

INTRODUCTION

The world we live in is dynamic, with its many facets having multiple interactions with each other, resulting in an almost infinite number of causes and effects. Therefore, no planning effort can be undertaken in a vacuum. Planning must be understood in the context of current and historical influences and events. New Jersey comprises 566 separate municipalities, twenty-one counties, and more than 600 school districts. This governing structure is highly fragmented and, in the most densely populated state in the nation, requires the most highly coordinated system of intergovernmental cooperation. The Strategic Growth Plan (SGP) for Sussex County is a reaction to the need for such cooperation between the twenty-four municipalities which make up the County, the County itself, and the State. But what has caused us to take this initiative now?

Today we have a much better understanding of the connections between our development patterns and our quality of life. If the purpose of work and study is to yield products, services and income through which we come to enjoy life and provide a measure of security to ourselves and our families, maximizing the return from our efforts and minimizing the costs of those efforts is rational behavior.

Planning is an attempt to impose predictability and a level of control over our lives. By its nature, it is a long term and wide angle perspective on events. Often it requires deferred gratification. This comes into conflict with the understandable wish to “have it all now” under the “buy now, pay later” economic banner.

Land use planning is not the answer to all of society’s ills; illiteracy, discrimination, poor health, etc. It can, however, set the stage for enhancing or degrading human interaction. Where we can set the stage to enhance interaction, the result is a stronger sense of community, a wider range of transportation options with the corresponding reduction in automobile dependency and cost, and greater efficiency in providing public health and safety services.

Sprawl, moving connected activities farther away from each other, reduces transportation options and exacts a number of costs, not all of which are quantifiable. The most directly measurable include the costs of maintaining a vehicle for commuting, overtaxing highway capacity, increased air and water pollution from vehicular trips, greater expenditures for highway maintenance and expansion, monetary losses from motor vehicle accidents, augmented storm water runoff and reduction in aquifer recharge.

More difficult to quantify are the hours spent stuck in traffic, or, if not stuck, contending with the time required to get from origin to destination, avoiding accidents, coping with adverse weather conditions, construction and so on. The Sussex County quality of life for which we moved to the area should not require us to spend fifteen or more hours per week commuting to employment, to have no reasonable option to living beyond walking distance from the most basic shopping needs and to have so little time available for family activities that even our children live on a hard and fast schedule.

Again, changes in the social framework have a disproportionately great impact on our ability to function. Isolating ourselves through sprawl makes it harder to deal with the matters at hand.

Planning in New Jersey has changed greatly since the first zoning and planning enabling acts were adopted in 1928 and 1930. Since that time, and particularly since 1975 when the current Municipal Land Use Law (N.J.S.A. 40-55D-1 et seq.) was adopted, the importance of planning as a precondition of land use regulation has become more and more apparent.

Authority to plan and to regulate land use in the State is delegated to municipalities by the State legislature. This, in large part, is the basis of "Home Rule" whereby each of the 566 municipalities in the State has the authority to control what gets built and where.

New Jersey, however, is the most densely populated state in the USA with an *average* density of 1,100 persons per square mile. In more developed areas, the density is far higher. Consequently, the impact of decisions about land use in one municipality is far more quickly and strongly felt by neighboring municipalities than anywhere else. While the Municipal Land Use Law specifically authorizes municipalities to join together and create regional land use boards, this formal degree of cooperation has not been extensively used.

In order to address the issues facing Sussex County, and taking advantage of a grant from the State Planning Commission, the Board of Chosen Freeholders appointed a Strategic Growth Advisory Committee (SGAC), made up of seventeen members representing municipal government, business, agriculture, environmental and development groups. The SGAC has met at least once per month over the past four years. Members attended the numerous visioning meetings held County wide and have served on subcommittees working out details of the SGP. The hundreds of hours spent by these dedicated volunteers is a tribute to their concern for the County, its residents and its future.

The Plan is composed of a number of elements. Although there are no set guidelines for such a plan, this document will generally follow the format for a master plan set forth in the County Planning Enabling Act, specifically NJSA 40:27-2. This section provides, "The County Planning Board shall make and adopt a master plan for the physical development of the County. The Master Plan of a County, with the accompanying maps, plats, charts, and descriptive and explanatory matter, shall show the County Planning Board's recommendations for the development of the territory covered by the Plan, and may include, among other things, the general location character and extent of streets or roads, viaducts, waterway and waterfront developments, parkways, playgrounds, forests, reservations, parks, airports, and other public ways, grounds, places and spaces; the general location and extent of forests, agricultural areas, and open-development areas for purposes of conservation, food and water supply, sanitary and drainage facilities, or the protection of urban development, and such other features as may be important to the development of the County.

The County Planning Board shall encourage the cooperation of the local municipalities within the County in any matters whatsoever which may concern the integrity of the County Master Plan and to advise the Board of Chosen Freeholders with respect to the formulation of development programs and budgets for capital expenditures."

General Impediments to Rational Planning

Tax policy is the single greatest impediment to rational land use planning. New Jersey is among the five states that depend upon the property tax to fund 98 percent or more of its functions. As long as municipalities and counties need the property tax to operate, seeking ratable will be a significant priority. Unless some other revenue source is substituted, this will continue to cause development policies to emphasize near term superficial benefits and costs rather than an understanding of the complex dynamic of housing following jobs and the transportation and quality of life effects of that dynamic. If businesses continue to be located along road corridors rather than mass transit routes, and housing continues to be segregated from non-residential growth, we will further the unhealthy, time and resource consuming pattern of long single occupancy vehicle commutation and shopping trips.

Given that we cannot expect a change to the basic property tax system, all density transfer mechanisms, particularly those between jurisdictions, must provide that the money follow the development.

Part of this equation can be offset by developer exactions related to the impact of new development. The incremental school cost, expressed as cost per student in excess of the expected tax revenue from the construction plus some part of the anticipated capital cost of new facilities, busses, etc. should be added to the current pro rata share required of the developer.

Additionally, the property tax mechanism in the State forces municipalities to make land use decisions based on fiscal concerns which rarely offset the effects of the use. This has severely limited the options available to local government and has resulted in land development patterns which are inefficient and force the population of the State to move by privately owned automobile in order to gain access to goods and services.

The net result of this obstruction has been to create sprawl, with all municipalities ignoring the extraterritorial effects of development. From this came the impetus for adoption of the State Planning Act in 1985. The Act sets out the framework for a new approach to planning, planning on a regional scale. Not only must we all consider the effects of land use decisions on our neighbors but also on the State and on the larger region.

Development in New Jersey has traditionally followed improvements in transportation and mobility. Cities, once the focal point of nearly all non-farm employment, began to lose population as the workforce first made use of the train to live farther away from places of work. When the automobile began to be affordable for the general public, the road network was expanded and improved. No longer was it necessary for the workforce to live within walking or biking distance of employment or of the train station.

As the population found the freedom to stretch the connection between home and work, the federal interstate system, underwritten by the federal government, further loosened the connections to the cities, reducing the role of the railroads as the subsidy of the highway system favored over-the-road transport of goods and services as well as the passenger vehicle. Adding to the ability of the workforce to relocate was and is the federal subsidy of home ownership through the mortgage interest deduction from income for federal tax purposes.

This dissociation and cities' lack of authority to annex territory have led to the decline of the core city and the rise of the suburban and "edge" cities. Jobs, particularly the higher paying variety, have migrated from the original cities as has a large part of the population. This migration has consumed tens of thousands of acres of undeveloped land, much of it productive farmland. The way back to the city and its residual jobs has become increasingly congested and unattractive. This puts the older settlements in a disadvantaged position, reducing their attractiveness as home and workplace, disproportionately populated by those without the ability to move out. As a result of these influences, New Jersey has developed into a dispersed community, still tightly tied to the city economically and culturally, but with the vast majority of its citizens no longer calling the city "home".

In reaction to these historical trends, the State Legislature, through enactment of the New Jersey State Planning Act of 1982, declared that sound and integrated statewide planning was needed to "...conserve its natural resources, revitalize its urban centers, protect the quality of its environment, and provide needed housing and adequate public services at a reasonable cost while promoting beneficial economic growth, development and renewal..." (NJSA 52:18A-196 et seq.).

This Strategic Growth Plan demonstrates Sussex County's commitment to overcoming the obstacles to rational, planned growth. The title alone, gives some idea of the obstacles to be overcome. Growth must be encouraged as it is the engine that drives the economy, and generates the funds to "provide needed housing and adequate public services" At the same time, we are to "conserve natural resources, revitalize the state's urban centers, and protect the environment".

How are these seemingly conflicting objectives to be reconciled, in the face of significant outside forces of continuing dispersal? By developing a plan that brings with it the expectation that it can operate in the real world with only minimal constant government manipulation. The key element of the Plan is the Center, the preferred development form urged by the State Planning Commission. These should be attractive for economic and personal reasons such that the individual decisions by employers and residents contribute to a reversal of sprawl rather than its continuation.

In today's complexly interrelated society, no Center can be expected to function as cities did in the past. The evolution of the communications network, out-migration of manufacturing employment and the transportation network in place, require that the roles of the various kinds of centers be taken into consideration.

What should a Center be? What is its function? In its larger configuration, it is a place where a sufficient concentration of population and interconnections exists to support cultural facilities such as museums, art centers, and universities. Lacking the economic base and facing huge service requirements, major public subsidies now carry the cities' costs. Absent some huge cultural reorientation, this will continue to be necessary for the foreseeable future.

Moving out from the core, we are presented with less dense, automobile dependent suburbs. The Route 1, Routes 80/287, Route 78, NJ Turnpike and Garden State Parkway corridors are now the focus of employment. None of these are located in Sussex County.

Quality of Life

What are the elements that make up our “quality of life”? Some are obvious such as clean air. Our ability to ensure this is mostly outside any local control. Impaired air quality is generally the result of out-of-County sources, isolated high volume traffic generators, and rush hour highway concentrations.

Clean water is also part of the Sussex County character. Here, the Strategic Growth Advisory Committee, Planning Board, and Board of Chosen Freeholders can review DEP regulations and basis for same. Particular focus should be on water quality, recharge, overall watershed management, soil erosion, protection of natural resources, threatened and endangered species and other indicator species habitat.

In order that more members of the population understand and act to support the quality of life, the County and other agencies should provide educational material and forums for discussion to explain the rationale and methods (e.g. model ordinances) for maintenance of the County character. In the realm of transportation, the free flow of traffic, open tree and stone row lined country roads leading to and from identifiable villages and towns are elements to be conserved.

No area can be considered complete or expect to retain long-term viability without an economic base. For Sussex County to prosper, employment and services must be readily available. This plan and subsequent efforts should identify and market County strengths. Reports such as the Sussex 2000 study and the Economic Development Strategic Plan, should be updated and actively implemented.

During the extensive Visioning meetings held around the County, many of those asked indicated that rest, relaxation, and recreation are integral elements of the Sussex County experience. Development is generally low intensity, the roadways, although sometimes congested, are generally free flowing, large and small scale recreation facilities are distributed across the entire County. These should be emphasized and expanded, through cooperative efforts between business and government to all who live in and visit the County. A sense of open space and existing, scenic vistas must be retained both in public (parks) and private (preserved farmland) ownership.

Efficient provision of community services, e.g. public works, public health and safety, are essential to maintenance of the quality of life in the County. In connection with this, the means by which activities can be funded other than by the property tax must be identified and implemented. The critical issue is the economic viability of the County and its constituent municipalities.

Variations in Municipal Goals

Although the County’s objectives include balancing service demand with non-residential growth, some municipalities do not want to encourage growth. The analysis and goals discussion in the SGP as a regional plan makes provision for disparate municipal goals. Development will not be evenly spread throughout the region and will recognize each municipality’s efforts to plan for their community. Further, many municipalities, presented with a theoretical “build-out” figure may wish to reduce this level of development once the external impact of traffic, loss of

scenic values, wildlife habitat, and other attractive attributes of the area are considered. Whatever the reasoning, the final agreed upon development scheme will set the future population and economic boundaries.

In addition to the basic developable areas and conventional zoning techniques, municipalities may now return to using the “constraints zoning” technique. This approach, together with transfer of development credits or rights, cluster design, and other standard methods of directing development, will enable those responsible for development action to achieve better results than has been the case in the past.

Development vocabulary should be clearly set out so as to avoid the creation of “placeless” places. This is particularly important in multifamily and corporate commercial development. The sea of “townhouses” not in a town and the repetition of context free corporate logos make all places look alike. A large part of this strategic planning effort is to retain the individual character of each municipality, and by extension, the County. To do so will require local decision makers to resist the common assertion by developers that “corporate policy requires this design, color scheme, sign size, parking arrangement, etc.”. Strong guidance by local planning and zoning boards will overcome the urge to fall back on the familiar development patterns and styles, otherwise known as “sprawl”.

THE VISIONING PROCESS

At the beginning of the Strategic Growth process, the Committee developed the following Visioning Statement: “The visioning objective is to establish a County wide framework for guiding future growth and protecting environmentally sensitive features that constitute the unique physical characteristics and the rural, suburban and lake community development that, in combination, establish the overall character and quality of life in Sussex County.” There were four steps outlined that needed to be addressed in this process:

1. Where are we now?
2. Where are we going?
3. Where do we want to be?
4. How do we get there?

The first step in the Visioning process was to ascertain where we are now. This was done by compiling any and all mapped and statistical data available of the current development capabilities of communities in Sussex County. GIS information on land use, zoning, environmental and existing development was gathered. Secondly was the discussion by the Committee on where we are going. This entailed an analysis of likely development trends in Sussex County based on the physical development potential and current zoning and development regulations of its communities. Discussion included likely buildout areas and lands for potential protection for open space and/or farmland preservation. Third in the Visioning process was “where do we want to be.” This was a compilation of visioning goal statements developed by the Committee. They included the following (which are not in any particular order of importance):

1. Maintain the quality of life in Sussex County.
2. Encourage protection of agricultural production areas
3. Protection of private property rights
4. Preserve environmentally sensitive areas
5. Maintain and enhance surface and groundwater quality/water quantity
6. Direct future growth into areas which can support and sustain proposed development uses, intensity and economic development opportunities.

Last in the Visioning steps was “How do you get there.” This step established strategies to implement the proposed County Visions from step 3. The strategies are as follows:

1. Protect areas of steep slopes and viewsheds. In areas with steep slopes of 35% or greater, recommend and encourage low density “mountain conservation” development of 1 dwelling unit per 10 acres.
2. Establish and maintain a 150 foot buffer along all stream segments mapped by The NJDEP (75 feet on either side of stream).
3. Recommend minimum lot areas for all new septic systems based on NJDEP Surface Water Quality Standards.
4. Support farmland preservation efforts and right to farm programs.
5. Encourage downtown and highway corridor revitalization while simultaneously encouraging future growth in areas which do not destroy environmentally sensitive areas of the County.

6. Channel future growth of high density residential development and high intensity non-residential development into existing and future sewer service areas.
7. Support the collaborative effort of Federal, State and Municipal agencies in setting open space priorities in the County.

From this came the Strategic Growth Visioning process. The Sussex County Strategic Growth Plan rests on a shared vision of the County and its' future. Between June 13, 2002 – July 29, 2002 and then again from May 6 – June 4, 2003, the Strategic Growth Committee and County Staff made presentations to all Sussex County municipalities. When added to the meeting time spent by members of the Strategic Growth Advisory Committee, a total of 1520 hours have been donated by these committed volunteers. The first series of a dozen meetings during 2002 were open public meetings in which over 600 residents participated. The presentation included background on the process to date, a description of the initial build-out analysis and how it could potentially affect the community, and major issues that the Plan would ultimately focus on. Many of these issues were presented in a cursory manner. The process proved valuable in gathering comments and insights on these topics that would be further discussed in the next part of the Visioning process.

During the Spring of 2003, the Visioning process continued, albeit in a smaller forum. The Committee and Staff brought a list of regional topics that had surfaced in the initial process to municipal governing bodies, and zoning, planning and land use boards for their input. A list of County-wide policies was presented including: Mobility/Transportation, Land Use, Agriculture, Open Space/Recreation, Environmental, Residential/Affordable Housing, Design and Aesthetics, Economic, Utilities and Historic and Cultural Preservation. The discussion was steered from the earlier municipal context to the more broad brushed regional design. The Strategic Growth document outline was also discussed which will include an Executive Summary, Introduction and background on the process, Existing conditions and Trends, the Future vision, and an Action Plan. The Landscape concept was introduced and defined during these meetings. The initial nine landscapes were modified as input was received.

The Visioning process, in and of itself, was extremely helpful to the Committee in focusing major concerns on a municipal and regional level. The need to highlight the aforementioned policies became evident after the first Visioning meetings. Transportation was heard as the most critical issue in our County. This was followed by the preservation of municipal and County character and quality of life issues. Municipalities showed a strong interest in the process and the end product. It was strongly emphasized at all meetings that this Plan needed to present a unified front on all issues when submitted to Trenton for Plan Endorsement. It would then act as a template for municipal center designation and plan endorsement in Sussex County.

The forms used to gain the public responses and the summary of the responses are included in the Appendix.

LANDSCAPES

A key element in the SGP is the landscape. This is defined as an area which is intuitively understood and recognized. In other words, when you're in it you know it without the need for explanatory signs. The landscapes (Exhibit 1) which have been defined for Sussex County are the:

- Rural/Agricultural Landscape
- Centers Landscape
- Parklands and Private Wildlife Management Area Landscape
- Job Creation Centers Landscape
- Lake Communities Landscape

Each of these has a well-defined character, setting it off from the others. All activities in the County may be understood with reference to one or more of these landscapes.

The overall land areas of Landscape in Sussex County are:

Parks/Public Water Supply Lands	111,981 acres
Job Creation Centers	335 acres
Lake Communities	17,730 acres
Towns/Villages/Hamlets	38,800 acres
Rural/Agricultural	175,106 acres

Landscape Characteristics

Without going into extensive detail since they are self-defining, the characteristics of the landscapes are as follows:

- Rural/Agricultural Landscape – Areas of low density residential development, active and fallow farmlands and small commercial service groupings (often configured as strips along highway frontages), natural resource development (quarries), golf courses, and ski areas. Large areas of land are preserved as agricultural properties or open space. The road network is generally two-lane County and older municipal streets with scattered direct access to homes and businesses. There is a combined sense of openness and human presence.
- Centers Landscape – These are places, many of which have existed for two hundred or more years. As economic events have altered the desirability of these settlements, for good or for ill, some have grown, others have diminished. In addition to these, new centers have sprung up or are planned in response to economic demand and facilitated by transportation improvements. They permit and encourage pedestrian access to homes and businesses. They are places where the bus stops and where people congregate. They are the focus of cultural and physical infrastructure (colleges, libraries, museums, municipal facilities and central water and sewer). Development in centers is relatively dense and residential and non-residential uses are mixed by design. They are communities with neighborhoods.

EXHIBIT 1
LANDSCAPES



Rural/Ag Landscape (Cosh Farm) © Donna M. Traylor



Center Landscape (Downtown Newton) © Donna M. Traylor



Parklands Landscape (High Point State Park) © Donna M. Traylor



Job Creation Landscape (Bon Chef Building) © Donna M. Traylor



Lake Community Landscape (Cranberry Lake) © Donna M. Traylor

Parklands and Wildlife Management Area Landscape – Large portions of Sussex County are permanently set aside as public/conservation open space. Included are the Delaware Water Gap National Recreation Area (DWGNRA), State Parks and Forests for example, High Point and Stokes, Wildlife Refuges, e.g., Wallkill. Accounting for more than one-third of the total County land area, they are expansive, with minimal disturbance and are used for camping, hunting, hiking, wildlife appreciation and other low intensity activities. They are home to threatened and endangered species of plants and animals, pristine streams, and are a place isolated from the fast pace of daily living.

- Job Creation Centers Landscape – The Job Creation Centers (Commerce Park in Sparta, North Church Industrial Park in Hardyston) are the antithesis and balance to the Parklands landscape. Located along major highways, these are the focus of industrial development and serve as employment centers for relatively intense land uses. These are characterized by substantial truck traffic, larger buildings, and cater to wholesale markets. There are few retail and service businesses oriented to the general public in these centers. They serve to segregate important employment opportunities from more residentially developed areas. In the context of the SDRP, these are identified as Nodes.

Lake Community Landscape – Sussex County developed as an agricultural and summer recreational region. The lake communities that dot the landscape began as summer retreats, focused upon a lake or lakes, accessible via train with limited provision for the automobile. Later communities catered to vehicular traffic as the railroads were dismantled however, they have retained their small lot, small building character. As access improved (I-80) and housing prices increased

in the inner ring suburbs, more and more of the lake cottages were converted to year round residences. Areas which once saw limited impact from use now must support higher waster disposal loads, traffic volumes, and substantial increases in building size without a corresponding increase in lot areas or improvements to service infrastructure.

Reorientation of Development Patterns and Landowner Equity

Sprawl is an overused term to describe development. Not every area needs to be developed in “compact forms” or as a “center”. In many areas, scattered, low density development has a minimal impact on the resource base, requires little in the way of services, and is an acceptable way to live in the “country”. This low intensity, low impact development is consistent with the overall objectives of this plan. There are “safe” densities which do not affect surface and ground water quality, or require extensive road networks. The State Residential Site Improvement Standards provide for relatively narrow rural roads where traffic loads are light.

Overall public policy has changed to place greater emphasis on preservation and rehabilitation of the resource base, particularly ground and surface waters, largely as a result of a more comprehensive understanding of the effects of development on the immediate and wider region. This requires that overall development patterns, previously thought to be acceptable, be abandoned and a new, compact form of development become the primary approach.

However, simply down zoning large areas of the County raises the issue of landowner equity. Many owners of land, particularly traditional farmers, have been stewards of the land for generations. Further, as a business, agricultural operators regularly borrow money for equipment and supplies. The collateral for this borrowing is the land at its developable value. A reduction in land value through down zoning, reduces the ability of a farmer to operate. This would appear to be in direct opposition to perhaps the most important objective in New Jersey land use, the retention of agriculture as a viable industry.

Further, if the public good requires a radical change in development densities and layout, we cannot simply take land equity through down zoning some areas and confer unearned benefits to those who hold land in existing or proposed centers. This windfall and wipeout effect is common from standard rezoning schemes. The most interesting method available to regulators is transfer of development rights or credits (TDR/TDC). This technique would, if implemented by municipalities, permit the transfer of development potential from one parcel of land in the environs to another in a center.

As envisioned in this Plan, densities in the environs would be set, based on the nitrate dilution model discussed above, as it is unlikely that there would be central waste treatment facilities available. Of the density permitted, only one-half would be allowed to actually be constructed. The remainder of the value of the land would be retained by the owner in the form of transferable density credits. These could be purchased from the landowner and used by a developer in a designated receiving area (center).

The effective density of new development in the environs would be, at most, one-half of the safe density as determined through the nitrate dilution model. The landowner would have the

option of transferring more than the minimum one-half credits and could transfer all credit to a center.

In order for there to be a market for credits, development in a center must require the use of credits from the environs, thereby creating demand. In TDC both seller and buyer of credits must come together at the same time. With a TDR bank, a landowner may sell credits, much as development easements are sold to open space and farmland preservation programs. A central municipal or regional account could be created to which prospective developers would apply for purchase of credits. **This, along with reform of the property tax system as support for education, was one of the two major required State actions to permit rational and fair land use policy to evolve in New Jersey.**

Transfer of Development Rights is not new in New Jersey. It has been employed successfully in Burlington County, in the Town of Chesterfield. In New Jersey, it has only been used in Burlington County, as the Municipal Land Use Law set this county apart as an experiment. The State has recently enacted needed TDR legislation, permitting the use of this technique statewide. This opportunity should be explored as a useful tool.

Although new to Sussex County, the potential for balancing the public interest and private property rights through this technique makes it an essential part of the SGP. We do not suggest that all municipalities will want or need to use this. Municipal vision for development varies widely across the County. Even where no center is desired and/or where densities are at or below the maximum desired development density, a municipality may find TDC or TDR an excellent tool to retain large blocks of open space and/or farmland, at no cost to the taxpayer. For example, a municipality with residential densities in the rural agricultural landscape of six acres or less per home may wish to concentrate development on a particular parcel as the sending parcel may contain important natural or cultural resource elements which would be adversely affected by development of any kind. Additionally, greater flexibility of design may be afforded to the receiving parcel with more units or because of topography, location, tract shape, or other characteristic, it is better suited to development already meets the objective of one-half of three acres per unit actually built.

Landscape Goals and Objectives

For each of the landscapes within the County, specific goals and objectives have been developed, based on the public comments at the numerous visioning meetings held throughout the County between 2000 and 2002. At these meetings the public, Municipal Officials, Federal, State, County, and Municipal Board and Commission Members were asked to spell out their concerns, reasons for living and working in the County, and how they thought the character of the area could be preserved and the quality of life in Sussex County maintained. Using the landscape framework, those concerns and aspirations are outlined below.

Rural/Agricultural Landscape

- Minimize sprawl development through incentives for density transfer.

- Development in the environs should be restricted to not more than one-half that otherwise permitted through zoning. All or the remaining portion of the available development potential could be transferred to other lands located in a center. For example, if the land is zoned for one home per three acres, only one home per six acres could be actually developed on that tract. For a thirty acre tract of land, ten homes would be permitted through zoning but only five could be built on the tract. The remaining five credits, or all ten, would have value as credits needed by developers wishing to build in an identified receiving area (center).
- In order for the credits to be in demand, rezoning in the receiving areas would have to be undertaken to lower the as-of-right densities while retaining desired densities achievable with purchased credits. For example, a center would have an as-of-right density of one home per three acres but, with sewer and water service, could allow up to twenty-five units per acre. The difference would become available through purchase of development rights from the environs.
- Where a developer agrees to provide additional open space through cluster development in either the environs or the center, the total yield would be determined by land divided by density after removal of areas of water bodies and wetlands, and excessive slopes. Where a cluster is not proposed, a qualifying map, taking into account all ordinance mandated design criteria, including slopes, setbacks from wetlands and water bodies would be required in order to determine lot yield and would yield fewer lots or units than would the cluster option.
- Once the cluster lot yield has been determined, the layout would have to respect ordinance limitations such as slopes and buffers but would result in a development whose density would be limited more by water supply, waste treatment and disposal technology than site constraints. If this approach were used on a sending tract and the municipal planning board found the proposal consistent with municipal objectives, the increase in unit count could be transferred via TDR. The financial incentive to sell development rights should not be diminished unless the tract is not suitable for cluster development.
- Locate development in areas least likely to have a negative effect on agricultural operations.
- Require development to provide a buffer when lands adjacent to farmland are being developed.
- Streamside protection is always appropriate.

Conservation and Preservation

The umbrella term “quality-of-life” is directly dependent on maintenance of the environmental integrity, as well as the economic vitality of the County.

The preservation and restoration of environmentally critical land areas should be considered as important a priority as the economic components of the County web. These areas con-

tribute to clean water, clean air, wide open views, both wide ranging and protected species habitat, and nature based recreation. A particularly important initiative is the storm water and stream quality legislation and regulations that took effect in February, 2004. These rules will require land users to internalize some of the external clean-up costs of operating. They will also reduce the need to raise municipal and County property taxes to perform clean ups, although in accommodating the impact of existing land users, retrofitting storm water facilities and their maintenance will require substantial public funding,

The NJDEP has issued a model for a Storm Water Management Plan, Storm Water Control Ordinance, and Stream Buffer Conservation Zone Ordinance. These provide the needed structure for the operation of the storm water and stream quality protection programs mandated by federal and state law. Significantly, enactment of a stream buffer conservation zone ordinance would allow a municipality to limit the width of the conservation zone to 150 feet in Category one watersheds and to 75 feet in the remainder.

As part of the removal of the Regional Recreation Landscape, specific policies should be developed, encouraging these uses in the Ag/Rural Landscape. Current uses of this type are primarily golf courses/driving ranges, the ski areas, Wild West City, Waterloo Village, Tomahawk Lake Park, commercial campgrounds (Tall Timbers, Panther Lake), summer camps, horseback riding facilities, Cardinals Stadium, and the Farm and Horse Show facility.

Development and operation of these uses results in a broad range of effects. Ski areas, for example require disturbance of steep slopes, creation of snow pack on those slopes and the eventual runoff as the snow melts. These areas are brightly lit, require substantial parking and generate significant traffic. With the short season available in New Jersey, year round activities are incorporated, including water slides, etc.

These uses are wholly consistent with the State Plan in that they are recreation oriented. They also tend to create jobs, albeit low paying. Golf courses have their own particular set of effects, notably high water use in the critical part of the year, introduction of pesticides, herbicides, and substantial habitat for nuisance species, such as geese. They may incorporate areas of relatively steep slopes, wetlands, streams, and the like. All these environmentally sensitive areas require careful attention during and after disturbance so as to minimize the potential for degradation. The ballpark and fair grounds, although limited in their environmental impact, bring substantial traffic congestion, with associated air quality degradation, increased fuel consumption and quality of life effects.

Although there could be future major recreation development that could produce a significant impact, the remainder of the uses noted above tend not to have a major impact as they are relatively small.

Within the Agricultural/Rural landscape, connections between residential areas, commercial services and recreation facilities are encouraged. In fact, they are essential components of the effort to reconnect the various facets of life in the County. Historically, these connections were roads, railroads, and the Morris Canal. Over time the railroads nearly disappeared, the Canal did, and County residents have been left with few connections other than the road network. With the decentralization of homes and businesses, even the traditional points of community interaction have been reduced to the post office (where there is one), and chance encounters at the

supermarket. Restoring the local post office would create a natural point of neighborhood contact for many residents who otherwise have none.

Resource Development

The SDRP contemplates resource development in Planning Areas Four and Five. In Sussex County, this has taken the form of rock, sand and gravel extraction. These operations number more than twenty in Sussex County, ranging from the Cemex Quarry in Sparta, Andover and Lafayette and the Wimpy Minerals quarry in Sparta and Hopatcong to small gravel operations on an individual farm. These materials are critical components of roadway, homes, septic systems, and other fundamental elements of community development. These industries also come with substantial environmental impact, as they require large scale land disturbance, alteration of drainage patterns, major topographic modification and visual impact.

These industries may be operated in an environmentally responsible manner. Large scale quarrying operations tend to have wide ranging regional effects on water supply and water quality. There should be no contact with the ground water Figure or subsurface aquifer. Where this is unavoidable, all discharges of water should be pollutant free and returned to the aquifer.

Dust controls, limited lighting, restrictions on hours of operation, and defined truck routes should also be considered in order to minimize impact. Although most operations are multi-year or multi-decade in duration, reclamation of the site is essential. This may be accomplished in phases as the operation moves from one portion of the property to another.

Job Creation Centers

Job Creation Centers correspond to the “Node” as defined in the SDRP. The node appropriate to Sussex County is termed a “Commercial-Manufacturing Node. This is defined as; “a significant concentration of commercial, light manufacturing, or warehouse and distribution facilities and activities which are not located in a Center and are not organized in a Compact form but could meet performance standards for locating in a Center”. The commercial/industrial park facilities depicted as job creation centers fall well within this definition and are consistent with the SDRP. These typically benefit from highway access, lack of residential development, and access to rail service. These are not traditional centers as outlined in the SDRP but have an important role to play in the economic health and consequent quality of life in Sussex County.

These Centers should be located along or in close proximity to major highways (Routes 15, 23, 94, 206). Note that the Lackawanna Cutoff crosses Route 206 in Andover Borough but is inaccessible due to grades. Major industrial access from Roseville Road is not appropriate.

The best rail option is the proposed reactivation for commuter service of a portion of the New York Susquehanna and Western Railroad (NYS&W) which runs through Sparta, Franklin, Hamburg, Hardyston, and Vernon.

Commercial development in Sussex County has taken a number of forms. Most notable and inefficient are commercial strips along state and County highways. These strips tend not to

have sufficient area for deliveries, often demanding that traffic on the highway be blocked to allow access for tractor-trailer deliveries. They are generally one story in height and not designed to permit a second floor. They occupy a substantial frontage on the road with minimal depth, an inefficient use of land. This inefficiency is exacerbated by the corresponding loss of access to the rear lands and creation of barriers to views of the countryside.

There are some Job Creation Centers, Commerce Park in Sparta and North Church Industrial Park in Hardyston, which have matured into a functional concentration of business and industry. Other proposed nodes are located in Sparta, Vernon and Lafayette as indicated on Exhibit 1, Landscapes.

Although these are set out as a separate landscape, they are relatively small elements within the larger, Agricultural/rural landscape. For this reason, these should follow design objectives which will allow them to blend in with the more extensive landscape.

Policies for these should focus on designs which are compatible with the overall objectives of balanced land use (economic) and retention of open/rural character.

Strip commercial development should be prohibited. Commercial and industrial development should be designed in depth from roadways, oriented to a central court, parking located at the rear and screened from adjacent uses unless common access ways are provided.

Direct access to major roadways should be discouraged. The function of higher order roads is compromised by curb cuts. This will be particularly evident where a State or County highway will function as a "Main Street".

It is important to understand that the development patterns now being advocated, creating centers and concentrated development are not small town, USA. The effects of growth generally do not contribute to low traffic, quiet neighborhoods, etc. The benefits are that the regional agricultural impact as well as the visual and environmental effects of development will be reduced as the environs remain less developed.

Traditional Centers

Centers must:

Be ecologically accommodating, located in areas where soils/geology, topography, and hydrology can accommodate relatively dense development.

Provide a high level of mobility – be connected to all other Centers by roads and mass transit facilities. There must be a heavy emphasis on internal pedestrian/bikeways for alternatives to privately owned vehicles.

Be adequately separated from each other to function as independent entities. There should be a defined edge and intervening lands as understood, separate elements of the landscape.

Delineation of Growth Boundaries

Water and sewer infrastructure are the most effective means of establishing growth boundaries and timing of development. True growth management regulates both the location and sequencing of development and redevelopment. In relatively low density areas such as Sussex County, new central water and sewer services are the keys to reorienting the patterns of development away from sprawl toward more compact forms.

Density is the key to establishing the critical mass for mass transit options and concurrent lessening of land consumption per unit of construction. This is not consistent with the thinking of much of the Sussex County population. How much of this is a function of lack of alternatives?

Is there an optimum population density for some sort of center? If so, what is it and how large an area is involved? For future development, the SDRP recommended jobs to residential population ratio may be helpful. This ratio, according to the SDRP, may range from 0.5 to 1 up to 1 to 1. New jobs are calculated based on square footage of new construction. Appendix E of the proposed new COAH Rules sets forth the number of jobs created by type of use. For example, retail and school construction create one job per thousand square feet, office use creates three jobs and warehouse uses create one job per two thousand square feet. If 1000 sq. ft. of non-residential space equals one to three jobs and COAH requirements are partly a function of new jobs, big box uses will generate approximately 2 jobs per thousand square feet. From this, 15,000 square feet of new big box or other large scale commercial construction will require one new low or moderate income unit of housing.

The use of ratios and general descriptions of centers is only part of the answer. The internal design of a living place makes it a welcoming or an uncomfortable place to occupy. From experience with the "Center Designation" process, any center from the Regional Center through Hamlet provides an acceptable scale in Sussex County. However, the broad range of densities and areas also makes it difficult to suggest that one is a better model than another in any particular area. For that reason, among others, the design of a center should follow the functional direction of such publications as "Visions for a New American Dream" by Anton Nelessen of Rutgers University Bloustein School. A substantial excerpt from this work is found at Appendix C of this report.

Existing and Proposed Centers

Sussex County municipalities have been actively participating in the center designation process for many years. The first Center, the Regional Center of the Town of Newton was designated by the State Planning Commission in 1993. This Center, along with the numerous others, both proposed and designated, are more fully described in Appendix A. Sussex County leads the State with eleven designated centers. The expansion of the Newton Regional Center to incorporate some or all of the proposed Hampton Center South has been approved by the State Planning Commission.

In Sussex County, the centers concept has met with both acceptance and rejection. In established centers, relatively high development densities are not considered out of place. At the same time, a significant portion of the population came to Sussex to live in very low density,

single family surroundings. For them, the idea of recreating the conditions they left finds little favor. However, as a result of the extensive visioning sessions, held Countywide as part of the strategic planning process, a wider set of expectations for centers has evolved. Some designated centers, such as Newton, Sparta, Hopatcong, Andover Borough, Stanhope, Vernon, Byram and Montague see additional growth within the center as a benefit yielding densities capable of sustaining mass transit, pedestrian access to a diverse range of services and shopping opportunities, and a renewed sense of community. Others, such as Layton and Hainesville, in Sandyston, and Branchville look at the center process as a means to gain recognition of traditional, historic centers, and assistance in maintaining their important cultural connections between the past and the future.

Of the center petitions which have not been acted upon, Green (Greendell) is another where modest growth is anticipated. In the event the Lackawanna Cut-off is restored to service, this may well change and a transit village could be created. Hampton North, Frankford (Ross' Corner), and the Tri-State Village (Montague) Centers are either greenfields proposals or would expand the range of opportunities available. The existing Boroughs of Ogdensburg, Hamburg, Franklin, and Sussex have varying degrees of potential for accepting new development, based primarily on whether or not waste treatment facilities are available. While these have not been formally designated as centers, their historic character and function is, in and of itself, sufficient to include them as important centers in the County.

In addition to the Centers for which petitions have been prepared and submitted, there are existing functional Centers such as Sussex Borough, Greendell, Lafayette Center, as well as Stillwater, Swartswood, and Middleville Villages in Stillwater Township. Even though they have not been designated, they and others are identified in the SDRP. Centers, whether designated as receiving areas or not, are the future of nearly all prospective development in Sussex County. Using the TDR model, carrying capacity analysis, and careful programming of water, sewer, and transportation infrastructure, the anticipated build-out in the County can and must be reoriented to compact hamlets, towns, and villages where other than very low (less than one home or 2000 square feet of non-residential space constructed per six or more acres) density development is to occur. In some instances, densities as low as one home per ten or twelve acres may be justified where ground water quality standards of two milligrams per liter of nitrate are followed. We have performed an analysis of the lands not encumbered by the environmental constraints of steep slopes, wetlands, water bodies, transition areas and buffers (including the new Category One stream buffers) which are considered to be available for development. This, coupled with the zoning in place as of the date of this report, and designated sewer service areas yields a potential build-out for the County, by municipality as indicated in Appendix C.

Parklands and Wildlife Management Areas

This landscape is both exempt from development and a source of recreation opportunities. It is second in extent in the County, occupying approximately one-third of the total land area.

These lands have a number of important functions. These include:

- Reduction of land available for costly development.
- Provide opportunities for eco-tourism

- Provide greenway connectors between Centers, municipalities, and large blocks of open space where alternative methods of transportation can be safely used.
- Protection of environmentally critical areas such as steep slopes, significant aquifer recharge areas, surface water bodies, wildlife habitat
- Aesthetics – open landscape, forested slope and ridge views.
- Low impact recreation opportunities along with peace and quiet.

Lake Communities

The analysis performed relative to the rural/agricultural landscape also provides an insight into the effects on the environment caused by lake communities. As our current information and understanding of the resource base was not available at the time the communities were developed, and they generally were developed for seasonal use, they tend to be developed at far higher densities than the resource base can be expected to sustain.

For reference, there are more than 1200 lakes and ponds within the State of New Jersey. Of that number approximately 200 lakes are more widely known and are defined as either public (approximately 35%) or private (approximately 65%). The large majority of the lakes and ponds within the State are unnamed and range in size from as small as 0.2 acres to more than 30 acres. Of the 200 named lakes, approximately 40% are located in Sussex County; approximately 18% of Sussex County's present population of 150,000 (1st quarter 2004) reside within these lake communities.

As a result of small lots and present density levels, the impact on the environment has been accelerated eutrophication of the lakes, failure and pollution of individual wells, and failing septic systems, which, due to lack of available lot area, prove difficult and costly to reconstruct using current standards. Emerging septic technologies that offer higher pollutant and pathogen reduction as compared with conventional designs should prove helpful to lake communities.

The New Jersey Department of Environmental Protection (NJDEP) classifies a lake as "eutrophic" (characterized by excessive blooms of blue/green algae, depleted oxygen levels, and excessive nutrient levels) if one or more of the following conditions exist:

1. The lake's total phosphorous concentration exceeds 0.02 parts per million (winter mean; lake water quality attainment is considered met at phosphorous levels at or below 0.05 parts per million)
2. Chlorophyll "a" concentration is over 500 parts per million (summer) , transparency is less than 1.5 meters (summer) or
3. Excessive macrophyte populations or sedimentation is impairing the use of the water.

Public lakes are monitored through the Clean Lakes Program conducted by the NJDEP in cooperation with local health agencies responsible for assessing lake-bathing beaches. When sampling results were extrapolated to all public lakes, results of the Clean Lakes Program showed that more than 95% of the lakes would be classified eutrophic under the guidelines. The water quality of private lakes is generally better monitored, treated and maintained than is the

case at public lakes. However, even under these conditions, most private lakes would be classified as eutrophic.

Whether a lake is public or private, a lake community is a valuable asset to its respective township, borough, or town and County and its specialized needs require the support of the larger community and its governing bodies. One of the major concerns of every lake community is the quality of their lake water. In general, the quality of the water can be adversely impacted by a number of factors, e.g., the degree of development surrounding the lake (further exacerbated by septic systems), the relatively shallow depth of most lakes, undirected and untreated storm water runoff (a major source of nonpoint pollution), and upstream development, etc. In turn, a degradation of water quality exerts a negative impact on quality of life and property values within the communities. In order to effectively address these issues, lake associations and communities must allocate considerable attention and dollars to restore and maintain the quality of their lakes.

Lake communities within Sussex County are recognized as vital community stake holders with specific needs and desires not only for the betterment of their individual lake communities but also that of their municipalities and the County.

The Highlands

Although the Highlands is not considered a landscape – it affects parts of all the landscapes identified in this plan, it, corresponding to the hilly, granite and gneiss region of the eastern third of the County, has been singled out by the State as a region of significant importance. While the overall character of the area defines it, its principal importance in the state scheme is as a source of water supply for approximately one-half of the population of New Jersey.

On September 19, 2003, Governor James E. McGreevey signed Executive Order No. 70 creating the Highlands Task Force and charging it with making recommendations to preserve the natural resources of, and enhance the quality of life in, the Highlands region. In particular, the Task Force was charged with examining the following topics:

- Protection of water quality, drinking water supplies, wetlands, critical plant and wildlife habitat, vegetated stream corridors, and contiguous forests;
- Identification of methods to protect and preserve open space and natural resources of the Highlands region;
- Identification of methods to enhance farmland preservation and support the agriculture industry in the Highlands region;
- Identification of methods to promote historic, cultural, scenic and recreational resource opportunities that preserve the natural features of the Highlands region; and
- Provision of smart-growth opportunities, including economic development and redevelopment in the Highlands region through regional planning, including coordination of transportation infrastructure investments and administrative agency activities, consistent with the State Development and Redevelopment Plan.

The New Jersey Highlands is a 1,250 square-mile area that stretches across the north-western part of the State. The Highlands is noted for its rugged hills, lush forests, pristine streams and lakes, and large, undeveloped scenic lands. The region extends from Phillipsburg in the Southwest to Mahwah in the Northeast. It lies within portions of seven counties (Hunterdon, Somerset, Sussex, Warren, Morris, Passaic and Bergen) and 88 municipalities. (Exhibit 2).

The Highlands is a region of abundant natural, historical and cultural resources. The water resources of the Highlands have long been recognized as the Highlands' most valuable resource (U.S. Forest Service Report 2002). Over half of New Jerseyans get their drinking water from the Highlands. The municipalities in the Highlands derive 100% of their water from the Highlands. Outside the Highlands, more than 900,000 people in urban areas such as Newark and Jersey City get their water from the Highlands as do more than 800,000 people in Somerset, Mercer, Middlesex and Union Counties. Overall, drinking water sources in the Highlands yield almost 400 million gallons per day.

In addition to drinking water, there are a number of other important resources in the Highlands. In fact, the Highlands has the greatest diversity of natural resources of any region of the State, with the U.S. Forest Service classifying 70% of its lands as environmentally sensitive. The Highlands region has 370,000 acres of forested land. Much of these forests remain in large, unfragmented pieces, some exceeding 5,000 acres in size. The area has tremendous biodiversity. Its extensive forests, wetlands and streams harbor more than 30 of the State's threatened and endangered species. The Highlands -- with almost 175,000 acres of preserved open space -- provide fresh air, open space and recreation for all New Jerseyans and for 20 million visitors throughout the metropolitan New York area. There are more than 92,000 acres of agricultural lands in the Highlands, including 9,550 acres that have been permanently preserved in the Farmland Preservation program. The Highlands also contains some of the State's most valuable historical and cultural sites, including sites from the Revolutionary War, New Jersey's early industrial age and the Native American era. All of these resources provide an unsurpassed quality of life in the region. Due to the unique significance of the Highlands region, the area has been designated a Special Resource Area in the State Development and Redevelopment Plan and an area of national significance by the U.S. Forest Service.

New Jersey's Highlands region provides significant environmental, economic and recreational benefits to the state. It is also an area at risk -- with so many competing uses and issues that the very qualities that make the Highlands a unique area are under threat. Its natural resources are threatened by current trends in population growth, construction and sprawl. Population growth is increasing in the Highlands at a rate nearly 50% faster than the Statewide rate. Recent land use changes document an increase in large-lot residential subdivisions, increased deforestation and forest fragmentation, and decreased number of large working farms.

The Highlands is increasingly at risk of being broken up by sprawl. Within the five-year period between 1995 and 2000, the Highlands lost 17,000 acres of forest and 8,000 acres of farmland to development. As a result of its location within the broad New York Metropolitan Area, growth pressures continue in the region with the trend for land consumption expected to average 3,000 acres every year. The Highlands' natural resources are largely controlled by thousands of private landowners and 88 municipalities' individual land use and planning systems. A regional approach for Highlands regional planning does not currently exist.

Comprising over 1,250 square miles running from the New York border to the Delaware River, the rapidly developing region includes part or all of 88 municipalities in seven counties, with a total municipal population of more than 800,000 people. More than 20,000 businesses are located in the Highlands' municipalities, employing over 350,000 people, or almost nine percent of the total payroll employment in New Jersey. The region is also home to valuable farmland and a thriving agricultural sector.

Thus, in developing any regional planning or preservation efforts that try to save the Highlands, it is important to examine the historic, recreational and natural resources and the business network that define the Highlands.



Highlands Landscape (View toward the Highlands)© Donna M. Traylor

EXHIBIT 2

THE HIGHLANDS

Water

The Highlands are first and foremost a significant source of drinking water for the State, both for residents in the area and for hundreds of thousands of residents outside the region. The majority of the State's reservoirs are located in the Highlands. In addition, the water resources of the Highlands provide natural benefits to aquatic communities and the ecosystems dependent on a steady source of good quality water.

For residents outside the Highlands, the effects of unbridled growth will also be evident. Several reservoir systems within the Highlands serve communities outside the Highlands. For example, the City of Newark has a series of six reservoirs in the Pequannock system that supply the city with much of its water. The North Jersey District Water Supply Commission uses a system of reservoirs, including the 30 billion gallon Wanaque Reservoir (the State's second largest) and the 7 billion gallon Monksville Reservoir, to supply a quarter of the State's population. Some of those communities include Bayonne, Bloomfield, Cedar Grove, Clifton, Elizabeth, Elmwood Park, Fairlawn, Fairfield, Garfield, Glen Ridge, Haledon, Harrison, Hawthorne, Kearny, Lincoln Park, Little Falls, Lodi, Montclair, Newark, North Arlington, North Caldwell, Nutley, Passaic, Paterson, Ringwood, Totowa, Upper Saddle River, Verona, Wallington, Wayne, West Orange and West Paterson. Jersey City's two reservoirs (Splitrock and Boonton) are also Highlands' reservoirs serving northeastern New Jersey. Central New Jersey is also dependent on the Highlands, with the New Jersey Water Supply Authority's Round Valley and Spruce Run Reservoirs (the largest and third largest reservoirs in New Jersey) being in Highlands' municipalities.

With all these developments and increased demands for water from outside the Highlands, local stream and water systems in the Highlands are under increasing strain. The current system of water transfers from New Jersey's reservoirs in the Highlands results in an average stream flow loss of more than 200 million gallons of water a day (MGD) during low rainfall periods. On top of this transfer of water out of the region, Highlands' water systems present development within the Highlands helps to diminish local stream flow by an estimated 35 MGD.

Geology, Topography and Precipitation

The region's Precambrian aquifers do not generally produce large yields of water, except in cases where wells are hydraulically connected to streams or where wells intercept major fault zones. Due to the natural limits of the ground water supply, the New Jersey Department of Environmental Protection (DEP) has had to place constraints on new wells in some areas that have been experiencing significant development over the last decade. The Highlands does have some good aquifers (e.g., glacial sediments in buried river valleys, and limestone formations in valley areas) but many of these are heavily used for local water supply purposes.

The Highlands' topography consists of hilly uplands dissected by major streams. Due to the higher slopes and the thin soils of the region, stream flow changes markedly depending on rainfall patterns. Average annual precipitation is 50 inches; however, as little as 30 inches of rainfall may occur during extreme drought.

Surface and Ground Water

There are several major watersheds either fully within or comprising large land areas within the region, including the Musconetcong, Pequest, Passaic/Ramapo, Upper Raritan and Wallkill river basins. In addition, some of the Hackensack River watershed is in southern New York State before it flows into Bergen County. Major surface waters in the Highlands total over 30,000 acres; wetlands total over 80,000 acres. While the geological characteristics of the region place constraints on ground water withdrawals, these same characteristics are conducive to large amounts of water running off into the Highlands' reservoirs.

The Highlands is home to the majority of New Jersey's reservoirs. These include the North Jersey District Water Supply Commission's Wanaque/Monksville Reservoirs; the NJ Water Supply Authority's Round Valley/Spruce Run Reservoirs; Jersey City's Boonton/Split Rock Reservoirs; and the City of Newark's six Pequannock reservoirs. Together these systems possess approximately 231 billion gallons of storage capacity that provides a combined safe yield of 439

million gallons of water a day (MGD).¹ In addition, the Oradell Reservoir in the Hackensack River watershed, while out of the Highlands, benefits from Highlands' supplies during droughts through a connection with North Jersey District Water Supply Commission.

These reservoirs have been created in the region over a century, primarily to preclude the water supplies for urbanized areas of the state being affected by human activities. Indeed, the City of Newark acquired much of its reservoir system's watershed to protect the drinking water supply. The region's reservoirs are of great importance in ensuring an adequate drinking water supply, especially during drought. These reservoirs provide drinking water to 2.1 million people in the northeastern and central portions of New Jersey.

Using information from the 1996 NJ Statewide Water Supply Plan, we estimate that the Highlands region also possesses approximately 150 MGD of ground water, most of which is dedicated to supplies for Highlands' municipalities. Combined with the reservoir supply, the Highlands overall has a water supply of approximately 589 MGD.

Water Demand and Uses

There are nearly 1,100 withdrawals that have water allocations of various sizes throughout the region, of which approximately 700 are potable water supply wells.

A total of approximately 16 billion gallons annually or about 416 MGD of water are withdrawn from the Highlands region. Overall water withdrawals in the region have not significantly increased during the previous decade. However, withdrawals do substantially increase during dry years, as experienced during the droughts of 1990-1991, 1995 and 1998-1999.

Of the 416 MGD diverted in the Highlands, approximately 100 MGD is withdrawn from ground water and 316 MGD from surface water (see Figure 1 below). The largest withdrawals are for potable water supply (about 290 MGD), followed by power generation (87 MGD), mining (15 MGD), industrial (12 MGD), agriculture (10 MGD), irrigation (1.0 MGD), and commer-

¹ Safe yield is the amount of water that can be provided during a severe drought.

cial (0.2 MGD). While the region’s overall withdrawals have not increased markedly, some water use groups have. This is particularly true of the agricultural, mining and irrigation use groups. Power generation withdrawals decreased during the middle of the decade, but increased in the later 1990s. Commercial withdrawals have been decreasing.

FIGURE 1
ANNUAL AND DAILY WATER WITHDRAWALS BY USE GROUP IN THE HIGHLANDS

USE GROUP	Source	1999 Annual (in millions of gallons)	1999 MGD
Agricultural	ground water	3,259	8.9
Agricultural	surface water	386	1.1
Commercial	ground water	33	0.1
Commercial	surface water	10	0.05
Industrial	ground water	3,153	8.6
Industrial	surface water	971	2.6
Irrigation	ground water	142	0.4
Irrigation	surface water	201	0.6
Mining	ground water	255	0.7
Mining	surface water	5,284	14.5
Potable water supply	ground water	29,397	80.5
Potable water supply	surface water	76,982	210.9
Power generation	ground water	19	0.05
Power generation	surface water	31,576	86.5
Total	ground water	36,257	99.3
Total	surface water	115,419	316.2
Grand Total		121,667	415.5

In most cases, the amount of water that is withdrawn is greater in the summer months than the winter months due primarily to irrigation that occurs in warm or hot weather. This is evident by Figure 1, where it shows greater withdrawal amounts during drought years. During drought years, winter withdrawals average about 366 MGD in the region while summer withdrawals average about 533 MGD, an increase of 46 percent. These substantial withdrawals during the summer months may have detrimental effects on the natural resources of the region.

The reservoir systems of the Highlands primarily serve populations that inhabit towns and cities outside of the region. The majority of the ground water used in the Highlands is not transferred out of the region.

Highlands Task Force Recommendations

As a result of the above findings, the Governor's Highlands Task Force has recommended that a Regional Master Plan be prepared, incorporating the following:

- The Regional Master Plan should seek to preserve the natural resources of the Highlands and enhance sustainable economic growth and quality of life in the region by:
 - Protecting water quality, drinking water supplies, wetlands, critical habitat for plants and animals, vegetated stream corridors; contiguous forests; steep slopes;
 - Protecting and preserving open space and natural resources;
 - Preserving farmland and keeping agriculture viable and prosperous in the region;
 - Promoting historic, cultural, scenic and recreational resource opportunities that preserve the natural features of the region;
 - Identifying preservation zones within the Preservation Area where development would not occur in order to protect water resources and other highly sensitive environmental lands that should be permanently preserved through a variety of tools, including acquisition and transfer of development rights;
 - Identifying special critical environmental areas in high-resource-value lands outside the Preservation Area and developing voluntary standards and guidelines for their protection;
 - Accept petitions from municipalities to designate special "critical environmental areas" in high-resource-value lands outside the Preservation Area and developing voluntary standards and guidelines for their protection;
 - Analyzing population and employment trends;
 - Analyzing the capacity for future growth in the region based upon water and other natural resource constraints.
 - Establishing appropriate development densities (including the establishment of greater densities where growth should occur and lesser densities where it should not);
 - Considering existing infrastructure, such as sewer lines already in the ground, when considering where to encourage growth and re-development; and
 - Creating a regional transportation plan (developed in consultation with NJDOT and other appropriate agencies) that is consistent with these goals and takes into consideration transportation needs, land use patterns inside and outside the Highlands, and safety issues.

- The Highlands Council should be required to create a planning process that examines existing local efforts, involves local entities, and provides for public hearings that maximize public participation.
- The Highlands Council's planning analysis should start with the consideration of State regulatory requirements, the State Plan, County and local plans, federal, State and private studies of the region, and an analysis of the carrying capacity for future growth in the region based upon water and other natural resource constraints.
- Funding: There should be an adequate funding source for the Council's regional planning and oversight of local approvals.
- State Plan: The Council should create the Regional Master Plan in consultation with the State Planning Commission. The State Planning Commission can update the State Plan as appropriate as a result of that consultation. Ultimately, the Highlands Regional Master Plan and State Plan should be consistent. Consistency with the State Plan should not add an additional layer of bureaucracy: the Regional Master Plan can satisfy the municipalities' obligations of cross-acceptance; the development of the Regional Master Plan should benefit from the planning that has already been done by the counties as part of their ongoing planning process. For towns seeking endorsement both in and out of the Preservation Area, the Council should consider all applications on a holistic basis and prioritize them.
- Regulations: Unlike the Pinelands Commission, the Council should not have the authority to promulgate its own environmental regulations.
- In the Preservation Area: The Council's authority (planning, zoning and review) should be mandatory.
 - Conformance: The towns' master plan and development and land-use ordinances should have to conform to the Regional Master Plan or the Regional Master Plan should be imposed on them. The Council should establish a conformance process. Where a municipality is certified to be in conformance, the municipality should review all land-use applications. The Council should establish procedures for getting notice (of land-use applications, including approvals and variances, and changes to the certified master plan, and development and land use ordinances) and intervening. The Council should have the discretion to review any application if the development involves 1 acre or more of impervious cover or 2 acres or more of disturbance. Individuals should be able to notify the Council of projects, raise compliance issues and petition the Council to intervene. The Council should establish a procedure for evaluating agricultural development applications in order to recognize agricultural viability. The Council should have the authority to deny upon majority vote. The Council should also have the discretion to revoke the conformity determination. Prior to conformance and if the conformity determination is revoked, the Council should have the authority to review all local approvals, variances, changes to the certified master plan development and land-use ordinances. Nothing should prevent a municipality from enacting zoning standards that are stricter than the Regional Master Plan.

- Redevelopment: The Council should work with municipalities to identify previously developed appropriate areas for redevelopment. Prior to adoption of the regional master plan, the Council may approve appropriate municipal redevelopment areas that it determines to be in conformance with the DEP's rules and consistent with the statutory goals for the Preservation Area.
- Enforcement: The municipality should have the authority and obligation to enforce planning and zoning standards/decisions. The Council should have independent enforcement authority.

Additional Recommendations

Simply suggesting that there will be a stable source of funding, subject to annual appropriations by the Legislature, is insufficient. There should be a **Constitutionally Dedicated** fund created to cover all costs of preservation sustained by landowners, municipalities, counties and school districts. This should be funded by a user fee on the water resource. Additionally, mandated conservation of water and repair/upgrade of transmission facilities should also be imposed on downstream users.

The Highlands Interpretive Center

The Sussex County Strategic Growth Plan recognizes the natural resource importance of the Highlands and understands the special protection being afforded this area. All residents of the Highlands region, those who depend upon its resources, and those who visit the area should be afforded an opportunity to gain an appreciation of the Highlands. Therefore, we recommend that a state of the art Highlands Interpretive Center be developed and located in Sussex County. With the State of New Jersey taking the lead, the center should be established and managed as multi-public agency/private enterprise partnership. The interpretive center should include areas for interpretive displays, interactive educational exhibits, classroom instruction, a museum, auditorium, public information counter, restrooms, snack bar, gift shop, bookstore, and administrative offices. A series of short looped nature trails around the center would complement the indoor educational experience.

Suggested multi-media interpretive displays should include but not be limited to the following:

- + Geologic History of the Highlands. The areas geology is a key component in it's past, present, and future importance as a provider of critical natural resources.
- + Importance of the Highlands to an Emerging Nation. The Highlands provided forest products for the construction of buildings, boats, and containers of all types. Highlands wood was also converted to charcoal, the primary source of fuel for heat, cooking, and manufacturing. Mineral products such as iron and zinc ore were important contributors to our early industrial growth. Rock, sand, and gravel were the building material use to construct our early roads and cities.
- + Cultural History of the Highlands. A series of exhibits would showcase the Lenni Lenape Indians, substance farms, mining and furnace operations, the Morris Canal,

- early village life and railroads.
- + Reservoirs and Watersheds. Why they are needed and how they function.
 - + The Highlands Ecosystem. A series of exhibits showing plant and animal life in the various Highlands habitats; wetlands, lakes, streams, upland forests, ridge tops, etc.

A three-part film should be produced that first explains the hydrologic cycle in the Highlands. It should then trace the journey of a drop of rain water forming in a cloud until it come out of a faucet in the city. Finally, it should demonstrate water conservation measures and stress their importance.

The center should also provide links to Highlands recreation facilities, agricultural markets, historic sites, and relevant commercial ventures.

The State Development and Redevelopment Plan (SDRP) requires all agencies at the municipal, County and State levels to evaluate their plans and regulations and determine the extent to which they advance the objectives of the State Plan. These purposes are, as spelled out in the statute:

N.J.A.C. 52:18A-200. State Development and Redevelopment Plan

The State Development and Redevelopment Plan shall be designed to represent a balance of development and conservation objectives best suited to meet the needs of the State. The Plan shall:

- a. Protect the natural resources and qualities of the State, including, but not limited to, Agricultural Development Areas, fresh and saltwater wetlands, flood plains, stream corridors, aquifer recharge areas, steep slopes, areas of unique flora and fauna, and areas with scenic, historic, agricultural and recreational values;
- b. Promote development and redevelopment in a manner consistent with sound planning and infrastructure that can be provided at private expense or with reasonable expenditures of public funds. This should not be construed to give preferential treatment to new construction;
- c. Consider input from State, County and municipal entities concerning their land use, environmental, capital and economic development plans, including to the extent practicable any State Plans concerning natural resources or infrastructure elements;
- d. Identify areas for growth, limited growth, agriculture, open space conservation and other appropriate designations that the State Planning Commission may deem necessary;
- e. Incorporate a reference guide of technical planning standards and guidelines used in the preparation of the Plan; and
- f. Coordinate planning activities and establish Statewide planning objectives in the following areas: land use, housing, economic development, transportation, natural resource conservation, agriculture and farmland retention, recreation, urban and suburban redevelopment, historic preservation, public facilities and services, and intergovernmental coordination.

What this means is that a mechanism has been prepared to integrate the planning and implementation activities of the three levels of government so as to make the effort more efficient and preserve critical resources. **It also means that it is not only the municipal and County governments who have to bring their policies and regulations into consistency with the SDRP but also the State agencies (DEP, DOT, etc).** This is necessary in order to bring predictability, consistency of objectives and agendas, and cohesion to the entire planning and regulatory framework in the state. This is further supported by the directives of past and current Governors of the State, that all agencies bring their policies and regulations into conformity with the SDRP. The most recent of these is Executive Order #38, Governor James E. McGreevey, dated 10/25/02.

The SDRP, much like the Strategic Growth Plan, incorporates a policy map which separates various areas in the state into Planning Areas. These planning areas, similar in concept to the landscapes of the SGP, provide broad policies for growth and development within which the centers and environs are identified.

In Sussex County, the Planning Area (PA) designations are predominantly PA 4, PA 4B, and PA 5. There is a very small area of PA 2, located in Stanhope Borough (See Exhibit 3). The policy framework within which the eleven designated and six potential centers in the County function is set out generally below as excerpts from the SDRP (pp 194-216) as follows:

Suburban Planning Area (PA2)

General Description

The Suburban Planning Area is generally located adjacent to the more densely developed Metropolitan Planning Area, but can be distinguished from it by a lack of high intensity Centers, by the availability of developable land, and by a more dispersed and fragmented pattern of predominantly low density development. Suburban Planning Areas are or will be served by regional infrastructure, except that, outside of Centers and major transportation corridors, there is limited, if any, availability of alternative modes of transportation to the automobile.

These areas have generally been designated for growth in municipal master plans. As development expands, these services will become increasingly available if planned properly. The Suburban Planning Area has about 11 percent of the state's population and employment. Nine active passenger rail stations of the state's total of 156 active stations serve it.

The Suburban Planning Area is generally found in suburban growth corridors located along state highways: portions of Route 80 in Morris County, portions of Route 78 in Hunterdon and Somerset, portions of Route 287 in Somerset, suburban Route 1 (the Princeton corridor), the New Jersey Turnpike in Middlesex and Mercer, the Garden State Parkway in Monmouth and Ocean, I-295 in Burlington and Gloucester, and the Atlantic City Expressway in Camden and Gloucester counties.

Current development patterns, outside of Centers, lack the compact settlement pattern of the older suburbs in the Metropolitan Planning Area and are almost entirely dependent on the private automobile for transportation. The pattern of scattered subdivisions and employment centers offers few if any focal points for community interaction - the traditional "Main Streets" and town greens where community identity and civic life were fostered through parades, outdoor concerts, and the informal social interaction of the Saturday morning errands.

EXHIBIT 3
PLANNING AREAS

Rural Planning Area (PA4)

General Description

The Rural Planning Area, including its subarea, the Rural/Environmentally Sensitive Planning Area, comprises much of the countryside of New Jersey, where large masses of cultivated or open land surround rural Regional, Town, Village and Hamlet Centers, and distinguish other sparse residential, commercial and industrial sites from typical suburban development. Four major regions of the state where the Rural Planning Area can be found include portions of: Sussex and Warren counties; Hunterdon, northern Mercer and southern Somerset counties; eastern Burlington and western Monmouth counties; and southern Gloucester, Salem and northwestern Cumberland counties.

The Rural Planning Area also includes economic activities such as resource extraction, hunting and fishing, support and service businesses, and scattered commercial, industrial and low-density residential uses. These activities continue to provide important services to area residents and workers. The recreation and tourism sector, a growing portion of New Jersey's economy, is heavily dependent on careful management of these lands and the services rural towns and villages can provide for visitors. A number of municipalities in rural areas are high on the list of New Jersey's distressed communities and look for land uses that contribute jobs and revenue to their economies. "Main Street" businesses in our traditional downtowns, in the face of increasing competition, continue to provide important services to area residents and workers. Without a greater attention to maintaining and enhancing our rural areas, these economic activities are at risk.

But the Rural Planning Area is more than just farmland. People have consistently chosen to live or work in these rural areas not just because of the beauty of farmland and other open lands, but also the community character of the existing Centers where development is compact, rural and often historic. The Cores of these Centers have and may still provide local or regional opportunities for employment, shopping and other personal services. Neighborhoods in the Centers provide opportunities for reasonably priced housing and social interaction. Public infrastructure that supports development is often found in these Centers, as are public and private facilities and services that make these places so desirable. Public transportation services may connect these Centers to others throughout New Jersey, while roads, bridges and rails are designed to move people and goods in a manner that respects the rural and often historic character of the area. Many rural Centers are surrounded by greenbelts that are cultivated or maintained in a natural state.

Rural/Environmentally Sensitive Planning Area (PA4B)

General Description

Some lands in the Rural Planning Area (PA4) have one or more environmentally sensitive features qualifying for delineation as Rural/Environmentally Sensitive (PA4B). This subarea contains valuable ecosystems or wildlife habitats. Rural/Environmentally Sensitive Planning Areas are supportive of agriculture and other related economic development efforts that ensure a diversity within New Jersey. Any development or redevelopment planned in the Rural/Environmentally Sensitive Area should respect the natural resources and environmentally sensitive features of the area.

Environmentally Sensitive Planning Area (PA5)

General Description

The Environmentally Sensitive Planning Area contains large contiguous land areas with valuable ecosystems, geological features and wildlife habitats particularly in the Delaware Bay and other estuary areas, the Highlands Region, and coastal area. The future environmental and economic integrity of the state rests in the protection of these irreplaceable resources. Some of these lands have remained somewhat undeveloped or rural in character.

Other areas, particularly New Jersey's coastal barrier islands, have experienced advanced levels of development, but remain highly vulnerable to natural forces. Environmentally Sensitive Planning Areas are characterized by watersheds of pristine waters, trout streams and drinking water supply reservoirs; recharge areas for potable water aquifers; habitats of endangered and threatened plant and animal species; coastal and freshwater wetlands; prime forested areas; scenic vistas; and other significant topographical, geological or ecological features, particularly coastal barrier spits and islands. These resources are critically important not only for the residents of these areas, but for all New Jersey citizens. Existing Centers within the Environmentally Sensitive Planning Area have been, and often remain, the focus of residential and commercial growth and public facilities and services for their region, as well as supporting the recreation and tourism industries. The wide diversity of natural and built systems has resulted in small rural Towns such as High Bridge, Ogdensburg and Hopatcong, and Villages such as Cape May Point, Far Hills, Bedminster, Mauricetown, Fortescue, Fairton, Leesburg, Stone Harbor, Seaside Heights and Surf City.

The above excerpts, provide the backdrop against which the goals and policies of the SDRP are set. The following Goals and related Policies are derived from the 2001 New Jersey State Development and Redevelopment Plan:

Goal #1: Revitalize the State's Cities and Towns

Policy: Urban Revitalization

Prepare strategic revitalization plans, neighborhood empowerment plans and urban complex strategic revitalization plans that promote revitalization, economic development and infrastructure investments, coordinate revitalization planning among organizations and governments, support housing programs and adaptive reuse, improve access to waterfront areas, public open space and parks, and develop human resources with investments in public health, education, work force readiness and public safety in cities and towns.

Goal #2: Conserve the State's Natural Resources and Systems

Policy: Water Resources

Protect and enhance water resources through coordinated planning efforts aimed at reducing sources of pollution and other adverse effects of development, encouraging designs in hazard-free areas that will protect the natural function of stream and wetland systems, and optimizing sustainable resource use.

Policy: Special Resource Areas

Recognize an area or region with unique characteristics or resources of statewide importance and establish a receptive environment for regional planning efforts. The Highlands region has been recognized as the first Special Resource Area in New Jersey.

Goal #3: Promote Beneficial Economic Growth, Development and Renewal for All Residents of New Jersey

Policy: Economic Development

Promote beneficial economic growth and improve the quality of life and standard of living for New Jersey residents by building upon strategic economic and geographic positions, targeting areas of critical capital spending to retain and expand existing businesses, fostering modern techniques to enhance the existing economic base, encouraging the development of new enterprises, advancing the growth of green businesses, elevating work force skills, and encouraging sustainable economic growth in locations and ways that are fiscally and ecologically sound.

Policy: Agriculture

Promote and preserve the agricultural industry and retain farmland by coordinating planning and innovative land conservation techniques to protect agricultural viability while accommodating beneficial development and economic growth necessary to enhance agricultural vitality and by educating residents on the benefits and the special needs of agriculture.

Policy: Equity

It is the position of the State Planning Commission that the State Plan should neither be used in a manner that places an inequitable burden on any one group of citizens nor should it be used as a justification for public actions that have the effect of diminishing equity. It is also the position of the Commission that the achievement, protection and maintenance of equity be a major objective in public policy decisions.

Goal #4: Protect the Environment, Prevent and Clean Up Pollution

Policy: Energy Resources

Ensure adequate energy resources through conservation, facility modernization, renewable energy and cogeneration; to continue economic growth while protecting the environment;

and to modify energy consumption patterns to capitalize on renewable, domestic energy supplies rather than virgin extraction and imports.

Policy: Waste Management, Recycling and Brownfields

Promote recycling and source reduction through product design and materials management and by coordinating and supporting legislative, planning and facility development efforts regarding solid and hazardous waste treatment, storage and disposal. Capitalize on opportunities provided by Brownfield sites through coordinated planning, strategic marketing and priority re-development of these sites.

Policy: Air Resources

Reduce air pollution by promoting development patterns that reduce both mobile and stationary sources of pollution, promoting the use of alternative modes of transportation, and supporting clean, renewable fuels and efficient transportation systems.

Goal #5: Provide Adequate Public Facilities and Services at a Reasonable Cost

Policy: Transportation

Improve transportation systems by coordinating transportation and land-use planning; integrating transportation systems; developing and enhancing alternative modes of transportation; improving management structures and techniques; and utilizing transportation as an economic development tool.

Policy: Infrastructure Investments

Provide infrastructure and related services more efficiently by investing in infrastructure to guide growth, managing demand and supply, restoring systems in distressed areas, maintaining existing infrastructure investments, designing multi-use school facilities to serve as centers of community, creating more compact settlement patterns in appropriate locations in suburban and rural areas, and timing and sequencing the maintenance of capital facilities service levels with development throughout the state.

Goal #6: Provide Adequate Housing at a Reasonable Cost

Policy: Housing

Preserve and expand the supply of safe, decent and reasonably priced housing by balancing land uses, housing types and housing costs and by improving access between jobs and housing. Promote low- and moderate-income and affordable housing through code enforcement, housing subsidies, community-wide housing approaches and coordinated efforts with the New Jersey Council on Affordable Housing.

Policy: Design

Mix uses and activities as closely and as thoroughly as possible; develop, adopt and implement design guidelines; create spatially defined, visually appealing and functionally efficient places in ways that establish an identity; design circulation systems to promote connectivity; maintain an appropriate scale in the built environment; and redesign areas of sprawl.

Goal #7: Preserve and Enhance Areas with Historic, Cultural, Scenic, Open Space and Recreational Value**Policy: Open Lands and Natural Systems**

Protect biological diversity through preservation and restoration of contiguous open spaces and connecting corridors; manage public land and provide incentives for private land management to protect scenic qualities, forests and water resources; and manage the character and nature of development for the protection of wildlife habitat, critical slope areas, water resources, and for the provision of adequate public access to a variety of recreational opportunities.

Policy: Historic, Cultural and Scenic Resources

Protect, enhance, and where appropriate rehabilitate historic, cultural and scenic resources by identifying, evaluating and registering significant historic, cultural and scenic landscapes, districts, structures, buildings, objects and sites and ensuring that new growth and development is compatible with historic, cultural and scenic values.

Goal #8: Ensure Sound and Integrated Planning and Implementation State-wide**Policy: Comprehensive Planning**

Promote planning for the public's benefit, and with strong public participation, by enhancing planning capacity at all levels of government, using capacity-based planning and Plan Endorsement to guide the location and pattern of growth and promoting cooperation and coordination among counties, municipalities, state, interstate and federal agencies.

Policy: Public Investment Priorities

It is the intent of the State Plan that the full amount of growth projected for the state should be accommodated. Plan Strategies recommend guiding this growth to Centers and other areas identified within Endorsed Plans where infrastructure exists or is planned and where it can be provided efficiently, either with private or public dollars. (Designated Centers are included in the category of communities with Endorsed Plans.) Public investment priorities guide the investment of public dollars to support and carry out these Plan Strategies.

STRATEGIC GROWTH PLAN

All the research and investigation reported in earlier sections of this study have been setting the foundation for the Strategic Growth Plan. This section will detail the lessons learned and actions to be taken to ensure the continuing well being of residents and businesses in Sussex County.

To begin, the SGP is organized by sub-regional units known as landscapes. These are combinations of land uses which, by virtue of their characteristics, identify themselves. These landscapes are Rural/Agricultural, Highlands, Traditional Centers (Towns, Villages, and Hamlets), Job Creation Centers, Parks and Wildlife Management Areas, and Lake Communities.

The critical issues to be addressed within each of these landscapes are:

Development Patterns

Housing

Transportation

Resource Conservation

Agriculture

Landowner Equity

Critical Landscape Issues

Development Patterns

The largest of the landscapes in the County is the Rural/Agricultural landscape comprising 175,106 acres. This landscape, along with the Parks and Wildlife Management Area landscape (111,981 acres), gives the County its character as a scenic and generally undeveloped area. The remaining landscapes, of lesser extent, are: Traditional Centers 38,800 acres; Lake Communities 17,730 acres; Job Creation Centers 335 acres. The Highlands, which incorporates parts of all the other landscapes comprises 126,233 acres in total with 72,825 acres in the core preservation area.

With the Highlands area extracted, the remaining landscapes' acreages are as follows:

Rural/Agricultural	145,386 acres
Traditional Centers	37,058 acres
Job Creation Centers	335 acres
Parks and Wildlife Management Areas	76,964 acres
Lake Communities	11,384 acres

If the scenic and undeveloped character is to be retained, the low density “sprawl” development form, currently the dominant form of new residential construction in the County, can no longer take center stage. Instead, higher density, attached and detached single family housing in mixed use developments will constitute the majority of new residential construction.

Housing

Not only will the type of housing be altered, but the distribution of housing must also change. In order to accomplish this goal, development in centers, coupled with drastically reduced densities outside the centers, can be fostered through a combination of rezoning and financial incentives. For example, residential densities in centers, whether those centers are hamlets, villages or towns, will be on the order of 8-30 units per acre. In order for these densities to be safely sustained, central water along with central wastewater treatment utilities and/or advanced (denitrification) septic systems will have to be provided. These concentrations of residential development will also have a complimentary commercial component. They will be designed to offer pedestrian access to goods and services, including recreation, rather than reinforce the current high cost dependency on the automobile. In Sussex County, the effect will be to revitalize existing small towns and prepare for development of new towns. Large lot development will continue to be an option where environmental and access conditions permit.

The Centers will be chosen as expansions and redevelopments of existing centers or as new, freestanding centers, in the areas best suited to carry the impact of development. The physical elements required to support development at higher densities are productive aquifers, permeable soils, availability of existing and/or proposed water supply, sewage treatment, and transportation infrastructure. The design of centers will require elements such as on-street parking, reduced building setbacks, wide sidewalks, town greens and a clear edge to set the center off from the outlying countryside or ‘environs’. Where infrastructure does not exist but is planned, careful phasing of its construction will provide municipalities with some degree of control over the rate and location of development.

Outside the Centers, very low density residential and nodes of specialty commercial and industrial development will predominate. These too, will be focused, with the traditional strip commercial development actively discouraged as an inefficient overuse of frontage to the detriment of lands to the rear and as a prime culprit in the loss of the views of open land, so critical to the County character. Stand alone commercial development should be designed to utilize the depth of property rather than only its width.

Housing will be most appropriately located in the Traditional towns, Villages and Hamlets that exist or that may be designated by municipalities in the Rural/Agricultural Landscape as growth areas. Safe, decent and sanitary housing is a fundamental human need, second only to adequate food. The data in the Housing Element illustrate the fact that far too many people who live in the County live in substandard conditions. More than one in three households pay too much for housing. Many of those who work in Sussex County must live outside the State, with the attendant costs in time, money and quality of life that are attached to long commutes.

Housing in Sussex County, by reason and by law, must be accessible to all income groups and household types. The fact is that there are far too many low, moderate and middle income households forced to spend forty percent or more of their income for housing. Substantial numbers of the Sussex County workforce live in Pennsylvania because housing west of the Delaware River is substantially less expensive than in Sussex County, enough so that the personal and economic costs of extended commutes are accepted. Were housing available to the majority of those employed in the County, commuters would waste far less time and money; there would be less wear and tear on roadways; air and water pollution would be reduced; a more balanced tax base would result and the quality of life for a great number of people would be significantly improved.

The County continues to support expanded housing opportunities. As affordable housing (as defined by COAH) typically requires water and sewer infrastructure to support economically efficient densities, nearly all such new housing will be located in existing or proposed centers. Properly designed and priced, new and rehabilitated housing can bring life and vitality to existing centers and serve as an integral part of new centers acting as receiving areas for densities from the environs.

The challenge facing local and County governments is that, in the absence of sources of state and federal funding, it is the market, made up of private developers, non-profit organizations and the like, that actually creates housing. Government can only provide a regulatory framework within which housing is produced. Municipal compliance with the requirements of the New Jersey Fair Housing Act and receipt of Substantive Certification from the Council on Affordable Housing will provide the development community with clear direction and an opportunity to create the needed housing.

In addition to the general population of mid to lower income households, the elderly and developmentally disabled populations face even greater limits in their search for accessible and affordable housing. Many seniors and most of the developmentally disabled population subsist on very low incomes and are limited in their ability to work to earn larger incomes.

It is abundantly clear that the market in Sussex County produces large homes at high prices. These homes are out of reach of middle income households, to say nothing of low and moderate income households. As the price of the new homes escalates, so too, does the price of existing housing.

Sussex County is a comfortable, geographically desirable area in which to live. The rising prices felt here and in the rest of the state are a direct result of limited supply and strong demand.

Affordable housing can be mandated to be affordable to low and moderate income households, defined by COAH as those with incomes of less than 80% of the median household income for the four county region. The median household income in Sussex County is \$65,000.

Reachable housing, our term for housing within reach of households with incomes of 100% to 150% of the median (\$65,000 - \$97,500), would be, if available, affordable to middle income households. If the occupants pay no more than 30% of gross income for housing, their

cost should be approximately \$19,500 per year. This translates into a mortgage payment of \$850 per month, plus taxes of \$6,000 per year and utility costs of \$2,000 plus \$1,300 per year for maintenance. With a mortgage of 90% of the total cost (\$142,000), reachable housing should run between \$158,000 and \$237,000. The supply of such housing in livable condition is, per report of the Sussex County Association of Realtors, very low. Data from home sales in the report indicates that the median closing cost of homes in 2003 was \$247,548. Costs in the first five months of 2004 have risen an additional 10%. Incomes have remained roughly flat. Interest rates, long at historic lows, will increase, leading to a reduction in the affordable mortgage. These data, more than the median value of housing in the County, point out the near crisis in housing in Sussex County.

Were municipalities able, with the cooperation and funding from the State, to invest in the infrastructure needed to support higher density housing, economies of scale might bring prices down. This is not altogether certain. The proximity of Sussex County to the northeastern New Jersey job market has fueled a great demand for housing while the supply of buildable land B either as raw land or as modified by water and sewer infrastructure B is sharply decreasing.

The County Administration has consistently supported the production of housing, particularly for those senior citizens and children now living in the County who are not able to support the costs of housing as they stand today. Beyond simply providing regulatory relief to affordable home builders, local governments must be sure that zoning is amended to permit high density housing, supported by water and sewer infrastructure in spite of the adverse school funding consequences on the local property tax. Young people and families are the future of the County and cannot be excluded by finance driven zoning decisions.

One tack which may be taken to assist the market in the provision of affordable housing is the Regional Contribution Agreement. This, permitted by the Fair Housing Act, allows a municipality to transfer part of its fair housing obligation to another in the four-County housing region. As the objective of this Strategic Plan is to provide opportunities in Sussex County to overcome the unmet demand for affordable housing, only where there is no municipality willing to act as a receiver should RCA money be sent to municipalities out of the County. These funds can be used to subsidize construction and conversion costs of new housing and for rehabilitation of existing homes.

In the event that Transfer of Development Rights proves to be a viable option, the County should support inter-and intra-municipal transfers as a means to meet the fair compensation requirements for lands stripped of developable capacity and to increase densities to the levels needed to offset the costs of production of affordable and reachable housing.

In addition to the provision of central sewer collection systems, currently available and DEP accepted technological advances in individual on-site disposal systems allow much higher densities than would conventional systems. As noted in the resource conservation discussion, aerobic and denitrification systems remove nearly all solids and BOD, bacterial and viral contaminants, and nitrogen as nitrate. These are a relatively low cost alternative to larger scale treatment facilities and, as a highly efficient DEP approved technology, should be aggressively promoted for areas of relatively high density (8-10 dwelling units per acre) in lake communities and smaller centers.

Transportation

Mass transportation in Sussex County has been severely limited since the late 1960's and early 1970's when the six former active rail lines in the County were taken out of service. At that point, other than commuter bus service to Manhattan, there was no in-County mass transit service available to anyone, resident or visitor. Since fewer than 2% of County commuters work in New York City, the loss was enormous.

Since the dismantling of the railroads, the NYS&W is the sole remaining service. It is freight only and limited to a fraction of its original size. Of the remaining rail rights-of-way, only the Lackawanna Cut-off and the remainder of the NYS&W are sufficiently intact for reactivation. The County has strongly advocated reactivation of both from the time service was discontinued. The other rights-of-way have either been converted to rail trails by the NJDEP or are under consideration for conversion. Each of these rights-of-way has been broken up by development and is not a candidate for reactivation.

Since the 1970's, the County has been able to provide some alternative to the single occupancy vehicle (SOV) through the operation of the Sussex County Transit bus service. This service, a mix of fixed route, dial-a-ride and route deviation, provides in-County service between 6:15 and 5:30 Monday through Friday. Some municipalities, Newton, Sparta, and Vernon, also operate senior citizen bus services.

The net effect however, borne out by the origin and destination data contained in the Mobility Study, is that more than 90% of passenger and freight travel in Sussex County is by automobile or truck. This places enormous pressure on the existing roadway network. As population and the attractiveness of the County as a recreation destination increase, so, too, does congestion. This pressure is further exacerbated by the lack of available jobs in the County. Recall that Sussex has the lowest jobs to population ratio of any county in the state.

What strategic options are available to the County and municipalities to offset the documented increasing stress on the system? Some roadway improvements are underway or are in the funding pipeline. Improvements to the Route 15 B Houses Corner Road intersection in Sparta, upgrading a section of Route 206 in Byram, realigning the Routes 23 and 94 intersection in Hamburg, and general improvements to Route 23 in Sussex Borough and Hardyston complete the list of state highway improvements. These will generally improve safety and, to a moderate extent, ease congestion in the commuter corridors.

Agriculture

Agriculture is perhaps the defining element in the character of Sussex County. Agriculture has always been the major industry in the County, even though its economic influence has declined in the past ten years. The viability and diversification of agricultural operations in the County is, if not the highest priority, very nearly so. Agriculture is an industry. It is a steward of the land. It is a provider of open space. But, most importantly, it provides us a reliable, proximate food source.

Agriculture has changed. It is not only dairy farms and corn fields. It is managed forests, vegetables, grapes, flowers, goats, llamas, emus, horses, fish, hay and firewood. The list goes on. At its root, however, it is what sustains us nutritionally and esthetically.

Farmland is also the land most economically converted to housing and general business use. It tends to be nearly flat, and is well drained in contrast to the many areas of steep, rocky, and poorly drained lands in Sussex County. However, once converted to other uses, it is lost to production. Our awareness and understanding of agriculture, particularly in Sussex County where it has not been precluded by conversion to other land uses, is augmented by the successful farmland preservation program, which is financed by dedicated taxes at the state, County and municipal levels. The program, nearing 10,000 acres of preserved farmland, coupled with open space efforts, has been instrumental in focusing attention on the need to retain productive agriculture and scenic lands. An innovated, County-based agritourism program also assists the agricultural community in maintaining the viability of agriculture.

Resource Conservation

Sussex County is rich in natural resources; this includes plentiful water, clean air, fertile soils, huge blocks of preserved open spaces, and a wide variety of farms. As the County grows, the pressure on these resources increases exponentially. Land subdivided into large home lots may reduce aquifer recharge, increases storm water runoff (outside the regulated design storm event), and reduces or eliminates habitat for larger species. Occupancy of the lot for residential purposes leads to increased use of water, greater concentrations of nutrients in the soil from fertilizers and (using out-of-date systems) septic waste, reduction in air quality from heating and vehicle exhausts, and changes the landscape from open land or forest to suburban development. At some point, the quality of life values held to be important are lost.

The overriding objective of the Sussex County Strategic Growth Plan is to achieve a balance between the use and enjoyment of the natural amenities of the County and the reasonable expectations of those who live, work, and own land in the County and of those who would like the opportunity to do so.

Carrying capacity is a measure of available water, the ability of soils to absorb water and waste discharges, land areas not constrained by steep slopes (over 25%), wetlands or other surface water features, regulatory buffers associated with water resources, land not currently in use, or permanently preserved as farmland, general open space or park and wildlife management lands.

As a first step in achieving balance, the overall carrying capacity of the County must be understood. Carrying capacity is enormously affected by the technology of water and sewer capacity. Larger developments, at relatively high densities, make water storage and treatment facilities cost effective. By the same token, on-site waste treatment technology, whether as a small package treatment plant, individual denitrification system, or regional sewer collection and treatment system vastly reduces the negative impact of development, allowing greater recharge to groundwaters of high quality treated water. This technology, along with septic management programs, can also be employed to cost effectively remediate existing substandard conditions.

Landowner Equity

Planning is an important activity. It gives us a chance to reflect on the results of prior actions. Where these results have proven unacceptable, we have the responsibility to alter the action to achieve a positive result. Where these actions yielded beneficial results we may apply them more broadly. In the Strategic Growth context, this is most often achieved through land use regulation.

However, in order to shield the general public from the cost of private actions, land use regulation imposes costs on property owners. Finding the balance between excessive costs to landowners (the taking issue) and unreasonable costs to the public (air, water, noise and light pollution) is rarely simple. Nonetheless, the obligation of local government is to accomplish just that objective. Zoning, authorized by the Legislature and sanctioned by the Court, removes land use options from the landowner, a partial taking of value. Its purpose is the protection of property values by preventing the location of conflicting uses in close proximity to each other (e.g. a tannery next to a home). At some point, however, the rights left to a land owner may be so compromised as to amount to confiscation of the property. At that point, the Federal and State Constitutions require just compensation.

If there is ever to be consensus on the direction and character of land development, the community as a whole must buy in to the plan and the rules necessary to implement the plan. While compromise often leaves all parties somewhat dissatisfied, the balance must be struck to preserve the very elements of the County which bring growth and investment.

These objectives also impose costs as they require a shift in acceptance of what “everyone knows”.

- We have plenty of land.
- There is plenty of water.
- We’ve used all the good land, the rest must be preserved.
- We must avoid any additional water use because we will experience droughts in the future. (See conflict with the second bullet)
- School costs must be avoided.
- Large lot zoning slows development.
- My septic system doesn’t need attention, if I see no problem, none exists.

All of the costs of rational planning and implementation must be borne equally. Simply taking more and more of the value of land from those who have it without paying for it is unfair, unjust, and cannot be part of this Strategic Growth Plan.

There are mechanisms available to avoid imposing unreasonable costs on one segment of the population or another.

- Public financing of development rights purchase.
- Outright purchase of land, transfer of development rights.
- Incentives such as Transfer of Development Rights to build in one area over another.

- How do we address these strategically? The planning function is education. What we don't know will hurt us, our children, and theirs. Planning cannot right all social wrongs. Planning cannot make us take responsibility. Planning can tell us what will happen if we don't.

General Landscape Goals

The SGP is organized into landscapes. These landscapes are Rural/Agricultural, Highlands, Traditional Towns, Villages and Hamlets, Job Creation Centers, Parks and Wildlife Management Areas, and Lake Communities. Each of these is identifiable by its physical nature and constitutes a substantial, understandable entity. The Strategies outlined below are based upon the character and extent of the landscapes and the need to provide a framework for the future development of Sussex County.

For each of the landscapes within the County, general goals have been developed, based on the public comments at the numerous visioning meetings held throughout the County between 2000 and 2002. At these meetings the public, Municipal Officials, Federal, State, County, and Municipal Board and Governing Body Members were asked to spell out their concerns, reasons for living and working in the County, and how they thought the character of the area could be preserved and the quality of life in Sussex County maintained. Many of the above affect more than one landscape while others have a greater effect on one landscape than another. These concerns and aspirations are outlined below.

Development Patterns

Rural/Agricultural Landscape

Minimize sprawl development through incentives for density transfer.

Development in the environs should be restricted to relatively low densities. Densities should be determined through carrying capacity analysis using tools such as the Nitrate Dilution model and soils data derived from the newly completed Sussex County Soil Survey (Exhibit 4).

Locate development in areas least likely to have a negative effect on agricultural operations.

Permit the development of agricultural industry near significant farmlands.

Require development, other than agricultural industry, to provide a buffer when lands adjacent to farmland are being developed.

Streamside protection is always appropriate.

Reduce the impact of light pollution through ADark Sky or similar lighting specifications in new and existing developments.

Improve the availability of water, sewer, gas and broadband infrastructure.

EXHIBIT 4

SUSSEX COUNTY SOIL SERIES

Highlands

Although the new rules and regulations for the Highlands have not been promulgated at this point, we anticipate three major effects:

1. Near total halt to subdivision and new site plans in the core preservation area. This will make provision for individual single family construction or expansion, minor expansion of non-residential facilities.
2. A major shift in demand for land and facilities from the core preservation area to the planning area and adjacent municipalities.
3. A substantial effort to make a Transfer of Development Rights (TDR) program succeed.

Although not provided to date (it will be part of the Highlands Master Plan), an analysis of the economic impact to property owners and all levels of government and school districts will provide a basis to review the reasonableness of those rules which are implemented.

Job Creation Centers

Expansion of job creation centers will provide/create:

Employment

Opportunities for reverse commuting.

A measure of economic stability to offset the regressive, counterproductive property tax system.

The need to establish land use policies which compliment a strategy of marketing the County's strength to identified business and industry groups.

A greater ability to align the resources of the Sussex County Economic Development Partnership with municipal efforts to develop employment, attract business, and expand support infrastructure (water, sewer, power, communications).

Traditional Town Centers

These will become the focus of the majority of development in Sussex County.

Existing centers should be revitalized. Proposed centers should provide a wide range of densities, styles and mixes of development. Where necessary, sewer service areas should be expanded to accommodate this planned growth (See Exhibit 5, Existing and Proposed Sewer Service Areas). Centers increase the range of options for transportation in the region.

EXHIBIT 5

**EXISTING AND PROPOSED
SEWER SERVICE AREAS**

Parks and Wildlife Management Areas

There are no significant development pattern issues associated with this landscape.

Efforts should continue to acquire inholdings, link preserved lands, trails, historic and cultural sites, etc.

Lake Communities

Avoid creation of and minimize development of undersized lots except where waste disposal technology permits.

Create septic management districts.

Analyze land use patterns in order to improve surface water quality.

Housing

Rural/Agricultural Landscape

Permit modest, low density development.

Cluster development wherever possible.

Highlands

Maintain existing housing in safe and sound condition.

Job Creation Centers

No issues. Housing is not part of this landscape.

Traditional Towns, Villages, and Hamlets

Provide a range of housing opportunities to all segments of the County population.

Ensure that age-restricted housing is constructed in reasonable proportion to overall market/non-restricted housing.

Parks and Wildlife Management Areas

Housing is not contemplated in this landscape. Where housing abuts parks, a reasonable separation should be provided to isolate conflicting activities.

Lake Communities

Maintain lake communities as small scale, residential neighborhoods. Consider floor area ratio as a means to quantify an appropriate scale of development.

Implement septic management programs.

Circulation

Rural/Agricultural Landscape

Reduce scattered land development in order to achieve necessary concentrations of population/business to support mass transit.

Support safety and congestion management improvements.

Highlands

Encourage the repair and maintenance of existing highway and bridge infrastructure.

Support reactivation of the former Lackawanna Cut-off and New York, Susquehanna and Western railroads.

Job Creation Centers

Support general highway improvements and rail service reactivation and expansion.

Increase employment at a competitive wage to serve the commuter population.

Traditional Towns, Villages, and Hamlets

Expand bus service within the County.

Expand connections with and opportunities for intercounty mass transit operations. For example, make connections with NJ Transit at the Dover train station.

Provide pedestrian oriented development.

Plan for Transit Oriented Development near future rail stations.

Use traffic calming designs to address and mitigate the common problem of major roads which divide centers and create unsafe conditions for pedestrians.

Parks and Wildlife Management Areas

Facilitate access to existing state and federal facilities.

Lake Communities

Maintain safe internal road networks.

Investigate possibilities of mass transit at these destinations.

Agriculture

Rural/Agricultural and Parks and Wildlife Management Areas Landscapes

Encourage the preservation of active farming.

Support the establishment of agricultural industry (e.g. value added produce processing) in close proximity to agricultural operations.

Expand agritourism and the range of complimentary uses of farm properties (e.g. Bed & Breakfast).

Require buffers between agricultural operations and conflicting land uses (e.g. residences, notification of Right-to-Farm).

Expand the tillable acreage in State and Federal Parks and Forests.

Create incentives to encourage the farming community to utilize land and buildings for productive agriculture in Parks and Wildlife Management Areas.

Highlands

Issues are similar to those in the Rural/Agricultural landscape. Of particular concern will be landowner equity and agriculture.

Job Creation Centers, Traditional Centers, and Lake Communities

Agriculture is a very small component of these landscapes.

Resource Conservation

Rural/Agricultural Landscape

Reduce construction through Transfer of Development Rights (TDR) and soils-based carrying capacity analysis.

Focus that construction that does occur through by clustering development thereby reducing impervious coverage, stormwater discharge, and general land disturbance.

Protect surface water bodies and community wells (See Exhibit 6 – Well-head Protection Areas).

Encourage landowner practices which minimize fertilizer and siltation impact.

Highlands

Resource protection is the rationale for the Highlands Protection Act, presumably the regulations governing development will reflect this fact.

Job Creation Centers

Promulgate standards which meld economic growth and development with environmental protection.

Locate job creation centers and nodes (e.g. corporate campus facilities) in areas of substantial water availability and soil permeability.

Ensure that public wells are protected and that the development review process requires consideration of known contaminated sites, spills, etc.

Limit uses and development performance standards to those which avoid discharge of toxics and minimize storage of hazardous materials.

Traditional Centers

Site/expand at the most advantageous natural resource locations.

Where disturbance is required (as, for example of steep slopes), employ extensive safeguards to offset the effects of such disturbance.

Ensure that the carrying capacity of the site, as expanded through central water and sewer infrastructure, is the foundation of the center design and build out.

Make provision for extension of infrastructure facilities to employment generators adjacent to centers.

Where major employment facilities are to be located at some significant distance from an established center boundary, require on site service infrastructure and functional connections between such facilities and the center they support.

EXHIBIT 6

WELLHEAD PROTECTION AREAS

Parks and Wildlife Management Areas

The focus of activities should be on natural heritage, historic and cultural sites and areas, views and other environmentally critical areas. (See Exhibit 7, Natural Heritage Sites)

Equity

Rural/Agricultural, Highlands, Parks And Wildlife Management Areas, Lake Communities

Secure development rights through purchase at fair market value.

Transfer densities through TDR, not rezoning.

Encourage all permanent protection programs to concentrate in these landscapes

Job Creation Centers, Traditional Centers

Establish marketable receiving areas.

Provide appropriate infrastructure, to support densities and mixed uses.

Avoid zoning which creates windfalls without a TDR link to environs.

Provide incentives for intermunicipal cooperation in infrastructure construction and operation.

Plan Strategies and Objectives

The information presented in the body of the Strategic Growth Plan and its Appendices will allow the County, its constituent municipalities and the State to understand the interrelationships between all facets of Sussex County. The data presented and the conclusions reached make it clear that there are no simple answers.

The State Development and Redevelopment Plan was prepared under the authority of the State Planning Commission. The purpose of the Commission under the State Planning Act was to rationalize the development process such that the natural resources of New Jersey were understood and preserved, the urban areas of the State revitalized, and the provision of services by all levels of government made more efficient. No level of government, acting alone, can accomplish these goals. Only by concerted, cooperative efforts can the three levels of government in New Jersey gain control of the process of development and redevelopment. The Sussex County Strategic Growth Plan is the vehicle offered by the County of Sussex as its contribution to local determination of growth and development in the County.

EXHIBIT 7
NATURAL HERITAGE SITES

Transfer of Development Rights

The reorganization of development patterns must avoid windfalls and wipeouts. The following strategy is based on the use of the recently authorized transfer of development rights technique. The balance between sending area (environs) and receiving area (center) should be established by both infrastructure and market analysis to ensure that there is sufficient capacity in the receiving areas to accommodate the credits to be transferred.

Development in the environs should be restricted to not more than one-half that otherwise permitted through zoning. All or the remaining portion of the available development potential could be transferred to other lands located in a center. For example, if the land is zoned for one home per three acres, only one home per six acres could be actually developed on that tract. For a thirty acre tract of land, ten homes would be permitted through zoning but only five could be built on the tract. The remaining five credits, or all ten, would have value as credits needed by developers wishing to build in an identified receiving area (center).

In order for the credits to be in demand, rezoning in the receiving areas would have to be undertaken to lower the as-of-right densities while retaining desired densities achievable with purchased credits. For example, a center would have an as-of-right density of one home per three acres but, with sewer and water service, could allow up to twenty-five units per acre. The difference would become available through purchase of development rights from the environs.

Where a developer agrees to provide additional open space through cluster development in either the environs or the center, the total yield would be determined by land divided by density after removal of areas of water bodies and wetlands, and excessive slopes. Where a cluster is not proposed, a qualifying map, taking into account all ordinance mandated design criteria, including slopes, setbacks from wetlands and water bodies would be required in order to determine lot yield and would yield fewer lots or units than would the cluster option.

For example:

A one hundred acre tract, lying in a four acre zone with a twenty-five percent open space requirement contains a three acre pond, nine acres of wetlands and sixteen acres of steep slopes. With the cluster option, this would yield eighteen lots. These would then be laid out on the site.

As a rule, the distribution of site constraints such as slopes and water features makes it impossible to get the same lot yield through conformance with typical ordinance standards and avoidance of the wetlands, slopes, etc. This is the financial incentive to a prospective developer to design a project creatively. In some cases a density bonus would be offered for a design providing a greater percentage of open space than required or connecting the open space to other preserved, adjacent lands.

Once the cluster lot yield has been determined, the layout would have to respect ordinance limitations such as slopes and buffers but would result in a development whose density would be limited more by water supply, waste treatment and disposal technology than site constraints. If this approach were used on a sending tract and the municipal planning board found the proposal consistent with municipal objectives, the increase in unit count could be transferred via TDR. The financial incentive to sell development rights should not be diminished unless the tract is not suitable for cluster development.

Regional Transfer of Development Credits/Rights

To this point, the discussion of TDR has remained focused on lands wholly within a municipality. Where densities are compatible and municipal objectives converge, the transfer of credits from one town to another would provide another dimension to development in the County. This would be more complex, requiring that property taxes or other means to fund the services by new residents and businesses be transferred with the credits.

Nonresidential Transfer of Development Rights

In addition to residential transfer of development rights, it is important to also attempt to provide some protection to those whose land use zoning is nonresidential. One of the goals of this plan is to discourage strip commercial development. As the development which would otherwise be developed as strips is to be relocated into the center, a non-residential transfer value, based on the discharge equivalents (one home equals 1,800 sq. ft of nonresidential space) should also be put in place. Here, too, new commercial development, beyond some base density in a center, would require the purchase of credits from landowners in the environs. The mechanism to create a demand for credits would be to rezone an entire municipality or a group of municipalities for some density lower than the base carrying capacity or infrastructure supported capacity. Zoning in the environs (sending area) would permit the construction of no more than one-half the permitted density. Receiving areas (centers) would be zoned to permit a low base level density but would require construction at suburban and urban densities. In the absence of infrastructure, modest transfers would be permitted, although they would be limited by carrying capacity.

Utilizing the above will provide decision-makers with a potentially useful tool to set land use policy both for prospective land users and for existing development. A substantial effort should also be made to encourage the establishment of small businesses. One of the strengths of the County is a large, well educated workforce, in many cases overqualified for the relatively low paying retail and recreational jobs which predominate in the County. Incubator projects, and carefully defined home businesses fit well within the low intensity, rural agricultural landscape. The rapid advances in technology permit many to telecommute and generally operate at remote locations with the positive effect of reducing rush hour traffic and a measurable improvement in the quality of life. In municipalities which permit home businesses, individual entrepreneurs are a vital element in the economic life of the community.

Rural/Agricultural Landscape

This is the area most affected by sprawl. Other than in the lake communities, residential development has been scattered throughout the County with non-residential development constructed along the major roads. Connections between residential communities and non-residential development in depth have been minimal. In the future, if the precepts of the SDRP as endorsed by this plan are followed, development will be focused in centers with far less low density scattered development outside those centers. Strategies to be employed in this landscape are:

Provide guidelines for municipal use in redirecting development from the environs to centers.

Encourage the establishment and expansion of mass transit options, tied to existing and proposed centers.

Continue the County contribution to the bi-state effort to reactivate the Lackawanna cut-off and New Jersey efforts to extend and add passenger service to the New York, Susquehanna and Western railroad.

Emphasize the multi-state importance of small scale aviation facilities.

Continue to refine and focus the farmland preservation and open space programs in the County.

Assist landowners and coordinate with the Natural Resources Conservation Service, the Resource Conservation and Development Program, County Board of Agriculture and County Agriculture Development Board to publicize the numerous agriculture support programs of the State.

Slopes in excess of twenty-five percent should be avoided wherever possible and disturbance of lesser slopes approached with care.

Density should be based upon both soil characteristics and available water supply as determined through on-site groundwater hydrology. The soils analysis (modified nitrate dilution model @ 5.2mg/l), suggests that an average acceptable density for residential construction is three acres per unit. This can be extrapolated to non-residential densities, using waste flows to calculate equivalent densities as follows:

A residential unit generates approximately 225 gallons per day of effluent. Using the DEP standard of 0.125 gallons per day per square foot of office space, 1800 square feet of space is the equivalent of a residential unit. Allowing for the conservatism of the DEP standards and for ease of calculation, 2,000 square feet is a reasonable equivalent. Based on this premise, 100,000 square feet of commercial space would require a land area of not less than 150 acres to avoid having a depletive effect on the ground water quantity and some effect on quality.

Highlands

The Highlands is a physiographic region defined by geology and landform. It consists of highly resistant rock with dramatic topographic variation. As an area of particular water resource importance, the State has proposed severe restrictions on development to meet the public

purpose of water supply protection. As the legislation stands as of the date of publication of this report, the State has pre-empted the field, leaving few local initiatives available in the core protection area and voluntary participation outside the core in Vernon, Hardyston, Hamburg, Franklin, Ogdensburg, Sparta, Hopatcong, Green, and Stanhope. Strategies at the County level are limited to:

With the regional Highlands Planning entity, coordinate local and regional planning initiatives.

Within the limitations of the Farmland and Open Space preservation programs and in cooperation with the State Green Acres Program, provide property owners with information on alternatives to development as a means to offset the financial hardship caused by the regulations.

Traditional Centers

The preferred development form set forth in the SDRP is the center. In Sussex County, these are traditional towns, villages and hamlets. Currently, there are ten designated centers in Sussex County with perhaps eight additional centers to be considered in the future. The lion's share of County development will be steered into these centers. They will be more efficient and diverse, consuming less land for a given level of population. Strategies to support these centers are:

Identify areas of the County with substantial carrying capacity to become new or expanded centers.

Prepare center designs as templates for municipal consideration which emphasize pedestrian access and mixed uses.

Work with municipalities to provide a complete range of housing opportunities within growth centers and additional housing in low growth centers in accordance with the purposes of such centers.

Establish a Countywide housing rehabilitation program.

Promote the use of Transfer of Development Rights (TDR) to move density from the environs into centers.

Where appropriate, use Brownfields programs to clean up polluted sites for redevelopment.

Job Creation Centers

Job Creation Centers are nodes of development, which because of their non-residential character, do not fit the definition of a center. The SDRP provides for these nodes with the understanding that a concentration of wholesale and industrial economic development activities is a major contributor to the regional economy, works to alleviate traffic congestion, air and water pollution, and contributes directly to the quality of life of County residents and visitors. Strategies to be followed in this landscape are:

- o Expand the efforts of the County, the Economic Development Partnership, and the Chamber of Commerce to identify the economic strengths of the County, its businesses and work force.
- o Locate areas with access to railroad lines or major roads within the County where economic development nodes may be created or expanded.
- o Focus the outreach efforts of the Economic Development Partnership on business sectors most apt to locate or expand in Sussex County.
- o Working with historic preservation and agriculture groups, widen the range of opportunities for agricultural industry.

Park and Wildlife Management Areas

Park and Wildlife Management areas occupy approximately one-third of the County. Chiefly located along the western boundary of the County in Montague, Sandyston, and Walpack Townships and in Wantage and Vernon Townships to the east, these areas contribute to the sense of openness, protection of natural resources, and encouragement of active tourism. These elements are critical to the character of the County. Strategies to be employed are:

In concert with the State and Federal park managers, publicize the recreational opportunities available in the parks and wildlife management areas.

With municipalities and non-profit corporations, identify wildlife corridors and green belts.

Employ the open space systems mapping from the County Open Space and Recreation Plan to prioritize land and easement acquisition. Rank criteria by overall importance. For example, aquifer protection versus acquisition of an inholding.

Actively participate in the Sussex County Clean Water Action Committee, Watershed Management Areas One and Two, the North Jersey Resource Conservation and Development Project, the Sussex County Water Quality Management Policy Advisory Committee, and other resource based organizations to offer educational programs to County residents and visitors.

With assistance from the State and Federal governments, establish Gateway Information Centers to inform the public of the numerous opportunities available in the parks and wildlife management areas.

Preserve and interpret the County's significant historic and cultural resources.

Preserve and interpret State identified Natural Heritage Priority Sites.

Preserve and interpret examples of the County's rich bedrock and surficial geologic past. Add to external boundaries where resource protection, buffer establishment, or recreational potential is evident.

Determine the need for recreation opportunities

Maintain a dialogue with municipalities with regard to specific needs at the regional level.

Periodically update the County Open Space and Recreation Plan, drawing on sources such as the State Comprehensive Outdoor Recreation Plan.

Analyze the character of various recreation uses in order to ensure that only low impact uses are permitted in this landscape.

The Parklands and Wildlife Management Areas Landscape Visitors Center

One third of Sussex County is comprised of the Parks and Wildlife Management Areas Landscape, with the majority being in the western quarter of the county between the Kittatinny Ridge and the Delaware River. The Sussex County Strategic Growth Plan recognizes the importance of this large landscape for both the wildlife habitat and the watershed protection it provides. Currently over twelve million visitors a year visit the Landscape and its contiguous expanded region (Warren County west of the Kittatinny ridge, and the DWNRA in PA). Unfortunately most visitors know and learn little about the Landscape, see it only from their car, and are not encouraged to linger or return. The vast potential of the Landscape to serve as an eco-tourism destination is under-rated and yet to be developed.

A natural Agateway@ to this landscape exists where US 206 passes through Culvers Gap. It is here where the visitor passes from suburbanizing New Jersey to the wilds of a by gone era. It is also here, adjacent to the Appalachian Trail, that we recommend a state of the art Parklands and Fish and Wildlife Management Area Visitors Center be located. With the State of New Jersey taking the lead, the center should be established and managed as a multi-public agency (National Park Service, NJDEP, NJ Travel and Tourism) and to a lesser degree private enterprise partnership. The visitors center should include areas for limited interpretive displays, a multi-purpose room for meetings or interpretive talks, a combination gift and snack shop, administrative offices, restrooms, a rental shower facility for Appalachian Trail hikers, and above all a large and staffed public information counter and display area.

The purpose of the center would be to help ensure that the visitor has a rewarding and enjoyable outdoor experience, is enticed to linger, is encouraged to return, and spreads the word that this is a great place to visit. Toward this end the center would provide the following:

A trained staff (both agency employees and volunteers) that would disseminate information on the various management units in the landscape to include the Appalachian Trail.

User specific information-where can I fish, where can I purchase my licenses and bait, where can I rent a boat, and when all else fails where can I purchase a fish dinner?

Public education programs-How can I make my visit to bear country safe for myself, my pet, and the bear? Ticks and what you need to know! Etc.

Environmental condition updates-snow cover, Delaware River water levels, stage of fall leaf coloration, rare bird alerts, stocking schedules, where the shad are, etc.

Interest specific tours (these would probably cross over into adjoining Landscapes)-scenic photo ops, geology, historic sites, wild flowers in bloom, waterfalls, etc.

Seasonal themes with directions to related events- fun on snow and ice, late winter cabin fever, spring fishing, early summer picnic spots, fun in the water, early fall harvest, fall foliage tours, the American tradition of hunting, Christmas in the country, etc.

Related links to the private sector-outdoor pursuits instructors, guide services, rental shops, overnight accommodations, restaurants, agricultural markets, etc.

An interpretive center exploring the varied opportunities for outdoor education and catering to school groups, families, and anyone interested in the environment.

Lake Communities

The lake communities of Sussex County are a particularly important part of the neighborhood composition of the County. Generally established as summer recreation areas, they have evolved into year round residential communities. As communities developed for only part time occupancy, their initial impact on soil and water resources was low. However, as they became increasing popular as year round residential communities, their relatively high density (5-10 units per acre) began to have a greater and greater impact, particularly on the lake around which the community had grown.

In response to the impact on such lakes as Hopatcong, regional sewer hook ups have been initiated. Others, e.g. Mohawk, Culver, and Cranberry have instituted septic management plans and regulations. Strategies best suited to these communities are:

Educate residents of the need to properly maintain on site septic systems.
Publicize the availability of new denitrification technology for on-site waste treatment.
Secure a Countywide Treatment Works Approval from the NJDEP to allow homeowners and businesses to utilize this and other DEP approved technology with local approvals.
Disseminate model ordinances restricting development on small lots to proportions reflected in the existing neighborhood.

Policies and needs that should be considered are:

Repair and/or upgrade of dams including the preparation of operation and maintenance manuals and emergency response plans where required (a critical need is restoration of low-cost funding from the State to address this public-safety issue);

Institution of septic management programs including support from Township-governing Councils and Boards to approve Model Ordinances that address septic issues. This is essential; maintenance of septic systems is a critical element in avoiding the most egregious pollution impact;

Rezoning and changes to associated bulk standards for purposes of controlling new development to densities that are sustainable, including attention to the avoidance of environmentally sensitive areas. Existing development would be Agrandfathered@ to allow for minor improvements. Such improvements should be limited to avoid increasing the intensity of use and associated increase in effluent discharge. ATear-downs@ for the purpose of building larger homes would be permitted if a conforming septic system is constructed at the time of alteration. In the absence of central wastewater treatment, new development should be permitted at very low densities (lot average: 5 or more acres plus per unit).

Development of stormwater management plans for the control and reduction of nonpoint sources of pollution and minimization of soil erosion

Restoration and maintenance of lake water quality including compliance with NJDEP's surface water and clean lakes quality standards, particularly in those instances where a lake's overflow serves as the headwaters for a river, stream, or creek.

Minimization of the adverse impact of further area development on lake water quality (particularly in instances where wetlands are disturbed, soils are found to be marginally acceptable for septic systems, trees are felled and steep slopes are disturbed; studies show that fully developed, clustered residential areas around lakes can contribute more than tenfold the quantity of nutrients [phosphorous] contributed by forest coverage over the same time period and equivalent land use acreage)

Monitoring and control of fecal coliform (may require implementation of ABest Management Practices and Model Ordinances@)

Protection and prevention of contamination of potable supply wells

Reduction and control of algae (suspended algae [phytoplankton], and attached algae [periphyton]. Note: If phytoplankton reaches a critical density, the water will become noticeably green or brown and will have low transparency; this type of algae has the ability to form Anuisance blooms@ and/or noxious conditions in eutrophic lakes);

The establishment of design standards including appropriate ordinances designed to 1) maintain the rural character and identity and 2) preserve scenic views and scenic quality of the communities (Reference: Proposed changes to the 2004 Byram Master Plan)

Increase awareness of Lake Community members and local governing bodies in order to promote effective leadership, support for proposed ordinances and Onsite Septic Management Systems, and support for adequate funding to accomplish the developed programs and necessary projects that are necessary to protect Sussex County's Lake Communities.

Rezone for purposes of controlling new development to densities which are sustainable. Existing development would be Agrandfathered@ to allow for minor improvements. These should be limited to avoid increasing the intensity of use and associated increase in effluent discharge. ATear-downs@ for the purpose of building larger homes would be permitted only if a conforming septic system is constructed at the time of alteration. In the absence of central wastewater treatment, any new development should only be permitted at very low densities (5 acres plus).

Investigate the feasibility of central waste treatment. Many, if not most of these communities are in areas of poor soil and shallow depths to bedrock. This limits the potential for discharge of treated waste to groundwater. Where eutrophication is severe and/or water quality is substantially impaired, on-site treatment technology, although difficult in areas of poor or limited permeability may prove to be economically appropriate.

Where central waste water treatment facilities are not available, area and municipality wide septic management districts should be organized. These have the potential to identify existing malfunctions and to avoid the occurrence of others through regular inspection and maintenance of individual on-site septic facilities.

CONSISTENCY WITH THE STATE DEVELOPMENT AND REDEVELOPMENT PLAN

The State Development and Redevelopment Plan in Sussex County

The State Development and Redevelopment Plan (SDRP) very definitively classifies nearly all of Sussex County in Planning Areas 4, 4B and 5. Planning Area 4, the Rural Planning Area, is designed to highlight an areas' agricultural potential. This is the location of New Jersey's prime farmland and agricultural industry. Policies outlined for PA 4 include keeping the land in large, contiguous masses of farmland while promoting agriculture as an industry and directing new growth into existing or planned centers where infrastructure is or will be located. Planning Area 4B has these same policies with an environmental overlay. The environs of PA 4 or 4B is generally to remain in open space and agricultural use and not to develop an urban or suburban character. Planning Area 5 is the Environmentally Sensitive Area (without the Agricultural component). PA 5 comprises large contiguous parcels with whole ecosystems that can, and should, be protected. It is a location containing areas of important flora and fauna, with endangered and/or threatened species, scenic vistas, wetlands and areas of importance for water resources, prime forested areas, and other areas with significant topographical, geological or ecological features. Basically, this encompasses all of Sussex County except for centers and a small portion of Stanhope designated as Planning Area 2. Planning Area 5 is designated as the location to support and promote the recreational and tourism industries.

In order to compare the objectives of the Strategic Growth Plan and the State Development and Redevelopment Plan, we revisit the SDRP Goals and Policies found on pages 176 through 179 of this document.

Goal #1: Revitalize the State's Cities and Towns

Policy: Urban Revitalization

Prepare strategic revitalization plans, neighborhood empowerment plans and urban complex strategic revitalization plans that promote revitalization, economic development and infrastructure investments, coordinate revitalization planning among organizations and governments, support housing programs and adaptive reuse, improve access to waterfront areas, public open space and parks, and develop human resources with investments in public health, education, work force readiness and public safety in cities and towns.

The SGP suggests that the patterns of development which have occurred over the past thirty years be radically changed.

Center oriented development is to be the predominant form.

Revitalization plans including brownfields (e.g. Newton, Hardyston) are being developed in cooperation with County and State agencies..

Designated and proposed centers are programmed for central water and wastewater treatment infrastructure.

Affordable and reachable housing is to be located in centers

Centers should follow recognized design standards, emphasizing central places and a sense of community.

Municipalities should develop revitalization plans as has already begun (see Sussex Borough). With State AMain Street@ funding improvements, new life can be brought back to older centers (See Franklin and Hardyston grant application). Adaptive reuse of existing buildings will continue to reverse blight.

Goal #2: Conserve the State’s Natural Resources and Systems

Policy: Water Resources

Protect and enhance water resources through coordinated planning efforts aimed at reducing sources of pollution and other adverse effects of development, encouraging designs in hazard-free areas that will protect the natural function of stream and wetland systems, and optimizing sustainable resource use.

Specific policies have been developed for the Rural/Agricultural, Job Creation Center, Traditional Center, and Lake Community landscapes which focus efforts to locate development with due consideration of water quality. Where development is to occur, restrictions on the discharge and storage of hazardous materials will offset potential environmental impact.

The SGP contains an analysis of potential build out based on existing development coupled with potential construction, based on current zoning as it applies to buildable lands. This will provide municipalities with a perspective on the future. In concert with existing state regulation, buffering, best management practices, and septic management will contribute to amelioration of existing degraded conditions.

Watershed groups such as the lake Musconetcong Regional Planning Board, and the Lake Hopatcong Commission, together with the Sussex County “208” Water Quality Agency and Watershed Management Areas will continue to concentrate on achieving appropriate reductions in pollutant loading of lakes and other waterways.

Policy: Special Resource Areas

Recognize an area or region with unique characteristics or resources of statewide importance and establish a receptive environment for regional planning efforts. The Highlands region has been recognized as the first Special Resource Area in New Jersey.

The Highlands has been recognized as a landscape in its own right. The SGP offers concrete proposals for increasing resource protection and public appreciation of the resource while safeguarding landowner equity through TDR. Greater detail will be offered following adoption of the legislation and preparation of the Highlands Master Plan.

Goal #3: Promote Beneficial Economic Growth, Development and Renewal for All Residents of New Jersey

Policy: Economic Development

Promote beneficial economic growth and improve the quality of life and standard of living for New Jersey residents by building upon strategic economic and geographic positions, targeting areas of critical capital spending to retain and expand existing businesses, fostering modern techniques to enhance the existing economic base, encouraging the development of new enterprises, advancing the growth of green businesses, elevating work force skills, and encouraging sustainable economic growth in locations and ways that are fiscally and ecologically sound.

The SGP proposes expansion of existing Job Creation Centers (Nodes) and creation of a limited number of additional nodes where larger scale mixed commercial and industrial uses should be concentrated.

The SGP recommends the elimination of strip commercial development with non-residential TDR moving these service uses into centers.

Siting centers in areas best suited to accommodate additional dense development promotes a higher level of efficiency and environmental protection.

The County farmland and open space preservation strategy, supported by public referendum, is to continue the purchase of development rights from willing property owners and to offer whatever incentives may be available through leveraging funds from other state, federal, or municipal programs to achieve the maximum protection of farmlands. In addition, the County is working to emphasize the four season availability of recreation (skiing, golfing, hiking, swimming, etc.) in the County.

Farmland preservation is only the first part of the continuing need to support agriculture as an industry. The County has long had an active role in promoting the business of agriculture through value added and agri-tourism programs. As natural resource based business and agriculture/recreation are activities particularly favored by the State Planning Commission in northwest New Jersey, these business ventures are both supportive of the character of the County and will contribute to the its economic base.

In conjunction with the open space, parklands and farmlands initiatives, Sussex County is working to market itself as a Four Season Tourism Destination. This will not only highlight the existing dedicated open space in our seven State Parks, one State Forest, one National Wildlife Refuge, one National Recreation Area, and over a dozen State Wildlife Management Areas but the active recreational pursuits that one may enjoy while visiting our County.

If recreation and tourism are to be promoted as an economic basis for Sussex County to offer to the balance of New Jersey, infrastructure must exist, or be provided, for people to visit and enjoy the aforementioned amenities. This does not appear to be recognized within the context of the existing SDRP. Recreation and tourism are not the same as preserving land in passive open space that does not permit public access. This is not to say that both of these options cannot exist within the County; they certainly can, but there must be a balance, again, between economic development of recreational lands and pure open space parcels.

The largest stumbling block to date is the lack of infrastructure that would make our location palatable to a tourist. Our roads, federal, state and local, as discussed in the Circulation Ele-

ment, pose logistical problems with getting to the County in a timely manner. Without traffic delays, we are a mere 1 1/4 hours from New York City - a huge metropolitan area with many disposable tourist dollars that can be spent here. However, public transportation options are lacking to get people from the city to the County. Or, if people drive, our limited highway system, and the corresponding traffic tie-ups, will make a return trip less likely. Additionally, the County has limited motel/hotel facilities in the more rural areas of our County. These are the areas where tourists would prefer to stay to be closer to the activities they have come here to pursue. The SDRP could serve as the support for innovative service technologies that protect the environmental integrity of our area and make it feasible to offer modern visitor services.

Policy: Agriculture

Promote and preserve the agricultural industry and retain farmland by coordinating planning and innovative land conservation techniques to protect agricultural viability while accommodating beneficial development and economic growth necessary to enhance agricultural vitality and by educating residents on the benefits and the special needs of agriculture.

The County has been actively engaged in the preservation of farmland and encouragement of agricultural industries generally. Approximately 10,000 acres of farmland are or will be permanently protected.

The County has increased its efforts to promote agriculture and the public appreciation of the wide variety of agricultural activities in the County through its agritourism efforts.

The plan encourages location of agricultural industry (value added) in proximity to agricultural operations as the sole small scale economic expansion in the environs or Rural/Agricultural landscape.

Policy: Equity

It is the position of the State Planning Commission that the State Plan should neither be used in a manner that places an inequitable burden on any one group of citizens nor should it be used as a justification for public actions that have the effect of diminishing equity. It is also the position of the Commission that the achievement, protection and maintenance of equity be a major objective in public policy decisions.

Goal #4: Protect the Environment, Prevent and Clean Up Pollution

Policy: Energy Resources

Ensure adequate energy resources through conservation, facility modernization, renewable energy and cogeneration; to continue economic growth while protecting the environment; and to modify energy consumption patterns to capitalize on renewable, domestic energy supplies rather than virgin extraction and imports.

Adoption of the center based development pattern will lead to greater efficiencies in service provision by utilities and increase the potential for mass transit service.

Policy: Waste Management, Recycling and Brownfields

Promote recycling and source reduction through product design and materials management and by coordinating and supporting legislative, planning and facility development efforts regarding solid and hazardous waste treatment, storage and disposal. Capitalize on opportunities provided by Brownfield sites through coordinated planning, strategic marketing and priority redevelopment of these sites.

The SGP actively promotes the remediation of brownfields sites as a means of land reclamation and community revitalization.

Policy: Air Resources

Reduce air pollution by promoting development patterns that reduce both mobile and stationary sources of pollution, promoting the use of alternative modes of transportation, and supporting clean, renewable fuels and efficient transportation systems.

The SGP advocates development in centers as a means to reduce overall dependency on the single occupant motor vehicle for movement of people and goods. This will reduce pollution from motor vehicles by reducing trips by motor vehicle in a pedestrian-oriented environment. Center development will give rise to the required critical mass needed to economically justify mass transit facilities.

Goal #5: Provide Adequate Public Facilities and Services at a Reasonable Cost

Policy: Transportation

Improve transportation systems by coordinating transportation and land-use planning; integrating transportation systems; developing and enhancing alternative modes of transportation; improving management structures and techniques; and utilizing transportation as an economic development tool.

Policies laid out in the Plan incorporate the review of current system capacity and projected build out. With the analysis of zoned build out, potential traffic impact may be estimated and the ability of the circulation system to absorb the impact evaluated.

Transit oriented development will provide a strong impetus to economic development.

Policy: Infrastructure Investments

Provide infrastructure and related services more efficiently by investing in infrastructure to guide growth, managing demand and supply, restoring systems in distressed areas, maintaining existing infrastructure investments, designing multi-use school facilities to serve as centers of community, creating more compact settlement patterns in appropriate locations in suburban and rural areas, and timing and sequencing the maintenance of capital facilities service levels with development throughout the state.

The Plan makes it clear that, in order for the centers concept to achieve the desired results, existing and proposed infrastructure must be funded and constructed expeditiously.

Regional infrastructure planning of sewer service areas has been actively in process through the County Wastewater Management Plan.

As there are many areas in the County which do not lend themselves to large scale infrastructure, a heavy emphasis is placed on the general availability of alternative septic technology to remediate conditions in smaller lake communities.

Proper sequencing of infrastructure installation has proven to be a valuable means of growth management. This will be of particular use in new centers.

Goal #6: Provide Adequate Housing at a Reasonable Cost

Policy: Housing

Preserve and expand the supply of safe, decent and reasonably priced housing by balancing land uses, housing types and housing costs and by improving access between jobs and housing. Promote low- and moderate-income and affordable housing through code enforcement, housing subsidies, community-wide housing approaches and coordinated efforts with the New Jersey Council on Affordable Housing.

Production and rehabilitation of affordable and Areachable@ housing is one of the top priorities of the County. We are acutely aware of the shortfall in housing availability for al but the most affluent sectors of the County population. For traditional Affordable Housing, the rules and incentives of the Council on Affordable Housing have proven to be somewhat effective, at least in the rehabilitation of existing homes and encouragement of group home opportunities. Notwithstanding this fact, many municipalities in the County have not petitioned for or received Substantive Certification, leaving them in violation of the NJ Fair Housing Act.

Nearly all subgroups of the county population are in need of affirmative programs designed to encourage the production of a range of housing types in a broad range of affordability. This is not an instance where government should be on the sidelines. When valuable people must leave the County to find affordable housing, the business, cultural and social fabric of the County is diminished. Those who leave but retain their employment cannot be as productive as those with short, pleasant commutes. Those who leave and find employment elsewhere cost the County opportunities for business expansion, volunteer resources, and reduce the bottom line

productivity of the County. In addition to those of low or moderate income as defined by COAH, the middle income population must be able to remain in the County through construction of “reachable” housing.

Policy: Design

Mix uses and activities as closely and as thoroughly as possible; develop, adopt and implement design guidelines; create spatially defined, visually appealing and functionally efficient places in ways that establish an identity; design circulation systems to promote connectivity; maintain an appropriate scale in the built environment; and redesign areas of sprawl.

The center design guidelines, excerpted from Anton Nelessen, “Visions for A New American Dream”, are wholly consistent with the thrust of this policy. The SGP sets forth the specific objective that development take place, for the most part, in mixed use centers.

Goal #7: Preserve and Enhance Areas with Historic, Cultural, Scenic, Open Space and Recreational Value

Policy: Open Lands and Natural Systems

Protect biological diversity through preservation and restoration of contiguous open spaces and connecting corridors; manage public land and provide incentives for private land management to protect scenic qualities, forests and water resources; and manage the character and nature of development for the protection of wildlife habitat, critical slope areas, water resources, and for the provision of adequate public access to a variety of recreational opportunities.

The Strategic Growth Plan places heavy emphasis on the natural resource base, its preservation and management. The County Open Space Plan and Farmland Preservation Plan each contribute to the overall County strategy of open space protection, connection, as well as directing the design and character of all proposed development and redevelopment to protect wildlife habitat, critical environmental features, and to encourage public awareness of their importance through formal access and interpretive centers.

Policy: Historic, Cultural and Scenic Resources

Protect, enhance, and where appropriate rehabilitate historic, cultural and scenic resources by identifying, evaluating and registering significant historic, cultural and scenic landscapes, districts, structures, buildings, objects and sites and ensuring that new growth and development is compatible with historic, cultural and scenic values.

The County has spent millions of dollars in support of the retention of open space, farmland, and preservation of cultural and historic resources. The SGP will be an effective means to further this objective in setting out the importance of this effort to the County of Sussex.

Goal #8: Ensure Sound and Integrated Planning and Implementation Statewide

Policy: Comprehensive Planning

Promote planning for the public's benefit, and with strong public participation, by enhancing planning capacity at all levels of government, using capacity-based planning and Plan Endorsement to guide the location and pattern of growth and promoting cooperation and coordination among counties, municipalities, state, interstate and federal agencies.

Sussex County has the distinction of having more designated centers than any other county in the state. This, coupled with the affirmative policy support in the SGP, is evidence that the County is interested in implementation of the SDRP policies, not just their recitation. Continuing involvement, including an application for Initial Plan Endorsement and Advanced Plan Endorsement will reiterate this position.

Policy: Public Investment Priorities

It is the intent of the State Plan that the full amount of growth projected for the state should be accommodated. Plan Strategies recommend guiding this growth to Centers and other areas identified within Endorsed Plans where infrastructure exists or is planned and where it can be provided efficiently, either with private or public dollars. (Designated Centers are included in the category of communities with Endorsed Plans.) Public investment priorities guide the investment of public dollars to support and carry out these Plan Strategies.

CONSISTENCY WITH NJDOT SMART GROWTH CRITERIA AND SDRP POLICIES

Sussex County realizes the importance of incorporating Smart Growth strategies into all planning efforts and policies. Of these, the NJ Department of Transportation has developed a specific checklist governing State transportation planning efforts and projects. This comprehensive checklist encourages Counties and municipalities to promote and support development that is based on sensible land use, transportation infrastructure and economic analysis. This is one of the primary purposes of the County's Strategic Growth Plan, and the accompanying multi-modal transportation system improvements contained in this section.

In developing and planning transportation system improvements, Sussex County will strive to achieve the overall goal set forth in the State of New Jersey's Development and Redevelopment Plan (March 2001), which is to encourage development, redevelopment and economic growth in locations that are well situated with respect to present or anticipated public services or facilities and to discourage development where it may impair or destroy natural resources or environmental qualities, and to reduce sprawl.

In addition, the County supports many of the NJDOT Smart Growth Consistency Criteria in its transportation planning efforts including the Smart Growth Consistency Criteria Checklist developed by the DOT and included as Appendix F.

New Jersey Department of Transportation Smart Growth Consistency Criteria

Does the project in Sussex County

Occur in an already developed area?

Avoid fragmenting open space?

Minimize land consumption?

Encourage use of convenient and accessible public transit (where or when available)?

Create a mix of residential and commercial?

Promote safe walking?

Support the preservation of open space and/or farmland?

Create a range of housing choices?

Avoid additional infrastructure costs as much as possible?

Support or revitalize an existing or proposed center?

Support jobs in targeted areas?

Improve environmental conditions in the area?

Support best watershed management practices?

All criteria above may not be relevant to every County project.

Smart Growth Project Checklist Concepts

Developed Area - An area that is improved with structures usually with public or private water/sewage facilities or unimproved land that has been used for resource extraction or landfill.

Fragmented Open Space - Large tracts of undeveloped land which have become segmented as a result of development or roadways and/or utility infrastructure resulting in areas too small to effectively support wildlife or sufficient aquifer recharge.

Minimize Land Consumption - Building mixed use and compact residential and non-residential developments on small lots (e.g. homes on 1/4 acre or less) in order to preserve more open space.

Convenient Access to Public Transit - Positioning new residential and non-residential development within 1/4 mile of public transportation options - that will be developed such as the Lackawanna Cut-Off Roseville Road Station Site.

Range of Housing Choices - Making available a variety of housing types and forms within each community, based on local and regional affordability needs as well as consumer demand, which would include - single homes, town homes, condominiums and apartments.

Additional Infrastructure Costs - Any costs created as the direct or indirect result of new residential or non-residential development (e.g. new sewer lines, water lines, roads, schools) on existing residences, businesses or local governments.

The County also supports many of the NJDOT Policies for SDRP Consistency during the planning and development of transportation projects that are applicable to the County including:

Policy - Coordinated Transportation Planning

- Policy 1 - Transportation Maintenance and Repair - The maintenance and repair of the existing transportation network is the highest priority.
- Policy 2 - Public Transportation Priorities - Public transit funds should be invested in the following areas beyond preservation of the existing network:

Improvements that provide greater accessibility to rail, bus, and ferry transit stations and centers from within and outside the State. (Such as the Lackawanna Cut-Off Rail Project)

Improvements that promote system usage for intrastate trips, especially realizing the potential of the major transfer facilities and connecting the rail system to important in-state traffic generators.

Improvements that foster mobility within developed areas and that link neighborhoods; (for example, intra County transit).

Improvements that link redevelopment (and new development) to existing and planned mass transit facilities.

Connect developed areas that are under-served by mass transit.

Promote development that is conducive to mass transit services.

Expansions of fixed rail networks that, where feasible, complete coverage to all significant corridors in locations and ways that support compact development and redevelopment. (Such as the Lackawanna Cut-Off and the NYS&W Passenger Rail Projects)

Capacity that permits travel conveniently and comfortably to major centers adjacent to the State.

- Policy 3 - Coordination of Transportation Planning Among Public, Quasi-Public and Private Agencies - Improve the coordination and integration of transportation planning among the relevant public, quasi-public, and private transportation interests in New Jersey, including the metropolitan planning organizations, bi-state authorities, toll-road authorities, commissions, and coordination between adjacent and Inter-related counties such as the Five County Coalition (FCC). Transportation planning coordination should also be improved through the provisions of the federal Transportation Equity Act for the 21st Century, including Metropolitan Planning Organization Transportation Improvement Plan process.
- Policy 4 - Integration of Land-Use and Transportation Planning - Establish a working partnership between transportation agencies; municipal, County, and regional governments; and the private development community to strengthen the linkages between land-use planning and transportation planning for all modes of transportation including mass transit, highways, rail, aviation, passenger ferry service, and port facilities. Transportation system improvements and good land-use planning practices must be mutually supportive. Coordinate and harmonize local, state, and regional infrastructure investment plans and programs with local land-use plans to achieve the following objectives:

Reduce consumption of land and increase the efficiency of infrastructure.

Support public transportation systems and other alternatives to the automobile.

Reduce total vehicle miles of travel.

Reduce the overall consumption of energy resources for transportation purposes.

Policy 5 - Transportation and Environmental Resource Protection - Coordinate transportation planning and project development with environmental planning through a capital planning process. Before programming for construction, evaluate the direct, indirect, and cumulative impacts of installing transportation improvements and of the development that these improvements may support or induce to ensure that they accommodate and protect sensitive environmental resources.

Policy 6 - Transportation and Air Quality - Coordinate transportation planning and project development with the State Implementation Plan to attain the National Ambient Air Quality Standards within the time frame set forth by the Clean Air Act and the greenhouse gas emission reduction targets of the New Jersey Department of Environmental Protection.

Policy 7 - Transportation and Energy Conservation - Reduce the consumption of energy resources for transportation purposes by:

Reduce the total vehicle miles traveled through efficient land development patterns;

Using public and alternative transportation systems; and

Encouraging the development of higher mileage vehicles.

- Policy 8 - Transportation and Aesthetics - Incorporate aesthetic values in capital planning, design, and maintenance of transportation systems and corridors,
- Policy 9 - Transportation and Context-Sensitive Design - Promote flexible transportation design standards and flexible application of standards that take into consideration the needs of people and the design and natural characteristics of adjacent areas.

Policy - Protection of Transportation Investment.

- Policy 10 - Unused and Abandoned Transportation Rights-of-Way - Protect appropriate rights-of-way that may serve future transportation or public purpose needs (for example, where rail service has been discontinued or land has been acquired for projects that were later abandoned). Ensure that neighboring land uses are compatible with potential future uses for rights-of-way.
- Policy 11 - Aviation Facilities - Preserve and protect New Jersey's public use aeronautical facilities to maintain statewide access to the global air transportation network. Enhance those facilities for goods and people to maintain the viability of the airport to meet its role in the transportation system and, where appropriate, to act as a stimulus for the regional economy. Provide adequate land-use management for those areas immediately

surrounding public use airports through air safety zones, master plans, capital plans, official maps, and development regulations.

Transportation Systems Management

- Policy 12 - Transportation Systems Integration - Complete intra- and intermodal transportation linkages and facilities to ensure that the various systems work together as a unified, integrated, comprehensive, and efficient network.
- Policy 13 - Mobility and Access - Emphasize the movement of more people rather than the movement of more vehicles and enhance access to employment, goods, services, and information. Promote greater use of and invest in public transportation, alternative transit modes (for example, car and van pooling), organization arrangements (for example, transportation management associations, such as Trans Options) bicycling and pedestrian design, before increasing automobile-related system capacity.
- Policy 14 - Efficient Utilization of Capacity - Efficiently manage the existing transportation network. Employ or provide for both capital and operational improvements the latest available technology and design techniques where they can efficiently increase the capacity or reduce costs of all forms of existing and planned transportation infrastructure and services.
- Policy 15 - Provision of Public Transportation Services - Maintain or expand public transportation services to areas of existing and planned high density development that provide opportunities to exploit the efficiencies of mass transportation systems in ways that support development and redevelopment. Promote the use of high-occupancy vehicles and bicycle and pedestrian facilities in all development where feasible.
- Policy 16 - Transportation Demand Management Strategies - Promote market-based incentives to encourage transit, intercept parking, car-pooling, park and ride lots, telecommuting, flexible hours, and other travel demand alternatives that utilize existing capacity. Specific demand-side programs include cashing out of free parking, implementing peak and off-peak pricing on roads, automobile insurance discounts for transit riders, and providing transit vouchers.
- Policy 17 - Transportation Supply Management Strategies - Alleviate congestion on the existing infrastructure system by managing the supply of transportation services. Specific supply-side programs that should be considered include electric toll collection, intelligent transportation systems, highway access management plans, transportation improvement and development districts, and employer or other shuttle pickups at transit stations, (which will be necessary for the proposed passenger rail projects in Sussex County).

- Policy 18 - Highway Access Management - Develop and adhere to highway access management plans and programs that protect system capacity and provide for safe travel. Control local access to highway capacity through plans, regulations, and negotiated agreements between appropriate levels of government in ways that ensure that regional needs, adequate system capacity, and public health and safety are protected and minimize sprawl. Encourage parallel service roads, shared driveways and parking, and pedestrian access between neighboring uses.
- Policy 19 - Regional Local Traffic Patterns - Separate regional through traffic from local traffic by way of limited-access bypass roads - planned to minimize sprawl and adverse impacts on adjacent communities - where alternative circulation patterns using existing roads are not feasible.
- Policy 20 - Transportation Planning as a Redevelopment and Development Tool - Employ transportation planning, facilities, and services as development and redevelopment tools to shape growth and leverage economic development opportunities.
- Policy 21 - Labor Markets - Use appropriate transportation connections to link places of residence with those areas of growing employment opportunities identified in the State Plan.
- Policy 22 - Recreational and Tourism Travel - Promote travel and tourism in New Jersey by making appropriate transportation investments that consider seasonal demands, enhance mobility and accessibility through infrastructure improvements, access management and demand management strategies, and protect the resources on which recreation and tourism are dependent.
- Policy 23 - Goods Movement - Enhance the movement of goods throughout New Jersey by investing in a comprehensive network for regional and interstate commerce, including, where appropriate:
 - o Developing intermodal facilities linking seaports, airports, railroads, and highways;
 - o Encouraging movement of goods by rail to and from the ports and elsewhere, while protecting current and future passenger use on available rights-of-way;
 - o Providing exclusive rights-of-way congestion bypasses for local port and distribution activities and regional through movement of trucks.
- Policy 24 - Traffic Calming - Encourage the use of traffic calming techniques to enhance pedestrian and bicycle circulation and safety within compact communities and other locations where local travel and land access are a higher priority than regional travel.

General Planning Policies Related to Transportation

- Policy A - Indicators, Targets, and Reporting - Include indicators and targets in municipal, County, regional, specialized, and state agency plans, and provide periodic reporting on progress towards meeting the goals of these plans.
- Policy B - Disaster Planning and Mitigation - Coordinate growth-management plans and policies with hazard mitigation and emergency response planning.
- Policy C - Comprehensive Master Plans, Regulations, and Programs - Adopt and implement comprehensive municipal master plans, regulations, and programs that are consistent with the State Plan and include all pertinent elements authorized under the Municipal Land-Use Law.
- Policy D - County or Multi-County Plans, Regulations, and Programs - Adopt and implement comprehensive plans, regulations, and programs on a County or multi-County basis consistent with the State Plan, in partnership with the affected municipalities. Such as has been done with the Five County Coalition.
- Policy E - Expedient Regulatory Process - Regulations that create uncertainty, lengthy, and duplicative review processes, and add cost without concomitant public benefit should be modified to achieve their purpose or eliminated.
- Policy F - Increased Public Understanding and Participation - Maximize public understanding of and participation in local, regional, and state planning, regulation, and infrastructure investment programs.
- Policy G - Sharing Facilities - Use the capacity of school facilities, roads, transit, parks, and other necessary infrastructure in ways that permit maximum use of non-automotive transport; chaining of shopping and other trips with school trips; and sharing of parking, recreational, and other public facilities. DWGNRA Park and Ride (example).
 - A System Preservation/Fix It First policy for road and bridge improvement projects;
 - Developing commuter rail service to Sussex County
 - Increasing commuter bus service to the County;
 - Increasing intra County bus service;
 - Developing highway corridor level/Transportation System Management (TSM) projects to optimize/enhance system performance;
 - Developing and supporting Intelligent Transportation System (ITS) improvements - such as computerized signal system projects
 - Developing, supporting, and promoting safe bicycle and pedestrian projects in the County, particularly rail-trails,
 - Supporting car/van pool programs, ridesharing and transportation demand management programs
 - Developing and supporting increased road capacity projects when and where necessary in the County.

APPENDIX A

PLAN FOUNDATION ELEMENTS

PLAN FOUNDATION ELEMENTS

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 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 over 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 Township	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, Og-

densburg, 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 far less than would appear.

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 which 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
TOTALS	16,348		
SOURCES: NEW JERSEY DEPARTMENT OF LABOR, DIVISION OF PLANNING AND RESEARCH "RESIDENTIAL BUILDING PERMITS: YEARLY SUMMARIES 1980-2003; AND MONTHLY SUMMARIES – 2003.			

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	245,630	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

Source: U.S. Bureau of the Census 2000

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 2000	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

Source: U.S. Bureau of the Census 2000

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 %.

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 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, H37, H38, and H39.		

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 units and 224 renter-occupied. 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 the other 20 counties with 18.9 %. Hunterdon County was similarly low in 1 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	26.1
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)

Source: U.S. Bureau of the Census 2000

Figure 19

Comparison of Occupied Housing Characteristics with Nearby Counties								
Geo-graphic area	Total Population	Total Housing Units	Owner Occupied Units	Renter-Occupied Units	Average Household Size	Percent Owner Occupied	Percent 1 Person Households	Percent House-holders 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 the 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	141,300

Costs

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 pre-

mium 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	Sussex County		New Jersey	
	Number	Percent	Number	Percent
VALUE				
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
<i>Source: U.S. Bureau of the Census 2000</i>				

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/ Mortgage)
New Jersey	170,800.00	
Sussex County	157,700.00	24.20
Andover Borough	154,800.00	19.40
Andover Township	164,400.00	22.90
Branchville Borough	149,600.00	21.30
Byram Township	175,300.00	23.50
Frankford Township	179,100.00	24.50
Franklin Borough	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 Township	149,500.00	24.10
Hardyston Township	152,300.00	23.60
Hopatcong Borough	141,300.00	23.90
Lafayette Township	221,100.00	23.00
Montague Township	129,400.00	25.40
Newton Town	136,100.00	25.10
Ogdensburg Borough	141,600.00	25.30
Sandyston Township	144,800.00	24.30
Sparta Township	222,700.00	24.70
Stanhope Borough	151,100.00	25.10
Stillwater Township	152,400.00	23.70
Sussex Borough	122,500.00	26.90
Vernon Township	150,800.00	24.10
Walpack Township	275,000.00	0.00
Wantage Township	154,200.00	24.60

Source: U.S. Bureau of the Census 2000

Housing Costs as a 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

Source: U.S. Bureau of the Census 2000

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 decision 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 will be wasted which could have been put to better use in providing local services.

Figure 26

COAH Status Report For Sussex County Municipalities as of November 2003								
Municipality	1987 -99 Precred need	Rehab	New Construct	Post 1990 Rehab Credits	Municipal Effort	Fair Share	Rehab Obl.	New Construct 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		70/54RCA			
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

Use Group	Description	Jobs Created per 1000 square feet
S	Storage uses. Includes warehouses, parking garages, lumberyards, and mausoleums.	0.5.0
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 In-crease	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 workforce, 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									
		2000		2010		Change: 2000-2010			
SI	Industry Title	Number	Percent	Number	Percent	Number	Total	Annual	Percent
83	Social Services	1,450	3.7	2,250	5.0	800	56.1		4.4
73	Business Services	2,150	5.5	3,050	6.6	900	40.6		3.4
80	Health Services	4,100	10.4	5,700	12.4	1,550	38.1		3.2
07	Agricultural Services	450	1.1	600	1.3	150	37.5		3.1
87	Engineering & Management Services	750	1.9	950	2.1	200	26.1		2.3
52	Building Materials & Garden Supplies	300	0.8	400	0.9	50	22.8		2.0
58	Eating & Drinking Places	2,400	6.2	2,950	6.5	550	22.7		2.0
51	Wholesale Trade-Nondurable Goods	500	1.3	650	1.4	100	22.0		2.0
17	Special Trade Contractors	1,650	4.2	2,000	4.4	350	21.1		1.9
75	Auto Repair, Services, & Parking	350	0.9	400	0.9	50	20.5		1.8

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									
		2000		2010		Change: 2000-2010			
SI	Industry Title	Number	Percent	Number	Percent	Number	Total	Annual	Percent
35	Industrial Machinery & Equipment	300	0.7	250	0.6	0	-6.2		-0.6
30	Rubber & Misc. Plastics Products	650	1.7	600	1.3	(50)	-5.5		-0.6
60	Depository Institutions	650	1.6	600	1.4	(50)	-3.9		-0.4
64	Insurance Agents, Brokers, & Service	250	0.6	200	0.5	0	-3.5		-0.4
32	Stone, Clay, And Glass Products	250	0.6	250	0.5	0	-1.8		-0.2
27	Printing & Publishing	350	0.9	350	0.7	0	0.3		0.0
53	General Merchandise Stores	550	1.4	550	1.2	0	2.2		0.2
38	Instruments & Related Products	250	0.7	250	0.6	0	2.8		0.3
65	Real Estate	250	0.6	250	0.5	0	2.9		0.3
70	Hotels & Other Lodging Places	400	1.0	400	0.9	0	6.0		0.6

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, syenite 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 north-east/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 XXX8, 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.

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, 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.

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

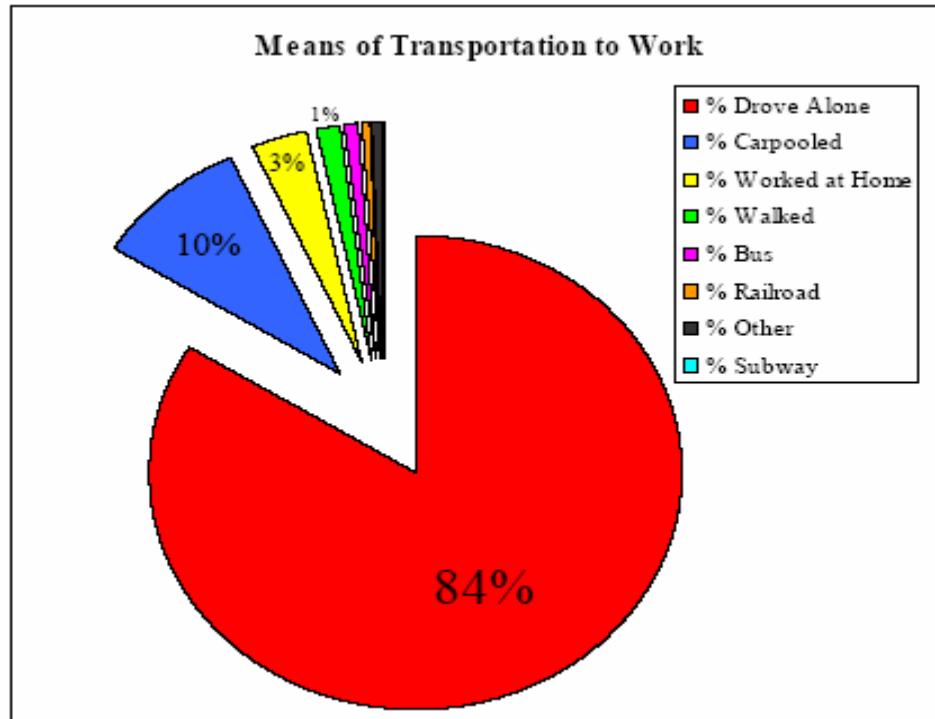


Figure 38: Means of Transportation for Sussex County Residents

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 car-pooled. Of those people who car-pooled, 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.

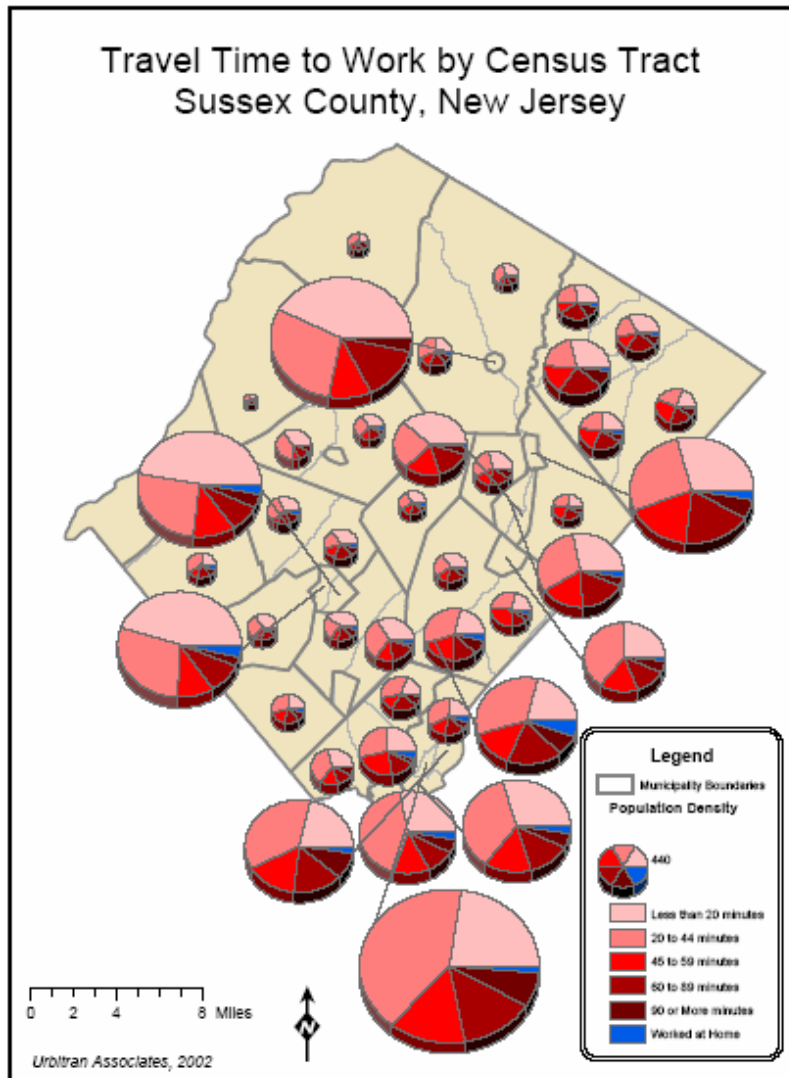
Figure 39: Overall Sussex County Travel Time to Work

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.

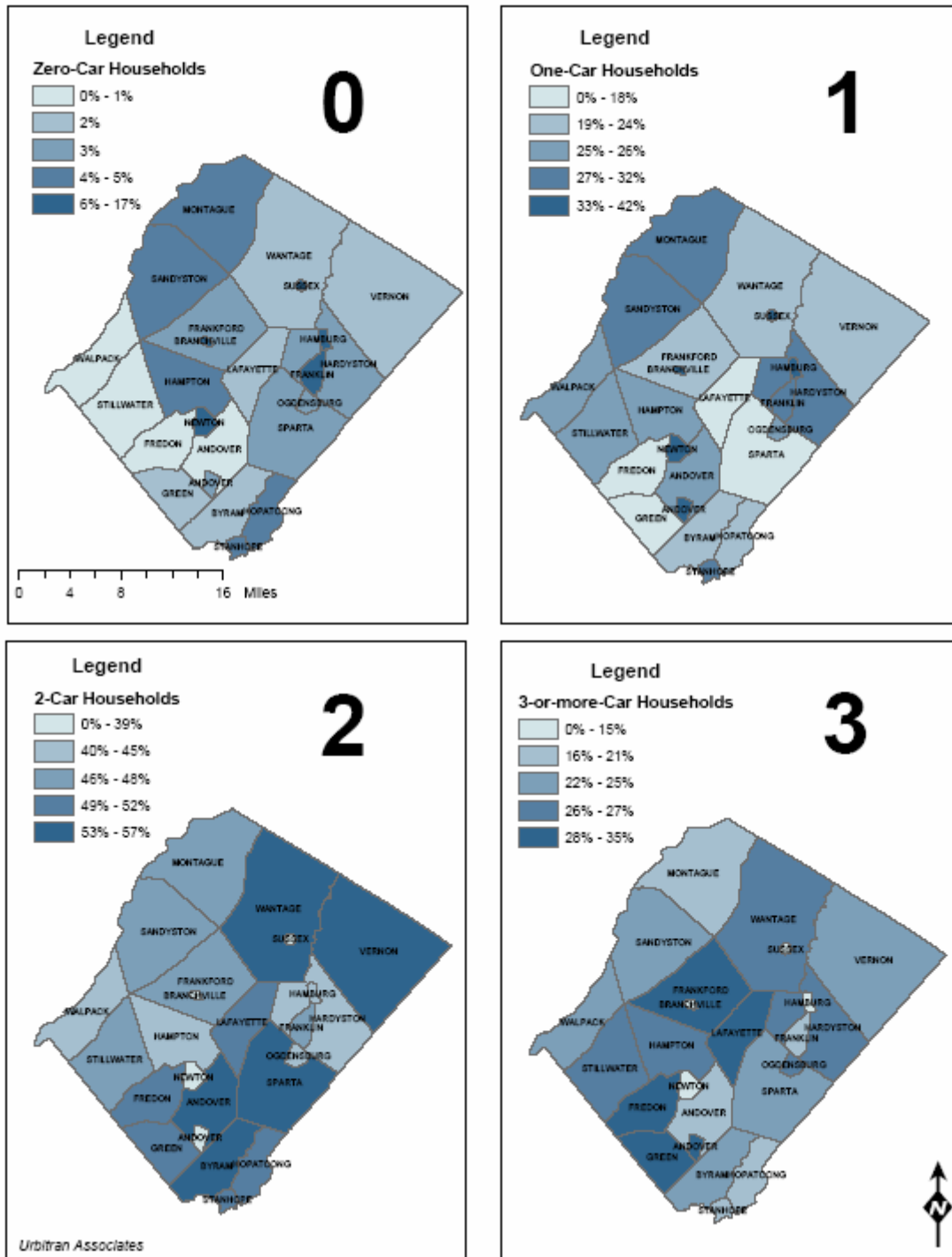
North-central Sparta produced the largest percentage of carpoolers. The largest percentage of bus riders was found in eastern Hampton Township.

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 destina-

tions 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	Distribution of Travel Modes							
	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%
<i>Multi-Mode Total</i>	<i>81</i>	<i>2.1%</i>	<i>200</i>	<i>2.8%</i>	<i>134</i>	<i>2.6%</i>	<i>415</i>	<i>2.6%</i>
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

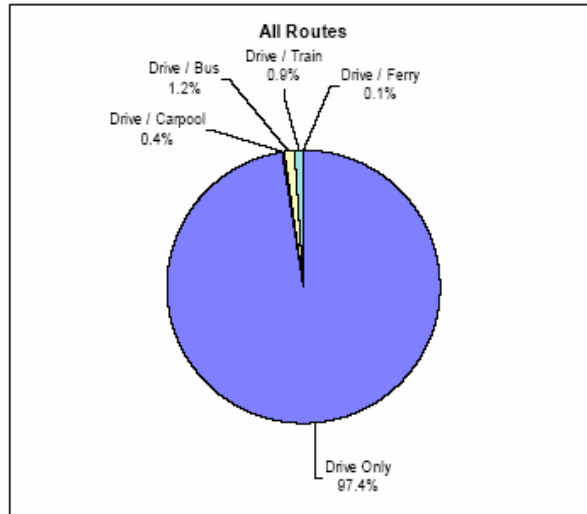


Table 3-17: Distribution of Top Park & Ride Lots for Multimode Trips for All Surveyed Routes

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

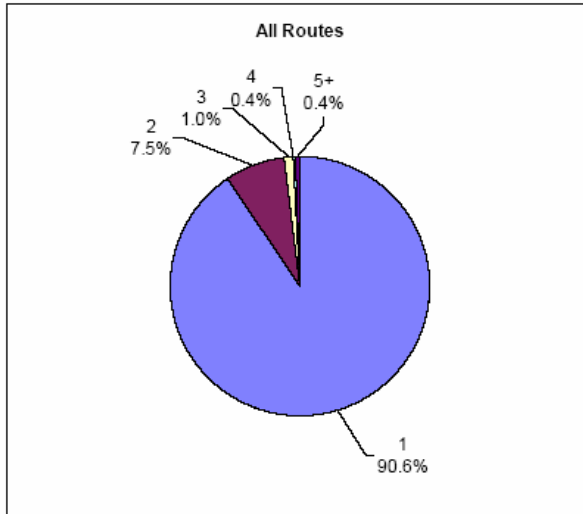
415

Figure 43

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

Distribution of Vehicle Occupancy								
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

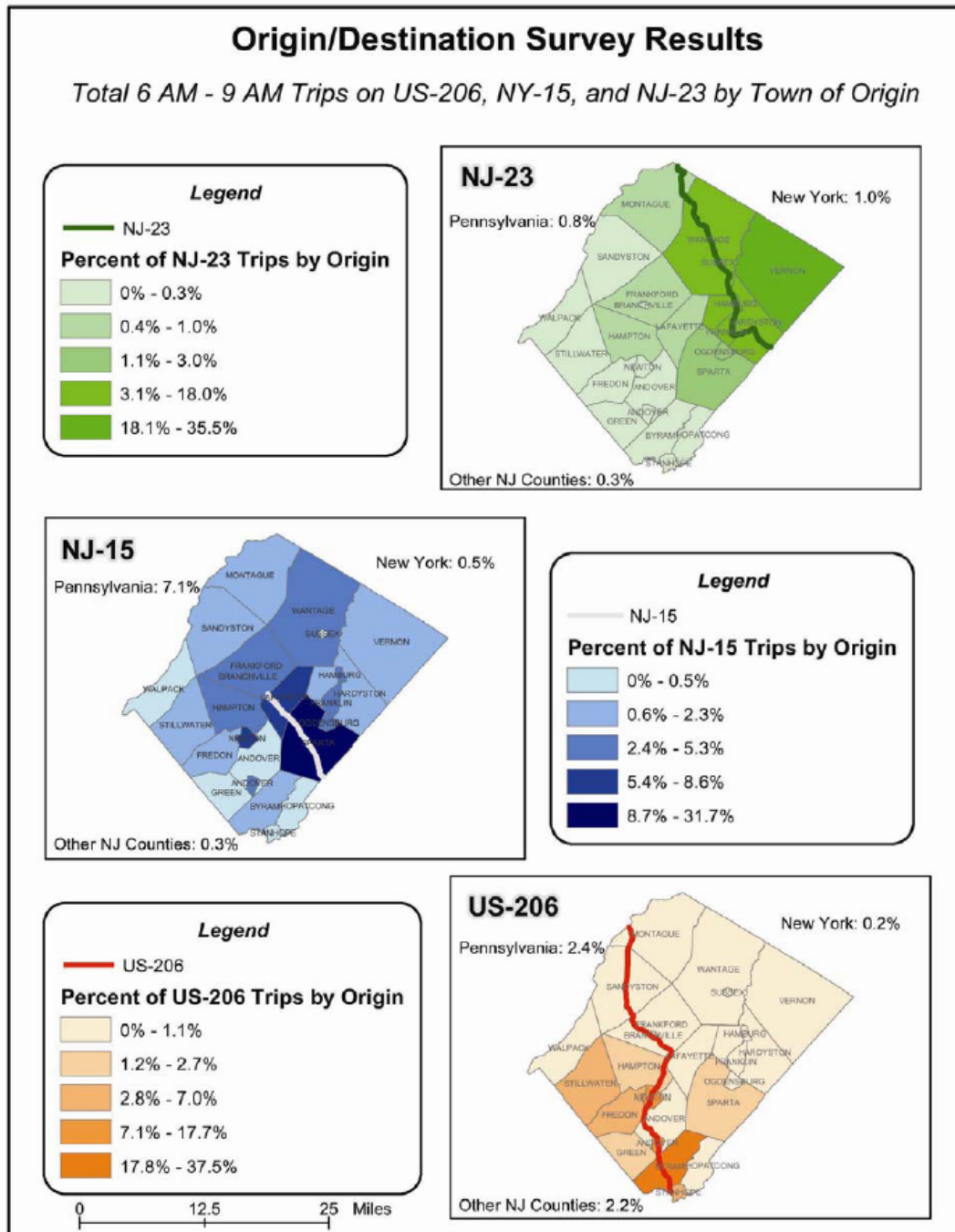
Respondents were asked their trip purpose on the day of the survey and were given several choices of which they could check one.

- 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.

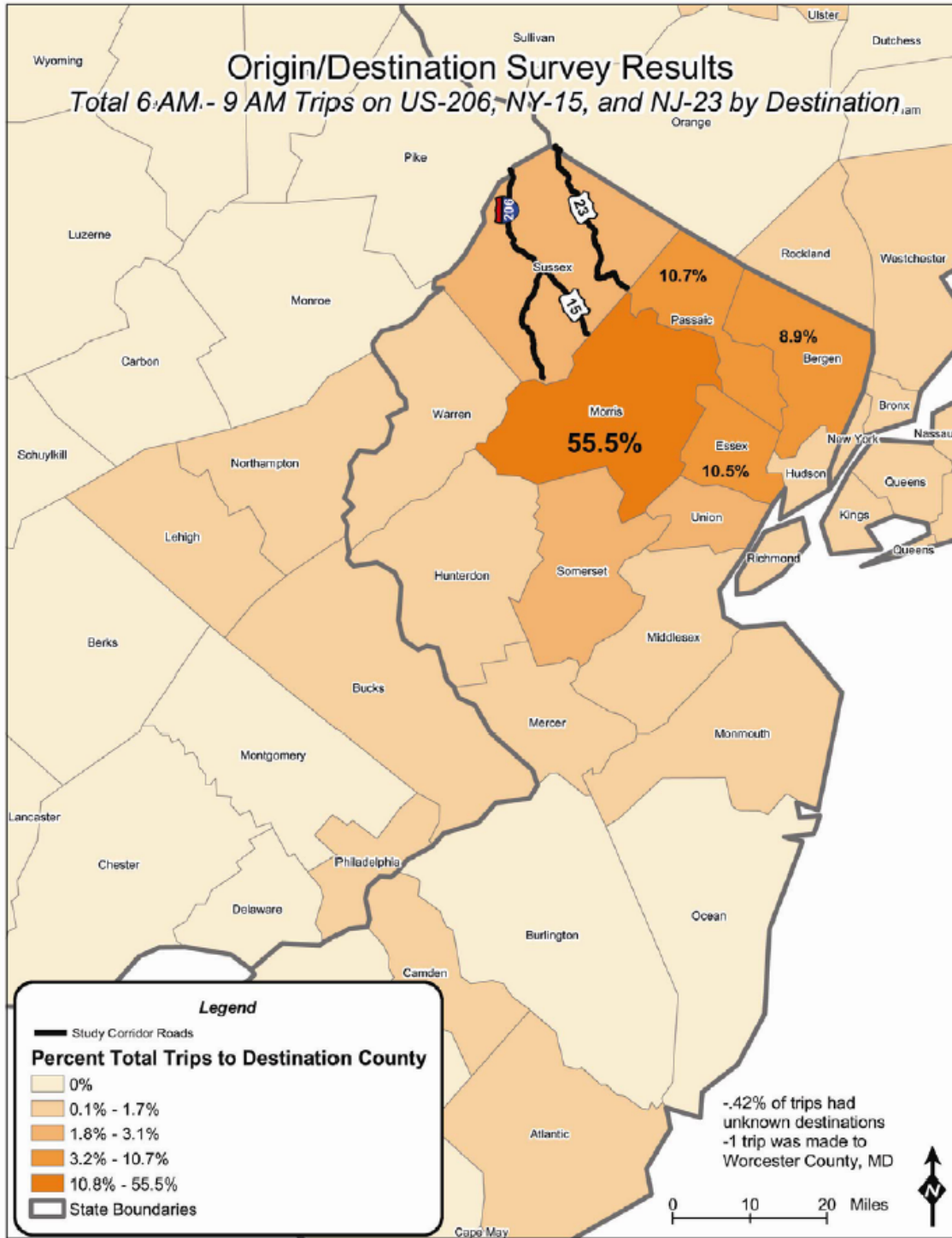
Figure 45: Origin/Destination Survey Distribution of Trip Destinations

Destination	Distribution of Trip Destinations							
	US-206		NJ-15		NJ-23		All Routes	
	Trips	%	Trips	%	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

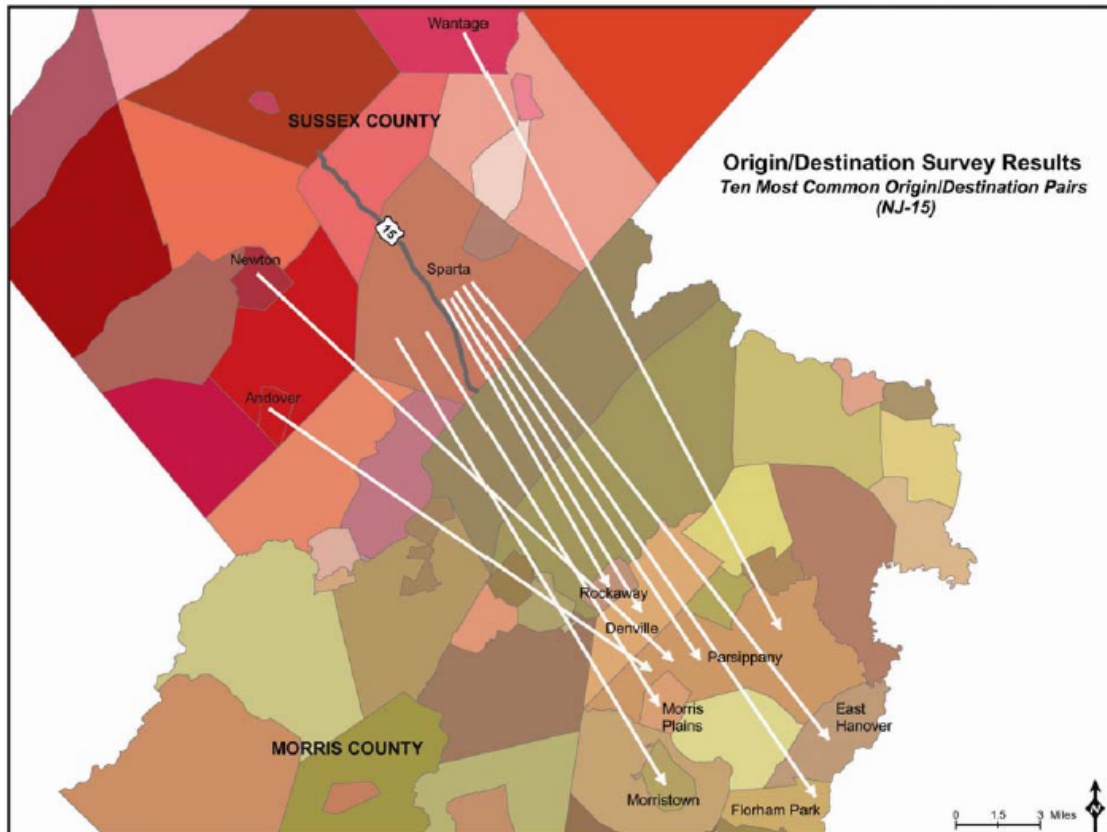


Figure 50: Ten Most Common Origin/Destination Municipality Pairs for NJ-23 Trips

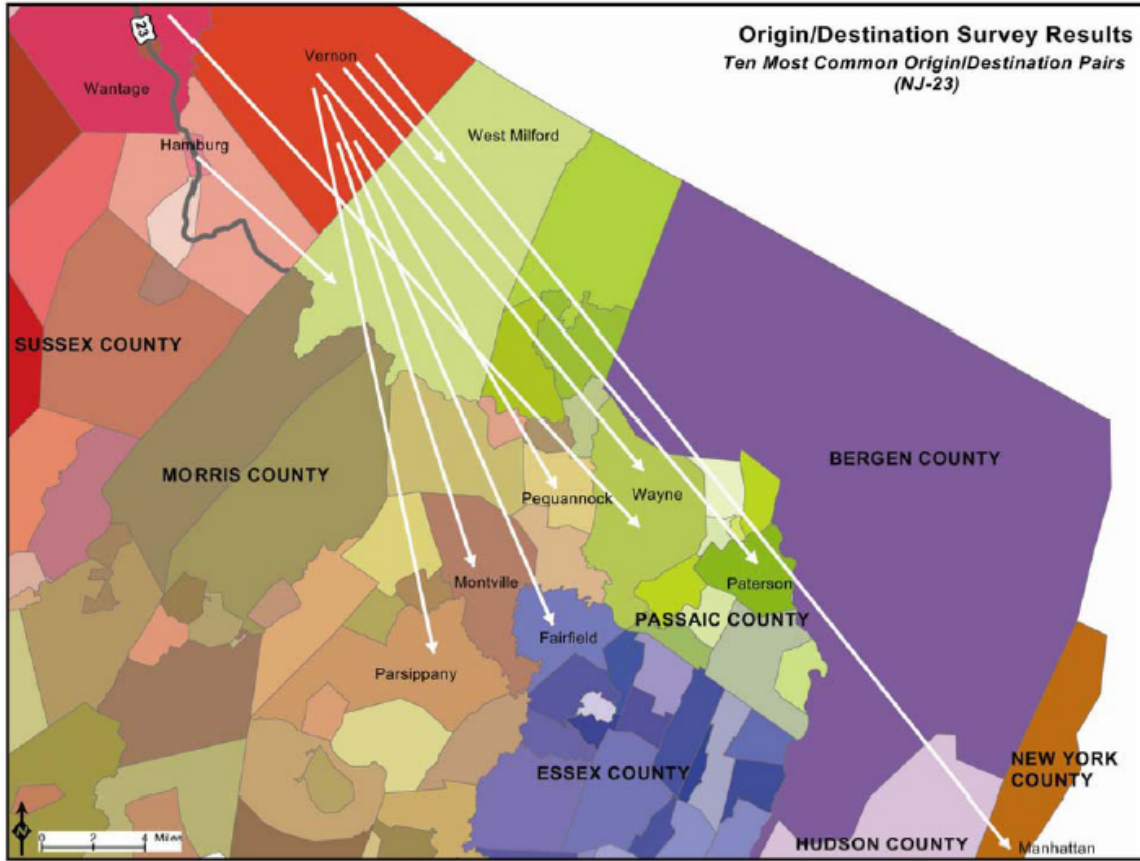
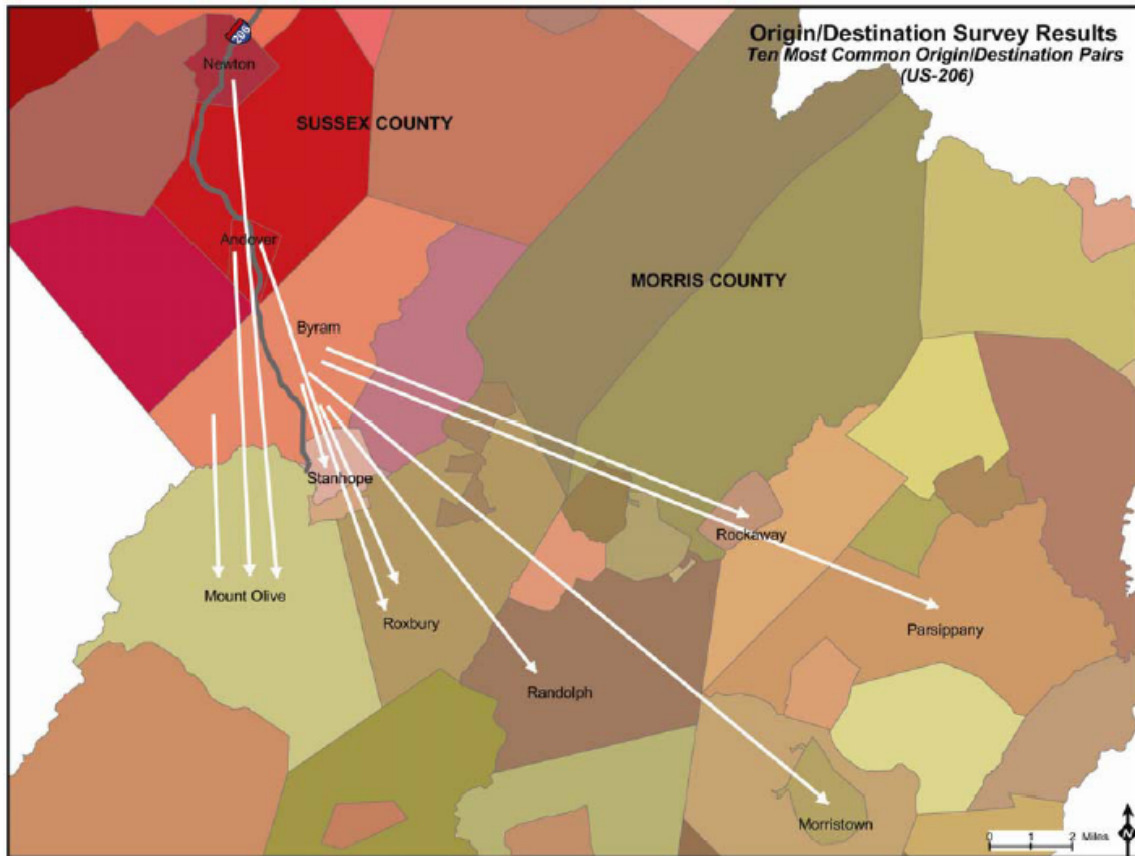


Figure 51: Ten Most Common Origin/Destination Municipality Pairs for US-206 Trips



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. So-

cial 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.

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.

EXHIBIT 14
TRAFFIC COUNT DATA

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 (Work-place)	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.

Lackawanna Cut-off Passenger Rail Project

As a result of this situation, 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. 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. A brief overview of the NYS&W project follows.

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 enthusi-

astic 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 ride-sharing 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 15)

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 15

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 10), 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 Lenni 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

Wheatsworth 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 Cochection 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.

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.

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 cap-

sule 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.

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 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 farmstand 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 lo-

cal 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 Wallkill 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 responsi-

bility. 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 long-tail 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 Paulinskil 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 viewsheds 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 of-

fering 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 avail-

able 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

APPENDIX B

MUNICIPAL CENTER DESCRIPTIONS

This appendix is provided to allow the reader an insight into the information, concerns and objectives of the individual municipalities in their applications for designation by the State Planning Commission (SPC) as a Center. A substantial amount of work and time from the petitioning municipality went into each of the designation petitions in order to properly frame the issues and secure approval from the SPC. In all, there have been eleven centers designated with the original Newton Regional Center expanded to include the Hampton South Center. The eleven are:

- Newton Regional Center
- Andover Borough Town Center
- Hopatcong Town Center
- Stanhope Town Center
- Layton Village Center (Sandyston)
- Hainesville Village Center(Sandyston)
- Montague Village Center
- Sparta Town Center
- Vernon Town Center
- Byram Town Center
- Branchville Village Center

These Centers, beginning with the Newton Regional Center, are a major step in the effort to rework the patterns of development in Sussex County. Each of these petitions was initiated by and carried through to successful designation by the individual municipality. The data which follow are taken from the petitions submitted. Following the successful applications, three remaining applications Hardyston-Franklin-Hamburg-Ogdensburg, Frankford, and Andover Township remain under consideration by the Office of Smart Growth. Centers which did not receive approval that remain important elements of the County development future are the Tri-State center in Montague and the Greendell Village Center in Green. Wantage Township, in its' master plan, lays out a comprehensive center based land use pattern. All of these last centers will be pursued through the Plan Endorsement process.

NEWTON REGIONAL CENTER

Basis for Designation

This petition to designate Newton as a Regional Center and to expand that designation to the Newton/Hampton Regional Center in the New Jersey State Development and Redevelopment Plan was prepared by the Town of Newton and the Township of Hampton and endorsed by the County of Sussex. The public policy interest is to promote beneficial economic growth, development and redevelopment; to provide adequate public services and adequate housing at a reasonable cost; to preserve and enhance historic and recreational lands; and to gain priority for funding and other programs associated with implementation of the New Jersey State Development and Redevelopment Plan.

The Town of Newton, historically a regional center, was designated as such by the State Planning Commission and was the first in Sussex County. By itself it is approximately 3 ¼ square miles in area. The Town of Newton serves the region as the County Seat and has within its boundaries the County college and a full-service hospital. In addition to the abovementioned facilities, it also has an excellent school system, public libraries, municipal parks, a post office and a vibrant downtown commercial district, as well as professional services, including a large number of attorneys and physicians due to the proximity of the Court House and the hospital. There are also several small industrial areas located within the Town.

The Hampton/Newton center is a major center for activity in the region. The Town and Township have planned prudently and look forward to an increasing role as the hub of the region. With water and sewer available at affordable rates and with the County Offices, Court system and College located within the Center, it is the perfect location to concentrate growth.

The Town of Newton was settled in 1751, due to its proximity to the early cross-roads of the time. It became the County Seat in 1761 and was officially incorporated in 1864. In the late nineteenth century, the Town of Newton built a waste water treatment plant and installed a water system throughout the Town. Ninety-five percent of the Town now receives Town water and sewer.

Population and Employment

With the expansion of Newton's sewer plant and water system, growth in population and employment is expected through the year 2025. The 1990 U.S. Census indicates that the Town of Newton had a population of 7,521. The Newton Master Plan and 208 Water Quality Plan estimate that the population at build-out will be between 11,500 and 12,500, with the Town expecting build-out to occur by 2010. Given the pace of events, this milestone will not be reached until the 2020's. This would represent an increase in Newton's population of between 53% and 66 % over 20 years.

Growth Management Mechanisms

The regional center designation has a community development boundary based on the existing Newton municipal boundary lines augmented by the Hampton South general boundary. Newton realizes that any development which occurs must be coordinated with the adjacent municipalities and the other centers in the region. The Town also realizes that open discussion and communication are of the utmost importance to ensure that the goals and policies of the State plan are met.

ANDOVER BOROUGH TOWN CENTER

Andover Borough petitioned the State for center designation to establish State Plan recognition of the unique character of area. The Borough was originally established as the location of a pre- Revolutionary War iron forge; then became an agricultural service center with a grist mill. Currently is a small sub-regional shopping and antique goods center with a balance of residential development.

Andover Borough is located on a heavily traveled, two lane major state arterial, U.S. Route 206 which, running north to south, bisects the Borough. County Routes 517 and 613 intersect Route 206 in the Borough from the east and northeast. Secondary County Routes 606 and 613 intersect Route 206 and runs northeast/southwest.

Commercial and service activities are primarily located along Route 206 (Main Street), as is typical of a small municipality. The development is generally service oriented with restaurants, fuel stations, antique shops and general offices.

There is scattered commercial development along Route 206 north of the Route 517 intersection. The more densely developed residential area is located on several streets in a gridiron pattern one block west of Route 206 and mostly north of Route 517. Other residences are scattered along Route 206, and Routes 517 and 606.

Physically, Andover Borough is 1.3 square miles in size. Topographically, the land is moderately rolling east of US 206, rising sharply to the west. Much of this land, both developed and vacant, is located on slopes of between 15 percent and 25 percent.

Ninety-one percent of the housing units are served by a public water system. There is no public sewer system.

Andover Borough is identified in the SDRP as a Designated Town located primarily in the Environmentally Sensitive Planning Area (PA5), with extensive areas of Rural Environmentally Sensitive Planning Area (PA4B) interspersed, and a small portion designated Rural Planning Area (PA4). The PA5 and PA4B designations most likely arise from areas of steep slope and wetlands found in part of the Borough. Much of the area so designated is already developed.

Housing: The current housing stock reflects the Borough's historic development, particularly from the mid nineteenth century as a farm service community and railroad center through small manufacturing to a small commercial area serving suburban communities which surround the Borough and its specialized function in antiques and collectibles.

Public Facilities and Services

Designation of the Andover Town Center has given the Borough State Planning Commission recognition of the Borough's infrastructure needs including the need for public sewer service, particularly in the core area of the Borough, and for upgrading and expansion of the public

water system. A Planned Unit Development (PUD) adjacent to the historic core has received General Development Plan (GDP) approval. This GDP approval requires provision of the needed public sewer service and the upgrading of the water system. This will ultimately raise the quality of the ground water in much of the Borough.

Much of the existing active farm land is developable. Vacant lands west of Route 206, other than farm lands, are either developable lands, prime farm lands or lands with moderate constraints. Wetlands exist adjacent to the developable core of the Borough. Vacant lands east of Route 206 are mostly lands with considerable development constraints - wetlands or land with slopes of 25% or greater. Much of the developable land west of 206 is included as part of the previously mentioned P.U.D. proposal. Other than the P.U.D., there are no other development proposals for Andover Borough currently active.

Existing Land Use

<u>Land Use</u>	<u>Acreage</u>
Single Family Residential	105.2
Multi-family Residential	2.9
Commercial	42.1
Public	67.6
Institutional	6.4
Farm	260.6
Soil Removal	20.4
Industrial	1.7
Vacant	345.0
TOTAL	851.9

Other than one small residential subdivision, no further development has been considered. The P.U.D., located adjacent to the historic core of the Borough, will have significant impact on the community, more than doubling its population by 2030. However, the facilities and amenities the development will provide - public sewer system, upgraded water system, additional recreation and open space, positive fiscal contribution to the tax base, and an enlarged customer base for the retail and service businesses in the Borough, overshadow the physical, social and cultural impact the development will generate. An important element of that impact will be the conversion of land, now in agricultural use, to residential, commercial, industrial and open space/recreational use.

The Borough requires that any new development be integrated with the existing community in order that the existing community retains its function as a viable business and residential center and that the new development adds to rather than diminishes that viability. Since the development proposal is in its early stages, its orientation may still be directed so that the new development complements the existing community.

The existing commercial development along Route 206 and Route 517 east needs revitalization, particularly the upgrading and rehabilitation of building facades, provision of additional parking and upgrading of existing parking facilities, and the completion of the pedestrian circulation system to better tie together the commercial facilities.

BRANCHVILLE VILLAGE CENTER

Branchville Borough, surrounded by Frankford Township, is a traditional historic village. The village is fairly intact and contains a mixture of uses including residential and commercial properties. Branchville enjoys a favorable tax rate since it happens to be home of Selective Insurance, a major employer in Sussex County.

Wastewater treatment in the Borough is currently provided entirely by septic systems, however the density of existing homes on small lots creates potential health concerns. A portion of the Branchville center extends into Frankford Township for the purposes of abandoning nearby existing substandard septic systems that now service an elementary school, and two nursing homes. The new wastewater treatment plant and groundwater discharge location will be located within the designated center where it extends into Frankford Township. This action will improve water quality from the current conditions. For Branchville, it is critical that it have access to DEP resources for a wastewater treatment plant to address health/water quality issues facing the borough. The proposal is generally consistent with the goals and policies of the State Development and Redevelopment Plan (SDRP), satisfying the SDRP's criteria for an existing Village Center as shown in the chart below:

	Village Center Guidelines	2000	2020	#Δ	%Δ
Branchville Village Center					
Area (Sq. Miles)	< 1	0.6	0.6	--	--
Population	< 4,500	851	1050	199	19
Gross Pop. Density (pop./sq mile)	>5,000	1,418	1750	332	19
Housing	100 to 2,000	370	415	45	11
Gross Housing Density (DU/Acre)	>3	1.24	1.45	--	--
Employment	50 to 1,000	1,824	2,424	600	25
Jobs: Dwelling Unit Ratio	.5:1 to 2:1	4.9:1	5.8:1	--	--

HOPATCONG TOWN CENTER

The Town Center designation granted by the State Planning Commission will establish State Plan recognition of the unique character of the area which was originally established as the location of an iron furnace; then as a resort community adjacent to a large lake, Lake Hopatcong and has since evolved into year round residential status.

Hopatcong Borough, first called Brooklyn Borough, was formed from part of Byram Township in 1898. An additional portion was annexed in 1922. Permanent population grew from 1,173 in 1950 to 15,586 in 1990.

The Borough is 10.9 square miles in size, lies entirely within the Highlands and consists of land which rises steeply towards the west from the lake front. A good deal of the existing development has taken place on this steeply sloped lake front land, most of which depends on local streets which do not meet current standards.

In addition, much of the development took place at a time when it was common place to allow for both table water wells and waste water disposal on small lots. Approximately 30 percent of the housing units are served by public water systems; the balance are served by on-site facilities.

Hopatcong Borough is identified on the SDRP as a Designated Town (DT) located mostly in an Environmentally Sensitive Planning Area (PA5) with some of the area in a Rural Planning Area (PA4). The most significant natural and economic feature of the Borough of Hopatcong is its location on Lake Hopatcong, a significant State Park. Much of the area designated PA5 is already developed.

The Town Center designation will reinforce and invigorate the commercial nodes in the Borough, nearly all of which fall within the proposed Town Center. It will also enhance the Borough's current policy of emphasizing low density development for most of the area outside the Town Center, while in some cases, requiring the provision of centralized water and sewer facilities for higher density development.

The Borough discourages development on sensitive lands, flood plains, and steep slopes through a substantial decrease in density for developments proposed on such land.

Lake Hopatcong is considered a prime statewide recreation facility. The designated Town Center includes most of the Lake Hopatcong water front in the Borough. Construction of the waste collection system will directly upgrade the water quality of the lake.

Hopatcong Borough had a 1990 Census population of 15,586. This increased to 15,888 in 2000. Current expectations are significantly affected by the anticipated Highlands Master Plan to be developed by mid-2006.

Population growth in Hopatcong dramatically slowed between 1980 and 2000. There was an increase of 55 persons, compared to an increase of 6,479 persons between 1970 and 1980.

In the period between 1980 and 2000 90 additional housing units were counted in Hopatcong as part of the census. Housing stock increased by less than one percent between 1990 and 2000.

Developable Land

There is substantial acreage of residentially zoned land, particularly 'in the lightly developed western and northwestern portions of the Borough. Much of this land is remote and without road access.

The land itself is steeply sloped, making it difficult for construction. Much of the land is zoned for low density development because of its environmental sensitivity and the lack of access and public water and sewer. In recognition of the undesirable effects of potential development in these areas, the Borough has for many years been actively acquiring parcels of land in environmentally sensitive areas in order to remove them from consideration for development and create a green belt for overall open space and recreation plan.

There are vacant parcels in the area already substantially developed, but they are either scattered individual lots or in small groups on steep slopes. They generally lack public water and all are served by on site septic systems. If they can be served by public water and sewer they may offer an opportunity for infill. Public water and sewer service, if expanded beyond the current sewer service area, may also open up a larger tract in the western section of the Borough, zoned for townhouse development, and would offer an incentive for new commercial activity.

Resource Inventories and Capacities

Water and Sewer - At the present time Hopatcong Borough in the process of constructing a municipal sewage collection system connected to the regional treatment facility of the Musconetcong Sewerage Authority. Where connections have not been made, all sewage disposal is provided by septic systems or cesspools. The Borough's allocation of 1.3 million gallons per day from the Musconetcong Sewer Authority will allow it to serve between 4,800 and 6,000 residential units. This does not take into consideration the non- residential users who also need service.

Center Design Guidelines

Hopatcong Borough developed as a resort area which later became a year round residential community. Its historical development pattern resulted in a proliferation of small residential lots and scattered small business districts whose original function was to serve the resort community and now provides only limited service to the full time residential population. As a example, there is no supermarket located in Hopatcong; residents have to travel to adjacent communities to obtain the variety of goods and services such a facility provides.

Nine of the twelve areas zoned for Business are located in the Town Center; the remaining three, all of which are small in size, are outside the Town Center.

The Borough is in the process of reviewing revitalization opportunities in order to better tie together these scattered business zones in and outside the Town Center.

The Historical development pattern also led to street widths and geometry for much of the Town Center which once supported seasonal traffic and are now well below minimal standards for current usage.

There are scattered vacant residential parcels throughout most of the Town Center area, most of which are nonconforming in size according to present zoning regulations. Zoning regulations should be reviewed with the object of making these parcels more easily developable provided that off-site water and sewer facilities are installed. This infill development should accommodate the modest expansion of population and residential construction projected for the Borough and its Town Center by 2020. Infill development should result in housing at a more reasonable cost than that on the larger lots required in all residential zones in the Borough.

Infill development would also tend to reduce the pressure for major residential subdivision activity in more open areas of the Borough. The expected sewer system and expansion of the water system should be predicated on the policy of first serving the existing needs -that of the high density, small lot residential neighborhoods located in the Town Center, and of its business areas. Provision and extension of sewer and water systems in any area of the Borough will serve as a major element in a Growth Management program. The Highlands regulations will most likely eliminate significant facility expansion outside the Town Center boundary

Existing environmental conditions, particularly the prevalence of steep slopes through much of the undeveloped or sparsely developed portions of the Borough, discourage new residential development. At present, the zoning ordinance requires that new development on steep slopes consist of larger lots with a minimum area of buildable land in order to obtain development approval. These requirements should be reviewed in light of the Highlands initiative to see if they are stringent enough to protect adjacent land holdings from the consequences of such development.

Limiting the provision of sewage service to the Town Center, as well as the expansion of water service are and will be the strongest tool in directing new growth to the Town Center and discouraging new growth in the balance of the Borough.

Except for one area, all of the unconstrained land is located in areas outside the Town Center, and are substantially undeveloped. They total approximately 114 acres and with the present 5 acre minimum lot zoning in those areas, could support 23 new housing units.

There is substantial undeveloped land on slopes between 15% and 25%, both within and outside the Town Center. Much of such land within the developed portion of the Borough consists of small parcels generally smaller than 10 acres, interspersed within the developed portions. Outside the Town Center such lands are mostly in large parcels. Most of this land is zoned for 5

acre lots. There is a question as to whether such lands could be fully developed, even at the density permitted by 5 acre zoning. Much of this land has additional constraints such as bedrock close to or at the surface providing inadequate soil area to meet the requirements needed for a septic system, or areas not suitable for a table w water well. This is reflected in the distribution of the anticipated modest population increase of 1,714 from 2000 to 2020, with almost 74% of the increase (1,267) slated for the Town Center.

Following the designation of the initial three centers in the County, numerous municipalities, Stanhope Borough, Andover Township, Byram, Hampton, Hamburg, Hardyston, Franklin, Ogdensburg, Sparta, Vernon, Sandyston and Montague, aggressively pursuing the promised incentives attached to center designation, submitted requests of their own. These requests languished for many years, action being taken on those of Stanhope in 2002 and Montague, Sandyston, Sparta and Vernon in mid to late 2003. Regrettably and inexplicably, notwithstanding the compliance of these municipalities and the State Planning Commission with the procedures and objectives of the SDRP, expenditure of substantial sums of money and hour upon hour of volunteer time, the Sierra Club has challenged these latter designations as inappropriate. These, outlined below, are wholly consistent with the Smart Growth principals upon which the SDRP is founded and are consistent with the vision and objectives of the citizens of Sussex County.

STANHOPE BOROUGH

Stanhope's history is rooted in the production of iron. Over the years, the iron complex in Stanhope evolved to include a variety of other industries and businesses that were necessary to accommodate the growing community.

Another all-important ingredient to an iron company town was tenant housing, homes for the furnace laborers. Stanhope has dozens of these dwellings, which remain to illustrate the evolution of housing from the early double family tenant housing of about 1820 to the multiple family dwellings of about the 1880's.

The Stanhope Center, located in proposed Planning Area 2, has historically been the center that serves the civic, economic and social needs of the residents of the Borough. This 1.87 square mile (1.3 square miles excluding water bodies) town has a compact core with a traditional Main Street and state highway with retail, commercial, office and residential uses, as well as several neighborhoods offering a range of housing types.

The easterly border of the center is bounded by a physical and planning barrier, the Erie Lackawanna Cut-off. This feature separates population density, community activities and defines the boundaries of the environmentally critical land to the east. This is the location of the recently-expanded New Jersey Transit lot.

The southerly and westerly boundaries are the state open waters of Lake Musconetcong and tributaries along the common borders with the Township of Roxbury, Borough of Netcong, Township of Mt. Olive and the Township of Byram.

The Stanhope Town Center Core is a traditional downtown with a mix of retail, office, and residential uses along with a variety of religious institutions.

Stanhope is a central place which owes much of its compact, traditional form to the period during which it originally developed its iron works, access to rail at Netcong station, highway system, downtown area, and its confined municipal boundary with Sussex County. It serves as the focal point for many activities including employment, recreation, entertainment and commerce. The municipal government offices and a variety of residential uses are located in the town's core.

There are numerous residential neighborhoods extending outward from the core which offer a variety of housing types and choice for individuals and families of a wide range of incomes, ages and life cycles, including group housing, all within a minute of Main Street.

Stanhope's neighborhoods also contain a variety of parks and recreational amenities easily accessible to neighborhood residents.

Stanhope is almost entirely serviced by a municipally-held water utility, the Stanhope Wager Department, which owns and maintains the water distribution system, The Department

has indicated that there is little constraint on the Borough in terms of water supply. An additional tank for improved fire flow is currently being investigated.

The Musconetcong Sewage Authority (MSA) treats the sewage from Stanhope. The Authority has recently undergone an expansion of its treatment facilities and states that there would be no difficulty providing additional capacity. The sewage collection system is maintained by the Borough.

The Lake Musconetcong Regional Planning Board has developed multiple initiatives to reclaim Lake Musconetcong. As part of the Lake Musconetcong Watershed Initiative, the Stanhope beach has been dredged. An extensive weed harvesting program is also in progress.

The Borough of Stanhope has recognized and delineated its center with a focus on historic preservation, combined with a traditional land use mix.

The most important recreation features lie in close proximity to the Musconetcong River and Lake Musconetcong.

With the recognition that the mean depth of Lake Musconetcong is only 4.8 feet, the issues of Biological and Chemical Oxygen Demand (BCOD), pollutant loading and eutrophication are under study. In particular, portions of the Musconetcong River are proposed for designation as Wild and Scenic.

Resource Inventory and Capacity Analysis Natural and Cultural Resource Inventory

Extensive steep slopes and the presence of wetlands inhibit full-scale build-out. Due to the significant presence of these characteristics, Stanhope is considered to be almost fully developed. New growth can be accommodated in the form of redevelopment, adaptive reuse and in-fill.

The Borough is also interested in further exploring opportunities of enhancing the Center Core area as a new multi-modal transportation opportunity. In order to explore and implement the Center Core's function for multi-modal transportation, the Borough is hoping for cooperation, assistance and funding from other agencies to develop a network for bicycle and pedestrian movement.

LAYTON & HAINESVILLE VILLAGE CENTERS, SANDYSTON TOWNSHIP

The Township of Sandyston made application to the State Planning Commission for designation of five existing centers in Sandyston Township, three Existing Villages and two Hamlets. Of the five, Layton and Hainsville were designated.

Two of the three existing villages were among the first colonial settlements and villages in Sussex County in the 17th and 18th centuries; Hainesville (named after Governor Haines), and Layton, formerly Centerville. The hamlet of Peters Valley is also an early settlement with a large number of buildings listed on the National Register of Historical Places. The oldest home in Sandyston and Sussex County is the Westbrook-Bell house, built in 1725, in the hamlet of Peters Valley. There are two historic districts in Sandyston listed on State and National Historic Registers. One is Peters Valley and the other is the Old Mine Road Historic District.

Sandyston is a rural township with two-thirds of the land in federal and state ownership. Part of the Delaware Water Gap National Recreation Area, and part of Stokes State Forest and the New Jersey Division of Fish and Game lands lie within the Township. These comprise a total of nearly 18,000 acres of the Kittatinny Mountain range and the Delaware River Valley. These public lands surround and confine the remaining privately owned third of the Township, about 9,000 acres.

Sandyston Township made its petition in order to preserve the serenity and rural character of the Sandyston landscape and of its villages and hamlets. These settlements provide good access and services to visitors to the national and state lands, and are the appropriate vehicle to assure and secure the orderly growth of infrastructure in the privately owned portion of the Township.

The following are short descriptions of the existing settlements and three proposed centers

1. LAYTON

The Village of Layton, in south central Sandyston, was initially called Centerville. It was originally settled in 1800 by John Layton from whom it later derived its name. Layton had a blacksmith shop, a carpenter shop, and a tavern by the 1820's. These were followed by a store, a hotel, a wheelwright shop, a shoe shop, a cabinet shop, a saw mill. It had a post office by the mid-19th century. The 1990 population was estimated at 222; its land area is 275 acres.

2. HAINESVILLE

The Village of Hainesville, founded before the Revolutionary War, is located in the northern portion of Sandyston on the Little Flatbrook, about two miles north of Layton on what used to be the stage coach road from Port Jervis to New York. In 1824, it had a hotel and was made a post-village, where mail was brought twice a week. By 1880, Hainesville had two blacksmith shops, a wheelwright shop, two stores, a grist mill, a hotel, a post office, a church, and a school building. Hainesville also had a physician. The 1990 population was estimated at 205; its land area is 286 acres.

Sandyston Township has no public water or sewerage disposal system, nor does it have any large scale residential developments. The Sandyston Township population has historically located either on the farms, or in the villages and hamlets which developed, in colonial times and the early nineteenth century, at crossroads.

In conformity with the State Plan objectives and classifications, only modest future residential growth is planned in the above referenced Villages. Commercial growth is envisioned to be in commercial centers on Route 206 in Hainesville, Tuttle’s Corner and Kittatinny Lake.

In 1990, the Sandyston Township population was estimated as follows:

Layton	222
Hainesville	205
Kittatinny Lake	342
Tuttle’s Corner	78
Peters Valley	27
Balance of Sandyston	<u>885</u>
 Total 1990 Population	 1,732

The most extensive natural resource of Sandyston Township is its permanent open space, as indicated below.

PUBLIC OPEN SPACE

	<u>Acres</u>	<u>Percent of Total</u>
Delaware Water Gap National Recreation Area	6,101.0	22.6%
Stokes State Forest	9,142.7	33.9%
N.J. Division of Fish & Game	2,575.1	9.6%
Boy Scouts of America (Green Acres)	487.5	1.8%

PRIVATE OPEN SPACE

	<u>Acres</u>	<u>Percent of Total</u>
Benedictine Abbey of Newark	64.3	0.2%
YMCA, Nature Conservancy, & Golf Course	915.3	3.4%
 <u>TOTAL 1993 OPEN SPACES:</u>	 19,285.9	 71.6%

There are also 3,232 acres or 12% of the municipal area in farming, orchards, and woodlands, and another 1,663 acres in residential uses including lakes, accounting for 6.2% of the total area.

Employment in Sandyston was estimated at 90 in 1990. This estimate was prepared by the Sussex County Planning Department.

Planning and zoning deliberately discourage strip commercial developments along Route 206, instead planning for a commercial center with controlled access in the vicinity of Tuttle's Corner and for commercial infill in Hainesville and Kittatinny Lake. This follows planning principles established in the State Plan.

In Sandyston, overall population density is low, at about 41 persons per square mile.

Traffic circulation could be greatly enhanced by reconstructing an abandoned bridge on Route 613, so that traffic from Route 206 going to Peters Valley could avoid going into Layton.

Growth in Centers

The historic structures of Hainesville, Layton, Peters Valley, and even Kittatinny Lake have changed little, although the configuration and surface conditions of the roads serving these communities have been substantially modified. Only gradual growth is envisioned for the villages of Hainesville, Layton, and Kittatinny Lake and the Tuttle's Corner hamlet by 2020. Of particular importance is the Business Incubator Proposal for the Township. This initiative, to be located in a center, will provide needed connections between the natural resources oriented businesses in the area and services to augment them. No additional population is expected in Peters Valley, primarily due to its special circumstance as part of the National Recreation Area.

Sussex County Route 615 off the County Road by the Sussex County Garage towards Peters Valley needs a bridge. The multitudes of visitors, and vacationers headed southwest frequently inundate Layton with heavy traffic because of the absence of this small bridge. The effect of large traffic volumes on the serenity of the carefully preserved historic areas and rural homesteads is a substantial, adverse impact on the Villages.

MONTAGUE TOWN CENTER

Montague Township is located at the northwest corner of New Jersey, at the point where New Jersey intersects with the northeast border of Pennsylvania and the southern border of New York State. Montague's western boundary is the Delaware River, its border with Pennsylvania.

The Delaware River changes its course to northwest close to where the three states come together. The proposed Tri-State Village Center is in this area. Adjacent to the center, just over the New York State border, is an interchange of I-84, a southwest to northeast limited access freeway connecting Scranton, PA with Hartford, CT and thence north to the Massachusetts Turnpike. Interstate 84 intersects with a full array of other freeways and toll roads which serve New England and the Middle Atlantic States. These, of course, connect with the Interstate system serving the rest of the country.

In the immediate area of the I-84 interchange are the following communities in New York and Pennsylvania

Port Jervis, NY, (2000 population, 8,860), an older small industrial and commercial center;

Deer Park Town, NY, (2000 population, 7,858), a suburbanizing community adjacent to and surrounding Port Jervis;

Matamoras Borough, PA, (2000 population, 2,312), an older small commercial center opposite Port Jervis;

Westfall Township, PA, (2000 population, 2,430), a suburbanizing community surrounding Matamoras with a commercial strip developing near the I-84 interchange on the Pennsylvania side.

In Montague, the Route 23 corridor, from its Clove Road intersection to the New York State border, is substantially developed with businesses. Many of these are related to fast food and highway services.

Though interstate political boundaries impose difficulties regarding cooperation in this urban and urbanizing area should be encouraged. The activation of passenger rail service from Port Jervis to Secaucus and Manhattan has changed the historical development dynamic, specifically in the Port Jervis, Montague, Milford area. This area can develop in planned fashion or haphazardly in the absence of regional planning coordination. Designation of the Tri-State Village Center would begin the process of constructing a framework for considering the development in the tri-state region and, in so doing, aid in fostering economic, social and environmental cooperation within this area. The fact that three states, three counties and at least five municipalities are involved should not prevent an attempt to create a regional approach regarding mutual development of business and employment opportunities.

With Montague Town Center, the designation will encourage the development of a residential, business, cultural and local government center for the Township of Montague. The nucleus is already in place with the location of the municipal facilities, a small shopping center, higher density housing, and recreation facilities within the Center boundaries.

1. The Montague Town Center comprises 2.625 square miles and had a population of 1,688 in 2000. The twenty-year projection is 2,330. Job development is also expected to be slow increasing from 278 in 2000 to 500 by the year 2020.

2. The Tri-State Village Center, due to the requirements for additional study and its greater complexity is identified in this plan for purposes of consistency with the regional development philosophy. It is relatively small, consisting of 1.14 square miles, a population of 175 and 378 jobs. It is projected to increase to 188 persons, and 785 jobs by the year 2030.

Overall municipal build out, under current zoning is outlined in the Build out tables that follow.

SPARTA CENTER & NODES

Sparta Township Land Use Plan:

Sparta Township is a rural community of forty square miles centered on the State Designated Sparta Town Center. The existing development nodes at Woodruffs Gap, Blue Heron and Monroe are historic crossroads providing opportunities for specific planned smart growth opportunities to meet the goal of a balanced land use plan and economic plan. The “Environs” area outside of the center and the identified nodes is characterized by steep and rolling hills, valleys and spectacular lakes interspersed with single-family homes. The Master Plan and Ordinances promote the conservation of the rural character and the environmentally sensitive lands through innovative planning and zoning techniques such as residential open space clustering and land acquisition.

Sparta Town Center:

The State Planning Commission designated the Sparta Town Center on July 16, 2003 as a “Community of Place”. The Sparta Town Center is located at the geographic center of the township at the crossroads of Route 181 and Main Street, Route 181 and County Route 517 and adjacent to the Route 15 highway interchange. The Town Center Plan provides opportunities for smart growth through redevelopment of the historic commercial area. A planned mixed use development on adjacent lands will meet the service, fiscal and housing needs of the Township, while preserving and protecting the historic rural character and natural resources of the area. Public sewer and water serve the Town Center, which permits a unified compact development pattern consistent with the State Plan.

Woodruff’s Gap Node:

Woodruff’s Gap is an existing “Node” identified in the State Plan along Route 15 consisting of approximately 350 acres. The office and light industrial development pattern was established many years ago influenced by the railroad and Route 15. The existing development includes the Sparta Business Campus, Commerce Park and White Lake Commercial Park. The developed properties range from 2 to 5 acres served by public water. The Woodruff’s Gap Node establishes opportunities for planned office and light industrial growth in a campus setting providing employment and service uses for the region. The Land Development Ordinances prohibit uses that utilize hazardous materials to protect the Germany Flats aquifer.

Blue Heron Node:

Blue Heron is an existing development “Node” at the Route 15 highway interchange at Route 181. The existing land uses include a NJDOT park and ride facility, a 14,000 square foot

office building and an approved active adult community consisting of 160 units. The “Node” is served by public water and has state approval for onsite wastewater treatment with discharge to groundwater. The majority of the remaining land by the interchange has been purchased as open space, which preserves the environmentally sensitive land in Highlands.

Monroe Node:

The Monroe Node or hamlet is at the historic crossroads of Route 94, Old Prospect School Road and Hopkins Corner Road. The Monroe crossroads was originally developed in the late 1800’s as a small-scale hamlet with localized industries such as a creamery, feed store and a mill. Support uses were established including a hotel and a church. The Monroe area is zoned today to provide similar services to the new residents in this outlying area of the Township.

In addition to the centers described above, the Townships of Andover, Byram, Frankford, Hampton, Hardyston, and Green and the Boroughs of Franklin, Hamburg, and Ogdensburg, Branchville have also proposed centers. These, outlined below, further demonstrate the wide-spread commitment of local government to rational integrated planning.

VERNON TOWN CENTER

The Township of Vernon submitted a Center Designation petition to the State Planning Commission during the 1998 Cross Acceptance process. In 2004, the State Planning Commission approved the Vernon Town Center, as supported by the Township Master Plan, revised Land Development Subcode and Zoning Ordinances. These municipal documents and ongoing capital improvements reflect a strong center-based plan, and its implementation has begun. By retaining the natural beauty of the Environs, the Town Center will protect Vernon's most valuable asset and focus growth, tourism and economic development within the mixed-use center area that will have higher densities of development. Tourism has the potential to bring major economic benefits to the Town Center in Vernon, especially with Mountain Creek facilities and planned expansion of its resort village.

Vernon Township is also located within the Highlands physiographic region, and portions of the Township are within the Core Preservation area of the Highlands. This recent legislation will provide additional protection of the Environs area, while allowing development rights to be transferred into the Center. In this way, Vernon can maintain the characteristics of a rural and environmentally-sensitive area, which is also critical to water supplies, while accommodating economic growth. Acquisition of open space and farmland will also continue to preserve areas in the Environs.

The Center, to be focused on a new Main Street connecting NJ 94 and SC 515, will comprise 1.63 square miles and an eventual population at buildout of 4,593. The Township projects a total of 4,359 jobs and a jobs to housing ratio of 1:2.34.

BYRAM TOWNSHIP VILLAGE CENTER

In designing the size and shape of the Village Center, population projections to 2020 and growth trends were analyzed. According to the Center for Urban Policy Research (CUPR)) projections, Byram's 2000 population of 8,254 persons will increase by 2,855 persons to 11,109 by the year 2020. The Office of State Planning projects Byram's 2020 population to increase to 27,885 persons. Sussex County projects the 2010 population to grow to 8,698 persons, but has not projected the Township's population to 2020. The CUPR projection of 11,109 persons was used to determine the extent of growth that the Township should accommodate. Based upon this projection and the median household size in 2000 of 2.93, the Township should provide adequate room for growth of an additional 900 to 1,000 residential units.

As a general guide, the Village Center is (or is planned to be) primarily a mixed residential community with a compact Core of mixed-uses (for example, commercial, resource based industrial, office, cultural) offering employment, basic personal and shopping services and community activities for residents of the Village and its Environs;

It has a land area of less than one square mile. It has (or is planned for) a minimum gross population density of 5,000 people per square mile (excluding water bodies) and a minimum gross housing density of three dwelling units per acre. The existing and 2020 population should not exceed 4,500 people. It has reasonable proximity to an arterial highway.

Location

The Village Center boundaries encompass the land directly fronting onto Highway 206 and the land on the southern side of Lackawanna Drive to the Wild West City property. The redevelopment area of the Village Center would generally include the Highway Business B-1 properties from Acorn Street to just north of Lackawanna Drive and the portion of the existing B-2 district north of Lackawanna Drive where Shop-Rite is located.

Village Center Designation

The opportunity exists for the development of a mixed-residential community with a compact Core of mixed-uses offering employment, basic personal and shopping services and community activities for residents of the Village and its Environs. At roughly 165 acres, the Center would be only one-quarter of the maximum one-square-mile criteria. An arterial highway currently serves the area.

Village Centers are required to have a minimum gross population density of 5,000 people per square mile and a minimum gross housing density of three dwelling units per acre. The Village Center would therefore need a population of roughly 1,289 persons. Also, almost 500 housing units would be required.

With 60 acres to develop, this new residential development would be built at roughly 3 dwelling units per acre. One of the criteria for a Village center is that the 2020 population should not exceed 4,500 people. This criterion is also met. With all criteria being met, a Village Center proves a viable endeavor for the Township of Byram. The resources of the Township should be directed towards this designation. The Village Center at Lackawanna Drive will successfully serve the community's needs.

The Village Center Core area defined throughout this Plan is currently zoned B-2 Shopping Center District. Net developable land in the B-2 zone is approximately 54 Acres. The existing zoning permits shopping centers and "big box" structures such as Wal-Mart and Home Depot.

The governing bulk standard that regulates intensity on-site is total permitted lot coverage. There are no standards regulating the total permitted building coverage or Floor Area Ratio. Under existing zoning, the total lot coverage cannot exceed 50 percent. It is estimated that the development of approximately 300,000 square feet of commercial space is a reasonable expectation for the area.

This Plan is designed to permit a mixture of land uses that collectively will generate less vehicular traffic and encourage pedestrian activity to the maximum extent possible.

Byram Village Center will consist of a dynamic mixture of shops, offices, entertainment, housing recreation and community facilities. Accordingly, the Plan envisions the best aspects of small village downtowns, while providing connections to greenways and trails. A village green is the central focal point of the center. The green is surrounded by townhouses, retail shops and has multiple connections to nearby residential uses, retail uses along Route 206 and trail ways. Entertainment and mixed uses are arranged to enhance community life. Small locally owned stores located between anchor retailers benefit from foot traffic generated between them and nearby parking. Housing located in the center, creates a 24-hour presence and is convenient for seniors and others who place a high value on convenience and proximity to activity.

Mixture of Uses

A mixture of land uses is a critical component in creating a vibrant Village Center. While the existence of attractive buildings aids in establishing the market for the Center, a mix of land uses results in diversity necessary for a successful Center. Typically, the most successful centers encourage uses ranging from retail sales and service, office on upper floors, public buildings, public spaces, entertainment and residences. Almost without exception, all successful centers have residences living within and around the center, which encourages "after hour" vitality.

In creating a Center, one of the primary goals is to encourage this diverse mixture of people, stores, services and attractions. While centers encourage a mixture of land uses, not every type of use is appropriate in a center. Examples of inappropriate businesses include :

Drive-thru businesses
Heavy industry
Uses requiring frequent freight deliveries
Warehouses
“Big Box” type businesses, i.e. Wal-Mart, Home Depot, which require large parking lots
Gasoline oriented businesses

The Village Center Core

Mixed Use – Includes commercial retail sales uses such as general retailers, specialty shops, boutiques, art galleries, grocery stores, pharmacies, drug stores, bakeries, specialty food, restaurants, sandwich shops, coffee houses, movie theatres, entertainment spots, hotels/bed and breakfasts, health and fitness clubs, and other similar businesses. The development of a tract of land or building or structure consisting of a mixture of retail sales and service, restaurants, taverns, office on upper floors, residential on upper floors (not fronting on Route 206). Buildings are required to be two stories in height and front the street. Uses that require large amounts of first floor storage space such as a warehouse store are discouraged and should be located outside of the Village Center.

Medium-Density Residential - Includes housing densities between 6 to 10 units per acre and can include a mixture of residential uses including single-family detached dwellings, semi-detached duplexes and townhouses.

Village Single-family Residential - Primarily single-family dwellings with density ranges from 6.2 to 8.7 dwellings units per acre. Lot sizes typically ranging from approximately 5,000 square feet to 7,000 square feet.

HAMPTON TOWNSHIP

Hampton, in adopting its Master Plan in 2003, included designation of two Centers in Hampton Township. The first, designated South Center, is an existing Center for which a revised center design has been prepared. Subsequent discussions with the Town of Newton, Sussex County Community college and the State Planning commission led to the incorporation of this center as an expansion of the Newton Regional Center. The second center proposed by the Township, to be further discussed during the Plan Endorsement process is a potential village to be located generally at the northwest and southwest quadrant of the intersection of Halsey Road and US 206.

Hampton Township lies in the central portion of Sussex County, just north of Newton, the County seat. Once a predominantly farming community it was, until the middle of the Nineteenth Century, part of Newton. At the request of Newton and against the wishes of the people in Hampton, the State Legislature created Hampton as a separate municipality in 1864.

The early history of Hampton is similar to that of much of the area, settlement beginning in the early and middle Eighteenth Century centered first as hunting and then on clearing the land for farming; then some farm related activities such as a grist mill on a stream, in Hampton's case in what is now Balesville, and a general store, this early in the Nineteenth Century. The rural character of Hampton, as opposed to the rapid urbanization in Newton, led to the split in 1864. Newton wanted to remove what it considered the burden of rural land from its prospering urban environment.

As transportation opened up the products of the Midwest farmlands to the eastern markets in the later half of the Nineteenth Century, farming in New Jersey lost its importance and its competitive advantage. Much of the land, once in agricultural production began to be converted to other uses. The years just prior to, and following World War II, also saw the rise of recreation communities surrounding lakes developed by impounding streams. A number of these were developed in Hampton Township, particularly in its western and northwestern portions. Several years after their development, many of the houses, designed primarily for use during the Summer, and occasional use at other times, were converted to year-round use.

Hampton Township's population began to decrease in the late 1800's and went from about 1,000 in 1870 to 895 in 1880 and to 592 in 1920. By 1950 this trend reversed to 668, and there has been a steady increase since then, with a population of 4,943 in 2000. Some of this increase has been due to recreational home conversion to full-time use; the more substantial portion has been the result of new residential construction.

Expansion of the Newton Regional Center

There has also been considerable non-residential growth in Hampton Township along Route 206 from the Newton Town border to beyond its junction with Route 94. This development, more land intensive and auto dependent than the traditional development found in the core of the Newton Regional Center has led to the Township's objective to develop in a more compact form resulted in an amendment to the proposed Town Center boundary to incorporate the

Hampton Commons and Cherry Lane residential areas, the former Hampton House Restaurant, running west to County Route 519. Development which has occurred includes a Wal-Mart of approximately 230,000 square feet, reuse of the former Jamesway building, replacement of the original Ames Department store by a Bed Bath and Beyond, along with some alterations to the small retail facilities east of US 206 within the Town Center boundary.

The road network through Hampton and Sussex County has been an important element in encouraging both residential and commercial development in Hampton over the past twenty to thirty years. This network includes State Highways, Route 206, and Route 94, and Route 15. Route 206 is a major arterial highway which runs from Route 30 in Atlantic County, north through Mercer, Somerset and Morris Counties, into Sussex County, then north through Newton and then northwest to the Delaware River and into Pennsylvania. It intersects with the New Jersey Turnpike at Bordentown, Interstate 295 in Bordentown and Lawrence Township (Mercer County), Interstate 78 and 287 in Bridgewater and Interstate 80 in Netcong. Route 15 runs from Interstate 80 northwest through Morris and Sussex Counties to Route 206 in Frankford Township. It intersects Route 94 in Lafayette Township. Through much of its route it is a four lane arterial with a portion as a grade separated limited access highway. Route 94 runs from Columbia, NJ on the Delaware River in Warren County, through Sussex County north to the New York State border above Vernon. Route 206 and 94 are joined from their intersection in Newton through most of Hampton. It is this stretch of roadway which has been the focus of recent commercial development in the region.

Within the 206/94 Corridor are found a range of residential and non-residential activities, most of which have developed over the past thirty years. This development has occurred as an extension of the Newton business district. It reflects both a limit on land within Newton to accept expansion, as well as a desire to accommodate the automobile with its greater parking requirements. At the current time, within the Hampton South Center, 2,600,000 square feet of floor space has been constructed on approximately 239 acres.

The types of activities within the Town Center boundary range from professional offices, government agencies, auto dealerships, fast food establishments, supermarkets, construction materials, large shopping centers, and two individual retail stores.

Adjacent to these activities and with access to Route 206 are nodes of residential development. Additionally, scattered single family detached homes are located along County Route 519, the western boundary of this proposed center. In all, sixty-four single family homes on lots averaging about 1.8 acres lie within this one "super block,". In the eastern residential block, there are 306 housing units, nearly all of which are accessible via Cherry Lane, a major signal controlled intersection with Route 206. Located in this area are a townhouse condominium project of 295 units with at density of six units per acre, as well as 42 single family homes on lots which average 1.2 acres in size.

Except for the townhouse development, all the residential development within the proposed center is served by on site sewage disposal systems and individual wells. The townhouse development (Hampton Commons) is served by a sewage treatment facility operated by the Sussex County Municipal Utilities Authority.

The commercial developments in the Hampton South Center are generally serviced by on site septic systems. The exception to this is a small sewage treatment plant which serves the Hampton Plaza shopping center on Route 206.

Hampton Township originally proposed that the Hampton South Town Center area be designated either as a freestanding Town center or as an addition to the Newton Regional Center. Commendably, all parties to the discussion agreed with the latter approach which will better permit State, County and local governments, citizen groups and the development community to focus on the impacts of existing and proposed development on existing and proposed infrastructure, and on the adoption of policies and programs which direct development in a more cohesive and orderly manner; and provide for a broad range of residential and non-residential opportunities. The objective is to create a reasonably compact, diverse center, compatible with land uses and policies in adjacent municipalities, providing opportunities for continued growth using, as much as seems reasonable, the projections in the State Plan, and those of the County.

ANDOVER TOWNSHIP

Andover Township has proposed three centers. Originally, the Springdale center, located generally along US Route 206 from the village of Springdale to the Newton Town line, was the primary center in the Township's planning scheme. Following various discussions with state and County officials, two additional centers, the Andover Transit Village and an area generally described as Andover Corners were added to the list of possible centers. These latter two centers focus on the Roseville Road area of the Township, adjacent to Andover Borough. The former Erie Lackawanna Cut-off, proposed for reactivation, would incorporate the only Sussex County station in this location. The station would provide an excellent focus for a multimodal transit center as it is in close proximity to US 206 in Andover and a current stop on the Lakeland Transit and Sussex County Transit systems.

The project would build on the Andover Borough Designated Town Center, has access to adequate water supplies and suitable areas for in ground disposal of highly treated effluent. As an important element in the regional circulation network, this center would have significant economic and quality of life benefits.

The second of the newly proposed centers lies in the area occupied by the municipal building, two office complexes, other commercial developments including a restaurant and bank, the municipal schools, and existing and proposed residential neighborhoods. The spine of this center Newton-Sparta Road (CR 616) is one of the most heavily traveled roads in the County, connecting US 206, NJ 15, and NJ 94. Much of the commercial development in the Township lies along this corridor.

FRANKFORD TOWNSHIP

The purpose of the Frankford Town Center is to concentrate growth in a compact unified center by establishing a modified street grid with limited access from the major transportation corridors of US 206/NJ 15/SC 565 at Ross' Corner. The existing baseball park provides an anchor for the future development.

The Frankford Town Center, incorporating an area of approximately 600 acres, has an outer ring and an inner development core. The inner core is the focus of the new "Town Center Concept" which will establish a central gathering place and a point of reference for a community identity. A Town Center at a village scale, oriented to the pedestrian for shopping and services based on a coordinated street plan will enhance the quality of life for all Frankford Township residents. The Town Center will also provide opportunities for activity centers for the seniors of the community and overflow space for school functions

The proposed uses for the Town Center should be a mix of uses to provide the necessary retail, services, age restricted housing and employment generators for Frankford Township and the surrounding area. This should include community retail, a supermarket, offices, a hotel, indoor recreation, senior and child day care facilities, clothing and shoe stores, pharmacies, gift shops, boutiques, housing and limited flex office light industrial uses to provide a transition with the existing baseball park and the required wastewater treatment facility.

The distribution of the land uses in the Town Center focuses the community retail uses at the US 206/NJ 15/SC 565 intersection at Ross' Corner . The uses are internally centered on a Main Street, which is an extension of Championship Drive with limited access to the external roadways. Office and retail buildings form a consistent building street wall through the site with parking located within the center screened from the major through roads by buildings and intensive landscaping. Light industrial uses provide a transition between the proposed wastewater treatment facility and the other, less intensive uses. Housing provided consists of a mix of multi-family and single family with portions age and income restricted.

A pedestrian friendly streetscape is proposed including plazas, trees, benches, trash receptacles, planters, sidewalks and decorative accent concrete pavers to enhance the Town Center Street Concept.

This proposed center, located in the heart of the County, at a major crossroads, has the potential to serve as a major focus for growth in the region. As an almost vacant site, with favorable topography, available water supply and soils for effluent discharge, Frankford Township is in the unique position of being able to design its center with minimal accommodation to existing facilities. Adjacent to the Skylands ballpark facility, an increased level of commercial and residential activity in the center will dramatically increase the utility and attraction of the under-utilized facility.

HAMPTON TOWNSHIP PROPOSED HALSEY VILLAGE CENTER

The Halsey Village Center is will be located between the Newton/Hampton Regional Center and Ross' Corner in Frankford Township. Focusing development in this area will serve to create an area of low density environs within which much of the open space may be protected, and the concerns of visual amenities, resource protection, support for agriculture may be addressed. This is a relatively small area, currently the focus of some small commercial development with no residential component at this time.

Population and Employment

As of the year 2000, Hampton Township's population was 4,943 persons. Of this population approximately 860 lived in the Hampton South Center. There is no residential development in the Halsey Village Center at this time.

Sussex County periodically prepares population projections for the County and its municipalities. The most recent, in 1995, projected Hampton's population for 2010 at 5,350, and increase of 912 (20.55 %) over the twenty year period from 1990 to 2010. The State Plan projections are only on a County basis, but, based on the percentage distribution in the Sussex County projection, Hampton's population in 2010 would be 5,897, an increase of 1,459 (32.88 %).

Hampton Township 2010 Population

	<u>CUPR</u> <u>2020</u>	<u>Sussex County</u> <u>2020</u>
	179,276	181,500
2000 Census	<u>144,166</u>	<u>144,166</u>
Increase 2000	35,110	37,334
2010 Average Annual Increase	1,755.5	1,866.7
Increase 2000-2010	<u>17,555</u>	<u>18,667</u>
County Population, 2010	161,721	162,833

Labor Force is the number of people residing in an area who are working or looking for work. The following are the Labor Force figures for Hampton based on the 2000 figures and 2020 projections distributed on the percentage distribution of population.

Labor Force, Hampton Township

	<u>2000</u>	<u>Projection, 2020</u>
Hampton Center South	480	585
Halsey Village Center	0	59
Balance of Hampton	<u>2,276</u>	<u>2,459</u>
Total Labor Force	2,756	3,103

A projection of employment by municipality for 2010 was prepared by the Sussex County Planning Department; a County projection for 2010 was published in the State Development and Redevelopment Plan. Using the same municipal percent distribution used for the 1990 covered employment, a municipal projection for 2020 was made. The projections prepared by the County and State are essentially the same; the employment projection for Hampton is 227.

As was previously discussed, the base for the estimates and projections was the 1990 Covered Employment at the municipal level. More recent information found in, "Private Sector Covered Jobs, Third Quarter, 1996", published by the New Jersey Department of Labor, showed employment in Hampton to be 441, 1.7 percent of Sussex County's covered jobs.

The number for covered employment at the municipal level may be suspect since they are obtained from information supplied by employers who often mistake their post office address for their municipal location, which might be different. Discussions with staff at the New Jersey Department of Labor indicated that they are attempting to correct this problem. Since much of Hampton's employment base is located in an area with a Newton Post Office address, covered employment may be undercounted. This would be reflected in the municipal estimates and projections prepared by the County.

RESOURCE INVENTORIES AND CAPACITIES

The most extensive natural resource of Hampton Township is its open space, both permanent open space and conservation areas set aside by government agencies such as the State of New Jersey, and municipal and County recreation land.

The following is a list of public holdings and their acreage.

Public Open Space

	<u>Acreage</u>	<u>Percent of Total</u>
Swartswood State Park	543	25.7
Bear Swamp Wildlife Management Area	1340	63.4
Stokes State Forest	67	3.2
Other State	<u>94</u>	<u>4.5</u>
Total State	2044	96.8
County	17	.8
Hampton	<u>51</u>	<u>2.4</u>
Total	2112	100.0

These public open space lands total about 13 percent of Hampton’s acreage.

In addition there are also land under farmland assessment which total 7,390 acres, 46.3 percent of the municipality, and other lands which would most likely remain open such as lakes in residential enclaves.

As was previously discussed, one of the limitations in developing higher density residential and commercial/industrial land in the 206/94 Corridor is the lack of sewage treatment capacity in existing facilities, and the inability, under the current Sussex County Water Quality Management Plan, to add capacity because of the limited assimilative capacity of the receiving streams. Studies, performed by the Hampton Township Municipal Engineer, indicate that the ground water discharge limitation, presently 340 g/a/d (gallons per acre per day), could be more than doubled, to between 722 g/a/d to 890 g/a/d, depending on the watershed. This could raise the density considerably in certain areas and would enhance the opportunity to build in the town-house/garden apartment area, as well as the commercial areas in the 206/94 Corridor.

4. CENTER DESIGN GUIDELINES

Hampton Center South-Now part of the Newton/Hampton Regional Center.

The overall result of the Hampton Township Planning Board’s efforts is a safer, more efficient commercial center that is more attractive to consumers, and results in improved economic viability to the Town of Newton and to the Township. The two municipalities and the Sussex County Community College are working together to develop a regional design for the center. As was previously mentioned, future development, particularly high density residential and more compact commercial development, is dependant on increased sewage treatment capacity or alternative means of treatment.

Growth Management Mechanism

There has been substantial population growth in Hampton Township over the past several decades, both from new residential development and conversion of seasonal housing to year-round use. There has also been a great deal of commercial growth centering on the 206/94 Corridor. The Township, through actions of its Planning Board and development ordinances passed by the Township Committee, have directed much of this development to the 206/94 Corridor. Substantially all of the commercial growth has been centered in the Corridor, and a good deal of the residential growth, particularly the high density residential development, has also taken place in the Corridor.

The Planning Board in its Master Plan adopted in January, 1976 and amended in 1984, directed almost all commercial growth to the Route 206/94 Corridor, as well as those areas which were deemed suitable for high density residential uses. These actions were adopted by the Township Committee in the zoning ordinance adopted in 1977 and subsequently revised, most recently in 1988. Throughout this period of time zoning along the Corridor has remained stable, although there may have been changes relating to detailed requirements within the zones which have been upgraded and tightened.

Based upon population and employment projections and the infrastructure limitations mentioned above, growth in Hampton Township will be primarily directed towards the Newton/Hampton Regional Center, with one half of the population increase and eighty-nine percent of the projected employment increase located therein.

Planning and Implementation

Hampton Township has, for the past several decades, discouraged development in most of the Township except for the 206/94 Corridor. Other than low density, large lot residential developments, nearly all the commercial and high density residential development has been located there, and municipal programs still follow that policy. Additionally, since the Hampton South Center has been incorporated into the Newton Regional Center, a new set of policies and initiatives as outlined in the adopted Plan Implementation Agenda should be pursued.

OTHER PLANNED CENTERS

GREEN TOWNSHIP

The Township Committee of Green Township has reevaluated its position on Center Designation. It now feels that it is in the best interest of its residents that a specific area in Green Township an addition to an existing center, be designated as a center. The Committee is hereby petitioning the New Jersey State Planning Commission that Sussex County's Cross Acceptance Report be amended to include this request.

The Township Committee has no objection to Sussex County's Cross Acceptance Report. It generally supports the concepts the County has described in the report. The action of the Committee specifically requests the addition of this center to the report. This action is in keeping with the 1991 revision of the Land Use Element of the Master Plan of Green Township, in its review of the Preliminary Plan of the State Development and Redevelopment Plan. On pages 53 to page 57 in the Master Plan, the concept of hamlets, villages and towns were noted and five areas in Green Township were cited as hamlets. All of them, Lake Tranquility, Tranquility, Greendell, Huntsville and Wolf's Corner are noted as existing. However, with the exception of Greendell, the Township Committee does not want to encourage these to spread. In addition to Greendell, a portion of the Township adjacent to the Andover Borough Town Center is proposed for inclusion in the Town Center. The Greendell center is described as follows:

This center is a node of relatively high density located at the intersections of Kennedy Road with Wolf's Corner Road and Hamilton Road, about two miles west of Tranquility. Greendell comprises 42 acres and has an estimated population of 46 in 13 housing units. Greendell's area is limited by an abandoned railroad right-of-way which crosses Wolf's Corner Road to the north, and Henry Road (a continuance of Kennedy Road) to the west. Within the center is a fire station, post office, a general store, a commercial technical facility and a dog kennel. There is also a large play field adjacent to the area, as well as an abandoned train station and signal tower. Greendell will be the location of a Senior Citizens Center in the near future. As with Tranquility, there are a number of residential developments with lots of two acres and greater within the environs of Greendell. The area is also surrounded by farmland and fallow land.

Addition to Andover Borough Town Center

This new center is proposed as an addition to the designated Andover Borough Town Center.

Green Township asks that a small portion of its area adjacent to Andover Borough be included as part of that Town Center. The purpose of this proposal is to provide some land where, in the future, higher density residential development may be accommodated, some of which would be for low and moderate income families.

Andover Borough has been in discussions with a developer for a mixed-use Planned Unit Development (PUD) on 256 acres for over a decade. This development includes the provision of wastewater treatment and table w water facilities for most of the Borough. Some changes to the already accepted plan is being evaluated which considers the reactivation of the Lackawanna cut-off for commuter rail service. A station would most likely be located in the vicinity of the Route 517 underpass of the cut-off. This could open up the lands south of the cut-off for more intense and varied development than was originally anticipated. Green Township's proposed addition is adjacent to these lands. It includes areas on both sides of Route 517 north of Whitehall Road. The land is mostly in farmland; some of the land is fallow land and some is to rocky and not economically suitable for development. The land totals about 80 acres. Some informal discussions have been held with Andover Borough officials, with favorable reactions. Green Township will make a more formal request to Andover Borough for consideration of inclusion in the near future.

The addition of a portion of Green to the designated Town Center is expected to reinforce the viability and consistency of the existing Center. It will further the objectives of the State Planning Commission in its resolution of designation and bring Green Township into greater consistency without compromising critical environmental concerns.

The four existing communities, not to be designated as growth Centers are as follows:

1. Tranquility Hamlet

This center is a node of relatively tight development west of the intersection of Decker Pond Road (Route 517) and Kennedy Road (Route 611). It runs north from Kennedy Road along Decker Pond Road for about 1,000 feet, and south along the same road for about 1,500 feet; west along Kennedy Way to Maple Lake Road, and across Kennedy Road, taking in the old municipal building area, and thence following the abandoned railroad right-of-way for about 1,000 feet.

This area comprises approximately 105 acres with an estimated population of 26 and 12 housing units. In addition, it is the location of a church, its community center, a post office, a branch of the Valley National Bank, a veterinarian clinic, a small professional building, a furniture manufacturing plant, and a saw mill. There is also two historic cemeteries located within the center. This was the historic location of the municipal government until its move to a new building located west on Kennedy Road towards Greendell. The present post office and the old municipal building are located on land adjacent to the rail right-of-way. A station was located in that area. A township recreation facility, now under construction, is located within the hamlet. The environs of Tranquility Hamlet are a number of developments which have come into being within the last twenty years. These include the Seventh Day Adventist Church and School center as well as several residential developments with building lots of two acres and greater, now under construction. These residential developments are located off of Kennedy Road west of Tranquility. Surrounding Tranquility and interspersed with the residential developments are farmlands and fallow lands.

2. Lake Tranquility Village

Lake Tranquility is a large residential development surrounding a 62 acre lake on the east side of Decker Pond Road (Route 517) about one-half mile north of Kennedy Road (Route 611). There are about 355 housing units on approximately 410 acres. The population is approximately 1,080. The platted lots are small but most of the houses are built on more than one lot. The development does not fall within the converted seasonal house category; here most of the houses seem to have been built as permanent year-round residences. The streets are paved but not curbed.

Including in the area are houses on the west side of Decker Pond Road as well as a small grocery store. Adjacent to the area are the facilities of the Seventh Day Adventist Church which includes a school and conference facilities as well as the church.

3. Huntsville

This is a small collection of houses at a crossroads.

4. Wolf's Corner

This is a small aggregation of residences in the vicinity of the intersection of County Routes 608 and 611.

WANTAGE TOWNSHIP

The Land Use Plan of Wantage Township focuses future development and redevelopment around the existing historic Town Center of Sussex Borough, which is adjacent to the existing “Corridor/Node” development along the southern and lower northern portion of State Highway 23 and into four existing “Centers” at historic crossroads. The “Environs” will have limited growth potential based on historic land use patterns and zoning, which will emphasize low density clustered residential development, farming as a viable industry and farmland resource preservation.

Sussex Borough Historic Center Adjacent Area:

Wantage Township completely surrounds the Sussex Borough. The State Plan has identified Sussex Borough as a “Center”. The previous municipal plans and State Plan envision a Regional Center with the entire Borough as the Core. The Wantage Master Plan recognizes the significance of the Borough as existing historic “Center” and will establish standards to insure planned development consistent with the State Plan along specific portions of the Route 23 corridor.

Corridor/Node Development State Highway 23:

The planning objective for the Corridor/Node Development on Route 23 is to focus on establishing a gateway into Wantage Township and encourage planned commercial development on the vacant and underutilized land on the southbound side of Route 23. The character of the land development should be a campus like setting with central access points to minimize the traffic impacts on Route 23.

Architecture, site plan and landscape standards are included in the Community Design Element of the Master Plan. The standards will establish a unified and integrated development pattern of buildings and uses consistent with the State Plan. The existing developed lots along the corridor would adhere to the development standards as redevelop occurs.

Beemerville Hamlet Center:

The existing land use pattern of the Beemerville Hamlet is clustered around the historic crossroads of County Route 519 and County Route 629. The Beemerville Hamlet is 98.5 acres. There is approximately 25 acres of undeveloped land. The vacant land consists of forested wetlands, wooded upland or hay fields.

The “vision” for the Beemerville Hamlet focuses on Agro-Tourism with support commercial retail and service uses and a modest amount of clustered housing to preserve the adjacent farmland. Alternate housing types like duplexes and patio homes are proposed on small lots clustered on a minimum of 12,000 square feet of unconstrained land. The farm economy and charac-

ter are important to incorporate into the Beemerville Hamlet Center to maintain and revitalize "Agro-Business and Tourism" opportunities in Wantage Township. The proposed farmland if preserved within the Hamlet should be deed restricted to permit only farming activities consistent with Right to Farm legislation.

Colesville Hamlet Center:

The existing hamlet at Colesville is on the western side State Highway 23 at the crossroads of Mud Town Road and Brink Road. The land area of the existing Hamlet is 69.4 acres. There is approximately 47 acres of undeveloped or underutilized land in the existing Colesville Hamlet. The land is wooded or partial cleared in certain areas.

The "vision" for the Colesville Hamlet is to build on the existing retail business uses by promoting a mixed use shopping village atmosphere focusing on tourism and local services. Housing opportunities should be incorporated into the plan to provide activity during all seasons. The development should be concentrated, preserving a significant portion of the forested areas to retain the existing rural character. Alternate housing types such as duplexes and patio homes are proposed on small lots clustered on a minimum of 12,000 square feet of unconstrained land.

McCoy's Corner Village Center:

The historic crossroads of Sussex County Route 639 (565) and 638 is known as McCoy's Corner. The Sussex County Library location at the intersection forms the nucleus of the Village Center. McCoy's Corner is 82.2 acres of land area. The airport hazard zone covers approximately 25 acres of land. The vacant land accounts for about 45 acres of land in farm/soil mining.

The planned "vision" for McCoy's Corner focuses on the new Sussex County Library as the cornerstone of the "center". Pedestrian and vehicular connections should be incorporated into the "center" with concentrated retail and service uses to support the library and airport. Light industrial uses should be encouraged in the airport hazard zone to promote the local economy and create jobs. The farm/soil mining operation land area should be reclaimed as Senior Citizen housing to take advantage of the County library and retail services in the "center". A variety of housing types such as town homes, flats, patio homes and garden apartments should be incorporated into the Village Center.

Farm Enterprise and Government Services Village:

The existing Farm Enterprise and Government Services Village is at the crossroads of State Highway 23 and Sherman Ridge Road. The "center" is located several miles north of the Sussex Borough Town Center in the center of the farm production area. Wantage Township has over 3,000 acres preserved as farmland under the State Program.

The smart growth concept plan for the Farm Enterprise and Government Services Village is to establish a unique development plan to promote and preserve the farming industry permanently in the State of New Jersey. The establishment of a “center” focused on the regional farm economy including a regional creamer (marketing “Jersey Fresh Milk”), a farmers market, local crafters market and State sponsored Farm Educational Center and Regional 4-H program would empower the Agro-Business and Tourism in the region to sustain agriculture in northern New Jersey through the next 30 years and beyond. The farm “center” would provide an example of development in rural New Jersey consistent with smart growth concepts and the State Plan of New Jersey. Alternate housing types such as duplexes and patio homes are proposed on small lots clustered on a minimum of 12,000 square feet of unconstrained land.

APPENDIX C

BUILD-OUT CALCULATIONS

BUILD-OUT ANALYSIS

A build-out analysis is designed to provide a general idea of the magnitude of development which could occur at some time in the future. For some municipalities, this time horizon is near term, for others it may be many decades in the future. It is a tool for estimation of the service infrastructure needed to support development and opportunities, e.g. transit, which may come to be in response to concentrations of development. Other than approved projects, the market pressure to develop in one location or another cannot be precisely nailed down. At the broad, regional level, build-out will most likely differ from municipal calculations if they have been done through calculation of the potential of specific vacant parcels. In all events, the results cannot be guaranteed to occur during any particular time period. These can be, however, a useful tool to evaluate the general impact of a particular zoning scheme.

The municipal and Hydrologic Unit Category (HUC) build out analysis is based upon various combinations of the following factors:

Developable land by zone – This measures the land remaining after areas of wetlands, streams, ponds, lakes (and associated buffers), severe slopes (35% or greater), developed lands, park and other preserved lands have been subtracted from the gross acreage in a zone or HUC.

Zone requirements – This sets the regulatory constraints for development, including minimum lot size, floor area ratio, density.

Anticipated lot yield – This is the number of developable lots which may be created from a tract of land. This number is reduced by 25% due to the fact that roads, tract shape and location of physical barriers to development reduce the lots (if any), which may result from subdivision.

Specific limitations e.g. NJPDES Individual Permit – In areas not served by sewerage treatment facilities, industrial development is limited to 15,999 square feet per lot regardless of lot size. This is the result of the requirement for an individual permit for generator of waste in excess of 2000 gallons per lot per day and the factors used by the DEP to calculate the volume

Water and/or sewerage treatment allocation – Where, for example in Andover Borough, a development proposal has some limitation due to available waste treatment capacity, the build-out of that tract is more precisely identified. In a municipality with allocation but no active development approvals, e.g. Hopatcong Borough there is little effect caused by waste treatment.

Impervious coverage limitations – Impervious coverage is a surrogate used to limit the amount of development on a parcel of land. For example, a 50% limitation on coverage allows up to one-half the parcel to be paved or built upon. For commercial or industrial uses requiring parking, access drives, and so forth, one square foot of coverage yields approximately 0.4 square feet of building area. Impervious coverage in single family detached residential areas has no impact on unit yield. The impact is felt where multifamily housing is permitted.

Residential Development

The vast majority of residential zoning in Sussex County is large lot single family detached housing. Here, the lot yield from a given area of developable land is reduced by a factor of 25%. This factor takes into account the loss of lots due to tract shape and the location of constraining elements on the tract. Some tracts, although shown as being developable, cannot be reached and yield no development. Many, if not most, are limited by the location of streams and wetlands beyond the buffer area requirements of NJDEP regulations. Where a Category One stream bisects a property, it will not be crossed. Not all the density thus cut off will be environmentally transferable, thereby reducing the ostensible lot yield. Given these and other common scenarios, the 25% factor is very conservative, probably yielding greater levels of development than will actually be realized.

Nonresidential Development

Non residential development will be affected in much the same ways as its residential counterpart. Lot yield, however, will be less important in the calculation of generated space as the 2000 gallon per day NJDEP limitation will hold development to 15,999 square feet of building per lot for industrial uses and small commercial groupings. For purposes of calculating the area of commercial and industrial space located in the County, an area of 200 square feet per worker has been used. One half of the development is assigned to the Highlands and the other to the remainder of the County. There are 38,000 jobs in the County. This, multiplied by 200 square feet per job, equals 7,600,000 square feet of space. If one half of this lies in the Highlands, 3,800,000 @ 2000 square feet per 225 gallon unit yields 1900 units. If Highlands areas generate only 148 gallons per acre per day of available recharge, two thousand square feet of space requires, on average, 1.5 acres of land. If there are 3,800,000 square feet of space in the Highlands, 2,889 acres of unpaved land are required to support it. Depending on the specific aquifer, a 100,000 square foot facility would require thirty-two to eighty acres to safely support its operation.

Areas Served by Wastewater Treatment Facilities

The principal limitation to larger scale development in Sussex County has historically been the availability of wastewater treatment. As noted, the vast majority of the Sussex County area is dependent upon septic systems for waste treatment. However, even those area with available capacity are more limited than the counties to the south and east. The major receiving stream, the Delaware River is off limits as it is a Wild and Scenic River, with the Delaware Water Gap National Recreation Area acting as a barrier. Additional streams in the County are relatively small as they are headwaters. The NJDEP has also ceased to issue permits for surface discharge of treated waste effluent.

The net result is that the future of compact development in Sussex County is limited to the capacity of those already permitted facilities with surface discharge (See Exhibit 15, Existing and Proposed Sewer Service Areas) and new facilities discharging highly treated effluent to

groundwater. This can only occur where there are highly permeable soils such as glacial outwash capable of absorbing discharges of some magnitude.

Additionally, a review of the acreage zoned for non-residential uses in light of available water supplies indicates that the county is significantly overzoned for its carrying capacity.

Buildable Lands

The first step in preparing a build-out analysis is to evaluate the resource base and particularly those elements which affect the ability of land to sustain development. Lands which are permanently preserved, currently occupied, wetlands, excessive slopes, subject to regulatory restrictions (Category 1 streams and associated buffers), flood plains, etc. are not considered developable in this context. That analysis, presented below, yields the amount of land, by municipality and by zone which remains potentially developable. The Highlands has not been included in this calculation as the regulations and master plan have not yet been completed. It may be safely assumed, however, that development within the Highlands core will be significantly curtailed in the future. In addition to the above, allowance was made for substandard lots in lake communities.

Once the land area available for development has been calculated, the zoning standards for each municipality are applied to the developable lands. This calculation requires us to make assumptions based on sewer capacity, NJDEP permit limitations, maximizing density and impervious coverage, and without variances. With those understood, the following charts provide estimated build-out for Sussex County, by municipality, by zone.

Residential Units/Lots Potential Buildout by Municipality

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Potential Units/Lots
Andover Borough					
	R-1A	Residential	0.344	1.31	2
	R-2	Residential	0.230	0.00	0
	R-3	Residential	0.230	0.69	2
	R-1/PUD	Residential	0.225	204.21	590
				Sum	594
				% of County Total	3.14%
Andover Township					
	PRC	Planned Retirement Community	200.000	87.13	0
	R-2/A-1	Single Family Residential /Airport 1	0.000	0.57	2.0
	SR	Special Residential	5.000	28.81	0
	R-3	Single-Family Residential	3.007	425.80	92
	R-2.5	Single Family Residential	2.502	130.75	34
	R-2	Single-Family Residential	1.997	2108.49	686
	R-1	Single Family Residential	1.033	136.82	-3
	R-0.5	Single Family Residential	0.459	58.56	83
	PCD	Planned Commercial Development	25.000	0.02	0
	ML	Mount Laurel	20.000	71.26	2
	MFR	Multi-Family Residential	5.000	10.78	0
	R-0.5/A	Single Family Residential 0.5/Airport	0.459	25.05	32
				Sum	927
				% of County Total	4.88%
Branchville Borough					
	R-1	Residential District	0.344	32.39	33
	R-2	Residential District	0.344	0.00	0
	R-3	Residential District	0.459	49.66	9
				Sum	42
				% of County Total	0.22%
Byram Township					
	R-1	Single Family Residential	5.000	730.11	86

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Potential Units/Lots
	R-1A	Single Family Residential	3.500	126.07	15
	R-2	Single Family Residential	0.918	863.04	467
	R-3	Single Family Residential	0.459	278.35	351
	R-4	Single Family Residential	0.230	83.62	223
				Sum	1142
				% of County Total	6.01%
Frankford Township					
	AR	Agricultural/Residential	2.000	6051.58	1812
				Sum	1812
				% of County Total	9.54%
Franklin Borough					
	R-1A	Residential	1.010	12.67	8
	R-3	Residential	0.143	7.44	33
	R-2	Residential	0.344	42.32	78
	BAR	Blighted Area Rehabilitation	20.000	26.66	1
	MH	Modular Home Park	25.000	7.67	0
	R-1	Residential	1.010	446.24	245
				Sum	365
				% of County Total	1.92%
Fredon Township					
	AR-6	Agricultural-Residential	6.000	4092.25	443
	ER-1	Existing Residential	1.000	93.15	61
	AR-2	Agricultural-Residential	2.000	76.80	0
	PD	Planned Development	6.000	106.94	12
				Sum	515
				% of County Total	2.71%
Green Township					
	AR-5/2	Agricultural-Residential	5.000	3397.01	270
	R-1	Residential	1.000	53.21	0
	R-1.5	Residential	1.500	42.25	18
				Sum	288
				% of County Total	1.52%

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Potential Units/Lots
Hamburg Borough					
	PD	Planned Development	1.000	21.15	14
	RR	Residential-Medium Density	0.230	63.38	161
	RO	Residential Office	0.344	0.00	0
	PR	Planned Residential-High Density	0.115	6.20	5
				Sum	180
				% of County Total	0.95%
Hampton Township					
	R-3	Single Family Residential	3.000	2970.19	579
	R-2	Single Family Residential	2.000	2760.79	861
	R-1.5	Single Family Residential	1.500	299.79	94
	APT/TH	Apartment/ Townhouse Multi-Family District	15.000	42.13	2
				Sum	1535
				% of County Total	8.08%
Hardyston Township					
	R-4	Medium Density Residential (Multi-Family)	0.222	52.58	14
	MIDD-1	Minimum Impact Development District (1)	5.000	562.57	387
	MIDD-2	Minimum Impact Development District (2)	5.000	1209.58	129
	R-3	Lakeside Residential	0.344	30.15	57
	R-C	Residential Commercial	0.918	59.45	42
				Sum	630
				% of County Total	3.31%
Hopatcong Borough					
	R-2	Residential	1.377	96.29	45
	R-1	Residential-Medium Density	0.344	271.40	503
	R-2T	Townhouse Residential	1.377	8.73	4
	R-3	Residential-Low Density	3.000	537.61	116
	RPD	Residential Planned Development	3.000	206.16	45
	MPD	Multiple Purpose Development	3.000	116.50	466

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Potential Units/Lots
				Sum	1180
				% of County Total	6.21%
Lafayette Township					
	R-2.5	Residential	2.500	236.27	12
	R-4.0	Residential	4.000	1035.62	122
	R-5.0	Residential	5.000	2109.35	228
				Sum	363
				% of County Total	1.91%
Montague Township					
	R4	High Density Single Family	0.390	144.17	240
	SC	High Density Single Family-SC	0.390	41.07	68
	R	Low Density Single Family	3.000	4273.12	901
				Sum	1210
				% of County Total	6.37%
Newton					
	R-4	High Density Residential	0.294	5.54	12
	R-4	High Density Residential	0.294	2.07	5
	R-TH	Medium/ High Density Residential	0.294	12.90	29
	R-3	Medium Density Residential	0.207	21.22	67
	R-2	Low/ Medium Density Residential	0.294	177.33	290
	R-1	Low Density Residential	0.482	86.57	97
	PRD-A	Planned Residential Development	40.000	25.38	0
				Sum	500
				% of County Total	2.63%
Ogdensburg Borough					
	R-10	Residential	0.230	0.26	0
	R-100	Residential	2.296	1.97	1
	R-15	Residential	0.344	19.37	35
	R-30	Residential	0.689	8.08	8
	R-40	Residential	0.918	20.77	15
	RMF	Residential - Single and Multi-Family	25.000	27.99	0

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Potential Units/Lots
				Sum	57
				% of County Total	0.30%
Sandyston Township					
	LC	Lake Community	0.230		0
	V	Village	2.296	6.17	0
	D	Medium Mountain Residential	1.837	480.39	169
	B	Valley Residential- Agricultural	1.377	1247.92	583
	A	Walpack Ridge Residential-Agricultural	2.755	972.79	226
	C	Mountain Residential- Agricultural	4.591	844.19	120
				Sum	1097
				% of County Total	5.78%
Sparta Township					
	R-1	Residential	5.000	176.51	23
	RRV	Rural Residential Development	10.000	403.55	26
	RR	Rural Residential Constraints	5.000	2844.12	333
	RC-2	Rural Conservation/ Residential	5.000	966.20	126
	RC-1	Rural Conservation/ Residential	5.000	2.75	0
	R-4	Residential/ Professional	0.459	4.98	7
	R-2	Residential	0.574	95.91	109
	MF	Multi-Family	5.000	28.01	4
	R-3	Residential	0.321	57.37	116
				Sum	743
				% of County Total	3.91%
Stanhope Borough					
	HR	High Density Residential	5.000	6.03	1
	HVR	Historic Village Residential	0.250	3.50	5
	MR	Medium Density Residential	0.333	91.07	178
	RC	Residential Conservation	5.000	40.42	5
	MLR	Medium-Low Density Residential	1.000	65.86	5

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Potential Units/Lots
				Sum	194
				% of County Total	1.02%
Stillwater Township					
	R-30	Residential	0.689	58.18	55
	R-5	Residential	2.000	3194.57	415
	R-7.5	Residential	1.999	4113.58	333
				Sum	803
				% of County Total	4.23%
Sussex Borough					
	R-1	Low Density Residential	0.230	20.46	58
	R-2	Medium Density Residential	0.344	1.96	4
	R-3	High Density Residential (Garden Apartments)	3.000	0.21	0
				Sum	62
				% of County Total	0.33%
Vernon Township					
	PLC	Private Lake Community Residential	0.230	596.05	1687
	R-4	Single-Family Residential	0.230	24.73	66
	R-3	Single-Family Residential	0.689	152.36	139
	R-1	Single-Family Residential	2.755	1442.80	322
	R-2	Single-Family Residential	1.377	1785.77	741
				Sum	2955
				% of County Total	15.56%
Wantage Township					
	RC	Residential-Commercial	0.918	77.97	54
	ML	Mount Laurel	0.167	104.44	407
	MR	Multi-Family Residential	25.00	121.40	2
	RE	Residential Environs	5.000	10238.58	1231
	R-2	Residential	0.333	54.01	104
				Sum	1799
				% of County Total	9.47%
				Grand Total	18993

Commercial Square Footage Potential by Zone Buildout

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Total Square Feet
Andover Borough					
	C-1	Commercial	0.5	3.4	15,244
	C-2	Shopping Center	5.0	2.4	13,462
	C-3	Office, Shopping Center and Limited Industrial	4.0	7.3	41,367
	IP	Industrial Park	5.0	28.5	161,284
	R-1/PUD	PUD		204.2	180,000
			Sum	246	411,357
			% County Total	3.2%	1.3%
Andover Township					
	B/A	Business/Airport	0.5	33.1	183,500
	BPO/R/A	Business Professional Office/Residential/Airport	1.4	1.2	6,736
	CB	Community Business	0.5	22.3	118,532
	CR/A-2	Community Recreation/Airport-2	15.0	31.4	32,000
	HC	Highway Commercial	1.4	45.5	257,675
	I	Industrial	3.0	399.4	1,391,733

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Total Square Feet
	I/A-2	Industrial/Airport-2	3.0	66.0	230,136
			Sum	599	2,220,311
			% County Total	7.8%	6.8%

Branchville Borough

C	Commercial District	0.3	0.0	0	
HC	Highway Commercial District	0.9	4.0	22,925	
O	Professional and Office District	0.9	18.5	104,526	
			Sum	23	127,450
			% County Total	0.3%	0.4%

Byram Township

B-1	Highway Commercial	0.9	31.8	171,964	
B-2	Shopping Center Commercial	5.0	54.9	310,776	
C-R	Commercial-Recreation	20.0	70.2	36,478	
ICP	Industrial Commercial Park	2.5	212.7	852,794	
			Sum	370	1,372,012
			% County Total	4.8%	4.2%

Frankford Township

C-1	Commercial	0.9	11.1	0
C-2	Commercial	5.0	259.4	1,425,082
C-3	Commercial	0.9	102.3	555,388
C-R	Commercial/Recreation Resort	100.0	247.2	160,667

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Total Square Feet
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	LI	Light Industry	3.0	105.2	517,536
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			Sum	725	2,658,674
			% County Total	9.4%	8.1%

Franklin Borough

	B-1	Business	0.1	0.5	1,395
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	B-2	Business	0.3	0.6	3,441
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	HC-1	Highway Commercial	0.5	4.4	20,923
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	HC-2	Highway Commercial	2.9	4.5	25,212
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	HC-3	Highway Commercial	0.5	10.9	61,945
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	HC-4	Highway Commercial	2.9	48.4	274,244
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	I	Industrial	4.8	18.9	64,914
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	LC-1	Limited Commercial	4.0	1.2	6,792
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	LC-2	Limited Commercial	23.0	102.5	580,250
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	Q	Quarry	2.8	4.3	24,615
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			Sum	196	1,063,732
			% County Total	2.6%	3.2%

Fredon Township

	LI	Light Industrial	5.0	61.7	128,257
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Municipality	Zone	Zone Name	Minimum Lot Size(acres)	Developable Acres	Total Square Feet
	TC	Town Center	0.7	50.3	285,060
			Sum	112	413,317
			% County Total	1.5%	1.3%
Green Township					
	AI-10	Agricultural-Industrial	10.0	312.5	309,010
	B	Business	1.5	177.3	964,776
			Sum	490	1,273,786
			% County Total	6.4%	3.9%
Hamburg Borough					
	BC	Borough Center	0.0	0.3	
	CR	Commercial-Recreation	3.0	7.7	43,516
	HC	Highway Commercial	0.3	7.4	38,946
	I	Light Industrial	1.8	38.3	216,647
	LI	Limited Industrial	1.8	0.3	-14,328
	PC	Planned Commercial	1.8	0.0	0
			Sum	54	284,781
			% County Total	0.7%	0.9%
Hampton Township					
	HC	Highway Commercial	2.0	18.0	49,577
	HC-MFG	Highway-	2.0	124.4	460,600

Municipality	Zone	Zone Name	Minimum Lot Size(acres)	Developable Acres	Total Square Feet
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	HC-R	Commercial Manufacturing-Industrial Highway-Commercial Residential	2.0	29.0	164,339
	HC-RD	Highway-Commercial Research-Development	5.0	56.4	319,408
			Sum	228	993,924
			% County Total	3.0%	3.0%

Hardyston Township

	B-1	Neighborhood Commercial	0.5	9.5	38,026
	B-2	Highway Business	0.9	5.6	7,863
	C-R	Commercial Recreation	0.1	285.7	870,306
	I-1	Limited Industrial	3.0	384.1	2,070,254
	I-2	Medium Industrial	3.0	179.1	1,014,306
			Sum	864	4,000,755
			% County Total	11.3%	12.2%

Hopatcong Borough

	B-1	Neighborhood Business	0.3	7.6	38,304
	B-1A	Retail Business Zone	0.5	0.0	0
	B-2	Community Business	0.5	9.4	49,306
	M-1	Light Manufacturing	2.0	47.4	216,108

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Total Square Feet
	M-2	Light Manufacturing and Extraction	2.0	262.1	1,467,022
			Sum	327	1,770,740
			% County Total	4.3%	5.4%

Lafayette Township

EI	Extractive Industrial	3.0	63.3	219,579	
HC	Highway Commercial	3.0	103.2	283,829	
LI	Light Industrial	3.0	327.3	958,501	
VC	Village Commercial	1.0	18.4	104,394	
			Sum	512	1,576,030
			% County Total	6.7%	4.8%

Montague Township

HC	Highway Commercial	1.0	310.5	1,758,327	
NC	Neighborhood Commercial	1.0	71.0	402,219	
			Sum	382	2,160,547
			% County Total	5.0%	6.6%

Newton

C-1	Professional & Office	0.2	2.2	6,850
C-2	Retail Service	0.2	0.0	0
C-3	Highway Commercial Retail	0.2	5.0	17,282
C-4	General Commercial	0.2	4.1	14,461
M-1	Limited Industrial	2.0	42.6	189,028

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Total Square Feet
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	MXD	Mixed Use	5.0	0.0	0
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			Sum	54	227,620
			% County Total	0.7%	0.7%

Ogdensburg Borough

	BC	Borough Center (Commercial)	0.2	1.5	8,390
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	CR	Commercial/Retail	0.5	6.5	29,059
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	IC	Industrial/Commercial	5.0	35.1	72,946
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	LI/C	Light Industrial/Commercial	2.0	15.9	72,547
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			Sum	59	182,941
			County Total	0.8%	0.6%

Sandyston Township

	CI	Commercial-Industrial	0.0	185.1	1,000,000
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	CS	Commercial-Service	0.0	0.5	2,873
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			Sum	186	1,002,873
			% County Total	2.4%	3.1%

Sparta Township

	C-1	Community Commercial	0.2	6.3	21,427
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	C-1H	Commercial Historic	0.2	4.3	20,586
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	C-2	Commercial/Professional	0.5	18.1	98,383
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	E-D	Economic Development	1.8	330.9	1,650,047
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Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Total Square Feet
	E-D1	Economic Development/ Low & Moderate Cost Income	1.8	30.6	173,338
	PCD	Planned Commercial Development	1.0	32.7	185,230
	TCC	Town Center Commercial	0.2	9.8	55,439
	TCCO	Town Center Commercial Office	0.5	0.7	-93
	TCLC	Town Center Limited Commercial	10.0	14.6	82,847
	TCLM	Town Center Lower Main Street Commercial	0.2	2.6	14,893
	TCPB	Town Center Professional Business	10.0	29.6	80,216
			Sum	480	2,382,314
			% County Total	6.3%	7.3%
Stanhope Borough					
	HC	Highway Commercial	0.3	14.2	68,649
	I	Industrial	1.0	0.5	2,749
	PIC	Planned Light Industrial/ Commercial Development	5.0	110.5	625,928
	VB	Village Business	0.2	0.1	486
			Sum	125	697,812
			% County Total	1.6%	2.1%
Stillwater Township					
	C	Commercial	3.0	3.3	11,441

Municipality	Zone	Zone Name	Minimum Lot Size (acres)	Developable Acres	Total Square Feet
	CR	Commercial-Recreation	3.0	92.2	319,465
	NC	Neighborhood Commercial	0.0	17.1	
			Sum	113	330,906
			% County Total	1.5%	1.0%
Sussex Borough					
	A & I	Agriculture & Light Industry	1.8	0.9	4,932
	C-1	Central Business	0.5	0.0	55
	C2	Redevelopment Area	0.9	0.5	2,698
	C-3	General Commercial	0.5	0.3	1,472
	LI & U	Light Industry and Utility	1.8	0.0	0
	O-R	Office Residential	0.2	0.0	0
			Sum	2	9,157
			% County Total	0.0%	0.0%
Vernon Township					
	C-1	Neighborhood Commercial	0.5	5.1	4,773
	C-2	General Business	0.7	31.9	138,856
	C-3	Office Commercial	0.9	17.3	89,884
	CR	Commercial Recreation	10.0	421.6	1,690,554
	LI	Light Industry	0.9	296.8	1,656,776

Municipality	Zone	Zone Name	Minimum Lot Size(acres)	Developable Acres	Total Square Feet
	TC	Town Center	0.1	57.8	303,395
			Sum	831	3,884,238
			% County Total	10.8%	11.8%
Wantage Township					
	HC	Highway Commercial	0.9	551.6	3,059,773
	I	Industrial	5.0	76.2	300,656
	LI	Limited Industrial	2.0	6.1	34,633
	NC	Neighborhood Commercial	0.5	71.2	395,064
			Sum	705	3,790,127
			% County Total	9.2%	11.5%
				Grand	Grand
				7,673	32,873,199

Many municipalities have prepared build-out analyses on a lot-by-lot basis. This approach, coupled with detailed local knowledge will result in a more precise estimate. Upon receipt of any of these municipal efforts, the above will be modified as appropriate.

APPENDIX D

CENTER DESIGN CRITERIA

CENTER DESIGN CRITERIA

In changing the development patterns of the County to emphasize centers, it is critical that those places, once constructed, be attractive and successful. Over the years, there have been numerous volumes written on center design. Of those, one, “Visions For A New American Dream” by Anton Clarence Nelessen of Rutgers University, has a great deal to offer. For that reason, a substantial portion of the book is included, with permission per James W. Hughes, Dean, Edward J. Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, N.J., in this Strategic Growth Plan.

These standards, visual and narrative, demonstrate the essential elements of small livable communities. Not all will apply equally in any given circumstance. However, all have much to contribute to creating true “Communities of Place”.

APPENDIX E

COUNTY TRANSPORTATION PROJECTS

Major Bridge and Highway Projects

While Mass Transit improvements offer the greatest potential benefit to users of the circulation network, essential repairs and improvements to the existing roadway system (See Exhibit 20) are an essential and more immediately realizable element of the efforts to improve mobility in the County. In line with that fact, the following are those NJDOT or Sussex County projects which are deemed to have regional impact (See Exhibit 21).

As discussed in previous sections, the rural nature of Sussex County, along with the relatively low population densities of most areas of the County, make reliance on the automobile almost a necessity. As a result of this, the repair, maintenance and upgrade of the County's bridge and highway system is very important. There are a number of major and minor bridge and highway projects, on both the State and County highway system, that will help meet the objectives of keeping the system in a state of good repair, increasing safety, and reducing congestion in the County.

One of the most important strategies and highest priorities for the County is preserving the existing highway and bridge system. This includes repairing and maintaining roads and bridges in the County through projects such as resurfacing roads with poor pavement conditions, done on a regular cycle and rehabilitating or replacing bridges that have a low sufficiency rating or are weight posted. Projects such as this help the County to maintain its existing infrastructure and provide for the safe and efficient travel of residents and non-residents alike on the County highway system.

Improving major State highway corridors in the County is also important. There are three main State highway corridors in the County used by commuters and by tourists and recreation travelers. The latter includes both those travelers heading to the many recreation opportunities in Sussex County as well as those destined to the Pocono-Pike County region for recreation and/or weekend homes. This leads to a seven day a week congestion situation at many of the Hot-Spot locations on the main highway corridors in the County. This occurs during both morning and evening peak periods during the week and at various times on the weekends.

The main State highway corridors in the County are:

- US Route 206 which runs from Pennsylvania at the Delaware River Crossing in Montague to the center of the County where it intersects with Route 15 at Ross' Corner in Frankford Township where it then turns to the southwest through Hampton Township into the Town of Newton - around the square in the center of town and south through Andover Township and Borough and into Byram Township where it exits the County through Stanhope Borough.

EXHIBIT 20

**ROAD NETWORK AND
AIRPORTS**

EXHIBIT 21

CAPITAL IMPROVEMENTS

- State Route 23, which also starts at the northern end of the County in Montague Township at the New York State border. The highway continues in a southeasterly direction where it crosses into Wantage Township in the vicinity of High Point Monument and State Park. From there, Route 23 enters Sussex Borough, travels through the center of the borough and re-enters Wantage. When Route 23 exits the southern part of Wantage, it briefly cuts across Hardyston Township before it enters Hamburg Borough. The highway continues through the center of the Borough where it intersects Route 94 in the center of Hamburg. From there it continues south into the Borough of Franklin where it intersects with County Route 517. Route 23 then re-enters Hardyston Township, travels over Beaver Lake Mountain, and continues in a southeasterly direction to the Stockholm section of the Township where it widens to four lanes and intersects with County Route 515 near the border with Morris County.
- State Route 15 begins in the center of Sussex County at Ross' Corner. This is the intersection of Route 206 and County Route 565 in Frankford Township. Route 15 then enters Lafayette Township and travels through the Lafayette Village area and intersects with Route 94 in two separate locations. From here, Route 15 continues in a southeasterly direction into Sparta Township, where it widens to a four-lane limited access highway at the NYS&W Railroad crossing and the intersection with State Route 181. The highway continues through Sparta with a full interchange located at the County Route 517 By-pass and farther south at the Blue Heron Road interchange, before it exits the County into Jefferson Township in Morris County.

Some of the major improvements that have been completed on these highways that have had a significant impact on improving both the flow and safety of traffic include: the recently completed intersection project at Ross' Corner. This project, planned for many years, has provided a major reduction in congestion in this heavily traveled corridor and has also helped reduced the number of accidents at this location; improvements to Route 206 in the Branchville area including the intersections with County Routes 630 and 519, recently completed, have helped to improve both the flow and safety of traffic in this area; the improvements to Route 206 through Newton and Hampton Township, including the addition of the center turn lane, have significantly improved traffic flow and increased safety in this congested area; the improvement of the intersections of Route 206 and County Routes 618 and 611 as well as Stickles Pond Road in Andover Township has been a major safety improvement in this busy intersection area; the improvements to Route 183 in Stanhope Borough have provided numerous benefits; the improvement of and installation of a traffic signal at the intersection of County Route 517 and Route 23 in Hamburg Borough has significantly improved safety at this location and the soon to be completed Route 15 and Houses Corner Road intersection improvement and the NYS&W Railroad grade separation a long awaited, \$12 million project will be a very significant safety improvement for one of the most dangerous intersections in the County as well as an improvement for traffic flow in the congested Route 15 Corridor.

Some of the major County highway and bridge projects that have been constructed in recent years that have improved the County highway system include: the replacement of two bridges on County Route 653 (Clove Road) in Montague Township; the improvement of the intersection of County Routes 565 and 667 in Vernon Township which has improved safety; the realignment of County Route 517 in Franklin Borough has increased safety as well as a realignment of CR 517 in Vernon Township in the vicinity of Carol Drive. In addition, there has been well over 4 million dollars worth of federally funded re-paving and upgrading of various County roads that has improved the County's highway system over the last few years.

The above mentioned bridge and highway improvement projects highlight some of the major work that has recently been completed throughout the County that benefits the traveling public. However, there are a number of major projects in the County, that still need to be constructed. Most of these projects are located on the major highway corridors described earlier. They will also provide for the improved movement of goods and services in and out of the County. Finally and probably most importantly, these strategic improvements will enable the County to grow and develop in a smart and orderly manner, while still protecting the environment and quality of life for which the County is noted. These improvements will improve traffic flow and safety so that the planned growth that will take place in the County, as well as the growth that takes place outside of the County - which we have no control over - but still has a significant impact on Sussex County's highway system, will not choke the County with congestion. The last point about the impact growth that takes place around Sussex County in particular in Pennsylvania, has on the County's highway system, cannot be emphasized enough. Many of the major highways in the County, such as Routes 15 and 206, serve in almost an interstate capacity as many people traveling to destinations in the Poconos - whether residential or recreational, pass through Sussex County. As a result of this, these planned improvements are necessary to not only improve travel for Sussex residents, but for many people from outside of the County as well.

The following are the major state highway projects that are in the NJTPA and NJDOT FY 2004-2006 Transportation Improvement Program (TIP) for Sussex County for the next five years. These projects that are in the regional TIP, which identifies federally funded projects, are in one of three phases; Final Design, Right of Way (ROW) Acquisition, or Construction. These projects have completed the NJDOT Project Development process and are programmed for federal funding. The TIP projects in Sussex County include:

- Route 206 - Cat Swamp Mountain Improvement - Project DBNUM: 9-001 - This project, which is intended primarily to address safety issues on this difficult section of highway will provide for operational and safety improvements by widening the roadway, extension of the northbound climbing lane, reconstruction of the curves and improving sight distance. This project, which was originally requested by Byram Township, as a result of a number of serious accidents including fatalities, is scheduled for construction in FY 2004 - 5 for a total cost of about 8.5 million.
- Replacement of Bridge K-07 on County Route 605 over the Lackawanna Cut-Off Project DBNUM:L001 - This project which is located on the heavily traveled County Route 605 (Sparta-Stanhope Road) at the border of Hopatcong, Stanhope and Byram, is intended to im-

prove safety at this crossing of the Lackawanna Cut-Off rail line. The existing bridge is a one-lane; right angle structure that is functionally obsolete. This project will include a new bridge - build to current standards on a new alignment, to replace the existing one lane bridge - which will be left in place for bicycle and pedestrian use. The new bridge will be constructed to look similar to the old structure for historical purposes. This project is scheduled for final design and ROW acquisition in FY-2004 and 2005 with construction proposed for 2007 for a total cost of about 7.5 million dollars.

- Improvements to Route 206 from Acorn Street to Lake Lackawanna Drive in Byram Township - Project DBNUM:407A - This long planned project is intended primarily to help reduce the severe congestion at this location where Route 206 bottlenecks down to two lanes from four and to improve safety. This project will provide for operational improvements including widening the highway to two northbound and two southbound lanes, with left turn accommodations in certain locations. In addition, there will be improvements to the Waterloo (CR 604) - Brookwood Road intersection and the Lake Lackawanna Drive (CR 607) intersection. There will also be drainage improvements made. In addition the County, NJDOT and Byram negotiated for a number of visual and pedestrian improvements which will make this important project compatible with the Township's proposed Town Center development. Total cost is over 15 million dollars.
- The replacement of Bridge number Q-25 on West Mountain Road in Sparta Township - Project DBNUM: L090 - This project is intended to improve safety and replace a weight posted bridge in order to maintain traffic flow on this road which connects Route 94 with CR 517. The existing timber bridge will be replaced and the approaches will be improved. This project is advancing due to a cooperative effort with the County, NJDOT and area residents to address local concerns. This project is scheduled in the TIP for ROW in FY 2004 and construction in FY 2006 for a total cost of about 3.5 million.

The NJDOT project development stage prior to projects being included in the TIP is known as the Project Development Work Program (PDWP). This stage, which contains many of Sussex County's most important highway and bridge projects, has three separate phases. The phases are Concept Development, Feasibility Assessment and Preliminary Design. The following is a brief explanation of these phases.

- Concept Development: This initial PDWP phase is where a regionally (usually by the County) prioritized need undergoes a needs assessment and appropriate strategies are sketched out. Based on data analysis and community outreach, the identification of all problems is made and agreement is reached as to what needs will be addressed.
- Feasibility Assessment: During this phase, project alternatives are evaluated and a preferred alternative is identified. Project feasibility is studied by considering engineering, financial and historic preservation issues. In addition, a community involvement program is undertaken to determine if sufficient public support exists. A probable environmental classification is made at this time.

- Preliminary Design: A more detailed and refined engineering solution is developed and environmental studies are begun to accurately assess the environmental and community impacts. Depending on the magnitude of the project, this also forms the basis of the National Environmental Policy Act (NEPA) process that will result in receiving concurrence on the environmental document.

At the conclusion of this project development work, the projects are eligible for the NJTPA TIP project pool and become candidates for inclusion in the NJTPA TIP. The TIP allocates federal funding to actually implement transportation projects including the completion of final design, right-of-way acquisition and construction.

Sussex County Projects

Sussex County has a number of important projects in various stages of the PDWP that are advancing. These projects include:

- The Route 23 Safety improvements in Hardyston Township - Project DBNUM:96039 - Silver Grove Road to Holland Mountain Road - mile posts 26.80 to 31.80. Improvements will include intersection improvements for safer turning movements, improving curves and various other upgrades. This project is scheduled to complete the Preliminary Design phase in FY 2005.
- Route 15 improvements in the Sparta - Lafayette Area - Project DBNUM: 97120 - Concept development was undertaken to model and determine the need for future improvements in this congested section of Route 15. This project is scheduled to continue Feasibility Assessment through FY 2005 and 2006.
- Route 15, Blue Heron Road Park and Ride and Intersection Improvements - Project DBNUM: 97120C - As part of the Route 15 Corridor Improvements, NJDOT is proposing to expand the existing park and ride as well as construct a new ramp from Blue Heron Road to Route 15 northbound and close the existing Ramp Z. This would be a safety improvement that would eliminate the difficult weave condition as well as providing for additional park and ride capacity in this congested corridor.

Projects that have graduated from the NJDOT PDWP and are in various stages of advancement include:

- The Route 23 and 94 Intersection Improvement in Hamburg Borough - Project DBNUM: 8919 - Route 23 Linwood Avenue to Wallkill Avenue and Route 94 - MP 35.51 to 35.71. This very important project, which also has been in the development stages for many years as well as being in the TIP previously, has advanced into the FY 2005 TIP Project Pool. It has also been included in the draft FY 2005 NJDOT Proposed Capital Program, which almost assures that it will be included in the FY 2005 to 2007 TIP.

This busy intersection has been one of the most congested locations in the County for many years. This congestion will continue to worsen in the future as additional development and recreation opportunities are realized in the area. This also leads to accidents at this spot due to the starting and stopping, traffic volumes and mix of traffic at this spot. The NJDOT had to re-design this project and send it back to scoping after local concerns were raised by the municipality. This caused significant delays for this much needed project. These issues have been addressed through a cooperative effort with the NJDOT and the municipality as well as impacted property owners which will now enable this project to move forward. It is now anticipated that this project will be included in the new FY 2005 TIP and will proceed to Final Design.

- The Route 23 Realignment and Papakating Creek Bridge Replacement in Sussex Borough - Project DBNUM: 9044. This project, intended to relieve a serious congestion and safety issue in the middle of Sussex Borough, due to very poor geometry on Route 23 has graduated from the NJDOT PDWP in 2004 and was included in the NJTPA FY 2005 Project Pool. Unfortunately, this important project was not included in the NJDOT FY 2005 Proposed Capital Program due to a lack of funding. This project was one of the 70 to 80 projects in the NJTPA region that was eligible to advance into the TIP, but was not able to due to a lack of funding. This is a good example of a project that would provide a number of benefits including congestion relief and improving safety as well as providing a significant economic benefit for the Borough since this would re-align Route 23 in the Center of Sussex and would provide new economic development opportunities, but is unable to advance due to a lack of funding at both the State and Federal level.

The final major category of bridge and highway projects in the County is known as the NJTPA Local Scoping Program. This is another type of project development process whereby the County takes the lead on the initial development work on a project similar to Concept Development, Feasibility Assessment and Preliminary design and permitting work. Sussex County has been very successful with this program since it was implemented by the NJTPA a number of years ago. This program provides the County with the opportunity to advance important transportation project for the County much more quickly than they would be developed through the regular NJDOT Process, because the County takes the initiative and has an incentive to move the projects along. This program has enabled the County to advance some very important projects through the preliminary design phase of work in order to prepare them for inclusion in the TIP. The County has received a significant amount of funding from the NJTPA for four major projects to proceed through the Local Scoping program. These projects are:

- The County Route 515 improvements - Phases II, III, IV in Vernon Township. This Local Scoping effort will develop a number of improvements for both traffic flow and for safety at this congested section of highway which also has a number of safety issues on the steep section of CR 515 at this location. These improvements will also help support the Vernon Town Center and Loop road that is being developed at this location that the County is working cooperatively with the municipality on. This will also help improve traffic flow for the increased number of people who will visit the Mountain Creek resort development and its numerous amenities that are to be developed and are a significant economic benefit for the County and region.

- Improvements to County Route 653 (Clove Road) in Montague Township. This Local Scoping effort will look at developing potential safety related improvements along with operational improvements for the entire length of this County route in Montague Township. This road serves as a connector between I-84 and Route 23 to the northern end and Route 206 to the south. This road has been the site of a number of serious accidents and has a number of issues that need to be addressed.
- Improvements to County Route 616 (Newton-Sparta Road) from CR 621 to Route 181. Newton-Sparta Road is one of the most heavily traveled highways in Sussex County, connecting two of the largest population and commercial centers in the County. Traffic volumes continue to increase on this heavily traveled highway as do safety concerns. In order to address these issues, the County has undertaken a Local Scoping effort to determine the need for and develop improvements to Newton-Sparta Road such as signal upgrades, traffic signal coordination, left turn lanes, and possible common left turn lanes in commercial areas.
- There will be significant issues associated with improvements to CR 616 such as right-of-way and overall costs. It will be necessary to prioritize and phase these improvements as funding will be limited. This will be determined once the scoping process is complete.
- Sussex County Route 605 Connector - This project was formerly known as the Acorn Street Connector Road because as it would have connected with the Acorn Street junction at Route 206. This is no longer the case and the new road will connect farther south on Route 206, closer to Route 183, in order to minimize grades and impact on Acorn Street. This new road is primarily intended to address safety issues by removing a significant amount of traffic that currently moves south on CR 605 to Route 206 south and I-80, from the very narrow, congested Brooklyn Road (CR 602). This proposed connector road would also help improve traffic circulation in this area, especially when combined and coordinated with the Route 206 improvements in Byram as well as the recently completed Route 183 improvements in Stanhope. This scoping effort was separated into a two phase study - with the first phase having determined the need and purpose of the project, and the second phase looking at potential alignments for the new connector road. This second phase, currently underway, will look at a number of different alternative alignments for connecting CR 605 with Route 206. This connection may include some type of grade separated “Fly-Over” in order to make this transition as efficient as possible.

Overall, this project will serve to increase safety, improve circulation and traffic flow and to remove traffic from residential streets in Stanhope and redirect it to a properly designed new section of road.

Future Scoping Projects: In addition to the projects described previously, there are a number of projects for which the County may apply to the NJTPA in the future. These projects would improve safety and provide for improved traffic flow. These projects include:

- Improvements to County Route 517 (Rudetown Road) from Route 23 in Hamburg Borough to Route 94 in Hardyston. A possible Scoping study on this busy section of highway would address a number of important issues. Among them is the difficult geometry of that section of CR 517 - these are numerous horizontal and vertical curve problems as well as sight distance problems and a very narrow right-of-way and pavement width in certain areas. There is also probably a need for turning accommodations in certain locations. All these issues, combined with a fairly high traffic volume that may increase in the future, indicates the need for some type of study to identify these problems and develop potential solutions. These types of problems run the entire length of CR 517 in the County. Other sections of CR 517 in the County may need a potential future scoping study to identify these problems and issues and come up with potential solutions.

- Realignment of County Route 565 in Wantage Township. This study will run from the intersection of County Route 639 to Route 23. This section of CR 565 also has a number of issues that need to be addressed, including horizontal and vertical curves, narrow pavement widths, and a narrow, right angle, single lane bridge with poor approaches. All of these problems, along with any others including environmental, would be addressed in a scoping study. Sussex County will pursue funding for Scoping for this section of CR 565 as soon as possible through the NJTPA.

There are also a number of what could be referred to as “Emerging Issues” on the County highway system that will require further study in the future. Among these are the potential impact on traffic safety at the northern end of Sparta – Stanhope Road (CR 605) if the CR 605 extension goes through in Stanhope. CR 605 feeds into a five way intersection with Winona Parkway and Woodport Road (NJ 181) in Sparta. Of particular concern will be the potential use of the realigned roadway by truck traffic moving between I-80 and NJ 23 via CR 517. Another growing traffic problem is the Route 23/CR 653/I-84 area of the proposed Montague Tri-State Center. This area should be addressed in the future in connection with the center development. Currently traffic is congested and there are movement which need improvement. NJDOT, Sussex County and the New York DOT as well as the local municipalities, have already begun to look at this area.

Major County Highway and Bridge Projects

There are a number of major highway and bridge projects on County roads that are important for maintaining mobility on the County highway system. These include highway improvements such as roadway upgrades or realignments, intersection improvements and signal installation or upgrades. Another important part of maintaining the County’s highway system is bridge repair or replacement. Having to close or weight-post a bridge on the County or a municipal road (the County is responsible for bridges on both) causes major disruption in the movement of people and goods and services.

The following are a number of important highway and bridge projects, most of which are on the County road system, that will be necessary in the near future to maintain and improve the County's highway system in order to increase safety and mobility for both County residents and residents alike, who use this system.

Major Roadway improvements include:

- Improvements to the CR 517, Maple Grange Road and Loundsberry Hollow intersection in Vernon Township
- Upgrade of the County Route 519 and 626 intersection at Halsey in Hampton Township
- Joint intersection improvement project with Wantage Township at County Route 650 and Old Clove Road
- Improvement of the intersection of County Routes 517 and 611 in Tranquility in Green Township.
- Joint intersection improvement project with Sparta Township at County Route 517 and West Mountain Road
- Realignment of County Route 669 (Limecrest Road) in Andover Township from MM 01 to MM 02.
- Suttons Corner Realignment of CR 605 and CR 607 in the Borough of Hopatcong.
- Improvement of the intersection of County Route 602 and Flora Avenue in Hopatcong Borough.
- Improvement of the intersection of CR 607 and CR 602 in Hopatcong Borough

Some of the major Bridge Replacement Projects proposed for Sussex County include:

- The replacement of Bridge # C-16 on County Route 607 over Lubbers Run in Byram Township.
- The replacement of Bridge # D-20 on County Route 565 over a branch of the Pakating Creek in Frankford Township.
- The replacement of Bridge # E-02 on County Route 631 over the Franklin Pond inlet in the Borough of Franklin.
- The replacement of Bridge # Q-06 on Main Street over the Wallkill River in Sparta Township.

- The replacement of Bridge # A-13 on County Route 663 over a branch of the Paulskill River in Andover Township.
- The replacement of Bridge # H-12 on County Route 521 over the Lake Swartswood Inlet in Hampton Township.
- The replacement of Bridge # J-03 on County Route 515 over a branch of the Pequannock River in Hardyston Township.
- The replacement of Bridge C07 on County Route 650 over Beers Creek in Montague Township.
- The replacement of Bridge # V-05 on County Route 517 over a branch of the Pochuck River in Vernon Township.
- The replacement of Bridge # G-09 on County Route 519 over Bear Creek in Green Township.

Sussex County is also proposing a number of new signals throughout the County over the next six years in order to improve safety in the County. These new signal locations include:

- Installation of a new signal at the intersection of US Route 206 and County Route 603 in Andover Township.
- Installation of a new signal at the intersection of CR 517 and CR 644 in Vernon Township.
- Installation of a new signal at the Intersection of US Route 206 and County Route 630 at the northerly intersection, in the vicinity of Culvers Lake in Frankford Township.
- Installation of a new signal at the intersection of CR 602 and CR 605 in Stanhope Borough.
- Installation of a new signal at US Route 206 and County Route 653 in Montague Township.
- Installation of a new signal at the intersection of CR 515 and CR 638 in Vernon Township.
- Installation of a new signal at the intersection of US Route 206 and County Route 560 (Tuttles Corner) in Sandyston Township.
- Installation of a new signal at the intersection of State Route 23 and County Route 650 in Wantage Township.

- Installation of a new signal at the intersection of County Route 602 and Flora Avenue in the Borough of Hopatcong.
- Installation of a new signal at the intersection of County Route 517 and Passaic Avenue in Ogdensburg Borough.

APPENDIX F

**COUNTY-WIDE VISIONING
QUESTIONNAIRE**

APPENDIX G

**SUMMARY OF WASTEWATER
TREATMENT FACILITIES**

Revised 4/8/05