



2009
Master Plan &
Re-Examination Report
Garwood, New Jersey

MASTER PLAN
BOROUGH OF GARWOOD, NEW JERSEY

PREPARED FOR
THE PLANNING BOARD
OF THE
BOROUGH OF GARWOOD, NJ

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2009

The original document was signed and sealed on June 10, 2009 in accordance with Chapter 41 of Title 13 of the State Board of Professional Planners.

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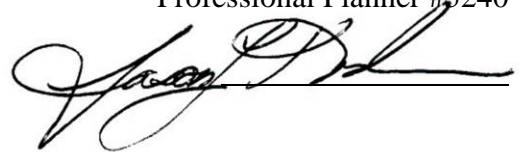
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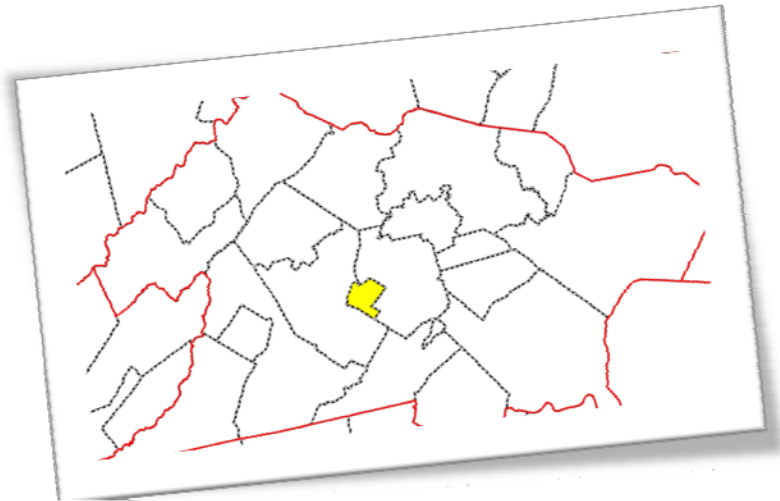
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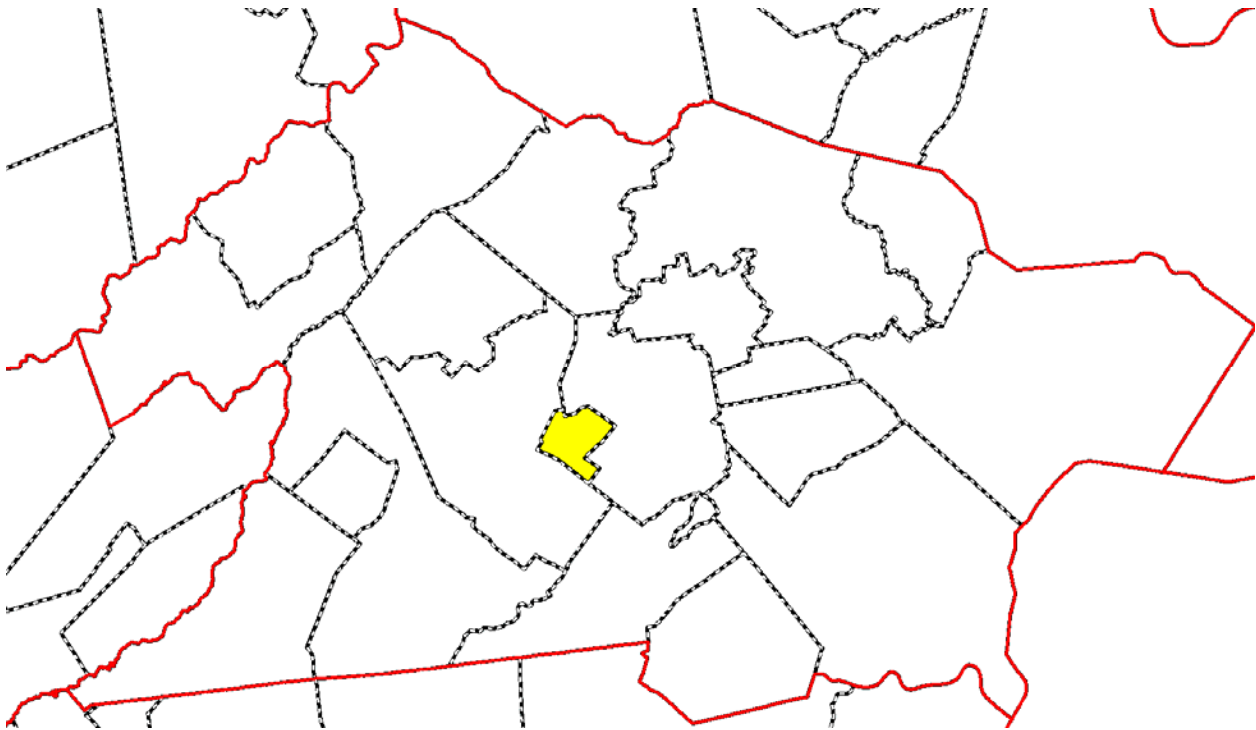
Regional Location



SECTION 1 - REGIONAL LOCATION

The Borough of Garwood, located in the central portion of Union County, contains a land area of 0.67 square miles. There are two communities in Union County that adjoin the Borough. The Town of Westfield is located to the west and the Township of Cranford to the east. The map below indicates the location of the Borough of Garwood, shown in yellow, in relationship to the county as a whole.

Map 1 -1: Regional Location
Borough of Garwood



The Borough of Garwood is bisected by the New Jersey Transit Railroad right of way. The two principal east/west rights-of-way are North Avenue to the north of the railroad right of way and South Avenue to the south of the rail road right of way. There is only one north/south right-of-way which crosses the railroad; Center Street. The Borough of Garwood was developed utilizing a traditional grid pattern providing ample access both east and west.

Population & Socio-economic Demographics



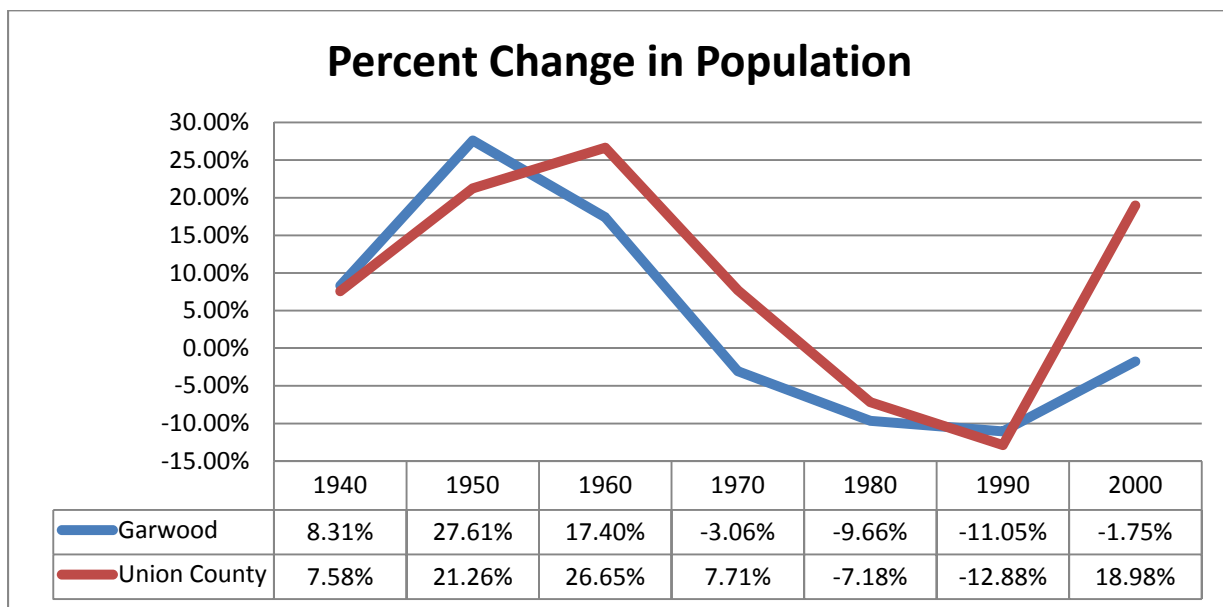
SECTION 2 - POPULATION AND SOCIO-ECONOMIC DATA

Population

The Borough of Garwood has grown from a community of 3,355 people in 1930 to 4,153 people in 2000. The population rate of increase was substantial from the 1940s through the 1960s. The Borough experienced population increases 27.61 percent in the decade that ended in 1950 and 17.4 percent in the decade that ended in 1960. The Borough has experienced declining population since its highest of 5,260 persons. Union County has had an increase in population from 1940 through 1980 where it experienced a population loss until 2000 where once again experienced a positive population growth. Since 1950, the population of Garwood has accounted for a smaller portion of the County's population, from 1.16 percent of the total population in 1950 to 0.79 percent in 2000.

Table 2-1: Historic Population
Borough of Garwood

Year	Population		Garwood as Percentage of County Population	Percent Change	
	Garwood Borough	Union County		Garwood Borough	Union County
1930	3,344	305,209	1.10%		
1940	3,622	328,344	1.10%	8.31%	7.58%
1950	4,622	398,138	1.16%	27.61%	21.26%
1960	5,426	504,255	1.08%	17.40%	26.65%
1970	5,260	543,116	0.97%	-3.06%	7.71%
1980	4,752	504,094	0.94%	-9.66%	-7.18%
1990	4,227	439,189	0.96%	-11.05%	12.88%
2000	4,153	522,541	0.79%	-1.75%	18.98%

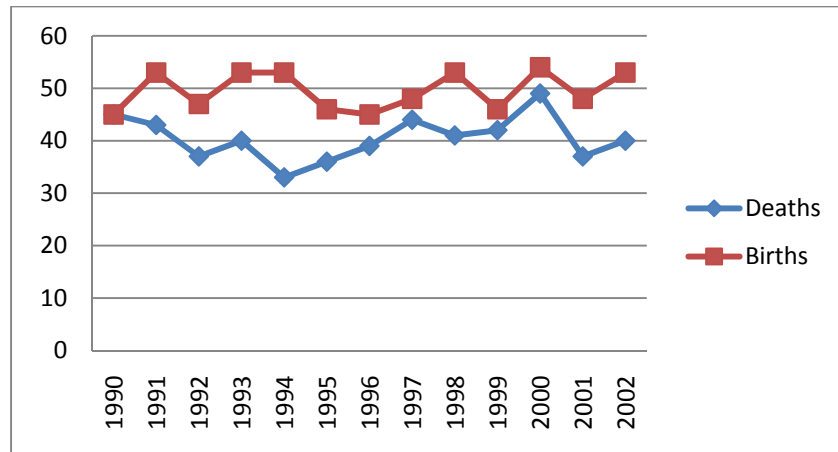


Birth and Deaths

The number of births and deaths in a community is one component in determining the natural increase or decrease in the overall size of the community. The number of births and deaths are also an important element for determining community facility needs and services, particularly in the school system. The number of births and deaths listed below represent the most current data available from the New Jersey Department of Health from 1990 through 2002. The number of births peaked in 2000 at 54 and deaths peaked in 2000 at 49. The overall natural growth of the Borough of Garwood hit its highest levels in 1994 with an increase of 20 people. The Borough experienced an average natural growth of 9.8 people per year over the 12 year period.

Table 2-2: Historic Birth and Death Rates
Borough of Garwood

<u>Year</u>	<u>Births</u>	<u>Deaths</u>	<u>Natural Growth</u>
1990	45	45	0
1991	53	43	10
1992	47	37	10
1993	53	40	13
1994	53	33	20
1995	46	36	10
1996	45	39	6
1997	48	44	4
1998	53	41	12
1999	46	42	4
2000	54	49	5
2001	48	37	11
2002	53	40	13



Migration

Net migration indicates the number of people moving into or out of a given area. Migration statistics are based upon the estimated population changes minus the natural growth rate. Since the Census of Population is only taken once a decade, estimates for years between censuses are estimated and should be utilized to analyze overall trends and not individual yearly data. The data suggests an “in migration” has occurred from 1992 through 1994, 1996 through 1998 and again from 2000 to 2002.

Table 2-3: Historic Migration
Borough of Garwood

<u>Year</u>	<u>Births</u>	<u>Deaths</u>	<u>Natural Growth</u>	<u>Estimated Population*</u>	<u>Net Migration</u>
1990	45	45	0	4,227	
1991	53	43	10	4,204	-13
1992	47	37	10	4,200	6
1993	53	40	13	4,197	10
1994	53	33	20	4,195	18
1995	46	36	10	4,180	-5
1996	45	39	6	4,177	3
1997	48	44	4	4,178	4
1998	53	41	12	4,175	9
1999	46	42	4	4,163	-8
2000	54	49	5	4,153	-5
2001	48	37	11	4,168	26
2002	53	40	13	4,175	20

* Bolded years are actual population data from the census of population.

Age and Gender Characteristics

Data concerning the characteristics of the Borough's population by age and gender are presented in the following tables. This data will be analyzed in depth in future portions of this master plan.

Table 2-4: Age and Genders Characteristics
- 1990 Census of Population
Borough of Garwood

Age	Number			Percent		
	Both Genders	Male	Female	Both Genders	Male	Female
Total population	4,227	2,225	2,005	100	100	100
Under 5 years						
Under 1 year	47	28	19	1.11%	0.66%	0.45%
1 and 2 years	113	52	61	2.67%	1.23%	1.44%
3 and 4 years	81	39	47	1.92%	0.92%	1.11%
5 to 9 years						
5 years	55	33	22	1.04%	0.69%	0.35%
6 years	44	29	15	3.36%	1.49%	1.87%
7 to 9 years	142	63	79	1.66%	0.73%	0.92%
10 to 14 years						
10 and 11 years	70	31	39	1.06%	0.43%	0.64%
12 and 13 years	78	33	45	0.83%	0.38%	0.45%
14 years	45	18	27	0.99%	0.62%	0.38%
15 to 19 years						
15 years	35	16	19	0.85%	0.38%	0.47%
16 years	42	26	16	1.21%	0.73%	0.47%
17 years	45	18	27	1.21%	0.62%	0.59%
18 years	36	16	20	1.66%	0.76%	0.88%
19 years	51	31	20	4.66%	2.44%	2.22%
20 to 24 years						
20 years	51	26	25	9.63%	4.83%	4.80%
21 years	70	32	37	7.22%	3.71%	3.50%
25 to 29 years	434	215	219	6.46%	3.29%	3.15%
30 to 34 years	407	204	203	5.11%	2.46%	2.65%
35 to 39 years	305	157	148	4.80%	2.72%	2.08%
40 to 44 years	273	139	133	5.32%	2.72%	2.60%
45 to 49 years	216	104	112	1.94%	0.97%	0.97%
50 to 54 years	203	115	88	3.62%	2.11%	1.51%
55 to 59 years	225	115	110	6.34%	3.69%	2.65%
60 to 64 years	235	130	105	4.76%	2.74%	2.01%
65 to 69 years	268	156	112	3.41%	2.22%	1.18%
70 to 74 years	201	116	85	1.54%	1.11%	0.43%
75 to 79 years	144	94	50	1.16%	0.92%	0.24%
80 to 84 years	65	47	18	1.11%	0.66%	0.45%
85 years and over	49	39	10	2.67%	1.23%	1.44%

(X) Not applicable

Source: U.S. Bureau of the Census, 1990 Census of Population and Housing, Summary Tape File 1 (100% Data)
Matrices P1, P5, P11, P12.

Table 2-5: Age and Genders Characteristics
- 2000 Census of Population
Borough of Garwood

Age	Number			Percent		
	Both Genders	Male	Female	Both Genders	Male	Female
Total population	4,153	2,005	2,148	100	100	100
Under 5 years						
Under 1 year	51	26	25	1.23%	0.63%	0.60%
1 and 2 years	91	58	33	2.19%	1.40%	0.79%
3 and 4 years	89	39	50	2.14%	0.94%	1.20%
5 to 9 years						
5 years	50	25	25	1.20%	0.60%	0.60%
6 years	45	19	26	1.08%	0.46%	0.63%
7 to 9 years	141	80	61	3.40%	1.93%	1.47%
10 to 14 years						
10 and 11 years	104	57	47	2.50%	1.37%	1.13%
12 and 13 years	99	53	46	2.38%	1.28%	1.11%
14 years	38	17	21	0.92%	0.41%	0.51%
15 to 19 years						
15 years	46	23	23	1.11%	0.55%	0.55%
16 years	33	16	17	0.79%	0.39%	0.41%
17 years	44	22	22	1.06%	0.53%	0.53%
18 years	36	17	19	0.87%	0.41%	0.46%
19 years	42	21	21	1.01%	0.51%	0.51%
20 to 24 years						
20 years	38	17	21	0.92%	0.41%	0.51%
21 years	30	14	16	0.72%	0.34%	0.39%
25 to 29 years	306	158	148	7.37%	3.80%	3.56%
30 to 34 years	414	217	197	9.97%	5.23%	4.74%
35 to 39 years	382	179	203	9.20%	4.31%	4.89%
40 to 44 years	375	181	194	9.03%	4.36%	4.67%
45 to 49 years	269	139	130	6.48%	3.35%	3.13%
50 to 54 years	230	116	114	5.54%	2.79%	2.75%
55 to 59 years	177	86	91	4.26%	2.07%	2.19%
60 to 64 years	161	69	92	3.88%	1.66%	2.22%
65 to 69 years	156	83	73	3.76%	2.00%	1.76%
70 to 74 years	177	63	114	4.26%	1.52%	2.75%
75 to 79 years	185	72	113	4.45%	1.73%	2.72%
80 to 84 years	123	44	79	2.96%	1.06%	1.90%
85 years and over	75	20	55	1.81%	0.48%	1.32%
18 years and over						
18 years and over	3322	1,570	1,752	79.99%	37.80%	42.19%
21 years and over						
21 years and over	3215	1,515	1,700	77.41%	36.48%	40.93%
62 years and over						
62 years and over	765	317	448	18.42%	7.63%	10.79%
65 years and over						
65 years and over	716	282	434	17.24%	6.79%	10.45%

(X) Not applicable

Source: U.S. Bureau of the Census, 1990 Census of Population and Housing, Summary Tape File 1 (100% Data) Matrices P1, P5, P11, P12.

Racial Composition

The Borough of Garwood is predominantly white increasing from 95 percent of the total population in 1990 to 98 percent in 2000. The black population also slightly declined in the 10 year period from 1.32 in 1990 percent to 0.71 percent in 2000.

Table 2-6: Race Characteristics
- 1990 & 2000 Census of Population
Borough of Garwood

	<u>Population</u>		<u>Percent</u>	
	<u>1990</u>	<u>2000</u>	<u>1990</u>	<u>2000</u>
Total Population		4153	100.00%	100.00%
Population of one race:	4227	4117	99.13%	100.00%
White alone	4160	3983	95.90%	98.41%
Black or African American alone	11	15	0.361%	0.26%
American Indian and Alaska Native alone	1	0	0.000%	0.02%
Asian alone	30	55	1.324%	0.71%
Native Hawaiian and Other Pacific Islander alone		0	0.000%	0.00%
Some other race alone	25	64	1.541%	0.59%
Population of two or more races:		36	0.867%	0.00%

Household Income

The Census of Population defines a household as follows:

Households consist of all people who occupy a housing unit. The Census Bureau regards a house, an apartment or other group of rooms, or a single room as a housing unit when it is occupied or intended for occupancy as separate living quarters: the occupants do not live and eat with any other people in the structure and there is direct access from the outside or through a common hall.

A household includes the related family members and all unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. The Census Bureau also counts a person living alone in a housing unit or a group of unrelated people sharing a housing unit as partners as a household. The count of households excludes group quarters.

The Census distinguishes a household from a family, as a family is defined as the following:

The term "family" refers to a group of two or more people related by birth, marriage, or adoption who reside together. The Census Bureau considers all such people as members of one family. For example, if the son of the person maintaining the household and the son's wife are members of the household, the Census Bureau treats them as members of the parent's family. Every family must include a reference person (see definition of householder for primary families). Two or more people living in the same household who are related to one another, but are not related to the householder, form an "unrelated subfamily". Beginning with the 1980 Current Population Survey (CPS), the Census Bureau excluded unrelated subfamilies from the count of families and unrelated subfamily members from the count of family members.

Tables 2-8 and 2-9 indicate the household income distribution for the years 1989 and 1999 for the Borough of Garwood's residents and Union County. The 1999 data, as published in the year 2000 Census, indicates that the distribution was based upon sample data. The median household data for the Borough, also based upon sample data, was reported to be \$52,571 in 1999 up from \$41,098 in 1989.

The median household incomes for 1989 and 1999 were both slightly lower than the median household incomes for Union County as a whole. The median household income for Union County stood at \$55,339 in 1999 and \$41,791 in 1989.

Table 2-8: Household Income
 1989 Census of Population
 Union County & Garwood

	Union County	Garwood
Less than \$5,000	6,655	52
\$5,000 to \$9,999	11,233	50
\$10,000 to \$12,499	5,484	53
\$12,500 to \$14,999	5,058	85
\$15,000 to \$17,499	5,445	60
\$17,500 to \$19,999	5,237	67
\$20,000 to \$22,499	6,119	53
\$22,500 to \$24,999	5,104	15
\$25,000 to \$27,499	6,437	82
\$27,500 to \$29,999	5,551	87
\$30,000 to \$32,499	6,753	79
\$32,500 to \$34,999	5,112	36
\$35,000 to \$37,499	6,614	20
\$37,500 to \$39,999	4,703	70
\$40,000 to \$42,499	6,252	66
\$42,500 to \$44,999	4,589	55
\$45,000 to \$47,499	6,071	67
\$47,500 to \$49,999	4,449	70
\$50,000 to \$54,999	10,013	79
\$55,000 to \$59,999	8,564	100
\$60,000 to \$74,999	18,878	225
\$75,000 to \$99,999	17,400	142
\$100,000 to \$124,999	8,338	40
\$125,000 to \$149,999	3,777	19
\$150,000 or more	6,130	4

U.S. Bureau of the Census
 1990 Census of Population and Housing

Table 2-9: Household Income
 1999 Census of Population
 Union County & Garwood Borough

	Union County	Garwood Borough
Total:	186,093	1,724
Less than \$10,000	12,758	62
\$10,000 to \$14,999	8,914	86
\$15,000 to \$19,999	8,831	95
\$20,000 to \$24,999	8,903	92
\$25,000 to \$29,999	9,603	137
\$30,000 to \$34,999	9,378	83
\$35,000 to \$39,999	8,980	86
\$40,000 to \$44,999	8,957	89
\$45,000 to \$49,999	7,687	79
\$50,000 to \$59,999	15,597	163
\$60,000 to \$74,999	21,056	153
\$75,000 to \$99,999	24,363	312
\$100,000 to \$124,999	15,431	134
\$125,000 to \$149,999	8,427	70
\$150,000 to \$199,999	8,465	62
\$200,000 or more	8,743	

U.S. Census Bureau
 Census 2000

Number of People Per Household

Table 2-10 represents the average number of people per family. On a whole, the United State experienced a slight increase in the number of persons per family while the State of New Jersey maintained its number of family meters. Union County experienced a slight decrease in the number of persons per family, while Garwood had a slight increase.

Table 2-10: People Per Family
Borough of Garwood, Union County, New Jersey, and United States

	<u>People Per Family</u>	
	1990	2000
Garwood Borough	2.96	3.06
Union County	3.28	3.19
State of New Jersey	3.21	3.21
United States	3.14	3.16

Household Size

Table 2-11 represents an analysis of the total number of people per household for the year 2000 for the United States, New Jersey, Union County, and the Borough of Garwood. Garwood's households are predominately comprised of 1, 2 and 3 person households representing 68.5 percent of the total.

Table 2-11: Household Size
- 2000 Census of Population
Borough of Garwood, Essex County and New Jersey

	United States		New Jersey		Union County, New Jersey		Garwood borough, New Jersey	
Total:	105,480,101		3,064,645		186,124		1,731	
Family households:	71,787,347	68.06%	2,154,539	70.30%	133,352	71.65%	1,125	64.99%
2-person household	29,264,081	40.76%	797,736	37.03%	46,138	34.60%	496	44.09%
3-person household	16,617,344	23.15%	513,857	23.85%	32,607	24.45%	274	24.36%
4-person household	14,657,823	20.42%	483,780	22.45%	30,451	22.84%	229	20.36%
5-person household	6,834,963	9.52%	226,660	10.52%	14,684	11.01%	87	7.73%
6-person household	2,595,658	3.62%	81,227	3.77%	5,590	4.19%	30	2.67%
7-or-more person household	1,817,478	2.53%	51,279	2.38%	3,882	2.91%	9	0.80%
Nonfamily households:	33,692,754	31.94%	910,106	29.70%	52,772	28.35%	606	53.87%
1-person household	27,230,075	80.82%	751,287	82.55%	43,918	83.22%	496	44.09%
2-person household	5,153,965	15.30%	129,793	17.28%	7,070	13.40%	96	8.53%
3-person household	821,683	2.44%	17,763	13.69%	1,061	2.01%	10	0.89%
4-person household	315,266	0.94%	6,730	37.89%	401	0.76%	-	0.00%
5-person household	101,923	0.30%	2,532	37.62%	176	0.33%	1	0.09%
6-person household	40,476	0.12%	1,081	42.69%	77	0.15%	3	0.27%
7-or-more person household	29,366	0.09%	920	85.11%	69	0.13%	-	0.00%
U.S. Census Bureau								
Census 2000								

Table 2-12: Household Size
- 1990 Census of Population
Borough of Garwood, Essex County and New Jersey

Family households:	United States		New Jersey		Union County, New Jersey		Garwood borough, New Jersey	
	64,517,947	70.17%	2,021,346	72.33%	131,260	72.89%	1,173	70.03%
2 persons	25,655,016	39.76%	749,362	37.07%	49,179	37.47%	480	40.92%
3 persons	15,297,566	23.71%	493,419	24.41%	32,626	24.86%	295	25.15%
4 persons	13,607,139	21.09%	451,811	22.35%	28,512	21.72%	245	20.89%
5 persons	6,115,401	9.48%	205,894	10.19%	12,983	9.89%	116	9.89%
6 persons	2,269,856	3.52%	74,177	3.67%	4,662	3.55%	29	2.47%
7 or more persons	1,572,969	2.44%	46,683	2.31%	3,298	2.51%	8	0.68%
Nonfamily households:								
	27,429,463	29.83%	773,365	27.67%	48,816	27.11%	502	29.97%
1 person	22,580,420	82.32%	646,171	83.55%	41,475	84.96%	432	86.06%
2 persons	3,798,577	13.85%	101,779	13.16%	5,690	11.66%	56	11.16%
3 persons	672,703	2.45%	16,200	2.09%	1,051	2.15%	10	1.99%
4 persons	252,955	0.92%	5,903	0.76%	399	0.82%	3	0.60%
5 persons	73,537	0.27%	1,915	0.25%	118	0.24%	1	0.20%
6 persons	30,664	0.11%	817	0.11%	40	0.08%	0	0.00%
7 or more persons	20,607	0.08%	580	0.07%	43	0.09%	0	0.00%

US Bureau of the Census
1990 Census of Population and Housing

Table 2-13 illustrates a slight shift in the number of people per household in the Borough of Garwood. The number of one and two person households have increased while households with three, four, and five members have all declined. The homes with six or more persons have grown very slightly.

Table 2-13: Household Size
- 1990 & 2000 Census of Population
Borough of Garwood

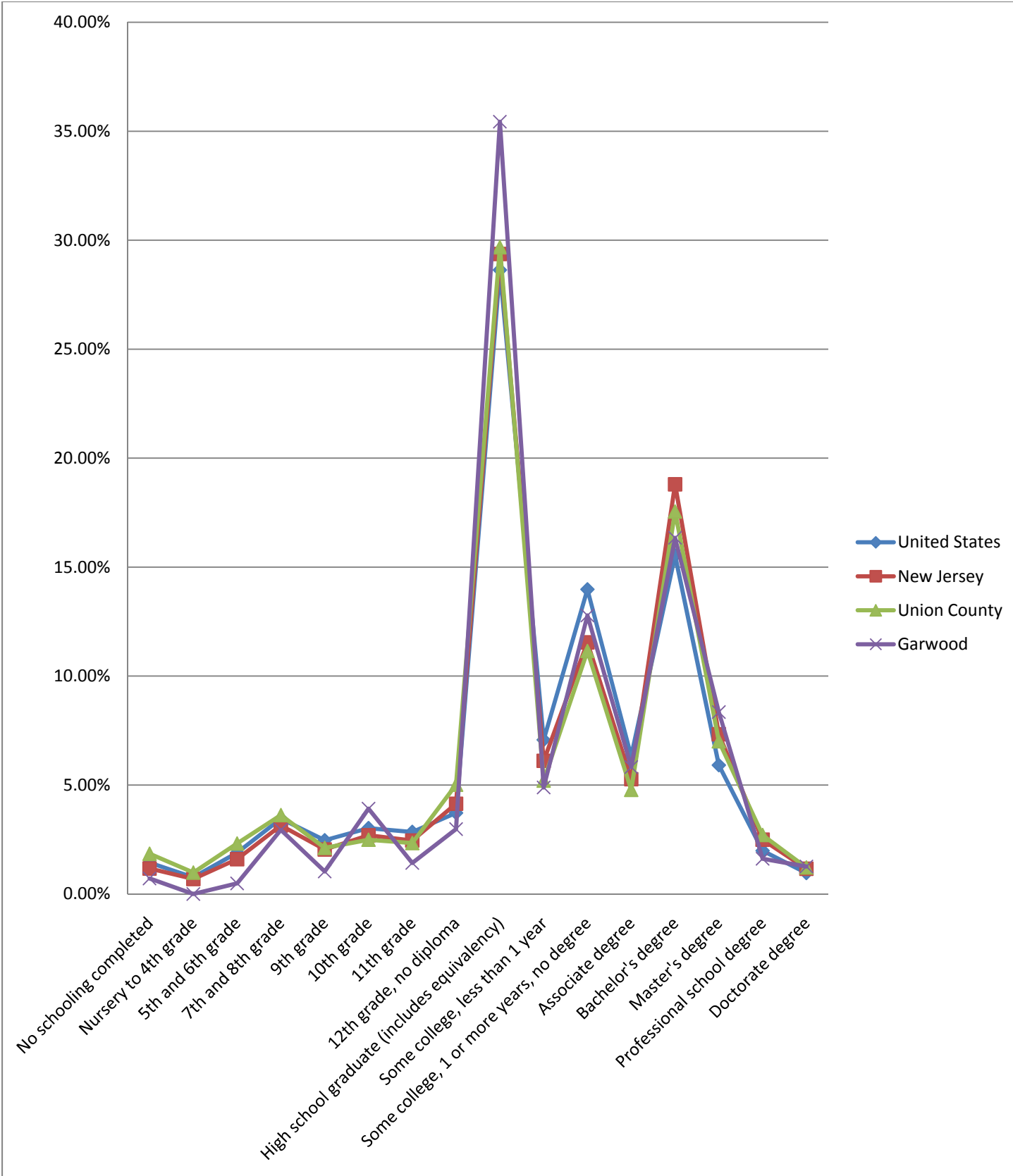
	1990		2000		Percent Change
	Number	Percent	Number	Percent	
1-person household	432	25.79%	496	28.65%	2.86%
2-person household	536	32.00%	592	34.20%	2.20%
3-person household	305	18.21%	284	16.41%	-1.80%
4-person household	248	14.81%	229	13.23%	-1.58%
5-person household	117	6.99%	88	5.08%	-1.90%
6-person household	29	1.73%	33	1.91%	0.18%
7-or-more-person household	8	0.48%	9	0.52%	0.04%
	1,675	100.00%	1,731	100.00%	

Educational Attainment

Table 2-14 indicates Educational Attainment for the United States, the State of New Jersey, Union County and the Borough of Garwood. This table, and the chart that follows, illustrates that Garwood has a high education attainment level as a percentage of its population for persons completing a high school level of education. Eighty Six and one half (86.5) percent of the population has an educational level of a High School degree or higher with 27.57 percent receiving a bachelors degree.

Table 2-14: Educational Attainment
- 2000 Census of Population
United States, New Jersey, Union County, Borough of Garwood

	United States		New Jersey		Union County, New Jersey		Garwood Borough, New Jersey	
Total:	182,211,639		5,657,799		351,903		3,090	
No schooling completed	2,617,960	1.44%	66,193	1.17%	6,497	1.85%	22	0.71%
Nursery to 4th grade	1,389,512	0.76%	38,862	0.69%	3,450	0.98%		0.00%
5th and 6th grade	3,450,278	1.89%	90,458	1.60%	8,149	2.32%	15	0.49%
7th and 8th grade	6,297,727	3.46%	177,916	3.14%	12,739	3.62%	91	2.94%
9th grade	4,492,879	2.47%	115,498	2.04%	7,438	2.11%	32	1.04%
10th grade	5,506,115	3.02%	152,443	2.69%	8,762	2.49%	121	3.92%
11th grade	5,187,579	2.85%	138,830	2.45%	8,221	2.34%	44	1.42%
12th grade, no diploma	6,773,575	3.72%	234,277	4.14%	17,643	5.01%	92	2.98%
High school graduate (includes equivalency)	52,168,981	28.63%	1,661,493	29.37%	104,431	29.68%	1,095	35.44%
Some college, less than 1 year	12,884,843	7.07%	345,733	6.11%	18,305	5.20%	151	4.89%
Some college, 1 or more years, no degree	25,466,752	13.98%	653,139	11.54%	39,229	11.15%	395	12.78%
Associate degree	11,512,833	6.32%	298,096	5.27%	16,815	4.78%	180	5.83%
Bachelor's degree	28,317,792	15.54%	1,063,665	18.80%	61,760	17.55%	505	16.34%
Master's degree	10,770,947	5.91%	414,692	7.33%	24,661	7.01%	258	8.35%
Professional school degree	3,619,535	1.99%	140,980	2.49%	9,523	2.71%	50	1.62%
Doctorate degree	1,754,331	0.96%	65,524	1.16%	4,280	1.22%	39	1.26%



2000 Census Tracts and Block Groups

The census defines a census tract as follows:

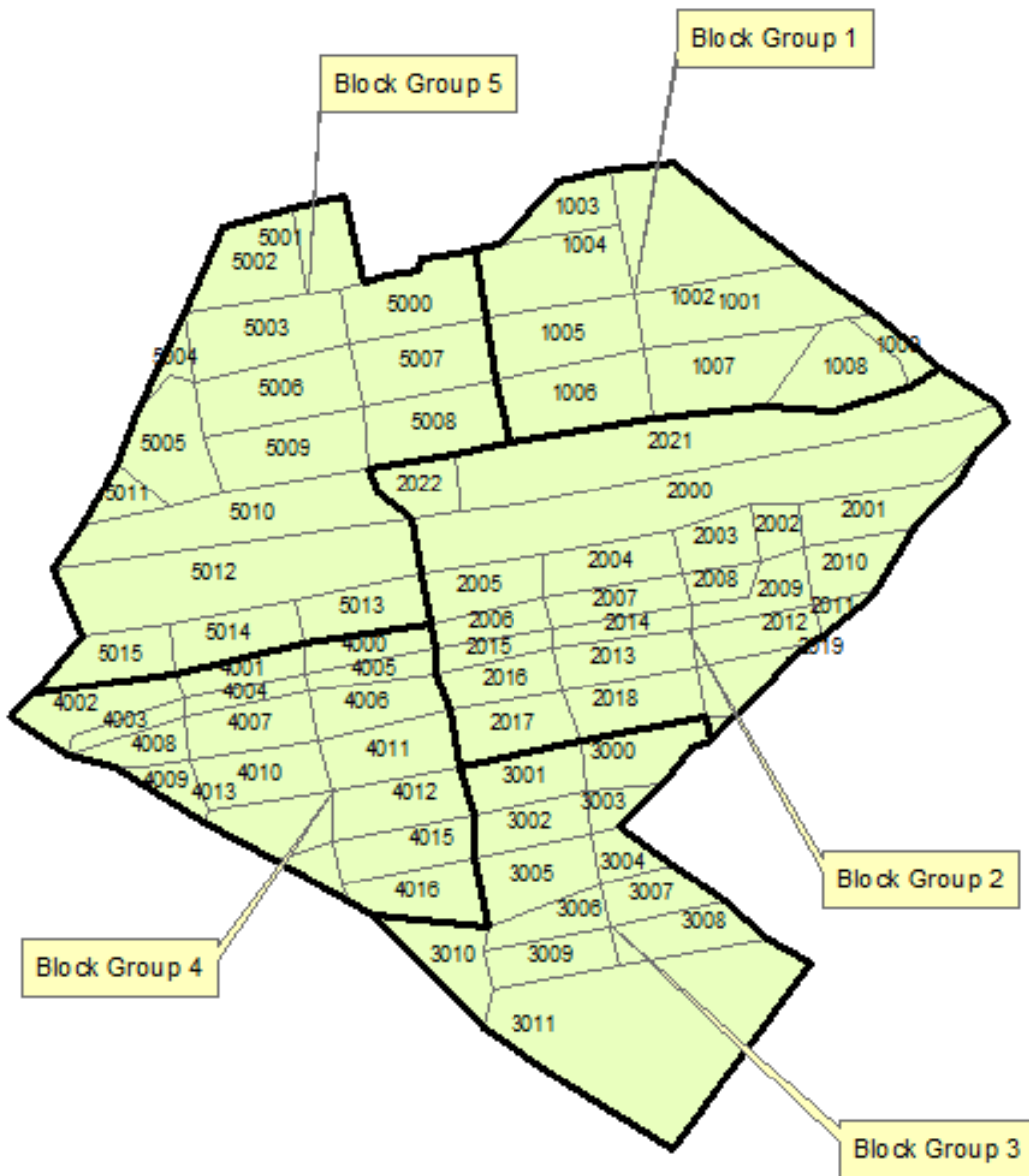
A small, relatively permanent statistical subdivision of a county delineated by a local committee of census data users for the purpose of presenting data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries and other non-visible features in some instances; they always nest within counties. Designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment, census tracts average about 4,000 inhabitants. They may be split by any sub-county geographic entity.

The census defines a census block group as follows:

A subdivision of a census tract (or, prior to 2000, a block numbering area), a block is the smallest geographic unit for which the Census Bureau tabulates 100-percent data. Many blocks correspond to individual city blocks bounded by streets, but blocks -- especially in rural areas - may include many square miles and may have some boundaries that are not streets. The Census Bureau established blocks covering the entire nation for the first time in 1990. Previous censuses back to 1940 had blocks established only for part of the nation. Over 8 million blocks are identified for Census 2000.

The 2000 Census divides the Borough of Garwood into Five Census Block Groups and sixty nine blocks as shown below:

Map 2 -1: Census Block Groups and Block Location
Borough of Garwood



Census Block Group One

Census block group one contains 295 tax lots, is 63.67 acres in size and represents 16.93 percent of the municipality. Census block group one is bounded by the municipal boundary with Cranford to the north and to the east, South Avenue to the south and Cedar Street to the west. The demographics of this block group are as follows:

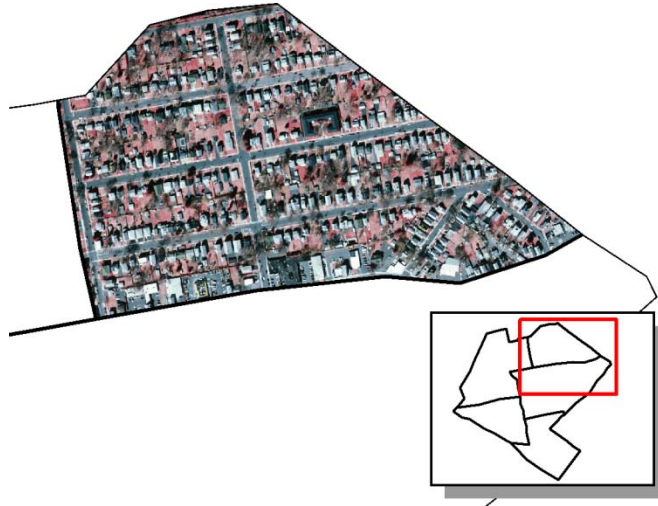


Table 2-15:
Socio-economic Indicators
Census Block Group One

	Square Miles	0.099
	Acres	63.67
	2000 Population	968
	Males	447
	Females	521
Pre School Age	Under 5	16
School Age	5 – 17	118
College Age	18 – 21	27
Primary Child Bearing Years	22 – 29	124
Primary Child Bearing Years	30- 39	211
	40-49	139
	50-64	151
Retirement Age	Over 65	140
	Median Age	37.64
	Households	435
	Average Household Size	2.13
	Families	238
	Average Family Size	2.98
	Housing Units	447
	Vacant Units	12
	Owner Occupied Units	217
	Renter Occupied Units	218

Census Block Group Two

Census block group two contains 357 tax lots, is 114.79 acres in size and represents 20.53% percent of the municipality. Census block group two is bounded by North Avenue to the north, the municipal boundary with Cranford to the east, Center Street to the west and Locust Avenue to the south. The demographics of this block group are as follows:

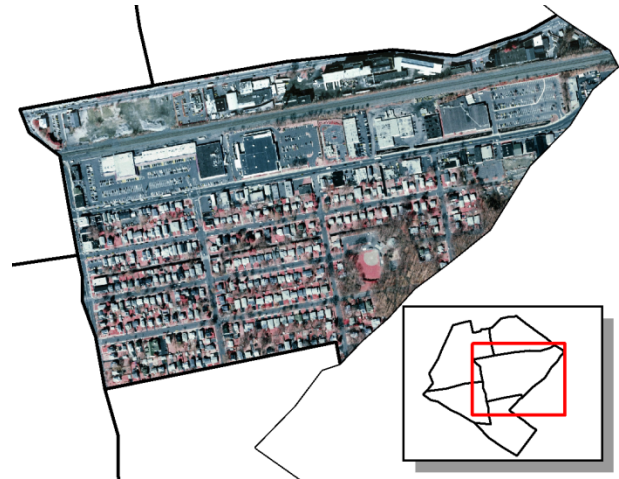


Table 2-16:
Socio-economic Indicators
Census Block Group 2

	Square Miles	0.1796
	Acres	114.97
	2000 Population	1086
	Males	414
	Females	437
Pre School Years	Under 5	48
School Age Years	5 - 17	113
College Age Years	18 - 21	33
Primary Child Bearing Years	22 - 29	97
Primary Child Bearing Years	30- 39	154
	40-49	143
	50-64	126
Retirement Age	Over 65	137
	Median Age	34.55
	Households	356
	Average Household Size	2.177
	Families	232
	Average Family Size	2.65
	Housing Units	372
	Vacant Units	16
	Owner Occupied Units	233
	Renter Occupied Units	133

Census Block Group Three

Census block group three contains 246 tax lots, is 71.877 acres in size and represents 19.11 percent of the municipality. Census block group three is bounded by the municipal boundary with Cranford to the east and south and the municipal boundary with Westfield to the west and south, and Locust Avenue to the North. The demographics of this block group are as follows:

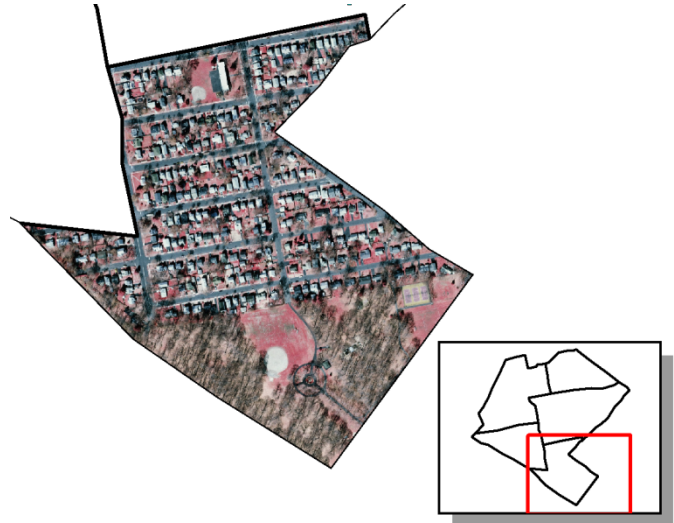


Table 2-17:
Socio-economic Indicators
Census Block Group Three

	Square Miles	0.1123
	Acres	71.877
	2000 Population	639
	Males	299
	Females	340
Pre School Years	Under 5	41
School Age Years	5 - 17	97
College Age Years	18 - 21	17
Primary Child Bearing Years	22 - 29	42
Primary Child Bearing Years	30- 39	111
	40-49	94
	50-64	19
Retirement Age	Over 65	138
	Median Age	40.24
	Households	251
	Average Household Size	2.54
	Families	194
	Average Family Size	2.95
	Housing Units	258
	Vacant Units	7
	Owner Occupied Units	218
	Renter Occupied Units	33

Census Block Group Four

Census block group four contains 322 tax lots, is 62.81 acres in size and represents 16.72 percent of the municipality. Census block group four is bounded by Willow Avenue to the north, Center Street to the west and the municipal boundary with Westfield to the south and west. The demographics of this block group are as follows:



Table 2-18:
Socio-economic Indicators
Census Tract 210 Block 4

	Square Miles	0.098
	Acres	62.81
	2000 Population	879
	Males	436
	Females	443
Pre School Year	Under 5	41
School Age Years	5 - 17	124
College Age Years	18 - 21	27
Primary Child Bearing Years	22 - 29	84
Primary Child Bearing Years	30- 39	162
	40-49	122
	50-64	132
Retirement Age	Over 65	187
	Median Age	41.54
	Households	366
	Average Household Size	2.464
	Families	248
	Average Family Size	2.954
	Housing Units	374
	Vacant Units	8
	Owner Occupied Units	270
	Renter Occupied Units	96

Census Block Group Five

Census block group five contains 305 tax lots, is 108.95 acres in size and represents 16.70 percent of the municipality. Census block group five is Westfield to the north and west, Willow Avenue to the South, Center Street from Willow Avenue to North Avenue, and then to Cedar Street to the west. The demographics of this block group are as follows:

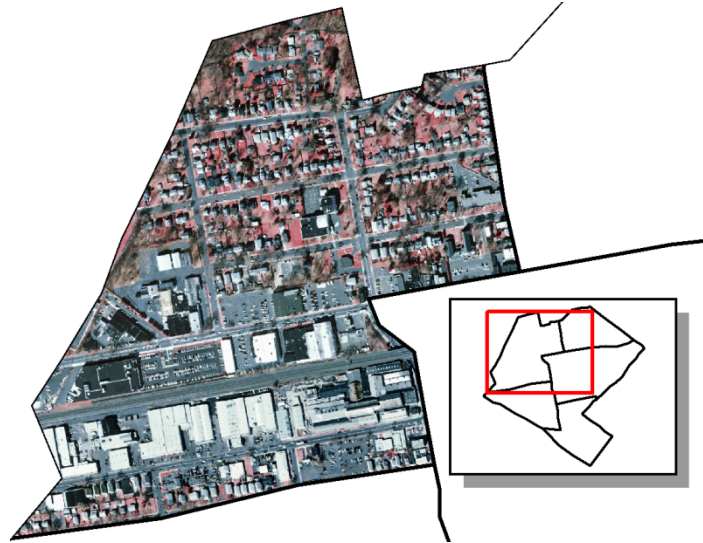


Table 2-19:
Socio-economic Indicators
Census Block Group Five

	Square Miles	0.1702
	Acres	108.95
	2000 Population	816
	Males	409
	Females	407
Pre School Year	Under 5	43
School Age Years	5 -- 17	148
College Age Years	18 - 21	33
Primary Child Bearing Years	22 - 29	84
Primary Child Bearing Years	30- 39	158
	40-49	146
	50-64	90
Retirement Age	Over 65	114
	Median Age	32.06
	Households	323
	Average Household Size	2.24
	Families	213
	Average Family Size	2.66
	Housing Units	331
	Vacant Units	8
	Owner Occupied Units	167
	Renter Occupied Units	156

Existing Land Use



SECTION 3 - EXISTING LAND USE

The analysis of land use is one of the fundamental steps in formulating a plan for the future development of a community. The analysis of existing land use identifies the amount, the location and the relationship of various land uses to one another. Once this data is identified, analysis of physical and environmental constraints affecting the municipality can be prepared to determine the amount and location of developable land in Garwood. This information can then serve as a basis for forecasting future land use, the intensity of use and for the formulation of the land use plan element.

A digital lot-line base map was prepared for the land-use survey. The categories of land use include residential, commercial and office, industrial and three public-use categories as well as separate categories for semi-public uses, streets and roads, and railroads. Additionally, vacant and developable lands, including undeveloped lands are also identified in current zones.

LAND USE IN GARWOOD

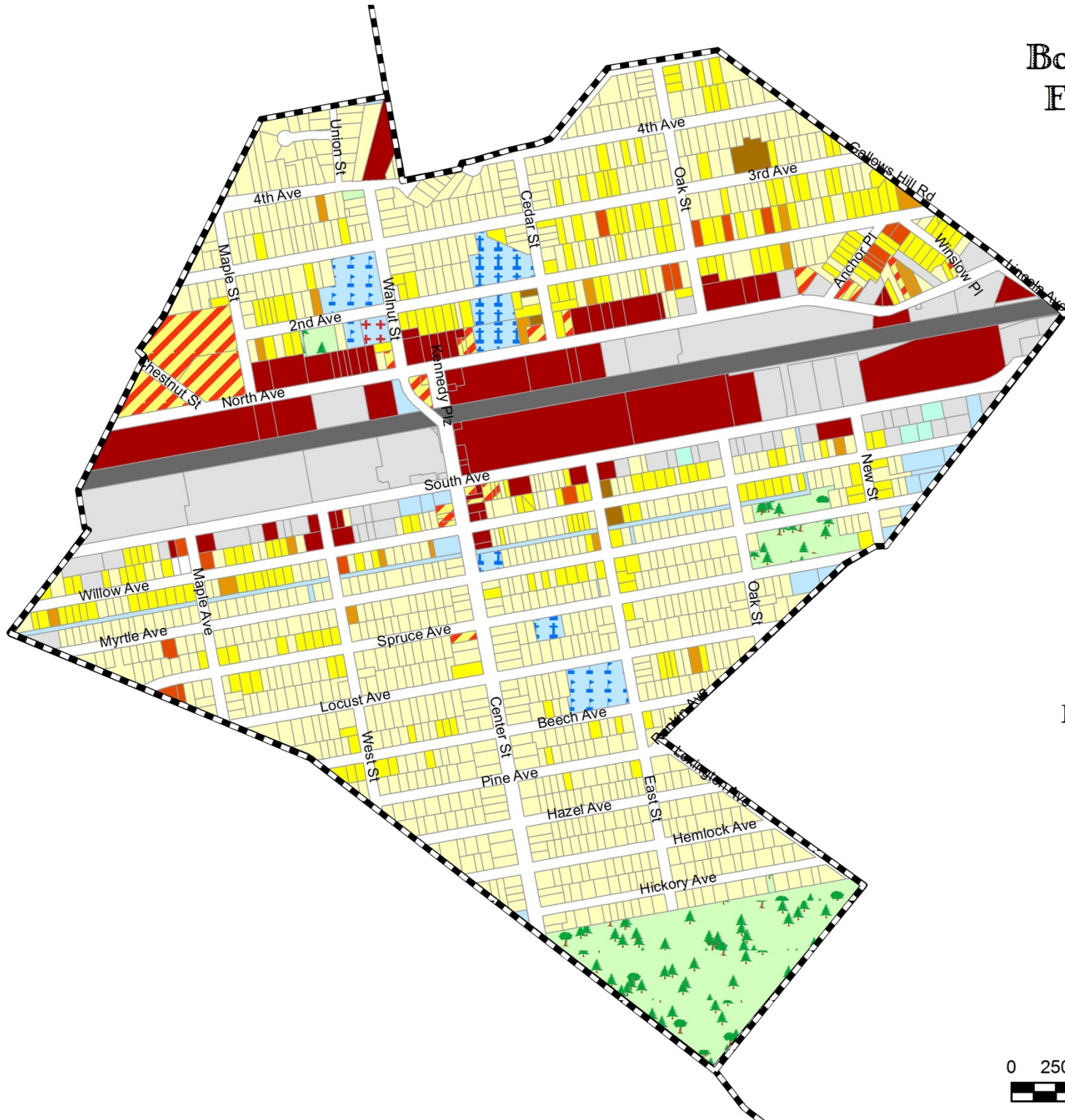
The Borough of Garwood has grown from seventy five homes and four hundred persons in 1903 to a Borough of 4,153 people in 2000. Garwood quickly became Union County's industrial focal point. The development pattern represents a broad array of land uses. Residential development accounts for 179.81 acres of land and is the largest land use in the Borough. Residential development accounts for approximately 55.74 percent of the land area of Garwood. Commercial and mixed uses are the second largest land use in the Borough totaling 49.97 acres of land or 15.19 percent of the community. Industrial uses account for the third largest use of land at 12.20 percent. A comprehensive analysis of the land use within the municipality can be found on the following page.

Table 3-1:
Existing Land Use
Borough of Garwood

LAND USE CATEGORY	NUMBER OF LOTS	AREA (ACRES)	PERCENT OF	
			LOTS	AREA
RESIDENTIAL				
SINGLE-FAMILY	1,012	139.15	66.36	43.15
TWO-FAMILY	256	33.43	16.79	10.36
THREE-FAMILY	19	3.04	1.25	0.94
FOUR-FAMILY	18	2.85	1.18	0.88
MORE THAN FOUR FAMILY	5	1.34	0.33	0.41
COMMERCIAL				
COMMERCIAL	66	39.89	4.33	12.37
MIXED USE	26	9.08	1.70	2.82
INDUSTRIAL				
INDUSTRIAL	68	39.35	4.46	12.20
PUBLIC				
SCHOOLS	3	4.29	0.20	1.33
PARKS & OPEN SPACE	7	24.81	0.46	7.69
OTHER TAX EXEMPT	27	6.84	1.84	2.12
FIRST AID	1	0.52	0.07	0.16
SEMI PUBLIC				
SEMI PUBLIC	4	0.69	0.20	0.21
HOUSES OF WORSHIP				
HOUSES OF WORSHIP	5	4.15	0.33	1.29
TRAIN RAIL ROAD RIGHT OF WAY				
TRAIN RAIL ROAD RIGHT OF WAY	2	12.61	0.13	3.91
STREETS/RIGHTS-OF-WAY				
STREETS/RIGHTS-OF-WAY		99.61		
VACANT AND UNDEVELOPED				
VACANT AND UNDEVELOPED	6	0.50	0.39	0.16

SOURCE: EXISTING LAND USE SURVEY

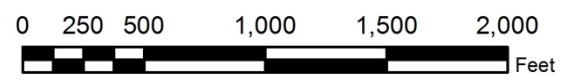
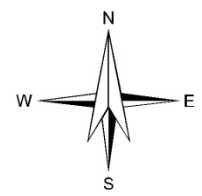
Borough of Garwood Existing Land Use



- Single Family
- Two Family
- Three Family
- Four Family
- More than Four Family
- Commercial
- Mixed Use
- Industrial
- House of Wordhip
- Park land
- Public
- School
- First Aid
- Semi Public
- Train Right of Way
- Vacant

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 June 2008



Existing Land Use by Census Block Groups

Census Block Group One

Census block group one contains 295 tax lots, is 63.67 acres in size and represents 16.93 percent of the municipality. Census block group one is bounded by the municipal boundary with Cranford to the north and to the east, South Avenue to the south and Cedar Street to the west. The land uses found in block group are as follows:

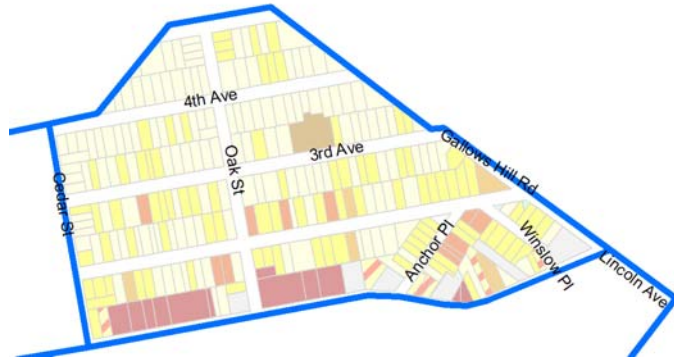


Table 3-2:
Existing Land Use
Block Group 1

	Number of		Percent of Block by	
	Lots	Acres	Lots	Acreage
Vacant	1	0.07	0.34	0.314
Single Family	157	25.06	52.64	50.44
Two Family	92	13.53	31.19	27.99
Three Family	6	1.16	2.03	2.39
Four Family	11	1.74	3.73	3.59
More than Four Family	1	0.79	0.34	
Mixed Use	7	1.05	2.37	2.17
Industrial	7	2.03	2.37	4.20
Total Lots	295	48.33	100.00%	
Street rights-of-way		15.34		
Total Block Group		63.67		

Census Block Group Two

Census block group two contains 357 tax lots, is 114.79 acres in size and represents 20.53% percent of the municipality. Census block group two is bounded by North Avenue to the north, the municipal boundary with Cranford to the east, Center Street to the west and Locust Avenue to the south. The land uses found within this block group are as follows:

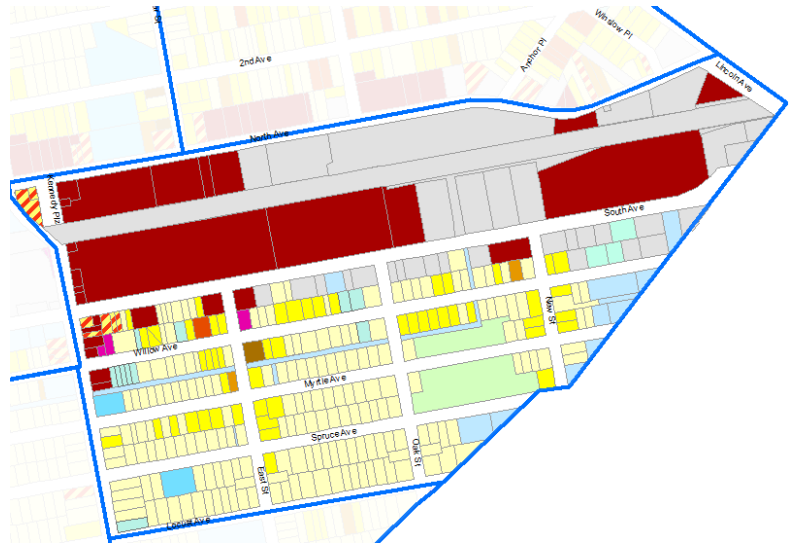


Table 3-2:
Existing Land Use
Block Group 2

	Number of		Percent of Block by	
	Lots	Acres	Lots	Acreage
Single Family	192	23.25	53.78	25.75
Two Family	52	5.88	14.57	6.51
Three Family	2	0.22	0.56	0.25
Four Family	1	0.18	0.28	0.20
More than Four Family	1	0.21	0.28	0.24
Mixed Use	7	0.69	1.96	0.77
Commercial	26	23.64	7.28	26.18
Industrial	36	17.90	10.08	19.82
House of Worship	2	0.77	0.56	0.86
Park	2	3.56	0.56	3.95
Public	16	3.67	4.48	3.19
Semi Public	4	0.89	1.12	0.77
Railroad Right of Way	1	8.04	0.28	8.91
Total Lots	357	90.31	100.00%	
Street rights-of-way		24.48		
Total Block Group		114.79		

Census Block Group Three

Census block group three contains 246 tax lots, is 71.877 acres in size and represents 19.11 percent of the municipality. Census block group three is bounded by the municipal boundary with Cranford to the east and south and the municipal boundary with Westfield to the west and south, and Locust Avenue to the North. The land uses found within this block group are as follows:



Table 3-3:
Existing Land Use
Block Group 3

	Number of		Percent of Block by	
	Lots	Acres	Lots	Acreage
Single Family	229	30.33	93.09	55.83
Two Family	11	1.28	4.47	2.36
Three Family	1	0.21	0.41	0.38
Park	2	20.42	0.41	37.59
Public	1	1.88	0.11	0.22
School	1	1.88	0.41	3.46
<hr/>				
Total Lots	246	54.34	100.00%	
Street rights-of-way		17.54		
Total Block Group		71.88		

Census Block Group Four

Census block group four contains 322 tax lots, is 62.81 acres in size and represents 16.72 percent of the municipality. Census block group four to bounded by Willow Avenue to the north, Center Street to the west and the municipal boundary with Westfield to the south and west. The land uses found within this block group are as follows:



Table 3-4:
Existing Land Use
Block Group 4

	Number of		Percent of Block by	
	Lots	Acres	Lots	Acreage
Single Family	256	34.50	80.00	78.86
Two Family	48	5.88	15.00	13.45
Three Family	5	0.66	1.56	1.50
Four Family	4	0.62	1.25	1.41
Mixed Use	1	0.17	0.31	0.39
Vacant	1	0.11	0.31	0.26
Public	5	1.80	1.56	4.12
Total Lots	320	44	100.00%	
Street rights-of-way		18.81		
Total Block Group		62.81		

Census Block Group Five

Census block group five contains 305 tax lots, is 108.95 acres in size and represents 16.70 percent of the municipality. Census block group five is Westfield to the north and west, Willow Avenue to the South, Center Street from Willow Avenue to North Avenue, and then to Cedar Street to the west. The land uses found within this block group are as follows:



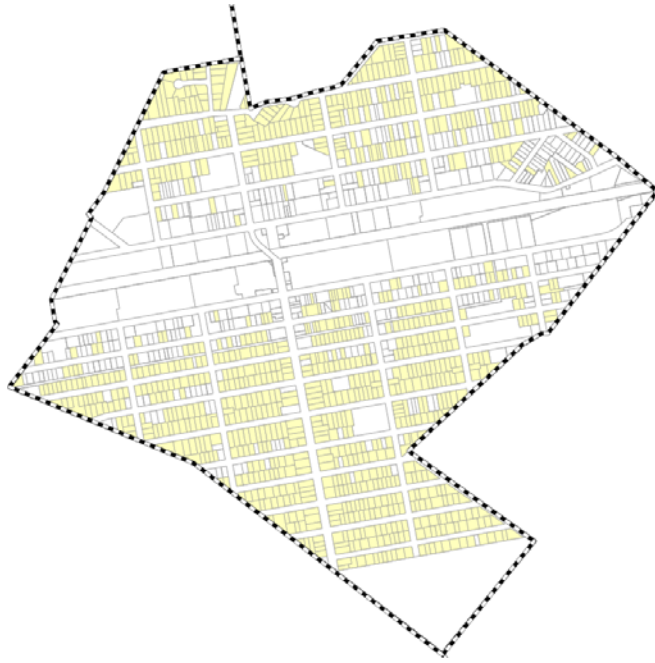
Table 3-5:
Existing Land Use
Block Group 5

	Number of		Percent of Block by	
	Lots	Acres	Lots	Acreage
Single Family	162	25.74	53.11	30.10
Two Family	49	6.36	16.07	7.43
Three Family	5	0.79	1.64	0.93
Four Family	2	0.31	0.66	0.36
More than Four Family	2	0.19	0.66	0.22
Commercial	26	12.57	8.52	14.70
Mixed Use	11	7.16	3.61	8.38
Industrial	24	19.09	7.87	22.33
Vacant	3	0.26	0.98	0.26
Park	1	0.13	0.33	0.15
Public	7	1.55	1.69	1.26
School	4	3.22	1.31	3.76
Vacant	3	0.26	0.98	0.31
Field Verification needed	4	0.16	1.31	0.18
Total Lots	305	85.51	100.00%	
Street rights-of-way		23.44		
Total Block Group		108.95		

Existing Land Use by Classification

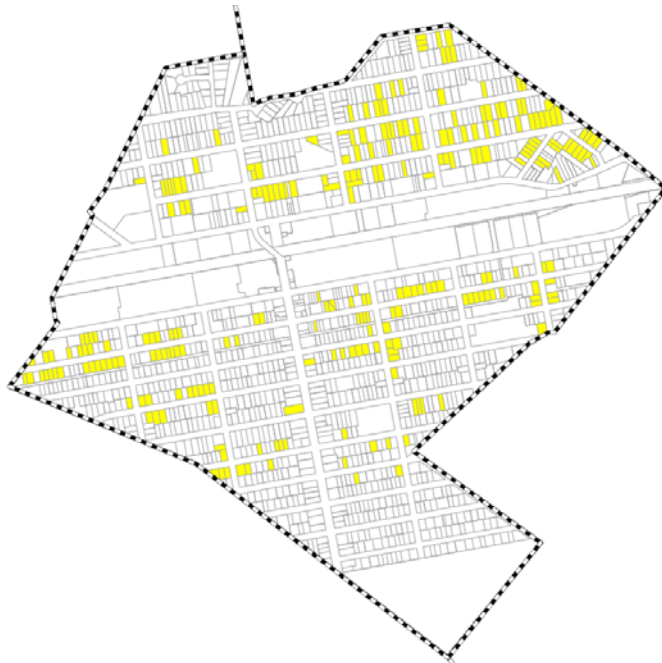
Residential Land Use

Single Family



As noted in Table 3-1 residential development of single-family is the predominant land use in the community accounting for 139.15 acres of land, or 43.15 percent of the total land area of Garwood.

Two Family



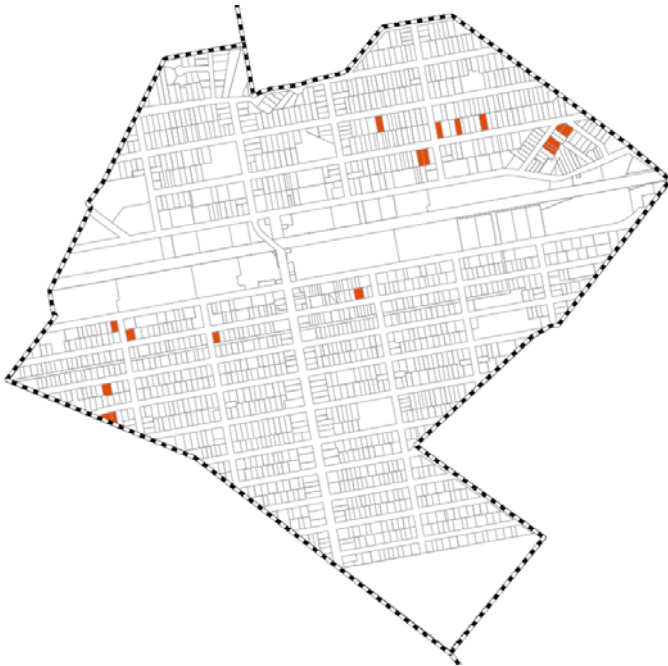
As noted in Table 3-1, residential development of two family homes account for 33.43 acres of land, or 10.36 percent of the total land area of Garwood.

Three Family



As noted in Table 3-1 residential development of three-family housing accounts for 3.04 acres of land, or 0.94 percent of the total land area of Garwood.

Four Family



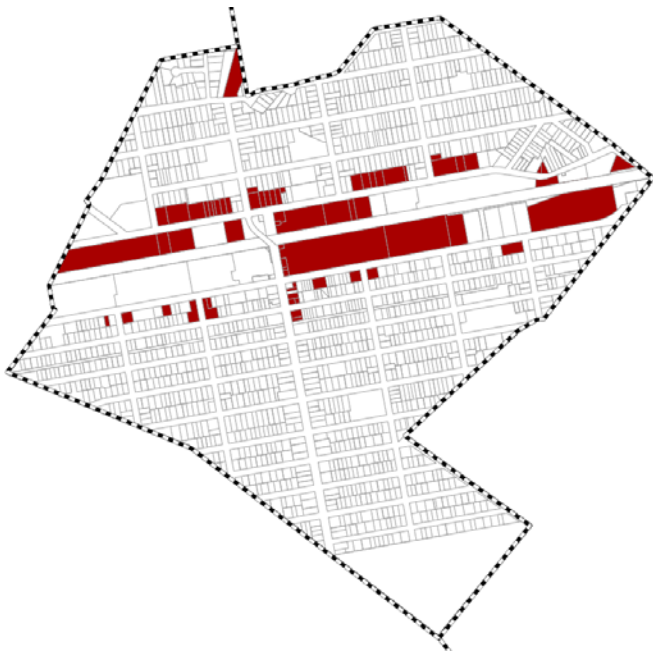
As noted in Table 3-1 residential development of four-family housing accounts for 2.85 acres of land, or 0.88 percent of the total land area of Garwood.

More than Four Family



As noted in Table 3-1 residential development for more than four-family housing accounts for 2.85 acres of land, or 0.88 percent of the total land area of Garwood.

Commercial & Office Land Use



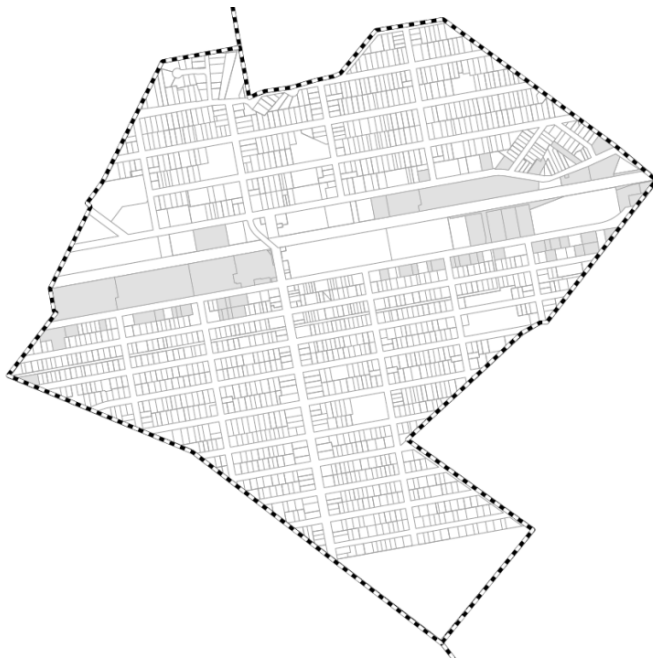
Commercial and office land uses are concentrated primarily in two locations: along North and South Avenues. Commercial uses comprise 39.89 acres of land, or 12.37 percent of the total land area of Garwood.

Mixed Use



Mixed uses development occurs along North Avenue and Chestnut Street. Mixed uses comprise 9.08 acres of land, or 2.82 percent of the total land area of Garwood.

Industrial Land Use



Industrial land uses occur along both North and South Avenues. Industrial lands comprise 39.35 acres of land, or 12.20 percent of the total land area of Garwood.

Public Land Uses

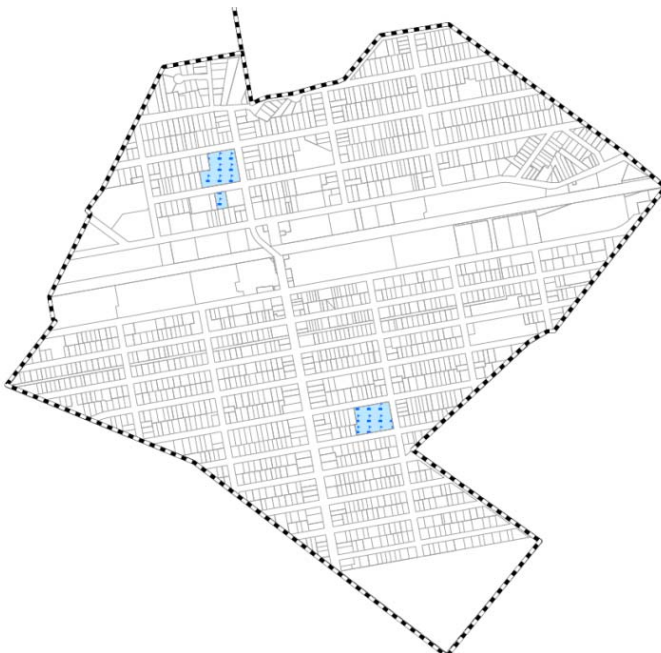
Lands that are publicly owned and committed to specific uses total more than 36.46 acres of land, or approximately 11.3 percent of all land in Garwood. These functions are divided into five sub-categories, which are discussed in greater detail below.

Public



There are a number of lots within the borough of Garwood that are utilized for public use. This classification incorporates lands utilized for the Department of Public Works, lands at the eastern terminus of Myrtle Avenue, and the channelization of Rahway River.

Schools

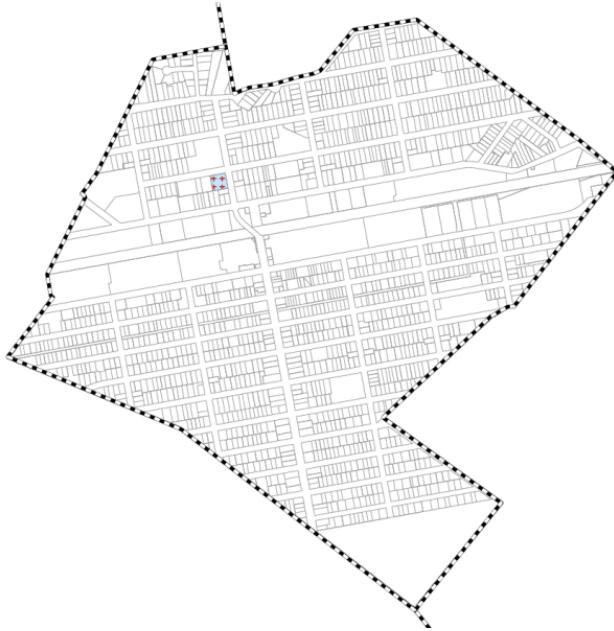


There are two public schools in Garwood. These schools are:

- 1) Lincoln School
- 2) Washington School

The 2006-2007 school report cards can be found in the existing community facilities plan of this report.

First Aid



The first aid squad has its headquarters at the intersection of Walnut Street and Second Avenue.

Streets and Roads

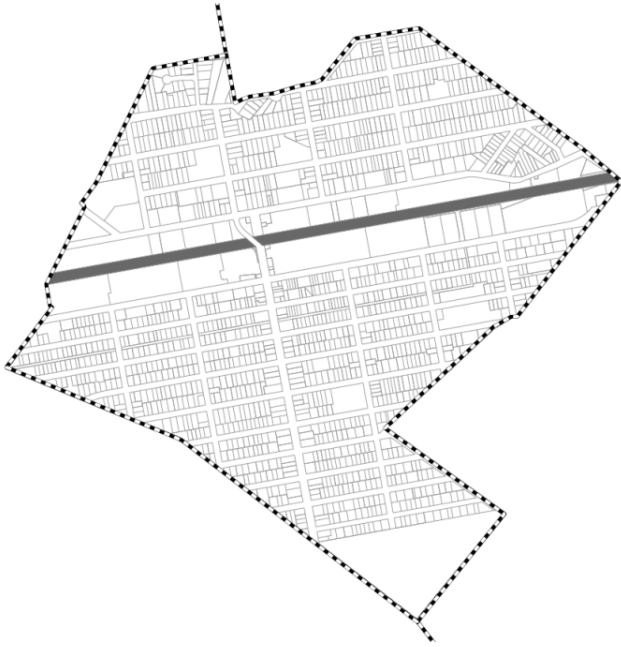
There are a total of 99.61 acres of land that are devoted to streets and roads in the Borough of



Garwood. This represents 23.22 percent of the area of the Borough. North Avenue is also known as Route 28 and is classified by the New Jersey Department of Transportation as an Urban Principal Arterial Roadway. South Avenue is also known as County Route 610 is classified by the New Jersey Department of Transportation as an Urban Minor Arterial Roadway.

Rail Road Right Of Way

There are a total of 12.61 acres of land that are devoted to New Jersey Transit Rail Road right of way in the Borough of Garwood. This represents 3.91 percent of the area of the Borough. .



Recreation and Open Space



The Borough of Garwood and the County of Union maintains large and small parcels that are used or dedicated for parks, recreation and open-space which are scattered throughout the Borough. Collectively, there are 24.81 acres of recreational land in the community.

Hartman Park is located on the north side of town on the 400 block of Second Avenue. The park has picnic tables, swings, play equipment, water fountain and a large basket ball court.

Georgiana Memorial Park located on the north side of town at the corner of Walnut Street and Fourth Avenue is a tribute to the late Mayor Georgiana Gurrieri. There is a gazebo and benches to sit.

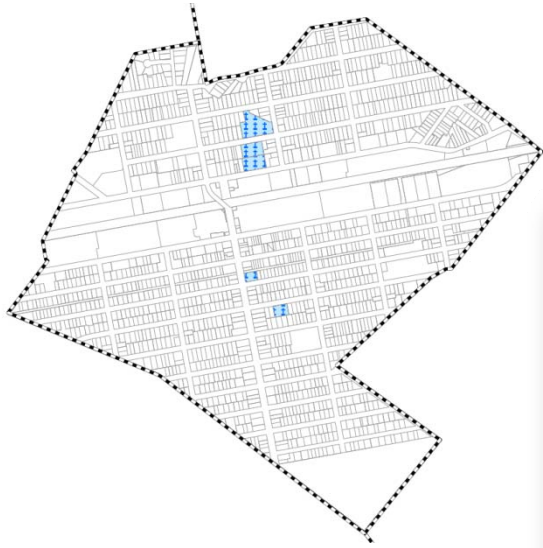


Garwood Little League Park is located on the south side of town at the end of Myrtle avenue. This park is the official little league field of Garwood. There are picnic tables, gazebo and play equipment.

Unami Park located on the south side of town off of Hickory Avenue is a county owned park with play equipment, baseball/soccer fields, bathroom facilities, bike trails and picnic tables.



Houses of Worships



There are three Houses of Worship within the Borough of Garwood offering residents religious facilities of many faiths.



St. Paul's United Church of Christ
213 Center Street

St. Paul's was established in 1907 as the German Evangelical Lutheran St. Paul's Church of Garwood. The church was organized through the efforts of the German speaking citizens, had services conducted entirely in German and initially met at the home of its members. Services moved to Britz Hall and then to the old Garwood Schoolhouse, located at St. Paul's present site. In 1953 due to the merger of the Evangelical and Reformed Churches the church was renamed St. Paul's Evangelical and Reformed Church. The final name change came in 1963 due to the merger of the Evangelical Reformed and Congregational Churches, when the house of worship became St. Paul's United Church of Christ. A new sanctuary was built in 1964 and the school meeting hall was built in 1982.



Church of St. Anne
325 Second Avenue

St. Anne's Church was built in 1926. St. Anne's parish grew out of the Catholic Club of Garwood and was originally part of St. Michael's Parish in Cranford. The school was erected in 1951, followed by the combination rectory/administration building in 1970.

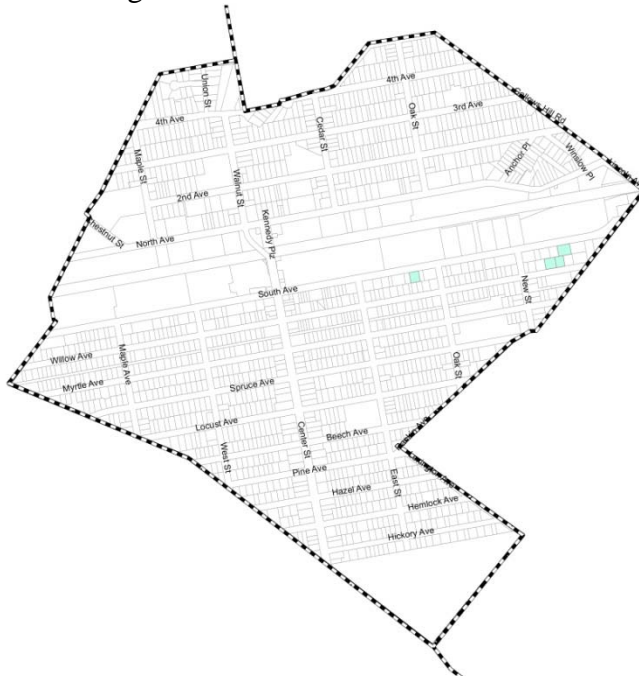
Garwood Presbyterian Church
341 Spruce Avenue



The First Presbyterian Church began meeting in a house that once stood where the old borough hall was on the corner of South Avenue and Center Street. In 1898, they moved across the street and then to the first schoolhouse, which is now St. Paul's Church. In 1905 the construction began for the Garwood Presbyterian Church on Spruce Avenue.

Semi Public

The Borough of Garwood has a two semi public uses in town the Knights of Columbus and the Veterans of Foreign Wars both located on South Avenue.



Environmental Features



SECTION 4 – ENVIRONMENTAL FEATURES

Protection of natural resources requires more than just regulatory controls. It is necessary to establish proactive planning techniques to be implemented at all levels of government not only to address existing harmful threats but also to guide future development activities to be compatible with the protection of these resources. Among the environmental features to be examined in this report are wetlands, flood hazard areas and soil conditions. A discussion of soil contamination and remediation are also included in this section.

Wetland Areas

Wetlands, until recently, were considered wastelands suitable primarily for drainage, fill and subsequent development. The significance of freshwater wetlands in the maintenance of environmental quality through flood control, groundwater protection, pollution filtration and ecological productivity has been recognized by both the Federal and State governments.

Several years ago, the Federal government undertook a nationwide survey of wetlands. The National Wetlands Inventory, prepared by the United States Department of the Interior, Fish and Wildlife Service, provided a comprehensive inventory of wetland areas for all municipalities in the State of New Jersey as well as the Country. The Wetlands Inventory noted that the data was prepared

... primarily by stereoscopic analysis of high altitude aerial photographs ... and were identified on the photographs based upon vegetation, visible hydrology and geography in accordance with classification of wetlands and Deep - Water Habitats of the United States ...

The U.S. Department of the Interior, Fish and Wildlife Service, had defined wetlands as follows:

In general terms, wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. The single feature that most wetlands share is soil or substrate that is at least periodically saturated with or covered by water. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soils.

WETLANDS are lands transitional between terrestrial and aquatic systems where the table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water at some time during the growing season of each year.

There are no wetlands located within the municipal boundaries of Garwood. However, there are two wetland areas immediately adjacent to the municipality. There is a managed wetland area in Unami Park located in Cranford.

Managed Wetlands

Included in this category are former natural wetland areas that now are part of an altered managed landscape, but which still exhibit signs of soil saturation on the imagery. These areas do not support typical wetland vegetation, but are vegetated primarily by grasses and other planted vegetation that may be routinely mowed. Examples of this category would be wet areas in golf courses, and athletic fields, maintained open lawns and storm water swales in residential, commercial or industrial areas. None of the wetlands included in this category are routinely inundated, although the swales may be on occasion. These altered wetlands exist on areas shown on the US Soil Conservation Service soil surveys to have hydric soils.

A second larger wetland area is located to the north between Cranford and Westfield. This wetland area has been identified as a deciduous wooded wetland.

Deciduous Wooded Wetlands

These wetlands are closed canopy swamps dominated by deciduous trees normally associated with watercourses, edges of marshes, and isolated wetlands. The important canopy species includes *Acer rubrum*, *Nyssa sylvatica*, *Fraxinus pennsylvanica*, *Salix nigra*, *Quercus bicolor*, *Q. phellos*, *Q. falcata*, *Liquidambar styraciflua*, and *Platanus occidentalis*. These species combine to form a series of mixed hardwood lowland habitats throughout the entire state. These species have photographic signatures that exhibit height, rough texture, and are dark blue-gray to dark gray or black on winter infrared, and gray to dark gray on panchromatic film.

The Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A, as amended calls for the provision of Transition Areas or buffer areas adjacent to wetland areas classified as being of exceptional and of intermediate resource value. The standard width of transition areas adjacent to wetlands of exceptional value is 150 feet, while transition areas adjacent to wetlands of intermediate value are required to be 50 feet in width.

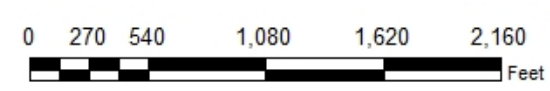
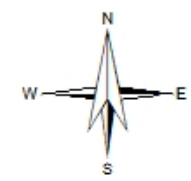
N.J.A.C. 7:7A-6.1(a) 1 and 2 describes freshwater wetland transition areas as follows:

1. An ecological transition zone from uplands to freshwater wetlands which is an integral portion of the freshwater wetlands ecosystem, providing temporary refuge for freshwater wetlands fauna during high water episodes, critical habitat for animals dependent upon but not resident in freshwater wetlands, and slight variations of freshwater wetland boundaries over time due to hydrologic or climatologic effects; and
2. A sediment and stormwater control zone to reduce the impacts of development upon freshwater wetlands and freshwater wetlands species.

In the event that the characteristics and limits of a wetlands area are known, it is necessary to ensure that transition areas are provided pursuant to the requirements of the Freshwater Wetlands Protection Act.

Borough of Garwood Existing Wetland Delineation

Kasler Associates, PA
Land Use Consultants
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www.KaslerAssociates.com



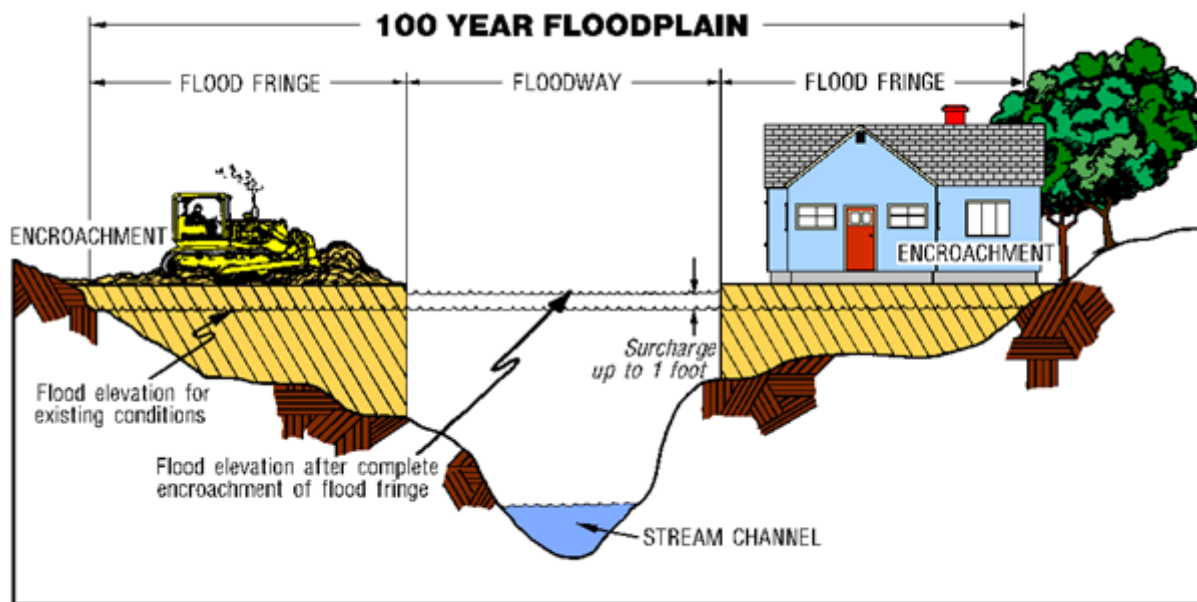
Flood Prone Areas

Floods pose serious threats to life and property affecting not only abutting property owners, but down-stream neighbors as well. As development occurs in up-stream areas, lands in flood plains may be filled, thereby diminishing the capacity to store flood waters. This diminished capacity means that downstream areas may be subject to increased volumes of water causing additional flooding. It is for this reason that flood prone areas are included as part of this report. These environmentally critical areas are delineated on the environmentally sensitive areas maps. The flood prone areas were ascertained from USGS Flood prone Maps. USGS defines a flood prone area where there is on the average about 1 chance in 100 that the designated areas will be inundated in any year.

The flood prone areas have been delineated through the use of readily available information based on past floods rather than from detailed surveys and inspection. In general, the delineated areas are for natural conditions and do not take into account the possible effects of existing or proposed flood control structures except where those effects could be evaluated.

This data is also pertinent for planning purposes since it signals areas where development may be restricted because of direct threats to property and life, and because of potential degradation of the abutting water courses by the introduction of pollutants.

Everyone lives in some type of flood zone. These are geographic areas that FEMA defines, based on studies of flood risk. The zone boundaries are shown on flood hazard maps, also called Flood Insurance Rate Maps. Below are brief definitions of the FEMA flood zones.¹



<https://www.nwo.usace.army.mil/hydro/floodplain/definitionsv>

¹ <http://www.fema.gov/business/nfip/>

LOW-TO-MODERATE RISK ZONES (Non-Special Flood Hazard Areas)

In communities that participate in the NFIP, flood insurance is available to all property owners and renters with low-to-moderate risk of a major flood. A major flood is defined as a flood with a 1% annual chance of occurring.

Zones B, C, and X

- Areas outside the 1% annual flood risk floodplain
- Areas of 1% annual shallow flooding risk where average depths are less than 1 foot
- Areas of 1% annual stream flooding risk where the contributing drainage area is less than 1 square mile
- Areas protected by levees from the 1% annual flood risk. Insurance purchase is not required in these zones.

HIGH-RISK ZONES (Special Flood Hazard Areas)

In communities that participate in the NFIP, all homeowners in Zone A (high-risk) areas are required to get flood insurance in order to get a loan from a federally regulated lender. These areas have a 26% chance of flooding over the life of a 30-year mortgage.

Zone A

Areas with a 1% annual flood risk and a 26% risk of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.

Zone AE and A1-A30

Areas subject to a 1% or greater annual chance of flooding in any given year. Base flood elevations are shown as derived from detailed analyses. (Zone AE is used on new and revised maps in place of Zones A1-A30).




Borough of Garwood Flood Prone Areas

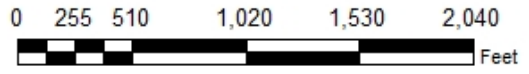
Kasler Associates, PA
Land Use Consultants
34 Little Brook Road
Springfield, NJ 07081
908.598.1666
www.KaslerAssociates.com



Legend

Zone

-  A : area within 100-year flooding, no BFEs
 -  AE : area within 100-year flooding, BFEs have been determined.
 -  X : area outside the 100- and 500-year floodplains.
- * BFE = Base Flood Elevation



Soil Conditions

The United States Department of Agriculture, Soil Conservation Service, has prepared a study of soil conditions for Union County. The forward to the report states the following:

This soil survey contains information that can be used in land-planning programs in Union County. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of the selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited for basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.








The Soil Conservation Report identifies seven different soil categories in the Borough of Garwood. The classifications are noted on the soils map. Table 4-1 indicates the respective areas of various soil types in acres.

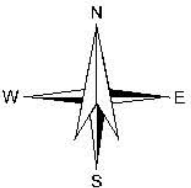
Borough of Garwood Existing Soils

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 Land Use Consultants
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 Springfield, NJ 07081
 908.598.1666
www.KaslerAssociates.com



Soil Classification

-  Boonton loam, 3 to 8 percent slopes
-  Boonton-Urban land-Haledon complex, 0 to 8 percent slopes
-  Haledon loam, 0 to 3 percent slopes
-  Haledon loam, 3 to 8 percent slopes
-  Haledon-Urban land-Hasbrouck complex, 0 to 8 percent slopes
-  Udorthents, loamy substratum, 0 to 8 percent slopes
-  Urban land



Boonton Series²

“BogB” is a Boonton loam soil with general slopes of 0 to 8 percent, is extremely stony and maintains 5.75 acres or 0.05 percent of the land area of Garwood.

Map Unit: BogB—Boonton loam, 3 to 8 percent slopes

Component: Boonton (80%)

Slopes are 3 to 8 percent. This component is on ground moraines on till plains. The parent material consists of coarse-loamy basal till derived from basalt. Depth to a root restrictive layer, fragipan, is 20 to 36 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Boonton, moderately well drained (10%)

Component: Haledon (10%)

“BovB” is a Boonton – Urban Land Haledon complex soil with general slopes of 0 to 8 percent, and maintains 191.69 acres or 1.79 percent of the land area of Garwood.

Map Unit: BovB—Boonton-Urban land-Haledon complex, 0 to 8 percent slopes

Component: Boonton, moderately well drained (50%)

The Boonton component makes up 50 percent of the map unit. Slopes are 3 to 8 percent. This component is on ground moraines on till plains. The parent material consists of coarse-loamy till derived from basalt. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Urban land (30%)

Component: Haledon (20%)

The Haledon component makes up 20 percent of the map unit. Slopes are 0 to 3 percent. This component is on ground moraines on till plains. The parent material consists of coarse-loamy till derived from basalt. Depth to a root restrictive layer, fragipan, is 24 to 36 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

² <http://websoilsurvey.nrcs.usda.gov>

“HakA” is a Haledon loam soil with general slopes of 0 to 3 percent, and maintains 30.50 acres or 0.29% percent of the land area of Garwood.

Map Unit: HakA—Haledon loam, 0 to 3 percent slopes

Component: Haledon (85%)

The Haledon component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on ground moraines on till plains. The parent material consists of coarse-loamy basal till derived from basalt. Depth to a root restrictive layer, fragipan, is 24 to 36 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Component: Hasbrouck (5%)

Component: Passaic, frequently flooded (5%)

“HakB” is a Haledon loam soil with a slope of 3 to 8 percent, and maintains 15.52 acres or 0.15 percent of the land area of Garwood.

Map Unit: HakB—Haledon loam, 3 to 8 percent slopes

Component: Haledon (85%)

The Haledon component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on ground moraines on till plains. The parent material consists of coarse-loamy basal till derived from basalt. Depth to a root restrictive layer, fragipan, is 24 to 36 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

“HatB” is a Haledon – Urban Land – Hasbrouck complex soil with a slope of 0 to 8 percent, and maintains 3,795.25 acres or 35.51 percent of the land area of Garwood.

Map Unit: HatB—Haledon-Urban land-Hasbrouck complex, 0 to 8 percent slopes

Component: Haledon (45%)

The Haledon component makes up 45 percent of the map unit. Slopes are 0 to 8 percent. This component is on ground moraines on till plains. The parent material consists of coarse-loamy basal till derived from basalt. Depth to a root restrictive layer, fragipan, is 24 to 36 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Urban land (25%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Hasbrouck (15%)

The Hasbrouck component makes up 15 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions on till plains. The parent material consists of fine-loamy eroded and redeposited glacial material over glacial till. Depth to a root restrictive layer, fragipan, is 18 to 36 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, and December. Organic matter content in the surface horizon is about 85 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

“Ur” is an Urban Land soil and maintains 6,627.43 acres or 62.01 percent of the land area of Garwood.

Map Unit: UR—Urban land

Component: Urban land (95%)

The Urban land is a miscellaneous area.

Component: Udorthents (5%)

Table 4-2
Area of Soils, By Soils Type
BOROUGH OF GARWOOD

<u>Soil</u> <u>Abbreviation</u>	<u>Soil Name</u>	<u>Acres</u>	<u>Percent of</u> <u>Total</u> <u>Garwood</u>
BogB	Boonton loam, 3 to 8 percent slopes	5.75	0.05%
BovB	Boonton-Urban land-Haledon complex, 0 to 8 percent slopes	191.69	1.79%
HakA	Haledon loam, 0 to 3 percent slopes	30.50	0.29%
HakB	Haledon loam, 3 to 8 percent slopes	15.52	0.15%
HatB	Haledon-Urban land-Hasbrouck complex, 0 to 8 percent slopes	3795.25	35.51%
UdkttB	Udorthents, loamy substratum, 0 to 8 percent slopes	20.78	0.19%
UR	Urban land	6627.43	62.01%

Source: United States Soil Conservation District

Contaminated Sites

According to the New Jersey Department of Environmental Protection the Borough of Garwood has 13 known contaminated sites in 2001 and 20 sites in 2005. These sites are enumerated below.

Table 4-3
Known Contaminated Sites
BOROUGH OF GARWOOD

Year	Site Location	Site Name	Lead Agency	Remediation Level
2001	608 SOUTH AVE	BELL FACTORY TERMINAL	BFO-N	C1
2001	450 SOUTH AVE	PETRO PLASTICS COMPANY	BFO-N	C1
2001	331 SOUTH AVE	SOUTH AVENUE APARTMENT BUILDING	BFO-N	C1
2001	500 NORTH AVE	DIAMOND COMMUNICATION PRODUCTS INC	BEECRA	C2
2001	141 TO 145 SOUTH AVE	HOMAC MANUFACTURING COMPANY	BEECRA	C3
2001	412 HAZEL AVE	412 HAZEL AVENUE	BFO-N	C1
2001	NORTH AVE & CENTER ST	HESS SERVICE STATION	BUST	C2
2001	114 SOUTH AVE	GEDDY SERVICE STATION	BUST	C1
2001	139 SOUTH AVE	139 SOUTH AVENUE	BEECRA	
2001	710 NORTH AVE	710 NORTH AVENUE	BUST	C2
2001	100 CENTER ST	FIRST UNION BANK	BFO-N	C1
2001	80 2ND AVE	80 2ND AVENUE	BFO-N	C1
2001	518 NORTH AVE	LA BELLE CLEANERS	BUST	B
2005	139 SOUTH AVE	139 SOUTH AVENUE	BNCM	C2
2005	252 BEECH AVE	252 BEECH AVENUE	BFO-N	C1
2005	255 HICKORY AVE	255 HICKORY AVENUE	BFO-N	C1
2005	330 LOCUST AVE	330 LOCUST AVENUE	BFO-N	C1
2005	408 HAZEL AVE	408 HAZEL AVENUE	BFO-N	C2
2005	422 HAZEL AVE	422 HAZEL AVENUE	BFO-N	C2
2005	425 SPRUCE AVE	425 SPRUCE AVENUE	BFO-N	C2
2005	432 2ND AVE	432 2ND AVENUE	BFO-N	C1
2005	506 BEECH AVE	506 BEECH AVENUE	BFO-N	C1
2005	710 NORTH AVE	710 NORTH AVENUE PLAZA	BSCM	C2
2005	315 NORTH AVE	BECKLEY PERFORATING CO	BFO-N	C2
2005	502 TO 570 SOUTH AVE	BELL FACTORY TERMINAL	BFO-N	C1
2005	500 NORTH AVE	DIAMOND COMMUNICATION PRODUCTS	BNCM	C1
2005	100 CENTER ST	FIRST UNION BANK	BFO-N	C1
2005	114 SOUTH AVE	GETTY 56034	BOMM	C2
2005	431 NORTH AVE & CTR ST	HESS STATION 30230	BOMM	C2
2005	141 TO 145 SOUTH AVE	HOMAC MANUFACTURING CO	BNCM	C3
2005	518 NORTH AVE	LA BELLE SAM CLEANER INC	BSCM	C1
2005	450 SOUTH AVE	PETRO PLASTICS CO	BFO-N	C1
2005	161 165 SOUTH AVE	SEVERAGES AMOCO SERVICE STATION	BSCM	C2

Lead Agencies

Bureau of Field Operations (BFO)

The Bureau of Field Operations is responsible for assigning sites for remedial activity and for overseeing site remediations conducted by responsible parties throughout the state. Sites that fall under the purview of BFO are located within counties specified in the two geographic regions listed below. The types of cleanups handled by BFO are considered moderate in remedial complexity, ranging from the remediation of a single source of contamination to several sources. These remediations may include ground water contamination. Remediations are conducted under the state's Brownfield and Contaminated Site Remediation Act, Spill Compensation and Control Act, Solid Waste Management Act, Water Pollution Control Act, Industrial Site Recovery Act and Underground Storage of Hazardous Substances Act. The Bureau of Field Operations is organized into the following sections: -Bureau of Field Operations-Case Assignment Section (BFO-CA) BFO-CA processes the assignment of sites to the appropriate bureau within the Site Remediation Program. These assignments are based on regulatory requirements and environmental complexity.

Bureau of Field Operations-northern (BFO-N)

Provides oversight of cleanups in the following counties: Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Warren and Union.

Bureau of Underground Storage Tanks (BUST)

BUST oversees environmental cleanups at sites subject to the Underground Storage of Hazardous Substances Act where remediation may involve soil and/ or ground water. Sites under this program also are subject to the state's Brownfield and Contaminated Site Remediation Act, Spill Compensation and Control Act, Solid Waste Management Act, and the Water Pollution Control Act.

Bureau of Northern Case Management (BNCM)

Bureau of Northern Case Management (formerly BEECRA). BNCM primarily oversees remedial activities conducted in accordance with New Jersey's Industrial Site Recovery Act. The environmental complexity varies at these sites from soil contamination to complex ground water remediations. Sites under this program are also subject to the state's Brownfield and Contaminated Site Remediation Act, the Spill Compensation and Control Act, the Solid Waste Management Act and the Water Pollution Control Act.

Bureau of Operation, Maintenance and Monitoring (BOMM)

Bureau of Operation, Maintenance & Monitoring (609) 964-2990 BOMM oversees the long-term operations and maintenance of remedial actions such as ground water pump and treatment systems. BOMM also reviews biennial certification reports to ensure institutional controls, such as a Deed Notice and Classification Exception Area, remain effective.

Bureau of Southern Case Management (BSCM)

Bureau of Southern Case Management (formerly BUST). BSCM primarily oversees environmental cleanups at sites subject to the Underground Storage of Hazardous Substances Act where remediation may involve soil and/or ground water. Sites under this program are also subject to the state's Brownfield and Contaminated Site Remediation Act, the Spill Compensation and Control Act, the Solid Waste Management Act and the Water Pollution Control Act.

Level of Site Contamination and Complexity

This attribute is based on the Site Remediation Program's 1989 Case Assignment Manual. It is the intent of the Site Remediation Program that remedial levels be determined for the overall degree of contamination at a site recognizing that individual areas of concern may involve remedial actions of varying levels.

C1 remedial levels are associated with simple sites one or two contaminants localized to soil and the immediate spill or discharge area. A C1 case is a remedial action which does not involve formal design where source is known/identified. Such a case may include the potential for (unconfirmed) ground water contamination. Examples of C-1 cases are regulated or unregulated storage tanks containing gas or heating oil; septic tanks etc.

C2 remedial levels are associated with more complicated contaminant discharges, multiple site spills and discharges, more than one contaminant, with both soil and GW impacted or threatened. A C2 remedial action consists of a formal engineering design phase, and is in response to a known source or release. Since the response is focused in scope and address a known, presumably quantifiable source, this remedial level is of relatively shorter duration than responses at sites with higher remedial levels. A C2 case usually involves cases where ground water contamination has been confirmed or is known to be present.

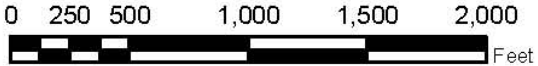
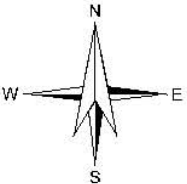
C3 remedial levels are associated with high complexity and threatening sites. Multiple contaminants some at high concentrations with unknown sources continuing to impact soils, GW and possibly surface waters and potable water resources. Dangerous for direct contact with contaminated soils. A C3 action is a multi-phase remedial action in response to an unknown and/or uncontrolled source or discharge to the soils and/or ground water. In this remedial level the contamination is unquantifiable (or presumed unquantifiable) and, therefore, no determinable timeframe for the conclusion of the remedial action is known.

Borough of Garwood Contaminated Sites

Kasler Associates, PA
Land Use Consultants
34 Little Brook Road
Springfield, NJ 07081
908.598.1666
www.KaslerAssociates.com



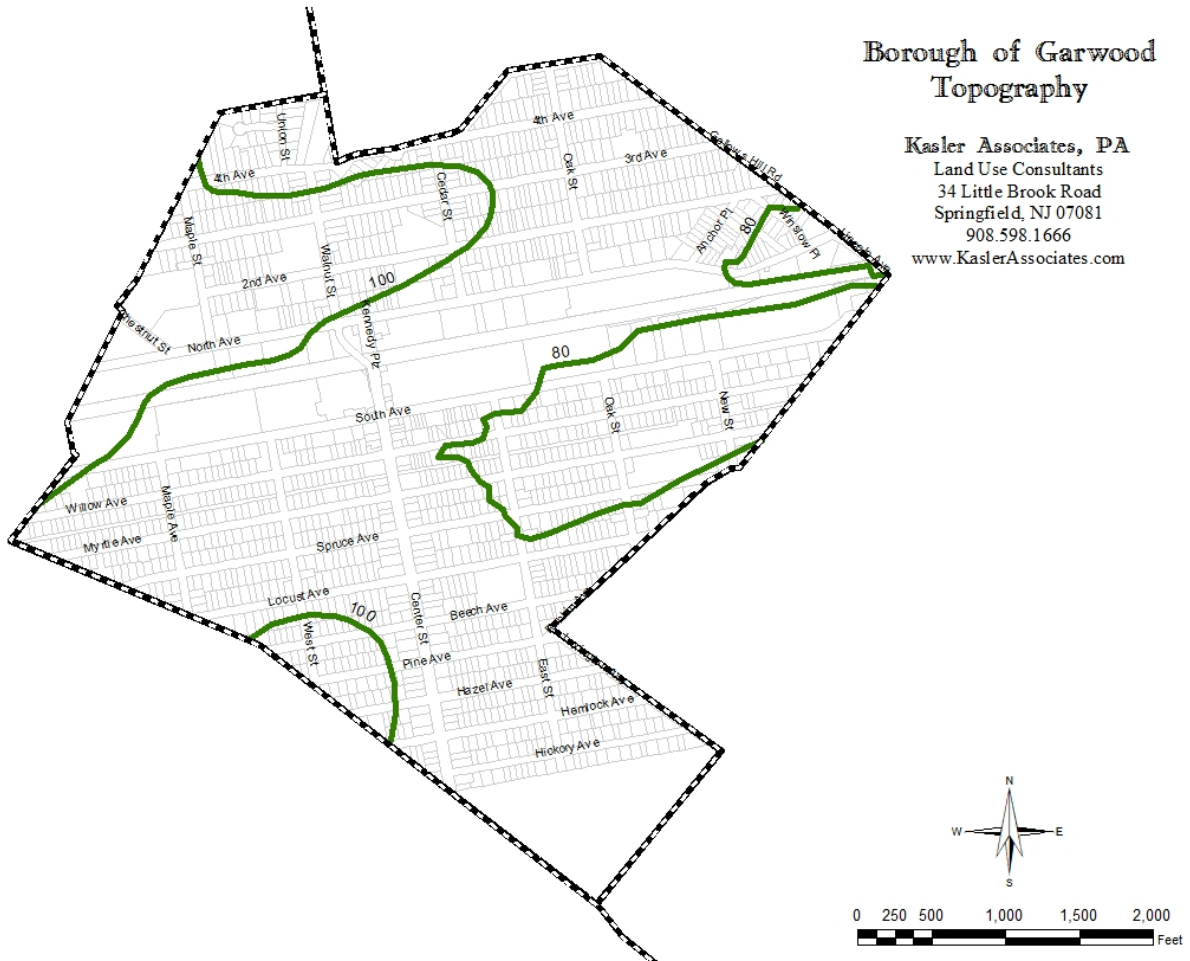
- 2005
- 2001



Topography

The topography of Garwood is detailed on the map below. The lowest elevation of Garwood is at the eastern section of town at 80 feet above sea level. The highest elevation in Garwood is located along the western section at 100 feet above sea level.

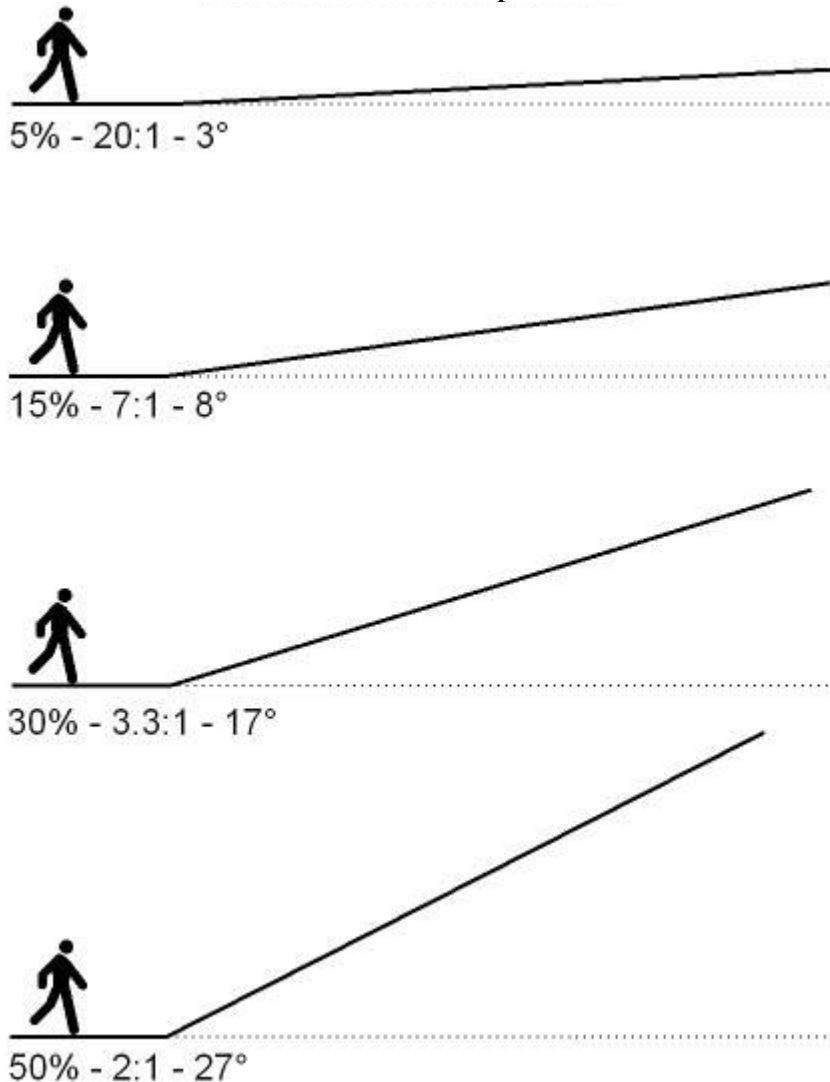
Map 4-5
Topography
Borough of Garwood



Slopes

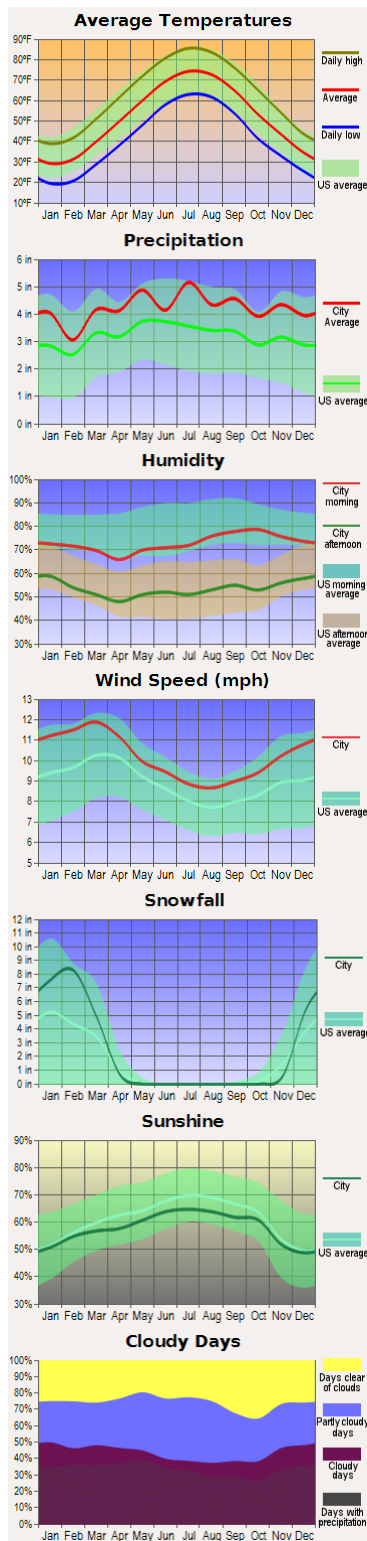
The slope of land is a determining factor to the development potential. Slopes that exceed 15 percent have been identified by the Council On Affordable Housing as lands which are inappropriate for low and moderate income housing as it presents too many constraints for building such housing. Steep sloping lands become highly erodable and if improperly developed, can loosen becoming a hazard itself. Slopes exceeding 15 percent have generally been accepted throughout New Jersey a limiting factor to development. Slopping land with fifteen percent slopes represents an eight-degree change in land. This is illustrated in the diagram below. There are no steeply sloping lands in the Borough of Garwood.

Visual Examples
of slopes.



Climate

The following charts illustrate, on average, the climatic indicators for Garwood, New Jersey.



The daily high, and average temperature of the Borough falls within the national average temperature. The average daily low is at the bottom average from July through December, but tends to be slightly lower than the national average from January through June.

The Boroughs average precipitation amount is, on average, higher than the national average.

The Boroughs morning humidity appears at the lower end of the national morning average while the afternoons humidity appears midway in the national afternoon span.

The Borough of Garwood's wind speed is slightly higher than the nation wind speed average throughout the year.

The Borough of Garwood has a greater amount of snowfall from January through April and from December through January. The Borough experiences less snow fall than the nation average from September through December.

The Borough of Garwood, on average, has less days with sunshine, than the national average.

The chart to the left indicates the percentage of cloudy days, partially cloudy days, as well as clear days.

Community Facilities



SECTION 5: COMMUNITY FACILITIES

This section of the master plan provides vital information on municipal community facilities such as schools, recreational land, library facilities, municipal administration facilities, police and fire.

Public School Facilities

The Garwood Board of Education believes that all children can prepare to be lifelong learners, good citizens, and be involved community members. This goal may be accomplished by providing a positive and productive learning environment geared to empower each child in developing his/her potential while building and fostering enthusiasm, curiosity, responsibility, creativity, critical thinking, and problem solving skills.

Using the New Jersey Core Curriculum Content Standard and the federal regulations contained in the No Child Left Behind Act as guides, ongoing program planning and review activities are designed to promote the delivery of an educational program that focuses on:

- activity-based learning
- guided reading methods of instruction
- the use of technology as a teaching and learning tool
- higher level thinking skills
- authentic learning experiences
- inter-disciplinary integration of curriculum
- balance between teacher-initiated and child-initiated activities
- learning activities in a variety of whole group, small group and individual settings
- making pupils more responsible for their own learning
- acquiring a rich fund of resources and strategies designed to address group and individual learning styles and needs of all students
- integration of character education and instructional life skills

As we have moved into the twenty-first century, our children need to be prepared to live and work in a more globally connected world with information expanding at ever increasing rates and technology continuing to evolve as it plays a vital role in our daily lives. As a result, the Garwood Board of Education is committed to focusing on how children learn, as well as why they need to learn.³

Garwood Schools

The Garwood Public School District consists of 2 schools on separate sites located approximately one mile apart. These schools are as follows:

³ New Jersey Department of Education Report Card Narrative

Washington School

Washington School is the district's early learning center. It provides a nurturing environment for children during the critical, productive, and fascinating early childhood years. As young children come to school with varying background experiences and needs, our school recognizes that the early childhood years hold an important place in the growth and development of children. They construct meaning based on what they learn about their world through active exploration and discovery. The quality learning experiences that are provided by the dedicated staff help pupils build a foundation for their formal education and establish a base for lifelong learning that will enable them to become productive citizens in the twenty-first century.

Because scientifically-based research shows it as a viable option for young children, a half-day pre-kindergarten program and a full-day kindergarten program continue to be offered at Washington School, even though these are not mandated. Using developmentally appropriate early childhood strategies, classroom teachers guide their pupils toward skill and concept development focusing on the areas of guided reading, language arts literacy, everyday mathematics, science, social studies, comprehensive physical education/health, and workplace readiness skills including character education. Thematic units and learning centers make education more interesting and applicable to the life of the learner as such instruction integrates the subjects from the areas of fine and practical arts. The early childhood program at Washington School places children in developmentally appropriate and supportive environments where they have opportunities to learn at different rates and in different ways.⁴



Lincoln / Franklin School

The administration, staff, students, and parents of Lincoln School are extremely proud of the learning community that we have developed. With the belief that all children can learn, each constituent makes a serious commitment to our mission of preparing pupils for their role as productive citizens of the twenty-first century. We are pleased to provide the accompanying statistical data that permits comparison of the results our educational programs with those of other schools across the state. We believe that the scores earned by our students continue to validate the commitment and concern that the community of Garwood makes to education at all levels beginning with our preschool education program and continuing to family education nights and senior citizen computer classes.

⁴ New Jersey Department of Education Report Card Narrative

Lincoln School is a newly updated facility providing students and staff with a modern edifice that enhances our comprehensive educational programs. A state-of-the-art computerized technology laboratory allows middle school pupils to utilize a “hands on” approach that links the latest technology in manufacturing with scientific knowledge. The borough public library is housed in Lincoln School and offers the students many additional resources.



The professional staff of Lincoln School is dedicated to providing authentic, quality learning experiences for all students. Each teacher is cognizant of the developmentally appropriate academic, emotional, physical and social needs that must be met in order to provide a high quality education.

The academic and instructional program at Lincoln School is aligned to the New Jersey Core Curriculum Content Standards. When possible, teachers employ cross-curricular connections and integrate writing across the content areas. In grades one through four, students respond enthusiastically to the Everyday Math program, which will be implemented in grade five during the next school year. Middle School students use Transition Mathematics, leading up to Algebra in grade eight. Guided Reading, a language-rich program, encourages student literacy in grades one through five. The middle school science program builds upon the strong foundation established in the primary grades where students become accustomed to using a laboratory-based discovery approach.

Special areas of instruction are provided for all students in grades one through eight. Music, Art, Physical Education, Health, World Language, Library, and Computer Technology are among the offerings. At Lincoln School, eligible students will find a comprehensive array of programs to meet their needs in Basic Skills Instruction, the Resource Room, Speech, and Occupational Therapy. A “pull out” Gifted and Talented program begins in grade three. The Middle School Gifted program has separate sections for Language Arts, Mathematics, Science, Art, Music and Performing Arts.

Educational field trips are viewed as a way to supplement and enhance curriculum at every grade level. The grade six trip to Gateway National Seashore at Sandy Hook introduces students to the flora and fauna of their home state. Attending a three day/two night trip to the New Jersey School of Conservation program at Stokes State Forest encourages team building and group cooperation coupled with environmental awareness amongst the seventh grade students. An eighth grade overnight trip focuses on United States History and Civics. The eighth grade class of 2007 visited the Gettysburg Battlefield and the Amish Country in Lancaster Pennsylvania.

Co-curricular activities are varied and extensive at Lincoln School. Theater instruction culminates in a fourth grade mini-musical and the annual eighth grade play. Holiday programs feature instrumental and vocal performing arts ensembles. The Curriculum Fair and Fine Arts Festival showcases students' work in Art, Science, Language Arts Literacy, and Social Studies. Eighth grade students publish an annual yearbook. Sports programs include field hockey, soccer, boys, and girls, basketball, softball, baseball and cheerleading.

Helping students develop positive character attributes is an important focus at Lincoln School. Student Council service projects permit all students to play an active role in community volunteer work. A Thanksgiving food drive; "Adopt a Soldier"; and a fundraiser for the Foundation for Children with Cancer are some of the service projects that students participated in during the last year. Our peer mediation program, Student of the Month, honor roll and honor society also provide positive student recognition.

The staff, students and parents at Lincoln School continue to devote our efforts to creating a learning community that reflects care and concern for the well being of each individual. We hope that you join us in the realization that the success of our school is not measured merely by this report card, but by the roles that our students eventually fill as citizens of the world.⁵

Arthur L. Johnson High School

Arthur L. Johnson High School remained part of the Union County Regional District until the Regional District was dissolved in July 1997. Today, the high school is part of the Clark Public Schools System and services students from Clark and Garwood.

⁵ New Jersey Department of Education Report Card Narrative

Garwood Public School Report Cards

Washington

WASHINGTON 2006-07 SCHOOL REPORT CARD

School Environment

<u>Length of School Day</u>	
Amount of time school is in session on a normal school day.	
School	5 hours: 45 minutes
State Average	6 hours: 29 minutes

<u>Average Class Size</u>	2006-2007	
	School	State
Pre-K	14.5	13.7
Kindergarten	21.5	18.8
Total School	18.3	19.1

<u>Instructional Time</u>	
Amount of time per day students are engaged in instructional activities.	
School	5 hours: 0 minutes
State Average	5 hours: 40 minutes

<u>Student/Computer Ratio</u>		
Numbers of students per instructional, multi-media-capable computer, available for the purposes of supervised instruction.		
	School	State Average
2006-07	18.3	3.5
2005-06	9.9	3.7
2004-05	9.6	3.9

<u>Internet Connectivity</u>		
Numbers of instructional, multi-media-capable computers by location and how many have a connection to the Internet.		
	2006-2007	
Locations	Computers	Computers Connected to the Internet
Classroom/Instructional	5.0	5.0
Library/Media Centers	0.0	0.0
Computer Labs	0.0	0.0
All Locations	5.0	5.0

<u>Type of Internet Connectivity</u>	
Type of Connection	# of Computers in Class
Cable Modem	5

Student Information

<u>Enrollment by Grade</u>				
Counts of students "on-roll" by grade in October of each school year.				
Grade	2006-2007	2005-2006	2004-2005	2003-2004
Pre-K (half-day)	29.0	29.0	30.0	36.0
Kindergarten (full-day)	43.0	40.0	37.0	44.0
Special Ed. (ungraded)	1.0			
Total School	73.0	69.0	67.0	80.0

<u>Student Mobility Rate</u>		
Percentage of students who entered and left during the school year.		
	School	State Average
2006-07	5.5%	11.8%
2005-06	2.9%	11.9%
2004-05	3.0%	12.3%

<u>Students with Disabilities</u>	
Percentage of students with IEPs (Individualized Education Program) regardless of placement/programs	5.5%

<u>Language Diversity</u>	
First language spoken at home in order of frequency.	
Language	Percent
English	91.8%
Polish	1.4%
Slovak	1.4%
Russian	2.7%
Czech	1.4%
Mandarin	1.4%

<u>Limited English Proficient (LEP)</u>	
Percentage of LEP students	

Student Performance Indicators ASSESSMENTS

OTHER PERFORMANCE MEASURES

<u>Attendance Rates</u>	2006-2007		2005-2006	
	School	State	School	State
Percentage of students present on average each day.				
Pre-K	93.9%	91.2%	92.9%	90.9%
Kindergarten	95.4%	93.7%	95.0%	94.5%
Total School	94.8%	94.4%	94.1%	94.5%

<u>Student Suspensions</u>			
Percentage of students who were suspended from the school during the school year.			
	School	District Average	State Average
2006-07	0.0%	1.5%	4.8%
2005-06	0.0%	2.0%	4.3%
2004-05	0.0%	1.5%	4.0%

<u>Student Expulsions</u>			
The number of students who were expelled during the school year.			
	School	District	State Total
2006-07	0	0	76
2005-06	0	0	78
2004-05	0	0	69

Staff Information

<u>Student/Administrator Ratio</u>		
Numbers of students per administrator.		
	School	State Average
2006-07	243.3	273.0
2005-06	230.0	281.0
2004-05	223.3	285.1

<u>Student/Faculty Ratio</u>		
Numbers of students per faculty member.		
	School	State Average
2006-07	24.3	10.9
2005-06	17.3	11.1
2004-05	16.8	11.3

<u>Faculty Attendance Rate</u>		
Percentage of faculty present on average each day.		
	School	State Average
2006-07	96.9%	96.2%
2005-06	96.9%	96.5%
2004-05	97.2%	96.1%

<u>Faculty Mobility Rate</u>		
Percentage of faculty who entered and left the school during the school year.		
	School	State Average
2006-07	0.0%	6.2%
2005-06	0.0%	6.7%
2004-05	0.0%	7.0%

<u>Faculty and Administrator Credentials</u>			
Percentage of faculty and administrators possessing a bachelor's, master's, or doctoral degree.			
	BA/BS	MA/MS	PhD/EdD
2006-07	100.0%	0.0%	0.0%
2005-06	100.0%	0.0%	0.0%
2004-05	100.0%	0.0%	0.0%

<u>National Board Certification</u>			
Number of teachers who have been certified by the National Board for Professional Teaching Standards.			
	School	District	State
2006-07	0	0	65
2005-06	0	0	98
2004-05	0	0	98

There are three essential components of a highly qualified teacher in accordance with the *No Child Left Behind (NCLB) Act*:

- Hold at least a bachelor's degree;
- Be fully certified/licensed by New Jersey; and
- Demonstrate competence in each of the core academic subjects in which the teacher teaches.

Teachers can demonstrate competence in the subject(s) they teach by either:

- Passing a rigorous state test or completing an academic major, graduate degree, coursework equivalent to an undergraduate academic major, or national certification or credentialing; OR
- Meeting the requirements of the [NJ High Objective Uniform State Evaluation \(HOUSE\) Standard](#).

<u>Teacher Information</u>			
Percentage of teachers teaching with emergency or conditional certificates.			
	School	District	State
2006-07	0.0%	0.0%	0.4%

District Financial Data

Administrative and Faculty Personnel								
In FTE (Full-time Equivalents).								
	# of Administrators		# of Schools		# of Students per Administrator		# of Faculty per Administrator	
	District	State Average	District	State Average	District	State Average	District	State Average
2006-07	3.7	5.4	2.0	2.1	110.0	171.0	9.0	15.8
2005-06	3.7	5.3	2.0	2.1	108.6	173.6	9.4	15.8
2004-05	3.7	5.3	2.0	2.1	107.6	174.6	9.6	15.7

Median Salary and Years of Experience of Administrative and Faculty Personnel			
	2006-07	2005-06	2004-05
Administrators			
Salary - District	\$84,492	\$78,054	\$83,600
Salary - State	\$100,881	\$98,509	\$95,135
Years of Experience - District	15	14	19
Years of Experience - State	18	19	20
Faculty			
Salary - District	\$50,267	\$48,317	\$49,015
Salary - State	\$51,815	\$50,000	\$48,486
Years of Experience - District	11	11	10
Years of Experience - State	10	10	10

Teacher Salaries and Benefits				
Percents of teacher salaries and benefits of the total comparative expenditures. The percent increase or decrease represents the expenditure change in teacher salaries/benefits from one year to the next.				
	% for Teachers Salaries/Benefits		% Change - Increase/Decrease (+/-)	
	District	State Average	District	State Average
2006-07	51%	58%	5%	8%
2005-06	51%	58%	2%	5%
2004-05	50%	58%	3%	6%

Administrative Salaries and Benefits				
Percents of administrative salaries and benefits of the total comparative expenditures. The percent increase or decrease represents the expenditure change in administrative salaries/benefits from one year to the next.				
	% for Administrative Salaries/Benefits		% Change - Increase/Decrease (+/-)	
	District	State Average	District	State Average
2006-07	11%	9%	0%	3%
2005-06	12%	10%	-19%	4%
2004-05	14%	10%	0%	5%

Revenues						
Percents of total revenues from various sources.						
	2006-2007		2005-2006		2004-2005	
	District	State Average	District	State Average	District	State Average
Local	78%	52%	81%	50%	84%	51%
State	7%	39%	8%	40%	8%	42%
Federal	2%	3%	1%	4%	2%	4%
Other	13%	6%	10%	6%	6%	3%

Per Pupil Expenditures

Two calculations of the average cost per pupil in the district. (See #1 and #2 below).

	2006-2007		2005-2006		2004-2005	
	District Budget	State Average	District Actual	State Average	District Actual	State Average
Classroom - Salaries and Benefits	\$5,426	\$6,713	\$5,177	\$6,502	\$5,235	\$6,182
Classroom - General Supplies/Textbooks	\$322	\$268	\$216	\$279	\$246	\$290
Classroom - Purchased Services and Other	\$44	\$201	\$22	\$185	\$48	\$179
Total Classroom Instruction	\$5,792	\$7,182	\$5,416	\$6,967	\$5,529	\$6,652
Support Services - Salaries and Benefits	\$1,420	\$1,679	\$1,362	\$1,573	\$1,205	\$1,475
Support Services - other	\$161	\$222	\$123	\$245	\$207	\$236
Total Support Services	\$1,581	\$1,901	\$1,485	\$1,818	\$1,412	\$1,711
Administration - Salaries and Benefits	\$1,167	\$1,021	\$1,164	\$1,022	\$1,482	\$982
Administration - other	\$362	\$259	\$323	\$255	\$404	\$256
Total Administration Costs	\$1,529	\$1,280	\$1,487	\$1,277	\$1,886	\$1,238
Op./Maint. of Plant - Salaries and Benefits	\$1,050	\$771	\$918	\$765	\$1,009	\$721
Op./Maint. of Plant - other	\$642	\$700	\$618	\$682	\$614	\$616
Total Operations and Maintenance of Plant	\$1,692	\$1,471	\$1,536	\$1,447	\$1,623	\$1,337
Total Food Services Costs	\$3	\$13	\$28	\$26	\$0	\$26
Total Extracurricular Costs	\$127	\$220	\$102	\$207	\$111	\$196
(1)TOTAL COMPARATIVE COST PER PUPIL	\$10,722	\$12,150	\$10,053	\$11,519	\$10,561	\$10,952
(2)TOTAL COST PER PUPIL	\$11,217	\$13,701	\$10,450	\$13,728	\$10,791	\$13,050

(1) The Comparative Cost Per Pupil represents comparisons with districts of similar budget type. The components that comprise the comparative cost per pupil are as follows: classroom instructional costs; support services (attendance and social work, health services, guidance office, child study team, library and other educational media); administrative costs (general administration, school administration, business administration, and improvement of instruction); operations/maintenance of plant; food services, and extracurricular costs. The total of these expenditures is divided by the average daily enrollment to calculate a total comparative cost per pupil.

(2) Total Cost Per Pupil, in addition to all of the costs listed above for the comparative cost, includes costs for tuition expenditures; transportation; other current expenses (lease purchase interest, residential costs, and judgments against schools); equipment; facilities/acquisition; and restricted expenses less nonpublic services and adult schools, as well as students sent out of district. The total of all these expenditures is divided by the average daily enrollment, combined with all students sent out of district as reported in the ASSA, to calculate a total cost per pupil.

LINCOLN/FRANKLIN 2006-07 SCHOOL REPORT CARD

School Environment

<u>Length of School Day</u>	
Amount of time school is in session on a normal school day.	
School	6 hours: 30 minutes
State Average	6 hours: 29 minutes

<u>Instructional Time</u>	
Amount of time per day students are engaged in instructional activities.	
School	5 hours: 20 minutes
State Average	5 hours: 40 minutes

<u>Student/Computer Ratio</u>		
Numbers of students per instructional, multi-media-capable computer, available for the purposes of supervised instruction.		
	School	State Average
2006-07	4.3	3.5
2005-06	4.3	3.7
2004-05	5.5	3.9

<u>Internet Connectivity</u>		
Numbers of instructional, multi-media-capable computers by location and how many have a connection to the Internet.		
	2006-2007	
Locations	Computers	Computers Connected to the Internet
Classroom/Instructional	34.0	34.0
Library/Media Centers	0.0	0.0
Computer Labs	43.0	43.0
All Locations	77.0	77.0

<u>Average Class Size</u>	2006-2007	
	School	State
Grade 1	20.5	19.3
Grade 2	19.5	19.7
Grade 3	23.5	20.0
Grade 4	21.0	20.5
Grade 5	20.5	21.1
Grade 6	19.5	21.1
Grade 7	22.5	21.0
Grade 8	20.0	21.0
Total School	20.9	19.1

<u>Type of Internet Connectivity</u>	
Type of Connection	# of Computers in Class
Cable Modem	77

Student Information

<u>Enrollment by Grade</u>				
Counts of students "on-roll" by grade in October of each school year.				
Grade	2006-2007	2005-2006	2004-2005	2003-2004
Grade 1	41.0	41.0	48.0	36.0
Grade 2	39.0	47.0	39.0	36.0
Grade 3	47.0	37.0	40.0	35.0
Grade 4	42.0	41.0	35.0	48.0
Grade 5	41.0	34.0	49.0	36.0
Grade 6	39.0	46.0	35.0	48.0
Grade 7	45.0	39.0	50.0	36.0
Grade 8	40.0	48.0	35.0	39.0
Total School	334.0	333.0	331.0	314.0

<u>Student Mobility Rate</u>		
Percentage of students who entered and left during the school year.		
	School	State Average
2006-07	5.1%	11.8%
2005-06	6.9%	11.9%
2004-05	2.4%	12.3%

<u>Students with Disabilities</u>	
Percentage of students with IEPs (Individualized Education Program) regardless of placement/programs	11.7%

<u>Language Diversity</u>	
First language spoken at home in order of frequency.	
Language	Percent
English	91.6%
Spanish	1.8%
Slovak	1.5%
Tagalog	0.3%
Russian	0.6%
Greek	0.6%
Panjabi	0.6%
Others	3.0%

<u>Limited English Proficient (LEP)</u>	
Percentage of LEP students	

Student Performance Indicators

ASSESSMENTS

New Jersey Assessment of Skills and Knowledge (NJASK3) LANGUAGE ARTS LITERACY	Year	Number Tested	Proficiency Percentages			
			Partial	Proficient	Advanced	
All Students »details for subgroups for Language Arts Literacy	School	2006-07	48	20.8%	75%	4.2%
		2005-06	39	12.8%	87.2%	0%
	District	2006-07	48	20.8%	75%	4.2%
		2005-06	39	12.8%	87.2%	0%
	DFG	2006-07	12636	13.3%	79.8%	6.9%
		2005-06	12634	13.6%	83.4%	3%
	State	2006-07	100877	16.6%	75.2%	8.2%
		2005-06	100680	17.5%	79%	3.4%

*To protect the privacy of students, the Department of Education suppresses sufficient information to eliminate the possibility that personally identifiable information will be disclosed.

New Jersey Assessment of Skills and Knowledge (NJASK3) MATHEMATICS			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Mathematics	School	2006-07	48	10.4%	58.3%	31.3%	
		2005-06	39	10.3%	56.4%	33.3%	
	District	2006-07	48	10.4%	58.3%	31.3%	
		2005-06	39	10.3%	56.4%	33.3%	
	DFG	2006-07	12697	9.6%	57.4%	33%	
		2005-06	12684	10%	58.8%	31.2%	
	State	2006-07	101800	12.7%	55%	32.3%	
		2005-06	101602	13.1%	55.7%	31.1%	

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New Jersey Assessment of Skills and Knowledge (NJASK4) LANGUAGE ARTS LITERACY			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Language Arts Literacy	School	2006-07	43	14%	86%	0%	
		2005-06	41	14.6%	80.5%	4.9%	
	District	2006-07	43	14%	86%	0%	
		2005-06	41	14.6%	80.5%	4.9%	
	DFG	2006-07	12796	16.3%	78.1%	5.7%	
		2005-06	12833	17.5%	79.6%	2.9%	
	State	2006-07	100617	19.4%	73.9%	6.7%	
		2005-06	100880	20%	76.2%	3.8%	

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New Jersey Assessment of Skills and Knowledge (NJASK4) MATHEMATICS			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Mathematics	School	2006-07	44	6.8%	56.8%	36.4%	
		2005-06	41	17.1%	48.8%	34.1%	
	District	2006-07	44	6.8%	56.8%	36.4%	
		2005-06	41	17.1%	48.8%	34.1%	
	DFG	2006-07	12846	12.4%	46.3%	41.3%	
		2005-06	12878	15%	43.4%	41.6%	
	State	2006-07	101310	15.3%	43.7%	41%	
		2005-06	101659	17.6%	41.2%	41.1%	

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New Jersey Assessment of Skills and Knowledge (NJASK4) SCIENCE			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Science	School	2006-07	44	13.6%	50%	36.4%	
		2005-06	41	14.6%	51.2%	34.1%	
	District	2006-07	44	13.6%	50%	36.4%	
		2005-06	41	14.6%	51.2%	34.1%	
	DFG	2006-07	12840	12%	45.4%	42.6%	
		2005-06	12888	13.2%	58.8%	27.9%	
	State	2006-07	101266	16.9%	42.3%	40.8%	
		2005-06	101636	17.7%	54.5%	27.8%	

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New Jersey Assessment of Skills and Knowledge (NJASK5) LANGUAGE ARTS LITERACY			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Language Arts Literacy	School	2006-07	41	12.2%	75.6%	12.2%	
		2005-06	36	16.7%	69.4%	13.9%	
	District	2006-07	41	12.2%	75.6%	12.2%	
		2005-06	36	16.7%	69.4%	13.9%	
	DFG	2006-07	13017	8.2%	79.9%	11.8%	
		2005-06	13339	10.4%	81.5%	8.1%	
	State	2006-07	101370	11.2%	75.9%	12.9%	
		2005-06	103379	14.1%	76.6%	9.3%	

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New Jersey Assessment of Skills and Knowledge (NJASK5) MATHEMATICS			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Mathematics	School	2006-07	42	9.5%	81%	9.5%	
		2005-06	36	16.7%	52.8%	30.6%	
	District	2006-07	42	9.5%	81%	9.5%	
		2005-06	36	16.7%	52.8%	30.6%	
	DFG	2006-07	13076	12.9%	58.3%	28.8%	
		2005-06	13378	14.4%	57.9%	27.7%	
	State	2006-07	102044	15.8%	54.7%	29.4%	
		2005-06	103946	18.3%	54.2%	27.5%	

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New Jersey Assessment of Skills and Knowledge (NJASK6) LANGUAGE ARTS LITERACY			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Language Arts Literacy	School	2006-07	40	15%	67.5%	17.5%	
		2005-06	46	19.6%	63%	17.4%	
	District	2006-07	40	15%	67.5%	17.5%	
		2005-06	46	19.6%	63%	17.4%	
	DFG	2006-07	13424	19.7%	69.8%	10.5%	
		2005-06	13494	21.6%	71.2%	7.2%	
	State	2006-07	103376	24.2%	63.1%	12.7%	
		2005-06	104047	25%	65.8%	9.2%	

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New Jersey Assessment of Skills and Knowledge (NJASK6) MATHEMATICS			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Mathematics	School	2006-07	40	20%	70%	10%	
		2005-06	46	26.1%	60.9%	13%	
	District	2006-07	40	20%	70%	10%	
		2005-06	46	26.1%	60.9%	13%	
	DFG	2006-07	13443	18%	64.6%	17.5%	
		2005-06	13528	27.6%	58.5%	13.9%	
	State	2006-07	103914	21%	60%	19%	
		2005-06	104573	29.2%	53.5%	17.3%	

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New Jersey Assessment of Skills and Knowledge (NJASK7) LANGUAGE ARTS LITERACY			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Language Arts Literacy	School	2006-07	46	21.7%	67.4%	10.9%	
		2005-06	41	17.1%	75.6%	7.3%	
	District	2006-07	46	21.7%	67.4%	10.9%	
		2005-06	41	17.1%	75.6%	7.3%	
	DFG	2006-07	13592	16.9%	72.8%	10.3%	
		2005-06	13854	16.5%	75.1%	8.4%	
	State	2006-07	104457	19.9%	67.8%	12.3%	
		2005-06	106962	19.8%	70.3%	9.9%	

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New Jersey Assessment of Skills and Knowledge (NJASK7) MATHEMATICS			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Mathematics	School	2006-07	46	30.4%	65.2%	4.3%	
		2005-06	41	48.8%	46.3%	4.9%	
	District	2006-07	46	30.4%	65.2%	4.3%	
		2005-06	41	48.8%	46.3%	4.9%	
	DFG	2006-07	13621	33.3%	53.7%	13%	
		2005-06	13834	36.2%	52.7%	11.1%	
	State	2006-07	105006	33.7%	50.5%	15.8%	
		2005-06	107362	35.7%	49.8%	14.4%	

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Grade Eight Proficiency Assessment (GEPA) LANGUAGE ARTS LITERACY			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Language Arts Literacy	School	2006-07	40	12.5%	80%	7.5%	
		2005-06	53	15.1%	71.7%	13.2%	
	District	2006-07	40	12.5%	80%	7.5%	
		2005-06	53	15.1%	71.7%	13.2%	
	DFG	2006-07	13723	24.1%	67.1%	8.8%	
		2005-06	13861	22.7%	70.8%	6.5%	
	State	2006-07	105865	26.4%	62.4%	11.3%	
		2005-06	106447	25.7%	65.7%	8.5%	

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Grade Eight Proficiency Assessment (GEPA) MATHEMATICS			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Mathematics	School	2006-07	40	27.5%	50%	22.5%	
		2005-06	52	25%	51.9%	23.1%	
	District	2006-07	40	27.5%	50%	22.5%	
		2005-06	52	25%	51.9%	23.1%	
	DFG	2006-07	13814	30.6%	50.3%	19.1%	
		2005-06	13938	33.5%	48.1%	18.4%	
	State	2006-07	106980	31.6%	45.9%	22.5%	
		2005-06	107530	35.5%	43.6%	20.9%	

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Grade Eight Proficiency Assessment (GEPA) SCIENCE			Year	Number Tested	Proficiency Percentages		
					Partial	Proficient	Advanced
All Students »details for subgroups for Science	School	2006-07	40	12.5%	60%	27.5%	
		2005-06	52	9.6%	67.3%	23.1%	
	District	2006-07	40	12.5%	60%	27.5%	
		2005-06	52	9.6%	67.3%	23.1%	
	DFG	2006-07	13810	16.6%	59.5%	23.9%	
		2005-06	13955	16.7%	63.5%	19.9%	
	State	2006-07	106913	21.1%	54.3%	24.6%	
		2005-06	107600	21%	58.5%	20.5%	

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OTHER PERFORMANCE MEASURES

<u>Attendance Rates</u>	2006-2007		2005-2006	
	School	State	School	State
Percentage of students present on average each day.				
Grade 1	95.6%	95.2%	95.0%	95.3%
Grade 2	95.4%	95.6%	95.8%	95.7%
Grade 3	95.7%	95.8%	95.7%	95.9%
Grade 4	96.9%	95.9%	95.5%	96.0%
Grade 5	95.9%	95.9%	96.1%	95.8%
Grade 6	96.7%	95.5%	95.6%	95.4%
Grade 7	94.6%	95.0%	95.7%	95.0%
Grade 8	95.2%	94.7%	95.7%	94.7%
Total School	95.7%	94.4%	95.6%	94.5%

<u>Student Suspensions</u>			
Percentage of students who were suspended from the school during the school year.			
	School	District Average	State Average
2006-07	1.8%	1.5%	4.8%
2005-06	2.4%	2.0%	4.3%
2004-05	1.8%	1.5%	4.0%

<u>Student Expulsions</u>			
The number of students who were expelled during the school year.			
	School	District	State Total
2006-07	0	0	76
2005-06	0	0	78
2004-05	0	0	69

Staff Information

<u>Student/Administrator Ratio</u>		
Numbers of students per administrator.		
	School	State Average
2006-07	196.5	273.0
2005-06	195.9	281.0
2004-05	194.7	285.1

<u>Student/Faculty Ratio</u>		
Numbers of students per faculty member.		
	School	State Average
2006-07	12.5	10.9
2005-06	12.4	11.1
2004-05	11.9	11.3

<u>Faculty Attendance Rate</u>		
Percentage of faculty present on average each day.		
	School	State Average
2006-07	97.9%	96.2%
2005-06	97.7%	96.5%
2004-05	97.7%	96.1%

<u>Faculty Mobility Rate</u>		
Percentage of faculty who entered and left the school during the school year.		
	School	State Average
2006-07	0.0%	6.2%
2005-06	7.5%	6.7%
2004-05	3.6%	7.0%

<u>Faculty and Administrator Credentials</u>			
Percentage of faculty and administrators possessing a bachelor's, master's, or doctoral degree.			
	BA/BS	MA/MS	PhD/EdD
2006-07	75.9%	24.1%	0.0%
2005-06	79.3%	20.7%	0.0%
2004-05	80.0%	20.0%	0.0%

There are three essential components of a highly qualified teacher in accordance with the *No Child Left Behind (NCLB) Act*:

- Hold at least a bachelor's degree;
- Be fully certified/licensed by New Jersey; and
- Demonstrate competence in each of the core academic subjects in which the teacher teaches.

Teachers can demonstrate competence in the subject(s) they teach by either:

- Passing a rigorous state test or completing an academic major, graduate degree, coursework equivalent to an undergraduate academic major, or national certification or credentialing; OR
- Meeting the requirements of the [NJ High Objective Uniform State Evaluation \(HOUSE\) Standard](#).

<u>Teacher Information</u>			
Percentage of teachers teaching with emergency or conditional certificates.			
	School	District	State
2006-07	0.0%	0.0%	0.4%

National Board Certification			
Number of teachers who have been certified by the National Board for Professional Teaching Standards.			
	School	District	State
2006-07	0	0	65
2005-06	0	0	98
2004-05	0	0	98

District Financial Data

Administrative and Faculty Personnel								
In FTE (Full-time Equivalents).								
	# of Administrators		# of Schools		# of Students per Administrator		# of Faculty per Administrator	
	District	State Average	District	State Average	District	State Average	District	State Average
2006-07	3.7	5.4	2.0	2.1	110.0	171.0	9.0	15.8
2005-06	3.7	5.3	2.0	2.1	108.6	173.6	9.4	15.8
2004-05	3.7	5.3	2.0	2.1	107.6	174.6	9.6	15.7

Median Salary and Years of Experience of Administrative and Faculty Personnel			
	2006-07	2005-06	2004-05
Administrators			
Salary - District	\$84,492	\$78,054	\$83,600
Salary - State	\$100,881	\$98,509	\$95,135
Years of Experience - District	15	14	19
Years of Experience - State	18	19	20
Faculty			
Salary - District	\$50,267	\$48,317	\$49,015
Salary - State	\$51,815	\$50,000	\$48,486
Years of Experience - District	11	11	10
Years of Experience - State	10	10	10

Teacher Salaries and Benefits				
Percents of teacher salaries and benefits of the total comparative expenditures. The percent increase or decrease represents the expenditure change in teacher salaries/benefits from one year to the next.				
	% for Teachers Salaries/Benefits		% Change - Increase/Decrease (+/-)	
	District	State Average	District	State Average
2006-07	51%	58%	5%	8%
2005-06	51%	58%	2%	5%
2004-05	50%	58%	3%	6%

Administrative Salaries and Benefits				
Percents of administrative salaries and benefits of the total comparative expenditures. The percent increase or decrease represents the expenditure change in administrative salaries/benefits from one year to the next.				
	% for Administrative Salaries/Benefits		% Change - Increase/Decrease (+/-)	
	District	State Average	District	State Average
2006-07	11%	9%	0%	3%
2005-06	12%	10%	-19%	4%
2004-05	14%	10%	0%	5%

Revenues

Percents of total revenues from various sources.

	2006-2007		2005-2006		2004-2005	
	District	State Average	District	State Average	District	State Average
Local	78%	52%	81%	50%	84%	51%
State	7%	39%	8%	40%	8%	42%
Federal	2%	3%	1%	4%	2%	4%
Other	13%	6%	10%	6%	6%	3%

Per Pupil Expenditures

Two calculations of the average cost per pupil in the district. (See #1 and #2 below).

	2006-2007		2005-2006		2004-2005	
	District Budget	State Average	District Actual	State Average	District Actual	State Average
Classroom - Salaries and Benefits	\$5,426	\$6,713	\$5,177	\$6,502	\$5,235	\$6,182
Classroom - General Supplies/Textbooks	\$322	\$268	\$216	\$279	\$246	\$290
Classroom - Purchased Services and Other	\$44	\$201	\$22	\$185	\$48	\$179
Total Classroom Instruction	\$5,792	\$7,182	\$5,416	\$6,967	\$5,529	\$6,652
Support Services - Salaries and Benefits	\$1,420	\$1,679	\$1,362	\$1,573	\$1,205	\$1,475
Support Services - other	\$161	\$222	\$123	\$245	\$207	\$236
Total Support Services	\$1,581	\$1,901	\$1,485	\$1,818	\$1,412	\$1,711
Administration - Salaries and Benefits	\$1,167	\$1,021	\$1,164	\$1,022	\$1,482	\$982
Administration - other	\$362	\$259	\$323	\$255	\$404	\$256
Total Administration Costs	\$1,529	\$1,280	\$1,487	\$1,277	\$1,886	\$1,238
Op./Maint. of Plant - Salaries and Benefits	\$1,050	\$771	\$918	\$765	\$1,009	\$721
Op./Maint. of Plant - other	\$642	\$700	\$618	\$682	\$614	\$616
Total Operations and Maintenance of Plant	\$1,692	\$1,471	\$1,536	\$1,447	\$1,623	\$1,337
Total Food Services Costs	\$3	\$13	\$28	\$26	\$0	\$26
Total Extracurricular Costs	\$127	\$220	\$102	\$207	\$111	\$196
(1)TOTAL COMPARATIVE COST PER PUPIL	\$10,722	\$12,150	\$10,053	\$11,519	\$10,561	\$10,952
(2)TOTAL COST PER PUPIL	\$11,217	\$13,701	\$10,450	\$13,728	\$10,791	\$13,050

(1) The Comparative Cost Per Pupil represents comparisons with districts of similar budget type. The components that comprise the comparative cost per pupil are as follows: classroom instructional costs; support services (attendance and social work, health services, guidance office, child study team, library and other educational media); administrative costs (general administration, school administration, business administration, and improvement of instruction); operations/maintenance of plant; food services, and extracurricular costs. The total of these expenditures is divided by the average daily enrollment to calculate a total comparative cost per pupil.

(2) Total Cost Per Pupil, in addition to all of the costs listed above for the comparative cost, includes costs for tuition expenditures; transportation; other current expenses (lease purchase interest, residential costs, and judgments against schools); equipment; facilities/acquisition; and restricted expenses less nonpublic services and adult schools, as well as students sent out of district. The total of all these expenditures is divided by the average daily enrollment, combined with all students sent out of district as reported in the ASSA, to calculate a total cost per pupil.

Recreation Facilities

Garwood Borough has an active recreation advisory committee and a year-round recreation program. There is one part time professional on staff and 30 part time employees. Schools, houses of worship and the library are available for recreational use.

Recreation Needs Assessment

Census Block Group One

Census block group one contains 295 tax lots, is 63.67 acres in size and represents 16.93 percent of the municipality. Census block group one is bounded by the municipal boundary with Cranford to the north and to the east, South Avenue to the south and Cedar Street to the west. There are no recreational facilities in this block group.

Table 5-4:
Recreation and Open Space Inventory and Needs Assessment Census Block Group 1
Borough of Garwood

Land Area	63.67 acres	
Total 2000 population	968 People	
Local Recreation and Open Space Requirements	3 Percent of Land Area	1.9
	10 Acres per 1,000 people	9.68
Local Recreation and Open Space Inventory		0.00
School recreational Areas		0.00
Municipally Owned Vacant Land		0.00
		0.00
Total		0.00

There is a shortfall for this block group in recreation and open space of between 1.9 acres to 9.69 acres, depending on which requirement is utilized.

Census Block Group Two

Census block group two contains 357 tax lots, is 114.79 acres in size and represents 20.53% percent of the municipality. Census block group two is bounded by North Avenue to the north, the municipal boundary with Cranford to the east, Center Street to the west and Locus Avenue to the south.

Table 5-5:
Recreation and Open Space Inventory and Needs Assessment Census Block Group 2
Borough of Garwood

Land Area	114.79	
Total 2000 population	1,086 People	
Local Recreation and Open Space Requirements	3 Percent of Land Area	3.44
	10 Acres per 1,000 people	10.86
Local Recreation and Open Space Inventory		3.56
School recreational Areas		0.00
Municipally Owned Vacant Land		0.00
		0.00
Total		3.57

There is a shortfall for this block group in recreation and open space of 3.405 acres depending if the population requirements are utilized and has sufficient land if the land based requirement is utilized.

Census Block Group Three

Census block group three contains 246 tax lots, is 71.877 acres in size and represents 19.11 percent of the municipality. Census block group three is bounded by the municipal boundary with Cranford to the east and south and the municipal boundary with Westfield to the west and south, and Locust Avenue to the North.

Table 5-6:
Recreation and Open Space Inventory and Needs Assessment Census Block Group 3
Borough of Garwood

Land Area	71.877	
Total 2000 population	639 People	
Local Recreation and Open Space Requirements	3 Percent of Land Area	2.15
	10 Acres per 1,000 people	6.39
Local Recreation and Open Space Inventory		0.00
County Recreation		20.42
School recreational Areas		1.88
Municipally Owned Vacant Land		0.00
Total		22.30

Census Block Group Four

Census block group four contains 322 tax lots, is 62.81 acres in size and represents 16.72 percent of the municipality. Census block group four to bounded by Willow Avenue to the north, Center Street to the west and the municipal boundary with Westfield to the south and west. The demographics of this block group are as follows:

Table 5-7:
Recreation and Open Space Inventory and Needs Assessment Census Block Group 34
Borough of Garwood

Land Area	62.81	
Total 2000 population	891 People	
Local Recreation and Open Space Requirements	3 Percent of Land Area	1.88
	10 Acres per 1,000 people	8.91
Local Recreation and Open Space Inventory		
County Recreation		0.0
School recreational Areas		0.0
Total		0.0

There is a shortfall for this block group in recreation and open space of between 1.88 acres to 8.91 acres, depending on which requirement is utilized.

Census Block Group Five

Census block group five contains 305 tax lots, is 108.95 acres in size and represents 16.70 percent of the municipality. Census block group five is Westfield to the north and west, Willow Avenue to the South, Center Street from Willow Avenue to North Avenue, and then to Cedar Street to the west.

Table 5-8:
Recreation and Open Space Inventory and Needs Assessment Census Block Group 3
Borough of Garwood

Land Area	108.95	
Total 2000 population	816 People	
Local Recreation and Open Space Requirements	3 Percent of Land Area	3.29
	10 Acres per 1,000 people	8.16
Local Recreation and Open Space Inventory		0.765
County Recreation		0.00
School recreational Areas		2.41
Total		3.175

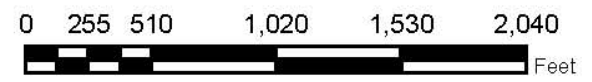
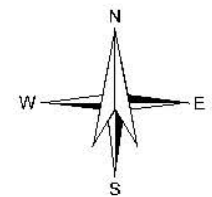
Table 5-9 below indicates, that in its totality, the Borough of Garwood, has sufficient recreation and open space if utilizing three percent of the land area and is deficient by 15 acres if the population based requirement is utilized.

Table 5-9:
Recreation and Open Space Inventory and Needs Assessment
Borough of Garwood

Land Area	422.097	
Total 2000 population	4,402 People	
Local Recreation and Open Space Requirements	3 Percent of Land Area	12.66
	10 Acres per 1,000 people	44.02
Local Recreation and Open Space Inventory		4.32
County Recreation		20.42
School recreational Areas		4.29
Total		29.03

Borough of Garwood Existing Recreational Facilities

Kasler Associates, PA
Land Use Consultants
34 Little Brook Road
Springfield, NJ 07081
908.598.1666
www.KaslerAssociates.com



Municipal Buildings

Library

As a project that began in 1933 by the Garwood PTA, the public library was turned over to Borough control in 1939. As such, Garwood Public Library has been offering books and other materials to the residents and students of the Borough for nearly 75 years. Originally housed in a classroom in the basement of Lincoln School on Second Avenue, offering a mere 4,000 titles, the Library was moved to larger quarters in the Franklin School on Walnut Street in 1979, where the collections grew to nearly 25,000 items.



When the new Lincoln School facility was completed in 2006, the Garwood Public Library was fortunate to be part of the construction and the Library is now located in a separate, yet attached, building at the corner of Walnut Street and Third Avenue, providing service to both the public and the school population. The new facility is nearly twice the size of the Franklin School location allowing for comfortable seating, separation of collections, and room for growth. Currently, the Library is home to about 28,000 items, meeting the needs of the community as well as supporting the curriculum of the school.

Police

Garwood Borough's Police Department has 20 full time employees which include one Chief, one Captain, two Lieutenants, two Sergeants, and four dispatchers. There are 10 school crossing guards.

The department has seven patrol cars, two unmarked cars and five radio cars. Approximately two vehicles are replaced every year. At headquarters there are two detention cells.

Garwood has two police zones. The number of day and evening patrols varies as does the number of officers per car. Specially trained personnel include: one detective, crime prevention personnel, traffic personnel and one alcotest operator.



Table 5-10:
Crime in Garwood By Year⁶
Borough of Garwood

Crime in Garwood by Year							
Type	2001	2002	2003	2004	2005	2006	2007
Murders	0	0	0	0	0	0	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rapes	0	0	0	0	2	0	0
per 100,000	0.0	0.0	0.0	0.0	47.9	0.0	0.0
Robberies	1	0	0	2	1	1	1
per 100,000	23.9	0.0	0.0	47.7	24.0	24.1	23.7
Assaults	0	1	0	1	1	2	1
per 100,000	0.0	23.6	0.0	23.8	24.0	48.2	23.7
Burglaries	14	16	13	12	10	11	3
per 100,000	334.3	377.4	308.9	286.1	239.5	265.2	71.2
Thefts	65	59	45	48	48	37	52
per 100,000	1552.1	1391.5	1069.4	1144.5	1149.7	892.0	1234.0
Auto thefts	4	3	1	2	3	1	4
per 100,000	95.5	70.8	23.8	47.7	71.9	24.1	94.9
Arson	0	0	0	0	0	0	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City-data.com crime index (higher means more crime, U.S. average = 320.9)	100.3	92.5	66.3	88.7	118.8	73.0	73.8

⁶ As reported by city-data.com

Fire Department

The Garwood Fire Department was organized in 1903, and currently boasts a roster of 50 members. The Department covers an area of 1 square mile, which is known as the industrial center of Union County. The fire department has the following equipment:



1973 HAHN 1000 GPM PUMPER
1993 PIERCE LANCE 10 MAN CAB 1500 GPM QUAD PUMPER
1996 CROWN VICTORIA
1997 SUBURBAN - CHIEFS VEHICLE
2002 FORD PICK UP TRUCK
2002 FORD EXPLORER
2005 PIERCE ENFORCER RESCUE / PUMPER

Garwood Rescue Squad

The Garwood Rescue Squad is a non - profit volunteer organization which has provided Emergency Medical Services to the Borough of Garwood since 1927. The Garwood Rescue squad is located at 12 Church Street and has three bays for its two ambulances and 1 heavy rescue vehicles. The Garwood Rescue Squad responds to over 1,200 calls each year.

Existing Traffic & Circulation Element



SECTION 6 – EXISTING TRAFFIC AND CIRCULATION

A well designed traffic and circulation system is essential to the functional vitality of the community. This portion of the master plan will examine the current roadways within the municipality as to their jurisdiction, right-of-way widths, function, and high accident locations.

Garwood is a municipality with less than one square mile within its boundaries. With that being said, Garwood residents are never very far from other locations in the Borough. North and South Avenues are centrally located and no residential property is less than a half mile from these commercial rights of way.

Street Classification

There is approximately 13.019 miles of roadway in the Borough of Garwood. Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service that they are intended to provide. Categories of public roads based on the service they are intended to provide. Smaller, less traveled roadways provide motorists with a high degree of access. Larger roadways provide motorists with a high degree of mobility. The functional classification system has been developed in cooperation with county and Metropolitan Planning Organization officials.

Garwood's street system is categorized into three major classifications. These classifications, their essential functions, the width standards necessary for them to fulfill their function and the streets proposed for each classification are divided into urban collectors, minor urban arterial, and local access categories.

It should be noted that the existing roadway system in Garwood has *not* been classified utilizing the Residential Site Improvement Standards (RSIS). The RSIS are standards for proposed new roadways. The current roadway system in Garwood already exists and therefore this classification system does not accurately reflect these roads. Furthermore, as indicated by the title, the RSIS only apply to residential roadways that are under the jurisdiction of the municipality. Any future residential roadways will have to comport with the RSIS.

Table 6-1:
Roadway Lengths in
Borough of Garwood

<u>Street Name</u>	Length	
	<u>Miles</u>	<u>Feet</u>
2nd	0.7567	3,995.38
3rd	0.6848	3,615.74
4th	0.4411	2,329.01
Anchor	0.1096	578.69
Beech	0.4387	2,316.34
Cedar	0.2105	1,111.44
Center	0.6120	3,231.36
Chestnut	0.0752	397.06
East	0.4663	2,462.06
Gallows Hill	0.1156	610.37
Hazel	0.3426	1,808.93
Hemlock	0.3103	1,638.38
Hickory	0.3090	1,631.52
Kennedy Plaza	0.0488	257.66
Lexington	0.2594	1,369.63
Liberty	0.0577	304.66
Lincoln	0.0985	520.08
Locust	0.5914	3,122.59
Maple	0.4187	2,210.74
Myrtle	0.9144	4,828.03
New	0.1477	779.86
North	0.9754	5,150.11
Oak	0.5196	2,743.49
Pine	0.3154	1,665.31
Rankin	0.2682	1,416.10
South	1.0251	5,412.53
Spruce	0.7858	4,149.02
Union	0.0979	516.91
Walnut	0.2031	1,072.37
West	0.3237	1,709.14
Willow	0.9919	5,237.23
Winslow	0.1048	553.34
TOTAL	13.0199	68,745.07

Urban Collectors

Of the 13.0199 miles of roadway in Garwood, 0.63275 miles or 4.86 percent are classified as Urban Collector Roads. The following roadways are classified as arterial roads:

1. New Jersey Route 28 (Lincoln Avenue)

Lincoln Avenue is designated as State Route 28. There is approximately 520 linear feet (0.0985 miles) of this state highway within the municipal limits. There are two signalized intersections within Garwood along Route 28 at North and South Avenues.

2. Center Street and Spruce Avenue

Center Street from South Avenue to Spruce Avenue, and then Spruce Avenue to the municipal boundary with Westfield has been classified as an Urban Collector. There is approximately 2,820 linear feet (0.53425 miles) of this Urban Collector within the municipal limits. There are two signalized intersections within Garwood along this route, at South Avenue and at Spruce Avenue.

Urban Minor Arterial Roads

Of the 13.0199 miles of roadway in Garwood, 1.025 miles or 7.87 percent are classified as Urban Minor Arterial Roads. The following roadway is classified as collector roads:

1. South Avenue

There is approximately 5,412 linear feet (1.025 miles) of this roadway within the municipality. This roadway is an important east-west connection between Westfield, through Garwood to Cranford. The roadway is signalized at its intersection with Center and East Street.

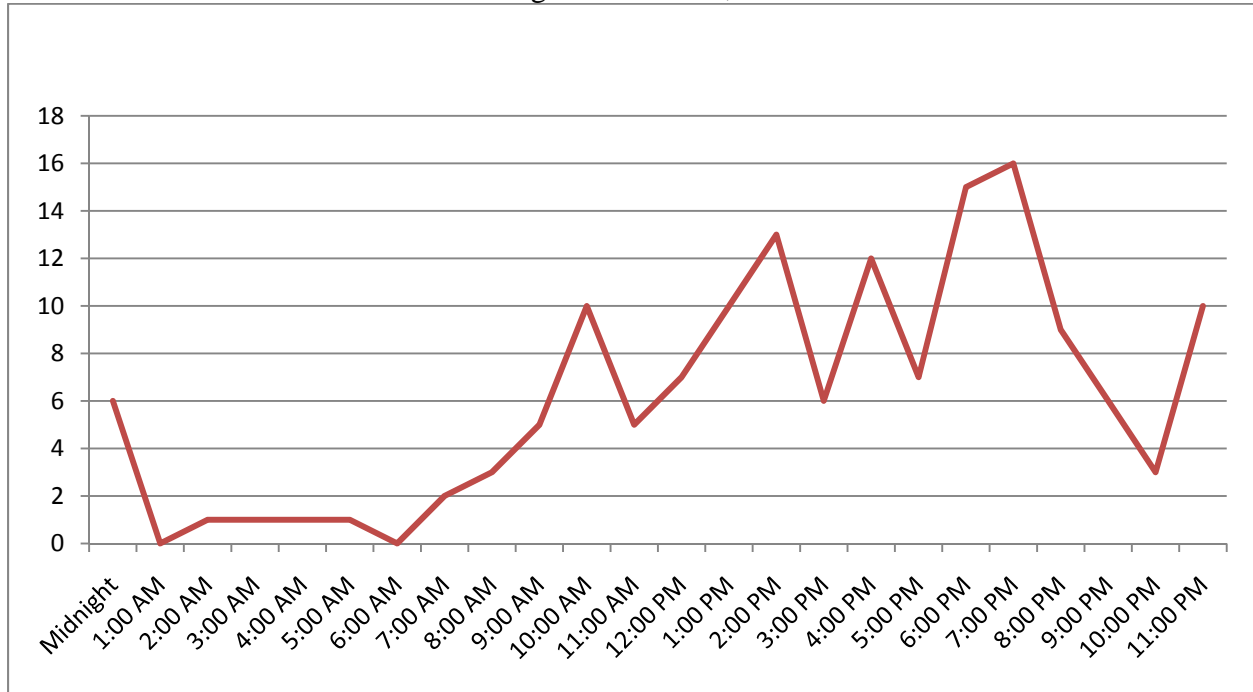
Local Access Roads

Of the 13.0199 miles of roadway in Garwood, 11.36 miles or 87.26 percent are classified as local access roads. These roads provide access individual to lots.

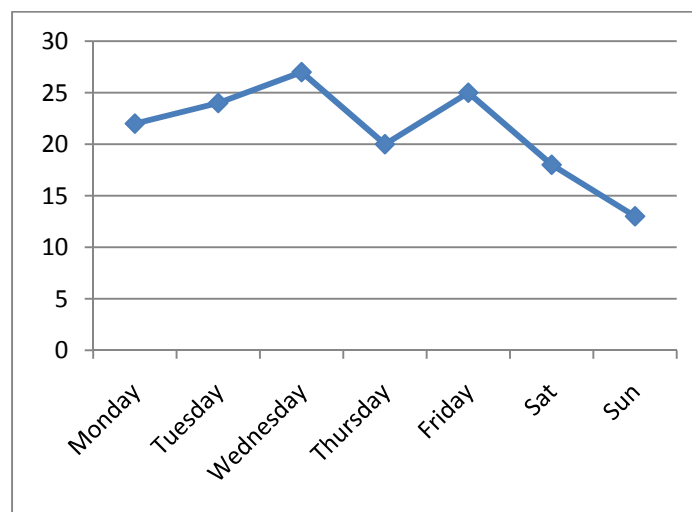
Accident Location

The last complete year the New Jersey Department of Transportation had accident data for Garwood was 2006. This data suggests that most accidents occur between 6 pm and 7 pm. Wednesday tends to be the day with the most accidents and Sunday the least amount. A majority of the accidents occur on private properties with accidents on municipal roads accounting for twenty nine (29) percent.

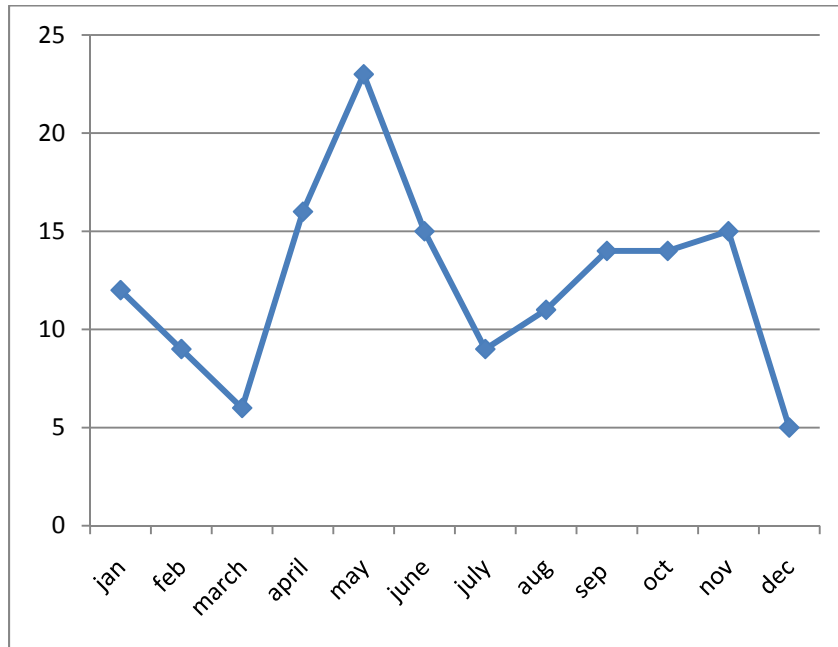
Time of Accidents
Borough of Garwood, 2006



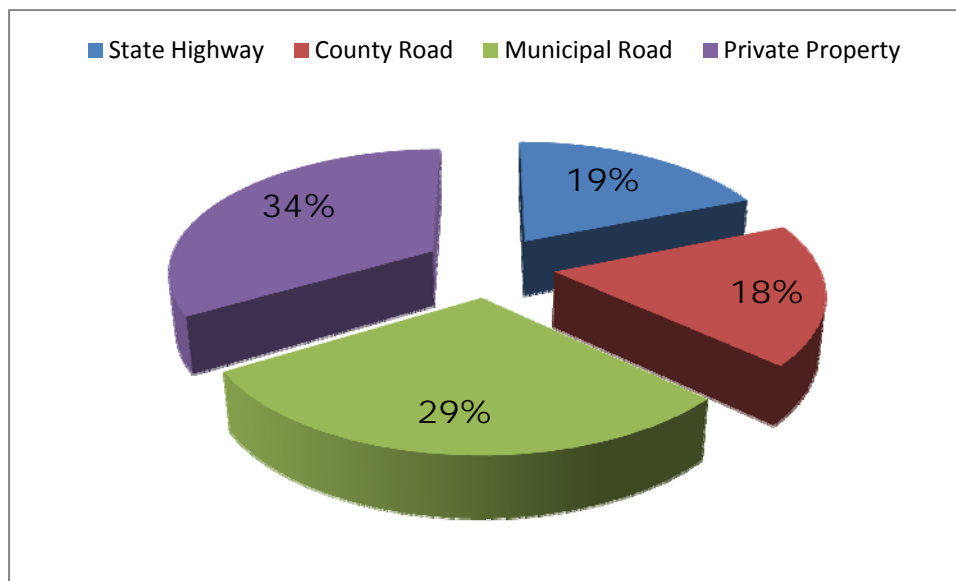
Day of Accidents
Borough of Garwood, 2006



Month of Accidents
Borough of Garwood, 2006



Location of Accident
Borough of Garwood, 2006



New Jersey Straight Line Diagrams

The New Jersey Straight Line Diagrams (SLDs) are a way of viewing roadways in a line format. The SLD network has been built for most State highways, National Highways and all County Roads. The top portion of the diagram indicates an overhead linear depiction of the road and below provides statistical information about said roadway. The legend for these maps is found below.

Straight Line Diagram Legend

ROUTE NUMBER/NAME (Direction By Description) **Route Mile Post Limits for This Sheet**

Symbol Legend

- Federal Aid Interstate Route
- U.S. Numbered Route
- New Jersey Posted State Highways
- County Roads
- Interchange Number
- Grade separated interchange (full or partial) (Click symbol for interchange diagram if available)
- Traffic Monitoring Site (WIM, AVC, or VOL)
- Toll Plaza
- Undivided Roadway with Jug Handle and Traffic Signal
- Divided Roadway with Median cut and Jughandle
- Secondary Direction of Roadway
- Secondary Express Direction of Roadway
- Primary Express Direction of Roadway
- Primary Direction of Roadway
- Structures:
 - Tunnel
 - Cattle Overpass
 - Cattle Underpass
 - Road Overpass
 - Road Underpass
 - Pedestrian Overpass
 - Pedestrian Underpass
- Municipal Boundary
- Structure under 20 ft in length (Pipe)
- Structure under 20 ft in length (Culvert)
- Structure 20 ft and Over (Bridge)
- Railway

Area Map

Route Mile Post Limits for This Sheet

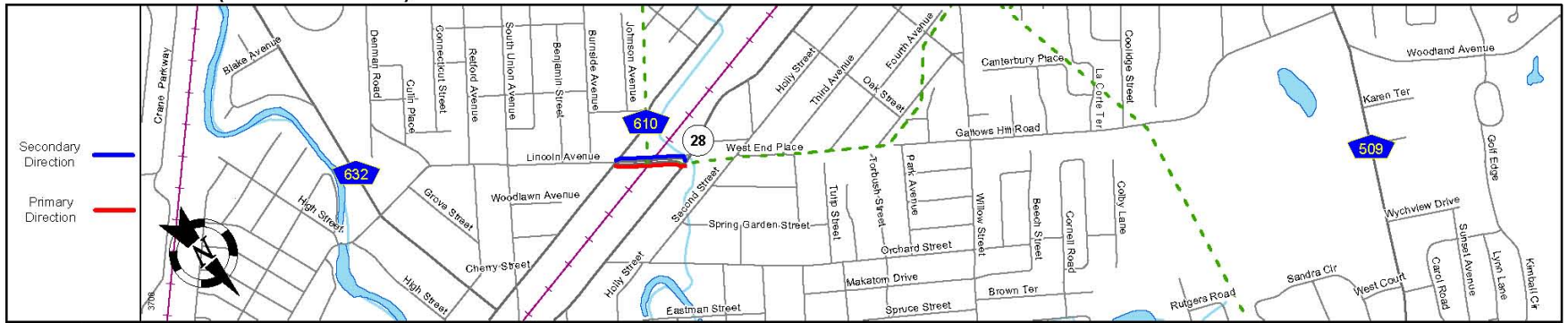
Pavement	Pavement width in feet of the driving lanes in the secondary direction if the roadway is divided.
Shoulder	Width in feet of the shoulder in the secondary direction if the roadway is divided.
Number of Lanes	Total number of traffic lanes in the secondary direction if the roadway is divided.
Speed Limit	Posted speed limit in miles per hour of the roadway in the secondary direction if the roadway is divided.
Street Name	Local street name of the route in the secondary direction if the roadway is divided.
MILES	Scale / Milepost in the secondary direction if the roadway is divided.

Route Diagram & General Information

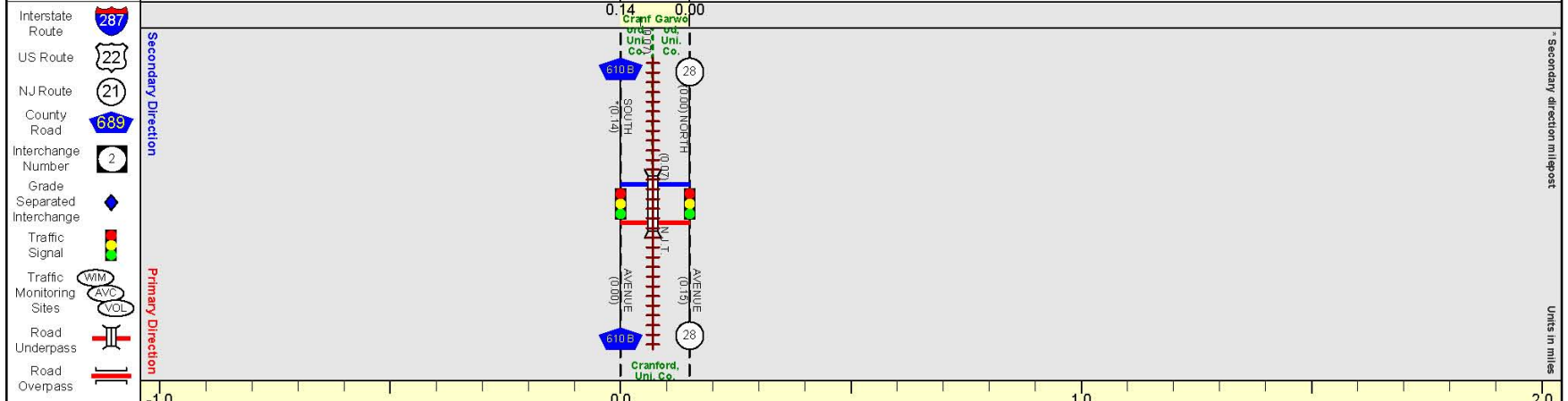
Scale / Milepost in the primary direction of the roadway.

MILCO	Scale / Milepost in the primary direction of the roadway.
Street Name	Local street name of the route in the primary direction.
Jurisdiction	Authority responsible for the mainline roadway.
Functional Class	Classification of the road according to the character of service provided. Approved by F-HWA in 2002.
Federal Aid Sys	Federal funding eligibility program.
Contm. Section	Job number codes for internal NJDOT accounting purposes.
Speed Limit	Posted speed limit in miles per hour of the roadway in the primary direction.
Number of Lanes	Total number of lanes in BOTH directions of an undivided highway or only in the primary direction if the roadway is divided.
Med. Type	Text description of the median.
Med. Width	Width in feet of the median.
Pavement	Total pavement width in feet of the driving lanes in BOTH directions of an undivided highway or only in the primary direction if the roadway is divided.
Shoulder	Total width in feet of the shoulder in BOTH directions of an undivided highway or only in the primary direction if the roadway is divided.
Traffic Volume	Traffic Volume estimate of the A.A.D.T. (Year Counted).
Traffic Sta. ID	Internal NJDOT traffic monitoring station identification number.
Structure No.	Authority structure identification number, if available.
Enlarged Views	Appendix page number of an expanded view for the indicated area. Click to view.

S.R.I. # (Standard Route Identifier) **Date last inventoried (Month/Year)**



Pavement	24
Shoulder	0
Number of Lanes	2
Speed Limit	25
Street Name	Lincoln Ave



Street Name	Lincoln Avenue
Jurisdiction	N.J.D.O.T.
Functional Class	Urban Collector
Federal Aid Sys	STP
Control Section	2009
Speed Limit	25
Number of Lanes	2
Med. Type	Curbed
Med. Width	VAR
Pavement	24
Shoulder	0
Traffic Volume	11,452 (2003)
Traffic Sta. ID	3-4,339
Structure No.	2009150
Enlarged Views	

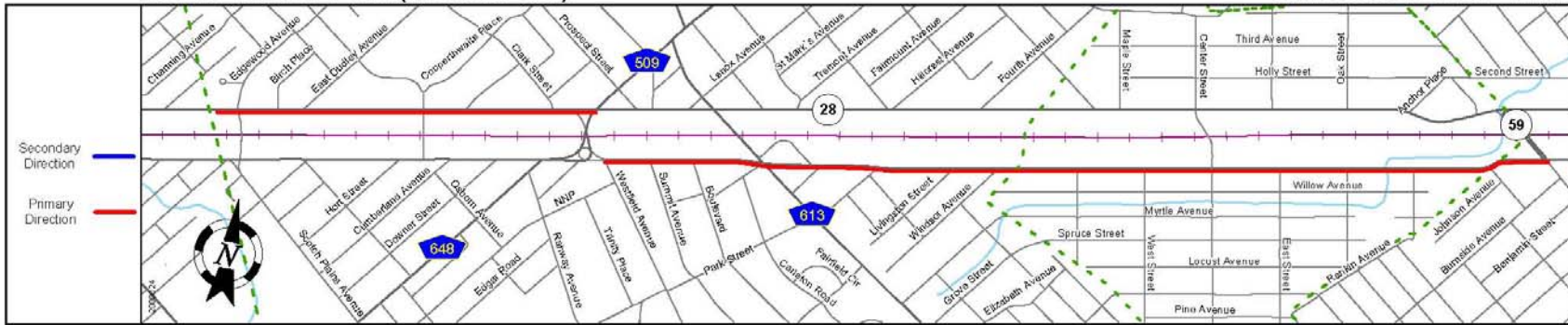
SRI = 0000059__

Date last inventoried: March 2006

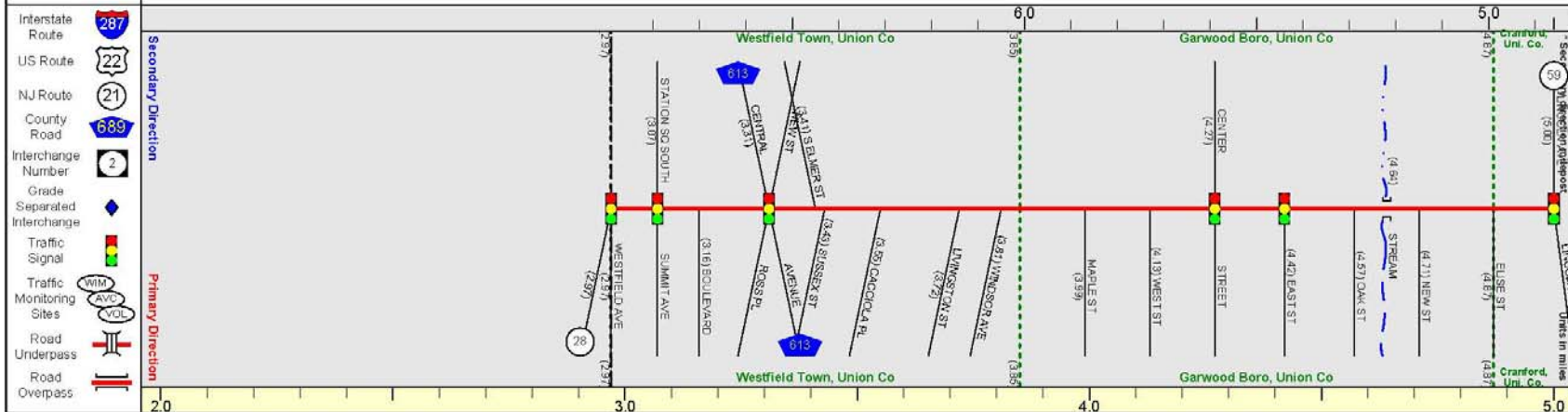
Page Created May 2007

UNION COUNTY 610 (West to East)

Mile Posts: 2.970 - 5.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	South Avenue	
Jurisdiction	County	
Functional Class	Urban Minor Arterial	
Federal Aid - NHS Sy	STP	
Control Section		
Speed Limit	30	35
Number of Lanes	3	2
Med. Type	None	
Med. Width	0	
Pavement	43	39
Shoulder	0	
Traffic Volume		
Traffic Sta. ID		
Structure No.		
Enlarged Views		

SRI = 2000610

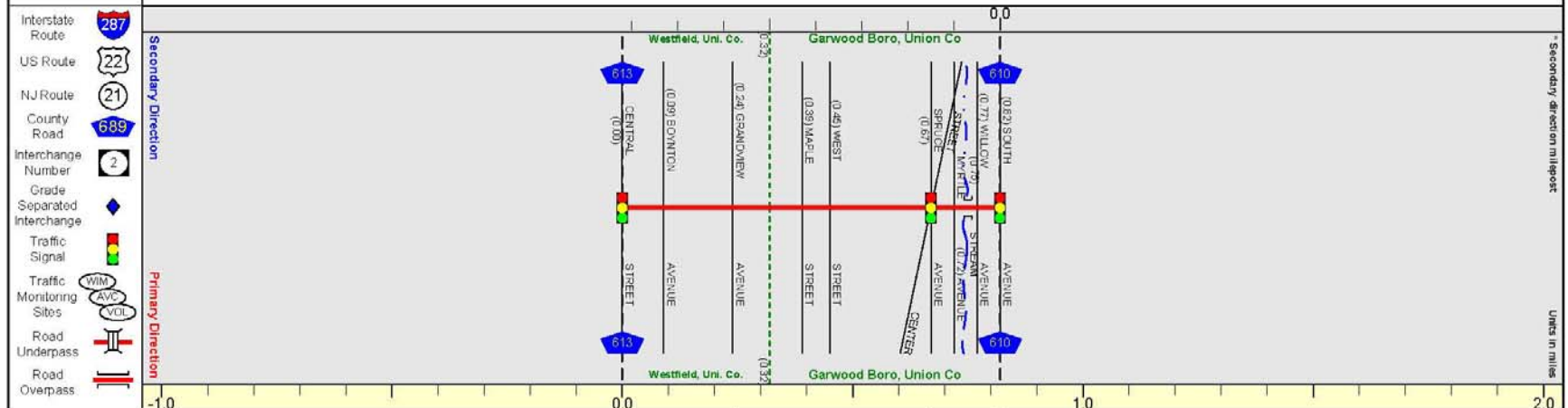
Date last inventoried: May 2000

CENTER ST (West to East)

Mile Posts: 0.000 - 0.820



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	Grove Street	Spruce Street	Center Street
Jurisdiction		Municipal	
Functional Class		Urban Collector	
Federal Aid Sys		STP	
Control Section	Begin Center St MF=0		End Center St MF=0.82
Speed Limit		25	
Number of Lanes		2	
Med. Type		None	
Med. Width		0	
Pavement		35	49
Shoulder		0	
Traffic Volume			
Traffic Sta. ID			
Structure No.			
Enlarged Views			

SRI = 20201332__

Date last inventoried: May 2000

Roadway Volumes

The busiest roadways in the Borough are in the vicinity of the intersections of South Avenue and Center Street and North Avenue and Walnut Street and Center Street. Both intersections are signalized; with dedicated left turn lanes on Center Street to North and South Avenues.

The New Jersey Department of Transportation has performed traffic counts in Garwood at five separate locations between 2003 and 2006. These traffic counts were performed at the following location and with the following results:

	<u>Monitoring Location</u>	<u>Cross Street</u>	<u>Mile Marker</u>	<u>Date</u>	<u>Average Daily Trips</u>
1.	North Avenue	Center Street		2004	23,220
2.	Lincoln Avenue	North Avenue	21.67	May 2006	19,154
3.	North Avenue	Cedar Street		2006	16,413
4.	Chestnut Street	North Avenue	20.78	April – May 2006	14,216
5.	Lincoln Avenue	Between North & South Aves.	0.10	August 2003	11,452

Numerous traffic studies all have confirmed that the road network in the Borough is at or nearing capacity. This condition is cause for concern when considering future development. Traffic mitigation will have to be addressed satisfactorily in future land use development discussions this unacceptable traffic condition will worsen.

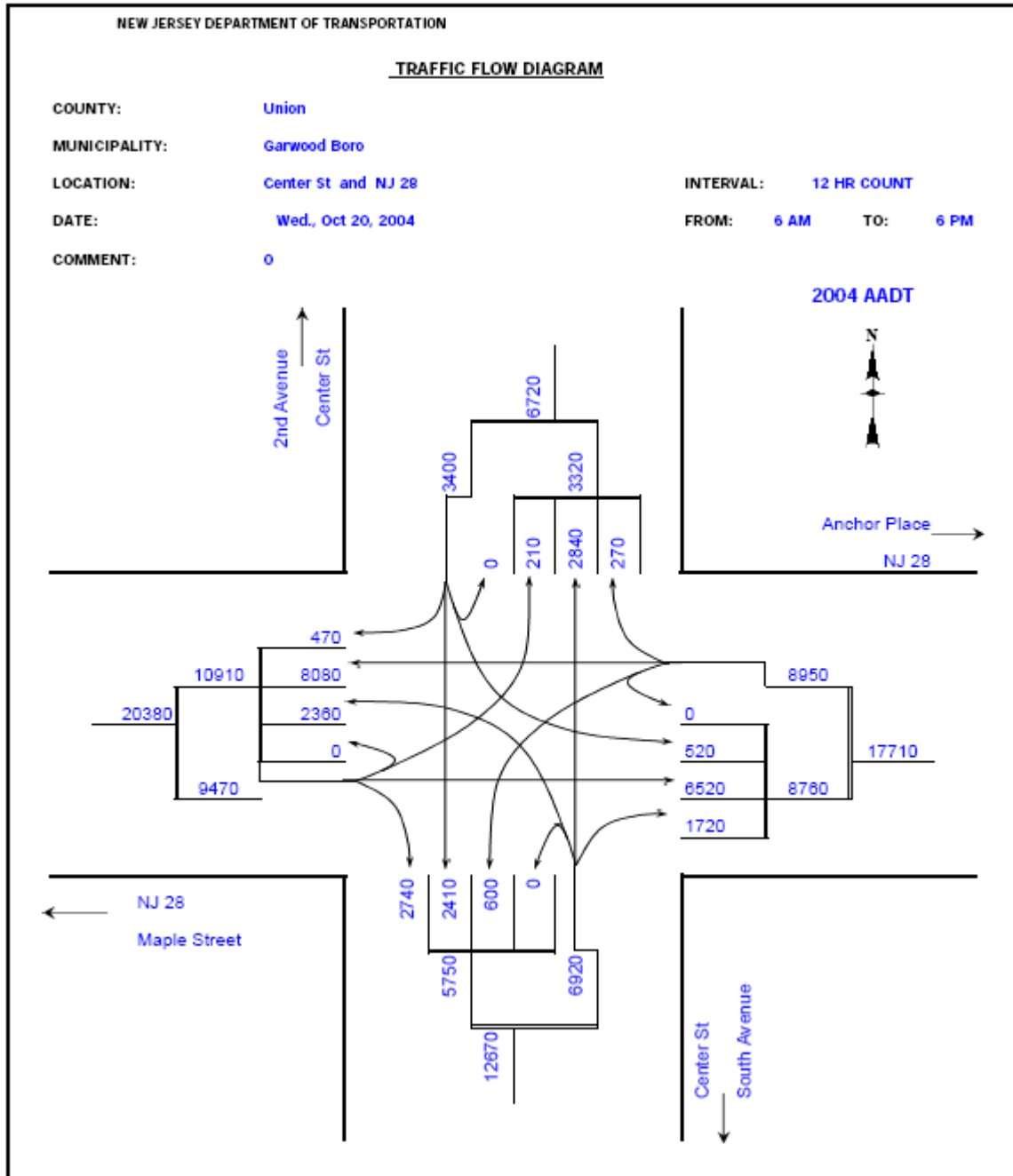
Truck Traffic

North and South Avenues have been designated by the municipality for heavy truck traffic. All other roadways exclude trucks over four tons. Much of the truck traffic in the Borough is local in nature, making deliveries or pickups in Garwood and surrounding towns. However, there is a significant amount of through truck traffic. The 1997 North South Avenue Corridor Study found that the intersection of North Avenue and Center Street in Garwood experienced high truck traffic volumes.

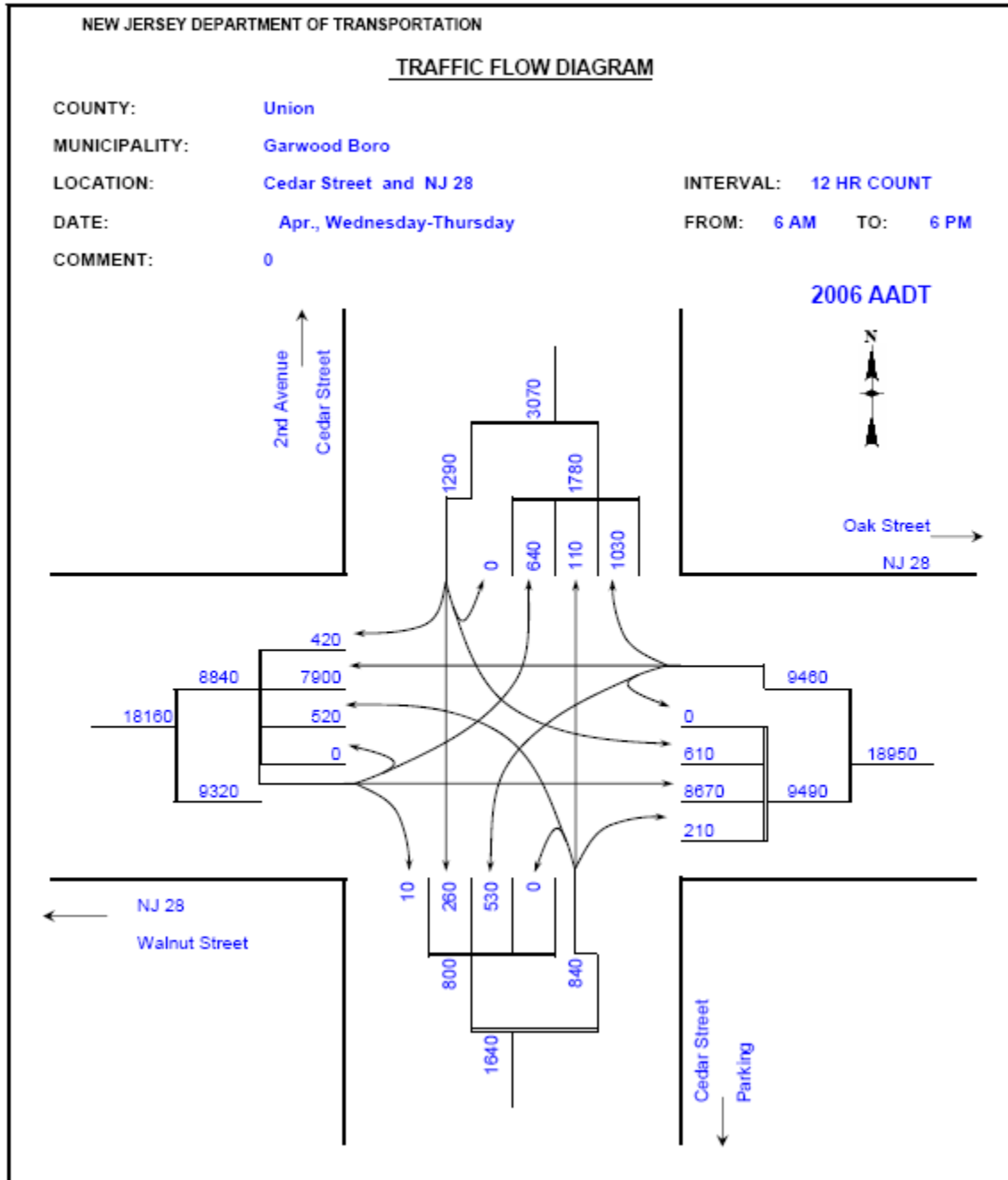
Key Intersection Traffic

The following traffic diagrams illustrate the daily average trip traffic at key intersections in the municipality:

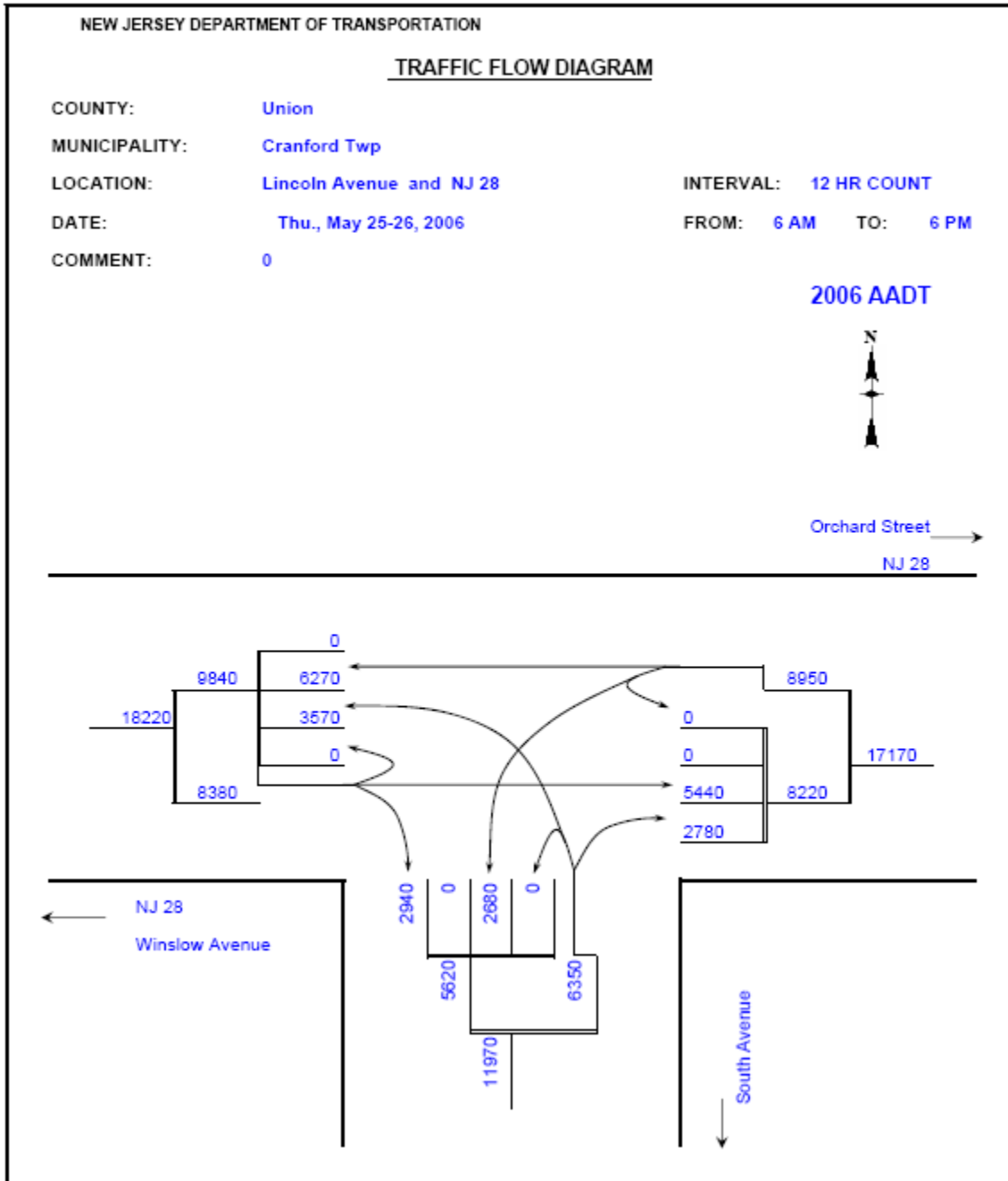
Center Street and NJ 28



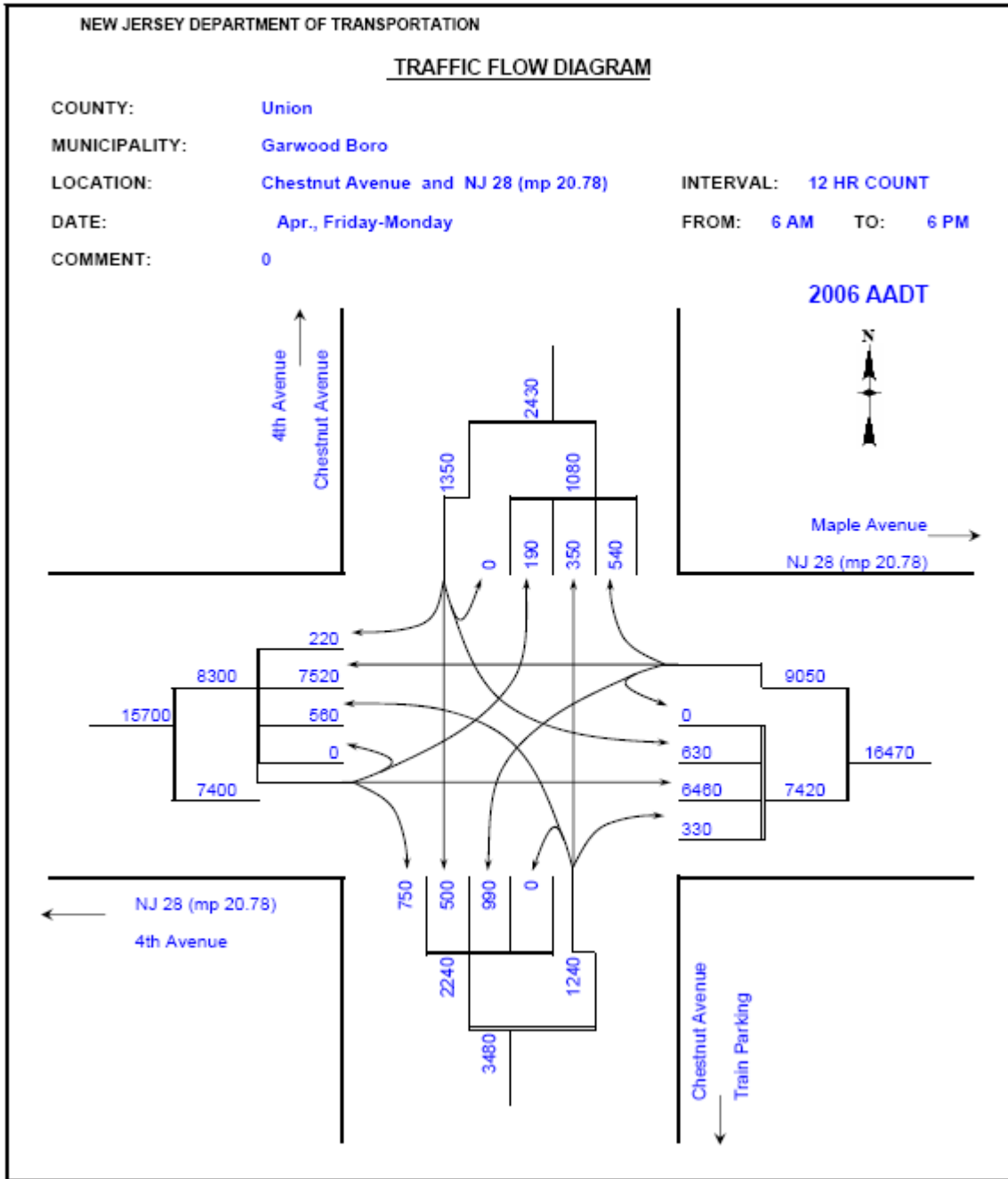
Cedar Street and NJ 28



Lincoln Avenue and NJ 28



Chestnut Avenue and NJ 28



PUBLIC TRANSPORTATION

New Jersey Transit

New Jersey Transit Corporation of Newark (Transit), the statewide mass transit agency, operates several services within the Borough of Garwood. Rail service is provided along the Raritan Valley Line which stops at Garwood Train Station. Bus service is provided on Routed 59 and Route 113.

Rail Service

The Garwood train station is located between the Cranford and Westfield train stations along the Raritan Valley Line. Garwood is the third stop on the westbound, or Somerville bound train, following departure from Newark Penn Station.

There are no designated parking spaces for the train station. Kennedy Plaza, the development adjacent to the westbound platform, has available two (2) hour shopper's parking. Train riders appear to walk or bike to the station, get dropped off or park illegally in the Garwood Mall parking lot.

Weekday service on the Raritan Valley Line eastbound from Garwood to Newark is scheduled for stops roughly every hour in the AM and PM rush hours. Likewise, westbound trains stop in Garwood on an hourly basis through the morning and evening rush hours as well. A total of seven (7) eastbound trains stop in Garwood and twelve (12) westbound trains stop. No service to or from Garwood is provided on weekends and holidays.

Bus Service

New Jersey Transit operates two bus lines in Garwood – Bus Route 59 from Newark to Dunellen, and Bus Route 113 from New York to Dunellen. No park and ride lots are provided within the Borough specifically for either bus line. No municipal parking is provided along the bus routes or in the vicinity of Garwood Station for commuters.

Residential Site Improvement Standards (RSIS)

As of June 3, 1997, the State imposed Residential Site Improvement Standards (RSIS) became operative and automatically effects all residential development in every municipality in New Jersey.

These standards supersede, and automatically replace, all technical requirements previously established by municipal ordinance with regard to streets, parking, water supply, sanitary sewers and storm water management.

Goals & Objectives



SECTION 7 - GARWOOD'S GOALS & OBJECTIVES

A community's master plan serves as a general guide for future development upon which zoning controls are based, as well as public regulation of new subdivisions or site development. The master plan may also suggest future public projects to be incorporated into capital improvement programs. The general policies contained herein should be referred to in order to assess whether local community objectives are being met by future development or redevelopment proposals.

The goals and objectives serving Garwood's Master Plan are indicated as follows:

1. To encourage municipal action to guide the appropriate use or development of all lands in this Borough, in a manner that will promote the public health, safety, morals, and general welfare.
2. To secure safety from fire, flood, panic and other natural and man-made disasters.
 - a. Maintain adequate water service to the Borough.
 - b. Maintain and improve the storm drainage system serving the Borough.
 - c. Maintain adequate sanitary sewer service for the Borough.
3. To provide adequate light, air and open-space;
 - a. Provide appropriate levels of recreational opportunities to efficiently and adequately serve the residents of the Borough.
4. To ensure that the development of the Borough does not conflict with the development and general welfare of neighboring municipalities, the county and the State as a whole;
5. To promote the establishment of appropriate population densities and concentrations that will contribute to the well-being of people, neighborhoods, communities and regions and preservation of the environment;
 - a. Preserve the environmental resources of the borough by locating conservation parklands and easements where necessary; by limiting development in environmentally sensitive areas; by encouraging the preservation of specimen trees and general landscaping; and by preservation of the borough's natural character.
 - b. Preserve environmentally sensitive lands by identifying wetlands and preserving them according to the rules and regulations promulgated by the New Jersey Department of Environmental Protection.
 - c. Preserve environmentally sensitive lands by identifying steep slopes and deterring development on said lands.

6. To encourage the appropriate and efficient expenditure of public funds by the coordination of public development with land use policies;
 - a. Provide adequate community facilities in the Borough by maintaining and improving necessary facilities such that the borough is efficiently and adequately served, and that all such facilities be barrier free.
7. To provide sufficient space in appropriate locations for a variety of residential, recreational, commercial and open-space, both public and private, according to their respective environmental requirements in order to meet the needs of all the citizens of Garwood;
 - a. Preserve and promote a balanced variety of residential, commercial, Industrial, public, and recreation land uses.
 - b. Preserve and protect the established, primarily residential character of the Borough by maintaining and improving neighborhood quality in existing residential areas.
 - c. Encourage future housing construction which is compatible with the existing character of the borough without increasing housing density in established residential areas.
 - d. Maintain and improve the existing quality of housing.
 - e. Encourage modifications and / or additions to existing housing in light of current trends of completely raising the existing home and rebuild anew.
 - f. Guide the future development and/or redevelopment of land within the borough so as to incorporate new construction without undue disruption to the established character of the Borough.
8. Continue to recognize that North and South Avenues are the primary areas for business serving the community.
 - a. Encourage the renovation and rehabilitation of existing buildings and storefronts
 - b. Encourage general maintenance and upkeep of buildings, storefronts and public areas
 - c. Encourage lot consolidation to enhance opportunities for infill and redevelopment.
 - d. Encourage mixed-use developments
 - e. Discourage parking areas in the front yards
9. To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging location of such facilities and routes which result in congestion or blight;

- a. Maintain the efficiency of the borough's circulation system by continued upgrading of streets and intersections.
 - b. Develop a balanced circulation system incorporating the needs of pedestrians, bicyclists, autos, trucks, trains and buses.
 - c. Provide municipal parking areas in support of commercial enterprises in the central business district.
 - d. Promote and increase ridership of public transportation, including train and bus service.
10. To promote a desirable visual environment through creative development techniques and good civic design and arrangement;
- a. Reduce the cutting of trees on private property through tree preservation regulations.
11. To promote the conservation of historic sites and districts, open-space, energy resources and valuable natural resources in the Borough and to prevent urban sprawl and degradation of the environment through improper use of land;
- a. Encourage the protection and preservation of historic sites and buildings.
12. To encourage planned unit developments which incorporate the best features of design and relate the type, design and layout of residential, commercial, and creational development to the particular site;
13. To encourage senior citizen housing construction;
14. To encourage development of affordable housing within the Borough of Garwood.
- a. Meet the municipal obligation to provide its fair share of affordable housing meeting the requirements set forth by the New Jersey Council On Affordable Housing.
 - b. To provide affordable housing opportunities for Garwood residents
15. To encourage coordination of the various public and private procedures and activities shaping land development.
16. To promote utilization of renewable energy resources.
- a. To promote the use of solar panels, green roofs, and leed certified construction.

17. To promote the maximum practicable recovery and recycling of recyclable materials from municipal solid waste through the use of planning practices designed to incorporate the State Recycling Plan goals and to complement municipal recycling programs.

a. Assure adequate collection, disposal and recycling of solid waste materials.

Land Use Plan Element



SECTION 8 - GARWOOD LAND USE PLAN ELEMENT

Garwood has a well established character of development and the general approach used throughout this plan is to provide the means to preserve and protect existing development from any adverse consequences associated with redevelopment or new construction. This Land Use Plan divides the municipality into thirteen (13) different land use districts as follows:

Table 8-1: Land Use Districts

Residential Districts

- Single Family - Low density
- Single Family - Medium density
- Two Family
- Townhouse

Commercial Districts

- Community Commercial
- Mixed Use
- Transit Oriented Development
- Service Oriented Development
- Office / Retail

Public Districts

- Public Open Space
- Public Space – Educational
- Public Space – Municipal
- Transportation

The land use plan for Garwood classifies the Borough into thirteen (13) land use classifications and in the following distribution:

Table 8-2: Land Use Districts by Number of Lots and Acres

Land Use	Number of Lots	Acres	Percent of Land Use	Percent of Acres
<u>Residential</u>				
Single Family Low Density	47	8.17	3.09%	1.91%
Single Family Medium Density	1,045	146.20	68.66%	34.10%
Two Family	216	30.65	14.19%	7.15%
Townhouse	5	0.92	0.99%	0.21%
<u>Commercial</u>				
Community Commercial	38	34.77	2.50%	8.11%
Mix Use	3	6.26	0.20%	1.46%
Transit Oriented Development	9	5.98	0.59%	1.39%
Service Oriented Development	64	12.06	4.20%	2.81%
Office / Retail	59	13.57	3.88%	3.16%
<u>Public</u>				
Public Open Space	15	29.51	0.99%	6.88%
Public Educational	3	4.28	0.20%	1.00%
Public Municipal Building	7	2.16	0.46%	0.50%
Industrial	11	17.96	0.72%	4.19%
Transportation		116.31		27.12%

Single-family Residential Districts

Single-family Residential Districts - Low Density

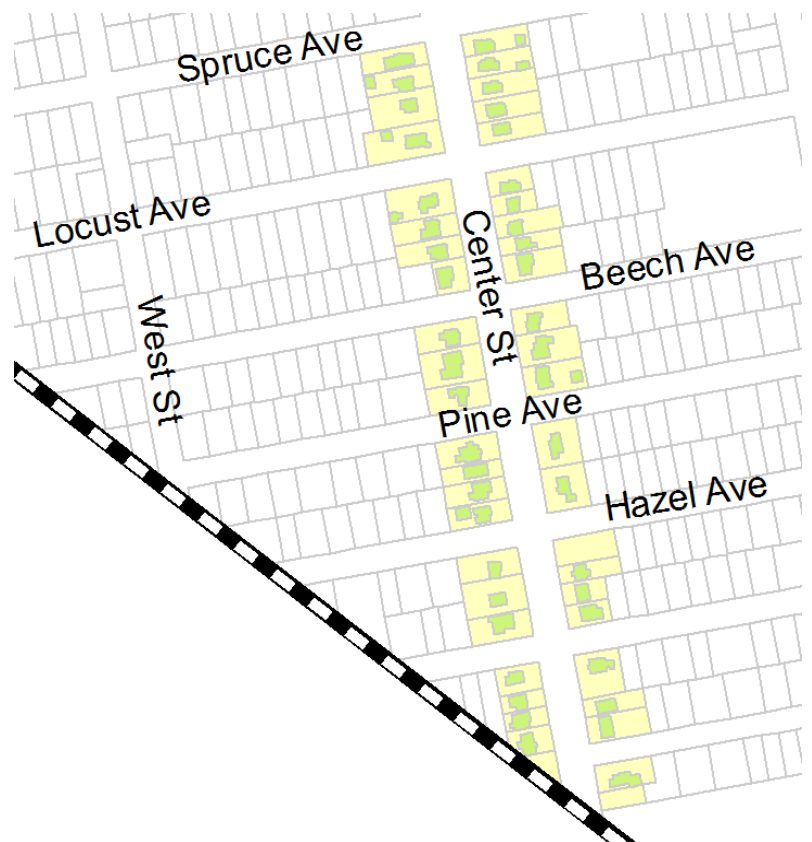
This land use classification provides the foundation for the creation and continuance of the RA1 zone in the Borough zoning ordinance. This district is found in one location on either side of Center Street south of Spruce Avenue to the southern municipal boundary containing forty seven (47) parcels. This land use is only 8.17 acres in size and represents 3.09% percent of the land uses in the municipality.

This land use classification encourages development of single-family homes at a minimum lot size of 7,000 square feet with a minimum lot width of 50 feet. The intent of this land use classification is to maintain the existing integrity and lot sizes of the properties fronting upon Center Street.



Photo 8-1: Example of Low Density Residential

Map 8-1: Land Use Plan –
Low Density Residential



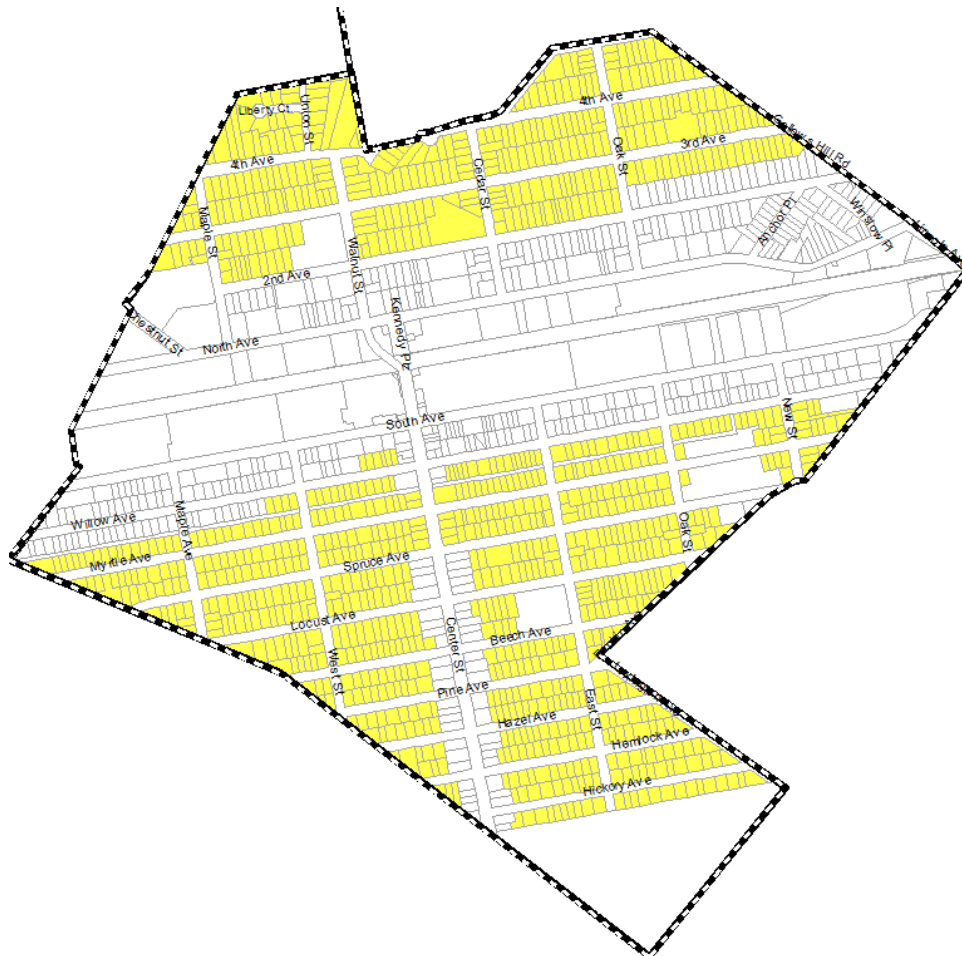
Single-family Residential Districts - Medium Density

This land use classification provides the foundation for the creation and continuance of the RA zone in the Borough zoning ordinance. This district is found, in the most part, to the north of Second Avenue and, in the most part, south of Willow Avenue. This district is the largest land use classification accounting for 1,045 lots, or 68.66 percent of the municipality. This land use classification encourages development of single-family homes at a minimum lot size of 5,000 square feet with a minimum lot width of 50 feet and a minimum lot depth of 100 feet.



Photo 8-2: Example of Medium Density Residential

Map 8-2: Land Use Plan –Medium Density Residential



Two-family Residential District

This land use classification provides the foundation for the creation and continuance of the RB zone in the Borough zoning ordinance. This district is found throughout the Borough generally on the south side of Second Avenue from Maple through Oak Streets, the north and south side of Second Avenue from Oak Street to Gallows Hill Road, generally, the north side of Willow Avenue from the municipal boundary to West Street and both northern and southern side of Willow Avenue from the middle of the block between West Avenue and Maple Avenue to the municipal boundary.



Photo 8-3: Example of Two-Family Residential

This land use classification encourages development of single-family and two-family homes with a minimum lot size of 5,000 square feet with a minimum lot width of 50 feet. This district is designed to act as a transition from the commercial districts in the municipality to the single-family districts. There are 216 lots proposed to be located in the Two Family Residential Land Use Classification accounting for 30.65 acres of land, or 14.19 percent of the community. The intent of this land use classification is to buffer the more intense commercial uses along North and South Avenue and the single family uses on the opposing side of the street.

Map 8-3: Land Use Plan –
Medium Density Residential



Townhouse Residential District

This land use classification provides the foundation for the creation of a new zone in the Borough zoning ordinance. This new land use classification recommends a townhouse development at density of 10 units per acre. There are a total of 5 lots within this land use classification accounting for just under 1 acre of land.



Map 8-4: Land Use Plan
Townhouse Residential



Community Commercial

This land use classification provides the foundation for the creation and continuance of the Community Commercial (CC) zone in the Borough zoning ordinance. The purpose of this district is to encourage and promote the conversion of under utilized industrial properties to active, mixed use areas consisting of retail, professional office and service business. The larger lot sizes in this zone also encourages multiple uses on site and larger size developments.

There are 38 lots proposed to be located in the Community Commercial district accounting for 34.77 acres of land.



Photo 8-5: Example of Community Commercial

Map 8-5: Land Use Plan – Community Commercial



Mixed Use Development

This land use classification provides the foundation for the creation of a new zoning district entitled the Mixed Use District (MUD) from the existing Industrial (I) zone. This land use classification conforms to the limits of the Chestnut Redevelopment Plan. This redevelopment plan calls for a mixture of retail units on the ground floor with residential units above.

The site, now developed, no longer meets the requirements for an area in need of redevelopment and a new zoning classification and regulations will need to be established.



Photo 8-6: Example of Mixed Use District

This land use classification provides the foundation for the creation of the MUD zone in the Borough zoning ordinance. There are three lots proposed to be located in the Mixed Use District Classification accounting for 6.25 acres of land.



Map 8-6: Land Use Plan – Mixed Use District Residential



Transit Oriented Development District

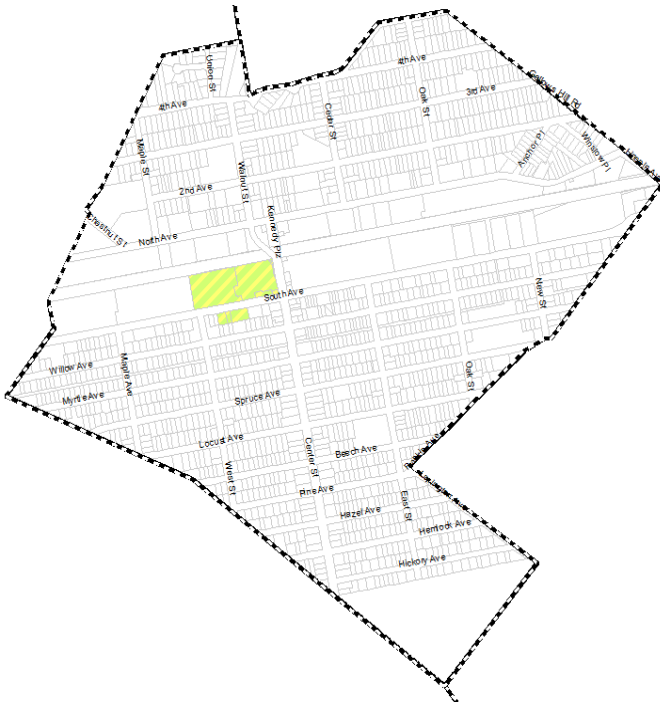
Economists forecast that within the next two decades, New Jersey's population will increase by 1 million people. Today, with seven out of 10 current New Jersey residents living within five miles of a train station, the challenge is to accommodate both our existing and new residents with housing, employment and mobility choices so that the state's economy remains robust. It makes sense to focus this anticipated growth around the existing transportation infrastructure in communities that are embracing transit-oriented development.



**Photo 8-7: Example of a Transit Oriented Development
South Orange, New Jersey**

Housing near transit not only holds its value, it can even command a premium. In fact, according to a Columbia University study, between 1993 and 2003 residential properties within one-half mile of stations served by MidTOWN DIRECT trains (one-seat ride service to midtown Manhattan along the Morris, Essex, Boonton and Montclair Rail Lines) increased in value by 113 percent (adjusted for inflation), while properties farther away from these stations experienced only an 80 percent increase.

Map 8-7: Land Use Plan – Transit Oriented Development



Employers are also recognizing the value of locating or expanding in places where the diversity of housing, recreation and transit choices play an important role in recruiting and retaining a skilled workforce. People who live near transit enjoy a healthier lifestyle with more walking and less stress. By choosing to use transit, they also help reduce greenhouse gases, alleviate traffic congestion, and lessen our nation's dependence on fossil fuels.⁷

This district will require new zoning to be enacted. The new zoning code should include a mixture of residential and commercial uses that would benefit from the proximity to the railroad station. Furthermore, the zoning for this site must also contain five COAH compliant senior housing units and five COAH compliant family housing units.

⁷ http://www.njslom.org/magart_1006_p46.html

Service Oriented Development

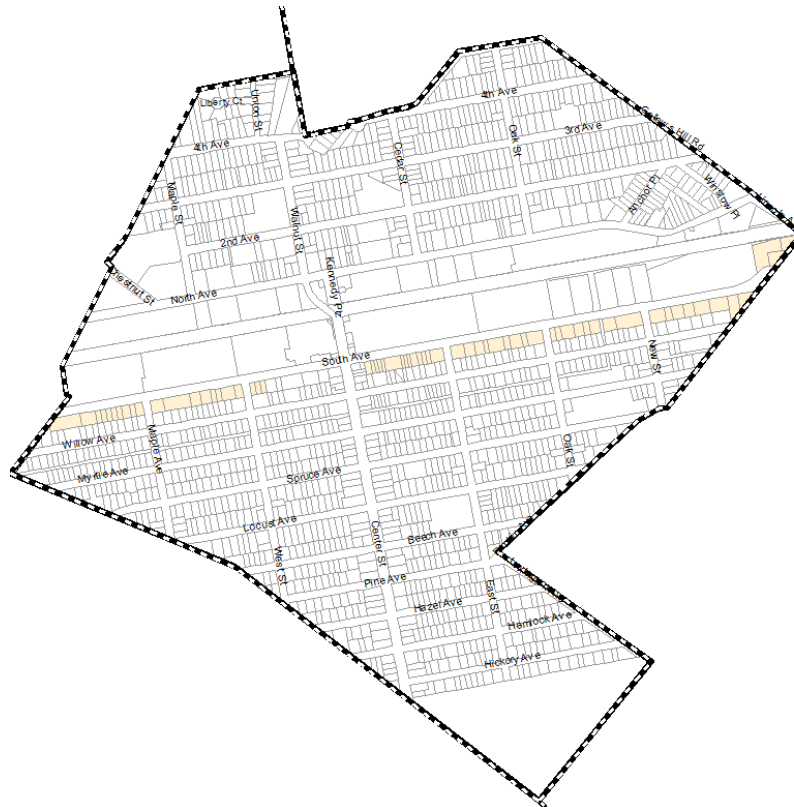
This land use classification provides the foundation for the creation of the Service Oriented zone in the Borough zoning ordinance. This is a proposed new district for the municipality and is located on the south side of South Avenue. South Avenue has been designated as a truck traffic route and is one of the most heavily traveled roadway in the municipality. The north side of South Avenue has been recommend to be utilized for community commercial, transit oriented development, and industrial land uses. This classification encourages office and service oriented retail uses. The type and intensity of development in this district will be based upon the size of the lot and the ability to provide off-street parking. This development is to act as transition from the heavier commercial and industrial land uses to the north and the two family development to the north.



Photo 8-8 : Example of Service Oriented Development

There are 64 lots proposed to be located in the Service Oriented Development classification accounting for 12.06 acres of land.

Map 8-8: Land Use Plan – Service Oriented Development



Office / Retail

This land use classification provides the foundation for the creation of the Office / Retail zone in the Borough zoning ordinance. This is a proposed new district for the municipality and is located on the north side of North Avenue. North Avenue has been designated as a truck traffic route and is one of the most heavily traveled roadway in the municipality. The south side of North Avenue has been recommend to be utilized for community commercial and industrial land uses. This classification encourages office and limited retail uses. The type and intensity of development in this



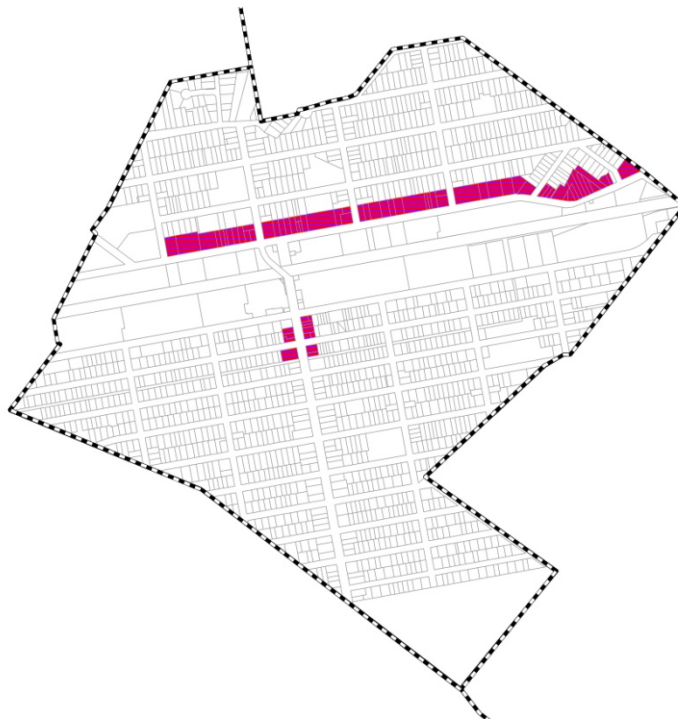
Photo 8-9: Example of Office / Retail

district will be based upon the size of the lot and the ability to provide off-street parking. This development is to act as transition from the heavier commercial and industrial land uses to the south and the two family development to the north.

The zoning ordinance for this land use classification should be drawn with a conditional use option for providing affordable housing units on the second floor only with limiting the office or retail activities to the ground floor.

There are 59 lots proposed to be located in the Office / Retail classification accounting for 13.57 acres of land.

Map 8-9: Land Use Plan – Service Oriented Development



Industrial Land Use

This land use classification provides the foundation for the creation and continuance of the Light Industrial (LI) zone in the Borough zoning ordinance. The Borough recognizes the importance of industrial land uses. Many of New Jersey's municipalities have eliminated all industrial land uses citing incompatibility with surrounding land uses. The purpose of the district is to protect and concentrate commercial and light industrial land uses that have minimal environmental impacts but require larger lots or access to arterial rights-of-way. There are 11 lots proposed to be located in the Industrial and use classification accounting for 17.96 acres of land.



Photo 8-10: Example of Industrial

Map 8-10: Land Use Plan – Industrial



Public Districts

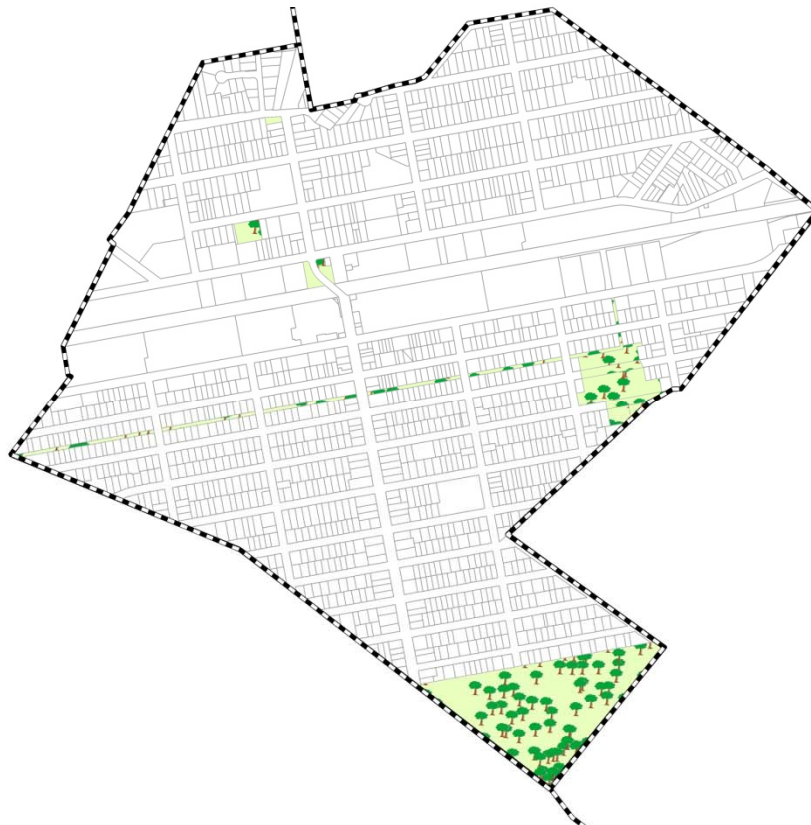
Public Open Space

This land use classification provides the foundation for the creation and creation of the POS zone in the Borough zoning ordinance. This new land use classification allows for public spaces such as parks, playgrounds and other open spaces. There are 16 lots proposed to be located in the public open space classification accounting for 29.51 acres of land. The purpose of this new land use classification is to remove these public open spaces from their traditional zoning classifications and placing them into a more appropriate land use classification. Prior to this revision, these lands were classified and zoned for residential development.



Photo 8-11: Example of Public Open Space

Map 8-11: Land Use Plan – Public Open Space



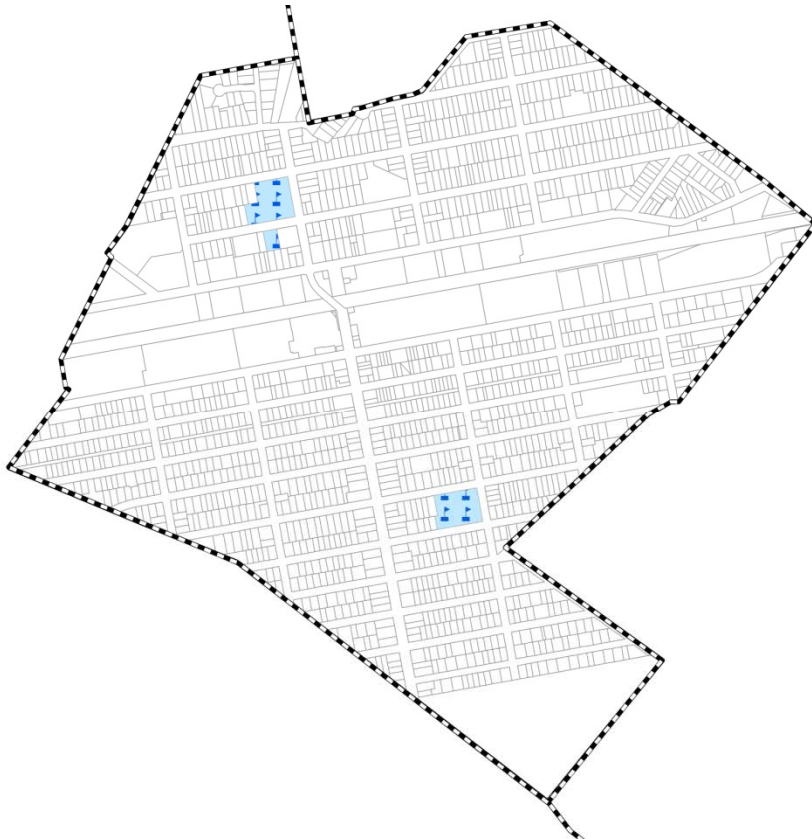
Public Space - Educational

This land use classification provides the foundation for the creation and creation of the PES zone in the Borough zoning ordinance. This new land use classification allows for public spaces owned by the Borough Board of Education. There are three lots proposed to be located in the public open space classification accounting for 4.28 acres of land. The purpose of this new land use classification is to remove these public educational facilities from their traditional zoning classifications and placing them into a more appropriate land use classification. Prior to this revision, these land were classified and zoned for residential land uses.



Photo 8-12: Example of Public Educational Space

Map 8-12: Land Use Plan – Public Educational Space



Public Space - Municipal

This land use classification provides the foundation for the creation and creation of the PMB (Public Municipal Building) zone in the Borough zoning ordinance. This new land use classification allows for public municipal buildings.

There are seven lots proposed to be located in the public municipal building classification accounting for 2.16 acres of land. The purpose of this new land use classification is to remove these public facilities from their traditional zoning classifications and placing them into a more appropriate land use classification.



Photo 8-13: Example of Public Municipal Space

Map 8-8: Land Use Plan – Public Municipal Building



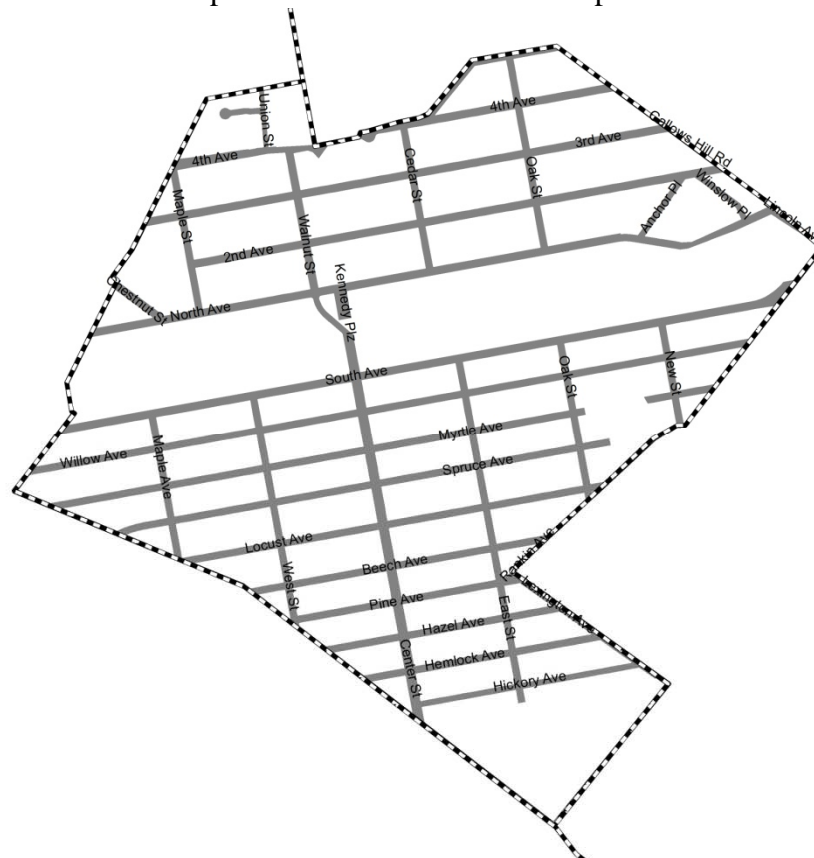
Transportation

This is yet another new land use classification for the municipality. This land use classification represents property that is utilized for public transportation. There are a total of 116.31 acres of land that are devoted to streets and transportation rights-of-way in the Borough of Garwood. Previous master plans and zoning ordinances had districts and zones follow lot lines, natural boundaries, or the middle of a public right of way. A recent lawsuit (PC Air Rights vs. The City of Hackensack) indicated that where streets and other public rights of way are utilized as zone boundaries, these rights-of-way may possess development potential that can be sold, purchased, or built over. This land use classification is intended to strip all potential development rights from these areas and to ensure they are not sellable, transferable or constructed upon. A new zoning district will, of necessity, be created to effectuate this new land use classification. This land use classification provides the foundation for the creation and continuance of the Transportation (T) zone in the Borough zoning ordinance.

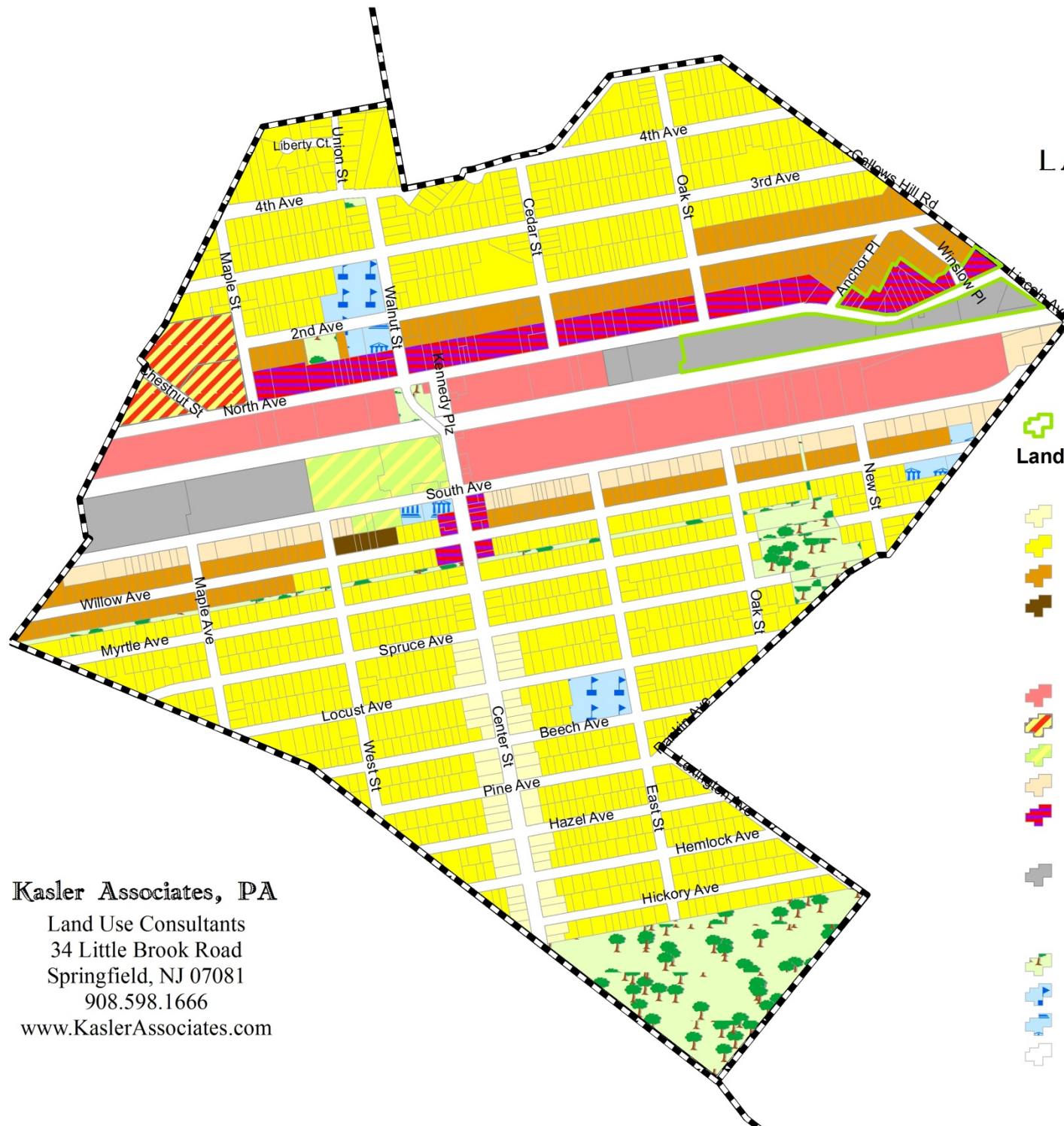



Photo 8-14: Example of Transportation

Map 8-12: Land Use Plan –Transportation







BOROUGH OF GARWOOD LAND USE PLAN







 Potential area in need of redevelopment


Land Use Plan

Residential

-  Single Family - Low Density
-  Single Family - Medium Density
-  Two Family
-  Townhouse

Commercial

-  Community Commercial
-  Mixed use
-  Transit Oriented Development
-  Service Oriented Development
-  Office / Retail

 Light Industrial

Public Uses

-  Open Space
-  Educational
-  Municipal Buildings
-  Transportation

Kasler Associates, PA

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34 Little Brook Road
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Circulation Plan Element



SECTION 9 - CIRCULATION PLAN ELEMENT

A detailed review of road functions, road jurisdiction, traffic, and right-of-way width is provided in the background study on traffic circulation as set forth in this Master Plan. In addition, the following proposals are incorporated in the Plan, both on the map and in the following text:

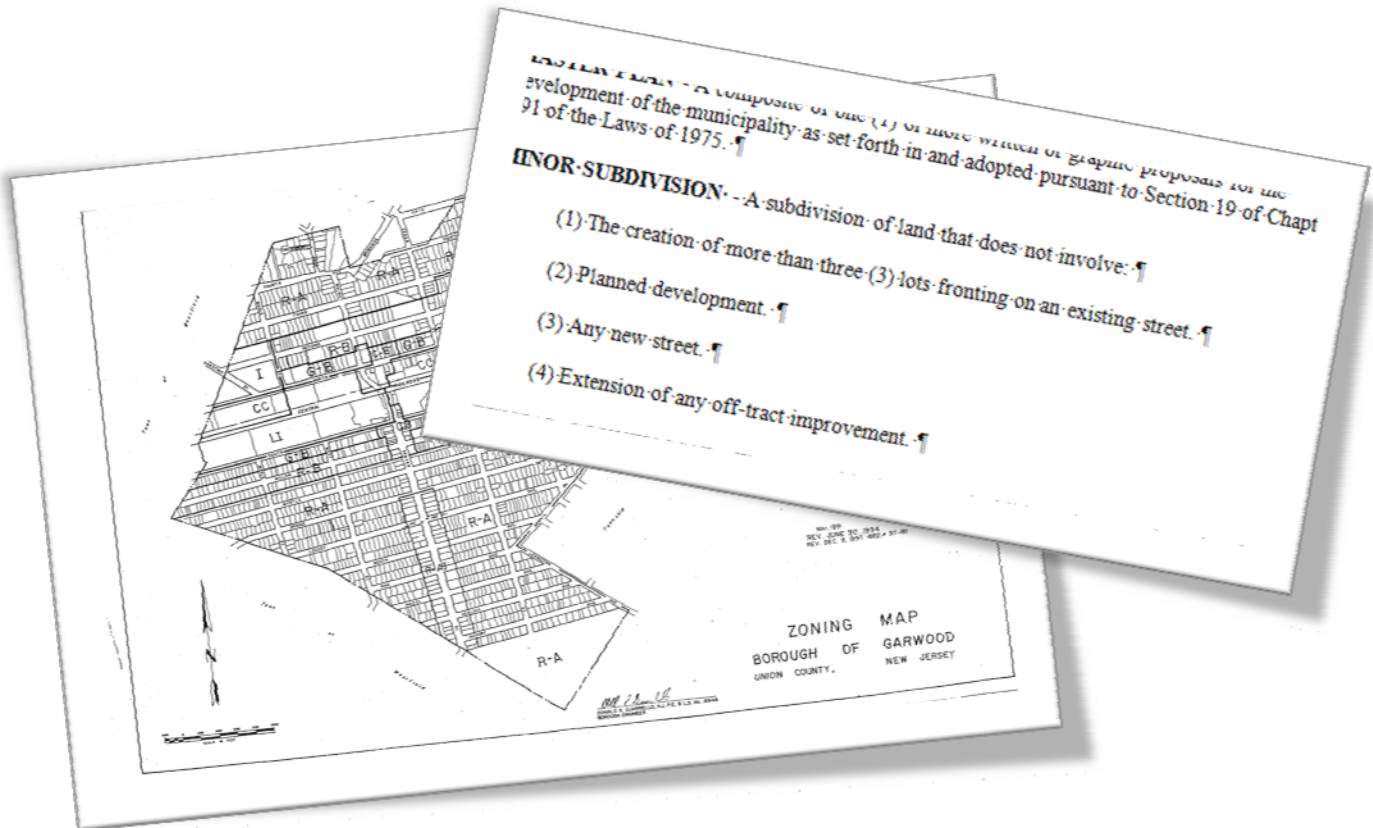
1. Adjacent and convenient to the area shown on the Land Use Plan as the Transit Oriented Development, efforts should continue to add to the supply of public parking.
2. The municipal sidewalk network should be analyzed. This analysis should include an evaluation of the condition of the sidewalk as well as identify “missing links” within the network.
3. A bicycle lane should be created on Center Street as well as extend the existing bicycle lane on Walnut Street to gain access to the municipal schools.
4. A detailed accident study should be performed that would indicate the worst accident locations within the municipality and determine if any remediation is warranted.
5. The “paper street” portions of Myrtle and Spruce Avenues should be vacated.
6. The number of train stops should be increased.

Residential Site Improvement Standards (RSIS)

As of June 3, 1997, the State imposed Residential Site Improvement Standards (RSIS) became operative and automatically effects all residential development in every municipality in New Jersey.

These standards supersede, and automatically replace, all technical requirements previously established by municipal ordinance with regard to streets, parking, water supply, sanitary sewers and storm water management.

Consistency With Zoning Ordinance



SECTION 10 – CONSISTENCY WITH ZONING ORDINANCE

The Municipal Land Use Law (MLUL) requires that a governing body adopt a zoning ordinance based upon the land use plan and the housing element of the municipal master plan. The zoning ordinance ...

... shall be drawn with reasonable consideration to the character of each district and its peculiar suitability for particular uses and to encourage the most appropriate use of land. The regulations in the zoning ordinance shall be uniform throughout each district for each class or kind of buildings or other structure or uses of land, including planned unit development, planned unit residential development and residential cluster, but the regulations in one district may differ from those in other districts.⁸

The zoning for a municipality shall be drawn with “reasonable consideration” to the character of each district. This portion of the master plan analyzes the consistency of the existing land uses and the existing lot areas of lots as compared to the existing zoning regulations for each zoning district.

Lot Area consistency with zoning requirements

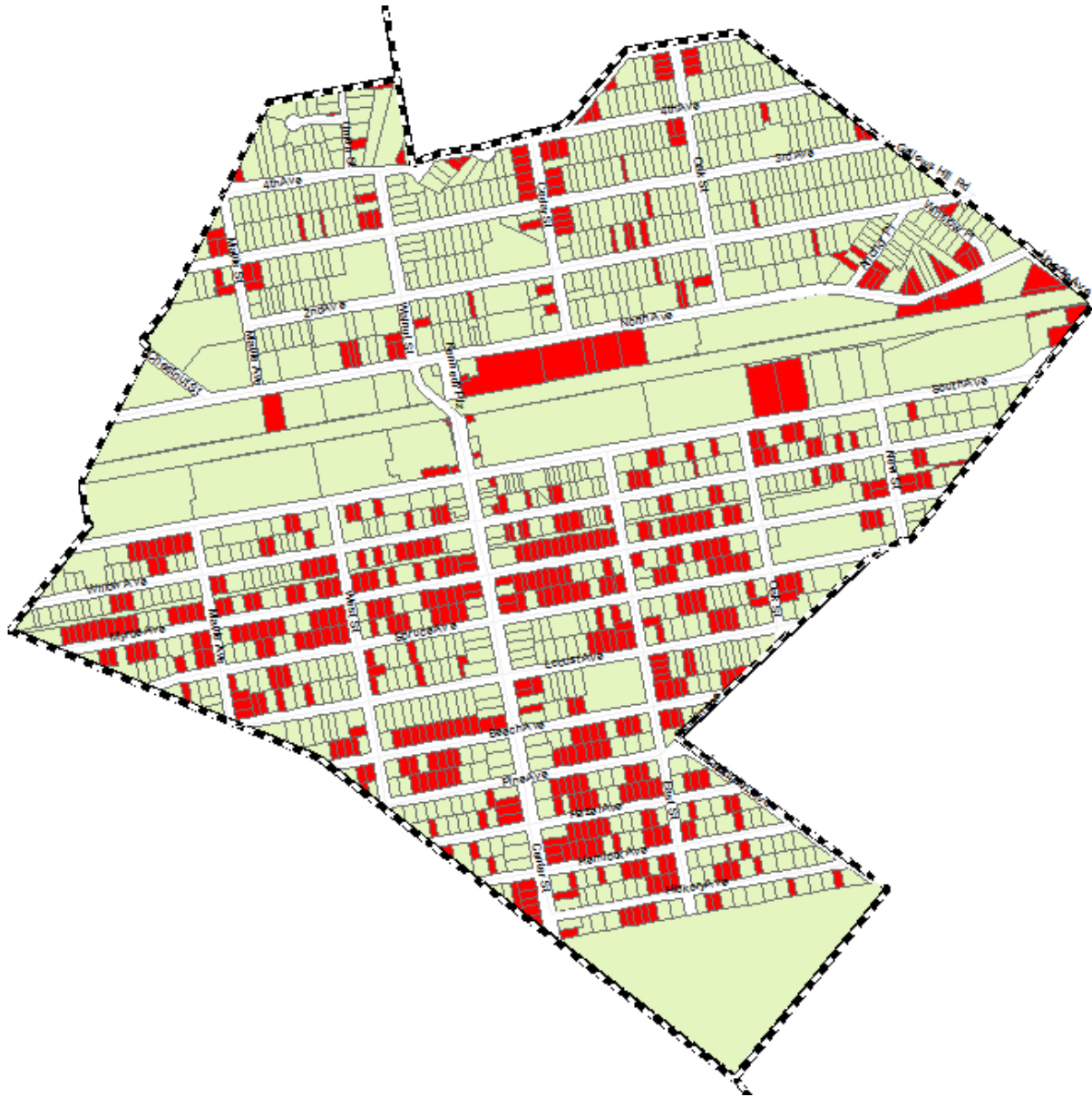
There are 1,525 lots within the municipality of Garwood. Three hundred and seventy six lots (24.66 percent) are nonconforming as they do not meet the lot area requirement of the zone in which they are located. These nonconforming lots are illustrated in red on the map on the following page. Each zoning district is then analyzed individually.

Table 10-1: Summary of Nonconforming Lots as to Lot Area

<u>Zone</u>	<u>Classification</u>	<u>Distinguishing Use</u>	<u>Minimum Lot Size</u>	<u>Number of</u>		<u>Percent of Zone</u>
				<u>Total Lots</u>	<u>Non Conforming Lots</u>	
Single Family	RA		4,000	896	397	44.31%
Single Family	RA1		7,000	53	24	45.28%
Two Family	RB	Single Family	5,000	151	72	47.68%
		Two Family	5,000	161	79	49.07%
Central Business	CB		2,000	43	4	9.30%
Community Commercial	CC		100,000	10	7	70.00%
General Business	GB		7,000	101	47	46.53%
Industrial	I		30,000	3	0	0.00%
Light Industrial	LI		30,000	29	14	48.28%
Total Municipality						44.50%

⁸ NJSA 40:55D-62

Map 10 - 1: Lot Area consistency with zoning requirement
Borough of Garwood



Land area consistency of lots in the RA zone

The RA zoning district is the major single-family district in the municipality. Zoning regulations require lots in the RA zoning district to be at five thousand (5,000) square feet in area. There are eight hundred and ninety six (896) lots within the municipality of Garwood that are within the RA zoning district. The map below indicates that three hundred and ninety seven (397) lots within the RA zoning district do not conform to the minimum lot area requirement (5,000 square feet). This situation results in forty four (44.31) percent of all lots in the RA zone do not meet the lot area requirement.

Land area consistency with zoning requirements
Map 10 - 3: RA zoning district
Borough of Garwood



Land area consistency of lots in the RB zone

The RB zoning district is the two-family district in the municipality. Zoning regulations require lots in the RB zoning district to be at five thousand (5,000) square feet for single-family and two-family development. There are three hundred and twelve (312) lots within the municipality of Garwood that are within the RB zoning district. One hundred and fifty one (151) are developed with single-family development and the other one hundred and sixty one (161) have developed with two-family developments. One hundred and twenty three (123) of the three hundred and twelve (312) lots or (39.42 percent) are nonconforming as to meeting the lot area requirement. These nonconforming lots are illustrated in red on the map below.

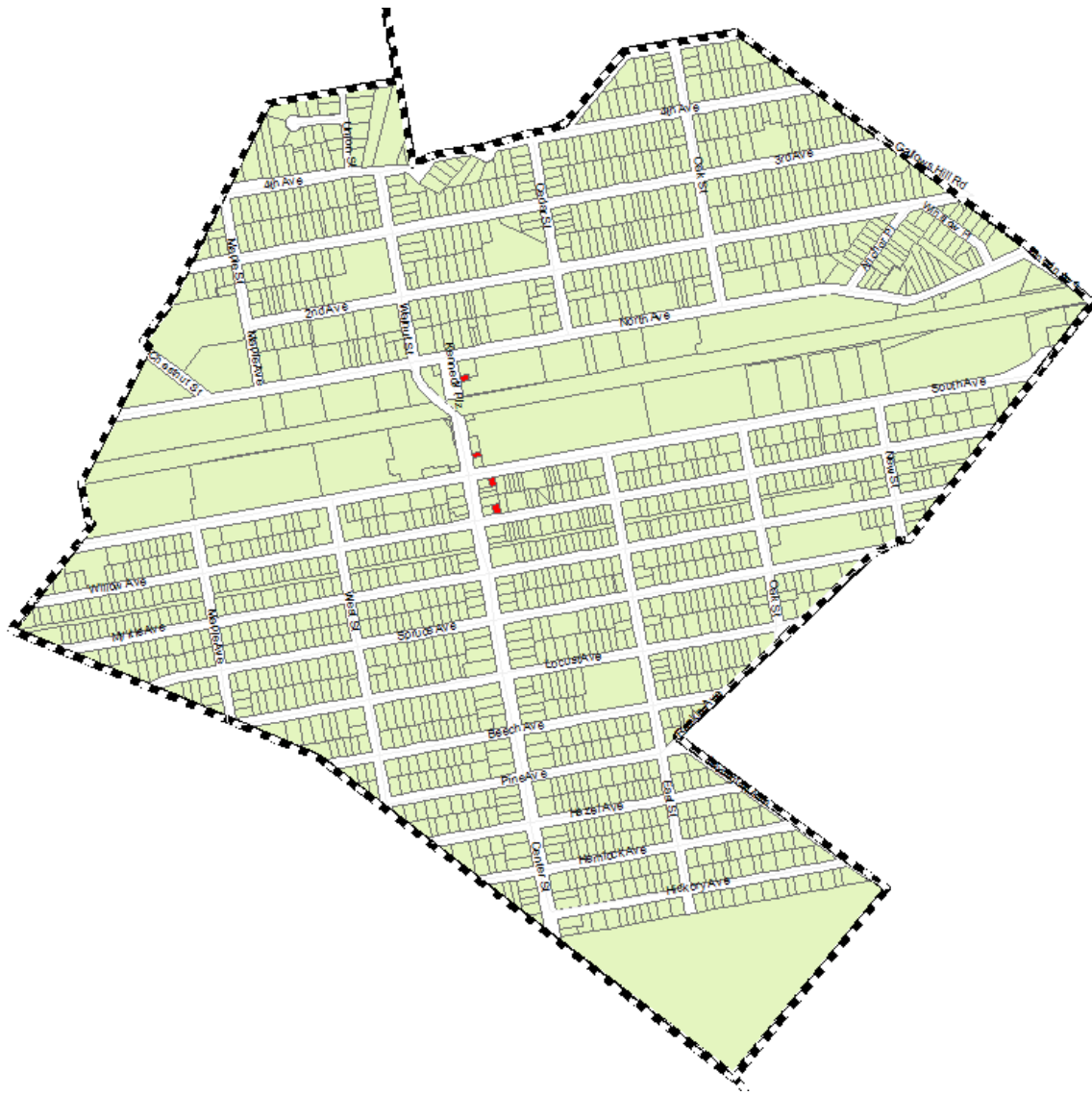
Land area consistency with zoning requirements
Map 10 - 4: RB zoning district
Borough of Garwood



Land area consistency of lots in the CB zone

The CB zoning district is the Central Business district in the municipality. Zoning regulations require lots in the CB zoning district to be at two thousand (2,000) square feet in area. There are a total of forty three (43) lots within the municipality of Garwood that are within the CB zoning district. Four (4) of the forty three (43) lots or a little over nine (9.30) percent are nonconforming as to meeting the lot area requirement. These nonconforming lots are illustrated in red on the map below.

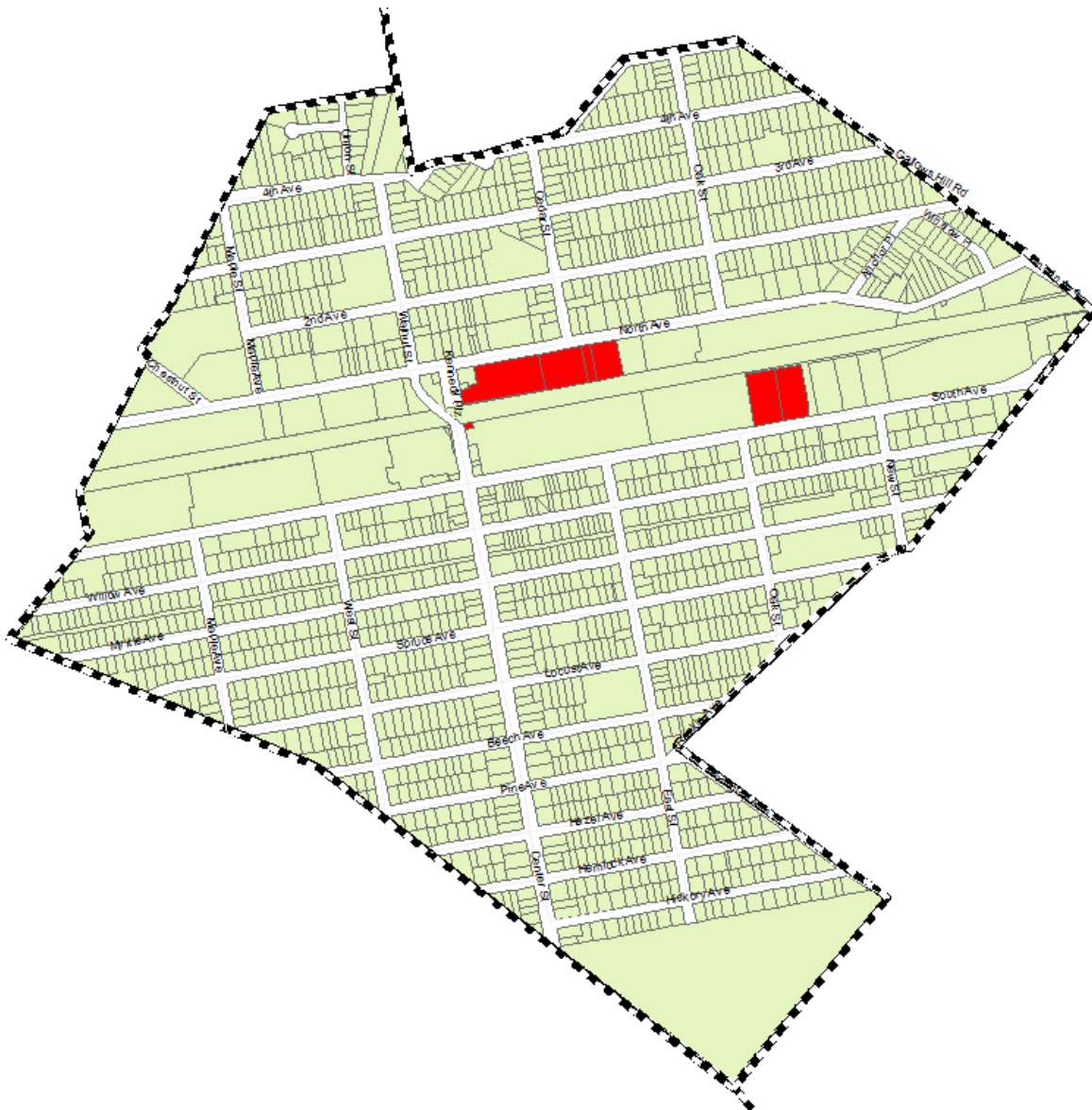
Land area consistency with zoning requirements
Map 10 - 5: RB zoning district
Borough of Garwood



Land area consistency of lots in the CC zone

The CC zoning district is the community commercial district in the municipality. Zoning regulations require lots in the CC zoning district to be at one hundred thousand (100,000) square feet in area. There are ten (10) lots within the municipality of Garwood that are in the CC zoning district. Seven (7) of the ten (10) lots or seventy (70.00) percent are nonconforming as to meeting the lot area requirement. These nonconforming lots are illustrated in red on the map below.

Land area consistency with zoning requirements
Map 10 - 6: CC zoning district
Borough of Garwood



Land area consistency of lots in the GB zone

The GB zoning district is the general business district in the municipality. Zoning regulations require lots in the GB zoning district to be at seven thousand (7,000) square feet in area. There are 42 lots within the municipality of Garwood that are in the GB zoning district. Thirty three (39) of the forty two (42) lots or just over seventy eight (78.57) percent are nonconforming as to meeting the lot area requirement. These nonconforming lots are illustrated in red on the map below.

Land area consistency with zoning requirements
Map 10 - 7: A-1 zoning district
Borough of Garwood



Land area consistency of lots in the I zone

The I zoning district is the Industrial district in the municipality. Zoning regulations require lots in the I zoning district to be at least thirty thousand (30,000) square feet in size. There are three (3) lots within the municipality of Garwood that are in the I zoning district. None of the three (3) lots are nonconforming as to meeting the lot area requirement.

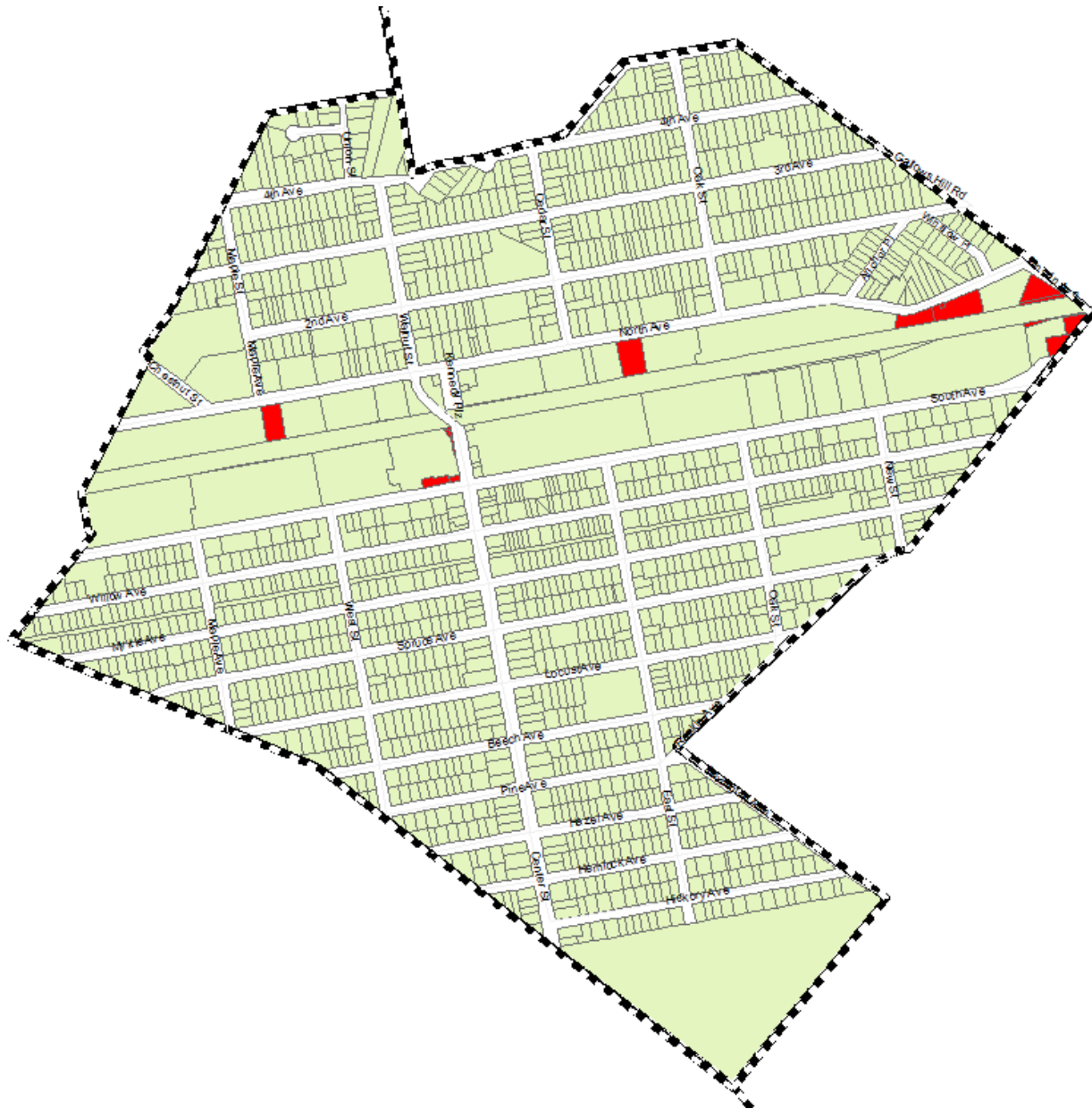
Land area consistency with zoning requirements
Map 10 - 8: A-2 zoning district
Borough of Garwood



Land area consistency of lots in the LI zone

The LI zoning district is the light industrial district in the municipality. Zoning regulations require lots in the LI zoning district to be at thirty thousand (30,000) square feet in size. There are twenty nine (29) lots within the municipality of Garwood that are in the LI zoning district. Fourteen (14) of the twenty nine (29) lots, or just over forty eight (48.28) percent are nonconforming as to meeting the lot area requirement.

Land area consistency with zoning requirements
Map 10 – 9: LI zoning district
Borough of Garwood



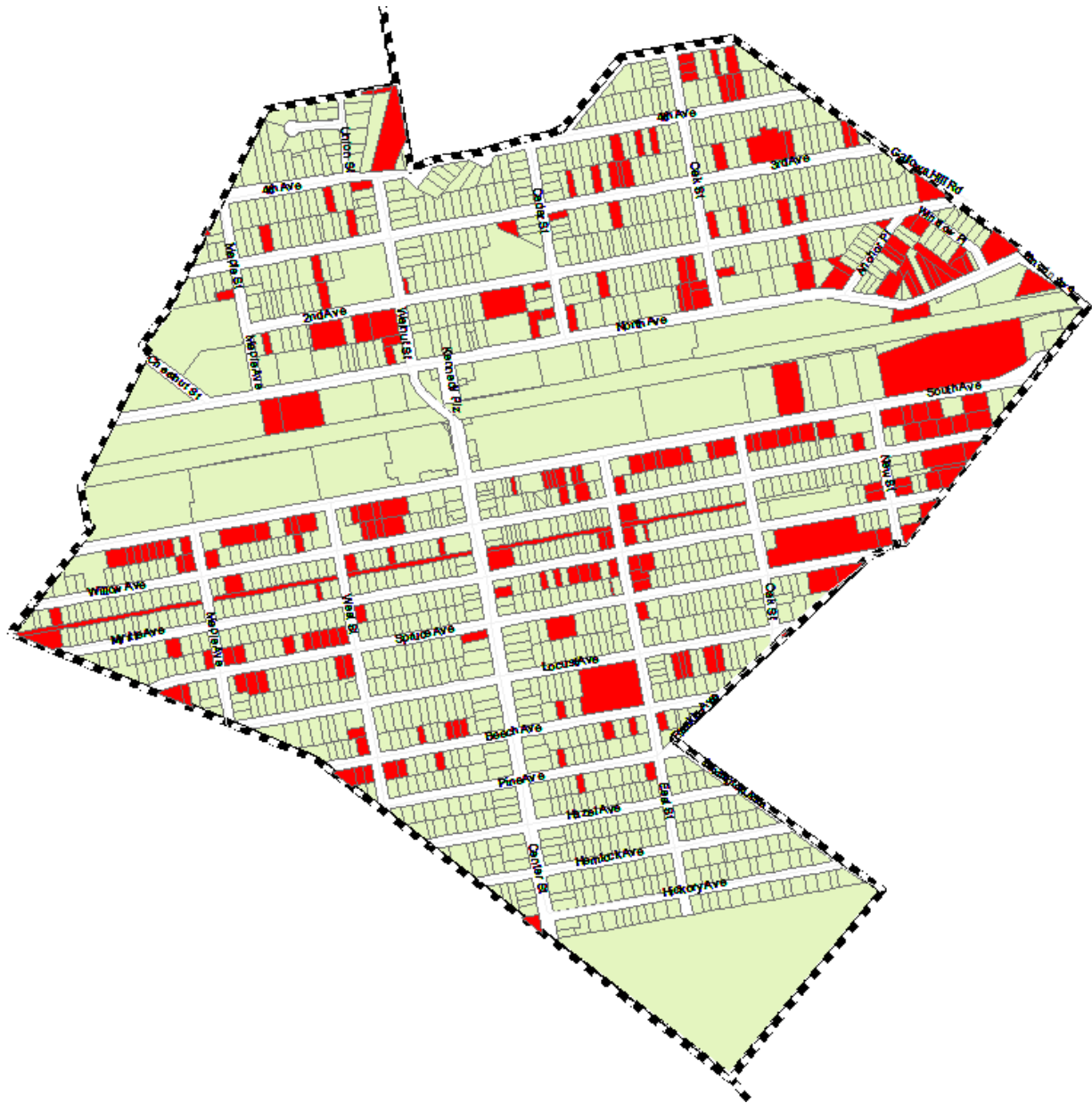
Land use consistency with zoning requirements

There are one thousand five hundred and twenty five (1,525) lots within the municipality of Garwood. Two hundred and forty three (243) lots, or just over sixteen (16.23) percent, are nonconforming as they do not meet the use requirements of the zone in which they are located. These nonconforming lots are illustrated in red on the map on the following page. Each zoning district is then analyzed individually.

Table 10-2: Summary of Nonconforming Lots as to Use

<u>Zone</u>	<u>Classification</u>	Number of		<u>Percent of Zone</u>
		<u>Total Lots</u>	<u>Non Conforming Lots</u>	
Single Family	RA	896	118	13.17%
Single Family	RA1	53	2	3.77%
Two Family	RB	362	51	14.09%
Central Business	CB	43	7	16.28%
Community Commercial	CC	10	1	10.00%
General Business	GB	101	59	58.42%
Industrial	I	3	0	0.00%
Light Industrial	LI	29	5	17.24%

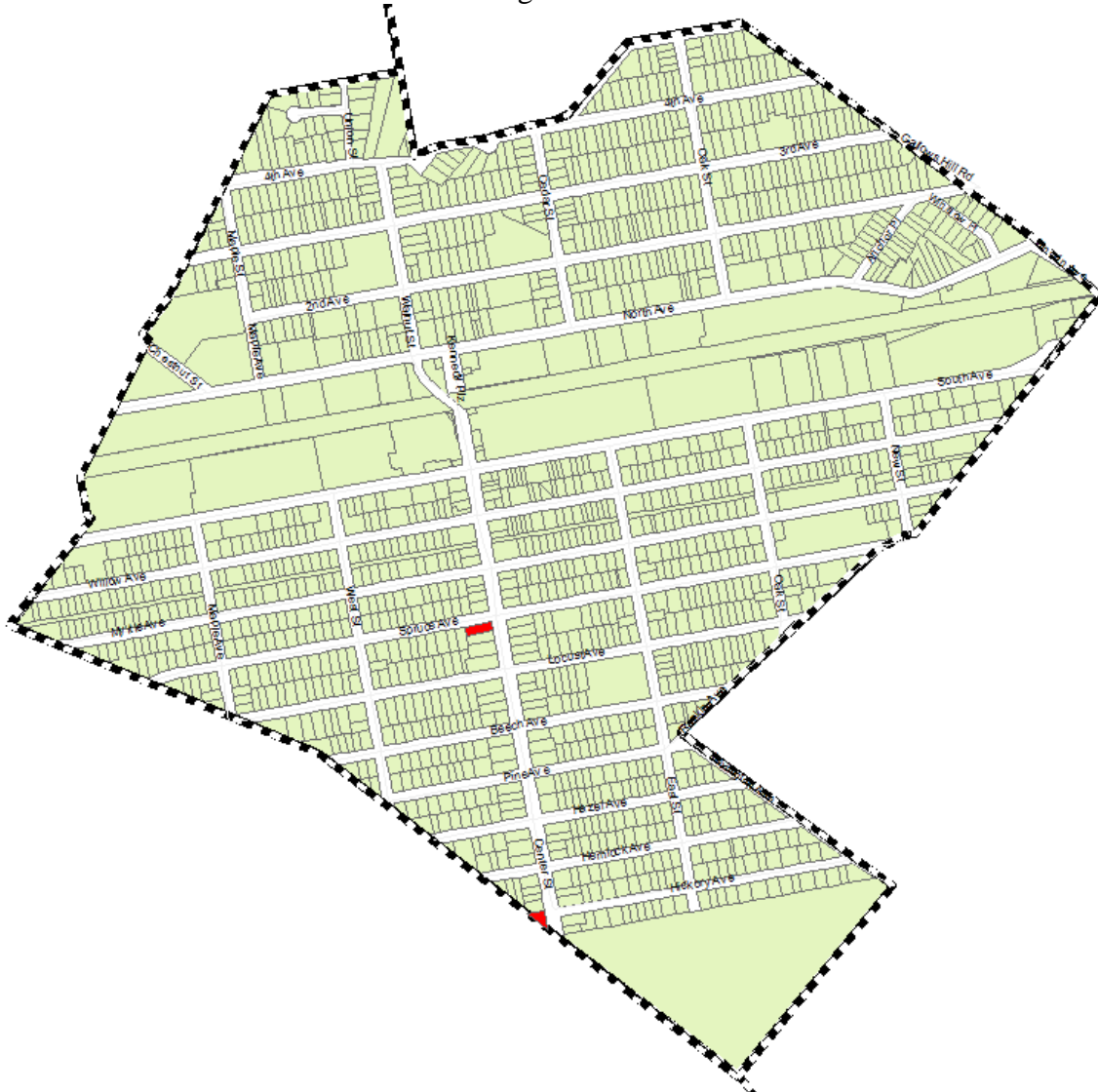
Map 10 - 10: Land Use consistency with zoning requirement
Borough of Garwood



Land Use consistency of lots in the RA1 zone

The RA1 zoning district is the lowest density single family district. The RA1 zone permits single family detached dwelling units and their accessory uses, community residences for the developmentally disabled, community shelters for victims of domestic violence, community residences for persons with head injuries, home occupations, public parks and playgrounds, and accessory apartments for senior citizens. There are fifty three (53) lots within the municipality of Garwood that are within the RA1 zoning district. The map below indicates that two (2) lots within the RA1 zoning district that do not contain permitted uses.

Land use consistency with zoning requirements
Map 10 - 11: RA1 zoning district
Borough of Garwood



Land Use consistency of lots in the RA zone

The RA zoning district is the primary single family district. The RA zone permits single family detached dwelling units and their accessory uses, community residences for the developmentally disabled, community shelters for victims of domestic violence, community residences for persons with head injuries, home occupations, public parks and playgrounds, and accessory apartments for senior citizens. There are eight hundred and ninety six (896) lots (or partial lots) within the municipality of Garwood that are within the RA zoning district. The map below indicates, that one hundred and eighteen (118) lots within the RA zoning district that do not contain permitted uses.

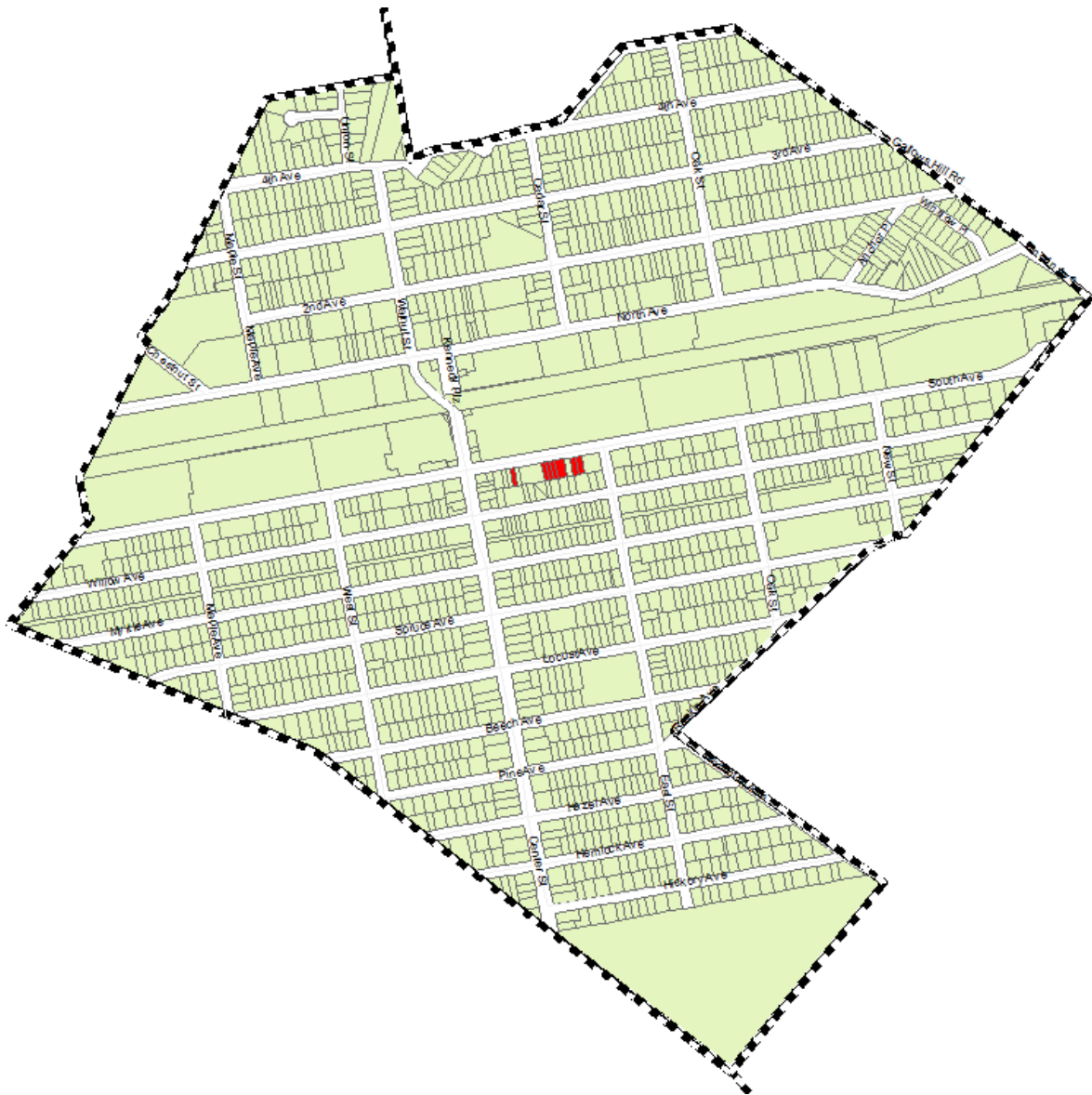
Land use consistency with zoning requirements
Map 10 - 12: RA zoning district
Borough of Garwood



Land use consistency of lots in the CB zone

The CB zoning district is the Central Business district in the municipality. There CB zone permits retail trade on the first or ground floor, professional offices on the upper floors, apartment units when located above the first floor and child care facilities. There are forty three (43) lots within the municipality of Garwood that are within the CB zoning district. Seven of the forty three lots (16.28 percent) are nonconforming as to the uses permitted in the zoning district. These nonconforming lots are illustrated in red on the map below.

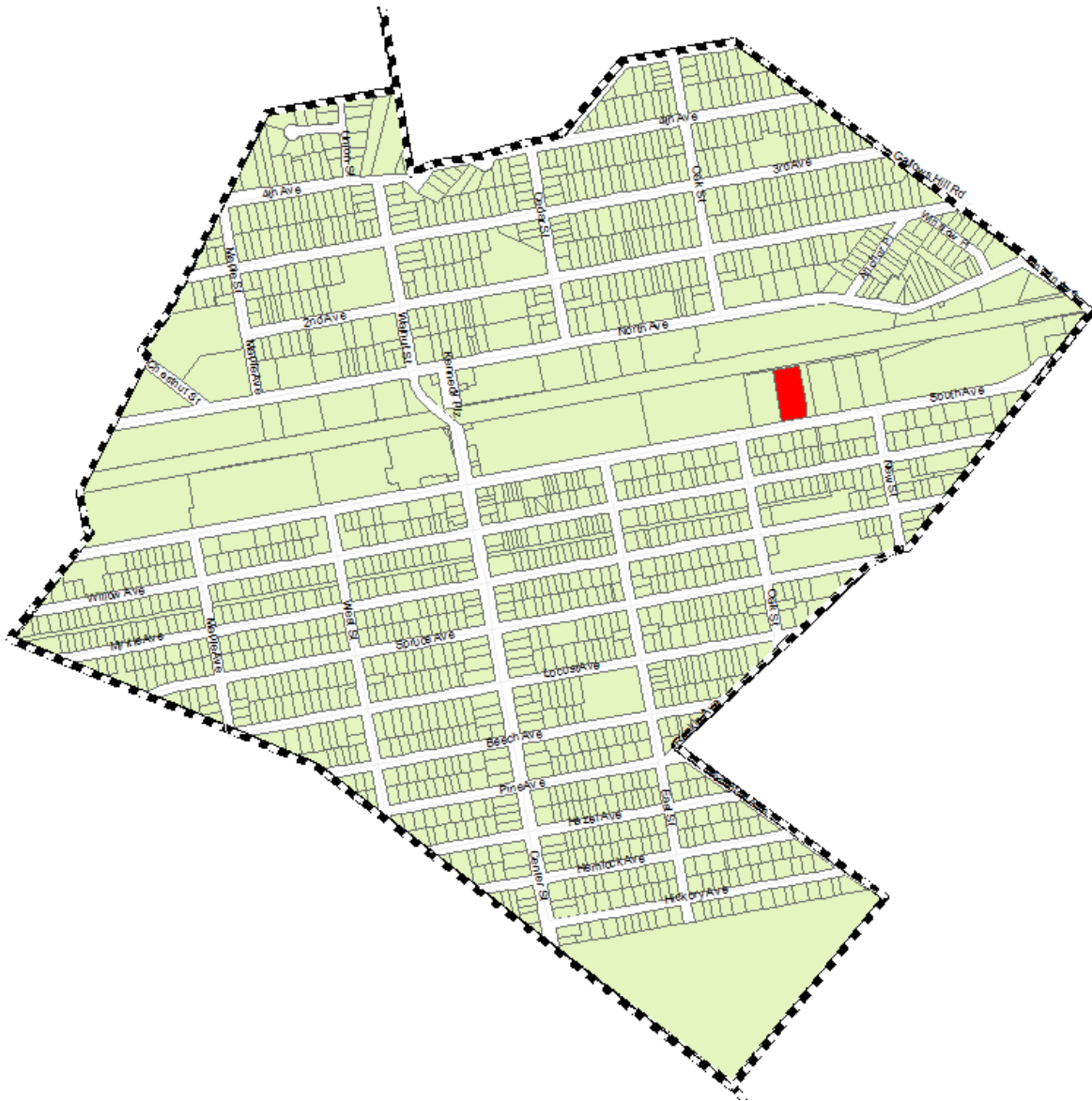
Land use consistency with zoning requirements
Map 10 - 14: CB zoning district
Borough of Garwood



Land use consistency of lots in the CC zone

The CC zoning district is the Community Commercial district in the municipality. The CC zone permits retail uses, professional offices, and child care facilities. The purpose of this zone is to encourage and promote the conversion of underutilized industrial properties to active, mixed-use areas consisting of retail, professional office, and service business uses in close proximity to the Zone. There are ten (10) lots within the municipality of Garwood that are within the CC zoning district. One of the ten lots (10.00 percent) is nonconforming as to the uses permitted in the zoning district. These nonconforming lots are illustrated in red on the map below.

Land use consistency with zoning requirements
Map 10 - 15: CB zoning district
Borough of Garwood



Land use consistency of lots in the GB zone

The GB zoning district is the General Business district in the municipality. The GB zone permits retail uses, professional offices, business services, and child care facilities. The zone is designed for retail trade, business services, professional, business and administrative offices and commercial uses that require larger lots and are more dependent upon automobiles. There are one hundred and one (101) lots within the municipality of Garwood that are within the GB zoning district. Fifty nine (59) of the one hundred and one (101) lots (58.42 percent) are nonconforming as to the uses permitted in the zoning district. These nonconforming lots are illustrated in red on the map below.

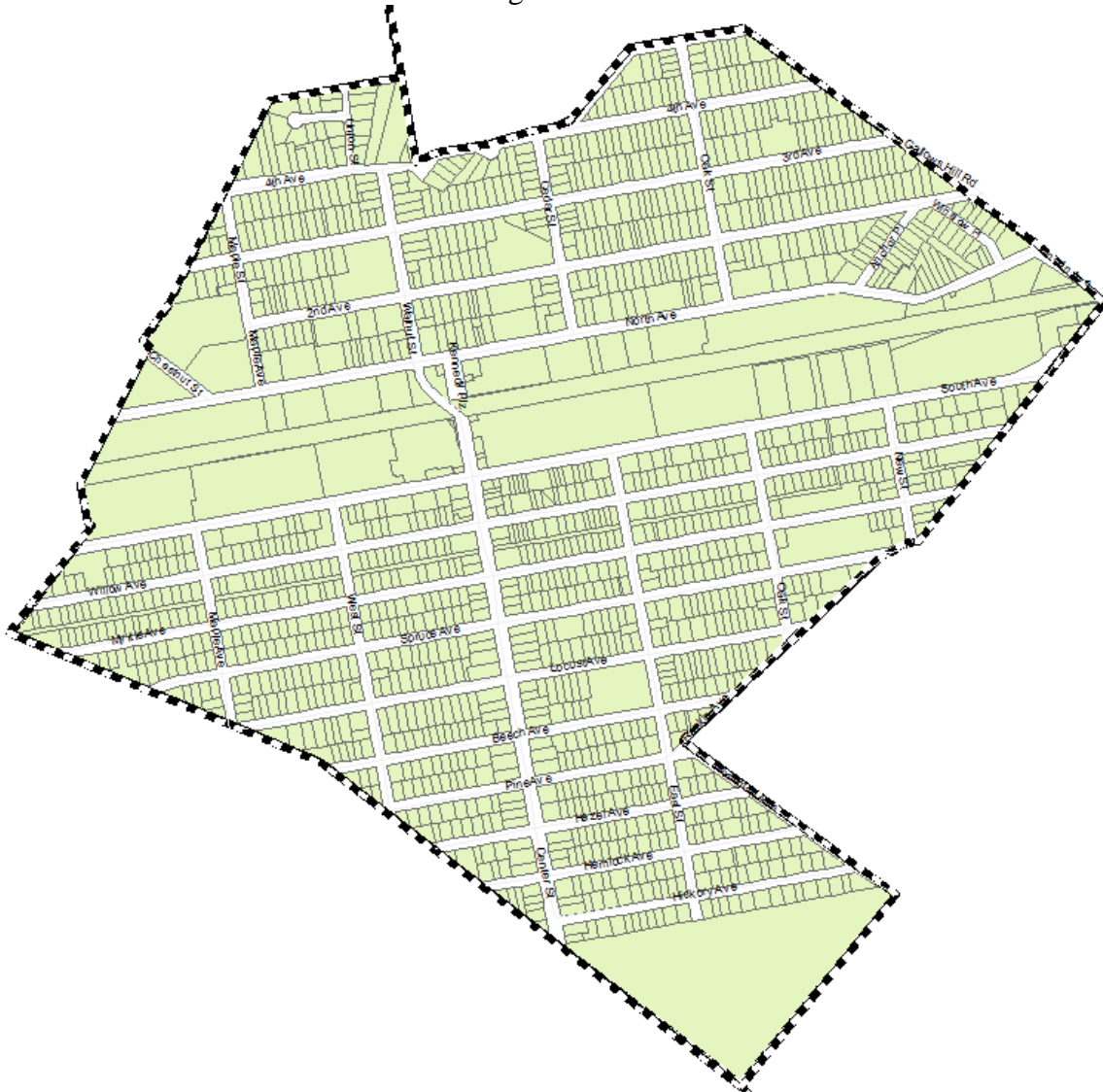
Land use consistency with zoning requirements
Map 10 - 16: GB zoning district
Borough of Garwood



Land use consistency of lots in the I zone

The I zoning district is the Industrial district in the municipality. The I zone permits industrial and heavy commercial uses, light industrial and light manufacturing uses, and child care centers. There are three (3) lots within the municipality of Garwood that are within the I zoning district. All three lots are utilized for their proposed purposes and therefore there are no nonconforming lots as to use. These nonconforming lots are illustrated in red on the map below.

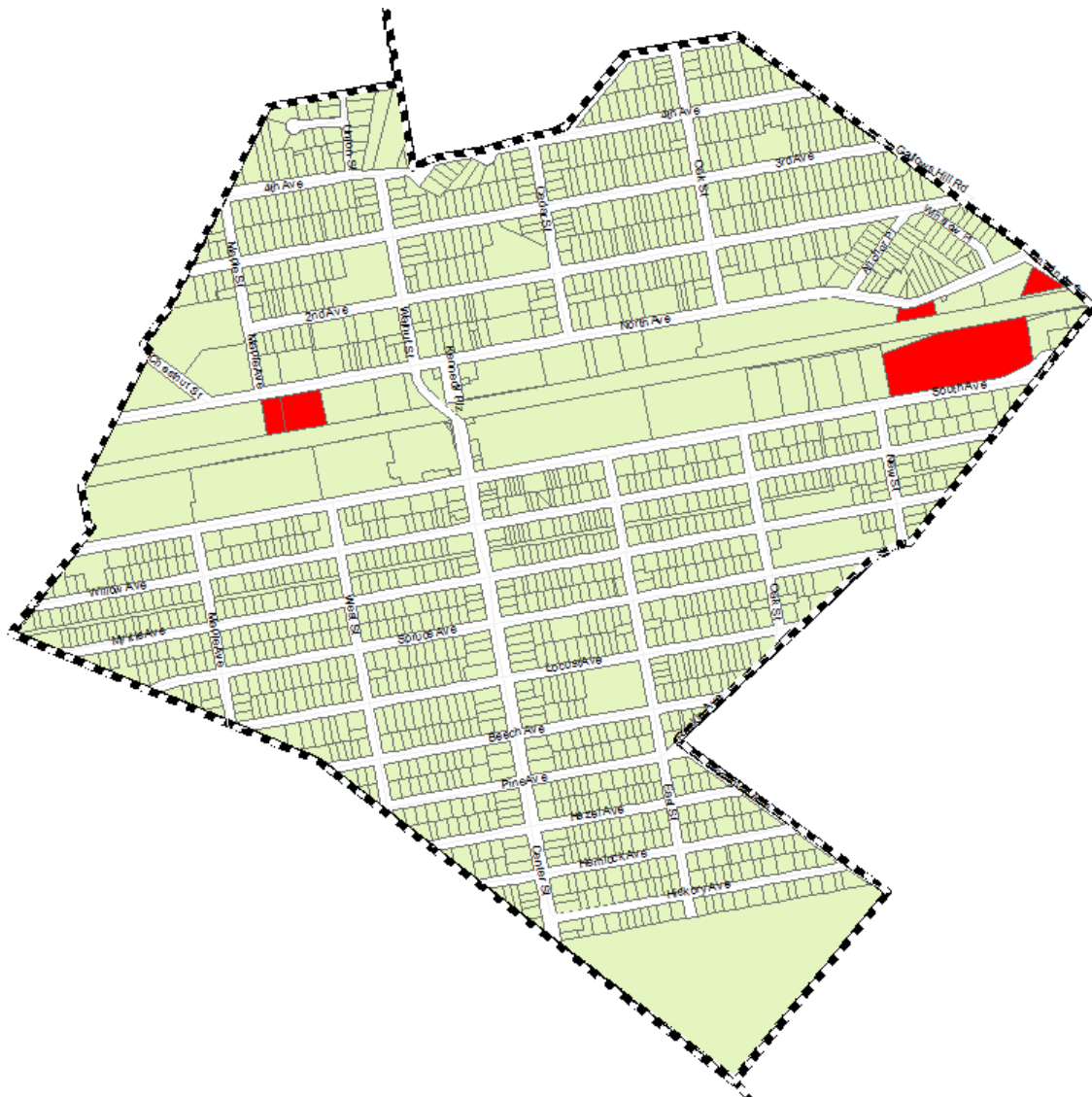
Land use consistency with zoning requirements
Map 10 - 17: I zoning district
Borough of Garwood



Land use consistency of lots in the LI zone

The LI zoning district is the Light Industrial district in the municipality. The LI zone permits industrial and heavy commercial uses, light industrial and light manufacturing uses, food stores, and child care centers. There are twenty nine (29) lots within the municipality of Garwood that are within the LI zoning district. Five (5) of the twenty nine (29) lots (17.24 percent) are nonconforming as to the uses permitted in the zoning district. These nonconforming lots are illustrated in red on the map below.

Land use consistency with zoning requirements
Map 10 - 18: LI zoning district
Borough of Garwood



Community Facilities Plan Element

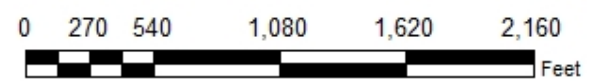
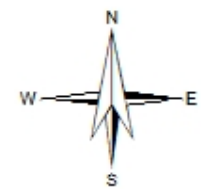
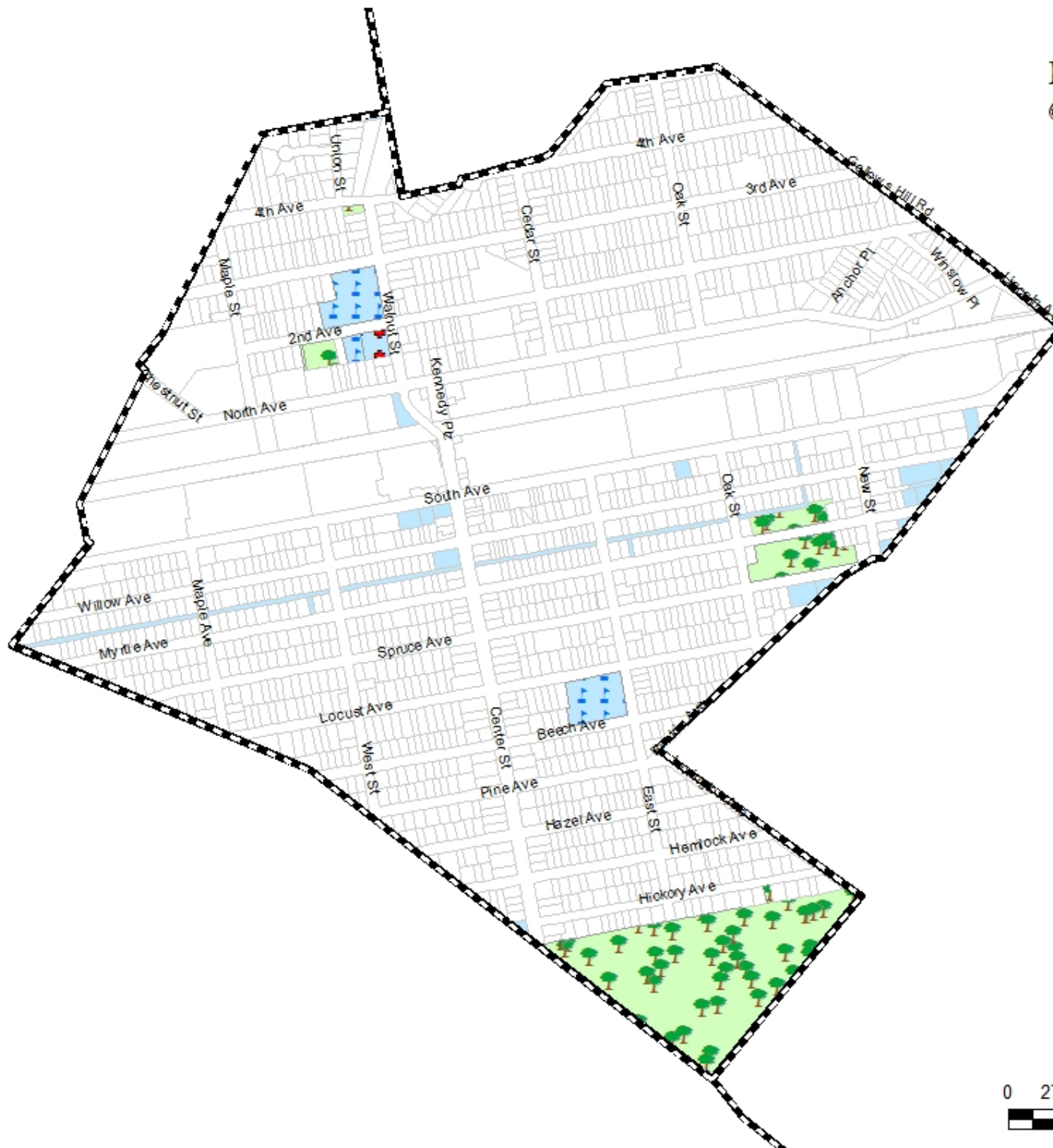
SECTION 11 - COMMUNITY FACILITIES PLAN ELEMENT

A community's quality of life is greatly influenced by the scope and breadth of public amenities and services afforded to its residents. Educational and library facilities, police, fire and emergency services, public works and administrative services, recreation and open-space facilities are the cornerstones of a educated, healthy, and safe community. The proposed community facilities plan map for the Borough of Garwood is noted herein.

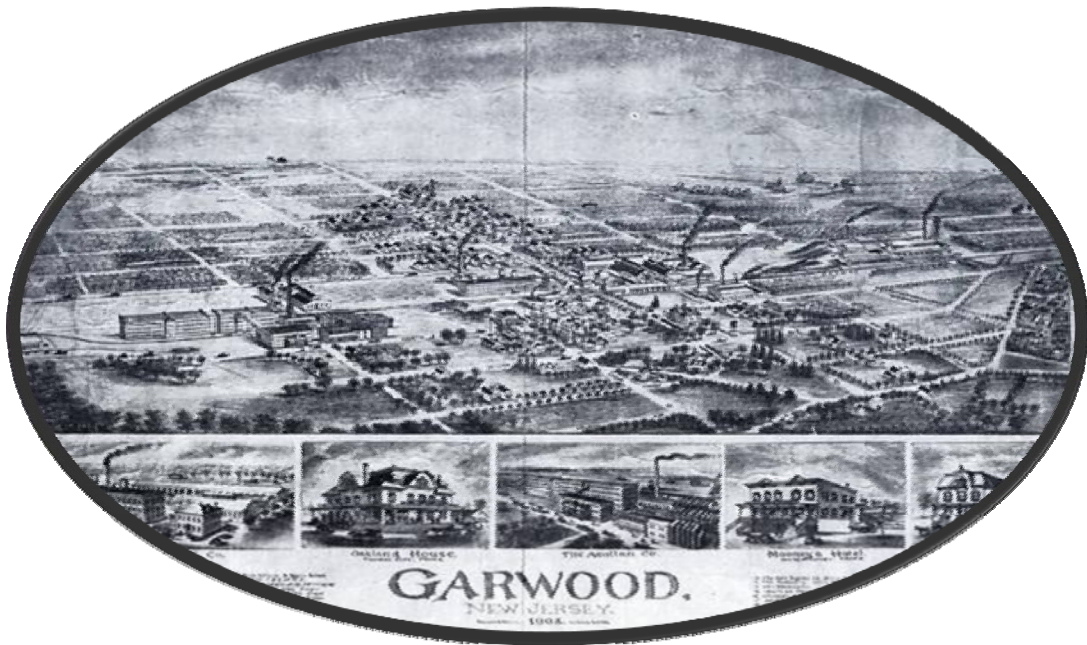
As noted in earlier sections of this master plan, the Borough of Garwood is considered a fully developed suburban community. The demographics illustrate an aging population and therefore there is a greater demand for a senior citizen center and/or senior citizen services. Furthermore, there is a need for additional park land and athletic fields for block groups one (1) and four (4) and generally north of the rail road right of way. Otherwise, Garwood's community facilities are generally in adequate condition and are suitable for continued use. The forecast for the stabilization of population levels requires a greater emphasis on a program of modernization and replacement of out-of date equipment more than on any expansion of facilities. The planning board should monitor the growth of the school aged population in order to ensure adequacy of school facilities for all Garwood students through the Long Range Facility Plan.

Borough of Garwood Community Facilities

Kasler Associates, PA
Land Use Consultants
34 Little Brook Road
Springfield, NJ 07081
908.598.1666
www.KaslerAssociates.com



Historic Preservation Plan Element



SECTION 12 – HISTORIC PRESERVATION PLAN

The aesthetic, cultural and social benefits of historic preservation are well-documented. They include an enhanced visual environment, reinforcement of local character and creation of a sense of place. The economic benefits of preservation, on the other hand, are not well-understood and are often overlooked. These benefits are identified in a 1997 study, *The Economic Impacts of Historic Preservation*, that the Rutgers University Center for Urban Policy Research prepared for the New Jersey Historic Trust. This study is the most detailed analysis of historic preservation in New Jersey ever prepared and it concludes that preservation activity has a broad range of economic benefits. These benefits include employment growth, income gains, property value increases and additional tax revenue. The major findings of the study, on a Statewide basis, are summarized as follows:

In 1994, a total of \$123 million was spent on the rehabilitation of historic structures, properties and sites with more than two-thirds of all rehabilitation activity occurring in cities and older suburbs. Rehabilitation activity produced 4,607 new jobs, \$156 million in income, \$207 million in gross domestic product and \$65 million in tax revenue on an annual basis. New Jersey captured approximately half of these benefits.

During the 1993-1995 period, an estimated 9.1 million visits to historic sites were made annually by tourists with day-trippers and overnight visitors spending \$432 million. Historic tourism generated approximately 15,530 jobs, \$383 million in income, \$559 million in gross domestic product and \$216 million in tax revenue on an annual basis. New Jersey captured approximately half of these benefits.

In 1996, historic organizations and sites spent \$25 million for operations, staff, marketing and other expenditures. Historic organizations produced 1,438 jobs, \$33 million in income, \$43 million in gross domestic product and \$14 million in tax revenue. New Jersey captured approximately half of these benefits.

Historic properties have a market value of \$6 billion and pay an annual \$120 million in property taxes. Designation as an historic site has been found to increase the market value of properties and associated tax revenue because of their unique design, often extensive rehabilitation and the premium that purchasers are willing to pay for such properties.

Borough History

Garwood evolved as a neighborhood of the larger communities of Cranford and Westfield who tended to treat it like a stepchild. By the turn of the century Garwood was gaining its own identity, primarily through its attractiveness to manufacturing industries, and decided it could get more value for the taxes it was paying by managing itself.

Secession took courage. The 400 citizens were creating one of the state's smallest municipalities, only seventh tenths of a square mile, and Cranford especially resisted the move, right up to the legislature.

Garwood grew up with the Jersey Central and was named after Samuel Garwood, the president of a land company organized by the railroad. The first modern settlers lived in 75 homes and most worked for the Hall Signal Co., the first factory, and the Hercules Tube works, famous for bicycle tubing, which was built by John R. Maxwell, onetime Jersey Central President.



Photo 12 – 1: Center Street circa 1920

c. 1920 Center Street facing South

Cranford and Westfield were supposed to be supplying services. But they argued over who was responsible. At one point they negotiated at length before agreeing on paving three blocks of Center Street. Both sent marshals out but only occasionally. Fire protection was so uncertain that the Aeolian Company organized its own department.

The infant school symbolized the problem. Cranford ran it, but youngsters on the other side of Center Street had to go all the way to Westfield. Parents agitated and Cranford reluctantly agreed to let "Westfield children" in if Westfield paid pro-rata tuition. It was not surprising that the first public building in Garwood was Jefferson School, built two years after autonomy.

For all its troubles, citizens were paying taxes to its neighboring towns. Frank Morse, who was to become the first mayor, summarized the sentiment: "Taxation without representation is revolution!"

Garwood opted to go its own route. Maxwell's land company, with Morse as resident agent, and citizens pushed for autonomy. Assembly Bill No. 232 proposed the borough. Westfield seemed indifferent but Cranford reacted angrily. The Chronicle editorialized that the "secession movement, if successful, would rob Cranford of its richest and most promising section."

Attempts to stop the legislation and annex Garwood proved fruitless. Many residents of Cranford, which itself has split off from several other towns including Westfield in 1871, sympathized with Garwood. Autonomous government was acquired on March 19, 1903. Independence was greeted by the Aeolian band playing on the steps of the schoolhouse, lit buildings, bonfires and fireworks.

Battles over tax apportionment continued and animosity over such matters as fire service lingered. That was

resolved by the time the first municipal facility was completed in 1915.⁹



Photo 12 – 2: Mayor Morse

Photo 12 – 3: Aeolian Factory Circa 1900



c. 1900 Aeolian Factory at Garwood front view

⁹ From the 1983 Borough Hall Dedication, Cranford Chronicle

Policy Statement

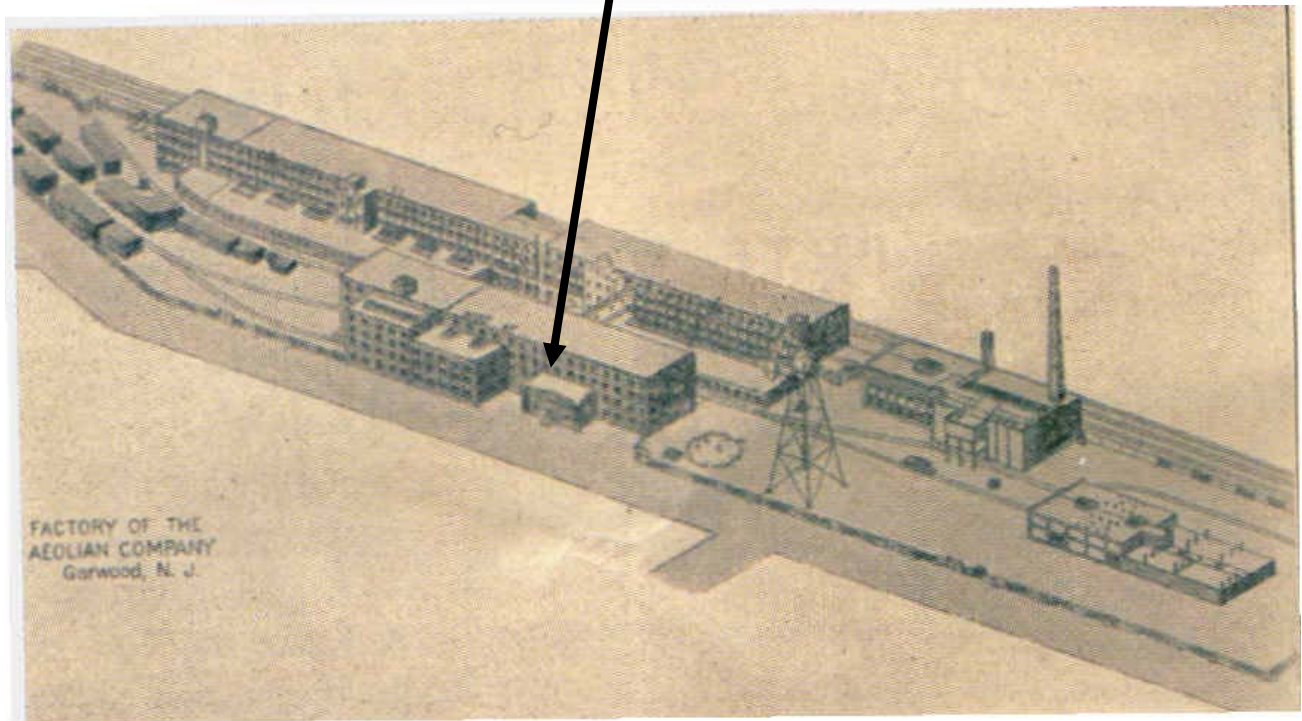
It is a policy of the Borough of Garwood to promote and encourage the preservation of those buildings, structures, districts, and archaeological sites that exemplify its cultural, social, economic, and architectural history. Elements of this policy are to:

- safeguard the heritage of Garwood by preserving resources which reflect elements of its historical significance
- identify, designate, and regulate historic landmarks in order to preserve their historical significance
- encourage the use of historic landmarks and to facilitate their appropriate use or reuse
- maintain and develop an appropriate and harmonious setting for historic landmarks within the Garwood
- foster civic pride in the history and architecture of Garwood
- promote appreciation of historic landmarks for the education, pleasure and welfare of the local population
- encourage beautification and private reinvestment in historic landmarks and surrounding properties
- manage change of historic landmarks by encouraging sensitive alteration and/or new construction
-
- discourage the unnecessary demolition of historic resources
- recognize the importance of historic landmarks by urging property owners and tenants to maintain their properties
- encourage the proper maintenance and preservation of historic settings and landscapes

Potential Historic Sites/Structures

Although the buildings of Garwood's industrial beginnings have been mostly demolished or significantly altered, the office of the former Aeolian Company, manufacturers of musical instruments, remains. It is notable for its castellated Gothic facade on North Avenue.

Photo 12 – 4: Aeolian Factory Circa 2009



Housing Element & Fair Share Plan



SECTION 13 - HOUSING ELEMENT AND FAIR SHARE HOUSING PLAN

On January 25, 2007, the Appellate Division invalidated portions of COAH's new growth share methodology. The Court held that key provisions of the growth share regulations violated the constitutional mandate of the Mount Laurel principle and the New Jersey Fair Housing Act. Effective June 2, 2008, COAH adopted revised the third round rules pursuant to the Courts directive to create new regulations.

On July 15, 2008 the League of Municipalities filed a notice of appeal with the Appellate Division of the Superior Court of New Jersey. The League has requested municipalities to join in their appeal. The planning board of the Borough of Garwood is committed to meet its constitutional obligation to provide affordable housing. However, the methodology utilized by the Council On Affordable Housing appears to be illogical and overly burdensome but, nonetheless, has been followed in this housing element and fair share plan.

The prior round obligation (1987–1999)

The prior round obligation is the municipal new construction obligation from 1987 to 1999. Garwood is responsible for developing a Fair Share Plan that addresses the entire prior round obligation as provided in Appendix C of COAH's third round regulations. COAH has determined that Garwood's prior round obligation is nineteen (19) units.

The COAH formula utilized throughout the State of New Jersey establishes three levels of housing needs. The first aspect of the formula is directed to the indigenous housing need of the community. This housing need is predicated solely upon those families and individuals of low and moderate income who are residents within the community and whose housing do not meet certain minimum standards.

A second aspect of the formula referred to as reallocated present need relates to housing needs of other communities within the region, which are considered so extensive that they cannot totally be accommodated within their respective borders. Therefore, they must be reallocated to the balance of those communities in the region that have not been saturated with such housing. Once these factors are determined, various adjustments and modifications are provided to modify the community's housing need.

Inventory of Municipal Housing Stock

This section of the Housing Element of the Borough of Garwood provides an inventory of the community's housing stock including:

- a) Number of Year Round and Seasonal Housing Units;
- b) Housing Age;
- c) Housing Condition;
- d) Purchase and Rental Value;
- e) Occupancy Characteristics and Type;
- f) Substandard Housing Units Capable of Being Rehabilitated.

a) Year Round And Seasonal Housing Units

The Bureau of the Census in 2000 reported there were a total of one thousand seven hundred and eighty two (1,782) year-round housing units in the Borough. As depicted on Table 13-1, the one thousand seven hundred and eighty two (1,782) housing units contained a total of fifty one (51) vacant units at the time of the Census - a vacancy rate of two point eight (2.8) percent. Union County had a vacancy rate of three point five four (3.54) percent at the time of the 2000 census. Occupied housing in Garwood totaled one thousand seven hundred and thirty one (1,731) dwelling units. Of this number, one thousand and ninety three (1,093) were owner-occupied and six hundred and thirty eight (638) were renter-occupied.

From 2001 to September of 2008 a total of 134 building permits were issued for residential dwelling units in the community. Demolition permits were also issued for destruction of residential units, totaling five (5) units during this time period. Therefore, the net total increase in the Borough's housing stock totaled one hundred and twenty nine (129) units during this time period.

Table 13-1
Housing Characteristics
Borough of Garwood, Union County, and New Jersey
2000

	New Jersey	Percent	Union County, New Jersey	Percent	Garwood borough, New Jersey	Percent
Total Occupied:	3,064,645	92.58%	186,124	96.46%	1,731	97.14%
Owner occupied	2,011,298	65.63%	114,688	61.62%	1,093	63.14%
Renter occupied	1,053,347	34.37%	71,436	38.38%	638	36.86%
Total Vacant	245,630	7.42%	6,821	3.54%	51	2.86%
Total Units	3,310,275	100.00%	192,945	100.00%	1,782	100%

Source : U.S. Department of Commerce, Bureau of the Census, Table DP-1 Profile of General Demographic Characteristics, 2000.

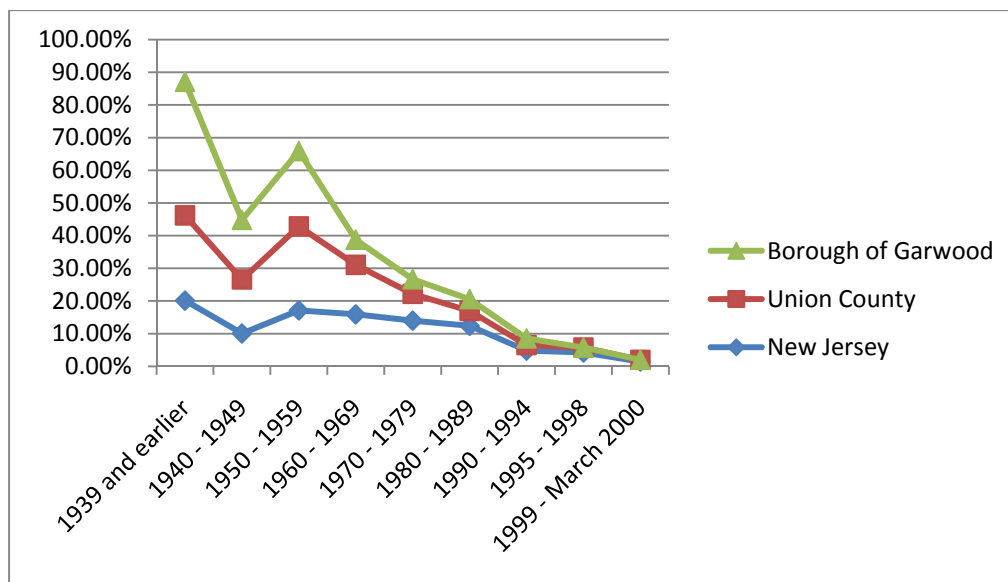
b) Housing Age

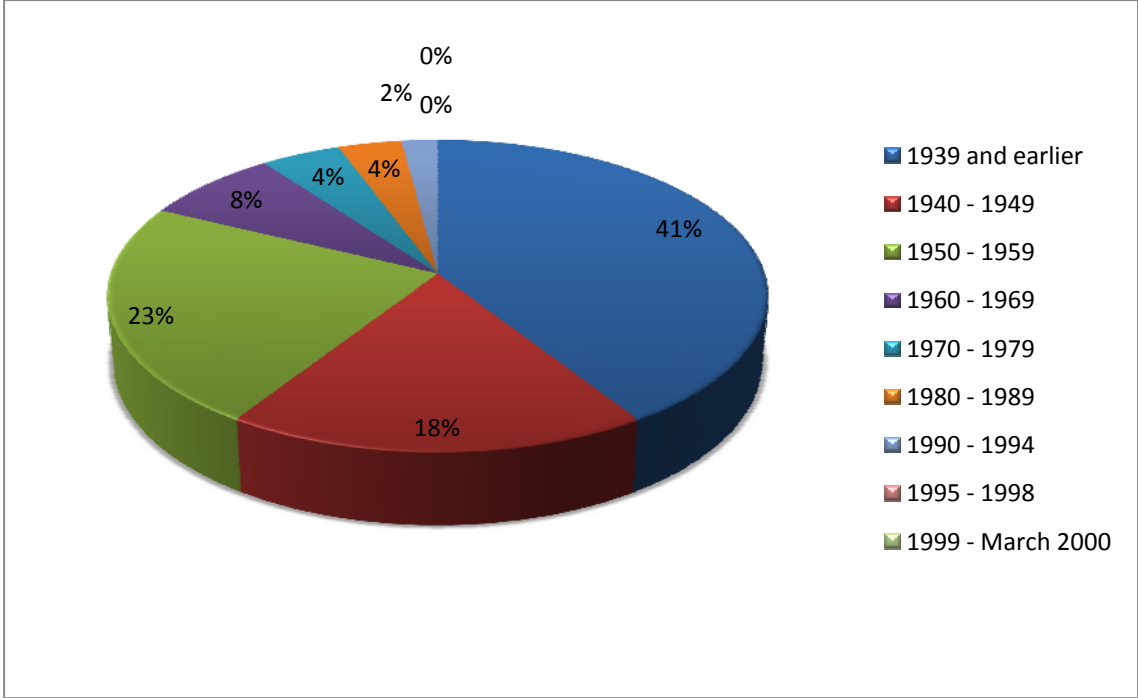
Table 13-2 below provides an analysis of the age of housing in Garwood, Union County and New Jersey as reported in the 2000 Census. The data indicated that over forty (40%) percent of all housing in Garwood was constructed prior to 1939, a significant difference between the county and the state. Between 1940 and 1959, seven hundred and thirty six (736) totaling forty one (41.3%) percent of all housing in the Borough. By 1959, eighty two (82%) percent of all homes in the Borough were built. The remaining eighteen percent (18%) of housing were built between 1960 and 1994. There have been no additional units reported by the Census since 1994.

Table 13-2 Year Structure Built
New Jersey, Union County & Borough of Garwood
2000

	New Jersey	Percent	Union County	Percent	Borough of Garwood	Percent
1999 - March 2000	48,124	1.45%	1,030	0.53%	0	0.00%
1995 - 1998	139,421	4.21%	2,937	1.52%	0	0.00%
1990 - 1994	158,581	4.79%	3,289	1.70%	36	2.02%
1980 - 1989	409,978	12.39%	8,797	4.56%	64	3.59%
1970 - 1979	462,740	13.98%	15,799	8.19%	80	4.49%
1960 - 1969	526,732	15.91%	29,205	15.14%	137	7.69%
1950 - 1959	565,847	17.09%	49,657	25.74%	411	23.06%
1940 - 1949	332,806	10.05%	31,885	16.53%	325	18.24%
1939 and earlier	666,046	20.12%	50,346	26.09%	729	40.91%
Total	331,0275	100.00%	192,945	100.00%	1,782	100.00%

Source : U.S. Department of Commerce, Bureau of the Census, Summary Tape File 3, 2000





c) Housing Conditions

Table 13-3 below provides a variety of additional housing characteristics relating to utility services and heating facilities. Almost all of the housing units (97.8 percent) in Garwood are served by gas or oil heat. None of the homes lack complete kitchen, plumbing and phone services.

Table 13-3 Equipment and Plumbing Facilities
Borough of Garwood, New Jersey
2000

HOUSE HEATING FUEL	NUMBER	PERCENT
Utility gas	1,070	61.8
Bottled, tank, or LP gas	6	0.3
Electricity	23	1.3
Fuel oil, kerosene, etc.	624	36
Coal or coke	0	0
Wood	0	0
Solar energy	0	0
Other fuel	0	0
No fuel used	8	0.5
SELECTED CHARACTERISTICS		
Lacking complete plumbing facilities	0	0
Lacking complete kitchen facilities	0	0
No telephone service	0	0

Source: U.S. Department of Commerce, Bureau of the Census, Summary Tape File 3

d) Purchase and Housing Values

The 2000 Census of Housing details owner- and renter-occupied housing values. Table 13-4 below indicates the distribution of housing costs of owner-occupied units. The median sales value of owner-occupied units is noted to be One Hundred and Eighty One Thousand Five Hundred Dollars (\$181,500) while renter occupied housing units were identified with a median rental value of eight hundred and sixty-seven dollars (\$867) per month.

Table 13-4 : Specified Owner Occupied
Housing Units by Value*
Borough of Garwood, New Jersey
2000

Specified owner-occupied units	881	100
VALUE		
Less than \$50,000	0	0
\$50,000 to \$99,999	12	1.4
\$100,000 to \$149,999	133	15.1
\$150,000 to \$199,999	451	51.2
\$200,000 to \$299,999	280	31.8
\$300,000 to \$499,999	5	0.6
\$500,000 to \$999,999	0	0
\$1,000,000 or more	0	0
Median (dollars)	181,500	

Source : U.S. Department of Commerce, Bureau of the Census, Summary Tape File 3, 2000
* Sample size

Table 13-5 : Specified Renter Occupied Housing Units
Borough of Garwood, New Jersey
2000

Specified renter-occupied units	638	100
GROSS RENT		
Less than \$200	0	0
\$200 to \$299	0	0
\$300 to \$499	12	1.9
\$500 to \$749	109	17.1
\$750 to \$999	270	42.3
\$1,000 to \$1,499	183	28.7
\$1,500 or more	31	4.9
No cash rent	33	5.2
Median (dollars)	913	

Source: U.S. Department of Commerce, Bureau of the Census, Summary Tape File 3, 2000

e) Occupancy Characteristics and Types

Table 13-6 provides an analysis of the number of housing units in structures in the community. The data indicates that the vast majority of housing is located in single-family detached structures. In 2000, there were a total of Nine hundred and eighty eight (988) units located in single-family housing, representing 55.5 percent of all housing in the community. Structures with two units represent the second largest percentage at 30.2 percent. Structures with three or more account for 14.3 percent of the nine hundred and thirty-eight (938) units or 16.4 percent of the community.

Table 13-6 : Units in Structure
Borough of Garwood, New Jersey
2000

	Number	Percent
Total housing units	1,782	100
UNITS IN STRUCTURE		
1-unit, detached	958	53.8
1-unit, attached	30	1.7
2 units	538	30.2
3 or 4 units	165	9.3
5 to 9 units	49	2.7
10 to 19 units	8	0.4
20 or more units	34	1.9
Mobile home	0	0
Boat, RV, van, etc.	0	0

Source : U.S. Department of Commerce, Bureau of the Census, Summary Tape File 3

Table 13-7 identifies the number of rooms per dwelling unit in the community. In general, most residences provide an ample number of rooms per dwelling, a measure of significance in computing overcrowded conditions. In 2000, the Borough of Garwood had a mean value of 5.7 rooms per house. In the year 2000, the Borough of Garwood had 70.5 percent of homes classified as having six (6) rooms or more.

Table 13-7 : Number of Rooms
In Housing Units
Borough of Garwood, New Jersey
2000

ROOMS		
1 room	0	0.0
2 rooms	24	1.3
3 rooms	132	7.4
4 rooms	323	18.1
5 rooms	308	17.3
6 rooms	470	26.4
7 rooms	324	18.2
8 rooms	134	7.5
9 or more rooms	67	3.8
Median (rooms)	5.7	

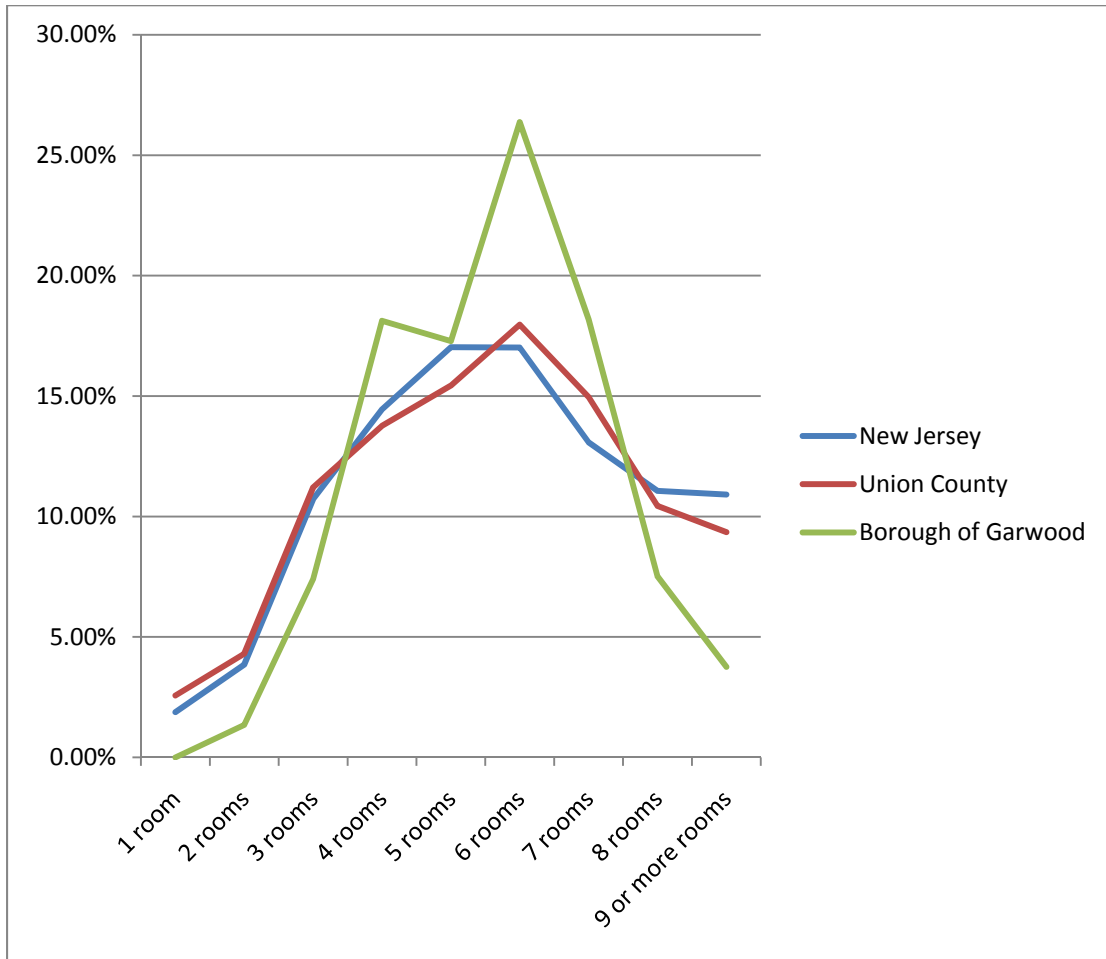
Source: U.S. Department of Commerce, Bureau of the Census, Summary Tape File 3.

Table 13-8 : Number of Rooms
In Housing Units
New Jersey, Union County, Borough of Garwood
2000

	New Jersey		Union County		Garwood	
	Number	Percent	Number	Percent	Number	Percent
Total:	3,310,275		192,945		1,782	
1 room	62,183	1.88%	4,961	2.57%	-	0.00%
2 rooms	127,499	3.85%	8,301	4.30%	24	1.35%
3 rooms	354,967	10.72%	21,631	11.21%	132	7.41%
4 rooms	478,257	14.45%	26,556	13.76%	323	18.13%
5 rooms	563,712	17.03%	29,785	15.44%	308	17.28%
6 rooms	563,331	17.02%	34,669	17.97%	470	26.37%
7 rooms	432,850	13.08%	28,857	14.96%	324	18.18%
8 rooms	366,169	11.06%	20,140	10.44%	134	7.52%
9 or more rooms	361,307	10.91%	18,045	9.35%	67	3.76%

Source: U.S. Department of Commerce, Bureau of the Census, Summary Tape File 3.

Number of Rooms By Percentage



Population Analysis

COAH regulations require an analysis of the following characteristics of the community:

- a) Population Size;
- b) Rate of Population Growth;
- c) Age and Gender Characteristics;
- d) Income Levels;
- e) Household Size.

a) Population Size

In 1960, the Borough of Garwood had a population of five thousand four hundred and twenty six (5,426) persons. Since that time, the Borough of Garwood has experienced a steady declination of population to its lowest population of four thousand one hundred and fifty three (4,153) persons in the year 2000.

b) Rate of Population Growth

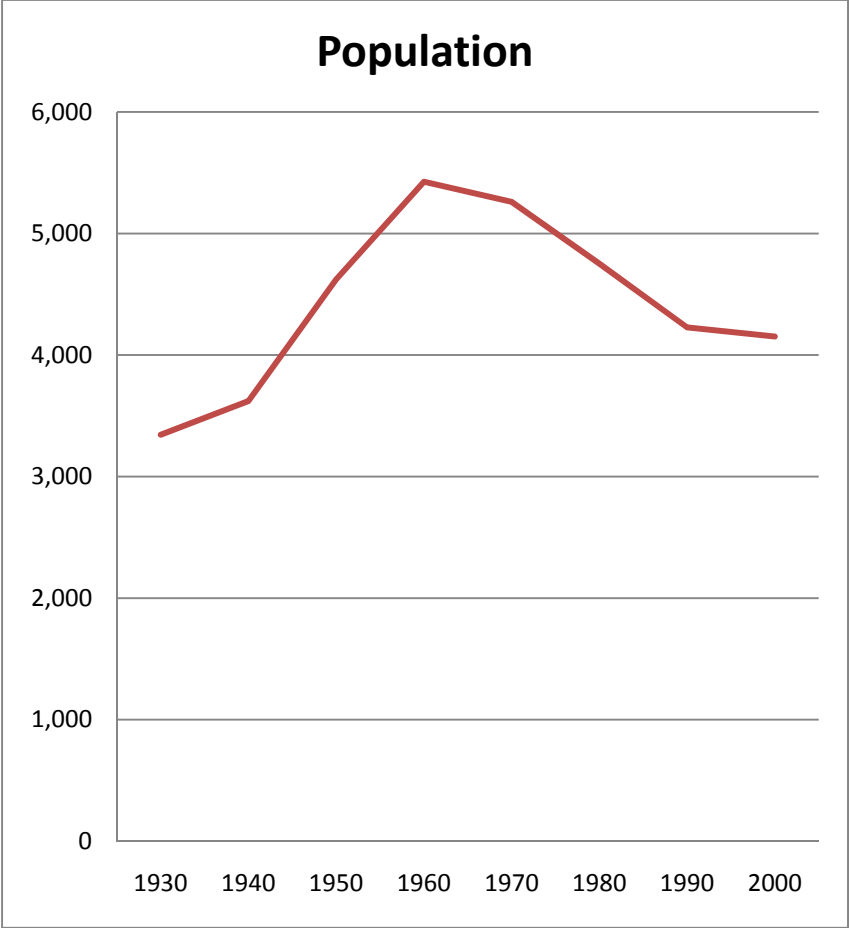
Table 13-9 presents the rate of growth for Garwood from 1940 through 2000. In 1940, the population stood at three thousand six hundred and twenty two (3,622) people. From 1940 to 1960, the community's population expanded to the Borough's population high of five thousand four hundred and twenty six (5,426). The past forty (40) years have seen a diminution of population from that high of five thousand four hundred and twenty six (5,426) people to four thousand one hundred and fifty three (4,153) people reported in the 2000 census. It would appear from Table 13-9 and the chart on the following page, the population of Garwood is approaching a stabilized population of four thousand persons.

Table 13-9: Rate of Population Growth
Borough of Garwood, New Jersey
1930–2000

<u>Year</u>	<u>Population</u>	<u>Percent Change</u>
1930	3,344	
1940	3,622	8.31%
1950	4,622	29.90%
1960	5,426	24.04%
1970	5,260	-4.96%
1980	4,752	-15.19%
1990	4,227	-15.70%
2000	4,153	-2.21%

Source : U.S. Census of Population

Population Growth
Borough of Garwood, New Jersey
1930–2000



c) Age Characteristics

The U.S. Census indicates that in 2000, 51.72 percent of the population was female and 48.28 percent were male. The data in Table 13-9 also indicates the population distribution by age cohorts.

Table 13-11 indicates change in population per cohort from the 1990 to the 2000 Census. The number of children under five (5) has remained fairly constant as a percentage of the total population from 5.73 percent in 1990 to 5.56 percent in 2000. Young people aged ten (10) through nineteen (17) had an increase as a percentage of the total population from 1990 to 2000 by 1.71 percent. People aged eighteen (18) through twenty nine (29) decreased by over six (6) percent. The municipality experienced a population increase of 7.58 percent of persons from thirty (30) to fifty four (54) years of age.

Table 13-10: Age and Gender Characteristics
- 2000 Census of Population
Borough of Garwood

	Male	Percent	Female	Percent
Total	2,005	48.28%	2,148	51.72%
Under 5 years	123	6.13%	108	5.03%
5 to 9 years	124	6.18%	112	5.21%
10 to 14 years	127	6.33%	114	5.31%
15 to 17 years	61	3.04%	62	2.89%
18 and 19 years	38	1.90%	40	1.86%
20 years	17	0.85%	12	0.56%
21 years	14	0.70%	16	0.74%
22 to 24 years	74	3.69%	51	2.37%
25 to 29 years	158	7.88%	148	6.89%
30 to 34 years	217	10.82%	197	9.17%
35 to 39 years	179	8.93%	203	9.45%
40 to 44 years	181	9.03%	194	9.03%
45 to 49 years	139	6.93%	130	6.05%
50 to 54 years	116	5.79%	144	6.70%
55 to 59 years	86	4.29%	91	4.24%
60 and 61 years	34	1.70%	38	1.77%
62 to 64 years	35	1.75%	54	2.51%
65 and 66 years	25	1.25%	28	1.30%
67 to 69 years	58	2.89%	45	2.09%
70 to 74 years	63	3.14%	114	5.31%
75 to 79 years	72	3.59%	113	5.26%
80 to 84 years	44	2.19%	79	3.68%
85 years and over	20	1.00%	55	2.56%

Age of Population by Age and Gender

Borough of Garwood, New Jersey
2000

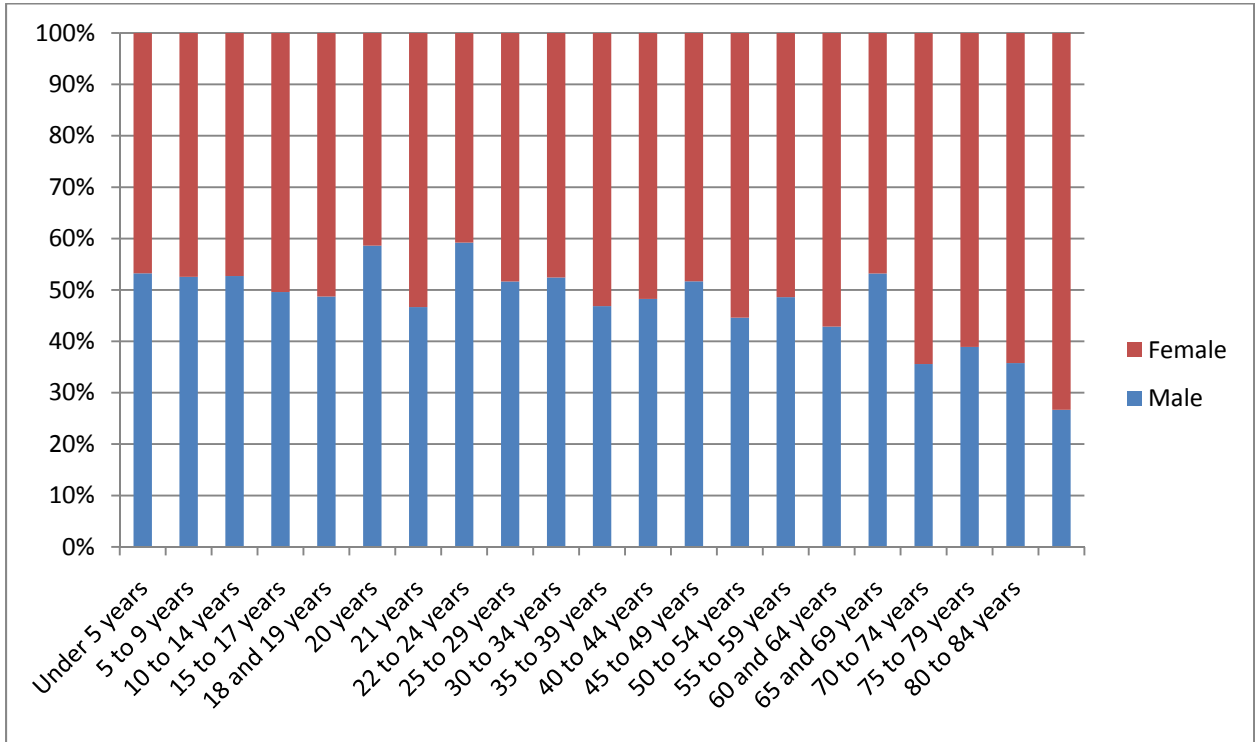
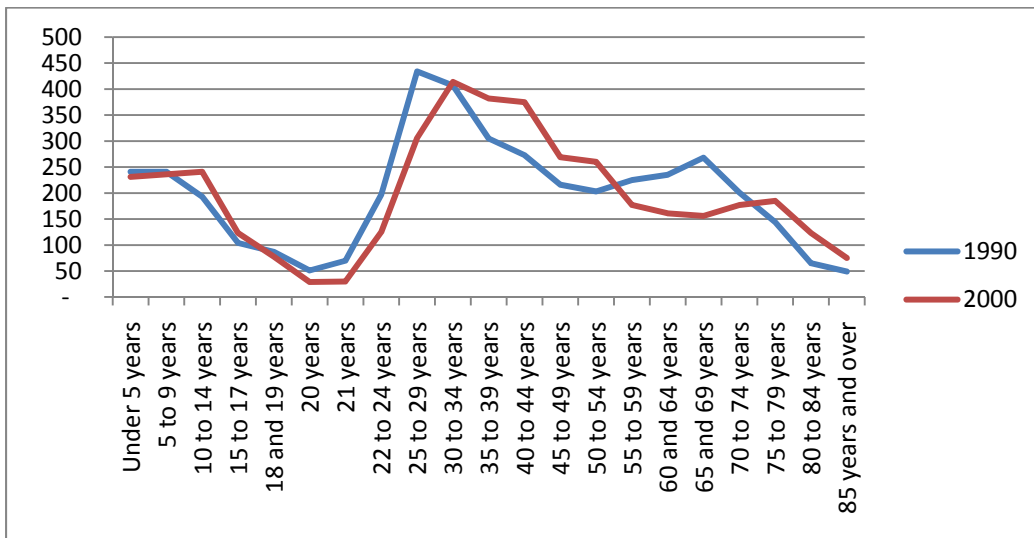


Table 13-11 : Age Characteristics
 Borough of Garwood, New Jersey
 1990–2000

	<u>Male</u>		<u>Female</u>		<u>Both</u>	
	1990	2000	1990	2000	1990	2000
Total	1,993	2,005	2,216	2,148	4,209	4,153
Under 5 years	124	123	117	108	241	231
5 to 9 years	117	124	124	112	241	236
10 to 14 years	112	127	81	114	193	241
15 to 17 years	63	61	41	62	104	123
18 and 19 years	39	38	48	40	87	78
20 years	25	17	26	12	51	29
21 years	36	14	34	16	70	30
22 to 24 years	96	74	101	51	197	125
25 to 29 years	229	158	205	148	434	306
30 to 34 years	197	217	210	197	407	414
35 to 39 years	144	179	161	203	305	382
40 to 44 years	129	181	144	194	273	375
45 to 49 years	107	139	109	130	216	269
50 to 54 years	87	116	116	144	203	260
55 to 59 years	108	86	117	91	225	177
60 and 64 years	105	69	130	92	235	161
65 and 69 years	112	83	156	73	268	156
70 to 74 years	85	63	116	114	201	177
75 to 79 years	50	72	94	113	144	185
80 to 84 years	18	44	47	79	65	123
85 years and over	10	20	39	55	49	75



Source : U.S. Census of Population, 1990, 2000

Table 13-12 :Age and Gender Characteristics
- 2000 Census of Population
Borough of Garwood

	Number		Percent		Percent
	1990	2000	1990	2000	Change
Total	4,209	4,153			
Under 5 years	241	231	5.73%	5.56%	-0.16%
5 to 9 years	241	236	5.73%	5.68%	-0.04%
10 to 14 years	193	241	4.59%	5.80%	1.22%
15 to 17 years	104	123	2.47%	2.96%	0.49%
18 and 19 years	87	78	2.07%	1.88%	-0.19%
20 years	51	29	1.21%	0.70%	-0.51%
21 years	70	30	1.66%	0.72%	-0.94%
22 to 24 years	197	125	4.68%	3.01%	-1.67%
25 to 29 years	434	306	10.31%	7.37%	-2.94%
30 to 34 years	407	414	9.67%	9.97%	0.30%
35 to 39 years	305	382	7.25%	9.20%	1.95%
40 to 44 years	273	375	6.49%	9.03%	2.54%
45 to 49 years	216	269	5.13%	6.48%	1.35%
50 to 54 years	203	260	4.82%	6.26%	1.44%
55 to 59 years	225	177	5.35%	4.26%	-1.08%
60 and 64 years	235	161	5.58%	3.88%	-1.71%
65 and 69 years	268	156	6.37%	3.76%	-2.61%
70 to 74 years	201	177	4.78%	4.26%	-0.51%
75 to 79 years	144	185	3.42%	4.45%	1.03%
80 to 84 years	65	123	1.54%	2.96%	1.42%
85 years and over	49	75	1.16%	1.81%	0.64%

d) Income Levels

Table 13-13 identifies household and family income for the Borough of Garwood in 1999. The U.S. Census of Population in 2000 indicated a median family income of sixty four thousand and fifty three (\$64,053) dollars. The median household income stood at fifty two thousand five hundred and seventy one (\$52,571) dollars.

Table 13-13: Family and Household Income
Borough of Garwood
1999

INCOME IN 1999	Household		Family	
	Number	Percent	Number	Percent
Total	1,724	100	1,121	100
Less than \$10,000	62	3.6	18	1.6
\$10,000 to \$14,999	86	5	24	2.1
\$15,000 to \$24,999	187	10.8	105	9.4
\$25,000 to \$34,999	220	12.8	90	8
\$35,000 to \$49,999	254	14.7	163	14.5
\$50,000 to \$74,999	316	18.3	218	19.4
\$75,000 to \$99,999	312	18.1	252	22.5
\$100,000 to \$149,999	204	11.8	183	16.3
\$150,000 to \$199,999	62	3.6	47	4.2
\$200,000 or more	21	1.2	21	1.9
Median income (dollars)	52,571	(X)	64,053	(X)

Source : U.S. Census of Population, 2000

Table 13-14 : Family Income
New Jersey, Union County, and Borough of Garwood
1999

	New Jersey		Union County		Borough of Garwood	
Number	2,167,577	100%	134,140		1,121	
Less Than \$10,000	88,844	4.10%	5,365	4.00%	18	1.61%
\$10,000 to \$14,999	58,500	2.70%	3,686	2.75%	24	2.14%
\$15,000 to \$19,999	72,293	3.34%	4,497	3.35%	46	4.10%
\$20,000 to \$24,999	84,646	3.91%	5,172	3.86%	59	5.26%
\$25,000 to \$29,999	92,715	4.28%	6,035	4.50%	45	4.01%
\$30,000 to \$34,999	97,125	4.48%	6,390	4.76%	45	4.01%
\$35,000 to \$39,999	97,161	4.48%	6,152	4.59%	71	6.33%
\$40,000 to \$44,999	100,082	4.62%	6,153	4.59%	67	5.98%
\$45,000 to \$49,999	96,199	4.44%	5,557	4.14%	25	2.23%
\$50,000 to \$59,999	192,588	8.88%	11,589	8.64%	104	9.28%
\$60,000 to \$74,999	271,155	12.51%	16,769	12.50%	114	10.17%
\$75,000 to \$99,999	342,115	15.78%	20,277	15.12%	252	22.48%
\$100,000 to \$124,999	218,313	10.07%	13,579	10.12%	128	11.42%
\$125,000 to \$149,999	122,063	5.63%	7,585	5.65%	55	4.91%
\$150,000 to \$199,999	115,666	5.34%	7,417	5.53%	47	4.19%
\$200,000 or more	118,112	5.45%	7,917	5.90%	21	1.87%

Source : U.S. Census of Population, 2000

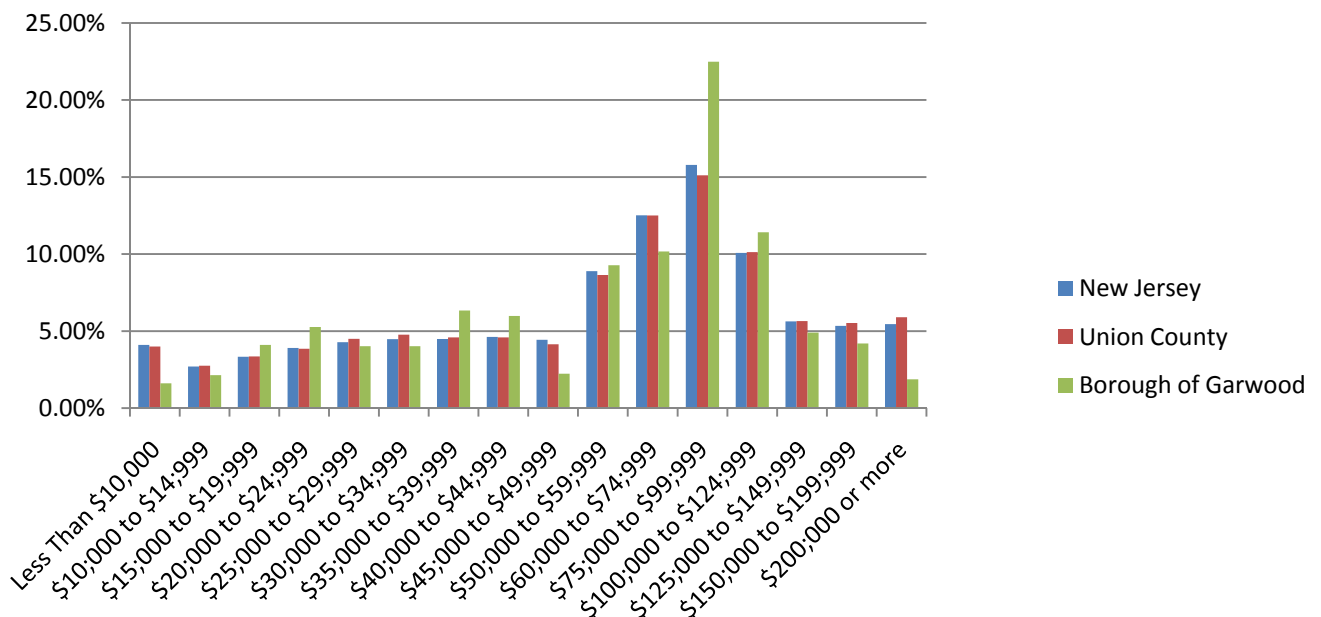
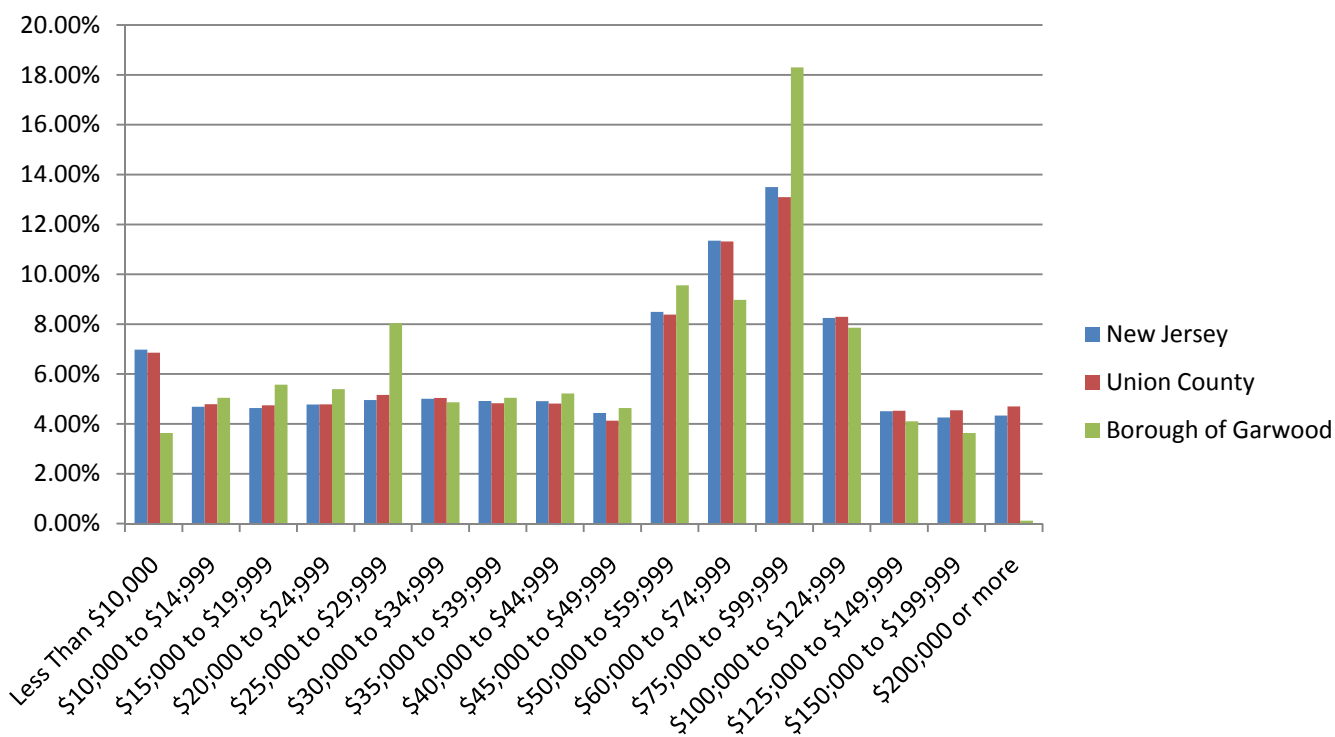
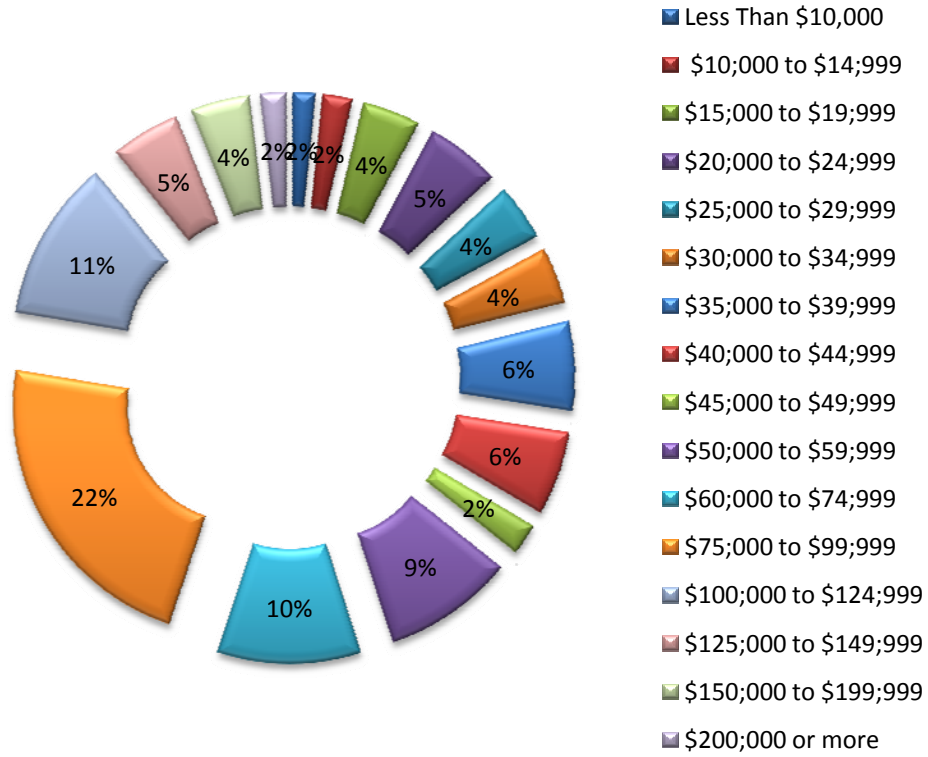


Table 13-15 : Household Income
New Jersey, Union County, and Borough of Garwood
1999

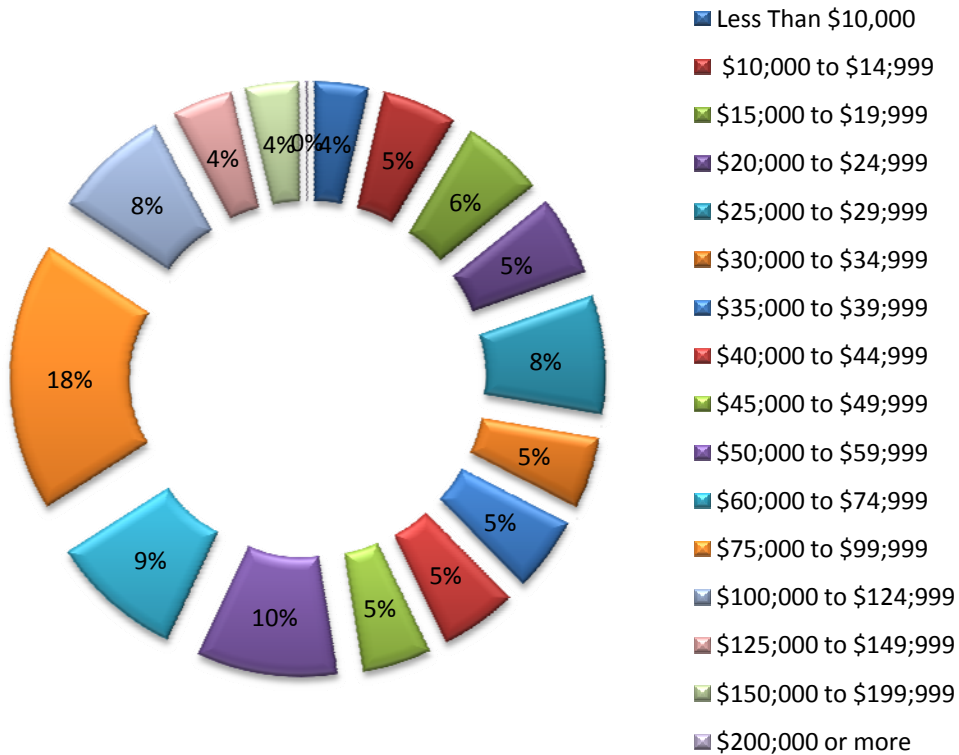
	Households					
	New Jersey		Union County		Borough of Garwood	
	Number	Percent	Number	Percent	Number	Percent
Total	3,065,774	100%	186,093	100%	1,705	100%
Less Than \$10,000	213,939	6.98%	12,758	6.86%	62	3.64%
\$10,000 to \$14,999	143,783	4.69%	8,914	4.79%	86	5.04%
\$15,000 to \$19,999	142,069	4.63%	8,831	4.75%	95	5.57%
\$20,000 to \$24,999	146,537	4.78%	8,903	4.78%	92	5.40%
\$25,000 to \$29,999	152,012	4.96%	9,603	5.16%	137	8.04%
\$30,000 to \$34,999	153,437	5.00%	9,378	5.04%	83	4.87%
\$35,000 to \$39,999	150,757	4.92%	8,980	4.83%	86	5.04%
\$40,000 to \$44,999	150,538	4.91%	8,957	4.81%	89	5.22%
\$45,000 to \$49,999	136,078	4.44%	7,687	4.13%	79	4.63%
\$50,000 to \$59,999	260,375	8.49%	15,597	8.38%	163	9.56%
\$60,000 to \$74,999	347,869	11.35%	21,056	11.31%	153	8.97%
\$75,000 to \$99,999	413,928	13.50%	24,363	13.09%	312	18.30%
\$100,000 to \$124,999	252,890	8.25%	15,431	8.29%	134	7.86%
\$125,000 to \$149,999	138,233	4.51%	8,427	4.53%	70	4.11%
\$150,000 to \$199,999	130,492	4.26%	8,465	4.55%	62	3.64%
\$200,000 or more	132,837	4.33%	8,743	4.70%	2	0.12%



Garwood Family Income - 1999



Garwood Household Income 1999



e) Household Size

The 2000 Census has indicated that Garwood has a large percentage of its population living in one (1) or two (2) person households as compared to the percentage in Union County and New Jersey. This is typically indicative of a population high in young families, empty nesters or populations experiencing a growth in the older age cohorts. In 2000, the Census of Population reported an average household size of 2.40 people per household in Garwood. This is a lower average household size than either Union County or the State of New Jersey.

Table 13-16 : Household Size
New Jersey, Union County and the Borough of Garwood
2000

	New Jersey		Union County		Borough of Garwood	
Family households	2,154,539	100.00%	133,352	100.00%	1,125	100.00%
2-person household	797,736	37.03%	46,138	34.60%	496	44.09%
3-person household	513,857	23.85%	32,607	24.45%	274	24.36%
4-person household	483,780	22.45%	30,451	22.84%	229	20.36%
5-person household	226,660	10.52%	14,684	11.01%	87	7.73%
6-person Family household	81,227	3.77%	5,590	4.19%	30	2.67%
7-or-more person household	51,279	2.38%	3,882	2.91%	9	0.80%

Source : U.S. Census of Population, 2000

Table 13-17 : Average Number of Person Per Household
New Jersey, Union County and Borough of Garwood
2000

	New Jersey	Union County	Borough of Garwood
Average household size	2.68	2.77	2.40
Owner occupied	2.81	2.92	2.59
Renter occupied	2.43	2.52	2.07

Source : U.S. Census of Population, 2000

THE REHABILITATION SHARE (2000)

Garwood's Rehabilitation Share is a measure of old, crowded, deficient housing that is occupied by low- and moderate-income households. These rehabilitation numbers have been provided in the appendix of the third-round rules and are based on 2000 Census data. Garwood has been assigned a rehabilitation share of ten (10) units.

Rehabilitation credits cannot exceed rehabilitation share and can only be credited against the rehabilitation component and not the new construction component. However, reconstruction of a unit, formerly known as gut-rehabilitation, can be applied against a new construction obligation if it meets the definition of reconstruction contained in N.J.A.C. 5:94-1.4. In addition, new construction units as well as ECHO units can satisfy the rehabilitation obligation.

Table 13-18 : Total COAH Obligation for the Borough of Garwood

Prior Round Obligation (1987-1999)	19
Rehabilitation Share (2004–2018)	
Crowding, Built Prior to 1950	14
Plumbing	0
Kitchen	0
Low-Moderate Deterioration Share	0.714
Rehabilitation Share Credit	0
2004–2018 Rehabilitation Share number	10
Growth share (2004–2018)	
2002 Households	1786
2004 Households	1790
2018 Households (Based upon historic growth)	1821
2018 Households (Based upon “S” curve) *	1802
Units Allocated 2018	1805
Net Change	15
Residential Growth Share	3
Employment Projections	
2002 Jobs	2285
2004 Jobs	2272
2018 Employment (Based upon historic growth)	2216
2018 Employment (Based upon “S” curve) *	2095
2018 Employment Allocated	2386
Net Change	114
Non-residential growth Share	7
Total Obligation	39

* Housing growth of a municipality should slow down as the municipality’s physical growth capacity is being reached. In other words, a municipality is unlikely to sustain its historical growth rates as measured between the 1993 and 2002 period in the following 16 years if it has already approached a high build-out level.

To capture this relationship between the anticipated housing growth rate between 2002 and 2018 and the 2002 build-out level, a regression model was developed to empirically estimate the implied historical growth rates that measure how build-out levels affect future growth rates. In this model, the dependent variable is the housing growth rate (a linear annual growth rate) between 1993 and 2006 for each of the 566 municipalities. The independent variable is the 1993 build-out level and was estimated by dividing the number of housing units in 1993 with the sum of the 2006 housing units and the number of potential housing units that could be built after 2002. This equation applies to municipalities that had a positive growth between 1993 and 2006. However, for a few declining communities, this equation may end up a build-out ratio over 100 percent when the amount of housing units lost between 1993 and 2006 is larger than the post-2002 growth capacity. In this case, the build-out level is estimated by changing the denominator in this equation to the sum of the 1993 housing units and the number of potential housing units that could be built after 2002.

This regression model had 566 observations initially but outliers with historical growth rates above the 99 percentile or below the 1 percentile in the sample were excluded in the model. Since municipalities within the same COAH Region may behave differently as a group from others in a different COAH Region, the slope and the y-intercept of the implied rates would also differ by COAH region. Two sets of dummy variables are introduced in the model. The first set of 5 dummy variables captures the effects of the COAH region, i.e. it will change the y-intercept or the initial historical rate when the build-out level is 0. The second set of dummy variables measure the interaction effects of COAH region on the slope of the curve.

The functional form of the model is in cubic form (a declining curve with two turns). The goodness of fit of a regression model is usually measured by coefficient of determination (adjusted R Square that explains the percent of variations in the data). The Task 1 regression model of implied historical growth rate of housing units has a coefficient of determination of 0.4778, a strong result for cross-sectional regression models. (page 28 – New Jersey Counsel On Affordable Housing Task 1 – Housing Allocation)

CURRENT ROUND OBLIGATION 2004–2018

Projection Of Municipal Housing Stock – 2004 through 2018

Round three of the COAH certification process (2004 through 2018) requires an analysis of the estimates and projections of future housing in the community during the proposed timeframe. The projection of municipal housing stock between 2004 through 2018 will be made based upon some but not necessarily limited to the following:

- a) Number of Housing Construction Permits Issued since January 1, 2004;
- b) Construction and demolition permits issued and projected;
- c) Approvals and applications for development and redevelopment agreements;
- d) Historic trends of at least the past 8 years, which include demolitions and certificates of occupancy issued.

a) Number of Housing Units Constructed since January 1, 2004

As a municipality that is almost completely developed, it was expected that there would not be a great number of housing units constructed since January 2004. The annual and monthly data concerning the certificates of occupancy issued since 2004 reveals the following:

Table 13-19
Housing Units Constructed since 1/1/04

	<u>Number of Certificates of Occupancy issued</u>
2008	4
2007	23
2006	45
2005	52
2004	3
Total	127

b) Demolition permits issued and projected

As a municipality that is almost completely developed, again it was expected that there would not be a large total increase in the number of construction permits issued. The annual and monthly data concerning the construction and demolition permits issued since 2004 reveals the following:

Table 13-20
Demolition Permits Issued since 1/1/04

	<u>Demolition Permits</u>
2004	1
2005	0
2006	0
2007	3
Through September of 2008	1
Total	5

c) Approval & applications for development and redevelopment agreements

The Borough of Garwood has had one area deemed in need of redevelopment, which has been developed, and has been recommended to be rezoned to a mixed use zone. Furthermore, this master plan has suggested that the old “Paper Board” site, may qualify for an area in need of redevelopment. At the time of publishing, this site is recommended for redevelopment but an investigative area in need of redevelopment study has not been performed.

d) Past 10-year trend including demolitions & certificates of occupancy.

Table 13-21 provides data concerning building and demolition permits issued during the past ten (10) years, from 1998 to 2008. A total of two hundred and fifty six (256) residential building permits and five (5) demolition permits were issued. The municipality experienced a large increase in residential construction permits corresponds to the development of “The Pointe at Garwood” mixed use development found on Chestnut Street.

Table 13-21 : Dwelling Units Authorized by Building Permit
And Demolition Permits
Borough of Garwood, New Jersey
1998–2008

	<u>Construction</u>	<u>Demolition</u>
1998	0	0
1999	0	0
2000	2	0
2001	2	0
2002	5	0
2003	4	0
2004	3	1
2005	52	0
2006	45	0
2007	23	3
2008	4	1
Total	256	5

Source : New Jersey Department of Labor,
NJ Department of Community Affairs, 2008

Future jobs & employment characteristics – 2004 through 2018

Round three of the COAH certification process (2004 through 2018) requires an analysis of the estimates and projections of future jobs resulting in non-residential development in the community during the proposed timeframe. The projection of municipal non-residential development between 2004 through 2018 will be made based upon some but not necessarily limited to the following:

- a) Non-residential certificates of occupancy issued since January 1, 2004;
- b) Non-residential Construction and demolition permits issued and projected;
- c) Approvals of applications for development or redevelopment agreements.

a) Square feet of Non-Residential Development Authorized by Building Permit since January 1, 2004

Reviewing annual and monthly certificates of occupancy for non-residential development indicates a total of nine thousand eight hundred and forty-three (9,843) square feet of “other non-residential” development. The data reveals the following:

Table 13-22 : Square feet of Non-Residential Development
Authorized by Building Permit
Borough of Garwood, New Jersey

	Office	Retail	A-3	Storage	Multi Family/ Dormitory
2004					
2005	116,380			6,246	77,945
2006					
2007		1,212	1,255		36,430
2008					
Total	116,380	1,212	1,255	6,246	114,375

b) Demolition Permits issued since January 1, 2004

Reviewing annual and monthly demolition permits issued for non-residential development indicates a total of a total of one (1) demolition permit for education facilities, industrial and storage use and one hundred and sixty four (164) demolition permits for miscellaneous demolitions. The data reveals the following:

Table 13-23 : Demolition Permits Issued
since 1/1/04
Borough of Garwood, New Jersey

	education	industrial	storage	signs, fences, utility & misc
2004	0	0	0	37
2005	1	1	1	32
2006	0	0	0	32
2007	0	0	0	31
2008	0	1	0	32
Total	1	1	1	164

c) Approval and applications for development and redevelopment agreements

There have been no non-residential redevelopment agreements have been entered into during this time period.

Employment Characteristic Trends

An analysis of the existing and probable future employment characteristics of the community is provided including:

- a) Current Employment in the Municipality and Historic Trends from 1990 to 2008;
- b) Employment Characteristics and Occupational Patterns of Residents of the Community;
- c) Number of Subdivisions and/or Site Plans Approved for Non-Residential Types of Development Potentially Impacting Upon the Community;
- d) Other Community or Regional Factors, Which May Impact Upon Municipal Employment;
- e) Probable Future Employment Characteristics in the Community.

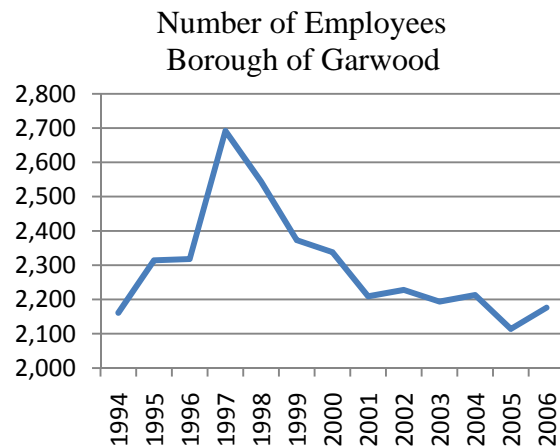
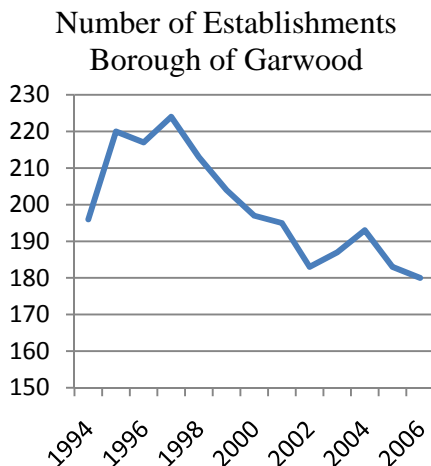
a) Historic Employment Trends

The table below provides employment data from 1994 to 2006. The number of employment establishments in Garwood has been decreasing at fairly constant rate from a high of two hundred and twenty (220) establishments in 1997 a low of one hundred and eighty (180) establishments in 2006.

Table 13-24:
Number of Employers and Employees
Borough of Garwood
1994-2006

Year	Number of Establishments	Percent Change	Employees	Percent Change
1994	196		2,161	
1995	220	12.24%	2,314	7.08%
1996	217	-1.36%	2,318	0.17%
1997	224	3.23%	2,692	16.13%
1998	213	-4.91%	2,544	-5.50%
1999	204	-4.23%	2,373	-6.72%
2000	197	-3.43%	2,338	-1.47%
2001	195	-1.02%	2,209	-5.52%
2002	183	-6.15%	2,228	0.86%
2003	187	2.19%	2,194	-1.53%
2004	193	3.21%	2,213	0.87%
2005	183	-5.18%	2,114	-4.47%
2006	180	-1.64%	2,176	2.93%

Source: New Jersey Department of Labor and Workforce Development



b) Employment Characteristics and Occupational Patterns of the Community's Residents

These tables describe the employment characteristics and occupational patterns of Garwood's residents. Table 13-25 indicates that the majority of the Borough's residents, totaling 38.5 percent, are employed in Management, professional and related occupations. The second highest occupation, totaling 10.6 percent of the workforce, was in construction, extraction and maintenance occupation.

Table 13-26 describes employment patterns for Garwood's residents according to their industry. The data indicates that over seventeen percent was in the Educational, health and social services sector. Almost fifteen (15) percent of the population were identified as professionals, almost thirteen (13) percent of the population is in the manufacturing business and just over eleven (11) percent were in retail trade.

Table 13-25
Employed People 16 Years Old And Over
By Occupation
Borough of Garwood, New Jersey
1999

Employed civilian population 16 years and over	2,320	100
OCCUPATION		
Management, professional, and related occupations	893	38.5
Service occupations	243	10.5
Sales and office occupations	743	32
Farming, fishing, and forestry occupations	0	0
Construction, extraction, and maintenance occupations	245	10.6
Production, transportation, and material moving occupations	196	8.4

Source : U.S. Census of Population, 2000

Table 13-26
Employed People 16 Years Old And Over
By Industry
Borough of Garwood, New Jersey
1999

INDUSTRY		
Agriculture, forestry, fishing and hunting, and mining	0	0
Construction	163	7
Manufacturing	299	12.9
Wholesale trade	78	3.4
Retail trade	262	11.3
Transportation and warehousing, and utilities	89	3.8
Information	103	4.4
Finance, insurance, real estate, and rental and leasing	230	9.9
Professional, scientific, management, administrative, and waste management services	341	14.7
Educational, health and social services	397	17.1
Arts, entertainment, recreation, accommodation and food services	95	4.1
Other services (except public administration)	126	5.4
Public administration	137	5.9

Source : U.S. Census of Population, 2000

c) Number of Approved Non-Residential Site Plans or Subdivisions Impacting Upon the Community

As a built-up community, the number of non-residential site plans and subdivisions approved in the past ten (10) year period has been insignificant in number and scope.

d) Other Regional or Community Factors Impacting Upon Municipal Employment

There are no regional or community factors that will impact upon municipal employment.

e) Probable Future Employment Characteristics

The Borough of Garwood has seen a fairly steady decline in the number of establishments providing employment from 1998 to 2006. The number of employees in Garwood spiked 1997 with a high of 2,700 persons and has appeared to have stabilized around 2,200 persons. Due to the lack of major landholdings in the community for new development, the rate of growth of jobs from the year 2006 to 2018 will not likely change substantially. This housing element projects a possible 114 new jobs utilizing COAH regulations.

Fair Share Housing Plan

COAH projects both residential and non residential growth shares for Garwood. Garwood's total obligation for 1987 through 2018 is thirty nine (39) units.

As Promulgated by the Council On Affordable Housing

Prior Round Obligation (1987-1999)	19
Rehabilitation Share (2004–2018)	
Crowding, Built Prior to 1950	14
Plumbing	0
Kitchen	0
Low-Moderate Deterioration Share	0.714
Rehabilitation Share Credit	0
2004–2018 Rehabilitation Share number	10
Growth share (2004–2018)	
2002 Households	1786
2004 Households	1790
2018 Households (Based upon historic growth)	1821
2018 Households (Based upon “S” curve)	1802
Units Allocated 2018	1805
Net Change	15
Residential Growth Share	3
Employment Projections	
2002 Jobs	2285
2004 Jobs	2272
2018 Employment (Based upon historic growth)	2216
2018 Employment (Based upon “S” curve)	2095
2018 Employment Allocated	2386
Net Change	114
Non-residential growth Share	7
Total Obligation	39

Zoning to Meet COAH Obligations

The Borough of Garwood proposed four sites to meet its low and moderate income housing obligations. These sites vary in size and location, offering different opportunities to provide COAH compliant housing.

The Pointe

The Pointe is a mixed use development that contains three affordable housing units. These units have already been constructed.

Transit Oriented Development

The land use plan illustrates 5.98 acres of land at the intersection of South Avenue and Center Street adjacent to the railroad right of way to be utilized for a transit oriented development. These 5.98 acres will be rezoned for a mixture of uses included, but not limited to retail, residential and open space. The rezoning of this property will, of necessity, require the residential component of at least 15 units per acre with a 20 percent set-aside. This proposed rezoning would yield at total of 18 low and moderate income housing units.

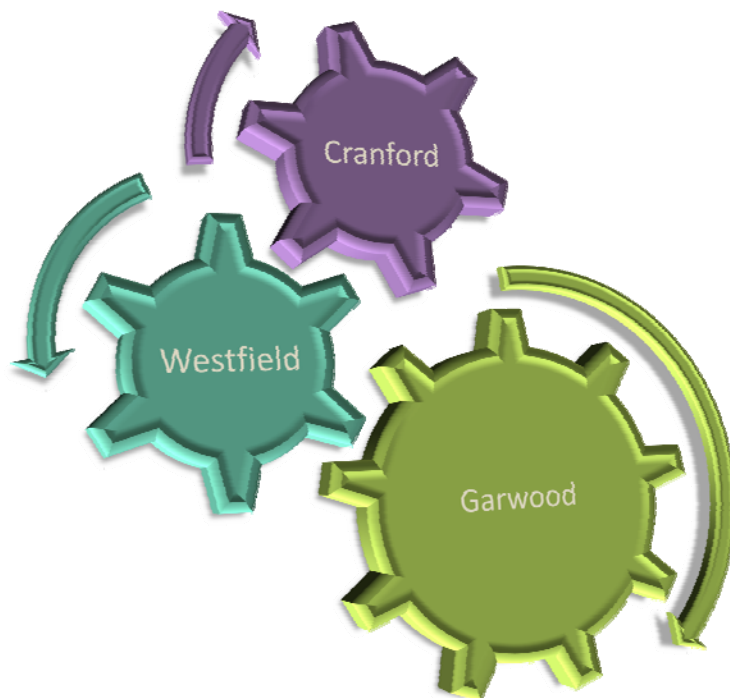
Potential Area in Need of Redevelopment

The land use plan indicates two areas that are potential areas in need of redevelopment. One area is the located on the north side of North Avenue from Anchor Place to the municipal boundary. The other potential area in need of redevelopment is identified as 75 North Avenue and is commonly known as the Paperboard Site. The site contains 4 ½ acres of land and will, of necessity, require rezoning for a mixture of uses included, but not limited to retail, residential and open space. At a minimum of 10 units per acre, the site would yield a total of 45 housing units, of which 9 would be affordable housing. COAH regulations grant a 1.33 bonus for each affordable housing unit addressing a growth share obligation in a designated redevelopment area pursuant to the Local Redevelopment and Housing Law. Nine affordable housing units with a 1.33 bonus would yield a total of 12 affordable housing units for this site.

Rehabilitation

The Borough of Garwood will engage in a COAH compliant rehabilitation program to address ten (10) housing units located within the municipality that has needs repair, renovation, alteration or reconstruction of any building or structure, pursuant to the Rehabilitation Subcode, N.J.A.C. 5:23-6.

Relationship to Adjoining Communities



SECTION 14 - RELATIONSHIP TO ADJOINING COMMUNITY MASTER PLANS

The Municipal Land Use Law requires that community master plans consider their relationship to the master plans of adjoining municipalities, as well as to the County and State Development Plans.

N.J.S. 40:55D-28.d indicates the following:

The Master Plan shall include a specific policy statement indicating the relationship of the proposed development of the municipality as developed in the master plan to (1) the master plans of contiguous municipalities, (2) the master plan of the county in which the municipality is located, (3) the State Development and Redevelopment Plan, adopted pursuant to the “State Planning Act, “ sections 1 through 12 of P.L. 1985, c. 398 (C. 52:18A-196 et seq.) and (4) the district solid waste management plan required pursuant to the provisions of the “Solid Waste Management Act.” P.L. 1970, c. 39 (C. 13:1E-1 et seq.) of the county in which the municipality is located.

There are two communities in Union County that adjoin the Borough of Garwood; Westfield and Cranford.

Cranford

The Township of Cranford last adopted a comprehensive master plan in October of 1979. The most recent master plan re-examination report was performed and adopted in 2002. The Township of Cranford has land use classifications, and has zoned land abutting Garwood, as follows:

Table 14-1
Zoning Consistency with Cranford, New Jersey

Location	Land Use / Zoning	Garwood Proposed Land Use	Compatibility/ Garwood Lots
North side of Brookside	Single Family:10,000 SF lots	RA	Use:Yes / Lot size:smaller
South side of Brookside	Single Family:8,000 SF lots	RA	Use:Yes / Lot size:smaller
Both sides of Cedar	Single Family:8,000 SF lots	RA	Use:Yes / Lot size:smaller
Both sides of Moss	Single Family:8,000 SF lots	RA	Use:Yes / Lot size:smaller
Both sides of Victoria	Single Family:8,000 SF lots	RA	Use:Yes / Lot size:smaller
South side of Gallow Hill	Single Family:8,000 SF lots	RA	Use:Yes / Lot size:smaller
Both sides of Park	Single Family:6,000 SF lots	RA	Use:Yes / Lot size:similar
Both sides of Woods Hole	Single Family:12,000 SF lots	RA	Use:Yes / Lot size:smaller
Both sides of Ramsgate	Single Family:12,000 SF lots	RA	Use:Yes / Lot size:smaller
Both sides of Tulip	Single Family:12,000 SF lots	RA	Use:Yes / Lot size:smaller
Both sides of West End	Single Family:8,000 SF lots	RA	Use:Yes / Lot size:smaller
North side Gallow Hill	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
North side of North	Single Family:5,000 SF lots	Office/Retail	Use:No
South side of North	Single Family:5,000 SF lots	Industrial	Use:No / Lot size: larger
Both sides of South	Commercial	Service Oriented	Use:Similar
Both sides of Johnson	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
Both sides of New	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same

Location	Land Use / Zoning	Garwood Proposed Land Use	Compatibility/ Garwood Lots
Both sides of James	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
Both sides of Besler	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
Both sides of Preston	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
Both sides of Roosevelt	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
South side of Rankin	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
North side of Lexington to Burnside	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
Both sides of Burnside	Single Family:5,000 SF lots	RA	Use:Yes / Lot size: same
North side of Lexington from Hickory	Single Family:6,000 SF lots	RA	Use:Yes / Lot size: similar
North side of Union	Single Family:6,000 SF lots	Park	Use: Yes

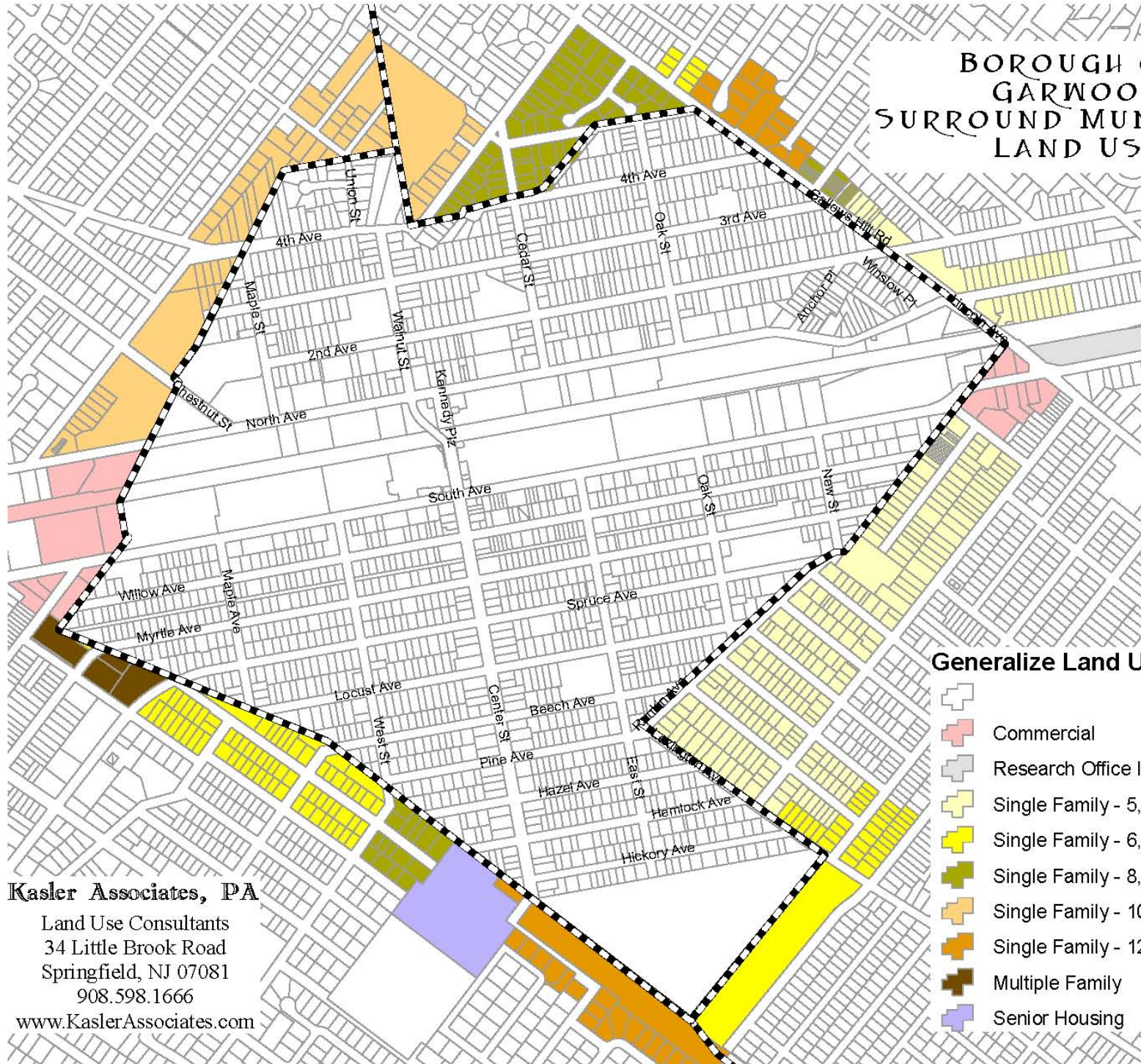
Westfield

The Town of Westfield last adopted a master plan in 2002 and updated it in 2004 and 2005. The Town of Westfield is currently (2009) addressing additional planning issues in a new master plan amendment. The Town of Westfield has land use classifications, and has zoned land abutting Garwood, as follows:

Table 14-2
Zoning Consistency with Westfield, New Jersey

Location	Land Use / Zoning	Garwood Zoning	Compatibility
North side of Grandview	Single Family:12,000 SF lots	RA	Use:Yes / Lot size: smaller
North side of Azalea	Single Family:12,000 SF lots	RA	Use:Yes / Lot size: smaller
Terminus of Columbus	Senior Housing	RA	Use: Somewhat
Both sides of Columbus east of Sycamore	Single Family:8,000 SF lots	RA	Use:Yes / Lot size: smaller
Both sides of Columbus west of Sycamore to Grove	Single Family:6,000 SF lots	RA	Use:Yes / Lot size: similar
North side of grove	Multi Family	RA	Use: Somewhat
Both sides of Myrtle	Multi Family	RA	Use: Somewhat
Both sides of Windsor / Willow	Commercial	Two Family	Use: No
North side of South	Commercial	Industrial	Use: No
South side of South	Commercial	Service Oriented	Use: Somewhat
South side of North	Commercial	Commercial	Use:Yes
North side of North	Single Family:10,000 SF lots	RA	Use:Yes / Lot size: smaller
Both sides of Chestnut	Single Family: 10,000 SF lots	RA	Use:Yes / Lot size: smaller
Both sides of 4 th	Single Family: 10,000 SF lots	RA	Use:Yes / Lot size: smaller
Both sides of Sherman	Single Family: 10,000 SF lots	RA	Use:Yes / Lot size: smaller
Both sides of Union	Single Family: 10,000 SF lots	RA	Use:Yes / Lot size: smaller

BOROUGH OF GARWOOD SURROUND MUNICIPAL LAND USE



Kasler Associates, PA

Land Use Consultants
34 Little Brook Road
Springfield, NJ 07081
908.598.1666

www.KaslerAssociates.com

Union County



Union County prepared and adopted a Long Range Strategic Plan for Union County in 1996. More recently, in 2005 the County and all the municipalities within the County took part in the Cross Acceptance process.

Cross Acceptance is a two phase process developed by the State Planning Commission (SPC) empowered by the State Planning Act of 1985, N.J.S.A. 52:18A-196 et seq., to update the State Development and Redevelopment Plan (SDRP) known as the State Plan. The objective of this process consists of updating the State Plan approximately every three years along with fostering a cooperative nature between municipalities, counties, and state agencies through this process.

Counties are generally selected as "Negotiating Entities" with the responsibility to compare local plans and county plans in relation to the State Plan. As negotiating entities, Counties request participation and input regarding the policies of the Preliminary State Plan. As a result of this comparative process the County prepares a Cross Acceptance Report that is subsequently submitted to the Office of Smart Growth for review in relation to the Preliminary State Plan.¹⁰

The final cross acceptance report was filed with the Office of Smart Growth on February 28, 2005. The following pages are excerpts from that report that involve the Borough of Garwood.

¹⁰ <http://www.ucnj.org/p&cr/cross05.html>

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6. Borough of Garwood

Documents Reviewed:

- Local Ordinance, Garwood (adopted December 1997)
- Reexamination of the Land Use Plan Element, Garwood (1994)
- Recreation and Open Space Element, Garwood (1993)

A. Summary

In the Metropolitan Planning Area (PA1), towns are nearly fully built-out, the infrastructure has nearly reached its reasonable life expectancy, the housing needs are diverse, growth occurs more likely in the form of redevelopment initiatives due to the lack of vacant land, and the need to regionalize services and systems is inherent.

Garwood is a mature, nearly built-out, primarily residential community. Adequate infrastructure exists, and growth will most likely occur in the form of redevelopment, infill and/or expansion of existing uses. The Borough offers both public bus and train services as Garwood is on the New Jersey Transit Raritan Valley Line, which provides commuter, rail service to New York City.

Based on a review of the planning documents we received, Garwood is considered to be generally consistent with the State Plan intent, key concepts and policy objectives. A true determination of consistency could not be achieved in the following areas either due to a lack of information or because of the age of the planning documents provided. These areas include comprehensive planning, capacity analysis, housing, natural resources, historic preservation, infrastructure upgrades and improvements, and intergovernmental coordination.

B. Key Concepts and PA1 Intent

Garwood is consistent with many of the Key Concepts of the State Plan and the PA1 Intent. The Borough's planning documents have suggested the following ideas, strategies, and programs to implement SDRP goals and maintain and improve Garwood's character as a PA 1 community.

One of the Borough's shortfalls is that the last comprehensive update of its Master Plan dates back to 1978 and its most recent Reexamination Report dates back to 1994. Its Housing Element and Fair Share Plan date back to 1988.

Planning that is citizen based is essential to achieving the goals of the State Plan. The Borough residents had expressed their concern to the governing body regarding safety and adequacy of

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the Borough's recreational facilities. In 1993, the Borough adopted an Open Space and Recreation Plan. Prior to its adoption, the Borough held several public hearings to account for the residents' concerns. Some organizations that helped with the Plan included the Board of Education, the Parent-Teacher Association, and Senior Citizen Committee. Also, a survey was distributed to high school aged Borough residents regarding the available recreational activities and facilities.

Planning that is based on capacity analysis is essential to achieving the goals of the State Plan. The Borough's population has been in a state of decline since 1990. The Borough should address the declining population and its potential ramifications on future land use patterns and community facility needs.

Planning should be undertaken at a variety of scales and should focus on physical or functional features that do not necessarily correspond to political jurisdictions. The Borough realizes that new development, which occurs in the Borough's adjacent municipalities, will have an affect on the Borough's infrastructure and character. The Planning Board recommended that the Council establish a more formal review process for development applications in the Borough's adjacent municipalities and increase discussion among the towns.

Planning should be closely coordinated with and supported by investments, programs and regulatory actions. In 1993, the Borough completed an overhaul of their local ordinance. It updated zoning, site plan and subdivision criteria, and delineations of jurisdiction and enforcement powers.

Planning should maintain and revitalize existing communities. The Borough considers its residential neighborhoods along quiet tree shaded streets as its greatest asset. The Borough intends to preserve their existing neighborhood character through zoning mechanisms. It will discourage the introduction of higher density uses, out of character in such neighborhoods.

Due to the built out nature of Garwood, growth will most likely occur in the form of redevelopment, infill and/or expansion of existing uses. Even though the Borough has not identified any area for redevelopment, certain zones in the Borough promote growth in compact forms. Also, the Borough's Central Business District (CBD), which includes professional offices, retail services, as well as apartment units on the upper floors of buildings, is designed to provide for compact development, pedestrian oriented activity, and serve as a central retail shopping area for the Borough and neighboring residents. Mixed-use buildings provide a solid customer base for the retail and other commercial businesses and create a pedestrian scaled community.

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C. Policy Objectives

Garwood meets the policy objectives for PA1 as follows –

1. Land Use

The Borough's goals include achieving a proper balance in the distribution of land uses and protecting the character of existing neighborhoods from incompatible residential subdivisions. For instance, in 1991, the Borough rezoned certain residential properties from a moderate density level at 10 units per acre, to a lower density level at six units per acre. The Borough rezoned the residential area from higher density development to preserve the existing neighborhood, which had unique larger lot sizes. In 1993, the Borough completed an overhaul of their local ordinance. It updated zoning, site plan and subdivision criteria, and delineations of jurisdiction and enforcement powers. New regulatory sections were adopted regarding senior citizen accessory housing, satellite antennas, conditional uses, soil conservation, and design standards.

The Borough encourages the efficient use of its remaining limited vacant developable land. The local ordinance provides for a range of residential density ranging from six units per acre to 10 units per acre. Two family residential units are permitted at 16 units per acre. The two-family residential zone acts as a transitional zone between the single-family residential districts and the commercial districts.

There are also five non-residential zones including central business district, general business district, community commercial, light industrial, and industrial. The Community Commercial Zone and Central Business District encourage mixed-use buildings, which create compact human scale communities. A variety of uses are permitted in both zones including retail services, professional offices, restaurants, childcare centers, and apartment uses on the upper floors of buildings. The Community Commercial (CC) Zone requires the submission of a pedestrian plan in order to ensure pedestrian access along the street system as well as access to nearby public transportation. The primary purpose of the Community Commercial Zone is to encourage the redevelopment of underutilized properties into active, mixed-use developments that are in close proximity to the CBD and mass transit. The zone allows for building at densities similar to neighborhood shopping areas rather than regional shopping centers.

Through zoning mechanisms, such as control over bulk requirements and rezoning, the Borough aims to preserve the character of existing neighborhoods. The new zoning protects the existing character of the neighborhood.

2. Housing

The Borough has been confronted with a housing issue where residential structures are being converted illegally into higher density units. The Borough adopted an ordinance, which

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requires the issuance of certificates of occupancy for the sale or conveyance of all residential, commercial, industrial and mixed-use buildings.

In 1988, the Borough completed their Housing Element and Fair Share Plan. There was no information about the Borough's plan in COAH's October 2004 Municipal Status Report.

3. Economic Development

In 1979, the Borough conducted an Industrial/Commercial Zone Feasibility Study to focus on the declining trend of industrial growth in the Borough. Under existing land use conditions, a large portion of the Borough was zoned for industrial uses. The study concluded that the amount of industrial land must be equal to the current demand, and that the Borough should either rezone the industrial land to better suit current development patterns, permit other commercial/retail uses within the industrial zones, or amend bulk regulations for commercial uses. In 1982 and 1989, the Borough amended the zoning to permit commercial uses, changed the bulk requirements for commercial uses, and changed the zone to the Industrial/Commercial District. To further encourage economic development and redevelopment of underutilized properties, the Borough created the Community Commercial and the Light Industrial Zones. Both zones encourage the redevelopment of such land into active mixed-use shopping centers.

4. Transportation

The Planning Board recognized the importance of the existing bus transportation system and was able to convince Westfield and NJ Transit to reroute a certain bus route to go through the Borough. In the CBD, shared parking and more efficient circulation patterns are encouraged.

5. Natural Resource Conservation

No information was provided regarding the Borough's efforts in this area.

6. Agriculture NA

7. Recreation

Due to the shortage of recreational land in the Borough, the 1982 Reexamination Report had recommended a comprehensive review of the recreational facilities and to determine ways in which the shortage could be resolved. In 1993, the Borough adopted an Open Space and Recreation Plan Element. The Element made 14 specific findings to consider for future budget, reorganization and community wide discussions.

8. Redevelopment

Garwood encourages compact development in its Central Business District and is in close proximity to its train station. Permitted uses in the Community Commercial (CC) zone are

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intended to compliment uses in the CBD. A pedestrian plan is required for proposed development in the CC zone to ensure adequate pedestrian access along the road system and to nearby bus or rail facilities.

9. Historic Preservation

No information was provided regarding the Borough's efforts in this area.

10. Public Facilities and Services

The Borough encourages the location of community facilities in close proximity to its intended users to create a compact development pattern. During 1993, the Planning Board began their first Capital Project Review to assist the Council in their long term capital planning. Capital projects included purchase of playground equipment, the construction of a municipal parking lot, installation of an office trailer by the Board of Education, and the construction of an additional ball field.

Garwood also uses its zoning power to establish requirements for stormwater control.

11. Intergovernmental Cooperation

Areas where the Borough could work with the State, County, and the municipalities that surround it include planning issues pertaining to circulation, economic development, redevelopment, and service provision in order to enhance and ensure the cost-effectiveness of these services.

State Development Guide Plan (SDRP)

The New Jersey State Development and Redevelopment Plan (SDRP) is required by the State Planning Act of 1985 and establishes State level planning policy. The current Plan was adopted by the State Planning Commission in 2001 and is required to be updated on a three year cycle. The SDRP is amended through a three-phase process and includes the preliminary plan, the interim plan and the final plan. The SDRP policies apply statewide except for the Hackensack Meadowlands district, the Pinelands and CAFRA areas. The Plan is intended to be utilized as a general framework whereby municipalities, counties and state agencies and special districts guide major policy decisions.

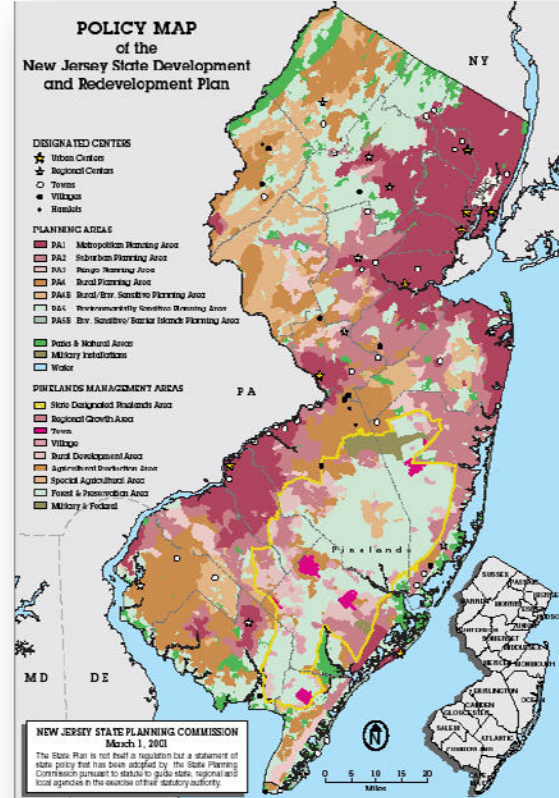
On April 28, 2004, the New Jersey State Planning Commission approved the release of the Preliminary State Development and Redevelopment Plan (State Plan) and the Preliminary State Plan Policy Map. This action launched the third round of Cross-acceptance.

Cross-acceptance is a bottom-up approach to planning, designed to encourage consistency between municipal, county, regional, and state plans to create a meaningful, up-to-date and viable State Plan (N.J.S.A. 52:18A-202.b.).

This process is meant to ensure that all New Jersey residents and levels of government have the opportunity to participate and shape the goals, strategies and policies of the State Plan.¹¹

Cross-Acceptance is the process by which municipalities actively participate in the comparison of the content of their local planning efforts to the proposed SDRP (or its revisions) with negotiations concerning the proposed goals and policies. Several phases are involved in the cross acceptance process including the comparison phase (preliminary state plan compared to local plans), the negotiation phase (public hearings and several rounds of negotiating changes in the proposed policies, mediated by the counties), and the final review process (21 public hearings-one in each county-and acceptance of written comments on the Plan).

Garwood believes that the State Plan will have not have a material effect on local planning. The Borough of Garwood has been designated as a PA 1, metropolitan planning area 1. The metropolitan planning areas include postwar suburbs and urban centers that are fully or almost fully developed, so further development is dominated by intensification of land uses through redevelopment and reuse.



¹¹ <http://www.nj.gov/dca/osg/plan/crossacceptance.shtml>

Recycling Element



SECTION 15 - RECYCLING ELEMENT

The New Jersey Municipal Land Use Law sets forth statutes that provide for the adoption of a master plan by municipal planning boards.

N.J.S. 40:55D-28B (12) indicates the following regarding the required recycling element of the master plan:

A recycling plan element which incorporates the State Recycling Plan goals, including provisions for the collection, disposition and recycling of recyclable materials designated in the municipal recycling ordinance within any development proposal for the construction of 50 or more units of single-family residential housing or 25 or more units of multi-family residential housing and for any commercial or industrial development proposal for the utilization of 1,000 square feet or more of land.

Statewide Recycling Act

In April of 1987, the Senate and General Assembly of the State of New Jersey approved the "New Jersey Statewide Mandatory Source Separation and Recycling Act" which set forth regulations regarding the recovery of recyclable products statewide. The intention of the Legislature was enumerated in Section 1 of the Act as follows:

The Legislature finds that removing certain materials from the municipal solid waste stream will decrease the flow of solid waste to sanitary landfill facilities, aid in the conservation and recovery of valuable resources, conserve energy in the manufacturing process, and increase the supply of reusable raw materials for the State's industries; and that the recycling of reusable waste materials will reduce substantially the required capacity of proposed resource recovery facilities and contribute to their overall combustion efficiency, thereby resulting in cost - savings in the planning, construction, and operation of these resource recovery facilities.

The Legislature further finds that the expeditious identification of local, national and international markets and distribution networks for recyclable materials is a necessary prerequisite to the orderly development of mandatory statewide, county and municipal recycling programs; and that the State must institute and complete studies of market stimulation for recyclable materials.

The Legislature further finds that the State may most appropriately demonstrate its long-term commitment to proper solid waste management by establishing a mandatory statewide source separation and recycling program, and by increasing the purchase of recycled paper and paper products by the various agencies and instrumentality's of the State Government.

The Legislature further declares that it is in the public interest to mandate the source separation of marketable waste materials on a Statewide basis so that reusable materials may be returned to the economic mainstream in the form of raw materials or products rather than be disposed of at the State's overburdened landfills, and further declares that the recycling of marketable materials by every municipality in this State, and the development of public and private sector recycling activities on an orderly and incremental basis, will further demonstrate the State's long term commitment to an effective and coherent solid waste management strategy.

Section 25 of the New Jersey Statewide Mandatory Source Separation and Recycling Act supplements N.J.S. 40:55D-2 of the Municipal Land Use Law by adding purpose "o" which states "To promote the maximum practicable recovery and recycling of recyclable materials from municipal solid waste through the use of planning practices designed to incorporate the State Recycling Plan Goals and to complement municipal recycling programs." The State of New Jersey is committed to reducing solid wastes through Statewide recycling efforts.

Solid Waste Collection

Household garbage is picked up bi-weekly curbside for all residential units. All household garbage is to be placed in a covered watertight receptacle than does not exceed 35 gallons. Receptacles are to be placed curbside after 6:00 pm. the night before the scheduled pickup.

BULK GARBAGE PICKUP

Bulk garbage is to be placed curbside after 6:00 p.m. the night before the scheduled pickup. Any bulk garbage, which is placed at the curb before that time, will be subject to a summons. Bulk waste will only be picked up on the scheduled collection days. Requests for special private pick ups are prohibited.

RECYCLING

NEWSPAPERS - must be clean and tied in bundles that are no more that 12" thick. The bundles may not include paper bags, magazines, telephone books, or junk mail. Must be stacked on the ground.

CORRUGATED CARDBOARD - must be clean, flattened and tied in bundles. NO paper bags, magazines, telephone books, junk mail, or newspapers will be collected in these bundles (see mixed paper).

MIXED PAPER - must be tied in bundles no higher than 12". Materials placed in plastic will not be collected. Acceptable materials include magazines, glossy catalogs, coupon inserts, envelopes, color news inserts, sweepstakes forms, notebook paper, construction paper, real estate listings, mixed color paper, photocopy and fax paper. Unacceptable materials include food boxes and chip board. Newspaper and corrugated boxes cannot be combined with mixed paper.

GLASS AND PLASTIC / ALUMINUM AND TIN CANS - must be well rinsed with all caps and lids removed and placed curbside in a sturdy, reusable container. Plastic should contain the PET, PETE, or HDPE mark or the number 1 or 2 in a triangle imprinted on the bottom of the bottle.

The following items will not be accepted: Windows, glass, dishes, pyrex, mirrors, crystal, squeeze bottles, packaging, plastic w rap, or containers holding food or hazardous materials, such as motor oil, anti-freeze, paint cans, or spray cans.

DO NOT LEAVE RECYCLABLES AT THE RECYCLING CENTER OFF WILLOW AVENUE. THE CENTER IS NOT OPEN FOR RESIDENTIAL DROP OFF.

HAZARDOUS MATERIALS

The County holds special collection dates and sites for hazardous materials such as, aerosol cans, antifreeze, batteries, caustics, corrosives & cleaners, fire extinguishers, fluorescent bulbs (unbroken), thermostats, mercury switches, oil based paints & varnishes, pesticides & herbicides, pool chemicals, gasoline, solvents, thinners, tires and electrical components including televisions and computer monitors. Please call the Bureau of Environmental Services Hotline at (908) 654-9889, or visit their website at <http://www.ucnj.org/recycle/index.html>, to find out the next scheduled location and date for disposal of hazardous materials. It is unlawful and environmentally unsafe to place these materials in with your household and bulk waste.

WHITE GOODS PICKUP

Appliances including washing machines, dryers, hot water heaters, stoves, ovens, refrigerators, air conditioners, and water softeners are picked-up by appointment only. Do not place white goods at the curbside until an appointment has been made for pickup. A record of these items will be kept by DATE, ITEM, RESIDENT, and ADDRESS. Only one type of each of the above-mentioned appliances will be picked up per residence yearly. Please call the Department of Public Works to schedule an appliance pickup. PLEASE NOTE: APPLIANCES WILL NOT BE PICKED-UP ON SCHEDULED BULK GARBAGE DAYS.

GRASS AND BRUSH PICKUP

Grass and brush will be picked-up curbside from April to October in accordance with the attached schedule. Brush must be cut to a maximum length of 4 feet, bundled, and cannot weigh more than 50 pounds. Grass must be placed in covered trash receptacles or biodegradable bags and may not exceed 50 pounds. GRASS PLACED IN PLASTIC BAGS WILL NOT BE PICKED UP. The Borough strongly recommends that residents use mulching blades on their lawn mowers and leave the grass clippings on your lawn to help the Borough reduce the large amount of grass, which is picked-up yearly. CURBSIDE LEAF PICKUP AND BAGGED LEAF PICKUP Loose and bagged leaves will be picked-up curbside by schedule, which will be mailed in the fall of 2009. All instructions for bagging leaves and placing leaves curbside for pickup will be covered in the mailing.

CHRISTMAS TREE PICKUP

Christmas trees will be picked-up curbside every Wednesday in January ending on January 30th. Christmas trees for the final pick-up must be placed at the curb by 7:00 AM on January 30th.

USED MOTOR OIL AND OIL FILTERS

Used motor and oil filters may be brought to the Public Works Facility located at 15 South Avenue during the day, Monday thru Friday between the hours of 6:30 AM and 3:00 PM. There is a 10 quart per person limit. DO NOT PUT WASTE OIL OUT WITH YOUR GARBAGE OR LEAVE IN FRONT OF THE PUBLIC WORKS GARAGE AFTER HOURS.

SANITARY SEWER

The Borough operates the sanitary system. The Borough is only responsible for the maintenance of the main sewer line. The lateral service connection (between the home and the main sewer line in the street) is the responsibility of the resident. If a backup occurs in your home and you suspect that the problem is in the main sewer line, you may call the Department of Public Works during the day, Monday thru Friday at 789-1522 or after hours please contact the Garwood Police Department at 789-1500.

BOROUGH OF GARWOOD BULK WASTE GUIDELINES

1. "BULK WASTE"- Items other than Household Garbage. For example: Box spring/mattress, table, chairs, cabinets, all furniture, couches, love seat, recliner, audio equipment, toys, rugs and padding (must be cut to 4' lengths, rolled and tied-up), wood 2 x 4's cut to 4' length and tied-up in bundle (not to exceed 50 pound weight limit), gasoline power equipment no larger than a standard 21" push mower (all gasoline and oil must be completely removed). Call (908)789-1522 if you are not sure regarding an item to dispose of.
2. "BULK WASTE" items not picked up by the Borough:
3. Materials that may be deemed dangerous or injurious to the health and welfare of the residents of the Borough of Garwood or the agents and/or employees of the municipality, such as poisons, acids, caustics, explosives, other hazardous wastes, soil, large rocks, boulders, broken concrete, or hot or warm ashes, are not acceptable for collection.

Materials required to be separated from residential or non-residential solid waste for recycling or other purposes are not accepted for collection.

All building material and debris are not acceptable for collection and shall be otherwise lawfully disposed of by the property owner or resident. It is the responsibility of the property owner or the resident to contract with a private trash hauler to obtain a dumpster to dispose of any building materials and debris. The terms "building materials" and "building debris" shall include, but not be limited to concrete, cement, plaster, stones, cinderblocks, concrete blocks, drywall materials, fencing, plaster, wood, windows, aggregate, brick, siding, insulation, pipe, plumbing fixtures (including but not limited to bathtub units, sinks and toilet bowls), and any other materials used in construction or which are accumulated from excavating, construction, building, demolishing or repairing any structure. In any prosecution under this

section, the presence of any such materials or debris on or about any premises shall be presumed to have accumulated from excavation, construction, building, demolition, or repairs on the premises.

"HOUSEHOLD GARBAGE" (i.e. food, etc.) will not be picked up on the "BULK WASTE" pickup day.

"HAZARDOUS WASTE" (i.e. paints, solvents, thinners, petroleum products, batteries, televisions, computer monitors, tires etc.) will not be picked up with bulk waste. To dispose of these items, residents need to contact the Union County Bureau of Environmental Services Hotline at (908)654-9889.

CONDITIONS AND REGULATIONS

"BULK WASTE" amounts shall be limited to a total pile size not to exceed 4'h x 6'w x 6'd (5.3 cubic yards) per resident. Any tenant or property owner who is moving or vacating a property may only put out the limited pile size amount stipulated above. It is the responsibility of the property owner or the tenant to contract with a private trash hauler to obtain a dumpster to dispose of additional materials, which may exceed the pile size limit.

RECYCLING RULES AND REGULATIONS

NEWSPAPERS - must be clean and tied in bundles that are no more than 12" thick. The bundles may not include paper bags, magazines, telephone books, or junk mail. Must be stacked on the ground.

CORRUGATED CARDBOARD - must be clean, flattened and tied in bundles. NO paper bags, magazines, telephone books, junk mail, or newspapers will be collected in these bundles (see mixed paper).

MIXED PAPER - must be tied in bundles no higher than 12". Materials placed in plastic will not be collected. Acceptable materials include magazines, glossy catalogs, coupon inserts, envelopes, color news inserts, sweepstakes forms, notebook paper, construction paper, real estate listings, mixed color paper, photocopy and fax paper. Unacceptable materials include food boxes and chip board. Newspaper and corrugated boxes cannot be combined with mixed paper.

GLASS AND PLASTIC / ALUMINUM AND TIN CANS - must be well rinsed with all caps and lids removed and placed curbside in a sturdy, reusable container. Plastic should contain the PET, PETE, or HDPE mark or the number 1 or 2 in a triangle imprinted on the bottom of the bottle. " The following items will not be accepted: Windows, glass, dishes, pyrex, mirrors, crystal, squeeze bottles, packaging, plastic wrap, or containers holding food or hazardous materials, such as motor oil, anti-freeze, paint cans, or spray cans.

Plastics are used everywhere today, from packaging to car parts to building construction, and production is growing rapidly, leading to increased waste. That's why plastic recycling, which has been widely available since the early 1990s, is more important than ever.

Recycling not only serves to conserve our limited natural resources, but is also instrumental in reducing the excess products entering the waste stream.

Table 15-1
Recycling Tonnage
Borough of Garwood, New Jersey
2007

	Tonnage	Percent
Mixed Office Paper	0.00	0.00%
Corrugated	883.25	45.83%
Newspaper	189.14	9.81%
Other Paper/Mag/Junk Mail	34.55	1.79%
Glass Containers	153.20	7.95%
Aluminum Containers	10.94	0.57%
Steel Containers	21.89	1.14%
Plastic Containers	32.83	1.70%
Heavy Iron	0.19	0.01%
NonFerrous/Aluminum Scrap	0.57	0.03%
White Goods & Light Iron	0.00	0.00%
Anti-freeze	1.93	0.10%
Batteries (Automobile)	0.06	0.00%
Automobile Scrap	0.00	0.00%
Tires	0.00	0.00%
Used Motor Oil	16.63	0.86%
Brush/Tree Parts	0.00	0.00%
Grass Clippings	0.00	0.00%
Leaves	0.00	0.00%
Stumps	0.00	0.00%
Electronics	0.00	0.00%
Consumer Electronics	0.00	0.00%
Concrete / Asphalt / Brick / Block	476.30	24.71%
Food Waste	32.10	1.67%
Batteries(Dry Cell)	0.30	0.02%
Consumer Electronics	0.00	0.00%
Other Material Not Listed	0.00	0.00%
Other Glass	0.00	0.00%
Other Plastic	0.06	0.00%
Oil Contaminated Soil	73.36	3.81%
Process Residue	0.00	0.00%
Textiles	0.00	0.00%
Wood Scraps	0.00	0.00%
	1,927.30	100.00%

Table 15-2
 Recycling Tonnage
 New Jersey by County
 2006

2006 GENERATION, DISPOSAL AND RECYCLING RATES IN NEW JERSEY (Tons)									
COUNTY	POPULATION 2000	GENERATION		DISPOSAL			RECYCLING		
		Disposal and Recycling		MSW	BULKY	TOTAL	MSW %	Total Recycled w/Add-ons	Total % Recycled
Atlantic	252,552	920,383	321,432	123,242	444,674.00	121,970.75	27.5%	475,708.64	51.7%
Bergen	884,118	2,111,129	708,354	288,894	997,248.00	533,647.27	43.0%	1,113,880.52	52.8%
Burlington	423,394	1,092,554	355,890	130,673	486,563.14	241,147.45	40.4%	605,990.53	55.5%
Camden	508,932	1,062,179	373,754	177,439	551,193.00	171,636.14	31.5%	510,986.03	48.1%
Cape May	102,326	605,555	136,161	84,788	220,948.38	69,669.79	33.8%	384,607.05	63.5%
Cumberland	146,438	526,259	174,498	28,900	203,398.00	113,859.40	39.5%	322,861.21	61.4%
Essex	793,633	1,803,741	588,419	258,838	847,257.00	358,949.21	37.9%	956,483.96	53.0%
Gloucester	254,673	630,682	226,650	90,630	317,280.29	163,547.90	41.9%	313,401.36	49.7%
Hudson	608,975	1,734,401	508,349	208,567	716,916.00	234,992.84	31.6%	1,017,485.15	58.7%
Hunterdon	121,989	242,696	102,725	54,286	157,011.57	28,640.15	21.8%	85,684.20	35.3%
Mercer	350,761	948,866	267,040	104,163	371,203.52	164,448.97	38.1%	577,662.89	60.9%
Middlesex	750,162	2,662,046	614,876	331,285	946,161.00	409,185.97	40.0%	1,715,884.90	64.5%
Monmouth	615,301	1,629,133	538,894	238,995	777,889.00	313,616.82	36.8%	851,244.27	52.3%
Morris	470,212	1,145,060	403,988	177,479	581,467.00	227,138.25	36.0%	563,592.56	49.2%
Ocean	510,916	1,418,245	476,221	184,115	660,335.85	202,560.48	29.8%	757,909.36	53.4%
Passaic	489,049	1,173,131	406,334	161,963	568,296.73	196,939.05	32.6%	604,834.60	51.6%
Salem	64,285	133,307	34,323	47,335	81,658.14	20,663.87	37.6%	51,649.32	38.7%
Somerset	297,490	805,978	280,603	154,263	434,865.28	138,542.51	33.1%	371,112.48	46.0%
Sussex	144,166	274,769	94,967	47,955	142,921.44	34,683.98	26.8%	131,847.36	48.0%
Union	522,541	1,489,082	415,457	196,015	611,472.00	200,602.08	32.6%	877,609.99	58.9%
Warren	102,437	223,673	77,753	34,871	112,624.27	26,801.74	25.6%	111,048.87	49.6%
TOTAL	8,414,350	22,632,869	7,106,689	3,124,694	10,231,384	3,973,245	35.9%	12,401,485	54.8%
NOTES: MSW Recycled tonnages do not include total recycling activities from 8 municipalities which did not report. However, "MSW" and "Total Recycled" tonnage columns includes approximately 2,323 tons to municipalities which did not submit a report but was reported by Class A recycling facilities. Total Recycled with Add-ons also includes tonnage reported by ISRI/AMRA and Class B recycling facilities which was not reported by the municipalities. Totals subject to rounding.									
Last Updated on 11/17/2008									
									By DEP/DSHW

Table 15-3
 Recycling Tonnage
 New Jersey by Products
 2006

2006 MATERIAL SPECIFIC RECYCLING RATES
 IN
 NEW JERSEY

Materials	(1) Total % of Solid Waste Generated (Estimated)	(6) Total Tons Generated (Calculated)	Total Tons Recycled (Actual)	% of Waste Stream Recycled (Calculated)
Yard Waste	10.0%	2,270,522.39	1,498,630.10	66.0%
Food Waste	7.4%	1,680,186.57	291,171.69	17.3%
News Paper	4.2%	953,619.40	347,622.27	36.5%
Corrugated	6.0%	1,362,313.43	752,321.84	55.2%
Office Paper	2.3%	522,220.15	228,326.34	43.7%
Other Paper	9.1%	2,066,175.37	181,732.09	8.8%
Plastic Containers	0.9%	204,347.01	86,402.09	42.3%
Other Plastic Packages (2)	1.0%	227,052.24	0.00	0.0%
Other Plastic Scrap	3.8%	862,798.51	16,928.46	2.0%
Glass Containers	2.5%	567,630.60	338,211.47	59.6%
Other Glass	0.4%	90,820.90	24,711.02	27.2%
Aluminum Cans	0.3%	68,115.67	42,733.50	62.7%
Foils & Closures (2)	0.1%	22,705.22	0.00	0.0%
Other Aluminum Scrap	0.2%	45,410.45	372,861.28	821.1%
Vehicular Batteries	0.1%	12,374.35	6,600.17	53.3%
Other Non-ferrous Scrap	0.9%	204,347.01	372,861.28	182.5%
Tin & Bi-Metal Cans	0.5%	113,626.12	54,742.15	48.2%
White Goods & Sheet Iron	2.4%	544,925.37	409,522.91	75.2%
Junked Autos	2.0%	463,186.57	277,818.91	60.0%
Heavy Iron	4.5%	1,021,735.07	657,892.47	64.4%
Wood Waste	3.3%	749,272.39	119,228.29	15.9%
Asphalt, Concrete & Masonry	18.8%	4,268,582.09	4,688,683.81	109.8%
Tires (3)	0.2%	55,400.75	40,266.14	72.7%
Other Municipal & Vegetative (4)	8.3%	1,884,533.58	109,711.60	5.8%
Other Bulky & Const/Demo (5)	10.8%	2,452,164.18	1,482,505.37	60.5%
Total (Actual) (6)	100.0%	22,705,223.87	12,401,485.25	54.6%

NOTES:

1. The "Total % of Solid Waste Generated (Estimated)" was updated for this report utilizing 1998 and 1999 percentages from the US Environmental Protection Agency's (EPA) Franklin Associates Report Characterization of Municipal Solid Waste in the United States Update and data from the Institute of Scrap Recycling Industries (ISR) and the Auto and Metal Recyclers Association (AMRA). In some instances these percentages were modified to better reflect New Jersey's waste stream composition.
2. The EPA includes "Other Plastic Packages" and "Foils and Closures" in its report. However, these categories are not reported (NR) on the New Jersey Recycling Tonnage Grant Report. Therefore, the DEP used the 1998 EPA's percentages for these two categories.
3. For this report, only the tonnage reported by municipalities and Class B recycling centers are used. The chart does not include tires that are either in temporary storage at homes and elsewhere, or in larger tire piles in the State. "Total Tons Recycled" also does not reflect those tires transported directly out-of-state to market, in large part.
4. "Other Municipal and Vegetative" contains anti freeze, motor oil, household batteries and textiles.
5. "Other Bulky&Const/Demo" contains stumps, oil contaminated soil, process residue and material not listed.
6. The "Total Tons Generated" column is calculated only to the nearest tenth of a percent. Therefore, adding all numbers in this column will not equal the "Total (Actual)", which equals the sum of tons disposed plus tons reported as recycled. Additionally, "tons generated" for each material is derived from the multiplication of the estimated percentage of each material's shown in column two by the bottom number in that column, which represents the sum of the total tons disposed (an actual, not estimated number) plus total tons recycled (also an actual, not estimated number).

last updated on 02/2008
 created by J Davis

2006 Recycling Material Specific (FOR WEB).xls

2009 Re-Examination Report



SECTION 16 – 2009 – RE-EXAMINATION REPORT

The New Jersey Municipal Land Use Law requires municipalities to periodically reexamine their master plan and development regulations. The Statute requires that this reexamination take place by August 1, 1982, and thereafter at least once every six years from the previous reexamination.

The Planning Board is charged with the responsibility of preparing a report on the findings of the reexamination. N.J.S. 40:55D-89 states that the periodic reexamination must include the following elements:

- a. The major problems and objectives relating to land development in the municipality at the time of the adoption of the last reexamination report.
- b. The extent to which such problems and objectives have been reduced or have increased subsequent to such date.
- c. The extent to which there have been significant changes in the assumptions, policies and objectives forming the basis for the master plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, collection, disposition, and recycling of designated recyclable materials, and changes in State, county and municipal policies and objectives.
- d. The specific changes recommended for the master plan or development regulations, if any, including underlying objectives, policies and standards, or whether a new plan or regulations should be prepared.
- e. The recommendations of the planning board concerning the incorporation of the redevelopment plans adopted pursuant to the "Local Redevelopment and Housing Law" P.L.1992, c.79 (C.40A:12A-1 et seq.) into the land use plan element of the municipal master plan, and recommended changes, if any, in the local development regulations necessary to effectuate the redevelopment plans of the municipality.

The Municipal Land Use Law, under N.J.S. 40:55D-89.1 states:

The absence of the adoption by the planning board of a reexamination report pursuant to section 76 of P.L. 1975, c. 291 (C. 40:55D-89) shall constitute a rebuttable presumption that the municipal development regulations are no longer reasonable.

The adoption of this document by the Garwood Board and subsequent filing with the Union County Planning Board is essential in ensuring that municipal development regulations are reasonable and consonant with the Borough's land use plan. The last land use plan was authored by Francis X. Regan, PP, AICP in 2002.

A. The Major Problems and Objectives To Land Development In The Community At The Time of The Preparation Of The Township's Last Master Plan

The goals and objectives found in the 2002 Garwood land use plan and re-examination report:

1. To maintain the existing residential neighborhoods by protecting them from encroachment of commercial and industrial uses.
2. To encourage the proper use of land to accommodate the changing present and future needs.
3. To provide for the use of the remaining vacant land in the Borough.
4. To ensure the new development on vacant and underutilized land is compatible with the existing neighborhood character.
5. To encourage mixed-use development, where appropriate, such as residential uses within commercial zones.

B. Extent To Which Problems And Objectives Have Been Reduced Or Have Increased Subsequent To The Last Master Plan

5. To encourage mixed-use development, where appropriate, such as residential uses within commercial zones.

Since the last master plan, a mixed use redevelopment project on both sides of Chestnut Street. The project is known as The Point at Garwood. This townhome complex is intermixed with commercial uses on the ground level.

C. The Extent to Which There Have Been Significant Changes In the Assumptions, Policies and Objectives Forming The Basis for Such Plans or Regulations With Particular Emphasis on Specific Planning Issues and Governmental Policy

This 2009 comprehensive Master Plan encompasses many changes in assumptions, policies, and objectives in planning issues of the State of New Jersey. The Goals and Objectives found in this 2009 Master Plan have been updated to meet the current need for the Borough of Garwood.

D. Specific Changes

As this re-examination report is included with the 2009 comprehensive Master Plan, there are no specific changes recommended within this re-examination report.

E. Redevelopment Plans

There are no current redevelopment plans for the Borough of Garwood. This 2009 comprehensive master plan recommends two areas be investigated to evaluate if they meet the requirements for areas in need of redevelopment. These two areas are locally known as the Garwood Paperboard site and the north side of North Street from Anchor Place through the municipal boundary.

The municipal stormwater management plan was previously adopted by the planning board and is included in this master plan unmodified.

B O R O U G H O F G A R W O O D
M U N I C I P A L S T O R M W A T E R
M A N A G E M E N T P L A N

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Introduction

This Municipal Stormwater Management Plan (MSWMP) documents the strategy for the Garwood Borough ("the Borough") to address Stormwater-related impacts. The creation of this plan is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations. This plan contains all of the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major development, defined as projects that disturb one or more acre of land. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides base flow in receiving water bodies. The plan describes long-term operation and maintenance measures for existing and future stormwater facilities.

A "build-out" analysis has been included in this plan based upon existing zoning and land available for development. The plan also addresses the review and update of existing ordinances, the Borough Master Plan, and other planning documents to allow for project designs that include low impact development techniques. The final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards is sought. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

Goals

The goals of this MSWMP are to:

- reduce flood damage, including damage to life and property;
- minimize, to the extent practical, any increase in stormwater runoff from any new development;
- reduce soil erosion from any development or construction project;
- assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- maintain groundwater recharge;
- prevent, to the greatest extent feasible, an increase in non-point pollution;
- maintain the integrity of stream channels for their biological functions, as well as for drainage;
- minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical,

physical, and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, and other uses of water; and

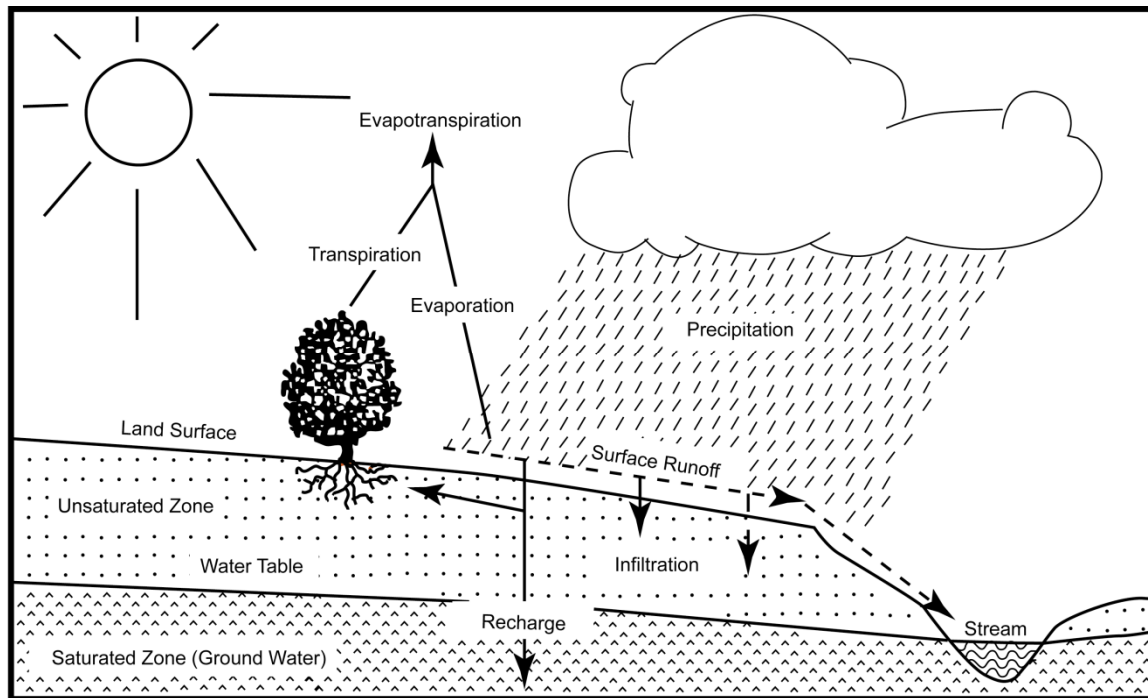
- protect public safety through the proper design and operation of stormwater basins.

To achieve these goals, this plan outlines specific stormwater design and performance standards for new development. Additionally, the plan proposes stormwater management controls to address impacts from existing development. Preventative and corrective maintenance strategies are included in the plan to ensure long-term effectiveness of stormwater management facilities. The plan also outlines safety standards for stormwater infrastructure to be implemented to protect public safety.

Stormwater Discussion

Land development can dramatically alter the hydrologic cycle (See Figure C-1) of a site and, ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration. Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site. Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly than natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel. Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream. Increases in impervious area can also decrease opportunities for infiltration which, in turn, reduces stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can increase channel erosion. Reduced base flows can also negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.

Figure C-1: Groundwater Recharge in the Hydrologic Cycle



Source: New Jersey Geological Survey Report GSR-32.

In addition to increases in runoff peaks, volumes, and loss of groundwater recharge, land development often results in the accumulation of pollutants on the land surface that runoff can mobilize and transport to streams. New impervious surfaces and cleared areas created by development can accumulate a variety of pollutants from the atmosphere, fertilizers, animal wastes, and leakage and wear from vehicles. Pollutants can include metals, suspended solids, hydrocarbons, pathogens, and nutrients.

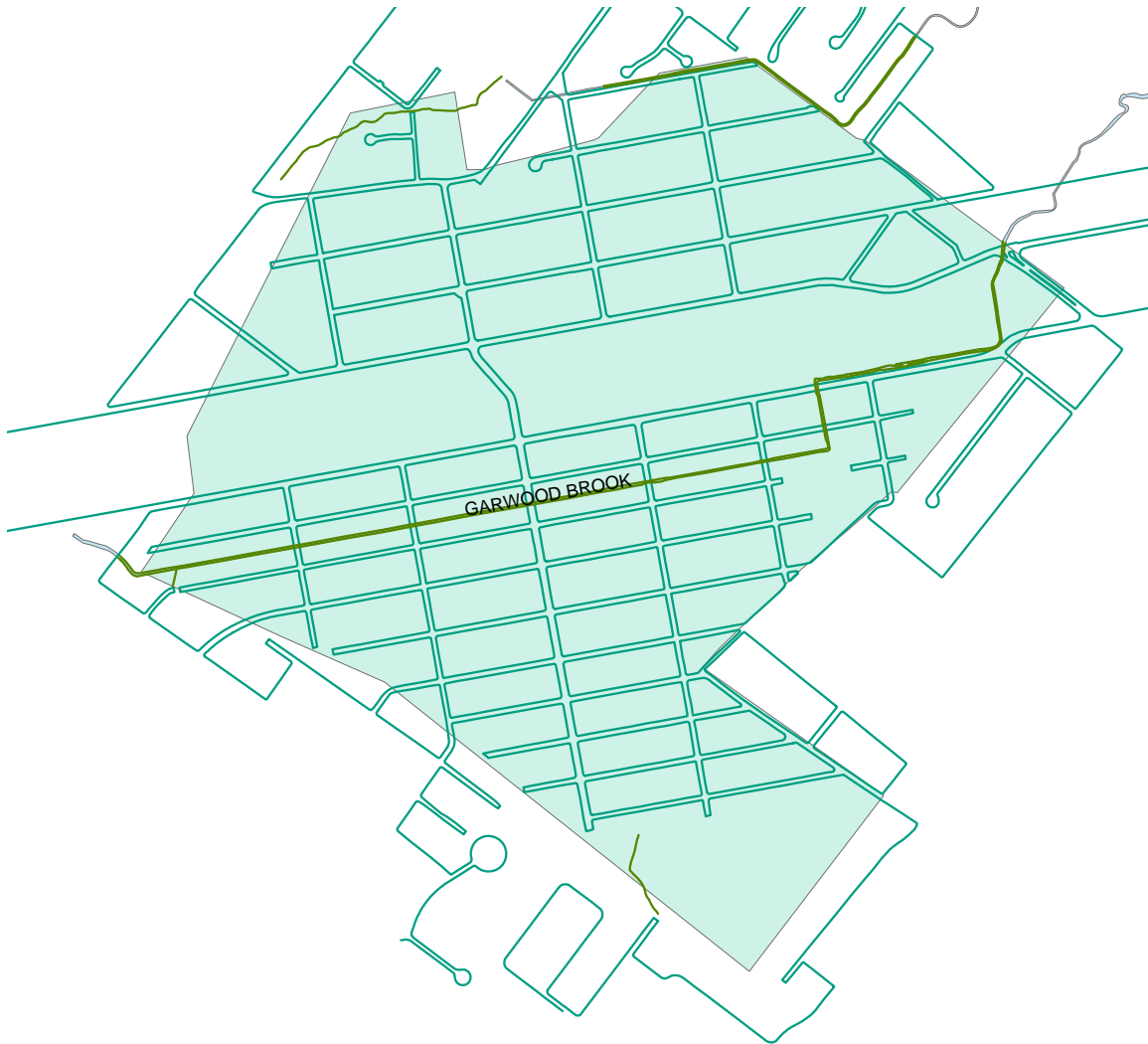
In addition to increased pollutant loading, land development can adversely affect water quality and stream biota in more subtle ways. For example, stormwater falling on impervious surfaces or stored in detention or retention basins can become heated and raise the temperature of the downstream waterway, adversely affecting cold water fish species such as trout. Development can remove trees along stream banks that normally provide shading, stabilization, and leaf litter that falls into streams and becomes food for the aquatic community.

Background

The Borough encompasses 0.65 square mile area in Union County, New Jersey. The Borough has been nearly fully developed for many years with its only growth, in recent years, coming from two or three lot subdivisions. During the period from 1990 to 2000 the Borough's census population dropped from 4,227 to 4,153. The borough has seen some major redevelopment in recent years resulting from the closing of many industrial properties. Some of these have resulted in commercial developments and 2004 saw the approval of a mixed use development of commercial units, 40 apartments and 44 age restricted townhouses. These 84 units will most likely show a growth in the population during the next census. The Borough has the potential to see a few more major developments like this before the current redevelopment cycle ends. Changes in the landscape have not necessarily increased stormwater runoff volumes however pollutant loads to the waterways of the municipality will have increased. . Figure C-2 illustrates the waterways in the Borough. Figure C-3 depicts the Borough boundary on the USGS quadrangle maps.

The New Jersey Department of Environmental Protection (NJDEP) has established an Ambient Biomonitoring Network (AMNET) to document the health of the state's waterways. There are over 800 AMNET sites throughout the state of New Jersey. These sites are sampled for benthic macroinvertebrates by NJDEP on a five-year cycle. Streams are classified as non-impaired, moderately impaired, or severely impaired based on the AMNET data. The data is used to generate a New Jersey Impairment Score (NJIS), which is based on a number of biometrics related to benthic macroinvertebrate community dynamics. There are two tributaries of the Rahway River which are affected by runoff from Borough Streets. The Garwood Brook runs west to east, from the Town of Westfield into the Township of Cranford on the south side of the Borough. Another Branch of the Rahway River Runs along the northerly and easterly lines of the Borough from Westfield to Cranford.

Figure C-2: Borough and Its Waterways



The two tributaries that flow through the Borough to the Rahway River are moderately impaired based on AMNET data. In addition to the AMNET data, the NJDEP and other regulatory agencies collect water quality chemical data on the streams in the state. These data show that the instream total phosphorus concentrations and fecal coliform concentrations of the Raritan River frequently exceed the state's criteria. This means that these rivers are impaired waterways and the NJDEP is required to develop a Total Maximum Daily Load (TMDL) for these pollutants for each waterway.

A TMDL is the amount of a pollutant that can be accepted by a waterbody without causing an exceedance of water quality standards or interfering with the ability to use a waterbody for one or more of its designated uses. The allowable load is allocated to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and non-point source, which includes stormwater runoff from agricultural areas and residential areas, along with a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of ordinances, reforestation of stream corridors, retrofitting stormwater systems, and other BMPs.

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d)) (Integrated List) is required by the federal Clean Water Act to be prepared biennially and is a valuable source of water quality information. This combined report presents the extent to which New Jersey waters are attaining water quality standards, and identifies waters that are impaired. Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which one or more TMDLs are needed.

In addition to water quality problems, the Borough has exhibited water quantity problems including flooding and diminished base flow in its streams. Downstream culverts at North Avenue as well as the Culvert under the old Lehigh Valley Railroad Right-of-way and the culvert just upstream of the Railroad at South Avenue are undersized. During severe storm events, these undersized culverts do not have adequate capacity, thereby causing a backwater effect and flooding upstream. Storms of the magnitude of 50 year

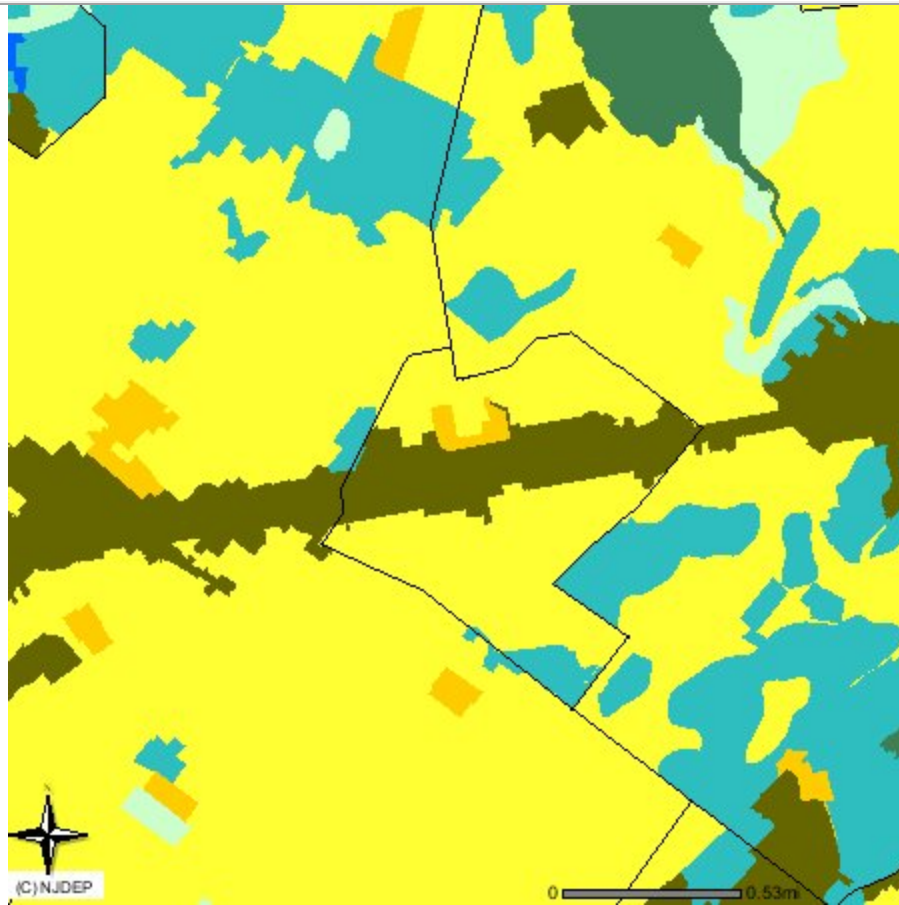
design will cause flooding over South Avenue and Willow Avenue between Oak and New Street.

These culverts were designed for much different hydrologic conditions (i.e., less impervious area) than presently exist in the Borough. As the imperviousness increased in the Borough, the peak and volumes of stream flows also increased. The increased amount of water resulted in stream bank overtopping, which resulted degraded stream habitats. The high imperviousness of the Borough has significantly decreased groundwater recharge, decreasing base flows in streams during dry weather periods. Lower base flows can have a negative impact on instream habitat during the summer months. A map of the groundwater recharge areas are shown in Figure C-4. Wellhead protection areas, also required as part of the MSWMP, are shown in Figure C-4.

Since Garwood is in a Metropolitan Planning Area (PA1), the groundwater recharge requirements of the Stormwater management rules do not apply to projects within urban redevelopment areas. N.J.A.C. 7:8-5.4(a) 2ii defines Urban Redevelopment Areas as previously developed portions of areas delimited on the State Plan Policy Map (SPPM) as Metropolitan Planning Areas (PA1).

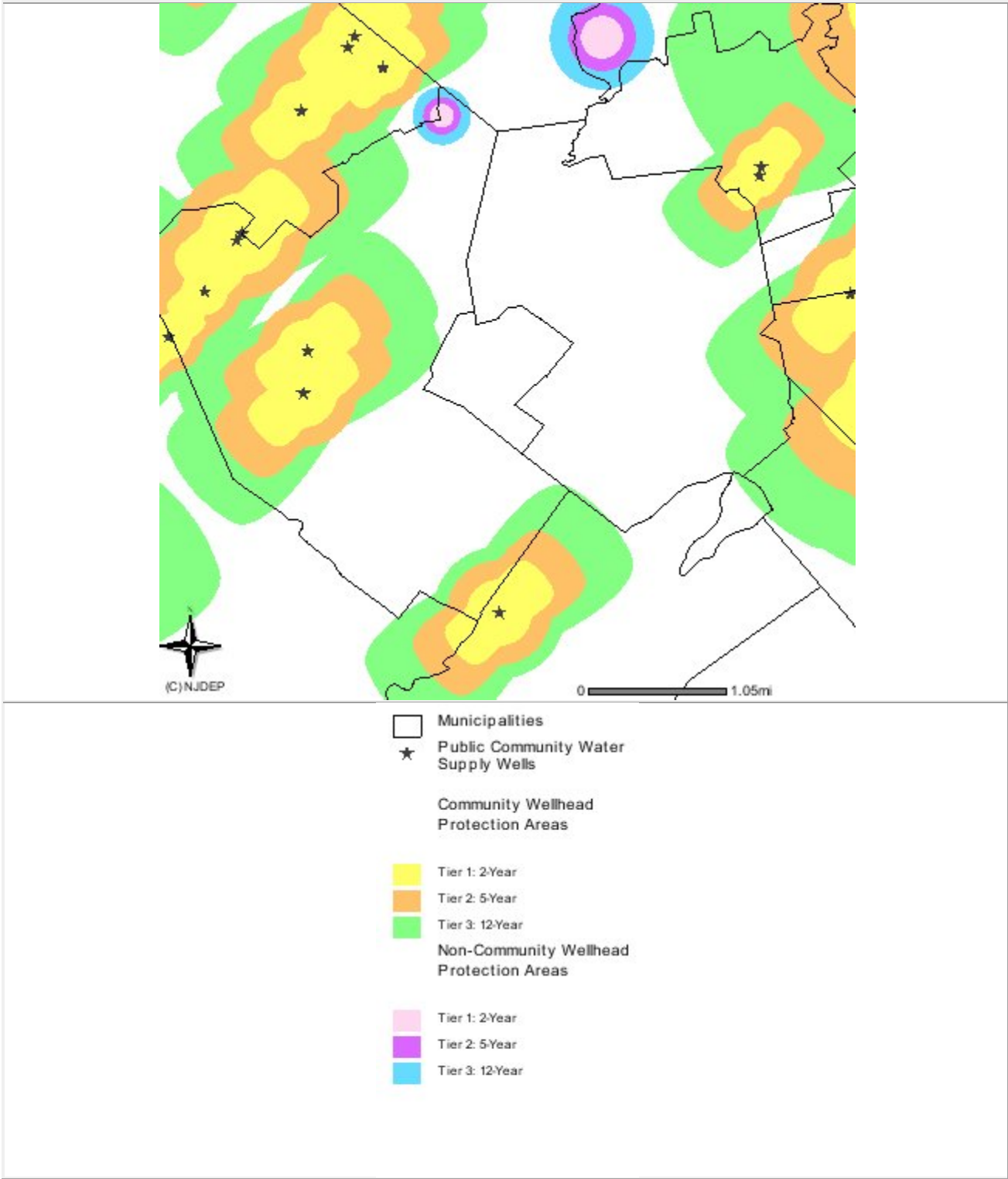
Based upon the above sections of the N.J.A.C. groundwater recharge is required for projects located on sites within PA1, which has not been previously developed (vacant land) and exempts projects located on sites within PA1 that were previously developed (redevelopment projects)

Ground Water Recharge Figure C-4



-  Municipalities
-  Ground-Water Recharge
-  16 to 23 in/yr
-  11 to 15 in/yr
-  8 to 10 in/yr
-  1 to 7 in/yr
-  0 in/yr
-  Hydric Soils
-  Wetlands and Open Water
-  No Recharge Calculated

Figure C-5: Wellhead Protection Areas in the Borough



Design and Performance Standards

The Borough has adopted the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The design and performance standards include the language for maintenance of stormwater management measures consistent with the stormwater management rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and language for safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins. The ordinances will be submitted to the county for review and approval within [24 months of the effective date of the Stormwater Management Rules.]

During construction, Borough inspectors will observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed.

Plan Consistency

The Borough is not within a Regional Stormwater Management Planning Area and no TMDLs have been developed for waters within the Borough; therefore this plan does neither need to be consistent with any regional stormwater management plans (RSWMPs) nor any TMDLs. If any RSWMPs or TMDLs are developed in the future, this Municipal Stormwater Management Plan will be updated to be consistent.

The Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. The municipality will utilize the most current update of the RSIS in the stormwater management review of residential areas. This Municipal Stormwater Management Plan will be updated to be consistent with any future updates to the RSIS.

The Borough's Stormwater Management Ordinance requires all new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. During construction, Borough inspectors will observe on-site soil erosion and sediment control measures and report any inconsistencies to the local Soil Conservation District.

Nonstructural Stormwater Management Strategies

The Borough will review the master plan and ordinances, and will provide a list of the sections in the Borough's land use and zoning ordinances that can be modified to incorporate additional nonstructural Stormwater management strategies. These are the ordinances identified for revision. Once the ordinance texts are completed, they will be submitted to the county review agency for review and approval within [24 months of the effective date of the Stormwater Management Rules]. A copy will be sent to the Department of Environmental Protection at the time of submission.

Chapter 106 of the Borough Code, entitled Land Use, will be reviewed with regard to incorporating nonstructural stormwater management strategies. Changes will be made to Article IX of this Chapter, entitled "Design Standards" to incorporate these strategies.

Section 106-130-D&G: Curbs and Gutters require that concrete curb and gutter, concrete curb, or Belgian block curb be installed along every street within and fronting on a development. This section can be amended to allow for curb cuts or flush curbs with curb stops to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas.

Section 106-130-I: Drainage- Paved Areas requires that all streets be provided with inlets and pipes where the same are necessary for proper drainage. This section can be amended to encourage the used of natural vegetated swales in lieu of inlets and pipes.

Section 106-130-F: Driveways and Access ways: Describes the procedure for construction of any new driveway or access way to any street. This section can be amended to allow the use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge.

Section 106-132: Landscaping requires a minimum of one shade tree per lot to be planted in the front yard. The Borough will consider a Tree Preservation Ordinance to restrict and otherwise controls the removal of mature trees throughout the Borough. Recognizing that the preservation of mature trees and forested areas is a key strategy in the management of environmental resources, particularly watershed management, air quality and ambient heating and cooling. Although it would be desirable to establish a "critical footprint area" that extends 20 feet beyond the driveway and building

footprint where clearing of trees cannot occur this could only be applied to larger tract development since the Borough has been completely developed almost exclusively on 40' x 100' lots . This complies with minimizing land disturbance, which is a nonstructural stormwater management strategy. These critical footprint areas will be investigated and where possible will require the identification of forested areas, and that a percentage of forested areas are protected from disturbance.

Section 106-130 H: "Sidewalks" describe sidewalk requirements for the Township. Although sidewalks are not required along all streets, the Township can require them in areas where the probable volume of pedestrian traffic, the development's location in relation to other populated areas and high vehicular traffic, pedestrian access to bus stops, schools, parks, and other public places, and the general type of improvement intended indicate the advisability of providing a pedestrian-way. Sidewalks are to be a minimum of four feet wide and constructed of concrete. Language can be considered to add to this section to require developers to design sidewalks to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces, or use permeable paving materials where appropriate. Consideration should be given for the State to eliminate the RSIS requirements for sidewalk construction on some of the smaller traffic volume streets.

Section 106-136: Regulatory Standards requires sediment and soil erosion control measures are provided. This ordinance requires developers to comply with the New Jersey Soil Erosion and Sediment Control Standards and outlines some general design principles, including: whenever possible, retain and protect natural vegetation; minimize and retain water runoff to facilitate groundwater recharge; and, install diversions, sediment basins, and similar required structures prior to any on-site grading or disturbance.

Article 10 Stormwater Control in the Borough Code has been updated to include all requirements outlined in N.J.A.C. 7:8-5.

Section 106-126: Streets describes the requirements for streets in the Borough. The Borough has several street classifications, ranging from "Arterial," which has a minimum right-of-way of 80 feet, to "Minor Streets," which has a minimum right-of-way of 50 feet. Street paving widths are a function of the number of units served, whether a street is curbed, whether on-street parking is permitted, whether the interior streets serve lots of

two acres or larger, and whether on-site topographical constraints allow design flexibility. It should be remembered that streets are generally dictated in the RSIS at least for residential developments. Consideration should be given by the State to allow for more flexibility in this area to encourage minimum pavement surface. Depending on these factors, paving width for secondary local streets has a range from 20 to 32 feet. This section could be amended to encourage developers to limit on-street parking to allow for narrower paved widths. This section also required that cul-de-sacs have a minimum radius of 50 feet. Language could be added to this section to reduce the minimum radius of cul-de-sac designs. Cul-de-sacs with landscaped islands have a minimum radius of forty, cul-de-sacs.

THE Borough adopted a new Storm-water Control Ordinance last year basically as recommended in the Model ordinance however since that Ordinance only affects Major development Applications it is recommended that further changes be incorporated to address minor developments which would be defined as "any application where there is an increase in impervious surface" which would require a "zero" increase in the rate of runoff for a 100 year design storm. This will discourage the construction of any unnecessary impervious surfaces. This was the case prior to the adoption of the recent changes in the storm-water ordinance.

The Borough has also made recent changes in the Zoning Ordinance limiting the size of structures and establishing a FAR for all districts.

It is also recommended that the Borough change its definition of "Major development" to include and increase in 10000 s.f. of impervious surface.

Land Use/Build-Out Analysis

Garwood Borough is approximately one square mile and is completely developed as shown on the aerial map C-5. Since it does not have a combined area of one square mile of vacant or agricultural lands, it is exempt for a land use analysis.

Mitigation Plans

This mitigation plan is recommended for a proposed development that is granted a variance or exemption from the stormwater management design and performance standards. Presented is a hierarchy of options.

Mitigation Project Criteria

1. The mitigation project must be implemented in the same drainage area as the proposed development. The project must provide additional groundwater recharge benefits, or protection from stormwater runoff quality and quantity from previously developed property that does not currently meet the design and performance standards outlined in the Municipal Stormwater Management Plan. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

a. The applicant can propose a project that includes one of the following to compensate for the deficit from the performance standards resulting from the proposed project.

Groundwater Recharge

- Suggest a location in the Borough that will provide additional Ground Water Recharge on another site. •

Or

Suggest a location where existing paved parking lot where the pavement could be repaved with a permeable pavement.

Water Quality

- Suggest a location where an existing Stormwater management facility could be retrofitted to removal 80% of total suspended solids.

2. If a suitable site cannot be located in the same drainage area as the proposed development, as discussed in Option 1, the mitigation project may provide mitigation that is not equivalent to the impacts for which the variance or exemption is sought, but that addresses the same issue.

Water Quality

- Re-establish a vegetative buffer (minimum 50 foot wide) along a goose control measure and to filter stormwater runoff from the high goose traffic areas.
- Provide goose management measures, including public education.

A developer may provide funding or partial funding to the municipality for an environmental enhancement project that has been identified in a Municipal Stormwater Management Plan, or towards the development of a Regional Stormwater Management Plan. The funding must be equal to or greater than the cost to implement the mitigation outlined above, including costs associated with purchasing the property or easement for mitigation, and the cost associated with the long-term maintenance requirements of the mitigation measure.