

APPENDIX A

PLAN FOUNDATION ELEMENTS

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The following sections of the SGP consist of an in-depth discussion of population, housing, natural resources, circulation, historic and cultural features, farmland preservation and open space/recreation in Sussex County. These elements are designed to provide a substantive foundation for the policies and programs advocated as the Strategic Growth Plan.

POPULATION ELEMENT

The population and housing characteristics of the County, along with natural resource and economic base data will be reviewed as a prelude to linking them to statewide and other regional initiatives.

Population Trends and Projections for Sussex County

Analysis of the population trends of Sussex County and its municipalities will show where growth has occurred, and also relate Sussex County to its neighboring counties, including those in New York and Pennsylvania. Age, race, income, and other demographic characteristics are described, and population densities show the development patterns that have occurred. Then, using past trends and local planned growth, population projections are provided for Sussex County and its municipalities to the years 2010 and 2020.

Growth Trends: From the early 1800s, the population of Sussex County was fairly stable for a century; there was an increase of only 7,500 from 1830 to 1930, to a population of 27,850 in 1930. Since 1950, the population has increased more rapidly, as shown in Figure 2. The growth rate was highest from 1960 to 1970 at 57.4% and the greatest increase in number occurred from 1970 to 1980 with 38,537 new residents. For each decade since 1980, the population increased about 14,000, to 144,166 in 2000.

According to a national study that compared growth rates among counties, Sussex County is a “Metropolitan Growth County”, one of 124 counties in the U.S. that experienced growth rates of at least 10% each decade since 1950. These growth counties have developed at low densities of single-family homes and consequently have longer commutes, they are a typical “bedroom community”.

Comparison of Counties: The following chart shows the population growth from 1990 - 2000 that occurred in northwestern counties of New Jersey, Monroe and Pike County, PA, and Orange County, NY. All of the counties experienced above-average growth, compared to 7.7% growth rate for New Jersey from 1990 to 2000.

Figure 2

Regional Population Growth for Northwest NJ, NY, and PA Counties

	1990	2000	Growth Rate (%)
NJ Counties:			
Morris	421,353	470,212	11.6
Passaic	453,060	489,049	7.9
Sussex	130,943	144,166	10.1
Warren	91,607	102,437	11.8
Monroe County, PA	95,709	138,687	44.9
Pike County, PA	27,966	46,302	65.2
Orange County, NY	307,647	341,367	11.0

Municipal Population Growth: Changes in population varied widely among the municipalities in Sussex County. Exhibit 2 shows the patterns of population change between 1990 and 2000 in the County, with the greatest gains in northeastern Sussex County. Of the total County increase from 1990 to 2000, 55% is accounted for by three Townships: Vernon, Hardyston, and Sparta.

Since 1990, five municipalities had minimal decreases in population: Andover, Branchville, Ogdensburg, and Sussex Boroughs and Walpack Township. Stanhope and Newton reversed their trends from 1980 to 1990, and gained population from 1990 to 2000. Vernon still has the largest population, followed by Sparta and Hopatcong; each has over 15,000 persons.

The changes in population in any given area are comprised of migration and natural population change. In Sussex County, there is a net natural increase -- there are more births than deaths of County residents each year. Even if no one else moved into the County, the existing population would continue to increase in number. Sussex County also continues to attract new residents, and there are more people moving into the County than moving out of the County. These factors also vary by municipality. Some may have an out-migration of people, or fewer births compared to deaths, resulting in population decreases.

Population Projections: The Census Bureau estimate for Sussex County population in 2002 is 148,680. The following Figure shows population projections for Sussex County to the year 2010 and 2020 developed by the Sussex County Planning Division and the New Jersey Department of Labor. Both projections assume that Sussex County will grow at a faster rate than the State, which has a projected growth rate of 7.7% to the year 2010. Both projections are similar and show an annual projected growth rate of more than one percent.

EXHIBIT 8
POPULATION PATTERNS

Figure 3

Population Projections

AGENCY	Projected Increase 2000 – 2010	2010 Projection	Projected Increase 2010 - 2020	2020 Projection
Sussex County Planning Division	+17,715	161,881	+16,754	178,635
NJ Dept. of Labor	+13,934	158,100	+18,600	176,700

Municipal projections (Figure 7) were prepared for Years 2010 and 2020 by Sussex County Planning Division using building permit data, past population trends, and planned development, based on site plan and subdivision applications. It was also assumed that future growth would increase in centers and approved sewer service areas, and that commuter train service would be restored to the Erie-Lackawanna line in the southern part of the County. By Year 2020, some municipalities (such as Branchville, Newton and Sussex Borough) are approaching their maximum build-out, based on remaining available land.

FIGURE 4: Population, Housing Units and Density: 2000

Geographic area	Population	Housing units	Area in square miles			Density per square mile of land area	
			Total area	Water area	Land area	Population	Housing units
Andover Borough	658	273	1.47	0.01	1.46	451.90	187.50
Andover Twp.	6,033	1,968	20.75	0.57	20.18	298.90	97.50
Branchville	845	377	0.59	0.00	0.59	1,421.60	634.30
Byram	8,254	3,078	22.18	1.11	21.07	391.80	146.10
Crandon Lakes CDP	1,180	492	2.67	0.13	2.53	466.10	194.40
Frankford	5,420	2,295	35.43	1.31	34.11	158.90	67.30
Franklin	5,160	1,997	4.55	0.06	4.49	1,150.20	445.10
Fredon	2,860	1,019	17.94	0.19	17.76	161.10	57.40
Green	3,220	1,069	16.31	0.13	16.18	199.00	66.10
Hamburg	3,105	1,233	1.16	0.01	1.16	2,686.60	1,066.90
Hampton	4,943	2,026	25.31	0.69	24.62	200.70	82.30
Hardyston	6,171	2,690	32.64	0.55	32.09	192.30	83.80
Highland Lake CDP	5,051	2,283	6.07	1.03	5.04	1,001.80	452.80
Hopatcong	15,888	6,190	12.34	1.38	10.96	1,449.70	564.80
Lafayette	2,300	799	18.06	0.03	18.02	127.60	44.30
Lake Mohawk CDP	9,755	3,940	6.15	1.15	5.00	1,951.20	788.10
Montague	3,412	1,588	45.34	1.33	44.01	77.50	36.10
Newton	8,244	3,425	3.10	0.01	3.10	2,661.70	1,105.80
Ogdensburg	2,638	903	2.30	0.02	2.28	1,154.70	395.30
Sandyston	1,825	907	43.31	0.70	42.61	42.80	21.30
Sparta	18,080	6,590	39.22	1.83	37.39	483.50	176.20
Stanhope	3,584	1,419	2.21	0.34	1.87	1,913.60	757.70
Stillwater	4,267	2,030	28.37	1.26	27.12	157.30	74.90
Sussex	2,145	961	0.62	0.02	0.60	3,597.90	1,611.90
Vernon	24,686	9,994	70.54	2.14	68.39	360.90	146.10
Vernon Valley CDP	1,737	560	2.68	0.04	2.64	657.20	211.90
Walpack	41	34	24.72	0.65	24.07	1.70	1.40
Wantage	10,387	3,663	67.54	0.42	67.12	154.80	54.60

Note: CDP is Census Designated Place

Source: U.S. Census 2000

**FIGURE 5
MUNICIPAL POPULATION, 1990 - 2002**

MUNICIPALITY	1990 CENSUS	2000 CENSUS	CHANGE 1990-2000	2002 CENSUS ESTIMATE
ANDOVER BOROUGH	712	658	- 54	660
ANDOVER TOWNSHIP	5,424	6,033	+609	6,317
BRANCHVILLE BOROUGH	851	845	- 6	845
BYRAM TOWNSHIP	8,109	8,321*	+212	8,425
FRANKFORD TOWNSHIP	5,114	5,420	+306	5,549
FRANKLIN BOROUGH	4,977	5,160	+183	5,207
FREDON TOWNSHIP	2,763	2,860	+ 97	2,999
GREEN TOWNSHIP	2,709	3,220	+511	3,385
HAMBURG BOROUGH	2,566	3,105	+539	3,386
HAMPTON TOWNSHIP	4,438	4,943	+505	5,057
HARDYSTON TOWNSHIP	5,275	6,171	+896	7,124
HOPATCONG BOROUGH	15,586	15,888	+302	15,980
LAFAYETTE TOWNSHIP	1,902	2,300	+398	2,378
MONTAGUE TOWNSHIP	2,832	3,412	+580	3,494
NEWTON, TOWN OF	7,521	8,244	+723	8,338
OGDENSBURG BOROUGH	2,722	2,638	- 84	2,641
SANDYSTON TOWNSHIP	1,732	1,825	+ 93	1,856
SPARTA TOWNSHIP	15,098	18,013*	+2,915	18,766
STANHOPE BOROUGH	3,398	3,584	+186	3,626
STILLWATER TOWNSHIP	4,253	4,267	+ 14	4,359
SUSSEX BOROUGH	2,201	2,145	- 56	2,158
VERNON TOWNSHIP	21,211	24,686	+3,475	25,236
WALPACK TOWNSHIP	67	41	- 26	41
WANTAGE TOWNSHIP	9,487	10,387	+ 900	10,853
SUSSEX COUNTY	130,943	144,166	+13,223	148,680

* Revised population, 2000 Census

Compiled by Sussex County Planning Division, Newton, NJ

FIGURE 6
MONEY INCOME BY MUNICIPALITY - 1999

	Median Household Income	Median Family Income	Per Capita Income
Sussex County	\$65,266	\$73,335	\$26,992
Andover Borough	60,000	69,688	25,914
Andover Township	75,748	78,439	29,180
Branchville Borough	45,855	60,909	22,748
Byram Township	81,532	89,500	30,710
Frankford Township	64,444	69,449	25,051
Franklin Borough	44,985	52,682	19,386
Fredon Township	75,710	84,038	31,430
Green Township	84,847	89,788	34,127
Hamburg Borough	58,246	64,773	24,651
Hampton Township	60,698	67,386	25,353
Hardyston Township	65,511	72,199	28,457
Hopatcong Borough	65,799	73,277	26,698
Lafayette Township	82,805	87,650	30,491
Montague Township	45,368	50,833	20,676
Newton, Town of	41,667	56,484	20,577
Ogdensburg Borough	60,313	70,521	24,305
Sandyston Township	55,667	65,774	23,854
Sparta Township	89,835	100,658	36,910
Stanhope Borough	63,059	73,203	27,535
Stillwater Township	63,750	71,563	24,933
Sussex Borough	36,172	45,250	18,866
Vernon Township	67,566	72,609	25,250
Walpack Township	22,250	22,250	17,625
Wantage Township	58,440	65,339	22,488

Source: US Bureau of the Census, 2000 Census of Population & Housing.

**FIGURE 7
MUNICIPAL POPULATION PROJECTIONS
SUSSEX COUNTY, 2000 - 2020**

MUNICIPALITY	2000 CENSUS	PROJECTED POPULATION 2010	PROJECTED CHANGE 2000-2010	PROJECTED POPULATION 2020	PROJECTED CHANGE 2010-2020
ANDOVER BOROUGH	658	910	+252	1,760	+850
ANDOVER TOWNSHIP	6,033	7,217	+1,184	8,200	+983
BRANCHVILLE BORO.	845	900	+ 55	960	+60
BYRAM TOWNSHIP	8,321	8,975	+654	9,600	+625
FRANKFORD TOWNSHIP	5,420	6,000	+580	6,900	+900
FRANKLIN BOROUGH	5,160	5,607	+447	6,400	+793
FREDON TOWNSHIP	2,860	3,149	+289	3,500	+351
GREEN TOWNSHIP	3,220	3,620	+400	4,000	+380
HAMBURG BOROUGH	3,105	3,555	+450	3,850	+295
HAMPTON TOWNSHIP	4,943	5,507	+564	6,000	+493
HARDYSTON TOWNSHIP	6,171	7,900	+1,729	10,100	+2,200
HOPATCONG BOROUGH	15,888	16,355	+467	16,800	+445
LAFAYETTE TOWNSHIP	2,300	2,754	+454	3,200	+446
MONTAGUE TOWNSHIP	3,412	3,992	+580	4,800	+808
NEWTON, TOWN OF	8,244	8,838	+594	9,400	+562
OGDENSBURG BORO.	2,638	2,791	+153	3,000	+209
SANDYSTON TOWNSHIP	1,825	1,956	+131	2,100	+144
SPARTA TOWNSHIP	18,013	20,913	+2,900	23,000	+2,087
STANHOPE BOROUGH	3,584	3,976	+392	4,250	+274
STILLWATER TWP.	4,267	4,309	+42	4,400	+91
SUSSEX BOROUGH	2,145	2,358	+213	2,500	+142
VERNON TOWNSHIP	24,686	28,686	+4,000	31,400	+2,714
WALPACK TOWNSHIP	41	26	-15	15	-11
WANTAGE TOWNSHIP	10,387	11,587	+1,200	12,500	+913
SUSSEX COUNTY	144,166	161,881	+17,715	178,635	+16,754

*Population projections by Sussex County Planning Division, Newton, NJ
Prepared January 2004.*

Demographic Profile of Sussex County

For Sussex County, compared to New Jersey as a whole, there are some interesting differences in population characteristics, as shown in the following comparative Figure:

Figure 8

DEMOGRAPHIC PROFILES AND COMPARISON, 2000 CENSUS

CHARACTERISTICS	SUSSEX COUNTY	NEW JERSEY
Age:		
Median Age (years)	37.1	36.7
Persons under age 18	27.9%	24.8%
Persons over 65	9.1%	13.2%
Race/ Ethnicity:		
White Persons	95.7%	72.6%
Hispanic Ethnicity	3.3%	13.3%
Black	1.0%	13.6%
Asian	1.2%	5.7%
Education:		
High school graduates (% age 25 or older)	89.8%	82.1%
Bachelors degree Or higher	27.2%	29.8%
Income:		
Median household income, 1999	\$65,266	\$55,146
Persons Below Poverty Level, 1999	4.0%	8.5%

Demographic Trends: The demographic changes that occurred in Sussex County from 1990 to 2000 reflect larger trends.

Figure 9

AGE DISTRIBUTION, 1990 and 2000
SUSSEX COUNTY

	1990 Population	2000 Population	% Change 1990 - 2000
Under 5	10,894	9,815	-9.9%
5-14	19,925	23,876	19.8%
15-24	16,542	15,517	-6.2%
25-34	23,503	17,501	-25.0%
35-44	24,385	27,881	14.3%
45-54	15,206	23,384	53.8%
55-64	8,804	13,040	48.1%
65 and over	11,684	13,152	12.6%
Total Pop.	130,943	144,166	10.1%

- ❖ The largest increases in population occurred in the 45-64 age group, as the "Baby Boom" population aged. There was also an increase in the number of children in the 5-14 age group, also called the "Baby Boom Echo".
- ❖ The fewer numbers in the "Baby Bust" generation (born during the 1970s) caused a decrease in the 25-34 population. With fewer people in this child-bearing age group, there was a corresponding decrease in children under age 5.

Population Density: Although the population density has increased to 277 persons per square mile in Year 2000, Sussex County remains a sparsely populated area. Population density in New Jersey is 1,134 persons/square mile, making it the most densely populated state in the U.S. The older areas that were built up 40 - 50 years ago with town centers (such as Sussex, Newton and Hamburg) remain the most densely populated. As explained in the next section, some of the more densely populated areas are classified as "urban" by the U.S. Census Bureau.

Rural and Urban Population: The definitions of rural and urban areas come from the U.S. Census Bureau, and depend upon the population size and density of an area. The County ranks 18th of 21 counties in New Jersey in its percentage of urban population, with 60% of the population defined as living in urban areas. Sussex County contains two types of "urban areas", where population densities range from 500 – 1,000 persons per square mile or higher:

- **Urbanized area:** Contiguous municipalities in the southeastern part of Sussex County, including most of Hopatcong, Stanhope, Byram, Sparta, Andover Township and Newton. In Sussex County, there are 50,208 residents in urbanized areas.
- **Urban Clusters:** Other isolated areas are classified as "urban clusters" due to their density, though they are not part of a larger urbanized area: most of Franklin, Hamburg, Ogdensburg, Vernon, and parts of Sparta and Hardyston. There are 36,830 residents in urban clusters. The rest of the County is considered as "rural". There is a continuum

which runs between urban and rural. Somewhere between these two lies suburban development, characterized by the service inefficiencies of rural development with none of the advantages of urban concentration.

Income and Poverty: Sussex County is one of the wealthier counties in New Jersey. It ranks 4th in median household income; \$65,266 in 1999 compared to the State median income of \$55,146. Eighteen municipalities in Sussex County have median incomes higher than the State median. The municipality with the highest median income is Sparta, \$89,835. Six municipalities are below the State median: Branchville, Franklin, Montague, Newton, Sussex and Walpack.

The overall poverty rate for Sussex County in 1999 was 4.0% of the population, which equaled 5,693 persons. The poverty rate varied among municipalities: below 2% in Byram, Green and Sparta, and over 11% in Sussex Borough, Montague and Newton. The municipalities with the highest numbers of poor people are Newton (882) and Vernon (717).

HOUSING ELEMENT

Sussex County is among the last counties in Northern New Jersey with large stretches of land that are still undeveloped, giving the County its rural character. While the rest of the northern region of the state is becoming largely built out, the County still has capacity for housing growth. With new people arriving to the state looking for housing, and the projections of another million state residents by the year 2020, market forces are bringing development pressure to the County. This, coupled with the specific goal of the County that all residents have safe, decent, and sanitary housing at a price within their means, makes it critical that there be some overarching regional approach to housing in Sussex County.

The 2000 census showed County housing as being in the affordable range for those paying mortgages and rents already. Affordability as defined by the department of Housing and Urban Development is at maximum 28% - 30% of gross income paid toward mortgages or rent. Median housing costs in the 2000 census were below 30% of incomes in the majority of municipalities. However, in the 3 years since the census there has been a large increase in housing prices in the region. This increase occurred in almost all of the County's municipalities. In the eastern municipalities, increases of 50% or more in housing sale prices have been seen, raising the issue of affordability because incomes in the region have not kept pace. In addition to the HUD definition of affordability (based on payment of mortgage and interest), the N.J. Council on Affordable Housing uses not only mortgage/rent but also utilities, taxes, maintenance, etc. These last are much more representative of actual housing expenses. With all actual costs taken into consideration, the "affordability" of housing is a serious problem.

The housing stock of Sussex County can be sorted into two groups. The first is the older housing found mostly in the more built-out municipalities. These tend to be the Boroughs and the Town of Newton. The second group is newer housing development found mostly on the eastern side of the County where the main highway corridors are found and developable greenfields are still available. The municipalities where this has occurred include Hardyston and Sparta Township and to a lesser degree Vernon and Wantage Township.

The County's more recent pattern of development is based on these highway corridors and relative ease of access to employment found outside the County. It should be noted that over 60% of the County workforce travel outside the County to their place of employment. It should also be noted that there is increasing through traffic coming from the more affordable Pennsylvania counties to the north and west.

In 1954, the County reached its turning point from having more cows than people to the current situation where the farmer is becoming displaced by bedroom community subdivisions. We are at another crucial turning point where the County's population could not afford to live here if they were to buy a house on the market today. The young adult population is being squeezed by housing prices and is looking to more affordable places to live. This phenomenon is already occurring in other parts of the region and a "Brain Drain" is being noted. If the region's economic vitality is to continue more affordable housing alternatives must be explored.

The housing plan for Sussex County was prepared to provide an overall picture of housing in the region and to support municipal policies adopted a part of local housing plans as well as act as liaison for funding through grants at the state and federal levels. This plan specifically references data and policy in the following:

- Fair Housing Plan (Council On Affordable Housing - COAH)
- Municipal Fair Share Plan Housing Elements
- Housing Element and Allocation Plan (County Master Plan 1977)
- Intermediary role between federal, state, and municipal governments

Housing Inventory

The total number of housing units increased in Sussex County by 4,954 during the 1990’s. This was an increase of 9.6% to a total of 56,528 units in 2000 as noted in Figure 1. During the same period the state experienced a 7.6 percent increase in housing units. Housing gains in the County outpaced the state by 2% during the same period. The housing gains were unevenly spread through the County during the 1990’s. The bulk of units were built in the eastern half of the County where there is better access to the major highways for commuters going toward Morristown and other employment centers. As Figure 2 shows the largest gains were seen in Vernon Township where 1424 units were built. Sparta Township had 898, Wantage Township had 456 units and Hardyston Township had 446 units added. Together these 4 municipalities provided over 60% of the total County growth in housing over the last decade with a total of 3,224.

Figure 10

Comparison of County Housing Growth to State 1990 -2000			
Geographic Area	Built 1990 or Earlier	Existing Housing 2000	Percent Change in Housing Units
Sussex County	51,574	56,528	9.6
State of New Jersey	3,075,310	3,310,275	7.6

Source: U.S. Bureau of the Census 1990 & 2000 and Sussex County Planning Division

As Figure 11 shows, most of the boroughs had little to no growth in housing units over the last decade. This is not surprising due to the limited available parcels. Hamburg, Stanhope and Franklin Boroughs were the highest of the boroughs with 126, 51, and 27 new units respectively. They outpaced Sandyston Township which had only produced 25 new units. The Town of Newton outpaced many of the townships with 310 new units while Walpack lost 17 units.

Residential Units Authorized by Building Permit

The rate of housing units authorized by Building permit in Sussex County varied over the decades from 1980 to present as Figure 12 shows. The 1980's averaged about 900 units per year while the 1990's averaged 450. The 2000's are averaging about 700 units per year. Housing growth was primarily concentrated in the areas of the County where there was easy access to highways. The new building permits follow the economic trends of the state over the last 24 years. The recession in the early 1980's is reflected in the lower number of permits issued the low point being 1981. The same trend is seen in the early 1990's where the low point is 1991. The 2000's are showing a trend where building permits are declining from its high in 2001 at 808 but still at higher levels than any of the years during the 1990's.

Housing Characteristics

As of the 2000 Census the County had 50,831 occupied units. This includes all types of housing i.e. apartments and single family detached dwellings. Figure 4 shows the owner occupied units to be 82.7 % and occupied rental units at 17.3% of the total. Meanwhile, 5697 are vacant units of which 62.8 % are seasonal recreational or occasional use. This is a significant percentage of the vacant housing when compared to the state which as a whole has 44.4% of its vacant housing in this use category.

The "for rent" category under vacant housing units in Sussex County is 8.1 % compared to the state which is 20.3%. This suggests a fairly competitive market in which there is a limited supply of rental units.

Figure 11

Total Change in Housing Units Inventory 1990 - 2000 in Sussex County			
Municipalities			
Geographic Area	Existing 1990	Existing March 2000	Net Housing Units Increase 1990-2000
Andover Borough	274	273	-1
Andover Township	1,811	1,968	157
Branchville Borough	370	377	7
Byram Township	2,973	3,078	105
Frankford Township	2,204	2,295	91
Franklin Borough	1,970	1,997	27
Fredon Township	957	1,019	62
Green Township	905	1,069	164
Hamburg Borough	1,107	1,233	126
Hampton Township	1,922	2,026	104
Hardyston Township	2,244	2,690	446
Hopatcong Borough	6,171	6,190	19
Lafayette Township	670	799	129
Montague Township	1,449	1,588	139
Newton Town	3,115	3,425	310
Ogdensburg Borough	895	903	8
Sandyston Township	882	907	25
Sparta Township	5,692	6,590	898
Stanhope Borough	1,368	1,419	51
Stillwater Township	1,805	2,030	225
Sussex Borough	962	961	-1
Vernon Township	8,570	9,994	1,424

Walpack Township	51	34	-17
Wantage Township	3,207	3,663	456
Sussex County	51,574	56,528	4,954
State of New Jersey	3,075,310	3,310,275	234,965

Source: U.S. Bureau of the Census 1990 & 2000 and Sussex County Planning Division

Figure 12

Building Permits in Sussex County 1980 - 2003			
YEAR	TOTAL BUILDING PERMITS	TOTAL BUILDING PERMITS PER DECADE	AVG. BUILDING PERMITS PER YEAR by DECADE
1980	369		
1981	273		
1982	397		
1983	649		
1984	914		
1985	1,263		
1986	1,691		
1987	1,576		
1988	1,381		
1989	542	1980-1989 = 9,055	1980-1989 = 905.5
1990	337		
1991	282		
1992	447		
1993	356		
1994	469		
1995	382		
1996	515		
1997	473		
1998	552		
1999	687	1990-1999 = 4,500	1990-1999 = 450
2000	719		

2001	808		
2002	679		
2003	587	2000-2003 = 2793	2000-2003 = 698
TOTAL	16,348		
<small>SOURCES: NEW JERSEY DEPARTMENT OF LABOR, DIVISION OF PLANNING AND RESEARCH "RESIDENTIAL BUILDING PERMITS: YEARLY SUMMARIES 1980-2003: AND MONTHLY SUMMARIES - 2003.</small>			

Figure 13

Housing Unit by Tenure,				
2000				
TENURE	Sussex County		New Jersey	
	Number	%	Number	%
Occupied housing units	50,831	100.0	2,794,711	100.0
Owner-occupied housing units	42,039	82.7	1,813,381	64.9
Renter-occupied housing units	8,792	17.3	981,330	35.1
Vacant housing units	5,697	100.0	245630	100.0
For rent	463	8.1	49,858	20.3
For sale only	646	11.3	24,546	10
Rented or sold, not occupied	309	5.4	15,206	6.2
For seasonal, recreational, or occasional use	3,575	62.8	109,075	44.4
For migratory workers	2	0.0	246	0.1
Other vacant	702	12.3	46,699	19
<i>Source: U.S. Bureau of the Census 2000</i>				

Housing Stock

The housing stock in the County is varied in its age. Each municipality had differing housing booms over the past 6 decades. Figure 5 shows that 12 % of the County housing stock that was Owner-occupied housing was built before 1939, 6.3 % was built during the 1940's, 13.5% in the 1950's, 16.9 % in the 1960's, and the 1970's saw 20.8 % built. The 1970's were the peak years of construction. This was followed by the 1980's which were the next highest at 18 % and the 1990's saw 12.4 %. In just the 1980's and 1990's the County's housing stock was increased by 30.4 %. If you add the 1970's, over 51.2 % of the total housing units were built in the last 3 decades.

Most of the townships roughly match this pattern. While Sussex County as a whole had over half of its housing built since the 1970's, many of the municipalities, particularly the boroughs, and Walpack and Stillwater Townships, did not share this same growth pattern. The only exception among the boroughs was Hamburg which saw about 60 % of its housing built in the last 3 decades.

An alternative analysis used to see the general age of housing by municipality was counting up from the oldest housing to the newer. Then determining the decade when 50 % of the total housing is reached was identified. The majority of the municipalities reach this point in the late 1960's through the 1970's. The notable exceptions are Andover Borough where 52 % of the housing was built before 1939, Branchville Borough where 52.4 % are from before 1939 and Walpack Township, where 100 percent were built before 1939. Sussex Borough has 49.9 % from before 1939. Franklin Borough and the Town of Newton reach this point with its housing stock in the 1950's.

Figure 14

Tenure by Year Structure Built, Owner- Occupied Housing in Sussex County as a Percent of Total									
Geographic Area	Built 1999 to March	Built 1995 to 1998	Built 1990 to 1994	Built 1980 to 1989	Built 1970 to 1979	Built 1960 to 1969	Built 1950 to 1959	Built 1940 to 1949	Built 1939 or earlier
Andover Borough	0	6.7	0	0	5.3	14.7	16	5.3	52
Andover Township	2.2	4.6	6.2	19.1	16.9	14.3	19.9	11.2	5.7
Branchville Borough	0	0	0	8.6	2.6	7.7	16.3	12.4	52.4
Byram Township	1.4	4.2	4.8	15.9	23.1	24	12.8	5.1	8.7
Frankford Township	1.9	5.5	4.9	23.9	24.4	11.1	7.4	7.6	13.4
Franklin Borough	0.9	0.9	4.2	16.9	9.5	11.1	7.6	12.4	36.6
Fredon Township	2	6.1	5.2	24.4	24.9	16.6	9.1	3.1	8.7
Green Township	7.9	7.7	6.8	16.7	29.7	9.7	10.2	1.4	9.8

Hamburg Borough	3.6	7.7	13.5	28	7.3	13	6.5	5.5	15
Hampton Township	1.4	5.1	5.7	33.1	14.4	19.9	10.5	3.1	6.8
Hardyston Township	4.9	10.1	7.9	18.1	12	14.7	17.4	8.7	6.3
Hopatcong Borough	0	0.7	3.1	6.2	24.6	22.2	26.5	9.6	7.2
Lafayette Township	5.3	15.6	5.2	24.2	18.6	12	4.3	1.3	13.5
Montague Township	1.7	7	8.9	28.8	17.5	12.6	9.3	3.5	10.8
Newton Town	0.9	4	5.7	8.6	10	9	13.5	6.5	41.7
Ogdensburg Borough	0.4	0.5	2.4	5	24.5	26.1	10	9.2	21.9
Sandyston Township	0.3	4.2	3.1	16.9	16.1	11.1	17.1	10.7	20.5
Sparta Township	1.7	7.6	7.7	16.7	16.6	15.3	14.4	9	11
Stanhope Borough	1.6	4.6	2.1	9	28.3	23	10.9	1.7	18.8
Stillwater Township	0.9	2	2.2	18.4	14.2	20.6	21.1	6	14.5
Sussex Borough	1.7	0.9	1.7	4.4	5.5	11.7	19.5	4.7	49.9
Vernon Township	1.3	3.3	7.4	22	30.5	20.2	8	3.3	3.9
Walpack Township	0	0	0	0	0	0	0	0	100
Wantage Township	2.2	4.4	9.6	25.8	23.3	11.4	10.7	2.4	10.3
Sussex County	1.7	4.6	6.1	18	20.8	16.9	13.5	6.3	12
New Jersey	1.4	5	5.7	13.5	13	15.2	18	9.1	19.2
<i>Source: U.S. Bureau of the Census 2000</i>									

Indicators of Housing Conditions

The basic measures of housing conditions are made using the following criteria: Year Structure Built, Persons per Room, Plumbing and Kitchen Facilities. The County generally fares better than the state as a whole with most of these criteria. The only exception is shown in Figure 8 where the Owner-occupied lacking complete kitchen facilities matched the state at 0.2 percent.

COAH uses the Year Structure Built Census data as a criterion of housing condition. Research shows that units built 1939 or earlier are more likely to be in a substandard condition. Figure 5 shows that at the County level we have 12 % of the total owner occupied housing stock built before 1939 which is lower as a percentage than the state which is 19.2% for owner occupied units. However, many of the municipalities have a much older housing stock on average; these tend to be the boroughs and the Town of Newton.

Andover Borough, Branchville Borough, Franklin Borough, Ogdensburg Borough, Sussex Borough, Newton and Sandyston Township all exceeded the State percentage of units built 1939 or earlier. Andover Borough had the most with 52 % and Sussex Borough had 49.9 %. Figure 6 shows that 25.7 % of the renter-occupied housing are units built 1939 or earlier. This amounted to 2,265 units built 1939 or earlier of renter-occupied housing of the 7,723 total or 29.3%. This is not surprising considering that generally owner-occupants desire newer homes and that zoning in many municipalities either do not have apartments zoned or have built out that zone long ago making apartments scarce. As mentioned previously, the vacant rental percentage is low relative to the rest of the state.

Housing Turnover

As Figure 15 shows, the median year that owner-occupied householder moved into their unit was 1990. That means that half the owner-occupied householders moved into their unit from the year 1990 to the year 2000. This amounts to over 20,000 units turned over during the 1990's. Broken down by decade; just over 10,000 have been in the same unit since the 1980's, 6,000 since the 1970's and almost 4,000 have resided in there homes since the 1960's.

Not surprising was the turnover found among the renter-occupied housing units. Over 80% moved in during the 1990's. While they can be viewed as a transient population, it should be noted that they could have moved within the County during the decade.

Figure 15

Tenure by Year Structure Built in Sussex County		
	Number of Units	Percentage of Units
Owner-occupied housing units	42,019	100.0
Built 1999 to March 2000	718	1.7
Built 1995 to 1998	1,944	4.6
Built 1990 to 1994	2,552	6.1
Built 1980 to 1989	7,556	18.0
Built 1970 to 1979	8,757	20.8
Built 1960 to 1969	7,121	16.9
Built 1950 to 1959	5,679	13.5
Built 1940 to 1949	2,634	6.3
Built 1939 or earlier	5,058	12.0
Median	1971	(X)
Renter-occupied housing units	8,812	100.0
Built 1999 to March 2000	6	0.1
Built 1995 to 1998	142	1.6
Built 1990 to 1994	391	4.4
Built 1980 to 1989	1,337	15.2
Built 1970 to 1979	1,770	20.1
Built 1960 to 1969	1,220	13.8
Built 1950 to 1959	1,097	12.4
Built 1940 to 1949	584	6.6
Built 1939 or earlier	2,265	25.7
Median	1964	(X)
(X) Not applicable		
Source: U.S. Census Bureau, Census 2000 Summary File 3, Matrices H36,		

Figure 16

Tenure by Year Householder Moved into Unit in Sussex County		
	Number	%
Owner-occupied housing units	42,019	100.0
Moved in 1999 to March 2000	4,230	10.1
Moved in 1995 to 1998	9,500	22.6
Moved in 1990 to 1994	7,618	18.1
Moved in 1980 to 1989	10,686	25.4
Moved in 1970 to 1979	6,130	14.6
Moved in 1969 or earlier	3,855	9.2
Median	1990	(X)
Renter-occupied housing units	8,812	100.0
Moved in 1999 to March 2000	2,592	29.4
Moved in 1995 to 1998	3,649	41.4
Moved in 1990 to 1994	1,177	13.4
Moved in 1980 to 1989	767	8.7
Moved in 1970 to 1979	372	4.2
Moved in 1969 or earlier	255	2.9
Median	1997	(X)
(X) Not applicable.		
Source: U.S. Census Bureau, Census 2000 Summary File 3, Matrices H36, H37, H38, and H39.		

Lacking Plumbing and Kitchen Facilities

In 2000, the percentage of housing units lacking complete plumbing, telephone, and kitchen facilities was very low. When compared to the state as a whole, as shown in Figure 17, the County matched or had fewer of the lacking characteristics for both renter occupied and owner occupied housing units, indicating that housing conditions in the County are generally better than the state average for both owner occupant and renter occupied units.

Figure 17

Indicators of Housing Condition				
TENURE BY TELEPHONE SERVICE AVAILABLE	New Jersey		Sussex County	
	number	percent	number	percent
Owner-occupied housing units	2,011,298	100	42,019	100.0
With telephone service	2,003,488	99.6	41,910	99.7
No telephone service	7,810	0.4	109	0.3
Renter-occupied housing units	1,053,347	100	8,812	100.0
With telephone service	1,004,955	95.4	8,600	97.6
No telephone service	48,392	4.6	212	2.4
TENURE BY PLUMBING FACILITIES				
Owner-occupied housing units	2,011,298	100	42,019	100.0
With complete plumbing facilities	2,005,951	99.7	41,954	99.8
Lacking complete plumbing facilities	5,347	0.3	65	0.2
Renter-occupied housing units	1,053,347	100	8,812	100.0
With complete plumbing facilities	1,042,164	98.9	8,769	99.5
Lacking complete plumbing facilities	11,183	1.1	43	0.5
TENURE BY KITCHEN FACILITIES				
Owner-occupied housing units	2,011,298	100	42,019	100.0
With complete kitchen facilities	2,007,746	99.8	41,943	99.8
Lacking complete kitchen facilities	3,552	0.2	76	0.2
Renter-occupied housing units	1,053,347	100	8,812	100.0
With complete kitchen facilities	1,039,368	98.7	8,739	99.2
Lacking complete kitchen facilities	13,979	1.3	73	0.8

Source: U.S. Bureau of the Census 2000

Overcrowding

Overcrowding is generally understood to exist where 1.01 or more people are found per room. Historically, the number has been higher and the trend has been toward a decrease in occupants per room. The notable aspect of overcrowding in Sussex County is that it is higher in the rental units with about 2.5% of renter-occupied units versus 0.7 % in owner-occupied units. This comes to 314 owner-occupied and 224 renter-occupied units. Sussex has very little overcrowding when compared to the rest of the State as a whole where 11 % of the renter-occupied units and 1.8 % of the owner-occupied units can be considered overcrowded as shown in Figure 18.

Household Size

Household characteristics in Sussex County correlate with the demographics of the County where there is in general a younger population in the County relative to the rest of the state (See Demographic Profiles and Comparison). It would follow that couples with children would be found in larger numbers making the average household size higher. In Figure 19 the average household size in Sussex County is at 2.8 while the State average is 2.68. The only one of the other 20 counties to exceed us was Passaic County with 2.92. The County also had fewer one-person households than did the other 20 counties with 18.9 %. Hunterdon County was similarly low in one-person households with 20 %, while the entire state averaged 24.5 %. Cape May had the most with 1 person households with 30.2 %. Sussex County also had the fewest 65 and older householders with 15.2 %, while the State average was 22.4 %. The highest of the 65 and older counties was Cape May County with 31.6 % and the nearest to Sussex was Hunterdon County with 16.6 %. Sussex County had the second highest owner occupancy at 82.7%, only Hunterdon County exceeds the County by 0.9 % where the State rate is 65.6 %.

Figure 18

Tenure by Occupants Per Room				
	New Jersey		Sussex County	
Owner-occupied housing units	2,011,298	100	42,019	100
0.50 or less occupants per room	1,513,384	75.2	30,756	73.2
0.51 to 1.00 occupants per room	460,918	22.9	10,949	26.10
1.01 to 1.50 occupants per room	26,455	1.3	272	0.6
1.51 or more occupants per room	10,541	0.5	42	0.1
Mean	0.42	(X)	0.43	(X)
Renter-occupied housing units	1,053,347	100	8,812	100
0.50 or less occupants per room	549,619	52.2	5,484	62.2
0.51 to 1.00 occupants per room	387,541	36.8	3,104	35.2
1.01 to 1.50 occupants per room	61,955	5.9	133	1.5
1.51 or more occupants per room	54,232	5.1	91	1.0
Mean	0.6	(X)	0.48	(X)
<i>Source: U.S. Bureau of the Census 2000</i>				

Figure 19

Comparison of Occupied Housing Characteristics with Nearby Counties								
Geographic area	Total Population	Total Housing Units	Owner Occupied Units	Renter-Occupied Units	Average Household Size	Percent Owner Occupied	Percent 1 Person Households	Percent Households 65 years and over
New Jersey	8,414,350	3,064,645	2,011,473	1,053,172	2.68	65.6	24.5	22.4
Hunterdon County	121,989	43,678	36,533	7,145	2.69	83.6	20	16.6
Morris County	470,212	169,711	129,039	40,672	2.72	76	21.5	18.7
Passaic County	489,049	163,856	91,169	72,687	2.92	55.6	22.2	21.7
Somerset County	297,490	108,984	84,167	24,817	2.69	77.2	22.8	17.5
Sussex County	144,166	50,831	42,039	8,792	2.8	82.7	18.9	15.2
Warren County	102,437	38,660	28,109	10,551	2.61	72.7	24	21.6

Source: U.S. Census Bureau, Census 2000 Summary File 1, Matrices P1, H4, H12, H13, and H16.

Housing Supply and Affordability

According to the 2000 Census the median house value in the County was \$157,000 as shown in Figure 11 while median household income was \$65,266. The general rule of thumb for affordability has been that a house’s price is affordable if it is less than 3 times the household’s gross income. The U.S. Department of Housing and Urban Development (HUD) affordability criteria is a maximum of 28 % of gross household income should be used toward housing.

Median Value of house (For Sussex County)	\$157,000
Down Payment (10%)	15,700
Mortgage Costs	141,300
Principal and Interest @ 6 % 30 year fixed	847.16/month
Property tax plus insurance	<u>500.00/month</u>
Total Monthly Payment *	\$1,347.16 / month

The calculations above assume a 6% interest rate which at the time of this publication was about market rate. If we multiply the total monthly payment by 12 months we get \$16,165.92 total outlay per year necessary for the median house not including utility costs. If we divide that by 28% we get our income at which a household must make to afford a median house which is \$57,735 which is under the County household median. Not factored in was the

premium mortgage insurance that could add on another \$30-\$70 and utilities (heat, electricity, telephone) which would add approximately \$200 per month.

Figure 20

Owner Occupied Housing Units 2000 in Sussex County and New Jersey by Value				
Specified owner-occupied housing units VALUE	Sussex County		New Jersey	
	Number	Percent	Number	Percent
Less than \$100,000	3,266	8	259,412	15
\$100,000 to \$124,999	5,897	15.6	187,805	11.0
\$125,000 to \$149,999	7,609	20.1	227,385	13.4
\$150,000 to \$174,999	6,948	18.4	212,303	12.5
\$175,000 to \$199,999	3,956	10.5	167,587	9.8
\$200,000 to \$249,999	4,627	12.2	213,034	12.5
\$250,000 to \$299,999	2,295	6.1	141,325	8.3
\$300,000 to \$399,999	1,941	5.1	145,549	8.6
\$400,000 to \$499,999	759	2.0	67,550	4.0
\$500,000 to \$749,999	403	1.1	52,342	3.1
\$750,000 to \$999,999	69	0.2	15,571	0.9
\$1,000,000 or more	42	0.1	11,869	0.7
Total	37,812	100.0	1,701,732	100.0
Median Value (dollars)	157,700		170,800	

Source: U.S. Bureau of the Census 2000

Housing Costs as a Percentage of Income – Owner Occupied Units

In the 2000 census, median housing costs for homeowners were below 28% of gross income paid toward mortgages or rent. This is where affordability is defined by the department of Housing and Urban Development. Median housing costs in the 2000 census were below 30% of incomes in the majority of municipalities. Only Montague had median rents that were in excess of the affordable level at 36 %.

The County has a higher rate of households with mortgages than the rest of the State at 80.4% versus 71.5 for the State percentage. Again this follows the demographics of the County where the homeowners would tend to be younger. It is notable that 32.2% of County household have mortgages which exceed 30% of their incomes. This is comparable to the rest of the State which has 31.6% exceeding the thirty percent standard.

Also of interest is where the homeowner has no mortgage. In this group, 20.4% exceed the 30% threshold for monthly owner costs. This amounts to 1,518 units or just over 20% of those without a mortgage. The logical explanation seems to be that the local property taxes are eating a huge portion of people's income. They are probably seniors on a fixed income. And they are probably widows on a survivor benefit from social security.

Figure 21

MORTGAGE STATUS AND SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1999				
	New Jersey		Sussex County	
	Number	Percent	Number	Percent
With a mortgage	1,215,974	71.5	30,396	80.4
Less than 20 percent	444,447	36.6	10,211	33.6
20 to 24 percent	218,200	17.9	5,931	19.5
25 to 29 percent	165,576	13.6	4,342	14.3
30 to 34 percent	109,222	9	2,993	9.8
35 percent or more	274,334	22.6	6,822	22.4
Not computed	4,195	0.3	97	0.3
Median	23.7	(X)	24.2	(X)
Without a mortgage	485,758	28.5	7,416	19.6
Less than 20 percent	305,706	62.9	4,681	63.1
20 to 24 percent	46,544	9.6	665	9.0
25 to 29 percent	31,150	6.4	485	6.5
30 to 34 percent	21,640	4.5	336	4.5
35 percent or more	75,168	15.5	1,182	15.9
Not computed	5,550	1.1	67	0.9
Median	15.3	(X)	14.6	NA
<i>Source: U.S. Bureau of the Census 2000</i>				

Figure 22

GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1999				
	New Jersey		Sussex County	
	Number	Percent	Number	Percent
Less than 15 percent	193,841	18.5	1,248	14.5
15 to 19 percent	153,607	14.6	1,350	15.6
20 to 24 percent	135,777	12.9	1,267	14.7
25 to 29 percent	112,519	10.7	1,059	12.3
30 to 34 percent	79,665	7.6	599	6.9
35 percent or more	314,146	29.9	2,485	28.8
Not computed	59,572	5.7	619	7.2

Source: U.S. Bureau of the Census 2000

Housing Value – Owner Occupied Housing Units

The median housing value in the County was \$157,700 which was below that of the State median of \$170,800. However, many of the townships exceeded the State in median values. They were Byram, Frankford, Fredon, Green, Lafayette and Sparta (as shown in Figure 23). It should be noted that these are the locations in the County which have better access to highways for commuters.

Figure 23

Median Housing Value and Median Cost as a Percentage of Income - Owner Occupied Housing Units by State, County, and Municipality		
Geographic Area	Home Value (Median \$)	Median Cost as a % of Income (W/
New Jersey	170,800.00	
Sussex County	157,700.00	24.20
Andover Borough	154,800.00	19.40
Andover	164,400.00	22.90
Branchville	149,600.00	21.30
Byram Township	175,300.00	23.50
Frankford	179,100.00	24.50
Franklin	123,000.00	26.70
Fredon Township	199,700.00	23.90
Green Township	182,500.00	23.70
Hamburg Borough	124,500.00	23.80
Hampton	149,500.00	24.10
Hardyston	152,300.00	23.60
Hopatcong	141,300.00	23.90
Lafayette	221,100.00	23.00
Montague	129,400.00	25.40
Newton Town	136,100.00	25.10
Ogdensburg	141,600.00	25.30
Sandyston	144,800.00	24.30
Sparta Township	222,700.00	24.70
Stanhope	151,100.00	25.10
Stillwater	152,400.00	23.70
Sussex Borough	122,500.00	26.90
Vernon Township	150,800.00	24.10
Walpack	n/a	0.00
Wantage	154,200.00	24.60

Percentage of Income – Contract Rents

Median rent for the County in the 2000 Census was \$751. Using this and the 30% which HUD sets as a maximum amount of household income to be used toward rental shelter the median rental opportunity in the County would be available to households with an income of \$30,000. Gross rents as a percentage of income in the County are shown in Figure 24. While the State as a whole had 37.5 % of renters exceeding the affordability threshold of 30%, Sussex County was not that dissimilar with 35.7 %.

Figure 24

Housing Costs as a Percentage of Income - Contract Rents		
Geographic Area	Gross Rent (Median \$)	Median Cost as a % of Income (W/ Cash Rent)
New Jersey	751.00	23.70
Sussex County	790.00	25.70
Andover Borough	804.00	20.80
Andover Township	1,033.00	24.20
Branchville Borough	671.00	29.60
Byram Township	953.00	26.40
Frankford Township	675.00	29.10
Franklin Borough	771.00	26.30
Fredon Township	708.00	23.80
Green Township	968.00	23.50
Hamburg Borough	864.00	24.40
Hampton Township	953.00	24.50
Hardyston Township	740.00	24.90
Hopatcong Borough	915.00	25.00
Lafayette Township	815.00	18.90
Montague Township	806.00	36.90
Newton Town	697.00	28.50
Ogdensburg Borough	775.00	26.10
Sandyston Township	860.00	25.80
Sparta Township	777.00	25.00
Stanhope Borough	965.00	20.20
Stillwater Township	760.00	21.40
Sussex Borough	667.00	29.10
Vernon Township	930.00	23.60
Walpack Township	400.00	27.50
Wantage Township	768.00	27.70
<i>Source: U.S. Bureau of the Census 2000</i>		

The median contract rents in the County fell within the affordable range (30 %) for almost all the municipalities. The exception was in Montague which had nearly 37 % of income going toward rent. Some of the municipalities were quite affordable relative to income levels.

For example, Lafayette Township had a median contract rent of 18.90 %. Also Stanhope Borough had the next lowest median contract rent at 20.20 %.

Changes in the Housing Market Since the 2000 Census

Between 2001 and 2004, housing sale prices have risen sharply. The increases occurred in almost all municipalities, however in the eastern municipalities, increases of 50% or more in housing sale prices have occurred further reducing affordability as incomes in the region have not kept pace. Figure 25 shows where appreciation in average sales price has occurred. Many of the municipalities have seen over 50% increases in sales prices.

Figure 25

Average Increase in Home Sale Price from 2000 to 2004 by Municipality			
Geographic Area	2000 Average Home Sale Price	2004 Average Home Sale Price	Percent Increase in Housing Sale Price 2000-2004
Andover Borough	171,600.00	253,112	47.50
Andover Township	153,475.00	271,534	76.92
Branchville Borough	159,100.00	235,711	48.15
Byram Township	184,218.00	291,323	58.14
Frankford Township	169,597.00	281,479	65.98
Franklin Borough	113,277.00	185,088	63.39
Fredon Township	204,331.00	377,128	84.57
Green Township	206,684.00	394,223	90.74
Hamburg Borough	99,078.00	174,393	76.01
Hampton Township	138,809.00	250,999	80.82
Hardyston Township	148,827.00	270,221	81.57
Hopatcong Borough	137,368.00	206,300	50.18
Lafayette Township	249,440.00	408,310	63.69
Montague Township	105,141.00	155,424	47.82
Newton Town	127,491.00	206,259	61.78
Ogdensburg Borough	137,804.00	202,250	46.77
Sandyston Township	136,588.00	179,466	31.39
Sparta Township	258,138.00	452,894	75.45
Stanhope Borough	113,234.00	214,545	89.47
Stillwater Township	164,495.00	232,191	41.15
Sussex Borough	111,826.00	163,617	46.31
Vernon Township	135,622.00	204,041	50.45

Walpack Township	0.00	0.00	
Wantage Township	156,667.00	267,246	70.58
Sussex County Average	149283.75	264,152	76.95

Over the last decade higher costs of housing in other northern New Jersey counties relative to the County’s housing costs drove Sussex County’s housing growth rates. When compared with other northern New Jersey counties we still have more affordable housing prices. However, the same phenomenon is occurring in neighboring out of state counties where the price differential is providing more affordable housing opportunities.

Senior Housing

Senior housing is an important issue in Sussex County and the northern New Jersey – Eastern Pennsylvania Region. In addition to those anticipated to reach age 60 in line with the demographic trends currently predicted, there is a substantial unmet need for housing for those 60 and older. The large “baby boomer” cohort is nearing retirement. As they do, many will seek housing that is affordable as they downsize their needs. Municipalities have begun to anticipate this trend and plan accordingly with their zoning. It should be noted here that up to 25% of COAH obligations in municipalities can be met through construction of senior housing. Senior housing, with no accompanying school costs, have proven to be very attractive to many municipalities for the positive tax impact in addition to meeting a substantial need. The magnitude of this need is spelled out by looking at data from the current Sussex County Health and Human Service Needs Assessment Report. Affordable housing has consistently ranked as one of the most critical needs and has been underprovided. Existing seniors housing communities have hundreds of people on waiting lists and in some cases (Knoll Heights in Sparta, Liberty Towers in Newton) have had to close the list. Knoll Heights has eighty-five persons on the waiting list as of 4/1/04. When the list is reopened, the list is anticipated to grow to at least 300 persons, based on past trends. This is in all likelihood conservative, given the increase in the senior age cohorts.

In addition, and going beyond seniors housing, the rental assistance programs have hundreds more applicants than can be helped.

Housing Rehabilitation

The Department of Housing and Urban Development has a grant program called ‘Small Cities Program’ which offers Community Development Block Grants. These grants, which are given to household below HUD’s income requirements, can be used on housing that has become run-down and in need of repair. The grants are for up to \$10,000 which can be used on major repairs. As mentioned previously in the housing affordability section, many homeowners who have no mortgage are still paying a large portion of their income toward housing costs. The County will assist in targeting where these programs are not being administered to reach these householders as well as others. Many of the Municipalities in the County have formed joint

housing programs or Municipal based programs to administer these housing monies. A few of them are listed here;

- Franklin Hardyston and Hamburg
- Montague and Sandyston
- Green, Fredon, and Stillwater
- Hopatcong
- Stanhope

In addition to these efforts, the Board of Chosen Freeholders, in support of identified needs for group home rehabilitation, have partnered with the Sussex County ARC in requesting funds from the Small Cities Unit for rehabilitation of homes operated by SCARC. Housing for the developmentally disabled is vitally important in furthering statewide programs to assist this vulnerable population in living and working in the larger community. This initiative, along with County level assistance to individual homeowners in municipalities not operating their own housing rehabilitation programs will substantially advance the housing goals of the NJ Fair Housing Act, the Municipal Land Use Law and the County of Sussex.

Fair Housing Obligations – 1986 - 1999

As a result of the Mount Laurel legal decisions and State legislation, every municipality is obligated to adopt zoning regulations which provide the potential for construction of affordable housing. The Council on Affordable Housing (COAH) establishes the “fair share” obligation for each municipality for low and moderate income housing units based on housing need as calculated using census data. In order to show compliance with this, a municipality may submit its Fair Share Housing Plan, a required element of its Master Plan, to COAH for Substantive Certification. This provides protection to the municipality from builders’ lawsuits and challenges to the zoning ordinance. Counties are grouped into Housing Regions, generally a group of four counties which share a strong connection between place of residence and place of work amongst each other. In the first round, Sussex was grouped with Morris, Essex and Union counties.

In 1992, Sussex County’s COAH region was changed to its current region which includes Bergen, Hudson and Passaic Counties. Current commuting patterns as noted in the 2000 Census shows in its “Journey to Work” survey, show only a minor percentage of Sussex County’s population commuting to those counties in COAH Region 1. In fact, the prior regional grouping of Essex, Morris, and Union Counties is where our commuters generally work. Morris County is far and away the largest employment destination.

In Figure 18, the COAH calculations for each municipality are shown. The first and second rounds of COAH calculations are shown in the first three columns, and show the housing need for the period 1987-1999. The total “precredited need” of 1,338 units for Sussex County consists of two types: rehabilitation of existing housing units (707) and construction of new units (631). When a municipality submits its Fair Share Housing Plan to COAH, then adjustments and credits may be factored in for rehabilitation and construction of affordable housing already

completed (shown in fourth column). The certified plan will have a “Fair Share” number that the municipality plans to meet through rehab or new construction (shown in last three columns).

Some municipalities have completed rehabilitation of existing units, and their programs are listed in the column “Municipal Effort”. Ideally, they would receive credit from COAH for these units when their Housing Plans are submitted for certification

Present and Prospective Fair Share

It is critically important for all municipalities to comply with the State Fair Housing Act and address their Constitutional obligation to provide for affordable housing. With the shift in development pressures expected once development in the Highlands is severely curtailed, an increase in attention will be focused on municipalities in the remainder of the County. If this leads to “Builder’s Remedy” lawsuits, tens of thousands of dollars which could have been put to better use in providing local services will be wasted.

Figure 26

COAH Status Report For Sussex County Municipalities as of November 2003								
Municipality	1987 -99 Precred need	Rehab	New Constru ct	Post 1990 Rehab Credits	Municip al Effort	Fair Share	Rehab Obl.	New Const ruct Obl.
Andover Borough	13	7	6		5/4			
Andover Township	76	21	55		0	76	0	76
Branchville Borough	23	10	13		0			
Byram Township	62	28	34	28	0	34	0	34
Frankford Township	76	41	35		0			
Franklin Borough	62	53	9	21	10/13	20	15	5
Fredon Township	40	11	29		0			
Green Township	30	11	19		7/3			
Hamburg Borough	32	17	15		8/15			
Hampton Township	57	13	44	13	18/13	31	0	31
Hardyston Township	38	21	17	11	8/12	13	10	3
Hopatcong Borough	162	69	93		*			
Lafayette Township	24	15	9		0			
Montague Township	24	15	9		39/			
Newton Town	103	86	17	34	21	20	20	0
Ogdensburg Boro.	28	15	13		*			
Sandyston Township	31	18	13		0			
Sparta Township	133	57	76		28/50	65	38	27
Stanhope Borough	36	21	15		*	30	21	9
Stillwater Township	53	38	15		31/			
Sussex Borough	22	22	0		*			

Vernon Township	131	71	60		70/54RC A			
Walpack Township	1	1	0		0			
Wantage Township	81	46	35		0			
County totals	1338	707	631	79		255	104	151

* information not available

Rehab/New

Regional Contribution Agreements

Regional Contribution Agreements (RCA) allow a municipality to transfer a portion of its fair share obligation to another municipality within the same COAH housing region. These are referred to as “sending” and “receiving” municipalities respectively. When they are transferred a fee of \$20,000 to \$25,000 is assessed per unit transferred.

It is the stated policy of the Sussex County Planning Board that all affordable housing agreements should, if possible, remain within the County so that more housing opportunities can be made available. Earlier agreements established prior to this enunciation of policy have seen two municipalities sending contributions outside the County but within COAH Region 1. They are as follows;

- Vernon Township is currently negotiating to send 34 units to Jersey City and 20 to Ogdensburg Borough @ \$25,000 each.
- Green Township is currently finalizing an agreement to send 13 units of its obligation at \$25,000 per unit to the City of Hoboken in Hudson County, a total of \$325,000.

Ogdensburg Borough is so far the only receiving municipality for COAH housing. Ogdensburg will receive a total of 34 units @ \$20,000 each for a total of \$680,000 toward housing from two Bergen County municipalities.

- Saddle River Borough is sending Ogdensburg Borough 22 units at \$20,000 each.
- Park Ridge Borough is sending Ogdensburg Borough 12 units at \$20,000 each.

Third (Current) Round

The Council on Affordable Housing has based the proposed third round numbers on development trends of municipalities. In short, if a municipality wishes to grow it will incur obligations and if not, it will not. The formulas for determining the obligations of municipality are based on new jobs created and by new housing built. For every 25 jobs created in a municipality one affordable unit of obligation is incurred. This formula is also determined by square footage and type of business. Appendix E of the Council on Affordable Housing Procedural Rules shown as Figure 19 in this report shows the breakdown between commercial and industrial construction jobs creation. The other portion of the formula is determined by a straightforward ratio where eight new market rate housing units built must be offset by one affordable unit. Many of the municipalities are putting in place an assessment of fees to go

toward new obligations. The new assessment formulas as recommended by COAH breakdown where 0.5% of the assessed value of residential property is dedicated and 1% of commercial. If “D” variances are involved in an application a 6% fee is assessed. Green Township has already adopted such an ordinance and Vernon Township is considering it.

A one in 25 non-residential ratio shall be used to determine the number of affordable units to be created for each new job created in a municipality. For every 25 new jobs created in a municipality, the municipality shall have the obligation to provide one affordable residential unit. New jobs created shall be based on the gross square footage of non-residential development and on the use group of the facility being constructed. Use groups are as defined in the Uniform Construction Code (UCC). The following chart shall be used to project and implement the non-residential component of growth share:

**Figure 27
Job Creation Chart**

Use Group	Description	Jobs Created per 1000 square feet
B	Office buildings. Places where business transactions of all kinds occur. Includes banks, corporate offices, government offices, car showrooms and outpatient clinics.	3
M	Mercantile uses. Buildings used to display and sell products. Includes retail stores, strip malls, shops, and gas stations.	1
F	Factories where people make, process, or assemble products. Includes automobile manufacturers, electric power plants, foundries, and incinerators.	2
S	Storage uses. Includes warehouses, parking garages, lumberyards, and mausoleums.	0.50
H	Hazardous uses	1
A1	Movie Theaters	2
A2	Casino/Night club	3
A3	Restaurants, libraries and lecture halls	3
A4	Churches	Exclude
A5	Bleachers and stadiums	Exclude
E	Schools K – 12	1
I	Institutional uses such as hospitals, nursing homes, assisted living facilities and jails.	2
R1	Hotels and motels	0.80
U	Miscellaneous uses. Fences, tanks, signs, etc.	Exclude

Source: NJ COAH

Income Limits

The COAH income limits are shown below in Figure 20. These limits are based on household size for COAH Region 1. This Figure is used to determine where household falls when looking at income limits applied to affordable housing applicants. The low is 50 % of median income and the moderate is 80% of the median.

Figure 28

COUNCIL ON AFFORDABLE HOUSING (COAH) 2003 REGIONAL INCOME LIMITS				
Region 1 Bergen, Hudson, Passaic and Sussex				
Household Size	Median	Moderate	Low	
1 Person	\$49,511	\$39,609	\$24,756	
*1.5 Person	\$53,048	\$42,438	\$26,524	
2 Person	\$56,584	\$45,267	\$28,292	
*3 Person	\$63,657	\$50,926	\$31,829	
4 Person	\$70,730	\$56,584	\$35,365	
*4.5 Person	\$73,559	\$58,847	\$36,780	
5 Person	\$76,388	\$61,111	\$38,194	
6 Person	\$82,047	\$65,637	\$41,023	
7 Person	\$87,705	\$70,164	\$43,853	
8 Person	\$93,364	\$74,691	\$46,682	
Maximum Increase	Rents	3%	3%	3%
	Sales	0**	0**	0**

*These columns are for calculating the pricing for one, two and three bedroom sale and rental units as per N.J.A.C. 5:93-7.4. **This last column is used for calculating the pricing for resale and rent increases for units as per N.J.A.C. 5:93-9.15. Affordable rents may be raised a maximum of 3 percent, based on the U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index (CPI), Northeast Region, All Urban Consumers Housing. However, low income tax credit developments may increase based on the low income tax credit regulations. Allowable sales price increases vary by region and are determined by annual changes in regional incomes. Note that in regions 1 and 3, where median incomes decreased, there is no allowable increase in the sales price of affordable units for the 2002 to 2003 period.

Housing Needs

Given the continuing reduction in State and Federal funding targeted toward addressing housing, the overemphasis on large lot zoning as a technique for slowing growth, and a growing unwillingness to absorb the costs of education for children, the housing market has excluded many who need shelter. Housing needs extend across nearly all population and income groups. The costs of housing have risen far more quickly than incomes, a substantial unmet need exists for senior citizen housing, housing for the developmentally disabled, and middle, moderate, and low income families and households. Additional resources must be directed toward the creation of additional housing opportunities for all these populations.

Further, a disproportionate percentage of the population pays more than 30% of gross income for housing costs. This imposes a burden on working families and the elderly that has a negative impact on health and the ability to properly care for children. Affordable or even reachable housing must remain a priority at all levels of government.

ECONOMIC DEVELOPMENT

In formulating an analysis of Sussex County's economy, labor becomes an indispensable and primary component, especially in the absence of traditional economic drivers such as burgeoning industry, favorable infrastructure, and close proximity to ports or large cities. Our resident labor force demonstrates its skills here in the County, as well as in the demanding jobs of our region's growing industries.

The state of the economy as a whole directly affects the makeup and availability of the labor force. Times of recession or depression generally reduce the amount of jobs, without reducing population, creating a surplus of available labor. Less readily observed is a shortage of labor, created by an expanding job market and static population. Labor shortages are often brought quickly into equilibrium by the willingness of potential employees to commute or move closer to jobs.

A particular geographic region can offer quality of living, jobs with competitive wages, or both. Sussex County offers the serenity of a rural setting that is often missing from our neighboring counties, but lacks the growing job markets (and associated higher wages) of New York City, or of Bergen and Morris Counties, for example. Inadequate public transportation in Sussex County means that our roughly 43,000 commuters are left with few options other than to sit in the rush hour traffic that clogs the major County exit points such as Routes 15, 23, and 206.

In the absence of a short-term fix, several long-term solutions abound. New transportation options will alleviate commuter problems, as will improvements to existing roadways. But they, necessary though they may be, are a superficial fix to a deeper problem. Sussex County's commuting workforce needs jobs in the County that pay wages sufficient to cover the rising housing costs, high taxes, and increasing costs of living.

Recreation and tourism are generally thought to be the backbone of Sussex County's economy. However, the entire Skylands Region of Morris, Somerset, Hunterdon, Warren, and Sussex Counties accounts for only 7% of the total economic impact of tourism in New Jersey. The County cannot rely on recreation and tourism alone if it is to remain fiscally sound and economically viable in the future. There is no question that it represents an integral piece of the pie, but even if it were to grow tremendously, it cannot by itself solve the problems facing our work force, nor can it provide the County with a sustainable economic future.

Quality of life and the availability of a talented work force can be used to attract new industries to Sussex County. Responsible development to allow the relocation of companies that complement our existing businesses will provide our residents with much needed wages, our economy with a much-needed boost, and our municipalities with tax revenues. This will further the quality of life and help to round out the economy.

Income and the Cost of Living

The need for increased wages can be illustrated by comparing the various costs associated with living in Sussex County to income data, as well as showing regional wage data for the areas to which our residents commute. The median household income in the County is relatively high at \$65,490. However, as indicated in the Housing Section of this plan, the costs of housing both rent or mortgage payments, are also high with far too many households paying a disproportionate amount (more than 30%) of gross income for housing. As a result, a large percentage of County residents have insufficient disposable income after housing, food and other basic expenses. This directly affects the quality of life of both adults and children.

Housing prices continue to rise, having gone up approximately 37% from 2000 to 2003. The predicted shortage in labor supply in neighboring Morris County, the destination of 47% of Sussex County commuters, will combine with rising housing costs to perpetuate the trend of Sussex County residents leaving their home County to find salaries adequate to meet housing and other basic costs.

According to the Morris County Labor Market Assessment, job growth in Morris County is projected to outpace labor force growth, putting increased reliance on recruiting from bordering counties. Morris County wages are higher than State, regional and national averages. The following Figure shows wages for selected occupations in Morris and Sussex Counties:

Wage rates are a function of the business climate and are not properly the subject of governmental intervention. In order to introduce the kinds of industries and specific companies to the County that will give local wage-seeking commuters an alternative closer to home, a highly focused effort must be made to identify those industries most likely to find Sussex County an accepted Figure location. Once these are identified, any specific requirements not readily available must be addressed. These may include provision of water, sewer and other utility service infrastructure, specific job training through the secondary and Sussex County College curricula, both for new business and existing industries.

The SGP will be an important tool in first identifying and locating appropriate Job Creation Centers, Nodes and mixed use centers. With these located and defined through the Plan Endorsement process, expedited State permitting and improvements will be sought as part of the Plan Endorsement Contract with the State Planning Commission.

Jobs and Wages in Sussex County

A useful description of the local job make up of Sussex County is shown in Figure 29, "Employment and Wages: 2002 Private Sector". This data describes the private sector jobs located in Sussex County, number of employees covered by unemployment insurance, and average weekly and annual wages. The term "average units" refers to the number of private sector companies or employers, totaling 3,927 in Sussex County, and subtotals shown for the different categories. There were 30,028 private sector employees in 2002, although this total

may not include all those who are self-employed. For a complete picture of the local economy, public sector or government jobs (includes federal, State and local government jobs located in Sussex County) are also added:

Figure 29

Private Sectors Jobs, 2002	30,028
<u>Government Jobs, 2002</u>	<u>8,000</u>
Total Jobs, 2002	38,028

The average annual employment numbers in Figure 30, show the economic sectors that are important to the local economy of Sussex County, and average annual wages. The “Health Care and Social Assistance” category has 5,432 employees and “Retail Trade” has 5,186 employees. Other dominant sectors are “Accommodation and Food Services”, “Construction” and “Professional and Technical Services”. It is also telling to look at the average annual wages for these types of jobs. For the two largest sectors, “Health Care” and “Retail”, the average annual wage is under \$32,000. The highest wages are found in the “Professional and Technical Services” (\$53,191). Other high wage jobs in Sussex County are in “Wholesale Trade” (\$48,184) and “Information” (\$47,055), and there are only 1,697 employees total with these jobs.

FIGURE 30
2002 ANNUAL AVERAGE LABOR FORCE ESTIMATES BY MUNICIPALITY
FOR THE COUNTY OF SUSSEX

Municipality	Labor Force	Employment	Unemployment	Unemployment Rate
Andover Borough	497	470	27	5.4
Andover Township	3,020	2,887	133	4.4
Branchville	509	478	31	6.1
Byram	4,844	4,698	146	3.0
Frankford	2,938	2,798	140	4.8
Franklin	2,805	2,669	136	4.8
Fredon	1,562	1,515	47	3.0
Green	1,615	1,564	51	3.2
Hamburg	1,666	1,542	124	7.4
Hampton	2,701	2,583	118	4.4
Hardyston	3,261	3,127	134	4.1
Hopatcong	9,970	9,418	552	5.5
Lafayette	1,144	1,107	37	3.2
Montague	1,597	1,492	105	6.6
Newton	4,177	3,923	254	6.1
Ogdensburg	1,599	1,538	61	3.8
Sandyston	985	942	43	4.4
Sparta	8,954	8,533	421	4.7
Stanhope	2,238	2,129	109	4.9
Stillwater	2,513	2,281	232	9.2
Sussex	1,225	1,124	101	8.2
Vernon	12,110	11,381	729	6.0
Wantage	5,180	4,960	220	4.2
TOTAL	77,149	73,198	3,951	5.1

The list of “Major Employers” in Sussex County (Figure 31) includes private and public employers with more than 200 employees.

Figure 31

MAJOR EMPLOYERS SUSSEX COUNTY, 2003		
Company	City	Employees
Selective Insurance	Branchville	954
Newton Memorial Hospital	Newton	805
Andover Subacute and Rehab Center	Andover	800
County of Sussex	Newton	770
Mountain Creek/Intrawest	Vernon	766
Ronetco Supermarkets, Inc.	Ledgewood	672
Vernon Township Board of Education	Vernon	664
F.O. Phoenix, Inc. (Econo-Pac)	Sussex	600
Sparta Board of Education	Sparta	517
Hopatcong Board of Education	Hopatcong	450
Sussex County Community College	Newton	400
SCARC, Inc.	Augusta	374
Crystal Springs Golf & Spa Resort	Hamburg	330
Saint Clare's Hospital	Sussex	300
Newton Board of Education	Newton	266
Heath Village	Hackettstown	260
Wal-Mart	Franklin	250
Schering-Plough Research Institute	Lafayette	233
Wal-Mart #2604	Newton	220
In Home Health Services	Sparta	200
High Point Regional Bd. of Education	Sussex	175
Sussex County Technical School	Sparta	166
Kittatinny Regional High School	Newton	157
Ames Rubber Corp.	Hamburg	150
PSA Pediatric Services of America Inc.	Newton	150
All Quality Care, Inc.	Newton	150
Vernon Township	Vernon	148
Sunrise House Foundation	Lafayette	140
Bristol Glen	Newton	140
Thor Labs, Inc.	Newton	130
Weis Markets, Inc.	Franklin	130
Barn Hill Care Center	Newton	130
Lenape Valley Regional High School Bd. Of Ed.	Stanhope	125
Weis Markets, Inc.	Newton	121
New Jersey Herald Inc	Newton	121

Lakeland Bank	Newton	119
Center For Humanistic Change of NJ, Inc	Stanhope	113
Stop and Shop	Sparta	112
Condit's Ford World of Newton	Newton	110
Sussex Bank	Franklin	105
Sparta Township	Sparta	100
Village Bus Co., Inc.	Lafayette	100
Newton Trust Company	Newton	100
Franklin Mutual Insurance Company	Branchville	100
Great Atlantic & Pacific Tea Co, Inc.	Sussex	100

Compiled by Sussex County Chamber of Commerce and Sussex County Economic Development Partnership

Job Market and the Labor Market

One way of looking at the situation is to say “The problem is that residents of Sussex County need higher paying jobs.” In the current inflated housing market, additional income is indeed the only way for most workers to be able to live comfortably in the County. The current solution is for them to travel to neighboring job markets where shortages of talented labor and higher wages create demand for their skills. As this trend continues, already congested highways will become even more congested. Reactivation of commuter and freight rail service would alleviate some of the problem, but it must also be addressed from within the County, not only by expanding the routes out of it.

For each of the years through 2010, the NJ Department of Labor projects that 63% of Sussex County’s annual job openings will be those with low educational and experience requirements. These are the jobs that are traditionally low paying. Only 38% of job openings will require that their applicants have the moderate or high levels of education and training that will yield them a competitive wage.

These are percentages of the total number of job openings per year, which is only projected to average 1,760. Of these, only 710 will be new jobs that indicate some kind of growth. The remaining 1,060 are accounted for by filling existing positions.

The Morris County Labor Market Assessment includes projections for Sussex County which is a major source of employees for Morris County’s businesses and industry. The labor force will grow by some 13,438 jobs by 2010, as the population growth trends continue. The job market however, will only grow by 4,498. At least 8,941 new County residents will work out of the County. Comparatively, Morris County’s job growth will actually outgrow its labor market by nearly 12,000 jobs by 2010.

Regardless of which projections are used, recall that the majority of new jobs will be those that require minimal education and training, and are therefore likely to be low paying. The

overall job shortage is compounded by this fact, as many new residents will require more competitive and higher salaries to cover their costs of living. So in reality, the job growth projections translate into a minimal positive impact on the economy of the County.

Total growth of the job market needs to be higher in order to keep pace with the population and labor market growth projected through the end of the decade. Specifically, the growth of higher paying jobs must be accelerated if County residents are to continue enjoying the high standard of living, and if the County is to realize economic stability. Our current growing industries of recreation and tourism, while contributing to the very quality of life County residents seek, simply cannot pay the wages necessary to alleviate the problem of residents needing to leave the County to work.

The labor force data describes Sussex County residents, whether they work in the County or commute to jobs outside of the County. The numbers tell the story: in 2002, the labor force was 77,149, but there were only 38,000 jobs in Sussex County in 2002. Commuting data also tells us that 55-60% of the County labor force works outside of the County. As Sussex County ranks 4th highest in median household income in New Jersey, it is evident that these higher-paying jobs are generally outside of the County.

The labor force data provides numbers of employed and unemployed for the labor force, and unemployment rates by municipality. In 2002, the overall unemployment rate was 5.1%, with the highest unemployment rate of 9.2% in Stillwater Township, followed by Sussex and Hamburg Boroughs.

Target Industries for Economic Growth

Significant investments have been made in recent years in tourism attractions both large and small. While these developments are an invaluable part of the County, and often represent a tax-revenue dream come true for municipalities, they are only a small part of the overall economic health of the County as we move into the future. Recall that the entire Skylands region accounts for only 7% of the State of New Jersey's total economic impact from tourism.

Locally, there is a similarly disproportionate scale. What is often thought to be the backbone of our economy employs only 4,298 people in our County, including Arts, Entertainment, Recreation, Accommodation and Food Services. Though this number has grown, it is the wages associated with these types of jobs that have prevented the tourism sector from forming the foundation of our economic future.

Tourism wage rates in our area (NJ DOL Essex-Morris-Sussex-Union-Warren County Area) for Museum, Historical Sites and Related Industries and Amusement, Gambling, and Recreation Industries average only about \$10.63/hour. Wages sufficient to cover costs of living typically come from other industries located outside of Sussex County.

The Service Industry makes up another large portion of Sussex County jobs. The U.S. Census reports that its service categories: educational, health, social, professional, scientific,

management, administrative, waste management, and “other”: combined account for 34% of jobs in Sussex County, far more than any other category. These are also some of the fastest growing industries in Sussex County according to the NJ DOL:

Figure 32

Sussex County Private Sector Industries with the Greatest Percentage Growth, 2000-2010							
SI	Industry Title	2000		2010		Change: 2000-2010	
		Number	Percent	Number	Percent	Number	Percent
83	Social Services	1,450	3.7	2,250	5.0	800	56.1
73	Business Services	2,150	5.5	3,050	6.6	900	40.6
80	Health Services	4,100	10.4	5,700	12.4	1,550	38.1
07	Agricultural Services	450	1.1	600	1.3	150	37.5
87	Engineering & Management	750	1.9	950	2.1	200	26.1
52	Building Materials & Garden	300	0.8	400	0.9	50	22.8
58	Eating & Drinking Places	2,400	6.2	2,950	6.5	550	22.7
51	Wholesale Trade-Nondurable	500	1.3	650	1.4	100	22.0
17	Special Trade Contractors	1,650	4.2	2,000	4.4	350	21.1
75	Auto Repair, Services, &	350	0.9	400	0.9	50	20.5

Conversely, the list of Private Sector Industries with the least amount of growth reads like a Who’s Who of industries involving skilled labor and relatively high paying jobs for the general population, in addition to management and executive positions.

Figure 33
Sussex County Private Sector Jobs with the Least Growth 2000 - 2010

Sussex County Private Sector Jobs with the Least Growth 2000 - 2010							
S	Industry Title	2000		2010		Change: 2000-2010	
		Number	Percent	Number	Percent	Number	Percent
3	Industrial Machinery & Equipment	300	0.7	250	0.6	0	-6.2
3	Rubber & Misc. Plastics Products	650	1.7	600	1.3	(50)	-5.5
6	Depository Institutions	650	1.6	600	1.4	(50)	-3.9
6	Insurance Agents, Brokers, &	250	0.6	200	0.5	0	-3.5
3	Stone, Clay, And Glass Products	250	0.6	250	0.5	0	-1.8
2	Printing & Publishing	350	0.9	350	0.7	0	0.3
5	General Merchandise Stores	550	1.4	550	1.2	0	2.2
3	Instruments & Related Products	250	0.7	250	0.6	0	2.8
6	Real Estate	250	0.6	250	0.5	0	2.9
7	Hotels & Other Lodging Places	400	1.0	400	0.9	0	6.0

Expanding the range of industries in Sussex County beyond service and recreation/tourism will help provide local jobs and will further the County’s economic stability.

While the gradual aggregation of small businesses and industries in the Job Creation Centers has proven successful in recent years, the recruitment of larger companies that can build corporate campus type developments that can be neatly integrated into the rural/agricultural landscape should also be part of the County’s growth strategy. Provisions should be made within the policies that pertain to this landscape for such structures to be built and to operate.

Here, again, it will be important to construct a focused program of outreach, based on a “best fit” analysis.

NATURAL RESOURCES ELEMENT

In the evaluation of an area for growth potential, it is essential to have an idea of the carrying capacity of the natural resource base. Carrying capacity is a function of available water supply, the ability of soils to accept effluent treated to one extent or another, the ability of the land, both from the standpoint of harsh features and topography, necessary protections for surface water bodies, and accommodation to wildlife needs. The available water supply is critical to agriculture, residential and commercial development and recreation development. Attempting to use land beyond the ability of the area to supply sufficient water during periods of drought, is a guarantee for hardship during times of short supply. Available water is a function of geology, soils and recharge. The geology of an area defines the ability of the rock or unconsolidated material to store water. Soils directly affect the ability of an area to allow recharge of highly treated wastewater, permitting the density required for Center creation. This is of particular importance in Sussex County, where there are few surface water supplies, Franklin Pond, Heaters Pond, Lake Rutherford and Morris Lake, serving Franklin and Ogdensburg as back up supply and Sussex and Newton as principal sources. Creation of additional surface water impoundments may prove beneficial from the standpoint of supply, as well as stormwater management.

The impending redevelopment of the former Limecrest quarry in Andover, Sparta and Lafayette Townships has the potential to add a significant source of water to adjacent areas which have generally been short of supply. Additionally, this could serve as a hedge against the inevitable drought years in the future.

Geology

Sussex County's geologic character may be broken down into essentially three components: the Highlands the Kittatinny Ridge and Valley, and Valley Fill deposits. The Highlands are comprised of Pre-Cambrian Crystalline rock. These are the oldest rocks in Sussex County. See Exhibit 9, Primary Geology and Exhibit 10 Surficial Geology.

The Pre-Cambrian Crystallines, as might be expected from their name, are dense, resistant to weathering, and are composed of gneiss and syenite. These formations underlie the easternmost one third of Sussex County and are largely the aquifer for Byram, Hardyston, Sparta and Vernon Townships along with portions of Andover, Lafayette and Green Townships and Andover, Hamburg, Hopatcong, Franklin and Ogdensburg Boroughs.

The Kittatinny Valley in the central portion of the County is generally comprised of the Martinsburg formation. This formation, a combination of metamorphic and sedimentary slate and shale, generally defines the broad valley running through central Sussex County. There are, within the broad valley, substantial areas of a Cretaceous formation, the Kittatinny supergroup. This limestone formation is comprised of numerous members which vary substantially in resistance to weathering, developing, in some cases, solution channels and caverns. Other members approach the density of marble, as in the Franklin limestone.

EXHIBIT 9
PRIMARY GEOLOGY

EXHIBIT 10
SURFICIAL GEOLOGY

The western third of the County, generally consisting of Montague, Sandyston and Walpack Townships, lie within the group of formations known as the High Falls and Shawangunk, for the most part with the Delaware Valley running through less resistance dolomite limestone formations. The majority of land lying in this portion of the County is publicly owned by either the U.S. Government (Delaware Water Gap National Recreation Area) or the State of New Jersey (High Point, Stokes, etc.).

Water Supply

In the Highlands Physiographic Province, described earlier in this report, we made the point that the geology of the area is of resistant, dense rock. These kinds of rock do not function well as sources of water. While there are some wells drilled in the Highlands which produce substantial quantities of water, overall the area is a very poor aquifer.

Moving west into the Kittatinny Valley, the Martinsburg and Kittatinny formations are generally better yielding, although, again, the occasional high-productive well is offset by many marginal supplies. Here again, distribution and supply is not uniform. Wells which intercept solution channels and caverns in the Kittatinny formation may be highly productive, while others intercepting low yield units may produce no water at all. There is an additional concern with regard to the highly productive elements of the Kittatinny formation, and that is that access to them brings with it the potential introduction of pollutants and consequent degradation of a significant water supply.

West of the Kittatinny Valley, the Shawangunk and High Falls formations are again resistant, dense formations. These, in Sussex County, are limited to the vast areas owned by State and Federal governments. Dropping into the Delaware River Valley and more soluble limestone, the rock aquifers become higher yielding, although with the same variability exhibited by the Kittatinny supergroup in central Sussex County.

The last significant aquifer in the County is the most highly productive and vulnerable aquifer. This aquifer, comprised of sands and gravels, laid down by the Illinoian and Wisconsin glaciers are the only formations which exhibit what is known as primary porosity. These formations store water in and amongst its components, rather than simply in cracks, fractures and solution features. Notwithstanding the fact that this is a highly productive aquifer, yielding, in many cases, wells supplying hundreds of thousands of gallons of water per day, it is also highly susceptible to drought events and the introduction of pollutants. This formation tends to be found in northeast/southwest trending valleys in Hardyston, Sparta, Frankford, Andover, Lafayette, Green and Stillwater Townships and Andover Borough.

Aquifer Recharge

The capacity of an aquifer to yield water is only a part of the picture. The other side of the equation is, to what extent can an aquifer be recharged once that water has been withdrawn. Other than in the glacial drift formations, this is a function of soil type and topography. The more porous soils more readily accept precipitation and runoff. The more steep soils are less able to accept recharge. This is due to the fact that increased slopes increase the velocity of stormwater flows. This reduces the time available for infiltration. This is particularly critical in

the areas of relatively resistant bedrock (the Highlands, Kittatinny Ridge), already limited by their character as sources of water. See Exhibit 11, Groundwater Recharge of Sussex County. This exhibit illustrates the point that areas of greatest recharge are found in the valleys while lesser recharge is found along the ridges, and most particularly, in the Highlands.

Interestingly, one inch per acre of recharge equals approximately 27,000 gallons. Even in the areas of lowest recharge, there are substantial quantities of water reaching the aquifer. Only a portion of the water reaching the aquifer as recharge is available for consumption, particularly in times of drought without adversely affecting stream base flows and existing withdrawals. For example, six inches of recharge per year over an acre provides approximately 160,000 gallons to the aquifer. Of this, no more than 32,000 gallons (twenty percent) is available for consumption. A single family, utilizing approximately 250 gallons per day, will consume slightly more than 90,000 gallons per year. From a recharge perspective, an acre receiving sixteen inches of recharge per year will sustain this hypothetical single family. As the amount of recharge diminishes, the contributing area must correspondingly increase. This may be somewhat offset in areas served by septic systems or other waste treatment facilities which discharge treated effluent to ground water.

Physiography

Physiography describes in broad terms the natural character of an area. There are, in New Jersey four Physiographic Provinces; the Highlands, the Ridge and Valley, the Piedmont, and the Coastal Plain. Sussex County lies in both the Highlands and the Ridge and Valley Provinces. These two vary significantly in topography, geology, and water supply.

The Highlands province, more properly known as the Reading Prong of the New England Highlands, is composed of granite, gneiss, seyenite and other highly resistant rock. Characterized by "A series of discontinuous, steep sided ridges and narrow valleys..."¹, the Highlands form the eastern one-third of the County.

The remainder of the County lies in the Ridge and Valley Province. This area is subdivided into three subprovinces; the Minisink Valley occupied by the Delaware River, the Kittatinny Ridge, and the Kittatinny Valley. The Ridge runs through the Townships of Montague, Sandyston, and Walpack. Its crest generally forms the eastern boundary of the three. The Valley subprovince is the most extensive in the County. It is composed of two distinct levels. The areas underlain by shale are from 200 to 400 feet higher than adjacent areas underlain by limestone. The Valley lies between the highly resistant formations of the Kittatinny Ridge and the Highlands. The resulting landform consists of two major subvalleys along the underlying limestone and higher ridges in the slate and shale. (See Exhibit 12, Physiographic Provinces).

1. Highlands Task Force Report

EXHIBIT 11
GROUNDWATER RECHARGE

EXHIBIT 12
PHYSIOGRAPHIC PROVINCES

Topography

Topography, the mix of slopes, ridges and valleys, has been a significant influence on the patterns of settlement throughout the County. The ridges and valleys in the County trend northeast/southwest. (See Exhibit 13, Topography) This has led to most road patterns following the line of least resistance, with relatively few crossing the ridges west to east (see Exhibit 20, Road Network). In addition to determining the primary road network, the soils located on relatively steep (25% or greater) slopes are typically thin and highly erodable. To that instability is added the increased force of storm water flows moving at high velocities in steep areas. The net result of these cumulative conditions is a general desire that they not be disturbed. In this way, we avoid loss of vegetation, soil and increased downstream impact from storm water flows.

As indicated earlier, Sussex County lies in two of the four physiographic provinces in the State, the Highlands and the Ridge and Valley. The highly accessible broad valleys are the least susceptible to environmental damage through disturbance and are also the most highly productive agricultural lands. They contain the valley fill sand and gravel deposits which are the County's most productive aquifers. The ridges are highly visible, vulnerable to erosion when disturbed and steeply sloping. The Highlands are resistant, poor aquifers, generally steeply sloping, mantled with soils of modest productivity.

Slopes reduce the ability of land adjacent to streams to filter sediments and act as a sink for nutrients. In developing stream protection mechanisms, the degree of engineering necessary to achieve a particular standard increases with slope where the slope runs to the stream. Access to steeply sloping land requires the disturbance of substantially more area than is needed in gentler terrain.

Water Availability as Determinant of Development Density

Where there are waste treatment plants, the waste dilution capacity limitation on an individual site is removed. In the event a Sewage Treatment Plant (STP) offsets the waste load impact, available water supply becomes the environmentally limiting factor.

Safe sustained yield in drought conditions is the appropriate standard to use in estimating water use effects. Under this standard, aquifers in Sussex generally receive between eight and twenty inches of recharge per year. Recharge, over and above its use for human consumption, is critical to the health of streams, lakes, ponds, etc. Of the total recharge, no more than 20% is available for consumption, according to the New Jersey Geologic Survey.

Water supply is calculated on the basis of gallons per square mile rather than per acre. Under these circumstances, the most productive areas in the County may be expected to safely yield, on average, no more than 300 gallons of water per acre per day. Depending on the specific aquifer, a 100,000 square foot commercial facility would require thirty two to eighty acres to support its consumption. Although a particular aquifer may produce substantial quantities of water from some wells, much of the availability is based upon recharge from remote sites.

EXHIBIT 13
TOPOGRAPHY

From this, we may calculate the amount of water which may be taken from any given aquifer without a substantial adverse effect. Exhibits 9, 10 and 11, Primary Geology, Surficial Geology, and Groundwater Recharge, taken together, form a picture of the capacity of the County to support existing and future development. This has wide ranging implications. Existing development, other than that in the Town of Newton (served by Morris Lake), or Sussex Borough (served by Lake Rutherford) depends entirely on ground water resources. When the existing demand is allocated, the remainder becomes the available supply for all future growth. In some instances, the supply is impressively small. For example, the County of Burlington is in the process of carefully controlling the remaining six percent of water supply it calculates is available for future development.

For a general idea of the water yielding capacity of the County, turn to Exhibit 11, Groundwater Recharge. The County is divided into two major areas, corresponding generally to the Highlands and the Ridge and Valley Province. The former includes approximately one-third of the County. For purposes of calculation, an annual average of ten inches of recharge is assigned to the Highlands and eighteen inches to the Valley and Ridge. Not only are the soils in the Highlands less able to accept recharge, but the severe topography limits the recharge of that which would be available.

Individual waste water discharges, if overly concentrated in an area, tend to generate a septic "plume". This concentration of effluent may reach the ground water before infiltrating precipitation dilutes it to an appropriate standard, degrading the resource and creating a potential hazard to public health.

Water supplies, on the other hand, are not parcel specific, being calculated in gallons per day per square mile. The calculations are not confined to the square mile in all aquifers as many, such as cavernous limestone and some of the glacial deposits, draw from a larger region. Here the watershed is the appropriate area of delineation.

Using the non-residential criterion of 0.125 gallons per square foot, a 100,000 square foot facility would require 12,500 gallons per day. This amounts to 4,562,500 gallons per year. This would require 168 acres at one inch of recharge or 52 acres at an overall rate of sixteen inches per year (yielding 3.2 inches per acre per year for consumption). This information will be of interest in the review of the buildout calculations by municipality found farther along in this report.

Water Quality

Recent work undertaken by the NJDEP in addressing pristine streams has yielded another, more stringent standard. In such a Category 1 watershed, nitrate concentrations are to be consistent with naturally occurring "background" levels. In this case, the level used for regulatory purposes is two milligrams per liter of nitrate. This change in input value reduces the resultant density substantially. Depending on the soil, the area required to adequately serve a residential lot or small non-residential facility could increase to between four and ten acres. The rationale for the two milligram value is that, at background levels, no other pollutants contributed by human activities are expected. The water thus reached is pristine.

All this ties directly into the carrying capacity and build-out analysis. From a zoning perspective, the overall zoned density required to achieve these densities runs between 2.8 and 7.0 acres per unit.

With the 300 foot Category 1 stream buffer, some of the additional negative economic effects could be avoided by allowing density calculations to include land within that buffer, as with transition areas and transferring those densities in a cluster development. By the same token, these credits could be transferred to a receiving area. If the buffer is located in a developed or designated center, a waiver of the width, predicated on alternative means to accomplish the objectives, would be appropriate.

Highlands Water Quality

Maintaining the high quality of Highlands' water is tremendously important, both for protecting New Jersey's drinking water supply and for preserving the fragile ecosystems that depend on the water.

Recent U.S. Geological Survey studies have concluded that some parameters of surface water quality concern in the area are improving while others are worsening. While the trend for ammonia, phosphorus and nitrogen is toward improvement, nitrate concentrations have increased. Degraded water quality trends were also noted for dissolved solids, sodium and chloride.

The DEP conducts sampling of aquatic communities in the region as part of its Ambient Biomonitoring Network (AMNET). The 1999 round of sampling found that 67 percent of the region's sites were not impaired, while 33 percent exhibited some impairment (although only one percent rated as severe). This is nearly the opposite of the remainder of the state where 67 percent show some degree of impairment. The impaired rivers in the region include the Whippany, Rockaway, Wallkill, Musconetcong, the upper reaches of the Pequannock, and the Pohatcong Creek.

It is likely that the degradation is the result of a variety of factors that modify habitat or other environmental factors such as land use, point and nonpoint sources of pollution, and changes in stream flow – both higher and lower. Other studies have shown statistically that the percentage of urban land within a watershed in conjunction with the amount of upstream wastewater discharges correlates to the rate of impaired rivers in a watershed.

The Highlands' water quality helps improve the quality of degraded downstream surface waters as well. For example, a major fraction of the main stem of the Passaic River is comprised of treated wastewater during drought. If not for less affected Highlands Region water, the main stem of the Passaic River would be comprised of an even larger overall percentage of treated wastewater during drought.

As for ground water, the natural water quality of the Highlands region's aquifers is generally good. Some wells exceed drinking water standards for naturally occurring substances such as manganese and iron. The one drinking water standard that is consistently a problem in Highlands' ground water is radon, which is a naturally occurring element in much of the rock

formations. Ninety percent of the 565 samples taken during one study in the Highlands exceeded the proposed standard for radon-222.

In conclusion, over time new development in the Highlands will severely affect the amount of water being withdrawn from reservoirs and aquifers, while at the same time reducing the flow of water in streams and rivers that is vital to aquatic ecosystems. New pavement and impervious surface cover will also decrease recharge of aquifers and increase runoff into surface water, leading to poor ground water quality and increased incidents of flooding.

Degradation of the drinking water supply due to new development may eventually lead to a dramatic increase in water costs for residents throughout northern New Jersey, not just those living in the Highlands region. The North Jersey District Water Supply Commission estimates that the Highlands water purveyors currently spend an estimated \$14.3 million to treat 550 million gallons of water per day. Degradation of water quality will require the water purveyors to upgrade existing plants and purchase additional chemicals. The Commission estimates that if development continues without a change in policy, treatment costs will reach \$30.3 billion by 2054. Moreover, costly investments for additional water sources and treatment plants will be necessary to supply increased demand. Implementation of a regional plan may offer the resident ratepayers a substantial savings in treatment costs, may eliminate the need for new water sources and treatment plants.

Biodiversity

New Jersey's Highlands support a rich, diverse set of ecosystems and natural communities. With habitats ranging from upland forests to wetlands, the area contains an array of species, including 30 animal species that are classified as threatened or endangered by the state or federal government. In addition, the area supports some of the last remaining habitat in New Jersey that is suitable for maintaining these rare species. Given this significant role the area plays in New Jersey's ecological heritage, land preservation and habitat management strategies must be a part of any future planning for the Highlands.

Figure 35, below lists the threatened or endangered animals that have been identified in the Highlands region.

Figure 35

Species	Status
Birds	
Bald Eagle	Federal T/E
American Bittern	State Endangered
Henslow's Sparrow	State Endangered
Loggerhead Shrike (migrant)	State Endangered
Northern Goshawk	State Endangered
Northern Harrier	State Endangered
Pied-billed Grebe	State Endangered
Red-shouldered Hawk	State Endangered
Sedge Wren	State Endangered
Upland Sandpiper	State Endangered
Vesper Sparrow	State Endangered
Barred Owl	State Threatened
Black Rail	State Threatened
Black-crowned Night-heron	State Threatened
Bobolink	State Threatened
Cooper's Hawk	State Threatened
Grasshopper Sparrow	State Threatened
Long-eared Owl	State Threatened
Osprey	State Threatened
Red-headed Woodpecker	State Threatened
Savannah Sparrow	State Threatened
Herptiles	
Bog Turtle	Federal T/E
Blue-spotted Salamander	State Endangered
Timber Rattlesnake	State Endangered
Longtail Salamander	State Threatened
Wood Turtle	State Threatened
Invertebrates	
American Burying Beetle	Federal T/E
Mitchell's Satyr	Federal T/E
Appalachian Grizzled Skipper	State Endangered
Arogos Skipper	State Endangered
Silver-bordered Fritillary	State Threatened
Mammals	
Indiana Bat	Federal Endangered
Bobcat	State Endangered

While each of these animals has its own role in a particular ecosystem, strategies and solutions for preserving their limited populations are very similar.

For example, the Indiana Bat was listed as a federally endangered species in 1967 and is a small mammal that congregates in the thousands in caves during the wintertime. Found across the eastern half of the United States, these bats once hibernated in the tens of millions during the

winter in some caves. Now limited to just a few caves and abandoned mining shafts, the Indiana Bat in New Jersey only has one large wintering area, where approximately 30,000 bats gather, in an old mine in Rockaway Township.

During the summer, the bats require riparian and floodplain forests as well as some upland habitats. Trees located along the sides of streams are particularly important in providing areas to forage for insects, as well as large bodies of open water such as reservoirs. The bats are considered extremely vulnerable to human disturbance and require intact forest areas for their summer habitat. The bats typically avoid roost sites in the summer that are near paved roads, making it important to avoid fragmenting forest areas.

Thus, protection of this species will require continued vigilance to protect stream corridors and preserve buffers along stream margins, as well as preserving large areas of intact riparian and floodplain habitat.

Similarly, the Blue-Spotted Salamander has been listed as endangered in New Jersey since 1974 and is found in the state only in Sussex and Warren Counties and in the Passaic River basin of Somerset, Essex, Morris and Passaic Counties. Within this very limited range, these amphibians inhabit mature hardwood forests, such as red maple swamps and oak/birch woodlands. The salamanders only travel a very limited distance from the ponds where they were born and will return only to these same ponds to breed.

Given this strong bias towards its existing locations, it is vitally important to protect the salamander's dwindling habitat from future encroachment. In particular, the salamanders require excellent water quality and the maintenance of healthy buffers around their waterways. Furthermore, forest fragmentation by roads can hinder the movement of salamanders, making it critical to protect contiguous forests and preserve them as much as possible.

Similar protection strategies are also important for most other species, from barred owls to timber rattlesnakes. The barred owl requires mature hardwood forests that are not fragmented. Thus it is vitally important to maintain upland forest buffers and to provide corridors of protected land between owl habitats. Timber rattlesnakes can be severely impacted by human disturbance and are finding their populations increasingly isolated from each other. Thus it is important to protect roadless areas from fragmentation and provide connected areas of habitat.

Throughout the Highlands, critical habitat areas must be protected from further degradation and maintained as intact as possible if these sensitive animal populations are to survive for future generations of New Jersey residents to enjoy. Protection must focus on preserving large cores of area and maintaining the water quality in the area, as so many aquatic and terrestrial organisms depend on the water for their well-being.

Forests

More than half of the Highlands region contains rich and diverse forests occupying 370,000 acres of land. Much of these forests remain in large, unfragmented pieces, some exceeding 5,000 acres in size. Most of the forestland is dominated by oak-hickory forest with northern hardwoods, hemlock, and swamp hardwoods. These forests contribute to the region's

clean water and air, wildlife habitat, recreational resources, and serve as an excellent timber resource.

The most current data from the USDA Forest Service in New York and New Jersey estimates that there are between 50,000 and 75,000 private forestland ownerships in the Highlands region. A majority of the forest is owned by private citizens and organizations with the remainder owned by public agencies. Most forestland ownerships are small with more than 50% of them smaller than 10 acres, and more than 90% smaller than 50 acres in size. Much of the private ownership is simply because it is part of an individual's property for enjoyment of green space and wildlife. However, a significant amount is owned as a real estate investment. The publicly owned forestlands are predominately owned to provide the general public with clean drinking water, recreational opportunities, and to provide habitat for wildlife and rare species. The publicly owned lands are unlikely to be converted to other land uses.

Whereas a majority of forestland is in private ownership, only 5,600 acres are enrolled in the USDA Forest Service's Forest Stewardship Program, a preferential assessment program that gives landowners a reduced tax rate in exchange for their promise not to develop the land. The primary focus of the Program is the development of comprehensive, multi-resource management plans that provide landowners with the information they need to manage their forests for a variety of products and services while maintaining forest health and vigor. Actively managed forests provide timber, wildlife habitat, watershed protection, recreational opportunities and many other benefits for landowners and society.

Continued suburban development, and increased fragmentation of large contiguous forest tracts and land ownerships will result in fewer parcels of a size that is efficient for forestry management. Clearing of land will also impact water quality and critical habitat of the Highlands unique wildlife. Unfortunately, unless policies change and more private owners enroll in land management programs, it is the private investors who will decide the fate of the Highlands forest: whether the land will remain forested to replenish and purify groundwater and protect critical habitat or whether the land will be cleared and developed with increased impervious surface coverage.

It is essential that the County achieves a balance between the State Plan Center based development and the inevitable elimination of plant and wildlife habitat in those areas deemed appropriate for Center development. As nearly all of Sussex County, not only the Highlands, is considered to be suitable for Federal or State threatened or endangered species of plants and animals, there is no way for the important benefits of reduced sprawl, stormwater runoff, loss of recharge, and fragmentation of habitat to be realized without environmental impact.

That said, an appropriate mechanism is to provide that, where a center is proposed or expanded, there be no net loss of habitat "value". As habitat value is a function of the area quality of existing or resulting habitat, best management practices for agriculture, general open space and recreation facilities may be improved as a off-set to the gross loss of area of habitat caused by development. For instance, there are many areas of conservation easement, preserved open space and preserved farmland where management of the habitat quality is prohibited. As a consequence, multi-flora rose, autumn olive, purple loostrife, barberry, thistle and other invasive species encroach and eventually overwhelm the land area. The open space values sought to be preserved are thus destroyed.

The character of the County is dependent on the retention and maintenance of open space and agriculture. Simply leaving land to revert to forest and failing to implement best agricultural management practices leads to degradation of the value of the land. This is a waste of the taxpayer dollars used to purchase the land or easement in the first place. It impairs the educational and open air experience of open space lands.

In order to adequately address these important issues, all center/node based development proposals should be conditioned upon the petitioner taking reasonable steps to secure the benefits of the transferred densities and consequent open space/preserved farmland as part of the overall plan for development. In the same vein, no proposal for open space acquisition should be without a feasible management plan.

CIRCULATION ELEMENT

Introduction

Sussex County is facing an increasing number of demands and issues with its transportation system. This system, which is primarily the County's highway network (See Exhibit 14), needs to function more efficiently order to maintain the high quality of life for which the County is noted. Improving the County's transportation system, for residents, non-residents and visitors alike, is an important part of the County's Strategic Growth planning efforts.

Pressure on the County's highway system will continue to grow. These increased demands on County roads are caused by a number of factors. These include: the desirability of the County as a place to live and raise a family - and the resulting increase in County population; the high percentage of the County's workforce that commutes outside of the County for employment; the lack of transit options for commuting; the significant increase in the number of people moving to Pennsylvania, which borders Sussex County, to take advantage of the relatively lower cost of living, while still commuting to jobs in northern NJ; and the significant amount of tourism and recreation traffic that travels to Sussex, as well as through the County on its way to Pennsylvania and the Pocono region - especially on the weekends.

Numerous transportation computer models, as well as an examination of demographic trends and various surveys, indicate that these demands show no sign of slowing down. Unless efforts to improve the County's transportation system are undertaken, the congestion will continue to increase in Sussex County.

In order to address this issue, Sussex County has been working on a number of strategies to develop a balanced set of transportation system improvements that will provide for improved mobility in the County and help reduce congestion.

Mobility Study

Among these strategies is the development of a comprehensive County Mobility Study, which is intended to address transportation needs in the County for the next two decades. This study contains the results of both an Origin and Destination (O & D) Survey that was conducted on the major commuter corridors in the County and of a comprehensive Web-based transportation survey which provided for general public input. Each of these surveys has provided valuable insight and information on the issues that confront those who use the County's transportation system every day.

Some examples of the information and data contained in the Mobility Study are included in the Appendix.

EXHIBIT 14
ROAD NETWORK

The origin/destination survey of commuters along routes 15, 23, and 206 was undertaken as part of the Mobility Study in order to better understand exactly where commuters outside of the County are going. Origin and destination municipality and County were determined for each survey respondent.

Figure 36: Place of Employment for Residents of Sussex County

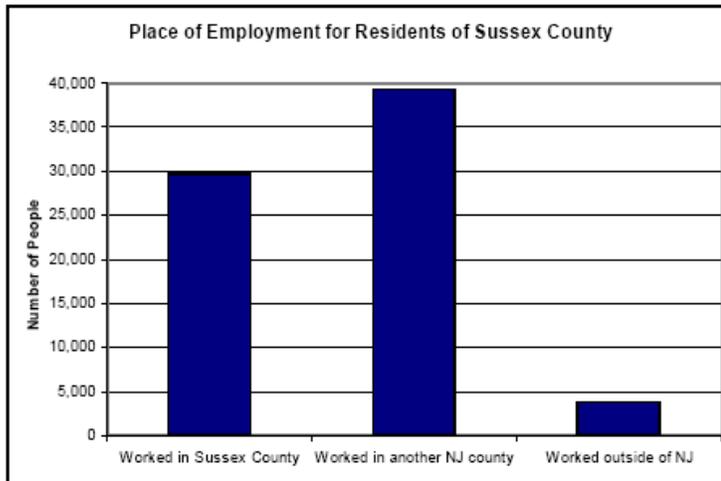


Figure 36 shows that Sussex County residents worked mostly in other New Jersey counties in 2000.

Travel Mode and Commute Time

Sussex County, as a predominantly rural/suburban community, is expected to have a majority of residents who use private transportation to get to work. This also involves long commute times, as major job centers are relatively remote. The data presented is from Census 2000.

Means of Transportation

The percentage of workers in New Jersey who drove alone increased by 3.6% from 1990 to 2000. The percentage of people in New Jersey who used public transportation increased by 10.3%, but the percentage of those who carpooled decreased by 12.6%.

Sussex County was one of only five New Jersey counties that did not experience an increase in public transportation usage between 1990 and 2000. Fewer than 2% of workers in Sussex County used public transportation. The largest percentage of workers who drove alone to work in the State of New Jersey is found in Sussex County (83.9%). Figure 37 and Figure 38 present the modes of transportation to work used by Sussex County residents.

Figure 37: Means of Transportation to Work for Sussex County Residents

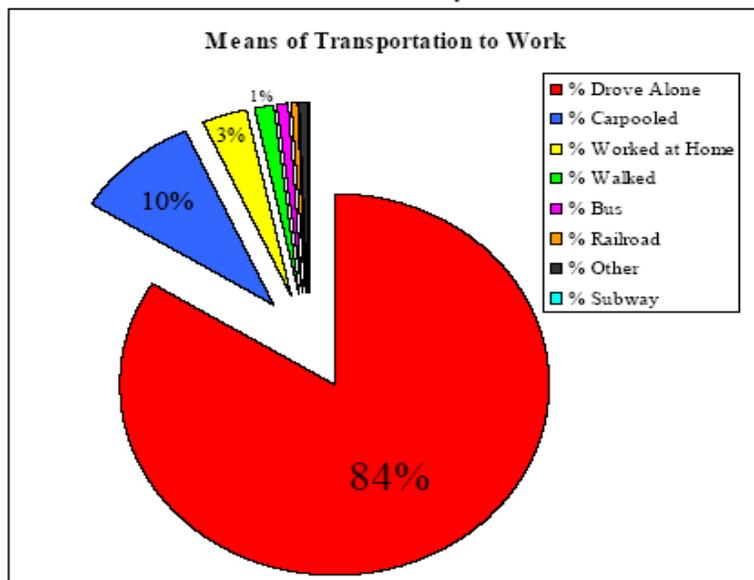


Figure 38: Means of Transportation for Sussex County Residents

Means of Transportation to Work For Sussex County Residents	
Drove Alone	61,033
Carpooled	6,836
Worked at Home	2,442
Walked	965
Bus	566
Railroad	386
Other Means	336
Subway	62
Bicycle	47
Taxicab	32
Motorcycle	23

As noted, 83.9% of people drove alone. In second place at 10% were those who carpoled. Of those people who carpoled, 86% participated in 2-person carpools, 9% in 3-person carpools and 5% in carpools or vanpools with 4 or more people. Figure 39, describes the distribution of commute times for Sussex County.

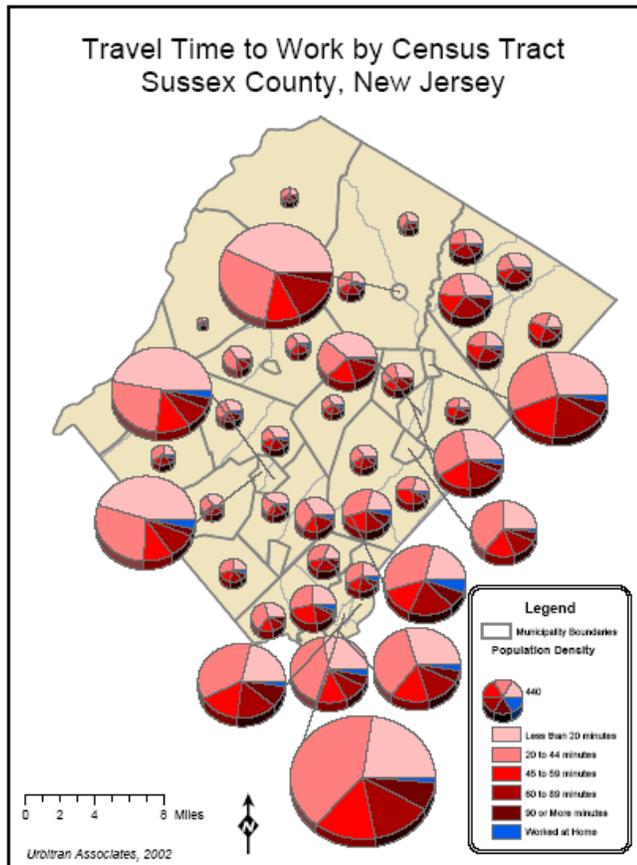
Figure 39: Overall Sussex County Travel Time to Work

Overall Sussex County Travel Time to Work	
Less than 20 Minutes	38%
20 to 44 Minutes	20%
45 to 59 Minutes	15%
60 to 89 Minutes	17%
90 or more Minutes	7%
Worked at Home	3%

As can be seen in Figure 39, as many County residents have short commutes as have very long commutes. This can be attributed to the varying urban and rural characteristics throughout the County. People living in more urban areas often live close to their places of employment and thus have short commute times; the reverse is true of people living in suburban/rural areas. In Sussex County, 59% of commuters traveled twenty minutes or more from home to work.

Figure 40 shows travel time to work for Sussex County residents by Census 2000 Tract. The sizes of the pie charts represent population density in the Census Tract.

Figure 40: Travel Time to Work for Sussex County by Census Tract



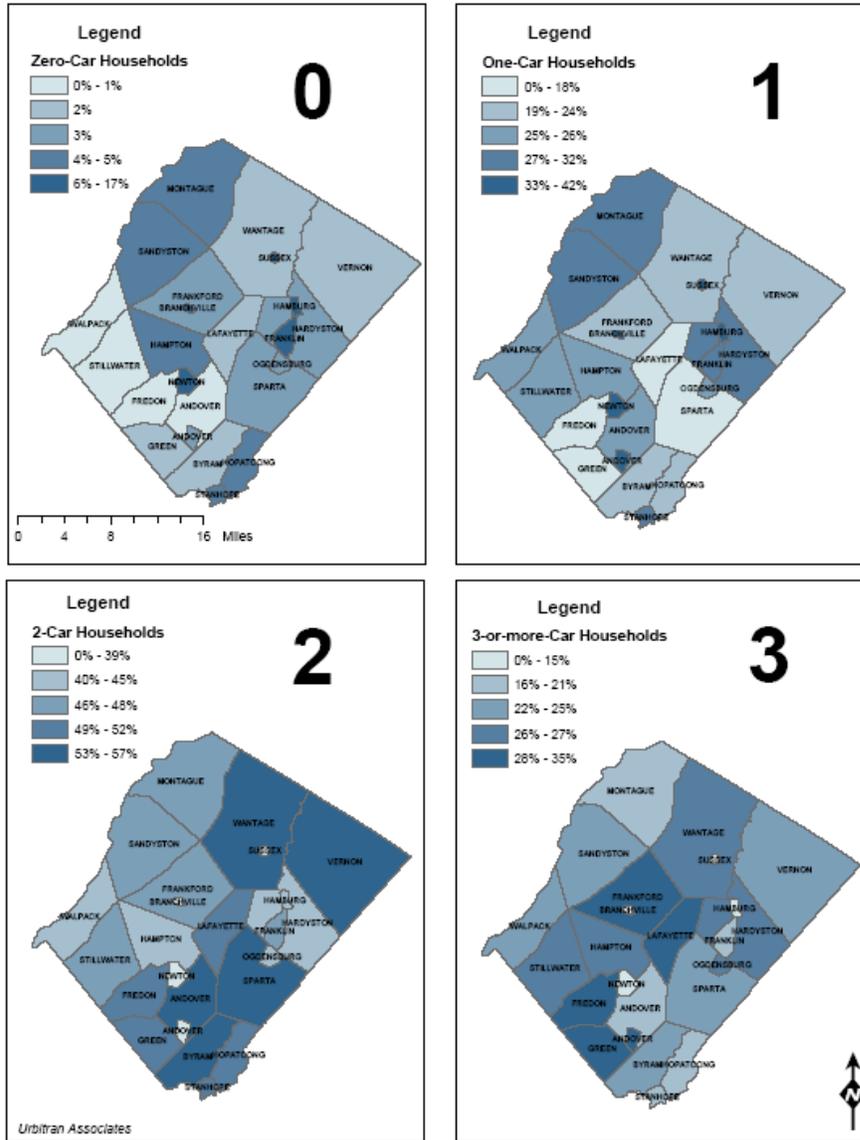
Residents of central Hopatcong drove alone and rode the railroad the most in Sussex County.

North-central Sparta produced the largest percentage of carpoolers. The largest percentage of bus riders was found in eastern Hampton Township.

Cars per Household

Numbers of cars per household is an important statistic because it describes vehicle dependence and, in turn, transit demand in the region. Because Sussex County is a rural/suburban area, the number of cars per household is expected to be high. Generally, zero-car households are considered to be entirely dependent upon alternate transportation sources. At the time of Census 2000, 66% of Sussex County households owned more than one vehicle (second in the State), much higher than the State average of 52.6%. Figure 41 describes the spatial configuration of the percentage of households with 0, 1, 2, and 3 or more cars.

Figure 41: Number of Cars per Household by Municipality for Sussex



In order to evaluate the transportation needs and appropriate solutions for an area one must have an understanding of the underlying characteristics of travel. The origins and destinations of traffic are among the most important of these characteristics. For the purposes of the Sussex County Mobility Study, one particular subset of trips was those leaving the County for work. A roadside origin-destination study was undertaken to measure travel characteristics at

the busiest locations where travelers exited Sussex County on weekday mornings: Routes 15, 23 and 206, as they cross into Morris County.

The survey was of the postcard mail-back type, distributed to passing motorists, to be completed and returned by postage-paid, business reply mail. The mail-back card included basic questions as to the origin and destination address, including municipality, activity at the origin and destination, where the vehicle was parked at the end of the trip, the trip purpose, vehicle occupancy, and a selection of routes used during the trip. This general format has been used by the New Jersey Department of Transportation on many similar origin/destination studies. The other part of the card included the reasons for the survey, the rationale behind its distribution during the morning rush, as well as rudimentary instructions. These instructions included the option of responding to the survey by means of a special internet website linked from the Sussex County homepage.

Because of the speed and volume of traffic at the County line, the actual survey sites were located at intersections and ramps. These were chosen on the basis of visibility, as well as maximizing the number of surveyed vehicles destined for the County line. The survey locations, grouped by primary route were as follows:

US Route 206 (all at the Acorn Street signal in Byram Township/Stanhope):

- Route 206 southbound approach;
- Right turns from Acorn Street eastbound approach; and
- Left turns from the northbound Route 206 jughandle (westbound approach).

NJ Route 15 (all in Sparta Township)

- Route 15 southbound approach at the NJ Route 181 signal (northern freeway terminus);
- Ramp from County Route 517/Sparta Bypass to Route 15 southbound; and
- Ramp from Blue Heron Road eastbound (just east of Route 181) to Route 15 southbound.

NJ Route 23 (both in Hardyston Township)

- Route 23 southbound approach at the County Route 515 signal; and
- Route 515 southbound, 0.5 mile north of Route 23 (typical back of queue).

The information below, from various tables and figures of the Mobility Study, indicate the distribution of travel modes, park and ride usage and vehicle occupancy.

Figure 42

Table 3-16: Origin/Destination Survey Distribution of Travel Modes

Travel Mode	US-206		NJ-15		NJ-23		All Routes	
	Trips	%	Trips	%	Trips	%	Trips	%
Drive Only*	3,732	97.9%	7,067	97.2%	5,034	97.4%	15,834	97.5%
Drive / Carpool	21	0.6%	35	0.5%	9	0.2%	65	0.4%
Drive / Bus	6	0.2%	79	1.1%	107	2.1%	192	1.2%
Drive / Train	54	1.4%	74	1.0%	16	0.3%	144	0.9%
Drive / Ferry	0	0.0%	12	0.2%	2	0.0%	14	0.1%
Multi-Mode Total	81	2.1%	200	2.8%	134	2.6%	415	2.6%
TOTAL	3,813	100.0%	7,267	100.0%	5,168	100.0%	16,248	100.0%

Figure 3-28: Origin/Destination Survey Travel Mode for All Surveyed Routes

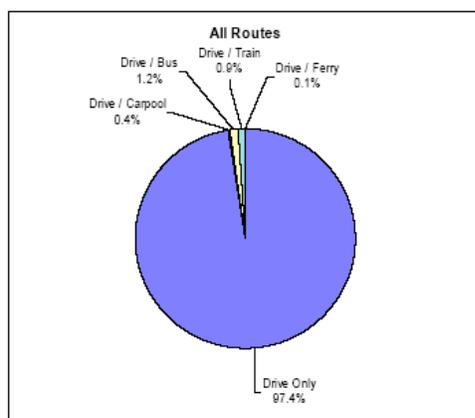


Table 3-17: Distribution of Top Park & Ride Lots for Multimode Trips for All Surveyed Routes

All Routes			
Mode	Park & Ride / Station	Trips	%
Bus	Newfoundland	70	16.9%
Bus	Rockaway Mall	48	11.6%
Train	Dover	48	11.6%
Train	Netcong	31	7.5%
Carpool	*unspecified*	20	4.8%
Bus	North Bergen	20	4.8%
Bus	Willowbrook Mall	16	3.9%
Bus	*unspecified*	16	3.9%
Carpool	Blue Heron Rd	15	3.6%
Train	*unspecified*	9	2.2%
Train	Mount Olive	9	2.2%
Total		302	72.8%

Total of All Multi-Mode Trips

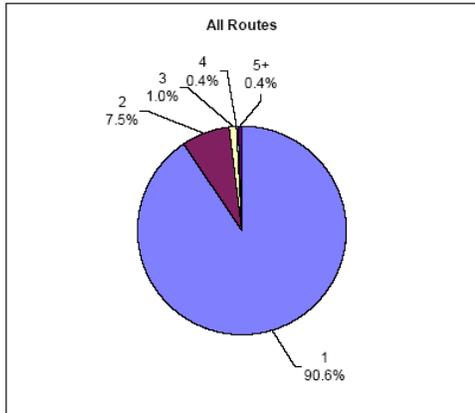
415

Figure 43

Table 3-18: Origin/Destination Survey Distribution of Vehicle Occupancy

Occupancy*	Distribution of Vehicle Occupancy							
	US-206		NJ-15		NJ-23		All Routes	
	Trips	%	Trips	%	Trips	%	Trips	%
1	3,412	89.6%	6,618	91.1%	4,684	90.6%	14,714	90.6%
2	304	8.0%	517	7.1%	402	7.8%	1,223	7.5%
3	52	1.4%	83	1.1%	34	0.7%	169	1.0%
4	22	0.6%	21	0.3%	18	0.3%	61	0.4%
5	0	0.0%	4	0.1%	6	0.1%	10	0.1%
6	5	0.1%	0	0.0%	5	0.1%	10	0.1%
7	0	0.0%	6	0.1%	4	0.1%	10	0.1%
8	3	0.1%	0	0.0%	0	0.0%	3	0.0%
10	6	0.2%	10	0.1%	18	0.3%	34	0.2%
12	3	0.1%	3	0.0%	0	0.0%	6	0.0%
Total	3,807	100.0%	7,262	100.0%	5,171	100.0%	16,240	100.0%
Avg. Occupancy	1.16		1.13		1.15		1.14	

Figure 3-30: Origin/Destination Survey Vehicle Occupancy for all Surveyed Routes



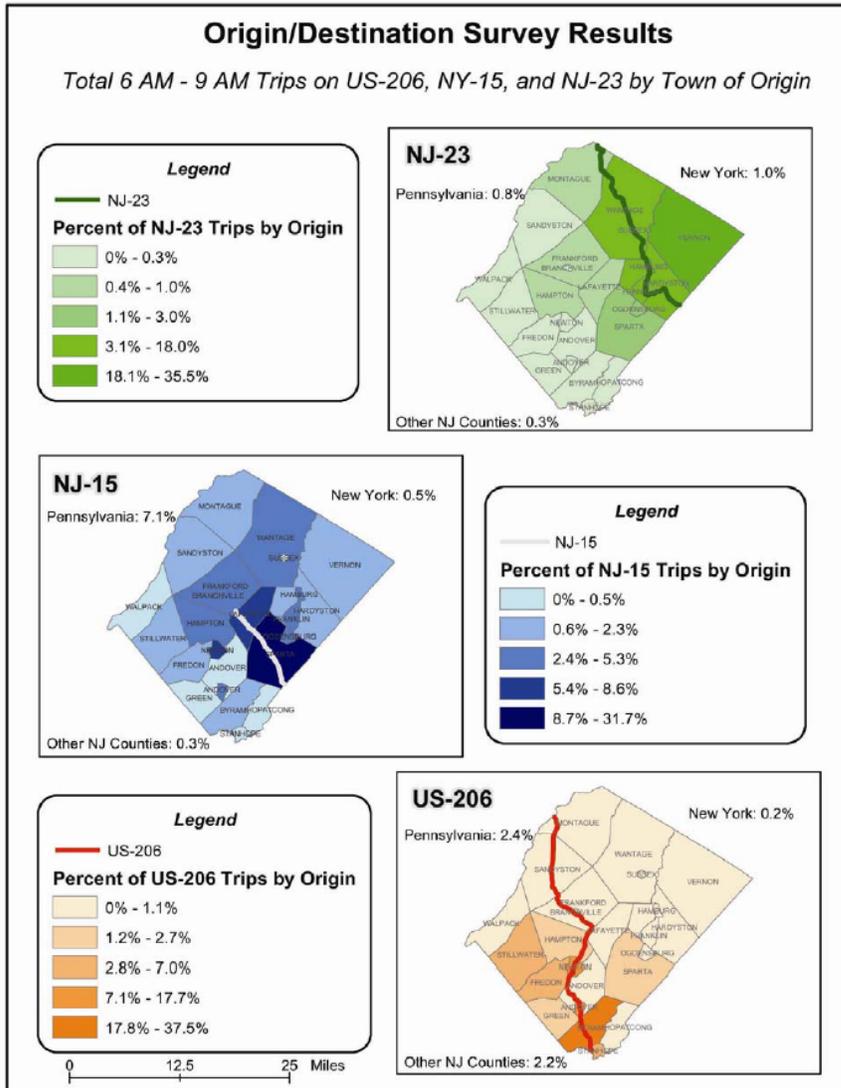
Trip Purpose

Respondents were asked their trip purpose on the day of the survey and were given several choices of which they could check one.

- As expected with morning peak period traffic, an overwhelming majority of trips are destined for the workplace – just over 91 percent; with 3 percent variation for individual routes.
- The next highest trip purposes were business and school, with 1.5 to 2 percent each.
- If “no responses” were apportioned among the specific trip purposes; work trips would increase to about 93.5 percent.

Figure 44

Figure 3-36: Percent Trips on NJ-23, NJ-15 and US-206 by Sussex Municipality of Origin



Destination of Trips

As with the question of trip origin, respondents were given several options to describe their destination. Please note that destinations with park & ride lots may be over counted, and destinations served by transit may be undercounted, due to some respondents using the park & ride location as their destination; however, since multi-mode trips accounted for only 2 to 3

percent of total trips, such inaccuracies are expected to be minor. The following general observations were made about the destinations of the survey respondents:

- Approximately 98 percent of all trips are destined to stay in New Jersey, with about 1 percent variation for individual routes.
- Approximately two-thirds of all trips on Routes 206 and 15 are destined for Morris County; 60 percent of Route 23 trips split evenly between Morris and Passaic Counties.
- Approximately 2 percent of all trips are destined for New York City, with Route 23 trips at 2.5 percent.
- With a range of 40 to 55 percent of trips heading for a top ten destination, destinations are much more dispersed than origins. At about 40 percent, trips on Route 23 indicate the most dispersion.
- The largest single destination, Parsippany, is the destination for 9.5 percent of all trips. With over 17 percent of Route 206 trips destined for Mount Olive is the largest single destination among individual routes.
- Wayne, in Passaic County, and Fairfield, in Essex County, are the only non-Morris County destinations in the overall top-ten, at just over 3.5 and 2.5 percent, respectively; with just over 1.5 percent -- 286 trips -- Newark is ranked 15th as a destination.

Figure 45, describes the distribution of trip destinations for all surveyed trips by route.

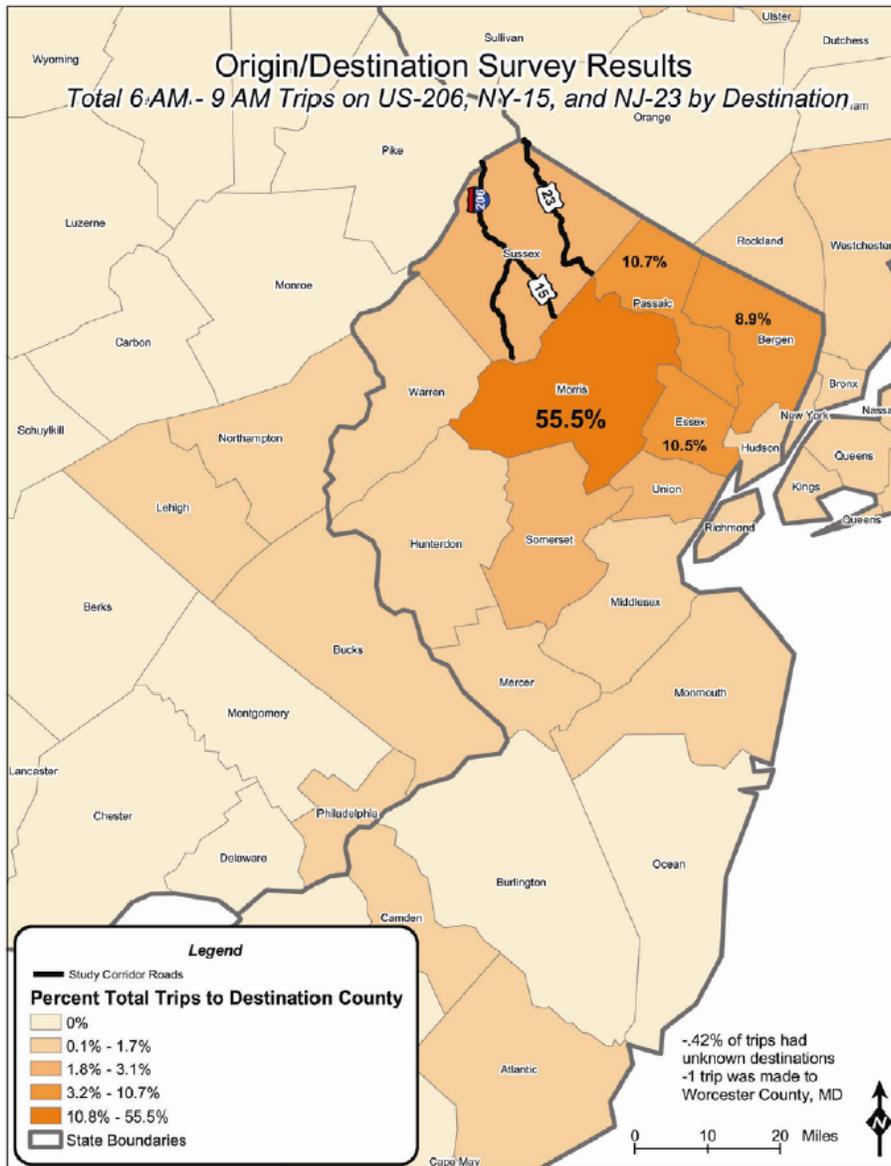
Figure 45: Origin/Destination Survey Distribution of Trip Destinations

Destination	US-206		Distribution of Trip Destinations				All Routes	
	Trips	%	NJ-15 Trips	%	NJ-23 Trips	%	Trips	%
Bergen	81	2.1%	353	4.9%	1,092	21.2%	1,526	9.4%
Essex	265	7.0%	900	12.4%	522	10.1%	1,687	10.4%
Hudson	36	1.0%	152	2.1%	122	2.4%	311	1.9%
Middlesex	81	2.1%	47	0.6%	18	0.3%	146	0.9%
Morris	2,490	65.7%	4,777	66.0%	1,539	29.9%	8,806	54.4%
Passaic	82	2.2%	272	3.8%	1,539	29.9%	1,892	11.7%
Somerset	270	7.1%	94	1.3%	43	0.8%	406	2.5%
Sussex	264	7.0%	206	2.8%	22	0.4%	492	3.0%
Union	85	2.2%	238	3.3%	77	1.5%	400	2.5%
Warren	36	1.0%	3	0.0%	0	0.0%	39	0.2%
Other NJ Counties	46	1.2%	26	0.4%	17	0.3%	89	0.6%
<i>New Jersey Total</i>	<i>3,736</i>	<i>98.6%</i>	<i>7,068</i>	<i>97.7%</i>	<i>4,991</i>	<i>96.9%</i>	<i>15,794</i>	<i>97.6%</i>
New York City	39	1.0%	127	1.8%	130	2.5%	297	1.8%
Other NY Counties	6	0.2%	28	0.4%	29	0.6%	63	0.4%
Pennsylvania	8	0.2%	6	0.1%	3	0.1%	18	0.1%
Other States	0	0.0%	4	0.1%	0	0.0%	4	0.0%
TOTAL	3,789	100.0%	7,233	100.0%	5,153	100.0%	16,176	100.0%

Figure 46

Figure 3-37 describes the destination of all trips on all surveyed routes by destination county.

Figure 3-37: Percent of Total Trips by Destination County



Common Origin/Destination Pairs

After discussing the origins and destinations of all surveyed trips in detail, it is time to look at the combination of the two results – origin/destination pairs. These pairs are very useful to public transportation planning because they show the direction of people flow. Figure 47, lists the origins and destinations for all trips in matrix format.

Figure 47: Origin/Destination Matrix for All Surveyed Routes

Origin	Destination						Total
	Sussex	Morris	Other NJ	NY	PA	Other	
Sussex	444	8,266	6,211	335	12	48	15,316
Morris	0	26	21	0	0	0	47
Other NJ	11	50	23	3	0	0	87
NY	6	50	39	0	0	0	95
PA	32	421	221	35	6	0	715
Other	0	0	0	0	0	0	0
Total	493	8,813	6,515	373	18	48	16,260

Figure 48, lists the top ten most common origin/destination pairs.

Figure 48: Distribution of Top Ten Origin/Destination Pairs for All Surveyed Routes

All Routes								
Rank	Origin			Destination			6-9 AM Trips	Percent of All trips
	Municipality	County	State	Municipality	County	State		
1	Sparta	Sussex	NJ	Parsippany	Morris	NJ	335	2.1%
2	Sparta	Sussex	NJ	Rockaway	Morris	NJ	185	1.1%
3	Vernon	Sussex	NJ	Wayne	Passaic	NJ	180	1.1%
4	Sparta	Sussex	NJ	Morristown	Morris	NJ	173	1.1%
5	Byram	Sussex	NJ	Mount Olive	Morris	NJ	155	1.0%
6	Vernon	Sussex	NJ	Parsippany	Morris	NJ	154	0.9%
7	Andover	Sussex	NJ	Parsippany	Morris	NJ	123	0.8%
8	Newton	Sussex	NJ	Parsippany	Morris	NJ	119	0.7%
9	Newton	Sussex	NJ	Mount Olive	Morris	NJ	106	0.7%
10	Hamburg	Sussex	NJ	Wayne	Passaic	NJ	104	0.6%
Total							1,633	10.1%

Total of All Trips – 16,215

The following general observations can be made about the resulting origin/destination pairs:

- The top ten overall origin-destination pairs account for only about 10 percent of all trips; for Route 206, the top ten pairs account for almost 23 percent, while top ten pairs account for roughly 17 to 18 percent of Routes 15 and 23 trips.
- Sparta to Parsippany has the largest number of trips for a single O-D pair at 335 – just over 2 percent of all trips.

- On individual routes, Sparta to Parsippany accounts for about 4.5 percent of Route 15 trips, Byram to Mount Olive accounts for just over 4 percent of Route 206 trips, and Vernon to Wayne accounts for about 3.5 percent of Route 23 trips.
- Vernon to Manhattan, at just over 1 percent of Route 23 trips, is the only top-ten O-D pair with a non-New Jersey destination.
- The largest and second largest destination districts, Central and Northwest Morris County, each have almost twice the trips as the third largest, Passaic County.

Figures 49 – 51 describe the ten most common origin/destination municipality pairs for trips on routes 15, 23, and 206.

Figure 49: Ten Most Common Origin/Destination Municipality Pairs for NJ-15 Trips

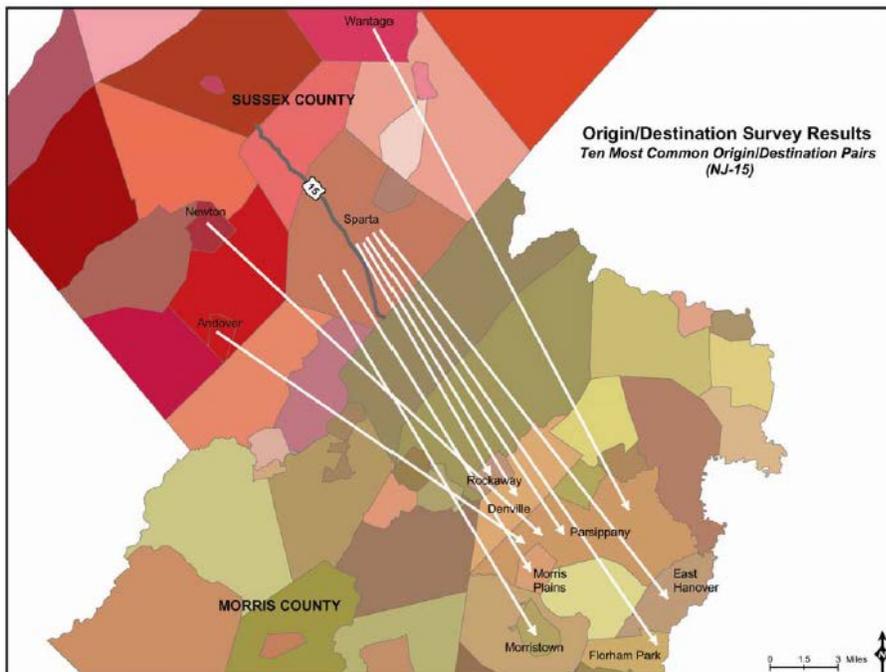


Figure 50: Ten Most Common Origin/Destination Municipality Pairs for NJ-23 Trips

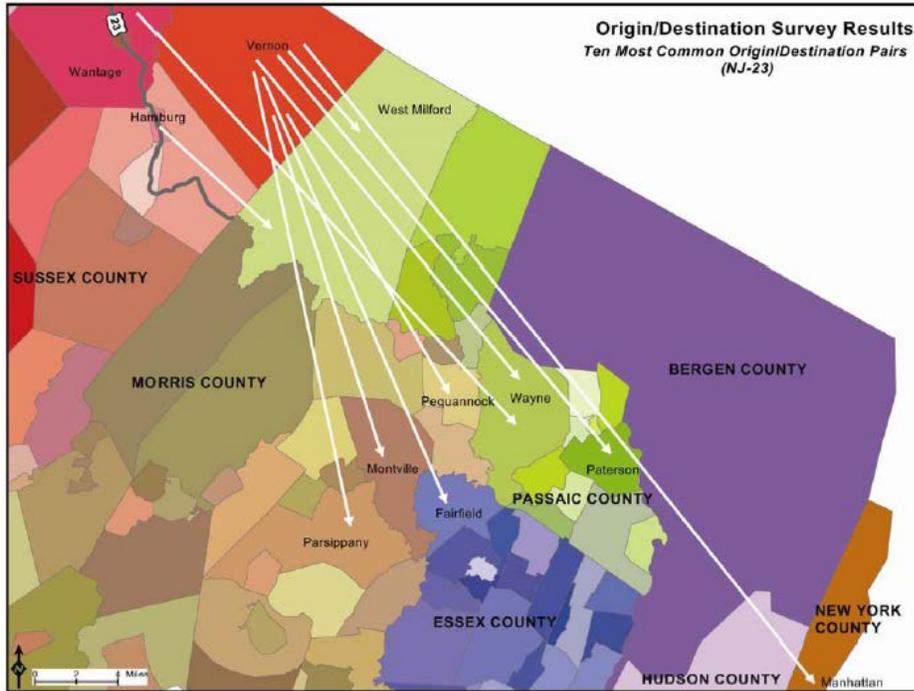
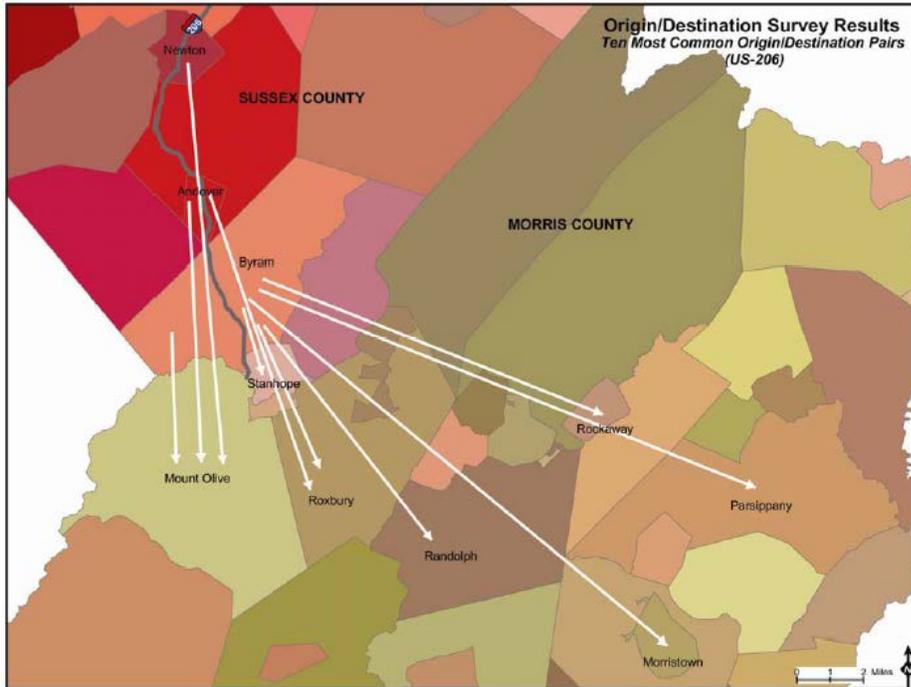


Figure 51: Ten Most Common Origin/Destination Municipality Pairs for US-206 Trips



Web-based Survey Results

The Sussex County Transportation Needs Survey was designed to garner input from as many sectors of the Sussex County population as possible. In order to develop a strategy for transportation and transit improvements, it was determined that addressing multiple markets through a heavily promoted web-based survey would be a highly proficient way of understanding needs.

The web site address and survey were widely advertised via flyers, radio and television to the County residents. The Survey collected 643 total responses with 1517 hits, which give it a 43% response rate.

The survey collected information from three groups. These are:

- General Public
- Business
- Social Service Agencies

The general public included County residents and people who commute to or through Sussex County. The business community includes business owners and representatives who provided information with regard to employees' transportation choices, preferences, and needs. Social Service Agency representatives related transportation services they provide to their

clients, as well as their clients' transportation needs. Each group of responders was given a specific set of questions.

Responses were accumulated in a database during the period when the survey was conducted. There were 643 overall responses. These were sorted in the three groups General Public – 551, Business – 55, and Social Services Agencies – 37 responses (see Figure 52) and evaluated separately:

The overwhelming majority of responses came from the general public. The task of reaching this market can be difficult and this approach appears to have offered an opportunity to reach large numbers of County residents.

Figure 52

**Summary of the Survey Questions
Response Category – Type of User**

	# Records	%
Business Community	55	8.6%
Social Service Agencies	37	5.8%
General Public	<u>551</u>	<u>85.7%</u>
Total	643	

Growth and the Impact on the Sussex County Transportation System.

The completion of the Interstate Highway System in northern New Jersey in the 1990's, particularly the completion of I-80, significantly increased growth pressures in Northwest New Jersey. This made the Stroudsburg/Pocono region of Northeast Pennsylvania (with its lower cost of living) much more accessible to the job centers in the northern NJ-NY metropolitan region. This increased growth, most of which has been residential, has had a substantial impact on the County and regional transportation system. This is evidenced by the daily congestion on the interstates and major highways in the region.

As a result of the relatively easy access to the northern New Jersey job centers from Sussex County, via Interstate Routes 80 and 287, and the near complete loss of both passenger and freight rail service, the movement of people and goods in the County is almost entirely dependent on the motor vehicle.

At one time, Sussex County had five major rail lines running through and servicing the County. Much of the early growth that took place in the County in the early 1900's was based on tourism and recreation, with the railroads providing easy access from New York and New Jersey cities to tourist destinations in the County, such as the Culver Lake and Cranberry Lake areas as well as weekend homes in many parts of the County. Once these rail services were abandoned, the destinations became far less attractive. Construction of I-80 restored relatively easy access but forced trips to be auto dependent.

Traffic congestion has increased substantially on all major roadways in and around Sussex County. The dispersion of major employment sites and housing throughout the region combined with the lack of viable and available transit options has made transportation in the

County nearly synonymous with the auto. Additionally, many of the roads in the County, which evolved from old farm paths and trails, are used far beyond their existing capacity. Major highway widenings, once thought to be the answer to congestion, are no longer viable due to environmental and financial constraints.

Data from State and County data bases are shown as Figure 53 and Exhibit 14.

Comment [E1]: Here is where the traffic counts and map go. We also need an analysis of the traffic to be generated from the build out analysis.

Figure 53

Workforce in Sussex County by County of Residence for Nearby Counties			
County, State	1990	2000	Change
Monroe Co. PA	260	428	168
Morris Co. NJ	1845	2,614	769
Orange Co. NY	959	788	-171
Passaic Co. NJ	557	545	-12
Pike Co. PA	1047	1,662	615
Warren Co. NJ	1107	1,123	16
Net Change in Workforce from nearby Counties		1385	
<i>Source 1990 and 2000 Census Journey to Work</i>			

Both County and State officials realize that history has shown the one “cannot build one’s way out of congestion”, nor should one. Covering the County in a “sea of asphalt” would have a highly adverse effect on the County’s overall character. Additionally, both funding and available routes are severely limited. Consequently, alternative means to accommodate the growth of inter- and intra-regional traffic must be implemented.

As a result of the growth and congestion issues in the County, the County, along with municipalities and the State, must implement a combination of strategies.

It is also well understood that the goal is to move more people and goods and not necessarily more vehicles.

A joint effort between the Sussex County Chamber of Commerce, the Economic Development Partnership and County government has been the establishment of the Transportation Integration Effort (TIE) Committee to provide support for strategic transportation projects. The focus of the TIE Committee has been education and outreach to the community in order that accurate, credible information is available to County residents and the business community. In addition, the TIE Committee has demonstrated valuable support for County Transportation projects, in particular for the passenger rail projects, to the various state agencies responsible for implementing them. Also, the TIE Committee was instrumental in initiating the County Mobility Study as well as providing assistance with it.

The Sussex County Mobility Study will serve as a guide to addressing transportation needs in the County for the immediate future. Most efforts to improve mobility in and around

the County will focus on reducing congestion. As it is highly unlikely that there will be any significant highway expansion or widening in the region in the foreseeable future - it will be necessary to come up with strategies that advance the following objectives:

- Coordinated Land Use Decisions that are Supportive of Smart Growth
- Transportation Demand Management Strategies
- Transit Option Development
- Traffic Operations and System/Roadway Management, which should include Access Management Plans for both State and major County Highways.

One of the major emphasis areas and strategies that the County has been concentrating on is the need to try to provide alternatives to the single occupant vehicle (SOV) in the County. Single occupancy vehicles are the major cause of congestion in the County and region.

Journey-to-Work

An analysis of Sussex County Journey to Work Data from the US Census for 1990 and 2000 and related information, highlights a number of important trends and commuting patterns facing the County and the regions transportation system.

One of the most significant changes is the overall increase in the number of Sussex County residents who commute out of Sussex County to counties in the northern New Jersey region. The number of people commuting out of Sussex has increased by over 4,000 from 1990 to 2000 according to the 2000 Census. Some of the major destination counties for Sussex commuters that have seen the greatest increases include Morris County, with an increase of close to 1,800; Bergen County, which has increased by over 900; Warren County, with an increase of 572; and Union and Hudson Counties which have had increases of close to 350 each (see Figure 54).

Figure 54

Sussex County Journey to Work Change Between 1990 and 2000			
County, State (Workplace)	1990	2000	Change
Bergen Co., NJ	3927	4828	901
Essex Co., NJ	4149	3919	-230
Hudson Co., NJ	795	1137	342
Hunterdon Co., NJ	132	208	76
Mercer Co., NJ	80	162	82
Middlesex Co., NJ	549	734	185
Monroe Co. PA	86	121	35
Morris Co. NJ	18619	20398	1779
New York Co., NY	1474	1449	-25
Orange Co. NY	771	641	-130
Passaic Co. NJ	4199	4244	45
Pike Co. PA	244	178	-66
Somerset Co., NJ	816	955	139
Union Co., NJ	623	967	344
Warren Co. NJ	838	1410	572
Net Change in Journey to Work County Flow to Nearby Counties			4049
Sussex Co., NJ	27667	29658	1991

Source 1990 and 2000 Census, Journey to Work

On the other hand, there are a few areas that have seen a decrease in the number of Sussex County workers traveling to them including New York City, which has seen a decrease of about 25 people from 1990 to 2000 and Essex County, which has seen a more substantial decrease of about 230 workers. In addition, Pike County, PA has seen a decrease of almost 70 Sussex County residents working there as well as Orange County, NY which has 130 less Sussex residents working there. These numbers would seem to validate the fact that Pike County's growth is significant, but is mostly residential..

These data for the counties that have experienced this increase in Sussex County commuters, would also seem to confirm the potential for new or increased transit service to these areas, in particular commuter rail. This includes the significant growth in Morris County (as well as Union County,) which will be served by the Lackawanna "Cut-Off" project and the growth in the number of Sussex residents commuting to Bergen County, which will be served by the NYS&W passenger rail project.

In addition, the top ten destinations for Sussex County commuters from municipalities in Sussex County to municipalities in the northern New Jersey area would also seem to offer potential for some type of transit service. These top ten destinations include:

- Hopatcong Borough in Sussex to Roxbury Township in Morris County with 763 commuters. Hopatcong Borough to Parsippany in Morris County with 680 commuters.
- Sparta Township to Parsippany in Morris County with 632 commuters.
- Vernon Township to Parsippany in Morris County with 366 commuters.
- Hopatcong Borough to Randolph in Morris County with 357 commuters.
- Byram Township to Mount Olive in Morris County with 355 commuters.
- Hopatcong Borough to Mount Olive in Morris County with 326 commuters.
- Hopatcong Borough to Rockaway Township in Morris County with 303 commuters.
- Vernon Township to Fairfield in Essex County with 246 commuters.
- Sparta Township to Rockaway in Morris County with 225 commuters.

These significant numbers of residents coming from Sussex County, traveling to the destinations identified above, may provide opportunities to reduce the number of single occupancy vehicles on the region's highways. There may be immediate potential for ridesharing and/or van-pooling from some of these municipalities. This should be explored by Trans Options, the Transportation Management Agency (TMA) for this area.

Another possibility for some of the large numbers of commuters from municipalities such as Hopatcong and Sparta would be to provide some type of "inter-county" transit or bus service to some of the major destinations such as Roxbury and Parsippany in Morris County. This should be further explored through some type of feasibility study by NJ Transit, TransOptions or possibly Sussex County.

Another potential opportunity for reducing SOV's on Sussex County's highway system would be to target the significant number of people from counties adjacent to Sussex who are coming to employment sites in the County. This number has increased by almost 1,400 workers from 1990 to 2000. The most significant increases have come from Morris County in New Jersey which has increased by almost 770 and from Pike County, PA which has increased by 615 (see Figure 54). There may be potential for van-pooling and/or mini-bus service out of these counties to Sussex. Trans Options should also investigate this possible service.

One of the most promising Journey-to-Work commuting patterns identified by the County which would seem to support the Lackawanna "Cut-Off" Passenger Rail Project, is the large numbers of commuters currently traveling from municipalities around the proposed Andover Station area to municipal destinations where there is a proposed station stops on the line, east of Dover. The Sussex County municipalities that were selected by the County included: Andover Borough and Township; Branchville Borough; Byram; Frankford; Fredon; Green; Hampton and Lafayette Townships; the Town of Newton; Sparta and Stillwater Townships. The proposed Station Stop municipalities included: Morris Plains; Morristown; Convent Station in Morris County; Summit in Union County; the City of Newark; Manhattan

(NYC) and Jersey City (using the Hudson Bergen Light Rail for a connection.) The total number of commuters currently traveling from the above noted Sussex County municipalities to just those municipalities identified is close to 3,000 (2,782) based on 2000 Census Journey-to-Work data. An estimate of 3,000 would not seem unreasonable considering it is almost five years later (2004.) These current numbers of commuters would seem to support the strategy of providing alternative modes of transportation to Sussex County, in particular, re-activating the Lackawanna “Cut-Off”, in order to try to help reduce congestion on some of the region’s highways.

The final Journey-to-Work information and growth trends that will surely have an impact on the region’s highway system, in particular the I-80 corridor, are found in the population projections for the counties in the Lackawanna “Cut-Off” “commutershed” identified by NJ Transit as part of the Conceptual Engineering work that is currently being conducted for the project. Most noteworthy is the population projection for Monroe County (just west of the Delaware River), which is projected to increase from a current population of 138,700 in 2000 to a population of 249,700 by 2025 (See Figure 55). This will far surpass the projected population of Sussex at 196,100, as well as Warren County at 140,300 by 2025. One thing is for certain is that many of these new residents of Monroe County will continue to commute to jobs and employment in the northern New Jersey area, many along the I-80 corridor, which will only exacerbate the already congested conditions. This will necessitate other modes of transportation.

The NJDOT’s Congestion Management System recommends using alternative methods to address congestion such as: eliminating trips, shifting trips to public transit (which has been a major emphasis in Sussex County), shifting trips to multi-occupant vehicles, and improving the operation and efficiency of existing highways before recommending an expansion of capacity (widening).

The major obstacle that Sussex County faces in trying to reduce SOV’s on County highways, is the fact that Sussex County is not directly served by NJ Transit by either rail or until recently (to Stockholm), commuter bus. As a result a great deal of emphasis has been placed, for many years, on trying to get commuter rail service in addition to improving regional freight service to the County.

Bus service can also be beneficial in reducing use of SOV’s but this service is not as attractive as it might be were there dedicated bus lanes on regional highways. With projected increases in both car and truck traffic on I-80, congestion will also increase. Traffic increases are associated with more than local development. Over the last decade, this traffic has increased substantially with the very rapid residential growth that has taken place in Northeastern Pennsylvania. This increase will become heavier with time. (See Exhibit 14A, Traffic Count Data).

EXHIBIT 14A
TRAFFIC COUNT DATA

Lackawanna Cut-off Passenger Rail Project

As a result of the increases in congestion, the States of New Jersey and Pennsylvania have, with their constituent local governments, spent a significant amount of time and effort attempting to restore freight and commuter rail service to the County. The project with the most potential for benefit is the Lackawanna “Cut-Off” project. (See Exhibit 15) This rail line roughly parallels the I-80 Corridor from Pennsylvania and could provide congestion relief not otherwise possible. Many of those who are moving to the Pike, Monroe, and Lackawanna County areas of the Pocono region, work in the northern New Jersey region. Others work in close proximity to the Boonton, Montclair, or Morristown Line to the east. This, along with the ability of shipping firms to load containers on railcars, is the single best opportunity to reduce the congestion in the I-80 corridor. No widening of the highway is considered feasible due to cost and environmental restrictions, particularly in the federally protected Delaware Water Gap National Recreation Area.

The Lackawanna “Cut-Off” has a long and interesting history. From its amazing construction from 1909 to 1911 and when it was opened it was considered one of the engineering marvels of the worlds - through its many years of service - including the famous “Route of the Phoebe Snow” - to its unfortunate abandonment and sale by CONRAIL in 1984. This project - the re-establishment of passenger rail service on the Lackawanna “Cut-Off”, has been an initiative of County staff since 1985.

Sussex County and Morris County determined that the best way to preserve the right-of-way was to obtain an Urban Mass Transit Administration (UMTA) Feasibility Study Grant to undertake the Lackawanna “Cut-Off” Right of Way Use and Extension Study. This study was completed and finalized in September of 1989. The study concluded that “there are several important reasons to pursue the acquisition and preservation of the Cut-Off as a future transportation corridor.” The study went on to say that, “Projections indicate substantial residential growth potential in the study area.” and that “There are no plans to expand the local highway system to alleviate overcrowded conditions in the Cut-Off corridor.” It also stated that “In order for the study area to continue to grow in a rational way... alternative forms of transportation must be developed or expanded.” The final important point that the Study raised was that “It would be extremely difficult and prohibitively expensive to assemble a right-of-way similar to this in the future.”

This study and its recommendations lead to the Lackawanna “Cut-Off” being rated as the highest priority Rail Right of Way in the State for acquisition in the 1989 New Jersey Bridge Rehabilitation and Rail Right of Way Acquisition Act. This Legislation, which was approved overwhelmingly by the voters, provided funding in the millions of dollars, to acquire threatened railroad rights-of-way throughout the State. This helped to preserve a number of abandoned rail lines throughout the State for future transportation purposes.

During this time, the Counties of Monroe and Lackawanna in Pennsylvania were beginning to experience increased residential growth. This was especially true for Monroe County which is bisected by Interstate 80. Many people began moving out to this area because

of the lower cost of living and continued to commute to jobs in the north Jersey region. This added significantly to the congestion in the I-80 Corridor, especially in New Jersey.

A significant asset that also runs through this area is the Delaware, Lackawanna, and Western (DL&W) rail right-of-way, which is connected to the Lackawanna "Cut-Off" at the Delaware River. This entire rail right-of-way, which runs through the high growth areas of Monroe and Lackawanna County in Pennsylvania and parallels the I-80 corridor in New Jersey, seemed to have tremendous transportation potential for the two states. Recognizing this, the Monroe County Planning Commission and the Lackawanna County Regional Planning Commission joined together in 1993 to apply to the Federal Transit Administration (FTA) for a feasibility study grant to determine what the demand was and what potential there was for alternative transportation modes in the I-80/380 corridor. The Goals and Objectives for this Study included: enhancing regional mobility; improving area accessibility for Pennsylvania, New Jersey and New York work destinations; promoting and enhancing existing transportation infrastructure - including rights-of-way; promoting existing community and preserving the environment; enhancing and coordinating with existing public transportation service; promoting public and private regional development initiatives and determining cost-effectiveness.

The Study took approximately two years to complete and included significant cooperation between the two states as well as the five counties through which the rail line runs.

There was both a Technical Evaluation Committee (TEC), as well as a Coordinating Committee (CC) formed to guide and provide input into the project. Representatives from Federal, State and County government, as well as the Monroe and Lackawanna Railroad Authorities and the National Park Service (for the Delaware Water Gap National Recreation Area - DWGNRA, and the Steamtown National Historic Site) served on the TEC. The TEC provided policy and technical guidance to the study team throughout the project. The CC included State and congressional representatives from both Pennsylvania and New Jersey; the Pocono Mountains Chamber of Commerce, the Pocono Mountains Vacation Bureau, the Tobyhanna Army Depot, NJ Transit, NJ Department of Transportation, the Visitors Convention Bureau of Scranton, Northampton and Pike Counties Pennsylvania and Sussex, Morris, and Warren Counties in New Jersey. The CC provided policy guidance and input on public opinion throughout the project. In addition, a number of open public meetings were held throughout the course of the Study to include input from commuters and public comments and opinion in the development of options for evaluation as well as the resulting recommendations for the study.

Another initiative that has gotten underway in regards to the Lackawanna "Cut-Off" that can take place simultaneously while the rail project progresses, is evaluating the potential for Transit Oriented Development (TOD) in the vicinity of the proposed Roseville Road Station located in Andover Township. This has been contemplated for a number of years by the County and is an area that is looked at by the FTA as part of their Section 5309 Criteria - "Transit Supportive Land Use and Future Patterns". Part of the FTA's overall evaluation of the project included whether or not the adjacent communities and municipalities have development or plan development that is supportive of transit service. This will be a unique situation for Sussex County though because the proposed station site is new and is located in a relatively undeveloped area. It is important to keep in mind too that dense development that would

normally support transit services may not necessarily be desirable in this location and may not be supported by the municipalities. In addition, it is important to note that most of the passengers on the commuter line will be through trips from outside the area. Therefore dense development in Sussex is not necessary to support the line. There could potentially be “Smart Growth” and State Plan issues as well.

Andover Borough and Andover Township have been very supportive of the rail project and support the establishment of a station in or near the existing Town Center. The Roseville Road location was chosen because it is one of the few locations along the entire line in Sussex County that is “at grade”, with an adjacent road. The Roseville Road location also offers reasonable access to Route 206 - the main north-south corridor in the County and the highway used by most of the commuters in this part of the County. Improvements required will include realigning Roseville Road to provide additional parking and improvements made to Route 206 and the 206/County Route 517 intersection in Andover Borough.

Two other potential station locations were evaluated in Sussex County. These were the Greendell station located on Wolf’s Corner Road (County Route 611) in Green Township and a site in Andover Borough adjacent to Brighton Road (County Route 606). The Greendell Station - while having good at-grade access and plenty of room for parking, is somewhat isolated although it does have reasonable access to Route 206 and I-80. However, its location relatively close to the proposed Blairstown station in Warren County might affect run times for the train. The other site looked at in Andover Borough has more direct access to Route 206 and is located in a center. There is, however, a severe (70+ feet) grade differential between the railroad right-of-way and the adjacent roads. There is also a significant sight distance limitation on the County Road at this location. As a result of these issues, the decision was made early on in the project to focus on the Roseville Road site, a former mail stop along the line many years ago. Adjacent land owners have been very supportive of a station in this location, and have pledged to work with the County and NJ Transit on trying to accommodate a station and whatever improvements are necessary.

As an integral part of this effort, the Sussex County Planning Staff has begun work to determine the potential and feasibility of Transit Oriented Development (TOD) to compliment the restoration of rail service and the station at Roseville Road. This has entailed coordination with NJ Transit and their Project Development Planning Department, preliminary discussions and work with Andover Borough and Township officials and their planners, who have recommended this area for transit friendly development; as well as ongoing discussions with property owners in the area adjacent to the proposed station location.

Transit friendly development in this area would be oriented towards existing development and sensitive to the context of rural Sussex County. It cannot be traditional high density development, normally associated with supporting mass transit. Sussex County does not have the water, sewer, or highway infrastructure to support this type of development. Given the adjacent Highlands Special Resource Area, the goals and objectives of the Highlands Plan will also have an impact on the eventual design of the transit village.

Sussex County will partner with NJ Transit and both Andover Township and Borough to develop a comprehensive plan for the station area. This will also include working with the private landowners in the area to promote transit friendly development. This assistance from NJ Transit will include outreach and education for the residents and officials of the affected municipalities, emphasizing the local and regional importance of transit and transit friendly land use and supporting their vision for the area. This will entail the development of a station area plan, and promote a pedestrian friendly environment along with service amenities for transit users. This will help to support the Andover Borough Center, provide economic development for the area and develop a vibrant, desirable community center around the train station. The expansion of the Andover Town Center and its level and scope of activities will, in turn, provide support for the commuter rail service.

In tandem, these will support the goals of the New Jersey State Development and Re-development Plan.

The County and municipalities recognize the need to balance land use, transportation and open space interests in an environmentally sensitive manner, in keeping with the rural character of Sussex County. Transit friendly planning is one of a community's most effective tools in achieving this balance between managing growth and change. The goal of "transit friendly" planning is to re-examine land use and development patterns, with the goal of moving from a large lot; auto dominated, dispersed, single-use pattern of development, to a pattern with a mix of land uses that easily relate to pedestrian activity and have the train station as the focal point. The train station will be a visible point of identity for the community. The TOD should be a mix of land uses such as retail, housing, small offices and other areas of employment as well as special uses such as health care facilities and offices and tourist or recreation facilities. In addition, there should be essential services and conveniences located in or in close proximity to the train station such as a day care center and dry cleaning shop, retail shops like delicatessens and video stores which would serve not only the commuters but the community at large.

This transit oriented development is just at the beginning stages and is an opportunity to be pursued in partnership with the municipalities, NJ Transit and other State agencies as the Lackawanna "Cut-Off" project progresses.

The New York Susquehanna and Western (NYS&W) Passenger Rail Restoration Rail Project

Another high yield transportation project which would improve mobility in Sussex County is the restoration of passenger rail service on the NYS&W railroad in the northeastern part of the County (See Exhibit 15). A brief overview of the NYS&W project follows.

EXHIBIT 15

**RAILROAD LINES
AND AIRPORT FACILITIES**

Railroad History

- The NYS & W Railroad was incorporated in 1881 to consolidate a number of smaller railroads and to move iron ore, coal and passengers between northern New Jersey, Pennsylvania and New York City.
- Passenger service west of Butler ended in 1941, but was upgraded east of Butler in the 1940's and 1950's.
- Due to the growth in popularity of the automobile, and the corresponding decline in ridership, all passenger service was ended in 1966.
- The rail line was dormant for almost 20 years from Butler to Sparta, and was almost abandoned in 1979.
- The rail line was rescued in the early 1980's by the Delaware Otsego Corporation of Cooperstown, New York, with financial assistance from the State of New Jersey and the Federal Government.
- The County of Sussex loaned the Delaware Otsego Corporation \$250,000.00 in 1985 to purchase the former Lehigh and Hudson River Rail Road from Sparta Junction to the Borough of Franklin in order to prevent the loss of rail service to Sussex County by Conrail abandoning this rail line.
- During the mid 1980's the NYS & W reconstructed its main line between North Bergen, New Jersey and Warwick, New York with a combination of public and private funds. The NYS & W now operates daily "double stack" freight trains over the line.

Passenger Service Project Background

- In 1988 the Counties of Morris, Sussex, Passaic and Bergen applied through the North Jersey Transportation Coordinating Council (NJTCC) for an Urban Mass Transportation Administration (UMTA) Section 8 Feasibility Study Grant to study the potential for restoring commuter rail service on the NYS & W between Sussex and the Bergen Main Line.
- The Study, entitled the NYS & W Corridor Feasibility Study, was completed in 1990 and determined that if funding were to become available, implementation of passenger rail service is warranted.
- In the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) Federal Transportation Funding Bill, 54 million dollars was "Earmarked" for this project, including the rehabilitation of the existing Paterson Station through the efforts of former Congressman Robert Roe.

- NJ Transit began detailed planning, conceptual design, and the environmental assessment for the project in 1992.
- In 1994, Congress rescinded 17 million dollars from the project due to a lack of progress on the project.
- In September 1996 the Environmental Assessment for the project was completed with a finding of No Significant Impact based on Sparta as the Western Terminus with the storage yard located on White Lake Road in Sparta.

Current Status

- The original yard proposal near White Lake Road drew some concerns from Sparta Township Officials due to its proximity to new municipal wells. Alternative sites in Sparta, in the vicinity of the proposed station location, were opposed by some residents. NJ Transit agreed to investigate alternative yard sites in November of 1997.
- NJ Transit, in pursuing other rail yard locations, has included the Hardyston Landfill site. This site has been endorsed by the municipality, Board of chosen Freeholders, and other municipalities and groups.
- The NYS & W Passenger Rail Service Restoration Project has been included as a “New Start” project in the new Federal “Transportation Efficiency Act for the 21st Century - TEA - 21”.
- The project has moved from the planning stage to the engineering stage.
- Preliminary Engineering (30%) was completed in November 1999.
- NJ Transit is doing additional analysis of the Hardyston Landfill Site for the rail yard and continues to try to reach a sale/and or lease agreement for the line from the owners.

This project will provide some relief from congestion in the heavily traveled Route 23 corridor, used by many commuters from the eastern part of Sussex County. However, as a result of some of the issues highlighted in the overview above, the project has lost momentum.

Currently the status of the project remains uncertain. A new rail yard site has yet to be determined. The Hardyston landfill site has potential but the final cost estimates for converting it into a rail yard have yet to be completed by NJ Transit which has been unable to reach an agreement for the rail line with the Delaware Otsego (DO) Corporation, owner of the line. Finally, funding is limited and this project requires substantial further study in line with regulations not previously affecting the project, including the Federal Transit Administration’s Section 5309 “New Starts” Criteria, which is quite rigorous.

This project would be particularly valuable to commuters from Sussex County as NJ Transit has just recently opened the new Secaucus Transfer Station which will enable riders on the NYS&W to easily switch trains to take into Mid-Town Manhattan.

There may also be some potential for Transit Oriented Development in the vicinity of the proposed Stockholm Station adjacent to NJ 23 and CR 515 in Hardyston. This is the most likely site for a station in Sussex County. Although the initial plans and preliminary engineering work called for a station to be located off of Route 15 and County Route 517 in Sparta, that location is uncertain by virtue of the change in location of the rail yard, the fact that the route is very circuitous and slow due to one of the steepest rail grades in the State coming over Beaver Lake Mountain, questions on the cost vs. benefit of extending the service farther west and less than enthusiastic support from the other County project partners for the service being extended west of Stockholm.

Strategically, the most effective approach to keeping the project active would be to demonstrate the feasibility of passenger rail service on the NYS&W rail line, through initiating excursion service. Passenger rail excursion service would also provide an alternative mode of transportation to a major economic development and recreational venue. The Mountain Creek development by Intrawest located in Vernon Township, will be a major resort located at the former Vernon Valley/Great Gorge ski and general recreation area. It is expected to become one of the premier four season resorts in the Northeastern United States. Intrawest plans to develop an entire Appalachian Village Center based around the mountains on one side of NJ 94 and the Valley on the other side - creating a resort village with NJ 94 as the Main Street. This expanded four season resort will not only generate significant economic development opportunities and benefits for the County, region and State, but will also increase traffic on the fairly limited County and State highway network in the area.

An appropriate strategy to pursue is to provide alternate modes of transportation. Mountain Creek has already developed an extensive bus operation both internally from the refurbished South lodge to the main base of operations at the northern lodge area. The Resort also buses people and groups in from throughout the region. This service is provided to school groups and ski clubs from the area. Additionally, in cooperation with NJ Transit from New York City and the Northern New Jersey area, express busses are provided. This has helped to reduce some of the automobile traffic into the area and to the resort as well as providing recreational opportunities to people from urbanized areas of the metropolitan region, many of whom don't own cars.

The NYS&W rail line runs through the back of the Mountain Creek property. The rail line is directly adjacent to the South Lodge parking lot and runs very close to the Black Creek Sanctuary area and the Appalachian Lodge area parking lots. This has excellent potential for running passenger rail excursion service out of Hoboken, and other locations now that the Secaucus Transfer Station is open to provide access to most of New York City and the surrounding boroughs through the subway system to PATH and/or Ferry service to Hoboken. People would then be able to board trains that would take them directly to Mountain Creek. This could be accomplished in two ways - one would be service directly to the resort for weekend

stays - Friday night to Sunday or for day trips which would most likely stop at the Stockholm station location and be shuttled to Mountain Creek by bus.

This alternative mode of transportation, which would provide direct rail access to one of the largest resorts in the northeast from the largest metropolitan area in the Country, would accomplish a number of objectives including: a reduction of automobile traffic to Mountain Creek; would provide additional recreation opportunities to residents of the Metropolitan areas who may not own cars; would increase economic activity in and around the resort area and finally, most importantly would show the feasibility and viability of passenger rail service on the NYS&W which in turn may provide a much needed boost to the commuter rail project. Sussex County will continue to pursue this potential opportunity with all parties involved including the NYS&W railroad, Vernon Township, NJ Transit, the management of Intrawest and Mountain Creek and all necessary State agencies.

A final development that may improve the chances for commuter rail service to Sussex County on the NYS&W is the recent introduction of NJ Transit bus service to Stockholm. This new bus stop and park and ride is located at the same place where the train station on the NYS&W is planned. This will establish this spot as a transit location and will provide additional justification for commuter rail service. This “multi-modal” transit stop would provide both bus and rail service and would be linked to transit oriented development in the area.

Sussex County will continue to try to advance the NYS&W passenger rail project as one of the County’s strategies for reducing congestion in the County and the region.

Bus Service

Increased bus service, including both “inter” County service (bus service from Sussex County to other counties in Northern New Jersey) and “intra” County service (increased service within Sussex County) will provide transportation options to the automobile for residents and visitors and provide some congestion relief particularly during the ever expanding rush hours.. Of particular use would be expanded opportunities within Northern New Jersey as the majority of the County’s workforce that commutes outside of Sussex each day (57%), travels to employment locations in North Jersey.

Some obstacles that have stood in the way of increasing bus service, have been lack of adequate financial resources, lack of concentrated residential or commercial nodes, regulatory issues and requirements, and the loss of the High Occupancy Vehicle (HOV) lane from I-80 in the late 1990's. This last effectively eliminated the advantage that buses, van pools, and ridesharing provided to those able to use it. Now buses or minibuses are stuck, along with single occupancy cars and trucks, in the same stop-and-go traffic congestion on I-80. Immediately following the loss of the HOV lane, ridership fell precipitously on the NJ Transit “Wheels” minibus shuttle route that provides service from Sussex to the Parsippany corporate campus area. This Wheels route continues to experience very low ridership and may be discontinued in the near future. However, it may be that this service could be rerouted to provide shuttle service to the Dover Train Station, which has a substantial waiting list of Sussex County residents for parking spaces. This would provide for greater efficiencies in the use of the existing equipment

and would provide a greater opportunity for people to use the rail service, thereby helping to reduce congestion.

Concentrating development in centers would also provide new and economically rational points from which new or expanded bus services could be initiated. Additionally, service extensions such as that in the Stockholm area, or in connection with rail service would also add efficiencies to the system and offset the lack of funding.

Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities are often overlooked in the overall context of transportation, given the emphasis that highways, bridges and mass transit receive. These two modes of transportation are not only important to some for basic transportation, but they are also “Quality of Life” and health issues. In Sussex County, walking and biking are not used so much as a form of travel, as in an urbanized area such as Hoboken, but more as a form of recreation.

This does not suggest that improved pedestrian facilities in centers such as Newton, Sparta, Vernon, and Stanhope are not needed or important. In areas such as these, pedestrian facilities are highly important because people are more likely to walk around in a center to shop, visit restaurants, galleries, or walk to jobs and other destinations.

Sussex County, home to significant tourism and recreation opportunities, should emphasize the development of additional bicycle and pedestrian facilities in order to take advantage of the growing interest in this form of recreation and travel. This would add to recreation opportunities in the County, and be a healthy benefit to County residents.

Some examples of centers in Sussex County where improved pedestrian facilities have increased activity and visitor trips include: the Spring Street area of Newton; Main Street in Andover and Stanhope Boroughs and Sparta Township. Each of these has been re-invigorated through upgraded or rehabilitated buildings, stores, shops, restaurants and other types of retail activity. These, in turn, have increased pedestrian activity.

Improving bicycle and pedestrian facilities is a priority at the Federal level where the US Department of Transportation’s national policy statement says that “Every transportation agency has the responsibility and the opportunity to make a difference to the bicycle - friendliness and walk ability of our communities”.

Bicycle and pedestrian planning efforts and facility improvement is also a priority for the New Jersey Department of Transportation (NJDOT). The NJDOT has a number of efforts underway in which Sussex County has actively participated and supported in recent years. These include: the expansion and update of the 1995 NJDOT Statewide Pedestrian/Bicycle Master Plan in partnership with the NJTPA and the other Metropolitan Planning Organizations in the State; the development of the High Point to Cape May bike route and the bicycle compatibility improvements on Route 94 from the Delaware Water Gap area in Columbia in Warren County to the Town of Newton in Sussex County.

The improvement of bicycle and pedestrian facilities is also a priority at the regional level through the North Jersey Transportation Planning Authority (NJTPA). This is evident by the emphasis this transportation mode receives in the NJTPA's Regional Transportation Plan (RTP), the NJTPA's Transportation Improvement Program (TIP) as well as in the NJTPA's Project Prioritization Criteria. The NJTPA incorporates this emphasis into its planning processes, funds planning activities and studies such as the STP Technical Studies Program, and funds projects that make walking and biking more attractive. By providing these opportunities for non-motorized travel, the NJTPA moves closer to reaching some of their regional goals such as protecting the environment and increasing the number of intermodal transportation options available.

Existing Facilities

Sussex County is fortunate in having a fairly extensive system of good rail trails in the County. These trails were developed by the New Jersey Department of Environmental Protection (NJDEP) from abandoned former rail lines. These railroad rights-of-way (RR-ROW's) were purchased by the State and converted into multi-use-non-motorized trails. They provide an excellent facility for a number of different uses including: walking/hiking/mountain biking; jogging; horseback riding and cross country skiing. They provide the added benefit of being very safe since they are separated from traffic and provide a very good surface for walking, running and horseback riding. Most of the rail trails have a crushed cinder surface. In addition, the trails run through some very scenic areas of the County that are only accessible via the rail line and provide access to a wide variety of landscapes and habitats.

Sussex County currently has two major and well used rail trails in the County. These trails are both long enough to provide for short walks, runs and/or rides or can be used for a lengthy day trip.

The Sussex Branch trail, the original rail trail in the County, is the former Delaware, Lackawanna and Western (DL&W) ROW, also known as the Sussex Branch. This rail line ran through the center of the County, from Byram in the southern part of the County near Waterloo Road, north into Andover Borough - roughly paralleling Route 206. It continues north into Andover Township, through Kittatinny Valley State Park and into the Town of Newton. Here the trail has been compromised by construction and an alternative route sidewalk route should be developed. From Trinity Street in Newton, the trail continues north into Andover Township again. At this point it enters Lafayette Township near Warbasse Junction - where it intersects with the former NYS&W rail line - the other major rail trail in the County, known as the Paulinskill Valley Trail. Here it turns northwest along Route 15 into Frankford Township. From there it continues northwest running along Route 206, crossing the former Lehigh and New England rail line near the Frankford Municipal building and continuing to its terminus in the Borough of Branchville. (See Exhibit 15A)

The Paulinskill Valley Trail was purchased from the City of Newark by the NJDEP. This was the former New York, Susquehanna and Western (NYS&W) rail line in the western part of the County. This line/trail begins in the vicinity of Sparta Junction near the active NYS&W rail line in Sparta Township - where it also intersects the former Lehigh and Hudson River rail line.

It then heads west into Lafayette Township where it intersects the Sussex Branch Trail at Warbasse Junction near County Route 663. The line continues west into Hampton Township, crossing County Route 519, where there is a large parking lot, and then turning southwest to run near the Paulins Kill. At this point the line also intersects the former Lehigh and New England rail line near Paulinskill Lake. The trail then continues southwest along the Fredon-Stillwater Township border where it enters Warren County. The trail then continues to Columbia near the Delaware Water Gap. The total length of the trail is approximately 13 miles in Sussex County and the same in Warren County.

In addition to the fairly extensive rail trails in Sussex County, there are also a number of major hiking trails in the County. The most significant is the Appalachian Trail which runs from Maine to Georgia. This national trail runs along the northeastern edge of Sussex County along the New York State border to High Point State Park where it turns southwest and runs through the Park to Stokes State Forest along Sunrise Mountain and the Kittatinny Mountain ridge to the Delaware Water Gap National Recreation Area in Walpack Township. This trail is used by both day hikers and longer distance backpackers. It runs through some of the most scenic areas in the eastern United States.

A wide variety of trails run throughout the numerous state and federal parks in the County. Found in the Wallkill Valley National Wildlife Refuge, Kittatinny Valley State Park, Hamburg Mountain State Park, High Point, Stokes Forest and alongside the Ogden Mine Rail road in Sparta, these, among others, trails offer a wide variety of hiking terrain for residents and non-residents alike.

EXHIBIT 15A

RAIL TRAILS

Opportunities for Expansion of Bicycle and Pedestrian Facilities

In addition to the previously mentioned trails in Sussex County, there are also a number of opportunities to expand and improve the bicycle and pedestrian facilities in Sussex County. These would include the rail trail system as well as pedestrian facilities in existing and proposed centers and both the State and County highway system.

Among the potential rail trails that offer the greatest opportunity in the County are the former Lehigh and Hudson River, Franklin Extension of the Sussex Railroad, the Midland and the Lehigh and New England rail lines. These four rights-of-way intersect with the Sussex Branch and Paulinskill Valley Trails (Exhibit 12) described earlier.

The Lehigh and Hudson River rail road (L&HRR) ROW intersects the Paulinskill valley trail near Sparta Junction in Sparta and heads southwest into Andover Township, passing through Kittatinny Valley State Park. It runs through the northern end of Andover Borough where there is a large parking lot where Route 206 and the Sussex Branch Trail intersect. From this point, it continues southwest into Green Township through preserved farmland and into Warren County. In Warren County the line also runs along and through some very scenic areas including the Pequest River and trout hatchery.

The Franklin Extension, also part of the former Sussex Branch, would be incorporated as the Iron Horse Heritage Trail. Currently owned by the County, this 9.5 mile section of right-of-way extends from the Sussex Branch Trail at Branchville Junction. Running alongside the Paulinskill Valley Trail into Sparta Township. Leaving the Paulinskill Trail, it runs along North Church Road (NJ 94), finally intersecting with the New York Susquehanna and Western right-of-way in Franklin.

The Midland Railroad right-of-way, later part of the NYS & W (not that section proposed for reactivation), runs through Ogdensburg, Franklin and into Hamburg. This, to be known as the Wallkill Valley Heritage Trail will connect the Sterling Hill Mine Museum, the Ogdensburg Fen and Glade, the Homestead Lime Kilns, Franklin Pond, the Franklin Mineral Museum, views of the Wallkill River, NJ Zinc Mill No. 2, the Windsor Lime Kilns, the Sparks Paper Mill site and other dramatic geologic and biological elements. This also intersects the Franklin Extension, projected to become the Iron Horse Heritage Trail.

The Lehigh and New England (L&NERR) rail line, once used to haul coal from the Lehigh Valley in Pennsylvania to the New England/Boston area, runs through the northeastern part of the County. This right-of-way starts adjacent to the Paulinskill Valley Trail in Hampton Township and runs northeast, crossing County Route 519, where there is a large parking lot and continues into Frankford Township. The L & NE Rail line then crosses Route 206 and the Sussex Branch trail near the Frankford Municipal Building. The line then continues in a northeasterly direction through Frankford, running parallel to County Route 565 into Wantage Township. In Wantage it crosses County Route 565 where there is a potential parking area and continues through the Township just south of Sussex Borough and crosses Route 23. At this point the line enters the Wallkill River National Wildlife Refuge and runs along the Wallkill

River. The line then crosses into Vernon Township and continues to run northeast out of the County into New York State.

Each of these former rail lines, which are, for the most part, intact, although in private ownership, would make excellent rail trails. If acquired by the State and converted into rail trails, they would combine with the existing Sussex Branch and Paulinskill Valley Trails to form an outstanding integrated network of rail trails in the County. Trail users would be able to access the entire trail network from any of the trails and would have a wide variety of trails, landscapes and scenery to choose from. This would fit well with the strategy of attracting more tourists to Sussex County by providing more recreation opportunities.

AIRPORT FACILITIES

Sussex County is fortunate in having four small, General Aviation public airport facilities, (Exhibit 15), in active operation. These, Trinca (Green), Jump and Aeroflex (Andover Township), and Sussex (Sussex Borough) are an important part of the overall transportation network. None of these are equipped to operate as major full service airports, being limited by runway, traffic control, and geographical considerations. They do, however, offer small plane service to the region. In addition, they also provide relief from some of the smaller aircraft for the larger regional airports such as Morristown and Teterboro. This is an essential public service and safety benefit.

Many small airports around the State have been lost to development or conflict with surrounding land uses. They are a vital portion of the network and should be supported and preserved as a land use at the local and regional levels.

HISTORIC PRESERVATION

Nothing so defines an area more than its cultural character. The history of Sussex County, dating to the early settlements of the Leni Lenape, has left us with a rich heritage, embodied in buildings, artifacts, and recorded events. This section of the Strategic Growth Plan is intended to act as the beginning of a Countywide effort to identify, catalogue, and explain the importance of the evidences left by those who came before us.

Sussex County has a long, rich history that predates European settlement. The County still has numerous buildings, structures and sites which are connected with the history of settlement, the American Revolution, and the Civil War. Many contributions to the agricultural and industrial progress of our nation were also pioneered here. The following is a list of the sites listed with the State Historic Preservation Office. It is by no means a complete list of historic places in the County, just ones where an opinion was prepared by the State Historic Preservation Office as to their significance at either the Federal or State level. The list also contains dates of entry into the National Register of Historic Places (NR) or into the State Register of Historic Places (SR) where applicable and the State Historic Preservation Office opinion date. See also Exhibit 16, Historic Sites.

Andover Borough

Andover Borough Historic District (ID#2591)

SHPO Opinion: 10/22/1991

20 Brighton Avenue (ID#3453)

20 Brighton Avenue
SHPO Opinion: 9/11/1996

Delaware, Lackawanna and Western Railroad Lackawanna Cutoff Historic District (ID#3454)

SHPO Opinion: 3/22/1994

See Main Entry / Filed Location:

Sussex County, Byram Township
Delaware, Lackawanna, & Western Railroad Sussex Branch over the Morris and Sussex
Turnpike west of US Route 206, north of Whitehall

Hole in the Wall Stone Arch Bridge (ID#2906)

Delaware, Lackawanna, & Western Railroad Sussex Branch over the Morris and Sussex
Turnpike west of US Route 206, north of Whitehall
SHPO Opinion: 4/18/1995

EXHIBIT 16
HISTORIC SITES

Andover Township

**Delaware, Lackawanna and Western Railroad Lackawanna Cutoff
Historic District (ID#3454)** SHPO Opinion: 3/22/1994

See Main Entry / Filed Location:

Sussex County, Byram Township

Byram Township

Delaware, Lackawanna and Western Railroad Lackawanna Cutoff

Historic District (ID#3454)

SHPO Opinion: 3/22/1994

Also located in:

Morris County, Roxbury Township

Sussex County, Andover Borough

Sussex County, Andover Township

Sussex County, Green Township

Sussex County, Hopatcong Borough

Sussex County, Stanhope Borough

Warren County, Blairstown Township

Warren County, Frelinghuysen Township

Warren County, Knowlton Township

Existing and former bed of the Morris Canal

SR: 11/26/1973

NR: 10/1/1974 (NR Reference #: 74002228)

(Extends from the Delaware River in Phillipsburg Town, Warren County to the Hudson River in Jersey City, Hudson County.)

Morris Canal (ID#2784)

Existing and former bed of the Morris Canal

NR: 10/1/1974 (NR Reference #: 74002228)

SR: 11/26/1973

(Extends from the Delaware River in Phillipsburg Town, Warren County to the Hudson River in Jersey City, Hudson County.)

See Main Entry / Filed Location:

Warren County, Phillipsburg Town

Rutan Log Cabin (ID#2592)

Waterloo Village

NR: 8/24/1977 (NR Reference #: 77000910)

SR: 11/23/1976

(moved from Frankford Township, ca.1989)

Waterloo Village (ID#2593)

Musconetcong River and County Route 604

SR: 2/3/1977
NR: 9/13/1977 (NR Reference #: 77000909)

Frankford Township

Augusta Hill Road Bridge (ID#3523)
Augusta Hill Road over East Branch Paulins Kill
(Moved)

Ross Farmstead (ID#3936)
Southeastern Corner of intersection of U.S. Route 206 and NJ Route 15
SHPO Opinion: 5/14/1998

Rutan Log Cabin and Farm (ID#2594)
NR: 8/24/1977 (NR Reference #: 77000910)
SR: 11/23/1976
(moved to Waterloo Village, Byram Township, ca.1989)

Smith Hill Road Bridge (ID#3455)
SHPO Opinion: 4/6/1990

Franklin Borough

Franklin Mine Historic District (ID#2595)
SHPO Opinion: 12/7/1988
(Previous SHPO Opinion 3/26/80)

Franklin Borough Hall (ID#3610)
46 Main Street
SHPO Opinion: 5/21/1997

Scott Road Bridge (SI&A #E-10) (ID#3456)
over Wallkill River
SHPO Opinion: 8/10/1990

Fredon Township

Hankinson House (ID#3809)
46 Old Swartswood Station road
COE: 7/9/2001
(Block 401 Lots 2 & 2.01, main frame house only)

Hunts Mills (ID#4167)

Hunts Road and Hunts Pond Road
SHPO Opinion: 5/21/1991

Orchard Crest Red Barn (ID#4050)

County Route 519, Ridge Road
SHPO Opinion: 3/22/2002

Stillwater Historic District (ID#4144)

Area surrounding intersection of County Route 610 and County Route 521
SHPO Opinion: 3/18/2003

See Main Entry / Filed Location:

Sussex County, Stillwater Township

Green Township

**Delaware, Lackawanna and Western Railroad Lackawanna Cutoff
Historic District (ID#3454)**

SHPO Opinion: 3/22/1994

See Main Entry / Filed Location:

Sussex County, Byram Township

Hamburg Borough

Bethany Chapel/Hamburg Presbyterian Church (ID#2597)

103 Hamburg Turnpike

SR: 10/26/1979

NR: 2/29/1980 (NR Reference #: 80002517)

R.E. Edsall Historic Archaeological Site (ID#2598)

SHPO Opinion: 10/19/1994

Richard E. Edsall Storehouse (ID#3457)

2 Main Street

SHPO Opinion: 10/19/1994

Grounds along Lime Kiln Road and Wallkill River (ID#2599)

SHPO Opinion: 1/21/1977

Hamburg Site (28-Su-404) (ID#4038)

Western portion of Block 7, Lots 14-17, bluff overlooking Wallkill River

SHPO Opinion: 12/13/2001

Dr. Jackson Pellet House (ID#3458)

25 NJ Route 23 North
SHPO Opinion: 10/19/1994

John Linn, Jr. Property (ID#3459)

19 NJ Route 23 North
SHPO Opinion: 10/19/1994

Wheatworth Mill / Gingerbread Castle Historic District (ID#4193)

Gingerbread Castle Road
SHPO Opinion: 7/3/2003

Hardyston Township

Lawrence Mansion (ID#2600)

State Route 94
SR: 10/19/1976
NR: 11/2/1979 (NR Reference #: 79001522)

Old Monroe Schoolhouse (ID#2601)

Route 94
SR: 10/19/1976
NR: 8/12/1977 (NR Reference #: 77000911)

Stockholm United Methodist Church (ID#2602)

County Route 515
SR: 11/10/1975
NR: 3/26/1976 (NR Reference #: 76001189)

Hopatcong Borough

Concrete Barrel Arch Bridge (SI&A #1900K07) (ID#3461)

SHPO Opinion: 3/22/1994

**Delaware, Lackawanna and Western Railroad Lackawanna Cutoff
Historic District (ID#3454)**

See Main Entry / Filed Location:
Sussex County, Byram Township

Maxim Park Yacht Club Building (ID#4227)

1 Oakdale Avenue
COE: 12/3/2003

Old Stone Jail (ID#2603)

Lakeside Boulevard
SHPO Opinion: 4/18/1980

St. Joseph's Church (ID#3460)

SHPO Opinion: 4/18/1980
(previously misidentified as St. Peter's Church)

St. Peter's Church (ID#2604)

214 Lakeside Avenue
SHPO Opinion: 4/18/1980

Montague Township

Appalachian Trail (ID#2778)

The 400-foot-wide right-of-way of the trail, from Warren to Passaic Counties
SHPO Opinion: 6/14/1978
DOE: 8/22/1978

See Main Entry / Filed Location:

Warren County, Pahaquarry Township

Foster-Armstrong House (ID#2605)

County Route 521
SR: 3/29/1979
NR: 7/23/1979 (NR Reference #: 79000235)

High Point Park Historic District (ID#3462)

High Point State Park, NJ Route 23
SR: 2/20/1996
NR: 4/23/1996 (NR Reference #: 96000404)

Also located in:

Sussex County, Wantage Township

Isaac Clark House (ID#4035)

420 Route 206
SHPO Opinion: 12/3/2001

Millville Historic and Archeological District (ID#2606)

Minisink Archaeological Historic District (NHL, ID#29)

SR: 11/21/1983 NR: 1/30/1984 (NR Reference #: 84002807)

Neldon-Hornbeck Farmhouse (ID#2607)

Delaware Water Gap National Recreation Area
SHPO Opinion: 10/2/1991

Nelden-Hornbeck Farm (ID#90)

US Route 206
SR: 6/30/1999

Old Mine Road Historic District (ID#2608)

DOE: 5/8/1974
SR: 10/2/1975
NR: 12/3/1980 (NR Reference #: 80000410)

Also located in:

Sussex County, Sandyston Township
Sussex County, Walpack Township
Warren County, Pahaquarry Township

Small Stone House (ID#2609)

U.S. Route 206
SR: 3/6/1978

Trovato House, Tract 11215 (ID#2610)

SHPO Opinion: 6/16/1993

Newton Town

First Presbyterian Church of Newton (ID#2611)

High and Church streets
SR: 10/26/1979

Hill Memorial (ID#2612)

82 Main Street
SR: 5/13/1985
NR: 7/18/1985 (NR Reference #: 85001565)

Henry W. Merriam House (ID#2613)

131 Main Street
SR: 9/11/1970
NR: 12/18/1970 (NR Reference #: 70000396)

Merriam Shoe Factory (ID#2614)

69-75 Sparta Avenue
SHPO Opinion: 6/25/1987

Newton Town Plot Historic District (ID#2615)

Church, High, Main, Moran, and Spring streets; Park Place and 1 Dunn Place
SR: 9/24/1992
NR: 11/12/1992 (NR Reference #: 92001521)

Pine Street Streetscape (ID#2616)

SHPO Opinion: 6/25/1987

Sterling Silk Mill

Sparta Avenue

SHPO Opinion: 6/25/1987

Sussex County Park Building (ID#3463)

3 High Street

COE: 1/16/1996

Sussex County Court House (ID#2618)

Corner of High and Spring streets

SR: 5/9/1979

NR: 7/23/1979 (NR Reference #: 79001523)

Sussex Street Streetscape (ID#2619)

Sussex Street between Sparta Avenue and Pine Street

SHPO Opinion: 2/5/1993

Ogdensburg Borough

Kennedy Avenue Bridge (SI&A #1900008) (ID#2620)

Kennedy Avenue over the Wallkill River

Sterling Hill Mine (ID#2621)

30 Plant Street

SR: 7/11/1991

NR: 9/3/1991 (NR Reference #: 91001365)

Sandyston Township

Appalachian Trail (ID#2778)

The 400-foot-wide right-of-way of the trail, from Warren to Passaic Counties

SHPO Opinion: 6/14/1978

DOE: 8/22/1978

See Main Entry / Filed Location:

Warren County, Pahaquarry Township

Bevans-Hellwig House (Ft. Carmer) (ID#2622)

SHPO Opinion: 10/2/1991

Ennis House (ID#2623)

Adjacent to Old Mine Road
SHPO Opinion: 6/28/1979

Old Mine Road Historic District (ID#2608)

DOE: 5/8/1974
SR: 10/2/1975
NR: 12/3/1980 (NR Reference #: 80000410)

See Main Entry / Filed Location:

Sussex County, Montague Township

Peters Valley Historic District (ID#2624)

At intersection of Sandyston-Haney's Mill, Walpack, and Kuhn roads
SR: 10/26/1979
NR: 2/29/1980 (NR Reference #: 80000437)

Stokes Civilian Conservation Corps Historic District (ID#3824)

Stokes State Forest
SHPO Opinion: 8/6/2001

Sparta Township

Edison's Iron Ore Concentration Plant (ID#3935)

Just SE of Ogdensburg, NJ and centered on Edison, NJ
SHPO Opinion: 6/5/1990

The First Presbyterian Church of Sparta (ID#2625)

SHPO Opinion: 10/29/1996

**Garrabrant-Abers-Hunt Farmstead Archeological Site (28-Sx-383)
(ID#3464)**

Lockwood House/Maple Tree (ID#2626)

95 Sparta Avenue
SHPO Opinion: 7/20/1979
(Previous SHPO Opinion 3/20/79)

James Maines House (ID#2627)

125 Sparta Avenue
SHPO Opinion: 7/20/1979
(Previous SHPO Opinion 3/20/79)

**Montonney-House Farmstead Archeological Site (28-Sx-384)
(ID#3465)**

SHPO Opinion: 10/29/1996

Sparta Multiple Resource Area (ID#2628)

Main Street Historic District, Lower Blacksmith Shop and New York,
Susquehanna & Western Railroad Depot
SHPO Opinion: 7/20/1979
(Previous SHPO Opinion 3/20/79)

Sparta Prehistoric Site #1 (ID#2629)

SHPO Opinion: 7/20/1979

Union/Houses Corner Schoolhouse (ID#3466)

SHPO Opinion: 10/29/1996

West Mountain Road Bridge (ID#3798)

Over NY Susquehanna & Western RR
SHPO Opinion: 8/3/1990
(Bridge was moved to Stillwater Twp.)

White Deer Plaza & Boardwalk Historic District (ID#2630)

Boardwalk, West Shore Trail and Winona Parkway
SR: 5/25/1988
NR: 7/11/1988 (NR Reference #: 88001012)

Stanhope Borough

**Delaware, Lackawanna and Western Railroad Lackawanna Cutoff
Historic District (ID#3454)**

SHPO Opinion: 3/22/1994

See Main Entry / Filed Location:

Sussex County, Byram Township

Plaster Mill (ID#2631)

Main Street and Kelley Place
SR: 12/20/1976
NR: 8/3/1977 (NR Reference #: 77000912)

Stanhope Historic District (ID#335)

Portions of NJ Route 183, McKinley, Lindent, Main, Spring, King, New, High, Furnace, Bell
streets; Musconetcong, Waterloo Road; Kelly Place; Plane Lane, Plane View, Bedford Avenue
SHPO Opinion: 6/10/1998

Stillwater Township

Harmony Hill United Methodist Church (ID#2632)

Fairview Lake Road

SR: 6/13/1977
NR: 9/19/1977 (NR Reference #: 77000913)

Stillwater Historic District (ID#4144)

Area surrounding intersection of County Route 610 and County Route 521
SHPO Opinion: 3/18/2003

Also located in:

Sussex County, Fredon Township

Sussex Borough

Sussex Borough Central Business Historic District (ID#3467)

Fountain Square; Bank, Harrison, and Main streets

SHPO Opinion: 3/6/1995

(Previous SHPO Opinion 11/03/93 as Main Street Commercial District Streetscape)

Crescent Theater Building (ID#4101)

74 Main Street

COE: 1/24/2002

Vernon Township

Appalachian Trail (ID#2778)

The 400-foot-wide right-of-way of the trail, from Warren to Passaic Counties

SHPO Opinion: 6/14/1978

DOE: 8/22/1978

See Main Entry / Filed Location:

Warren County, Pahaquarry Township

Archeological Site (28-Sx-273) (ID#3468)

SHPO Opinion: 4/1/1982

Black Creek Site (28-Sx-297) (ID#2636)

SHPO Opinion: 8/4/1993

SR: 4/1/2002

NR: 11/27/2002 (NR Reference #: 02000626)

P.J. Brown Farmstead Site (28-Sx-295) (ID#3469)

SHPO Opinion: 4/28/1994

(previously mis-reported as 3/17/94)

(Wawayanda State Park) Barrett Road

High Breeze Farm (ID#2634)

SR: 6/20/1989

NR: 7/27/1989 (NR Reference #: 89000993)

Meadowburn Road

Meadowburn Farm (ID#2637)

SR: 6/28/1993

NR: 8/9/1993 (NR Reference #: 93000748)

Park Log House (ID#2638)

Glenwood Mountain Road

COE: 12/22/1992

(dismantled, awaiting reconstruction)

Ring Quarry Prehistoric Mining Historic District (ID#30)

SHPO Opinion: 9/6/1996

(Location restricted)

"Sea Captains House" (ID#3472)

Route 515

SHPO Opinion: 9/12/1988

"Stage Coach Stop" (ID#3473)

NJ Route 94

SHPO Opinion: 9/12/1988

Walpack Township

Appalachian Trail (ID#2778)

The 400-foot-wide right-of-way of the trail, from Warren to Passaic Counties

SHPO Opinion: 6/14/1978

DOE: 8/22/1978

See Main Entry / Filed Location:

Warren County, Pahaquarry Township

Camp Ken-Etiwa-Pec (Long Pine Pond) (ID#2639)

Delaware Water Gap National Recreation Area

SHPO Opinion: 12/8/1993

Chado Farm (ID#367)

NJ Route 615 SHPO Opinion: 12/15/1997

Cornelius Gunn House (ID#2640)

Ridge Road

SR: 3/29/1979

NR: 7/23/1979 (NR Reference #: 79000238)

Richard Layton House (ID#2641)

Ridge Road

SR: 3/29/1979

NR: 7/23/1979 (NR Reference #: 79000237)

Old Mine Road Historic District (ID#2608)

DOE: 5/8/1974

SR: 10/2/1975

NR: 12/3/1980 (NR Reference #: 80000410)

See Main Entry / Filed Location:

Sussex County, Montague Township

Shoemaker-Houck Farm (ID#2642)

Haney's Mill-Walpack Center Road

SR: 3/6/1978

NR: 7/23/1979 (NR Reference #: 79000234)

Isaac Van Campen Inn (ID#2644)

Sandyston-Haney's Mill Road

SR: 3/26/1978

NR: 7/23/1979 (NR Reference #: 79000236)

Walpack Center Historic District (ID#2645)

Intersection of Walpack Center/Sandyston-Haney's Mill roads

SR: 7/5/1979

NR: 7/17/1980 (NR Reference #: 80000354)

Wantage Township

Appalachian Trail (ID#2778)

The 400-foot-wide right-of-way of the trail, from Warren to Passaic Counties

SHPO Opinion: 6/14/1978

DOE: 8/22/1978

See Main Entry / Filed Location:

Warren County, Pahaquarry Township

First Presbyterian Church of Wantage (ID#2646)

State Route 23

SR: 7/29/1982 NR: 9/23/1982 (NR Reference #: 82003305)

High Point Park Historic District (ID#3462)

High Point State Park, NJ Route 23

SR: 2/20/1996
NR: 4/23/1996 (NR Reference #: 96000404)
See Main Entry / Filed Location:
Sussex County, Montague Township

Elias Van Bunschooten House (ID#2647)
State Route 23
SR: 7/1/1974
NR: 11/1/1974 (NR Reference #: 74001191)

Wilson Farm (ID#4124)
193 NJ Route 284
SHPO Opinion: 1/6/2003

Early Subdivision of New Jersey

When Sir George Carteret and four Quakers, William Penn, Nicholas Lucas, Edward Byllynge and Gawen Lawrie, drew up the Quintipartite Deed on July 1, 1676 dividing New Jersey into the Provinces of East Jersey and West Jersey, the area which is now Sussex County was divided between the two in consequence of the partition-line that was drawn from the northwest corner of the Province to Little Egg Harbor. Plate no. 1 shows the present boundaries of Sussex County in relation to the East and West Jersey dividing line, and the North Boundary of New Jersey as established by a grant of land from the Duke of York to Lord John Berkeley and Carteret in 1664.

Prior to the Act by the Provincial General Assembly of 1709, which provided a distinct boundary definition of the old counties of New Jersey, eight counties had been erected. These eight counties were: Monmouth, Essex and Salem, in 1675; Gloucester, in 1677, Middlesex, in 1682; Somerset, in 1688; Cape May, in 1692; and, Burlington, in 1694. The latter County incorporated the entire area of present-day Sussex County, as illustrated by Plate no. 2. These eight counties are referred to as the original counties under the proprietary form of government.

In the year 1702, the Proprietors (land owners) of the Province of East Jersey surrendered their land charter to Queen Anne of England. The royal government was then extended to incorporate all of New Jersey as a single province.

By the Act of 1709, the purpose of which is stated above, the current boundaries of Sussex County officially fell under the jurisdiction of Burlington County. Five years later, in 1714, the Sussex region formed a part of Hunterdon County, when Hunterdon was set up as a completely independent County. This new boundary line arrangement lasted until 1739, when the northern section of Hunterdon, which included Sussex, was set off as Morris County.

Creation of Sussex County

Sussex was the thirteenth County of the State of New Jersey in order of its creation. It

was taken from the upper section of Morris County by an act of the General Assembly passed on June 8, 1753. The boundaries were set forth as follows:

“That all and singular the land and upper parts of Morris County northward of Musconetcong River, beginning at the north of said river where it empties into the Delaware River, and running up said Musconetcong River to the head of the Great Bend; from thence northeast to the line that divides the province of North Jersey; thence along the said line to the Delaware River aforesaid; thence down the same to the mouth of the Musconetcong, the place of beginning; and the said Musconetcong River, so far as the County of Hunterdon bounds it, shall be the boundary line between that County and the County of Sussex.” (1)

Even before Sussex County was formed from a part of Morris County, the need for some form of municipal government was met by the organization of townships. New Town and Walpack, which comprised all of the present-day Sussex area, were the first of these unincorporated local bodies. Among the other early townships to be formed were Montague, erected in 1759 from Walpack by royal patent; Sandyston, from Walpack in 1762; and Hardyston, from Newton in that same year. Plate no. 3 illustrates the boundaries of Sussex County and its municipalities in 1775, one year prior to the signing of the Declaration of Independence.

Prior to 1772, when the Assembly of New Jersey accepted the present northern boundary of Sussex County had been a point of controversy for almost seven decades. A total of some 210,000 acres of land were involved in the dispute. Although the General Assemblies of the two royal provinces in 1719 confirmed the fixing of a partition line from a point at a latitude 41 degrees and 40 minutes north on the Delaware River to Cochecton on Station Point on the Hudson River, a number of individuals holding New York land grants maintained that their patents included land that was legally supposed to be in New Jersey.

In 1748 the Assembly of New Jersey laid before the Assembly of New York modified boundary proposal embracing some concessions to New York. The inhabitants of Orange County, New York employed whatever influence they had with the Royal Crown, and had the proposal defeated. Fourteen years later, in 1762, the Board of Freeholders of Sussex County, countered by laying claim to all of the territory embraced by the “Precinct of the Minisink.”

The dispute was finally settled when the two Provincial Assemblies submitted the problem to a panel of Commissioners, who were to be appointed by the Crown. Pursuant to the requests by both Legislatures, the King of Great Britain appointed certain commissioners, on October 7, 1769, to bring about a settlement equitable to both parties concerned. The panel of Commissioners established the northern boundary line of New Jersey at its present location, and the two Legislatures ratified and confirmed it by a joint act in 1772. Royal approval of the settlement was received on September 1, 1773.

1 *Snell, History of Sussex County, Pg. 16*

Such remained the boundaries of Sussex County until Warren County was formed from part of Sussex by an act of the New Jersey Legislature. The State Legislature, on November 20,

1824, created and established the boundaries of Warren County as follows:

“That all the lower part of the County of Sussex, southwesterly of a line beginning on the River Delaware, at the mouth of Flatbrook, in the Township of Walpack, and running from thence, a straight course to the northeast corner of Hardwick church (presently in Yellow Frame), situated on the south side of the main road leading from Johnsonburg to Newton, and from thence in the same course to the middle of the Musconetcong creek be and the same in is hereby erected into a separate County, to be call the County of Warren; and a line running from thence down the middle of the said Musconetcong creek to where it empties into the Delaware, shall hereafter be the division line between the counties of Morris and Hunterdon and the said County of Warren.” (2)

During the following twenty-six year period only two additional municipalities were erected in Sussex County; the Townships of Lafayette and Sparta, Lafayette Township was formed from Frankford and Newton Townships by referendum on April 14, 1845. That same day, a referendum created Sparta from sections of Hardyston, Frankford, Newton and Byram Townships. Later, in 1914 and again in 1963, parcels of land were annexed to Sparta from Ogdensburg Borough. Plate no. 5 illustrates the thirteen municipalities that constituted Sussex County in 1860.

The balance of Sussex County’s twenty-four municipalities were erected during the next sixty year period, ending in 1920 with the formation of the Borough of Hamburg. On April 11, 1864, a referendum was approved by the voters creating the Townships of Andover and Hampton and the Town of Newton from the Township of Newton. Twenty-seven years later, on October 14, 1891, the Borough of Deckertown was formed from a section of Wantage Township after voters approved a referendum to that effect. On March 2, 1902, the Borough of Deckertown was renamed to the Borough of Sussex.

Seven years following the creation of Deckertown Borough, Branchville Borough was formed from part of Frankford Township on March 9, 1898. One month later, on April 2, the Borough of Brooklyn was erected from a section of Byram Township. Brooklyn Borough was renamed the Borough of Hopatcong three years later on March 22, 1901.

2 *Public Laws of 1824*

The next municipality to be established was Fredon Township, on February 24, 1904. Fredon was formed from sections of four other Townships; Andover, Green, Hampton and Stillwater. Exactly one month later, on March 24, the Borough of Stanhope was erected from the southernmost section of Byram Township. The following day, Andover Borough was formed by the southern end of Andover Township.

It was not until nine years later that the twenty-second municipality, the Borough of Franklin, was erected on April 23, 1913 by a referendum. The area of Franklin Borough was taken from the Township of Hardyston. The following year the Borough of Ogdensburg was formed from a section of Sparta Township on March 31, 1914. The twenty-fourth and last municipality, the Borough of Hamburg, was erected from the Township of Hardyston by a referendum on April 24, 1920.

The story of the settlement and development of Sussex County as a Crown frontier outpost of the eighteenth century to a rapidly urbanizing rural community in the twentieth century could fill many volumes. This growth, over a period of three centuries, represents the cultural and architectural evolution of people. The following is a review and evaluation of the existing physical examples of Sussex County's cultural and architectural heritage.

In addition to the list offered at the beginning of this section, the following chart provides additional information on historic sites in Sussex County.

Preservation and Maintenance

Once purchased, historic buildings and sites must be properly cared for by the governing or non-profit entity which has acquired the building or site. This issue is of particular importance in Sussex County where numerous sites have been acquired by the State and Federal governments and allowed to deteriorate. If the site was important and merited removal from private ownership, its importance should not diminish with acquisition.

The following are the top six recommendations of the Strategic Growth Plan for immediate stabilization and restoration:

Wawayanda Iron Furnace, Wawayanda State Park. Constructed in 1846 and operated until 1867 it has been described by historians as one of the most significant industrial enterprises ever built in Sussex County. Owned and operated by the Ames family, who were later principles in the construction of the Transcontinental Railroad, it is one of the cultural treasures of the Highlands. Though mostly intact it suffers from damage by vegetation and frost along with little or no maintenance. It is in need of stabilization, restoration, and interpretation.

Thomas Edison Mines and Concentrating Mill site, Sparta Mountain Wildlife Management Area. The industrial complex and surrounding town was built by Thomas Edison in 1889 and operated until 1901. It was here that Edison designed or perfected much of the technology (conveyors, electric motors, magnetic separators, etc) that made modern industrial production possible. Although only foundations remain it is truly another cultural treasure of the Highlands. The foundations suffer from vegetation and frost damage as well as vandalism. The site is in need of stabilization, protection, and interpretation.

Keen's Mill, Swartswood State Park. The stone grist mill was built in the 1830's and is one of the few surviving relics from the pre-dairy era when Sussex County was a grain producing area. This impressive building is still intact but suffers from neglect and is in danger of collapse. It needs immediate stabilization, restoration, adaptive reuse, and interpretation.

1. Roper Cabin, Stokes State Forest. Built in 1860 this one and a half story two-room cabin is probably the only surviving home from Sussex County's subsistence agricultural era and culture. Built of hand hewn chestnut beams chinked with mud and horsehair it is truly a cultural treasure. Still sound and in tact it is yet another victim of benign neglect. It needs immediate stabilization, restoration, and use as a cultural interpretive site.

2. High Breeze Farm Farmhouse, Wawayanda State Park. Built in 1828 it was listed on the State and National Register of Historic Places in 1992. The farm and farmhouse are a time capsule of 19th century agriculture and one of the few remaining examples of mountain farming in the Highlands. It needs immediate stabilization, restoration, and use as a cultural interpretive site.

3. Lusscroft Farm, High Point State Park. Once a prosperous private farm it was gifted to the State of New Jersey in 1931. For nearly forty it served as a dairy research center operated by Rutgers University. It was here that the technique of artificial insemination was perfected along with the application of scientific animal nutrition. These two techniques lead to modernization of animal husbandry worldwide. It is one of the two sites in Sussex County that has global significance and identity. Although intact, it suffers badly from benign neglect and is in danger of deteriorating to the point of no return. It is in need of immediate stabilization, restoration, and operation as an agri-tourism attraction.

Although shown as the top six, this list is by no means intended to exclude any historic sites and building taken by the state and federal governments.

In addition to the resources in the County in general, the State Highlands Task Force paid particular attention to those in the Highlands region. An excerpt from their report states"

Historic Resources

In addition to the rich array of natural resources, Sussex County is also home to many of the state's cultural and historic resources. With a long history dating back at least 11,000 years to the first Native American settlements, the area has continued to play a significant historical role in more recent centuries. Many Revolutionary War historic sites are located within the Highlands, as well as historic farms, bridges, and monuments.

While the various sites vary in both size and form, including everything from stone tool workshops to modern canals and iron forges, they all provide a link to New Jersey's past while educating and enlightening new generations about our history. Statewide, historic preservation and historic sites contribute significantly to the state's economy, with more than \$120 million spent on improving historic buildings and over \$400 million generated from heritage tourism spending. In addition, statewide historic preservation generates over \$260 million a year in income for New Jerseyans and \$120 million annually in property taxes.

Many of these sites and resources being preserved are located in the Highlands region. According to the State Historic Preservation Office, the Highlands contain at least 99 historic districts and 434 individual sites that are either listed on the State Historic Register or have been deemed eligible by the State for listing. In addition, the region also hosts four national historic landmarks and 52 archaeological sites. These resources range from Morristown National Historic Park to the Black Creek site in Vernon Township that has artifacts of the Lenne Lenape Indians dating back thousands of years.

New Jersey already has a number of plans in place to ensure the continuation and growth of historic preservation efforts. The New Jersey State Development and Redevelopment Plan calls for the preservation of historic, cultural and scenic resources as an important way to create

attractive, prosperous and livable communities while saving New Jersey's rural landscape. Similarly, the Garden State Preservation Trust has dedicated \$98 million a year to open space acquisition and historic preservation over the next ten years and authorizes issuance of up to \$1 billion in revenue bonds for these purposes.

AGRICULTURE AND FARMLAND PRESERVATION

The mission of the Sussex County Farmland Preservation Program, administered by the Sussex County Agriculture Development Board, is concise - preserve both farmland and farmers. Criteria examined in determining which land is preserved include the following:

- productive soil types
- proximity to other farms (preserved or potential to be preserved)
- size
- productive agricultural enterprises
- threat of imminence of change
- local commitment

The primary goal of the Sussex County Program is to preserve as much productive farmland that is voluntarily presented to the Board and meets the aforementioned criteria. This land should already be in a productive agricultural operation and be farm assessed (or have the potential for farm assessment).

Although Sussex County does not have a predominance of prime and statewide significant soils, our agricultural base is strong. Our soil and topography lends itself to livestock and grain production rather than intense vegetable use as in southern New Jersey. Historically, this County was known for its' dairy production. A mere 50 years ago there were more cows than people living in Sussex County.

As suburban development alters the rural landscape, farms also change. Large dairies are being replaced by more intensive farming operations including beef cattle, horses, sheep, goats, nursery and greenhouses, organic, small fruit and vegetable enterprises, and Christmas trees. According to Federal Census of Agriculture statistics, between 1959 and 1997, 68,222 acres of Sussex County farmland ceased to be used for agriculture production; this is a loss of 1,795 acres per year. The rate between the 1992 and 1997 Census decreased to an average of 506 acres lost per year (see Figures). This may be in part due to a renewed interest in agricultural occupations as a second career, land entering the farmland preservation program and/or interest in a secondary farm income while maintaining the rural aesthetics new arrivals have come to enjoy and expect.

Although farmland, identified by soil type and tax assessment, occurs in almost all Sussex County municipalities, farmland preservation is occurring predominantly in nine areas to date: Wantage, Frankford, Vernon, Sandyston, Montague, Fredon, Green, Lafayette and Hampton Townships. (See Exhibit 17). This list does not preclude an application from being pursued from another municipality. Coincidentally, these towns lie predominantly within the Ridge and Valley Geologic area which includes significant areas of limestone, sandstone and shale. Groundwater recharge in the Kittatinny Valley section of the County averages 12-17 inches per year which is in the high range Countywide. State 95/97 Land use Land cover maps also establish most agricultural lands within the Kittatinny Valley; farm assessed properties roughly coincide. Interestingly, identified critical grassland habitat for federal and state endangered and threatened species is patterned in this Valley; many grassland birds utilize hayfields for nesting. The majority of existing federal and state public open space is located outside of this Valley area in the eastern and western sections of Sussex County.

Although the Farmland Preservation Program was established over 20 years ago in New Jersey, it has only been in the last 12 years that it has had positive momentum in Sussex County. This was largely due to a need to iron out the wrinkles of the program at the State level and then provide an educational component to the farming community at the local level. Since 1994, the Sussex County program has been highly successful. To date, approximately 7,000 acres have received permanent protection and 2,500 additional acres are scheduled for closings. Applications are taken at the County level; the County is the lead contact with the landowner. They are then submitted to the State Agriculture Development Committee (SADC) for a one year process to determine which farms statewide will be funded for preservation. A permanent funding mechanism has been established at both the State and Sussex County levels. The County collects a dedicated tax rated at \$0.02/\$100.00 of assessed value. There is a cost share formula that determines how much the State and County will each pay for purchasing the agricultural easement. Although the State makes the final determination regarding per acre price, the County, through its' selection process, determines which farms, and in what locations, preservation will occur. This is extremely important within the confines of the Sussex County Strategic Growth Plan since some County locations will be more appropriate for economic development of a non-farm nature.

The Sussex County Farmland Preservation Program has already established major project areas where agriculture is the logical economic base; new applications are actively sought within these identified municipalities. Due to monetary constraints (usually more applications than can be funded in a given program cycle), the Farmland Preservation Program usually does not consider land zoned for uses other than agriculture/residential. This will coincide with the strategy of retail/commercial development occurring in areas zoned accordingly.

Farmland Preservation Program Statistics

Traditional Easement Program Farms:	45	
Emergency Appropriate with SADC:	1	
<u>County/Municipal Easement Farm:</u>	<u>1</u>	
Permanently Preserved Farms	47	6,941.8 acres
Farms with final approvals:	18	2,551 acres
Applications submitted for 2004 Round:	22	1,274 acres
Expenditures for Permanent Easements: (not including ancillary costs)		
County Costs (1990- 1/04)	\$ 5,304,261.76	
State Costs (1990 - 1/04)	\$12,094,893.82	
Total Farmland Preservation Costs	\$17,399,155.58	

Additionally, we recommend that the State Agriculture Development Committee examine the policy set when the program was first established and update it to assist agriculture viability in today's changing market. This may include allowance of certain identified non-agricultural uses not existing at the time of closing (i.e. cell towers on non-tillable ground) and the establishment of bed and breakfasts on the farm (to encourage more agritourism

opportunities). The Sussex County Agriculture Development Board is recommending that municipalities that are down zoning adopt language in their codes that can avoid conflict between existing severable exceptions (land not bound by the farmland preservation deed of easement) and revised local zoning requirements. This is the same issue as is routinely addressed in “grandfathering” pre-existing non-conforming lots.

Agricultural Evolution

With tremendous changes in the agriculture industry not only in Sussex County, but state and nation wide over the last several decades, new agricultural markets must be developed. In addition to our traditional types of farms (i.e. dairy), County farmers have recognized the need to diversify - or lose their livelihood. Niche markets have become extremely important. Many of our nursery/greenhouse operators make the daily trek to the cut flower markets in New York City, as do our specialty vegetable and organic growers. The Green Markets outside the County provide a tremendous revenue source. Whether located in New Jersey or our surrounding states, Green Markets (farmers markets) situated in urban and suburban locations, are huge draws for the local population who demand farm fresh produce without having to leave their home area for it. County farmers are also partnering with restaurants in the greater New York City area, and locally, to sell their freshly picked produce since this is what our society now requests. Health conscious consumers today are paying even higher prices for organic produce that they feel is safer and more nutritious than traditionally grown crops since chemicals are not used on the fields or the products. While certification is a lengthy and complex process through the Northeast Organic Farming Association, Sussex County has more certified organic growers than any other county in New Jersey;

In addition to the Green Markets available outside Sussex County, our farmers have recognized the importance of value-added products. This is a commodity that has been enhanced or altered in some way. For example, a vegetable that has been picked then cleaned before being sold at a local farm stand is technically value added since it has been cleaned and ready for consumption. Tomatoes and peppers that have been picked and processed at a certified commercial kitchen and sold as salsa, is a value added product. Milk that is processed into cheese, aged, packaged then sold is a value added product. Value added products are extremely popular with consumers; however, there is a need to provide County farmers with a local commercial kitchen that can be designed as either a cooperative or utilized on a rental basis. Currently, by requiring a middle man for processing outside the County, local farmers are paying out part of their profits. Keeping the entire project within Sussex County will assist our farmers with their bottom line.

Within the Strategic Growth process, several municipalities have discussed possible locations where this type of agriculture-related industry would be appropriate - proximate to farms yet outside a traditional “center” environment. This would also keep the product available to local County consumers at specialty shops, restaurants, farmstands and the Olde Lafayette Village Farmers Market, among others. Innovative zoning and wastewater treatment systems may be needed in these cases.

There are several major value-added projects currently being researched that may prove to be a tremendous resource for Sussex County. The first is a study for the dairy industry being conducted through the Sussex County Cooperative Milk Producers Association to determine the

feasibility of milk producers owning and operating a plant on their own to create value added branded dairy products produced within Sussex County - such as cheese. Another resource being examined with grant funding through a Federal-State Marketing Improvement Grant (FSMIP) is the development of a meat goat program. There is an increasing ethnic market demand for goat meat and Sussex County is at the forefront of identifying how this can help area goat farmers. All of the above are examples of value added and direct marketing revenue sources that may be available in the near future in Sussex County. All such ventures will increase the need for maintaining our agricultural land base, and require education for not only the producer (farmers), but the consumers as well to insure the market for locally grown products.

In decades past, farmers employed traditional farming practices and were able to maintain a living. They, and their families, worked on and lived off the land. There was not a need for off farm employment. This has all changed as the suburban fringe has come to Sussex County. In another effort to assist local farmers in their need to remain solvent through agricultural pursuits, the concept of Agritourism was developed. The Sussex County Agriculture Development Board has taken an active role in developing and promoting this type of agricultural enterprise. It was recognized that the Farmland Preservation Program, with limited funding, would not be able to help a large percentage of our local farmers. Early on, the Board identified the need to preserve not only the farm, but the farmer and the viability of the industry as a whole. Agriculture and tourism have been leading revenue generators in Sussex County for a long time. It was the perfect marriage and the Agritourism program was born.

Sussex County is the first location in New Jersey to promote an Agritourism program to enhance and expand existing agricultural operations. Due to our location, topography, significant public open space, proximity to major metropolitan areas, and existing tourism and agricultural base, agritourism has proven to be an important niche market for our farmers. Product diversity is now recognized as a necessary component to most traditional agricultural operations. Five acres of pumpkins grown as a Pick Your Own enterprise on a larger livestock operation may provide the cash flow necessary to keep the traditional farm component afloat. Sussex County is within a 1 ½ hour drive time from New York City, Philadelphia and a large urban/suburban complex. Families love to spend a day in the “country” to pick apples, vegetable and pumpkins, take hay rides, cut a Christmas tree after a sleigh ride to the perfect field, or explore a corn maze. Traditional farmers have recognized these ventures as a huge cash “crop” and expanded their operations into Four Season venues.

Sussex County has packaged Agritourism and promotes it actively through a professional brochure listing 120 farms open to the public, print ads, website information through the County web site.

Skylands Visitor, a 1-800 phone line for up to date special agricultural County activities, television commercials and distribution of materials through the New Jersey Division of Travel and Tourism and various other resources. Other venues that provide marketing opportunities have included the Governor’s Conference on Travel and Tourism, the Sussex County Farm and Horse Show/The New Jersey State Fair, the NJ Campground Association, and the Springfest Flower and Garden Show at the Sussex County Fairgrounds, to name a few. By increasing interest and participation in this program, the County can provide additional revenues to County farmers with a relatively small dollar investment. The New Jersey Department of Agriculture has identified agritourism as an important focus to agriculture and plans on creating a state

Agritourism Council in 2004; Sussex County can certainly provide practical information on process and success from our efforts.

Sometimes opportunities present themselves that link new partners. This is the case with the Lusscroft Farm property located in Wantage and Montague Townships. This property, originally built as a model dairy farm between 1914 and 1930, it later served as the North Jersey Dairy Branch of the State Agricultural Experiment Station between 1931 and 1970. It was here that the technique of artificial insemination was developed, thereby making a significant impact nationwide in the agriculture industry. Today, this land is held by the New Jersey Department of Environmental Protection with a Memorandum of Understanding with the State Agriculture Development Committee to maintain an agricultural operation on the premises. There are 23 existing structures on these 578 acres. There is the potential here to utilize this property for not only agritourism, but ecotourism as well. Agriculture and environmental education programs can be offered, passive recreation (hiking, birding, flora and fauna identification), traditional agriculture, a resource for processing and selling value added products and a showcase for heritage breeds are only some of the possibilities for this facility. Here again is another resource for highlighting Sussex County history and encouraging tourism.

For all of the aforementioned agricultural programs to be successful, we must always go back to preserving and protecting the land base. With the advent of municipal down zoning, many farmers throughout Sussex County, and New Jersey, are theoretically being forced to sell off the farm. A farmer's equity rests in the land. The land is used for collateral to purchase equipment, stock and additional land to continue the farming operation. Down zoning, although perceived at the municipal level as an attempt to curtail sprawl, usually has the opposite effect by severely reducing land values. Additionally, larger lots for single family residences necessitate the need for more land to be on the market to accommodate the buyer. This, in effect, causes more issues with wildlife destroying farm crops since hunting in such areas is curtailed. The State of New Jersey has taken a strong stand, through the State Board of Agriculture, to bring this issue to the forefront in an effort to protect viable agriculture enterprises for the future.

Much of what makes Sussex County a location where people want to live and play is our rich agricultural heritage. With continued success in our farmland preservation efforts in established project areas, innovative development of agricultural products and positive marketing efforts, agriculture can remain a viable industry and lifestyle in Sussex County.

EXHIBIT 17

**FARMLAND PRESERVATION,
OPEN SPACE, AND
OPEN SPACE PROJECT AREAS**

OPEN SPACE

In November 2000, the voters of Sussex County overwhelmingly supported a dedicated tax devoted to Farmland Preservation and Open Space and Recreation. This tax is set at \$0.02/\$100 of assessed value. 90% of the funds raised are utilized for Farmland Preservation with the 10% balance for Open Space projects. At the state level, funds are available for open space preservation through the Garden State Preservation Trust. This Trust was set up after the voters of NJ overwhelmingly supported a ballot question. The funds assist municipalities with open space preservation and recreational development and allow taxes to be collected on state owned open space.

The Board of Chosen Freeholders appointed a County Open Space Committee and charged them with developing an Open Space and Recreation Plan and implementing an application process for municipalities. Both of these processes are underway. The Sussex County Open Space and Recreation Plan was adopted on February 12, 2004 and has been submitted to the New Jersey Department of Environmental, Green Acres program with a Planning Incentive Grant application. If successful with the grant request, the County will be able to effectively double the amount of funding for Open Space projects. The Open Space Committee has processed two funding cycles of applications and made awards for eleven individual projects in seven municipalities. This work will continue on a yearly cycle with applications being sought from all of our municipalities.

Federal and State public parklands encompass approximately one-third of Sussex County's landmass. This presently includes part of the Delaware Water Gap National Recreation Area, the Walkkill River National Wildlife Refuge, seven state parks, one state forest and twelve Wildlife Management Areas. As of September 30, 2003, federally owned parkland totaled 26,406 acres and state owned parkland was 73,870 acres. Non profit conservation organizations held 2,315 acres; these included the New Jersey Nature Conservancy, the New Jersey Conservation Foundation, the New Jersey Audubon Society, the Passaic River Coalition, and the Conservation Fund. The majority of these preserved open spaces are found on the western and eastern boundaries of Sussex County mainly along the ridges. See Exhibit 14.

Sussex County Goals for Open Space and Recreation

The Sussex County Open Space and Recreation Plan provides direction and suggested resources to utilize in the protection and preservation of passive and active open space. Through an intensive outreach process to all Sussex County municipalities and committee members, federal and state government representatives, non-profit organizations, recreation groups, businesses and the public, the following goals were identified in the Sussex County Open Space and Recreation Plan:

- a. Permanently protect water resources, including aquifer recharge areas, surface water, groundwater, wetlands, and stream corridors, and access to surface water bodies.
- b. Shape growth or maintain the character of a community.

- c. Preserve historic values and encourage cultural resource protection and historic sites that provide the basis upon which Sussex County has developed.
- d. Preserve and protect wildlife habitat, including threatened and endangered species habitat and exceptional flora and fauna.
- e. Preserve land for facility based recreation areas (organized sports, etc.) and resource based recreation areas (hiking, bird watching, etc.). Increase recreation opportunities for County residents, including but not limited to hiking, bicycling, bird watching, public access to waters, ballfields and similar active recreation sites.
- f. Preserve land for greenway or trail development to connect public lands via corridors of “green” either through trails, expanded parklands, or protected greenways.
- g. Preserve scenic vistas that identify Sussex County and frame gateway communities, ridgelines and rolling valleys.
- h. Preserve land adjacent to publicly owned parkland to expand these existing parklands and promote regional protection of open space.
- i. Preserve land that accommodates tourism activities.
- j. Preserve agricultural resources and farming communities.

The County of Sussex intends to utilize a proactive approach in attaining these goals. The County Open Space Committee and staff will educate municipalities regarding the resources available to them. Target preservation areas will ultimately be associated with the aforementioned goals.

Economic Benefits of Open Space Preservation

In addition to the aesthetics that open space provides to a community or a region, there are measurable cost benefits associated with these resources. First, studies have documented that open space as a strategic growth strategy can save municipalities money in reducing the demand for services including schools, police and fire, water, sewers and other infrastructure. In many instances, property values of land contiguous, or reasonably so, to preserved open space, increases. There is usually a desire from buyers to locate near open space to enjoy the quality of life benefits on a daily basis. In conjunction with this, many businesses cite quality of life issues for their employees as a basis for locating in a community where the aesthetics of open space are evident. Open Space helps support a tremendous tourism industry throughout the country. Sussex County is being marketed as a four season destination with resources in ecotourism, agritourism, recreational and historic tourism. Although much of our current tourism base is in “day trippers” there is the thrust to change this to overnight visitors which will contribute positively to the local economy. Going hand in hand with the tourism concept is the fact that even local residents will expend dollars supporting open space by their recreational pursuits; i.e. hunting, fishing, bird watching, photography, boating, skiing, snow shoeing, horseback riding, and many other nature based activities. Additionally, there is an inferred benefit with the creation of passive open space as a natural filtration system which reduces the danger of flooding and the costs associated with such an episode. From a social perspective, biologically, many people need the quiet places that open space provides to help them think, relax and unwind. On the other hand, these open spaces provide opportunities to exercise and maintain good health. If involved in active organized recreation, odds are good that the individual will be learning teamwork, social skills and responsibility. All in all, the preservation of open space is usually the most cost effective method of protecting water and air quality and insuring a good quality of life.

Sussex County Current Open Space Project Areas

After two funding cycles for Open Space projects in Sussex County, certain project areas are becoming evident through the municipalities. The Sussex County Open Space and Recreation Plan identifies six initial areas where monies are being invested through State, County, Municipal and Non-Profit means. In each of these instances, the municipality has identified a project area that is important to them either as a greenway, a location for endangered or threatened flora and fauna, an active recreation site, or a potential connector to other open space. This list is not to be construed as complete; these are project areas currently being pursued. This list can be expanded as the need presents itself.

Current project areas include the following locations (See Exhibit 14):

- Byram Township's Open Space Plan gives high priority to the Lubbers Run project area. Lubbers Run is the largest tributary to the Musconetcong River. Both of these waterways are classified as trout maintenance waters. Lubbers Run, which is contained within the Musconetcong Watershed, is nearly pristine. Byram Township is rich in many natural resources; protecting this area can protect water quality, wildlife habitat and forest land. Within this project area is the Lubbers Run Greenway and Trail. The Greenway will create a path system extending from the Old Andover Forge near International Drive eastward across Route 206, through the existing Wild West City, through Township owned property and NJ Natural Lands Trust property to Lake Lackawanna. This trail would parallel parts of the proposed Highlands Trail. In Byram Township, this Greenway would parallel the Musconetcong River and protect parts of the Lubbers Run Greenway corridor. Many of the proposed parcels in this project area may be protected through easement purchases. Two applications have been presented to the County Open Space program and approved for funding.
- The Muckshaw Ponds Preserve is located in both Andover and Fredon Townships and is an area identified by the New Jersey Nature Conservancy as a primary project area in Sussex County. Fredon Township has already applied to the County of Sussex for Open Space funding for projects being done in partnership with the NJ Nature Conservancy. The Muckshaw Ponds are a series of sinkhole ponds with one larger pond surrounded by steep limestone ridges supporting a mature hardwood forest. There is a unique combination of geology, topography and hydrology that occurs here - this supports a high concentration of state endangered and threatened plants and animals. Additionally, there is a rock shelter that has historic significance to the area in that it harbored the Revolutionary War spy, Lt. James Moody.
- Johnsonburg Swamp, in Green Township, identified by the New Jersey Nature Conservancy, is the state's best limestone forest and one of the most important species rich natural areas. Rare plant species exist here, in addition to waterfowl and other wildlife. The limestone outcrops around Mud Pond area the largest rock formations of their kind in New Jersey. The limestone bedrock produces calcium rich soil which harbors many rare plants including: hoary willow, ebony sedge, leathery grape-fern, white-grained mountain rice grass and lesser bladderwort. Wildlife species of importance include: great blue heron, red-headed woodpecker, barred owl, red-shouldered hawk, wood turtles and longtail salamanders.

- Hampton Township’s Open Space Plan identifies their Limestone Forest Initiative as an area with a unique ecosystem. This is forested land situated on top of limestone bedrock and thin glacial till. This forest contains sinkholes, sinkhole ponds, bedrock pinnacles, caves and springs. The sinkhole ponds are home to rare plants and animals that have adapted to this type of habitat. Limestone forested areas in Hampton are roughly located between Swartswood State Park, the Paulinskill Wildlife Management Area, and northward into the interior of the Township. Several open space applications to the County program have already been received and approved in this project area.
- Sparta Township is working toward protecting contiguous lands that form a greenway which will contribute a variety of benefits to township and County residents. The project area already includes lands under State and Township preservation programs. Included is an abandoned railroad bed owned by the County of Sussex. A farmland preservation project area is relatively contiguous to the aforementioned parcel as is the Sussex County Technical School. Lands being assembled will provide both active and passive recreational uses - from hiking trails to ballfields. Associated wetlands provide recharge for the Germany Flats aquifer.
- In Vernon Township, the establishment of a greenway along the Black Creek, a northward flowing waterway, would safeguard water quality, provide recreational opportunities for residents and visitors and serve as a central link to larger preserved areas. The Black Creek Preserve and Greenway would provide an internal open space network through the Township. This could include walking and bicycle trails which connect to residential areas or other active or passive recreational facilities. There may be canoe and kayak access points. This area, in conjunction with other state and federal lands, provides habitat for migratory and local wildlife populations. Purchasing land in fee or by conservation easements is the strategy. Benefits include: flood control, stream corridor protection, groundwater recharge and a protected, clean water supply.

Sussex County Open Space Potential Project Areas

In addition to the specified project areas, open space monies may be used to purchase lands in fee or with easements that provide infill or buffers to existing state and federal parklands throughout the County. This assists in establishing contiguous natural landscapes. Potential project areas may include the following:

- areas that protect scenic view-sheds which will preserve the visual character of the County
- identified Natural Heritage Priority Sites which should be purchased by the State
- greenway projects, trail connectors, trail corridors and rail to trail projects
- active recreation sites (municipal and/or regional) should be encouraged
- historic and cultural resources should be identified and preserved
- preservation of representative examples of the County’s unique and diverse bedrock and surficial geology which may necessitate an inventory.

Applications on the aforementioned will be strongly encouraged in the ensuing County funding rounds.

Open Space and Recreation Issues

The following are some of the issues that should be addressed to make the preservation of open space and its ultimate uses function better in Sussex County.

- lack of Delaware River (both on state and federal lands) boat access in Sussex County
- State and federally protected lands need to be marketed for both traditional (passive) uses and 21st century uses that may require partnerships with private non-governmental individuals
- a proactive approach needs to be developed by the state in its acquisition of Natural Heritage Priority sites
- the State must have an open dialogue with Sussex County when developing its acquisition plan so there is agreement between the two entities. There should not be a conflict between proposed state acquisitions, the State Development and Redevelopment Plan and what the Sussex County Strategic Plan identifies
- boundaries between existing different governmental holdings should become more seamless thus creating greenways, etc.
- Sussex County needs to receive its fair share of state capital improvement dollars for all existing parks and wildlife management areas, especially before additional sites with improvements are added
- a formal entrance to the Delaware Watergap National Recreation Area should be established with a visitors center
- Sandyston and Montague Townships should be elevated to the maximum payment under the Garden State Preservation Trust Fund.

Importance of Open Space to Sussex County

Open Space (including Farmland) Preservation is the equalizing component to economic development in Sussex County. For Sussex County to exist as a balanced community, there must be both economic development (commercial, retail, residential) and preservation of open spaces, natural landscapes and recreational resources. This is a quality of life issue. Many individuals move to Sussex County because of our relatively rural character. This is also why many “natives” choose to remain here even in retirement; Sussex County offers the best of both worlds. One can enjoy wildlife and natural landscapes every day while being proximate to all modern amenities. Additionally, we are within easy travel distance to either major metropolitan areas offering cultural activities or other recreational pursuits including the shore and numerous State and federal parklands in neighboring states.

However, there must be the ability to maintain this quality of life which strongly focuses on open space. How much is enough open space? Is the current one third of Sussex County’s landmass under preservation enough to provide quality habitat for threatened and endangered species and the maintenance of whole ecosystems? Some would argue yes, some no. How should it be used? Should there be more passive recreational land preserved, or more active recreation? How can the County assist its’ municipalities in identifying and then acquiring important open space parcels?

It is a given that there will never be sufficient funding through government or non-profit organizations to purchase in fee or with easements every parcel that is important. Therefore, there must be an integrated approach between the County, the State and Federal programs, and

the towns to achieve smart conservation through smart growth. The Sussex County Open Space and Recreation Plan outlines a number of strategies that can accomplish much in maintaining the open space character of the County. The Sussex County Open Space committee, in their efforts, will be proactive in achieving these strategies. They include the following:

- strategic planning to protect green infrastructure
- targeting land acquisitions to identified priority areas
- coordination of planning, zoning and spending
- a plan that complements and works with an affordable housing plan
- a nexus between state and local actions
- a balance between the public interest and that of property owners.

In addition, the proposal in this report of a density transfer mechanism would provide a cost effective strategy to protect land and landowner's equity while giving an incentive for center located development. Land protected through density transfer can be deeded open space should the landowner so desire. The County Open Space program can design language that can be made available to Municipal Open Space and/or Environmental Committees to cover both bases to use this as a land protection strategy. In addition, the state has recently enacted the Transfer of Development Rights Act that makes an expanded version of this program available state wide.

The development of a strong Ecotourism program could further encourage private landowners to protect their open space through either State, Municipal or Non-Profit programs. Even if land is retained in private ownership, rather than sold in fee to Green Acres or a Non-Profit organization, there are methods to allow for public access for hiking and passive nature pursuits. This has been done on other privately held lands throughout the state in which a landowner may sell a small percentage of land to Green Acres for trail use or access to a stream or lake while retaining the remainder. In so doing, this limits the liability issues of the private landowner. Landowners entering into such agreements have a tendency to be good caretakers of their lands when they recognize its importance in the overall ecosystem around them.

If Sussex develops a Countywide Ecotourism program (such as Cape May County or Cumberland County), this can function as an information clearinghouse and marketing tool for both public and private lands. It is important (for this to be successful) that state and federal land management agencies are involved with such a project since they are significant landowners in Sussex County. If the County is unable to be the lead agency for such an endeavor, then perhaps a local Non-Profit with a strong outreach program would be appropriate. Again, there are existing examples of how this can be accomplished. This is a win/win situation for all involved. Complete ecosystems that flora and fauna need to exist are protected while capitalizing on the economic benefits of a far reaching Ecotourism program.

BUILD OUT ANALYSIS

The build-out analysis is based on existing development to which is added an estimate of the potential construction on lands considered to be developable, as currently zoned. Although there are thousands of acres of permanently preserved open space, there is a great deal of space available and zoned for development. This part of the planning effort was performed to understand:

- How much land is available for development (See Exhibit 18, Buildable Land).
- Where it is located.
- The environmental, fiscal, and visual impact of development under current codes and ordinances (See Exhibit 19, Municipal Zoning).

The build-out analysis, attached as Appendix C, provides the following picture:

- Much of the zoning, particularly Industrial zoning, is beyond any reasonable expectation of development.
- With the projected reservation of the Highlands region in eastern Sussex County in and the current federal and state ownership in western Sussex County, the developable lands, other than designated centers, lie generally in the central Sussex County municipalities of Wantage, Frankford, Lafayette, Andover Borough and Township, Fredon, Green, Hampton and Stillwater.
- If the zoning in place were to be realized, the impact on individual municipalities and the region as a whole would be far beyond the capacity of the circulation and resource systems to sustain. Millions of square feet of commercial and industrial space, thousands of homes would also dramatically change the face of the County.
- Moreover, the development pattern, in many municipalities, is scattered and land intensive. This approach will result in all the disadvantages of growth with none of the advantages of center based development.

Zoning has only been in effect in Sussex County for approximately fifty years. When it was first introduced, it focused on the most offensive land use conflicts (e.g. between industry and homes). Over time, it expanded, generally in response to rather than in anticipation of problems. Resource analysis began to be undertaken to evaluate the impact of residential uses, again in response to events like septic failure and a better understanding of the biological and physical demands of development.

Much of the commercial and industrial zoning is in place as a response to the “need” for rateables (see Impediments to Rational Planning) rather than an analysis of local and regional needs for services. Recently, the “benefits” of rateables have come into question as there is, again a better understanding of the impact of large scale commercial development on the available water supply and the existing circulation system. The millions of square feet of zoned commercial and industrial potential would consume large quantities of water and require major

improvements to the road network. As water supplies are not evenly distributed across the County, see Exhibit 6, Groundwater Recharge of Sussex County, and the likelihood of substantial roadway expansions is close to nil, we need to evaluate the real potential of the County resource and infrastructure base and zone for land uses which will not overwhelm either one.

Municipal Zoning

The County Strategic Growth Plan is designed to provide signposts and an overall sense of the growth dynamic in the County. It does not seek to impose rules or regulations on individual municipalities. The information contained in the build out is offered as guidance for municipal action.

EXHIBIT 18
BUILDABLE LAND

EXHIBIT 19
MUNICIPAL ZONING