25.3
Passaic	7,275	16.5
Pequannock	13,776	6.9
Randolph	17,828	21.1
Riverdale	2,530	1.8
Rockaway	6,852	2.0
Rockaway Twp.	19,850	44.9
Roxbury	18,878	21.0
Victory Gardens	1,043	0.1
Wharton	<u>5,485</u>	<u>2.0</u>
TOTAL	396,228	432.6
PASSAIC (12)		
Clifton	74,388	11.2
Haledon	6,607	1.3
Hawthorne	18,200	3.6
Little Falls	11,496	2.8
North Haledon	8,177	3.4
Passaic	52,463	3.2
Paterson	137,970	8.3
Pompton Lakes	10,660	3.5
Prospect Park	5,142	0.4
Totowa	11,448	3.9
Wayne	46,474	24.5
West Paterson	<u>11,293</u>	<u>3.0</u>
TOTAL	394,318	69.1
SOMERSET (9)		
Bedminster	2,469	26.7
Bernards	12,920	24.4
Bernardsville	6,715	13.1
Bridgewater	29,175	32.8
Far Hills	677	5.0
Peapack-Gladstone	2,038	5.9
Raritan	6,128	2.1
Somerville	11,973	2.2
Warren	<u>9,805</u>	<u>19.3</u>
TOTAL	81,900	131.5
SUSSEX (2)		
Hopatcong	15,531	10.8

Table 3 (continued)

Stanhope	<u>3,638</u>	<u>2.0</u>
TOTAL	19,169	12.8
UNION (7)		
Hillside	21,440	2.7
Kenilworth	8,221	2.1
Mountainside	7,118	4.1
New Providence	12,426	3.7
Springfield	13,955	5.2
Summit	21,071	6.0
Union	<u>50,184</u>	<u>9.0</u>
TOTAL	134,415	32.8
GRAND TOTAL	2,239,971	872.0

housing need.

There are two possible sources for employment data, namely, U.S. Census data relating to labor force and covered job statistics published by the N.J. Department of Labor and Industry. The latter is considered the more reliable.

Due to many unknown and variable situations and lacking projections by regional planning agencies or other groups, it is believed that a straight line projection of jobs based on growth in the past 10 years is a justifiable method. Although this may not be reliable for any one municipality or for any portion of the region, it is considered more reliable for the region as a whole, assuming periodic review and up-dating.

Covered job projections from 1983 to 1990 are presented for each county component and for the entire region in Table 4. These are straight line projections based on actual experience between 1971 and 1981 and they reflect an increase in the region of 92,680 covered jobs by the year 1990. Adjustments to the projections should be made as new employment data becomes available.

B. CONVERSION OF JOBS TO HOUSING UNITS

Having projected growth in employment, the next step is to determine the relationship between jobs and housing units. According to the U.S. Census, there were 0.91 housing units for each covered job in Hanover's housing region in 1970. In 1980, 0.86 housing units were reported for each covered job. Putting this in other terms, between 1970 and 1980, 0.42 new housing units were created for each new job, thus indicating a higher incidence of jobs per household than in previous years.

Applying the average of 0.42 new housing units for each new covered job to the additional jobs projected in Table 4 results in a projection of estimated future additional housing units needed in the Hanover housing region. These estimated future housing units are shown to the year 1990 in Table 5. The latter shows an increase of 38,926 units by that year.

C. DETERMINATION OF HOUSING UNIT NEED BY INCOME RANGE

The next step in the allocation process involves conversion of the projected total housing need of the Region to various income categories as related to the median household income of the Region. Determining the precise median household income of the Region would involve an evaluation of each of the 114 municipalities in the Region. To avoid this lengthy process, the median income of the

8-county area of which Hanover's housing region is part was used. This figure is \$20,147 and covers a broader spectrum than the actual region. A percentage breakdown of households by various income ranges as related to this median income for the 8-county area is as follows:

<u>Income Range</u>	<u>% of Households</u>
Less than 50% of Median	20.8
50% to 80% of Median	19.0
Less than 80% of Median	39.8
80% to Median	10.2
Below Median	50.0
Above Median	50.0





Application of these percentages to the total projected housing units in Table 5 results in an estimated distribution of needed housing units by income ranges. This distribution is shown in Table 6.

D. DETERMINATION OF TOWNSHIP SHARE OF REGIONAL HOUSING NEED

The Mount Laurel II decision states that the future need for moderate and low income housing should be met within Growth Areas as established by the State Development Guide Plan. A simple means of determining the responsibility of any municipality for providing moderate and low income housing is to apply the percentage of the regional growth area located in that municipality to the total moderate and low income housing of the region. Hanover contains approximately 1.8 percent of the growth area located in its housing region. Applying this 1.8 percent to the projected income distribution of regional housing need (Table 6) establishes the Township's estimated obligation. The results are presented in Table 7 which indicates the moderate and low income housing obligation to the year 1990. The total combined moderate and low income housing obligation in that year would be 279 units.

E. SIZE OF HOUSING UNITS

An important consideration in regards to moderate and low income housing is household size in order that provision can be made for appropriately sized housing units. It is possible to roughly estimate the size of moderate and low income households by utilizing the breakdown of family size for the entire population as reported in the 1980 U.S. Census. To simplify the process, the breakdown of family size for all counties, any part of which is in the housing region, was used. This breakdown was applied to the moderate and low income housing units as set forth in Table 18 of Section III.

-  GROWTH AREA
-  LIMITED GROWTH AREA
-  AGRICULTURE AREA
-  CONSERVATION AREA

SOURCE: MORRIS COUNTY PLANNING BOARD
D.C.A. STATE DEVELOPMENT GUIDE PLAN

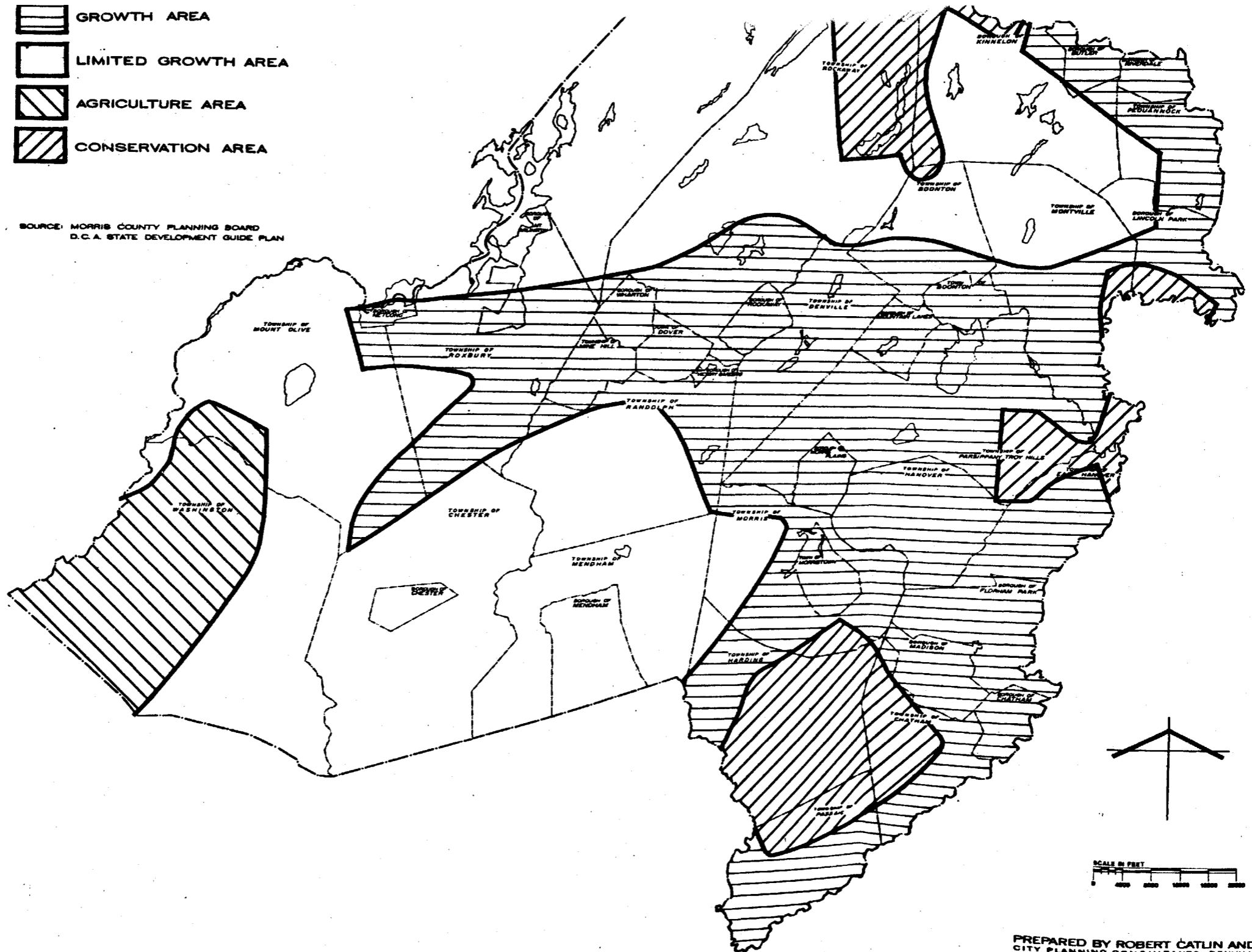


TABLE 4
COVERED EMPLOYMENT PROJECTIONS
HANOVER TOWNSHIP HOUSING REGION

County Component	1983*	1985	1990
Bergen	187,814	195,896	216,101
Essex	301,354	298,954	292,954
Hudson	27,366	26,550	24,510
Morris	174,739	189,227	225,447
Passaic	158,603	160,617	165,652
Somerset	49,869	53,617	62,987
Sussex	1,725	1,831	2,096
Union	88,726	89,984	93,129
Region Total	990,196	1,016,676	1,082,876
Increase over 1983		26,480	92,680

*Estimated Current Employment

Note: Estimates based on straight line projection of actual growth in each county component over the past 10 years.

**SOURCE: N.J. Dept. of Labor and Industry
and Consultants Projections**

TABLE 5
PROJECTED NEW HOUSING UNITS
HANOVER TOWNSHIP HOUSING REGION

County Component	1985	1990
Bergen	3,394	11,881
Essex	-1,008	-3,528
Hudson	-343	-1,200
Morris	6,085	21,297
Passaic	846	2,961
Somerset	1,574	5,510
Sussex	45	156
Union	528	1,849
Region Total	11,121	38,926

TABLE 6
DISTRIBUTION OF FUTURE HOUSING NEEDS
BY INCOME RANGE
HANOVER TOWNSHIP HOUSING REGION

Income Range	1985	1990
Less than 50% of Median	2,313	8,097
50% to 80% of Median	2,113	7,396
Less than 80% of Median	4,426	15,493
80% of Median to Median	1,134	3,970
Below Median	5,560	19,463
Above Median	5,561	19,463

**TABLE 7
DISTRIBUTION OF FUTURE HOUSING NEEDS
BY INCOME RANGE
TOWNSHIP OF HANOVER**

Income Range	1985	1990
Less than 50% of Median	42	146
50% to 80% of Median	38	133
Less than 80% of Median	80	279
80% of Median to Median	20	71
Below Median	100	350
Above Median	100	350

SECTION II - INDIGENOUS HOUSING NEED

In addition to accommodating in growth areas a fair share of the regional housing need, each municipality, according to the Mount Laurel II decision, is obligated to provide opportunity for housing its resident poor. The number of housing units necessary for such existing, indigenous low- and moderate-income households is established by the composite of physical and financial need on the basis of the characteristics of the existing housing stock and the population. The methodology for the establishment of this need is implied by and modeled after that used by the Revised Statewide Housing Allocation Report for New Jersey, prepared in 1978 by the N. J. Division of State and Regional Planning. Since this Report remains the only statewide plan allocating housing need on a municipal basis, it is assumed that its methodology is one which will be deemed appropriate by the Court.

A. PHYSICAL NEED

The physical housing need is predicated on three characteristics of the housing stock in Hanover Township:

- * Housing Vacancy Rates;
- * Overcrowded Housing and
- * Dilapidated Housing.

Overcrowded housing is defined as housing with more than one person per room, while the criteria used for minimum vacancy rates necessary to permit normal operation of the housing market are 1.5 percent for owner housing and 5.0 percent for rental housing. Information with respect to housing vacancy rates and overcrowded housing conditions is being furnished by the 1980 Census. In regard to the condition of housing, the most recent reliable source is, "An Analysis Of Low-And Moderate-Income Housing Need In New Jersey," prepared in 1975 by the State Department of Community Affairs, since the 1980 Census did not record such housing data.

1. HOUSING VACANCY RATES

The first component considered for the determination of the physical need is the examination of vacancy rates in the Township. Table 8 shows the vacancy rates for owner and renter housing as recorded by the 1980 Census. The rate for owner housing is but 0.25%, well below the minimum vacancy rate. This results in a deficiency of 41 units as indicated

in the table. The Township's vacant rental housing stock produces a rate above the required minimum of 5 percent.

**TABLE 8
HOUSING VACANCY RATE**

	<u>Owner Housing</u>	<u>Rental Housing</u>
Occupied	3,267	286
Vacant	8	16
Total	3,275	302
Vacancy Rate	0.25%	5.30%
Deficiency @ 1.5%	41	@5% 0

2. OVERCROWDED HOUSING

Overcrowded housing constitutes another element of the physical need. The 1980 Census enumerates occupied housing units by number of persons occupying rooms. As shown by Table 9, 3,527 of the Township's 3,553 occupied housing units had one person or less per room, 24 units had between 1.01 and 1.50 persons per room and 2 units were occupied by more than 1.51 persons per room. Those units occupied by more than 1 person per room are termed "overcrowded" and generate a need for 26 housing units.

**TABLE 9
OVERCROWDED HOUSING UNITS, 1980**

<u>Persons Per Room</u>	<u>Occupied Housing Units</u>
1.00 or Less	3,527
1.01 - 1.50	24
1.51 or More	2
Total	3,553

Deficiency 26 Units

3. DILAPIDATED HOUSING

The presence of unacceptable housing conditions represents the third factor in determining the present physical need. Units with critical defects requiring extensive repairs or demolition are termed dilapidated and comprise this category. Table 10 shows classes of substandard housing in the Township and indicates that 63

housing units were classified as dilapidated in the Township by the State Department of Community Affairs in 1975. Inasmuch as the 1980 Census did not survey physical housing conditions this, somewhat outdated, information must be used.

**TABLE 10
CONDITION OF HOUSING**

Deteriorated*	106 Units
Dilapidated*	63 Units
Lacking Plumbing**	24 ¹ Units
Deficiency	63 Units

¹ Incomplete kitchen and/or bathroom facilities

Sources: *An Analysis Of Low- And Moderate Income Housing Need In New Jersey - N. J. Dept. of Community Affairs May 7, 1975

**U. S. Census of Population and Housing, 1980

The total physical need as outlined above therefore is:

Vacancy Factor	41
Overcrowded Factor	26
Dilapidated Factor	<u>63</u>
Total	130

B. FINANCIAL NEED

A predominant component comprising the indigenous (present) housing need is generated by financial housing inadequacies consisting of low- and moderate-income renter households paying 25 percent or more of their incomes for rent. In order to establish the number of such households, levels of "low" and "moderate" household incomes must be determined. Low income households are defined as having incomes of not more than 50 percent of the median income prevailing in the area, while moderate incomes fall between 50 percent and 80 percent of the median income for the area. For the purpose of this analysis, and by using information contained in the 1980 Census, it has been established that the median income of Hanover's 8 county Housing Region is \$20,147. As shown on Table 11, household incomes of up to \$10,074 are classified as low, while annual household incomes between \$10,074 and \$16,118 are classified as moderate on this basis.

TABLE 11
MEDIAN, LOW AND MODERATE INCOMES
FOR HANOVER TOWNSHIP'S
8 COUNTY HOUSING REGION

1980 Median Household Income	\$20,147
Maximum "Low Income @ 50% Of Median	\$10,074
Maximum "Moderate" Income @ 80% of Median	\$16,118

The 1980 Census tabulates housing expenses of renter households as percentages of incomes in five categories as shown in Table 12. The rental housing expenses of low and moderate-income households were computed on the basis of this tabulation. As shown in Table 13, in 1979 there were 34 low income households and 57 moderate income households in the Township paying more than 25 percent of their incomes for rent. The total of these households produce the indigenous housing need of 91 units based upon this financial factor.

TABLE 12
HOUSING EXPENSES AS PERCENTAGE OF INCOME OF
RENTER HOUSEHOLDS, 1979*

	Under \$5,000	\$5,000 To \$9,999	\$10,000 To \$14,999	\$15,000 To \$19,999	Over \$20,000
Under 25%	7	0	8	5	75
25% - 34%	0	0	36	30	23
35% or More	27	6	19	6	5
Total	34	6	63	41	103

*Exclusive of Category "Not Computed"

Source: U. S. Census of Population and Housing, 1980

TABLE 13
RENTAL HOUSING EXPENSES OF LOW-AND MODERATE-INCOME
HOUSEHOLDS

Household Income\$	% Of Income Paid For Rent			Total	%
	25% - 34%	35% or More	Total		
Under \$10,074 (Low Income)	1	33	34	37%	
\$10,074 - \$16,118 (Moderate Inc.)	35	22	57	63%	
Total	36	55	91	100%	

Total need based upon financial factor 91

C. TOTAL INDIGENOUS (PRESENT) HOUSING NEED

The total indigenous (present) housing obligation of Hanover Township is the sum of the physical need and the financial need as discussed above. The physical need of 130 units and the financial need of 91 units produce a total of 221 housing units. Obviously, however, there exists an overlap between overcrowded and dilapidated units as well as between both these and the housing need generated by financial need. This overlap was estimated at 25 percent of the combined physical and financial need resulting in a total indigenous housing need of 166 housing units in Hanover Township as shown by Table 14.

**TABLE 14
TOTAL INDIGENOUS HOUSING NEED**

A. Physical Need	130 Units
B. Financial Need	<u>91 Units</u>
Total	221 Units
Overlap A/B @ 25% of A	55 Units
Total Units Required	166 Units

D. DISTRIBUTION BY INCOME LEVEL

The distribution of the Township's total indigenous housing need relative to income levels follows the proportions given by Table 13. The distribution according to those percentages will result in 61 housing units required for low income units and 105 housing units required for moderate income households as shown on Table 15.

**TABLE 15
ALLOCATION OF PRESENT INDIGENOUS HOUSING NEED BY INCOME**

Low Income Need @ 37%	=	61
Moderate Income Need @ 63%	=	<u>105</u>
Total Indigenous Need	=	166

E. SCHEDULING

Although it is recognized that the demand for housing by the Township's resident poor is an existing, present need, it must also be acknowledged that provisions for such considerable outstanding need cannot, for practical reasons, be satisfied overnight. Due to these practical constraints, it is felt reasonable to assume that 1/3 of the indigenous housing need may be provided for in Hanover Township by 1985,

h the balance of the obligation satisfied by 1990, in a
ner shown in Table 16.

TABLE 16
SCHEDULING AND DISTRIBUTION OF INDIGENOUS
HOUSING NEED
TOWNSHIP OF HANOVER

Household Income \$	To Be Completed By	
	1985	1990
Under \$10,074 (Low Income)	20	61
\$10,074 - \$16,118 (Moderate Income)	35	105
Total	55	166

**SECTION III - DISTRIBUTION OF THE AGGREGATE HOUSING
ALLOCATION**

A. TOTAL HOUSING NEED

The aggregate housing obligation of Hanover Township is the product of its regional share of 279 housing units as reviewed in Section I and its indigenous need of 166 housing units discussed in Section II of this Study amounting to 445 units by 1990.

**TABLE 17
TOTAL HOUSING ALLOCATION 1983 - 1990
TOWNSHIP OF HANOVER**

Regional Share	279 Units
Indigenous Need	<u>166 Units</u>
Total Allocation 1983-1990	445 Units

B. DISTRIBUTION OF HOUSING NEED

An important consideration in satisfying the housing needs of low- and moderate-income households is household size, in order that provisions can be made for appropriately-sized housing units. It is possible to roughly estimate the size of low- and moderate-income households by utilizing the breakdown of the entire population involved as reported by the 1980 U.S. Census. In determining the distribution of housing needs by household size for the Township's regional share, the breakdown of family size for all counties, any part of which is in the housing region was used. This regional distribution is shown on Table 18. In determining the distribution of the Township's indigenous housing need, the breakdown of family size given by the 1980 Census for Hanover Township was applied as shown by Table 19.

The aggregate housing allocation for Hanover Township providing for its regional share as well as the resident poor by breakdown of household sizes and appropriately scheduled to the year 1990 is shown on Table 20.

TABLE 18
REGIONAL LOW & MODERATE INCOME
DISTRIBUTION OF HOUSING NEEDS
BY HOUSEHOLD SIZE
TOWNSHIP OF HANOVER

Household Size	1985	1990
Low Income		
1 Person	9	30
2 Persons	12	43
3 Persons	8	27
4 Persons	7	24
5 Persons	4	13
6 or More Persons	2	9
Sub Total	42	146
Moderate Income		
1 Person	8	28
2 Persons	11	39
3 Persons	7	24
4 Persons	6	22
5 Persons	4	12
6 or More Persons	2	8
Sub Total	38	133
Combined Income		
1 Person	17	58
2 Persons	23	82
3 Persons	15	51
4 Persons	13	46
5 Persons	8	25
6 or More Persons	4	17
TOTAL	80	279

TABLE 19
INDIGENOUS LOW & MODERATE INCOME
DISTRIBUTION OF HOUSING NEEDS BY HOUSEHOLD SIZE
TOWNSHIP OF HANOVER

Household Size	1985	1990
Low Income		
1 Person	2	5
2 Persons	5	16
3 Persons	4	12
4 Persons	5	15
5 Persons	3	8
6 or More Persons	1	5
Sub Total	20	61
Moderate Income		
1 Person	3	9
2 Persons	9	28
3 Persons	7	21
4 Persons	8	25
5 Persons	5	14
6 or More Persons	3	8
Sub Total	35	105
Combined Low & Mod. Income		
1 Person	5	14
2 Persons	14	44
3 Persons	11	33
4 Persons	13	40
5 Persons	8	22
6 or More Persons	4	13
TOTAL	55	166

TABLE 20
AGGREGATE REGIONAL AND INDIGENOUS LOW & MODERATE INCOME
DISTRIBUTION OF HOUSING NEEDS BY HOUSEHOLD SIZE
TOWNSHIP OF HANOVER

Household Size	1985	1990
Low Income		
1 Person	11	35
2 Persons	17	59
3 Persons	12	39
4 Persons	12	39
5 Persons	7	21
6 or More Persons	3	14
Sub Total	62	207
Moderate Income		
1 Person	11	37
2 Persons	20	67
3 Persons	14	45
4 Persons	14	47
5 Persons	9	26
6 or More Persons	5	16
Sub Total	73	238
Combined Low & Mod. Income		
1 Person	22	72
2 Persons	37	126
3 Persons	26	84
4 Persons	26	86
5 Persons	16	47
6 or More Persons	8	30
TOTAL	135	445

APPLICATION OF HOUSING ALLOCATION IN TOWNSHIP OF HANOVER

The methodology used in establishing an allocation of future moderate and low income housing, based upon a 30-minute travel time to place of employment, is a broad-based approach which can be applied uniformly to any municipality. It is not intended to produce a definitive and precise allocation, but rather to produce an approximate number that Hanover Township can use in formulating a zoning policy that will result in the development of a reasonable amount of moderate and low income housing that can physically be accommodated on undeveloped land with a minimum of environmental constraints.

The total allocation is the sum total of Hanover's fair share of low and moderate housing need in the region as well as Hanover's providing for the Township's indigenous poor. This total need is 445 units by 1990. Since the regional fair share is based primarily on projected employment growth, it is essential to undertake a periodic review of job trends in the region.

When the Morris County Fair Housing Council litigation was first started in 1979, Hanover Township prepared a number of planning studies which mapped a number of environmental constraints on all vacant land within the Township. After the Mount Laurel II decision was handed down by the Supreme Court in early 1983, the Township updated these studies in preparation of the pending reactivated Public Advocate litigation.

The accompanying map, entitled VACANT LAND ANALYSIS-December, 1983, indicates all vacant land within the Township in a blue pattern, superimposed upon the Existing Zoning Map. These vacant land parcels are numbered for identification purposes only. It should be pointed out that, for the purpose of this analysis, some lands within the Township are technically vacant, as of this writing, but are not shown as vacant due to applications for development presently being processed by the Planning Board. An example of this is the 13.7-acre tract in the I-P Zone along the south side of Route 10 near the Morris Plains municipal boundary. This is being processed for the development of a Marriott Hotel. Another example is a 72-acre parcel in the I-P Zone lying north of Route 10 between Interstate 287 and North Jefferson Road. This is being processed for office building development by the Board.

After the Vacant Land Map was prepared, a series of acetate overlays* were prepared to indicate how every parcel

of vacant land within the Township may be impacted by one or more environmental constraints. The environmental limitation calculated, each of which is on a separate acetate overlay, were as follows:

Seasonal High Water Table Less than 2-1/2 feet below ground surface

Stream Overflow

Flooded In 100-Year Storm

Swamplands

Slopes over 15%

Severe Restriction For Housing With Basements

Wetlands

* These overlays are one of a kind and not reproducible and were examined by the Public Advocate's Office at the time of depositions.

A brief analysis of each of these environmental constraints indicated on the vacant land in Hanover Township follows:

Seasonal High Water Table. This overlay indicates those areas of all vacant land that have a seasonal high water table of less than 2-1/2 feet below the surface of the ground. Although it is possible to develop lands that have a seasonal high water table, as indicated, it is not desirable to develop these lands for high density residential development. One of the major potential problems is the infiltration of ground water into the sanitary sewer mains and laterals. In addition a high water table limits all housing developments to slab construction due to the seepage of ground water into basements. Constructing other infrastructure in soils impacted by a high water table, such as natural gas lines, electric and telephone lines, etc., is not advisable. Of the 1,043.73 acres of vacant land in the Township of Hanover, almost 707 acres or over 67% of all vacant lands have a seasonal high water table of less than 2-1/2 feet below the surface of the ground.

Stream Overflow. This overlay indicates all lands within the vacant land areas that, due to soil characteristics, are subject to frequent stream overflow hazard. The Morris County Soils Survey indicates that these lands are generally poorly drained soils adjacent to perennial streams. In most

instances, these soils have a mucky surface and should not be developed with dwellings or structures. There are 497 acres within the 1043 acres of vacant land that are impacted with this environmental constraint. This represents almost 48% of all vacant lands left in the Township.

Lands Flooded Within the 100-Year Storm. All lands shown on this overlay represent those lands mapped by the Federal Insurance Administration in the U.S. Department of Housing and Urban Development as being impacted by a 100-Year Storm. This does not necessarily mean that once every 100 years these lands would be under water. It does mean that this is the limit of the high water mark resulting from a storm of an intensity that happens every 100 years. Saying this another way, it means that every year there is a one percent chance that the area shown will be flooded. It should be pointed out that storms of a lesser intensity than 100 year duration may flood much of the area shown periodically. Of the 1043.73 acres of vacant land in Hanover Township, over 368 acres or over 35% of all vacant land is affected by the 100-Year Storm.

Swamplands. Lands shown as swamplands on the TOPOGRAPHY acetate overlay are those lands indicated as swamplands on maps prepared by the U.S. Department of the Army Corps of Engineers. They are known as Geological Survey maps and the information contained therein is from aerial photographs by stereophotogrammetric methods. There are almost 264 acres of swampland within the 1043.73 acres of vacant land in the Township, which represents over 25% of all vacant lands.

Excessive Slopes over 15 Percent. Of all of the environmental constraints, this category represents the smallest amount of land within the vacant land in the Township. The TOPOGRAPHY acetate overlay indicates those parts of the vacant land that have a slope of 15% or greater. Just under 15 acres or about 1.4% of all vacant land have a slope of 15% or greater.

Severe Restriction. The source of information for this category was taken from Morris County Soils Survey. This acetate overlay indicates those sections of vacant land that, due to soils characteristics, would have severe restrictions for construction of dwellings with basements. In classifying the various soil types as severe, for this category the Soils Survey examines such properties as soil drainage, seasonal high water table, slope, depth to bedrock, stoniness, rockiness and flood hazard. Many of these constraints are quantified separately on the individual acetate overlays outlined above. The Soils Survey has a separate category in the "Degree and Kind of Soil Limitation For Community Development" entitled "Foundation For Houses With Basement" and "Without Basement" where each soil is classified as

"Slight Limitation, Moderate Limitation and Severe Limitation." Only the "Severe Limitation" category is indicated on the overlay. Of the 1043 acres of vacant land in the Township of Hanover, over 769 acres or 74% of all vacant land falls within this category. Although housing can be built upon slabs which would appear to mitigate this constraint, much of the soil that would result in severe limitation for constructing houses with basements also are listed by the Soils Survey as having severe limitations for constructing houses without basements or on slabs.

Wetlands. The last acetate overlay indicates all lands, within the vacant land category, that are classified as Wetlands by the U.S. Fish and Wildlife Service of the Department of Interior in their National Wetlands Inventory. The Federal Government has taken a very strong position that these wetlands should be left in their natural state and not developed. There are over 416 acres or almost 40% of all vacant land in the Township that are classified as wetlands.

Developable Lands. To obtain a meaningful picture of how the above outlined environmental constraints impact the Township's vacant land, each of overlays, collectively, have to be superimposed over the vacant land. When this is done, the vacant land that has no constraints can then be quantified. This is the vacant land that can be developed. The accompanying table, entitled "TOWNSHIP OF HANOVER VACANT LAND POTENTIAL, DECEMBER, 1983," shows the breakdown of all vacant land, by zone district, and how this land is impacted by each of the environmental factors. This indicates that there are but 208.40 acres of vacant land that is not adversely affected in one or more ways by the environmental constraints. A careful analysis of the overlays on the Vacant Land Map indicate that much of the 208.40 acres is made up of small scattered parcels or isolated lots. A review of all vacant land, free of environmental limitations, was then made on which it was reasonable to expect a developer to build a housing project with the mandatory setbacks. Ten acres was established as the minimum tract size which could result in a project of 150 units of which 30 would be low or moderate income housing units at a density of 15 units per acre. This 10-acre minimum was reduced to 9 acres when it was determined that 3 parcels contained between 9 and 10 acres. There are only 4 parcels of land larger than 9 acres that are vacant and have no constraints. There are two tracts in the R-25 Zone. One is 9 acres in size and the second is 9.08 acres in size. There is one parcel of 19.25 acres in the non-residential OB-RL Zone and one parcel of 9.91 acres in the non-residential I Zone.

If the OB-RL, Office Building and Research Laboratory Zone and the I, Industrial Zone was rezoned to some form of multi-family residential zone and if the two parcels in the

**TOWNSHIP OF HANOVER
VACANT LAND POTENTIAL
DECEMBER, 1983**

Zone	Acres Vacant	High Water Tbl. 0'-2 1/2'	Stream Overflow	Flooded In 100 Yr. Storm	Swamplands	Over 15% Slope	Severe Restriction	Wetlands	Developable Land	Dev. Parcels 9 Acres/Larger
R-10	7.68	1.40	.66	-	-	.34	.99	-	5.95	-
R-15	66.16	37.42	18.00	1.40	-	2.39	40.22	.41	24.37	-
R-25	180.15	87.38	38.66	13.63	3.30	1.07	122.33	24.45	47.25	2 parcels @ 9.00 ac. 9.08 ac.
R-40	113.99	75.00	28.33	-	-	-	76.90	8.26	32.05	-
B	9.66	2.40	-	.74	-	2.56	1.65	-	4.13	-
B-1	-	-	-	-	-	-	-	-	-	-
DS	39.42	23.29	16.52	-	-	-	23.13	5.29	10.07	-
OBRL	192.87	134.55	92.59	64.26	91.27	1.49	138.35	117.70	44.27	1 parcel @ 19.25 ac.
I	348.82	277.70	245.00	253.00	165.53	6.94	299.01	222.85	32.79	1 parcel @ 9.91 ac.
I-B	36.76	28.33	28.58	35.11	1.07	-	28.33	25.94	.50	-
I-P	48.24	39.24	28.66	-	2.48	-	38.24	11.81	7.02	-
Tot.	1,043.73	706.71	497.00	368.14	263.65	14.79	769.15	416.71	208.40	-

R-25 Zone were also rezoned to a multi-family residential zone, there would be a total of 47.24 acres that could conceivably be developed for high density residential development. Using a density of 15 dwelling units per acre with a 20% setback for low and moderate income housing, this mathematically could result in a total of 708 dwelling units of which 141 would be for low and moderate income housing.

The Township recognizes the fact that there may be a few parcels of vacant land, less than 9 acres, that have minimal environmental problems that could conceivably be developed for multi-family housing. They also recognize that a few parcels may have only one environmental constraint instead of several which could also be developed with multi-family housing if relatively costly safeguards were built into the project, however, those parcels will be few and far between. This is best illustrated by examining the overlays placed one on the other over the vacant land base. The three largest vacant land areas, namely, the area made up of parcels 78, 79, 80 and 81; the area made up of parcels 48, 49, 50, 52, 53, 54, 55 and 56; the area made up of parcels 58 and 122 all have almost every environmental constraint. For instance, all 3 areas are impacted by:

Stream Overflow

Swamplands

Seasonal High Water Table

Wetlands

100-Year Storm

Severe Restriction For Basement Construction

As was outlined above, the maximum number of units that could be located on vacant land, not environmentally impacted, was 708 units. Even if this number were increased by 50% or a total of 1062 units, the 20% setback ratio for low and moderate income housing units would be 212 units.

SUMMARY AND CONCLUSIONS

1. The Public Advocate's Office has established Hanover's fair share of low and moderate income housing as 839 units.
2. The Township's planning experts have established Hanover's fair share as 445 units.

3. If every 9 acre or larger parcel of vacant land in Hanover Township, that had no environmental constraint, was rezoned for multi-family dwellings at an overall density of 15 units per acre and with a 20% setback for low and moderate income housing, the Township could accommodate 708 dwelling units of which 141 would be setback for low and moderate income families.
4. To obtain the Public Advocate's 839 low and moderate income housing units with a 20% setback factor, the Township would have to develop a zoning pattern that would permit 4195 multi-family units. This is 642 more household units than existed in the entire Township in 1980. Even using a relatively high density of 15 units per acre, 4195 units would require 280 acres of land. It is physically impossible to build 4195 units in Hanover Township without building in swamplands, wetlands or lands subject to flooding. Even then, it is questionable if a developer could obtain the necessary State and Federal approvals for building in areas where their policies prohibit development.
5. If the total number of multi-family units outlined in 3 above was increased by 50% by using some parcels less than 9 acres and some parcels that are environmentally impacted, the maximum number of low and moderate income housing that could be accommodated in Hanover Township is 212 units.

**SUPPLEMENTAL STATEMENT REGARDING
DETERMINATION OF HOUSING REGION,
METHOD OF EMPLOYMENT PROTECTION AND
RATIO OF HOUSING UNITS TO JOBS**

1. Determination of Housing Region

The housing region established for Hanover Township is a "Trip to Work" or "Commutershed" region as opposed to the practice others have followed in establishing housing regions consisting of groups of counties. The Abeles report proposes a housing region consisting of an 8-county area including Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset and Union as opposed to a commutershed region consisting of portion of 8 counties, not all the same as the Abeles counties.

The Abeles report points to five criteria for the establishment of a housing region. While recognizing that accessibility to employment opportunities is the single most important determinant of residential location, the report appears to give major emphasis to two other criteria, namely, sharing of housing needs (balancing developed areas with areas having substantial vacant land) and relationship to existing planning regions, such as those of Tri-State and RPA. These planning regions were not established for purposes of fair share housing allocation.

From the standpoint of management by the courts, there is some justification for following county boundaries. If county boundaries are used, desirably they should follow as closely as possible the limits of a commutershed region. Evaluating the Abeles region in terms of the commutershed region established for Hanover Township suggests that, as a minimum, Middlesex County not be included in a county boundary region. Not a single Middlesex municipality is included in Hanover's commutershed. Moreover, according to 1980 Census data, less than one percent of Morris County's work force travels to work in Middlesex County.

Although part of Sussex County is located in the Township's commutershed region, that part consists of only two small municipalities, namely, Hopatcong and Stanhope. Therefore, Sussex County should be excluded. This is consistent with the Abeles region.

The foregoing modifications result in a housing region consisting of a maximum of seven counties, namely, Bergen,

Essex, Hudson, Morris, Passaic, Somerset and Union. Arguments could be made for an even smaller region based on commuter patterns. For example, only 2.4 percent of the Morris County labor force travels to work in Somerset County which established some justification for its exclusion. Similar arguments might be made in regards to Bergen County since only 3.1 percent of the Morris County labor force travels to work in that county.

Another alternative would be the regions established by the recent Rutgers Study which places Morris in a region with Essex, Sussex and Union. Certainly, this is a more manageable region in terms of size as compared to Abeles. In fact, the counties in Abeles' region are placed in three separate regions in The Rutgers Study.

These conditions only serve to demonstrate that no perfect housing region can be established. Moreover, the precise region may not be significant, the important consideration being the municipality's ability to realistically make possible the production of low and moderate income housing.

2. Method of Employment Projection

The Housing Allocation Report utilizes a straight line method of projecting future employment based upon the actual arithmetic growth in unemployment covered jobs in the private sector in the previous 10-year period (1971-1981). The source for employment data is the N.J. Department of Labor and Industry. In terms of statistical accuracy, D.L. & I. is accepted as a highly reliable source.

Hazard of potential error is involved in any projection. Although it can be argued that a straight-line method fails to recognize possible changes in the rate of change, it is no less objective or reliable than other methods especially over a short projection period. In this instance, the projection period is only 7 years. Moreover, the allocation report emphasizes the importance of periodic updating of the projection as new employment data becomes available.

It should also be noted that the projection of employment is for the total housing region rather than for any single municipality or other subdivision of the region. The broader the planning area, the less chance there is of error.

Allocation studies by others, such as Abeles, do not utilize employment projections as a means of determining future housing needs. The study performed for the Public Advocate by Abeles uses population projections for various

counties performed by the office of Demographic and Economic Analysis, Division of Planning and Research of D.L. & I. The population projection for the housing region is then converted to housing units based upon projected household size for the region.

Both the Hanover method and the Abeles method have the same ultimate objective, however, Ables uses a State agency projection on a county-wide basis vs. actual data for each municipality in the Hanover region. Moreover, the primary factor influencing population growth in an area is employment opportunity. This establishes justification for projecting jobs rather than population.

3. Ratio of Housing Units to Jobs

Projected future housing units were determined by establishing the relationship between jobs and households. The allocation report indicates that the number of housing units per job from 1970 to 1980 declined from 0.91 to 0.86 or, in other terms, 0.42 housing units were created for each new job in that 10-year period. These figures indicate a decline in the number of housing units per job. If this trend were projected to 1990, the number of housing units for each job in that year would be no more than 0.81 and the number of housing units created for each new job would have been 0.41 as opposed to the 0.42 actually used. Therefore, it is concluded that the 0.42 used is not overly conservative.