Vance County Land Use Plan

Adopted October 1996
Amended August 2, 2010

Planning for Sustainable Quality Growth...

Preservation of Natural Resources...

Maintaining Individual Character...

Preservation of Prime Farmland...

Rational, Defensible and Equitable Regulations...
The Vance County Land Use Plan was originally prepared by Julie A. Reid, Kerr-Tar Regional Council of Governments, in 1996. Since this time the county has identified the need for an updated plan. This latest update was completed primarily by the Vance County Planning and Development Department with contributions and assistance from the Vance County Planning Board. Additionally public concerns were incorporated into the plan following public meetings facilitated by the Golden Leaf Foundation as well as through public hearings held by the Vance County Board of Commissioners.
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A majority of Americans would prefer to live in small cities, small towns and the country side. Rural and small town beauty can be a potential economic resource. Development based on the appeal of a rustic, historic, or scenic place can enhance economic diversity and hence sustainability of that place, if balanced with concerns of health and well-being. Developers have identified valued aspects of rural areas and small towns which attract new residents and businesses. The quality of rural places is a finite resource. Uncontrolled development can overwhelm or destroy that rural quality.

It is sound planning to promote a sustainable and self-regenerating economy, while managing an aesthetic environment where land, water and vegetation, not buildings, are the dominant features.

We are here to plan land use. There are many types of land use.

- Agriculture - crops, livestock
- Forestry
- Residential
- Commercial
- Industrial/Manufacturing/processing
- Public services - such as water, sewage treatment, landfills, hospitals, jails, libraries, schools, fire stations and administrative offices for government.
- Roads, railroads, airports
- Parks and other recreational facilities, bike trails
- Open Space/Natural places for plants and wildlife
- Utilities - gas, electricity, telephone and cable

Many of these uses have special sub-categories such as historic properties, archaeological sites, watershed protection areas and scenic areas.

Our primary focus must be to assure current land owners the necessary resources to sustain their use of the land today and in the future. Land ownership is valued not just for its market value, but also for sustaining a way of life. The development and sustainability of these land uses are paramount in our task.

The focus of the plan is to establish a sustainable rural community by balancing economic development and environmental protection in accord with the carrying capacity of the land.

The secondary focus is to determine what our future needs or wants will be, what resources will be necessary to develop and sustain these needs or wants, whether these resources will be available and at what cost.

Subdivisions, single family housing, shopping centers, retail areas, schools and churches, all separated by farms, forests or other open spaces are characteristic of a well planned rural area. It is also necessary to maintain different levels of density, income levels and age groups, provide services to both clustered and dispersed populations, protect natural systems and enhance agriculture, forestry and horticulture. The opportunity and challenge is to: foster diversity and avoid concentrations of sameness; maintain a continuity with the past; blend development with nature; and provide choices, quality and an aesthetic sense of balance that is meaningful to people.

This plan must identify and incorporate the public interest. Growth is permitted in accordance with the ability of the County to supply public services, to build and maintain roads and schools, to retain the rural character and to protect historic sites and cultural resources.

The focus of the plan is to establish a sustainable rural community... with the carrying capacity of the land.
Planning Basics

What is land use planning?
Advantages of Planning
Formulation of a plan
Reason for initiating planning process
Mission Statement
Planning and the average citizen
What is land use planning?

Planning is the process through which we reach well informed decisions.

Land use planning is the process of looking at how a community has developed up to this time, what the citizens would like the community to look like in the future, and how to get from what we are to what we want to be.

This process includes studying many factors about the land, the water, the people and the buildings. We look at the quantity and quality of our resources. We determine special features that may need additional protection.

Goals for the future are established by the citizens. A plan of action is developed based on these goals. Finally, priorities must be established for what must be done to achieve the goals.

Advantages of planning

Planning allows us to make choices instead of taking what comes. Planning can help us provide for:

- protection of existing uses
- preservation of the character of specific areas
- controlled growth rate (speed up, slow down, stop)
- compatibility of uses
- protection against negative impacts caused by increased regulation in adjoining counties
- prevention of poor development draining the county’s resources
- ways to know when and where to install capital facilities and infrastructure
- determination of how much and where land should be reserved for public and quasi-public uses

Formulation of a plan

The Vance County Board of Commissioners appointed a Land Use Planning Task Force in August of 1995. The members represented different areas of the county and had different interests such as farming, industrial development, commercial, real estate, historic properties and environmental preservation.

The Land Use Planning Task Force, with the assistance of a team of technical advisors, studied existing conditions throughout the County.

Five public information and participation meetings were held throughout the County. The Task Force incorporated ideas and beliefs expressed at these meetings. The Task Force envisioned what Vance County should look like in the future, what resources will be needed and how to make sure changes that do occur will benefit the citizens of Vance County.

In May of 2008, the need for an updated plan was identified. This update has been completed within the Vance County Planning and Development Department in collaboration with the Vance County Planning Board, several county departments, organizations, stakeholders and individuals.

Reason for initiating planning process

The Vance County Board of Commissioners identified a need for information that would help the Board of Commissioners identify strengths, as well as problem areas, of land use throughout the County.

This process will allow them to identify what the citizens of Vance County want or need in relationship to land use and development management. The planning process will enable the Board of Commissioners to do a better job of planning long range expenditures for facilities such as schools and other County- financed facilities. The process will help define what types of land uses can be located close together and which should be separated from other uses.
Mission Statement

The following Mission Statement was formulated by the Vance County Land Use Planning Task Force and adopted by the Vance County Board of Commissioners.

To prepare a Land Use Plan that will:

- Encourage continued economic development (including an industrial park);
- Upgrade and expand the county’s infrastructure so that it can handle growth and development;
- Protect prime farm land;
- Protect community character;
- Preserve valuable historic structures;
- Protect the natural and cultural environment;
- Control undesirable growth and development;
- Enhance the visual appearance of the County;
- Protect Kerr Lake for recreation, residential uses and water supply;
- Foster housing opportunities for all citizens in the County; and
- Enhance the County’s quality of life.

Planning and the average citizen

You may believe that a land owner ought to be able to do anything he wants on his own property. You may also recognize that changes in the way property is used can have long lasting impacts on the neighborhood and community. These two beliefs form the basis of land use planning and development management.

Planners, appointed boards and elected officials, are charged with making decisions in the public interest, and only in the public interest. The US Constitution and the laws of North Carolina include protection of your property rights; both also consider the rights of the property owners that live near you.

Planning helps guide decisions about where, how much and under what conditions changes in land use can occur. It is important to preserve and protect those things we like about Vance County. It is important to make sure that we have the resources we need to continue these uses. It is also important to know what changes we might want or need in the future and what resources we will need to support these changes.

Your participation has helped to form the goals needed to protect your interests, protect the interests of your neighbors and provide the means for developing the type of community you want to live in.
The Resource Base

Soils

Water Resources

Wastewater Provisions

Solid Waste Provisions

Flood Plains

Utilities

Transportation

Housing

Schools

Parks, Open Space and Natural Areas

County Facilities

Demographics
Soils

General
Development Soils
Agricultural Soils
Wetlands Soils
Conclusions
Soils play a major role in determining what type of land use is best suited for an area. Not only are soils unique, but they have different characteristics and classifications. Additionally, each classified soil type also has different appropriate uses with several soil types capable of handling more than one land use. Many times a single soil has several appropriate uses and through this inventory of county soils better decisions can be made regarding development potential and location.

Vance County is considered a rural county where about half of the population lives in a rural setting. Approximately one third of the acreage of Vance County is being used for crops, pasture land or forestry. Many of the soils that are productive for agriculture are also desirable locations for new development. When a given soil has the best conditions for development and agriculture, conflicts can occur. Care shall be taken to minimize this conflict and balance these two land uses. The competition for these soils will require careful assessment.

Soil survey information can be used to evaluate the effect of specific land uses on productivity and on the environment of the County. It can be used to identify the potentials and limitations of each soil for specific land uses and help to prevent construction failures causes by unfavorable soil properties. By knowing the soil properties within a location, land uses can be planned accordingly in order that soil related construction failures can be avoided. **A clear understanding of the characteristics of soils will help to maintain or create a land use pattern in harmony with the natural soil.**

**Some soils are not appropriate for a proposed use.** The soils survey helps to determine the limitations of these soils for a particular use. Soils are evaluated based on their potential for:

- dwellings and small commercial structures
- roads
- septic tank absorption fields
- forestry production
- public uses - playgrounds, golf courses
- agricultural production
- location of sources of sand, gravel, road fill and topsoil.
- location of areas difficult to excavate due to bedrock, wetness, or very firm soil layers

Soils can have three levels of **limitations:**

- **Slight** - soils properties and characteristics are generally favorable for the indicated use and limitations are minor and easy to overcome
- **Moderate** - are not favorable for the indicated use and special planning, design or maintenance is needed to overcome or minimize limitations
- **Severe** - conditions are so unfavorable or so difficult to overcome that special design, significant increases in construction costs and possibly increased maintenance are required

A soil survey of Vance County was completed in 1977. Scientists use a combination of soil bores, observation and laboratory testing to determine the spatial pattern of soils throughout the county. The combination of this data and knowledge of soil types allow the scientists to predict what a soil will do and how it will react to various land uses. This survey helps in planning land uses and can be used as a **general** guide to development.

It should be noted that even detailed soil maps in the Soil Survey are not site specific. A definitive on-site soil investigation or engineering analysis is needed when evaluating specific sites for on-site sewage disposal or other waste disposal system or when there will be a significant change in land use such as large subdivisions, commercial, industrial and wholesale uses, forestry clearing and land clearance activities for agricultural use.

It is always a good idea to have a soils analysis done on any property being considered for purchase and development. Almost one third of the land in Vance County has severe limitations for septic tank absorption fields and construction of dwellings or commercial buildings. Any land with severe soil limitations should be evaluated very carefully to avoid undue costs of construction and costly long term maintenance. The following tables
summarize the soil causing development limitations and drainage potential throughout the county. Additionally, the attached map shows the spatial extent and pattern of septic tank limitations.

### Capacity for Dwellings with Basements

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<th>Acres</th>
<th>% of County</th>
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<tr>
<td>Moderate</td>
<td>47,808.36</td>
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<td>Severe</td>
<td>41,932.25</td>
<td>24.3%</td>
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<tr>
<td>Not Rated</td>
<td>11,500.99</td>
<td>6.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>172,280.04</td>
<td>100.0%</td>
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</table>

### Capacity for Septic Tank Absorption Fields

<table>
<thead>
<tr>
<th>Limitations</th>
<th>Acres</th>
<th>% of County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slight</td>
<td>0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>Moderate</td>
<td>104,315.43</td>
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<tr>
<td>Severe</td>
<td>56,463.62</td>
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</tr>
<tr>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>172,280.04</td>
<td>100.0%</td>
</tr>
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</table>

### Drainage Potential

<table>
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<tr>
<th>Drainage</th>
<th>Acres</th>
<th>% of County</th>
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<tr>
<td>Well Drained</td>
<td>145,294.86</td>
<td>84.3%</td>
</tr>
<tr>
<td>Moderately Well Drained</td>
<td>7,400.96</td>
<td>4.3%</td>
</tr>
<tr>
<td>Somewhat Poorly Drained</td>
<td>3,069.45</td>
<td>1.8%</td>
</tr>
<tr>
<td>Poorly Drained</td>
<td>5,013.78</td>
<td>2.9%</td>
</tr>
<tr>
<td>Not Rated</td>
<td>11,500.99</td>
<td>6.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>172,280.04</td>
<td>100.0%</td>
</tr>
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### Development Soils

Within Vance County, there is a considerable amount of land with soils which are a very poor choice for development. The Residential and Commercial Development chart, following, shows these moderate and serious limitations for septic tank installations and dwellings with or without basements for many Vance County soils. Many of these same soils are also poor for developed recreational use. (see Recreational Development Potentials soils chart).

This means development may have to be approached differently. **Common sense, creativity and flexibility on the part of all concerned will be necessary to effect good quality, sustainable development.** Septic tank limitations can be solved by connection to a public sewer, making a site feasible to develop. A site with shallow soils and solid granite underneath may need to be combined with an adjoining property with good soils to enable development. The development of seasonal housing is a good alternative for existing lots without room for replacement drainage fields. This gives the soil time without continuous saturation and may extend the life of the drainage field. Smaller lots with large areas of open space may be an alternative for problem soils.

### Agricultural Soils

Most soils in rural Vance County are best suited for agricultural uses and natural areas. The chart Agricultural Development Potential shows yields for soils in Vance County. This chart reflects the most productive soils for typical Vance County crops. Some soils may be as productive or more productive with an alternative crop.

### Northwestern Vance County

Higher elevation and flat areas to the north and west are predominantly productive Cecil soils (CeB2 and CeD2), with small areas of Appling soils (ApB). Extremely productive soils form the extreme north part of this area near Woodsworth and should be preserved and protected from development pressures as long as possible. These soils have slight limitations for construction, although they have moderate restrictions for septic tank installations. Future development potential could be developed in the areas of Williamsboro and Townsville, if public sewer were made available. Such future development should be contained within the boundaries of these two areas to minimize conflicts between prime agriculture, development and water quality issues.

The extreme western area of this area also has very productive soils, Georgeville (GeB and GeD) and Nason (NaB and NaD). These soils are less desirable for development, having more limitations for construction and septic tank installations. Development should be discouraged in this area to prevent conflicts between agricultural uses and “semi-urban” residential uses.
Lower elevations and stream bed areas have a combination of potential wetlands soils and other soils which are productive for agricultural uses, but have severe restrictions for development. Soils in these areas are best left in their natural state, particularly those along stream beds.

**Northeastern Vance County (north of I-85)**

Soils in flat or higher elevation in this portion of the county are the very productive Appling (AuB) and Vance (VaB) soils. Development pressures have already begun to exert themselves in this area. Unfortunately, the areas being intensely developed have some of the most severe limitations for construction and septic tank placement. This unwise development may have serious long term effects on water quality in this area of the lake.

Sensible development siting would bring about direct conflict between the agricultural community and the development community. It is very important to preserve the use of these soils for agriculture. Residential development should be very limited and siting of development should minimize land taken out of production or its natural state.

One large area near Mill Creek has very poor soils for development, but fairly productive soils for agricultural uses. Additional soils in this area have some benefit for pasture land, but little other use except for natural open space and stream buffering.

**Southwestern and Western Vance County**

The western quarter of the county has a large amount of Vance (VaB) soils with scattered patches of Appling (AuB) and Cecil (CeB2 and CeD2 soils). All three of these soils are highly productive. The best use for these soils is agricultural.

There are severe limitations for development for Vance soils. This area is laced with streams and stream beds not suitable for agriculture or development. These soils are best left in their natural state to serve as stream buffers and hold soil on rather severe slopes.

**Southern Vance County**

The southern portion of Vance County has one large area of Appling (ApB) soils along the east side of the US Highway 1 corridor and west of Buffalo Creek. A second large area of good agricultural soils, Cecil (CeB2) is between Buffalo Creek and King’s Creek.

Also, in the southern part of the County area several wetlands, wildlife and plant habitats of state and federal significance and flood plain areas that need preservation and protection. This should not be too difficult as these are generally located in areas with poor soils for development. These areas are generally around Tabb’s Creek, Long Creek, Ruin Creek and the north bank of the Tar River.

Of special concern are the soils along the Tar River. Land in the southeastern part of the County is located in the Tar River Water Supply Watershed area. Water supply watershed protection is mandated by the State and Vance County has adopted special regulations for this area. This area has bluffs overlooking the river, steep slopes with thin topsoil and contains environmentally significant sites. This area has been largely undeveloped at this time and should continue to be so. The streams in this area have experienced severe water quality degradation in the past. Any soil disturbing activity should be discouraged.

**Eastern Vance County**

This part of the county has the largest expanses of Appling (ApB) soils. The Appling soils, as shown on the Agricultural Development Chart, are the most productive soils in Vance County for tobacco as well as other Vance County crops. These farms are the largest farms in the county as smaller farms have been absorbed by the larger farms over the last twenty years. These large farms with large expanses of the best soils are critical to the Vance County agricultural economy.
Development has begun to expand to the east edge of the City of Henderson and into the east side of the City’s Extra Territorial Jurisdiction. Expansion of public water and sewer lines for residential use in this area would spark serious land use conflicts and could seriously undermine the agricultural economy.

There are a few areas with wetlands soils or sensitive water quality areas along, Martin, Cattail, Weaver and Fishing Creek. Areas along streams and directly adjacent to stream beds should be allowed to remain in their natural state. Soils in these special areas would not be very productive.

**Wetlands Soils**

The Soil Survey of Vance County identifies soils which have a potential for wetland plants and wetland wildlife. Wetlands are usually not good for building sites and can increase the cost of construction. Wetlands play a vital role in life cycles, flood prevention, and the hydrological cycle. They are often also scenic natural areas. Appropriate recommendations should be made to protect the functions they serve. Wetlands are invariably unsuitable for building sites, and because they frequently act as flood retarding reservoirs or water-table recharge areas, there is strong justification for proposing that they be maintained as natural greenbelts.

Some changes in land uses in wetlands areas may require one of the following or all three, which would not be unusual:

- a special federal permit
- an environmental impact study
- may require extensive and expensive mitigation.

Two soils are identified as having good potential for wetlands plants, the Wehadkee (Wh) soils and the Worsham (WoA) soils. Two additional soils are identified as having fair potential for wetlands plants, the Lignum (LgB) soils and Chewacla (Cw) soils.

Only one soil is identified as having good potential for wetlands wildlife, the Worsham (WoA) soils. Three additional soils are identified as having fair potential for wetlands wildlife, the Wehadkee (Wh) soils, the Lignum soils (LgB) and Chewacla (Cw) soils.

In Vance County, typical locations for these soils are **natural** pond areas, stream beds, land directly adjacent to stream beds, and flood plains associated with stream beds. Water may not be seen on the surface of the soils, but affect soil from 4 to 12 inches below the surface. Not all wetlands soils are located in stream beds, but often these soils are found in areas of low elevation relative to the surrounding land.

The Soil Survey should be considered a starting place for wetlands determination. Any major changes in land use should include an assessment of the site for wetlands. These major changes would include large subdivisions, all commercial, industrial and wholesale uses, forestry clearing and land clearance activities for agricultural.

**Conclusions:**

- Soils play a major role in determining what type of best land use is best suited for an area.
- A clear understanding of the characteristics of soils will help to maintain or create a land use pattern in harmony with the natural soil.
- There is, sometimes, more than one appropriate land use for one type of soil. This can cause land use conflicts.
- Some soils are not appropriate for a proposed use.
- Many changes in land use require the performance of a site specific soil investigation or engineering analysis.
- Soils that lie in a flood plain, have a wetlands classification, have severe slopes or have severe limitations on the uses are usually best left in their natural state. These areas can be used for open space, to buffer streams, serve as flood retarding areas.
- Areas having prime agricultural soils, significant environmental features or wetlands soils must be protected.
- Common sense, creativity and flexibility on the part of all concerned in land use will be necessary to effect good quality, sustainable
## Vance County Soils Survey

### Residential and Commercial Development

- *se* = serious limitation
- *mo* = moderate limitation
- *sl* = slight limitation

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Soil Group</th>
<th>Acres</th>
<th>Percent</th>
<th>Shallow excavations</th>
<th>Dwellings without basements</th>
<th>Dwellings with basements</th>
<th>Small Commercial Buildings</th>
<th>Local roads and streets</th>
<th>Lawns and Landscaping</th>
<th>Septic tank absorption fields</th>
<th>Potential Wetlands</th>
<th>Potential Wetlands Wildlife</th>
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<td>sl</td>
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<td>mo</td>
<td>sl</td>
<td>sl</td>
<td></td>
<td></td>
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<tr>
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<td>Appling</td>
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* Does not include areas of water over 40 acres, such as John H. Kerr Reservoir

Source: Soil Survey of Vance County, North Carolina; 1977
# Vance County Soils Survey

## Agricultural And Recreational Development

*se = serious limitation  
*mo = moderate limitation  
*sl = slight limitation*

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* Does not include areas of water over 40 acres, such as John H. Kerr Reservoir

Source: Soil Survey of Vance County, North Carolina; 1977
Septic Tank Limitations

Boundaries
- Henderson
- ETJ
- Kittrell
- Middleburg
- Floodplain

Septic Tank Limitations
- Not Rated
- Moderate
- Severe
Water Resources

General
County Water Sources
County Water District
Hauling Water
Private Wells
Public Water System
Watersheds
Conclusions
General

We must understand the importance of protecting our water supply.

Sustainability and survival. Water is one of the major resources we can not do without. It is one of our most complex issues and relates to almost all other issues we consider. Property owners must protect the water source to their industry, business or homes. The value of property drops without a water resource to sustain it. Our sources of water must be protected and this must be one of our top priorities. The quality and quantity of our water not only effects our ability to survive, but determines whether our crops will grow and whether wildlife, fish and livestock will survive.

Virtually all land serves to recharge ground water. Soil may be considered a filter for the ground phase of the hydrological cycle. Certain areas such as wetlands serve as water recharge areas. It is important to protect aquifers and recharge points to sustain private wells and the potential for public wells to serve as backup.

Rural jurisdictions are finding it necessary to protect their long-standing claims to regional water supplies because of the expanding demand for water. Many rural communities unable to compete in the water marketplace have lost their water rights to urban areas and developers.

As we have begun to understand from the droughts of 2002 and 2007, water is an extremely valuable commodity. Those jurisdictions with a lesser water supply will want to “tap-in” to our very precious Kerr Lake water supply. This happened in the late 1990’s when Virginia Beach was given authority to withdraw up to 60 million gallons a day (mgd). The City of Raleigh has also approached the State of North Carolina about withdrawing water from Kerr Lake. If Raleigh were to withdraw water from Kerr Lake, they will not return treated water back to the Roanoke River Basin. The permanent withdrawal of water from a river basin can have a significant impact on water volumes down stream.

The environmental review for the Virginia Beach withdrawal stated that withdrawals of up to 60 mgd could be made from the reservoir along with a 14 mgd withdrawal for the South Boston area. The combined maximum withdrawals of the two requests would reach 74 mgd. It is critical that a formula for the equitable distribution of withdrawals from the reservoir be designed and approved at all levels before any additional withdrawals begin.

Leadership from cities and counties throughout the region should be working together on water issues. They should be cooperating to formulate strategies to protect the Kerr Lake water supply. The combined political influence of the region is much greater than the two small cities and the sparsely populated county currently in ownership position of the Regional Water System. Local entities will not enter the fray unless they have a potential interest in the outcome of these negotiations. Negotiations have taken place on federal and state level, but there must be strong representation from the region as a whole involved in these negotiations. This is not the time to take a passive role in negotiations for water rights.

Rural leaders need to be prepared to participate in this evolving process. They must play an expanded role as liaisons among rural water users, state water experts, water managers, institutions, legislators, and basinwide planning organizations. There is opportunity to help resolve the inevitable conflicts between upstream and downstream water users, between urban centers and rural communities and between small-scale and commercial/industrial users.

County Water Sources

Currently, there are four sources for obtaining water in Vance County: connection to the public water supply, individual drilled wells, individual dug wells and some homes are transporting water from various sources to their residence. In 1990, approximately 58 percent of the population of Vance County was served by surface waters supplies such as streams, rivers, lakes or reservoirs, while the remaining 42 percent of the population was served from ground water aquifers, which are pools of water in rock formations below the ground. Due to the Census Bureau no longer recording this statistic, the 1990 numbers have been utilized. It is anticipated that since 1990, the number of dug wells have decreased while public water connections and individual drilled wells have increased. Of these, individual drilled wells have increased the most.
The following is a chart of the residences using each type of water supply for Henderson, Kittrell, Middleburg and in Vance County as a whole. Most of the homes connected to public water are within the corporate limits or just outside the Henderson city limits in the Henderson Extra-Territorial Jurisdiction (ETJ). Warren County provides Vance County residents with water connections in the Northeast portion of the county (Currently approximately 86 connections). In 2004, a water line was run along NC Highway 39 North to Harris’s Crossroads and along Nutbush Road to the Nutbush Bridge. Water users outside the city limits pay a higher water rate than those inside the city limits.

### Source of Water

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<th>Individual Dub Well</th>
<th>Other Source</th>
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<td>County-wide</td>
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Source: 1990 United States Census

The following chart shows the connections to the public water system since 1990. Regarding connections to public water systems, the state building code requires connection to the water system if within 300 feet of the line for new construction and/or change of uses.

No information is available on the number of new wells installed as permits have only recently become required as of July 2008.

### Connections to Public Water

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Source: City of Henderson – Engineering Department

### County Water District

In 2004, the Vance County Board of Commissioners authorized the development of the “Vance County Water District”. At that time, the water district comprised 167 miles of pipe on select roads that are “highly dense” with population. The proposed water district did NOT include the Watkins District and most of the Middleburg District due to per capita income levels that were above the standard for USDA funding. In May of 2008, the Vane County voters authorized 27 million dollars in bonds to pay for the public water project. Sign ups for the water project should begin in the spring/summer of 2009. The Department of Agriculture would like to see 75-80% of the people along the proposed water pipe sign up for either water service or a water tap. The proposed water district essentially provides “potable” water to residential customers. Vance County will be buying its water from the Kerr Tar Regional System. The attached map portrays the proposed Vance County Water District.

### Hauling Water

Some homes have wells that have either gone dry, have become contaminated or shared water with an adjoining property at some time in the past. These homes must haul water for drinking, bathing, washing dishes and clothes and for household cleaning. There are serious sanitation concerns relating to the hauling and storage of water. The first concern would be whether the water obtained has been tested for contamination. The second concern would be whether containers used for the transportation of water are safe and sanitary. The third concern would be
whether the water is being stored in such a way to provide safe, clean drinking water. Properties without a sustained water source would have little value and could pose as public health risks.

**GROUND WATER SUPPLIES**

**Private Wells**

There are three types of wells in use in Vance County.

The first is a dug well. These wells are usually 35 to 50 deep, are dug by hand and are called surficial wells. Because these wells draw water from soils close by, they are vulnerable to contamination by actions that occur in close proximity to the well. Actions that are hazardous to these wells are storage of oils, gasoline or farm chemicals on or near the well, location near livestock operations or near septic tanks and use of any chemicals in close proximity to the wells. These wells are less reliable for a continued source of water during times of draught and low rainfall. Care must be taken not to disturb or destroy natural water recharge areas. Surficial wells should be tested before using for human or animal consumption and should be tested on a regular basis although there is no requirement to do so.

The second type is a bored well. This well is constructed by means of an auger. Typical depths are rarely beyond 100 feet. Their shallow depths again make them susceptible to contamination. Much of the water for these wells is drawn from the soils surrounding the well, but could reach a very shallow aquifer.

The third type is a drilled well. These wells are considerably deeper than dug wells and draw most of their water from aquifers in rock layers. The quality and quantity of water of these wells are dependent on the type and depth of the soils and rock layers above them. Some rock layers have concentrations of mineral deposits that make the water unusable for some purposes. Additionally, it has been determined that there is a possibility of Radon Gas in the water where the bed rock is primarily granite. While being drilled and deeper, these wells are also vulnerable to contamination. Many of these wells draw from deep underground pools of water or aquifers and if one of these aquifers becomes contaminated all wells drawing from the aquifer will also be contaminated. Surrounding properties up to one mile can be contaminated in a matter of days and the contamination is usually permanent. Recharge areas must be protected. As with dug wells, storage or use of chemicals near the well increases the chances of contamination. These wells should also be tested before initial use and should be tested on a regular basis thereafter.

As of July 1, 2008, there are permits required for the installation of a well and well testing. As a result of this, certified well drillers have to obtain a well drilling permit, submit it to the inspections department and test the water prior to obtaining a certificate of occupancy. Poor record keeping as to the location of underground gasoline storage tanks, wells and septic tanks also plays a major role in the ability to install and maintain safe water supplies.

The state has developed minimum standards for installation of septic tanks in proximity to wells. These minimums are developed for optimum conditions. Certain soils and geological formations create conditions that would require a great deal more space for safe and healthy installations. While some inspections departments are very knowledgeable, few have geologists or soil scientists available to help determine whether the minimums should apply or whether additional precautions are necessary. Also, the minimums are established based on a probability that a well will not be contaminated. For example, at a 100 foot distance (50 feet is the minimum state standard) between a well and septic tank, the probability of no contamination would be approximately 70 percent. To achieve a probability of 90 percent or more may take 200 feet or more. It is important for property owners to know that the state standards for safety may be a great deal lower than they are willing to accept and that not all well drillers have the knowledge to advise them any differently.

Although, only a few medical professionals consider the possibility of contaminated water supplies as a source of poor health, some do feel this is the case depending on the contaminant. Reports of poor health are often not conveyed to public health officials, because they have not been associated with a water source. Within the
county, there have been a number of instances of well contamination. In fact, in 2003 the county obtained a grant to extend a public water line from the city boundary along NC Highway 39 North to the Nutbush Road Bridge due to contamination from the old Henderson Landfill. Additionally, contaminations have been identified in the areas of Kittrell, Middleburg, Harris Cross Roads, Williamsboro Cross Roads and Gillburg. In recent years, Vance County has had 207 cases of leaky underground storage tanks reported to the state Department of Water Quality, Underground Storage Tank Section. Most of the contamination was due to an underground storage leak of gasoline, diesel, heating oil, or other petroleum products. While many underground storage tanks have been removed in recent years, the State estimates there are another 9,000 unreported contaminated sites. Additionally, it is important to note that Vance County also has a large number of both permitted and unpermitted junk/salvage yards. Many of these are on larger parcels of vacant property, but others are on smaller lots in residential areas where wells are the only source of drinking water.

What happens when a well is contaminated? Property owners or renters may not know the well is contaminated for many years until a family member becomes ill. If the contamination is known, the property owner has no choice other than to haul water to the home. There are serious sanitation concerns related to the hauling and storage of water. If the property is very close to a public water supply line, the connection could be made. However in Vance County, relatively few water lines are in place outside the city or ETJ boundaries. The State has limited funds for short distance emergency connections to a public water system if contamination is detected. The property owner would have to assume the cost of such a connection if the distance was too great or if the State has no funds.

**SURFACE WATER SUPPLIES**

**Public Water System**

A portion of Vance County, outside the city limits, is served by the Kerr Lake Regional Water system. The Kerr Lake Regional Water Plant was built in 1975 by the City of Henderson (60% ownership), the City of Oxford (20% ownership) and Warren County (20%) ownership. The plant is located on Anderson Creek; just as it enters the John Kerr Lake Reservoir. The Regional Water System contracts with the United States Corps of Engineers for water rights. The contract stipulates the use of 20 million gallons of water per day for a 30 year period. The plant was constructed with a capacity of 10 million gallons per day. There is a potential to expand this plant up to a full 20 million gallons per day. Current usage for the three primary stakeholders is approximately on average 7 million gallons per day.

A 36 inch water main carries water from the plant along Fleming Road to a point just south of I-85 and US 158. The line then splits with one segment along US 158 east to Warren County. This line segment has a meter to show the quantity of water being used by Warren County. The other segment turns to the west to serve Henderson and the City of Oxford. The line is metered west of Henderson to determine the quantity of water being used by Oxford.

Vance County residents being served by the Regional Water System include residents of Henderson, part of Gillburg, part of Kittrell, and along NC Highway 39. Some additional residents being served by the system reside just outside the Henderson city limits/ETJ through a contract with the City. Those residents residing outside the city limits of Henderson currently pay two and a half times the rate that Henderson City residents pay.

Private wells in subdivisions with more than 15 connections or serve more than 25 people are considered “community wells” and are regulated by the North Carolina Division of Water Quality. These wells are maintained by private water treatment companies and tested several times a year by the state. Community wells are mainly in small subdivisions or Mobile Home Parks.

Several levels of testing at various intervals are required for entities providing public water supplies. Water to the public must meet certain standards to pass these tests. Any change in water quality is unlikely to go undetected and corrective action is more likely to be quickly corrected.
There has been some recent concern about organisms being imported on boats that come to Kerr Lake; for example Hydrilla. Hydrilla has presented rather expensive problems in Lake Gaston (our adjoining lake). These organisms cause very expensive problems at the treatment plant if they take hold.

**Watersheds**

Water that falls on land that does not evaporate or soak into the ground usually drains into ditches, streams, marshes, or lakes. A watershed is the land from which the water drains to a given point.

People, animals, birds, fish and vegetation are part of the watershed “community”. All depend on the watershed and have an influence on what happens there - good or bad. What happens in a watershed will also impact the larger watershed which is downstream.

If water runs off the land too fast it cuts gullies, carries off top soil and any chemicals that have been absorbed by the soil. The water may also carry litter and garbage from on top of or in the soil.

The combination of soil, litter, garbage and chemicals makes it hard for the animals, fish and birds which depend on this water to live. This combination makes it more expensive to treat the water that we use in our homes. The watershed protection program helps to keep the costs of water treatment down by encouraging people around the watershed to be responsible environmental custodians.

The soil and litter carried off by the water also builds up in the bottom of creek, lake and reservoir beds. This reduces the amount of water that can be stored and increases the chances of flood and flood damage. People living around the lake are encouraged to employ Best Management Practices for erosion control. Vance County is currently working on a storm water erosion control ordinance and a source water contamination program.

Land that has ground cover slows water. Land should not be stripped bare or left unprotected for long periods of time. Steep slopes need soil conservation measures such as contour farming, strip cropping and terracing. Residents and local logging companies are encouraged to leave “buffers” between roads, rivers, streams and the lake if “clear cutting.” Within the Tar-Pamlico River Basin, which covers the southern portion of Vance County, a total of 50 feet of riparian area is required on each side of water bodies. Within this 50 feet, the first 30 feet, referred to as Zone 1, is to remain undisturbed with the exception of certain activities. The outer 20 feet, referred to as Zone 2, must be vegetated, but certain additional uses are allowed. Specific activities are identified in the rule as “exempt”, “allowable”, “allowable with mitigation” or “prohibited”. Examples of “exempt” activities include driveway and utility crossings of certain sizes through zone 1, and grading and re-vegetation in zone 2. “Allowable” and “allowable with mitigation” activities require review by Division of Water Quality (NC DENR) staff and include activities such as new ponds in drainage ways and water crossings. The Roanoke River Basin which encompasses the northern half of Vance County has no such state buffer requirements; however Vance County has required a 30 foot buffer within this basin.

Oils, paint strippers, pesticides and herbicides must be disposed of properly. Those who do not dispose of these materials properly should be reported immediately. No left over chemicals should be poured on the ground. The North Carolina Agriculture Extension Service collects and properly disposes of “Hazardous” chemicals once a year.

**Public Water Supply Watershed Protection**

In 1994, all cities and counties with public water supply watersheds within their boundaries were required to adopt regulations to protect these watersheds. These regulations control development throughout two watersheds in Vance County. The two watersheds are the Anderson Creek Watershed and the Tar River Watershed.

Watersheds have two types of classifications for land within a watershed, a “protected” area and a “critical” area. The protected area size is defined as five miles and draining to the normal pool elevation of reservoirs, or ten miles upstream of and draining to intakes located in large rivers. Areas of the watershed that are very close to the water supply intakes are called “critical” areas and have stricter controls. Anderson Creek has both types of
classifications. The Tar River Watershed has a protected area only, because the water supply intake is located in Louisburg.

The minimum requirements dictate land use controls around surface water supplies. These controls help ensure that there will be less harmful stormwater runoff going into the water supply. Land use controls for residential development limits the number of houses that can be built (per acre) and must determine how surface water flows will be altered by this construction. Land use controls for commercial and industrial development limit the amount of area that can be covered by buildings, parking lots and driveways (impervious surfaces - anything that does not absorb water) and must determine how surface water flows will be altered by the construction.

Additionally, any entity that stores, uses, sells or manufactures toxic or hazardous materials is required to:

- Submit a plan of what they will do in case of a spill,
- How the materials will be stored,
- How a spill of materials would be contained
- Construct spill containment measures.

An inventory of existing locations of toxic materials storage, procedures for handling spills and lists of materials and personnel required for spill containment is maintained by the Vance County Emergency Management office.

Some responsibilities for watersheds are shared by more than one governmental entity. The watershed regulations describe cooperation with Franklin County, Louisburg and the Corps of Engineers. The watershed regulations, management plan and watershed maps serve as a good starting point for water supply protection in Vance County. These protective regulations are important to the water treatment plant and to well aquifers that are fed by surface waters.

**Basinwide Watershed Protection**

Vance County is also a part of an even larger picture. There are two large river basins in Vance County. The southern part of Vance County is part of the Tar-Pamlico River Basin, while the northern part of the county is part of the Roanoke River Basin. The protection of water quality in these basins is as important to Vance County as is our own watershed. Water quality restoration and protection for an entire river basin takes the cooperation of many entities.

These larger river basins are part of a relatively new program called basinwide watershed planning. All of the creeks and rivers that feed into these larger basins contribute to the quality of water in the larger basins. Data is being gathered and analyzed about the water quality in all of these rivers, creeks and reservoirs in the big basins.

Each river, lake and stream has been assigned a classification, based on its use. Water quality standards for each classification have been formulated. Then each stream is tested to determine if it meets these standards. Additional information about population growth, land uses including industrial development and municipal wastewater plants is also being gathered.

One of four ratings is then assigned to each stream or river segment. These ratings are:

- supporting,
- support threatened,
- partially supporting or
- not supporting.

It is important to Vance County that these ratings be accurate and as up to date as possible. Permits for waste and storm water disposal will be based on this information. Each entity that wants to dispose of waste or storm water into a stream, river or lake must get a permit from the state, these permits are called NPDES (National Pollutant Discharge Elimination System) permits. In the county, 121 NPDES permits have been issued by the Department of Environment and Natural Resources to local government and to private concerns. In addition, DENR has issued several permits for the land based application of Septage to farmers and septic tank disposal firms (approximately 50 acres). These permits are issued to wastewater treatment plants as well as industries that want to dispose of
waste water. The quality of the wastewater that will go into the stream is strictly regulated. The amount of wastewater and quality of waste water allowed by the permit is determined by:

- The water quality in the receiving stream
- The impact the wastewater would have on the stream

If the water quality in the stream is already poor, the permit will decrease the amount of wastewater that can be disposed of or increase the quality of water that can be released or both. These NPDES permits indicate existing and future capacity at both the water and wastewater treatment plants. If it is determined that a segment of river is already not supporting or partially supporting, no new capacity may be added at the treatment plants or by new industry. Growth may be limited by the amount of treated effluent that will be permitted to be released into a stream.

There are several things that can affect the quality of water. The ones that affect us the most are wastewater treatment plants, erosion caused by improper farming methods, improper forestry practices, construction and storm water runoff.

Nutmush Creek has been singled out as having water quality problems. The Wastewater Treatment Plant has made many improvements to the plant in the recent past; however, if the water quality in these streams does not improve significantly additional treatment may be required. In 2006, the City of Henderson’s waste treatment plant was placed under a “Special Order of Consent” due to issues with the treatment facility caused by aging piping and equipment. These additional measures will increase the cost of treatment and may require additional bonding to pay for necessary improvements. Poor water quality can also have negative impacts on water treatment plants. As water quality deteriorates, treatment costs rise. The cost estimate for upgrading the aging Henderson Waste Treatment Facility and piping system is in excess of 30 million dollars.

**Lake Watershed Protection**

Lakes are among the most valuable public assets in communities fortunate enough to have them.

John H. Kerr Lake is the largest man-made reservoir east of the Mississippi River. The reservoir extends approximately 39 miles upstream of the dam on the Roanoke River and approximately 19 miles upstream on the Dan River above its junction with the Roanoke River. The reservoir has a shoreline of approximately 800 miles, a water surface of approximately 50,000 acres and 66,263 acres of land above the 300 foot normal pool elevation. The normal pool elevations deviate from about 295 feet to 302 feet depending on the time of year. The reservoir is under the control of the United States Corps of Engineers. In recent years, the lake has posted levels from 279 to 318 feet above sea level.

The impoundment of the Roanoke River was initially authorized for the purpose of flood control and to produce hydroelectric power. Changes in federal law added the ability to develop public recreational facilities, fish and wildlife conservation and water supplies.

The Corps of Engineers controls the shoreline and the use of the shoreline. It must monitor the shoreline for erosion and the lake for areas of siltation that would impair its ability to hold the required amount of water. A “Shoreline Management Plan” regulates how and under what conditions property owners and the public may use the shoreline.

A master plan for Kerr Lake was prepared by the Corps of Engineers. This master plan has regulation, policies and monitoring programs. The management of the surface water, the shoreline and the land adjoining the shoreline reflects concern for water quality, preservation of natural areas and vegetation, preservation of fish and wildlife populations while providing public access to the lake and public use of the lake.

Land uses in watersheds surrounding the lake should support this plan. Appropriate land use controls can prevent or reduce damage to the water quality. It is necessary to have a tool to measure the impacts of future
development on water quality of the lake. The following information must be assessed to measure the potential for maintaining lake quality in balance with existing or proposed uses.

1. Lake Vulnerability - (natural characteristics such as depth, area of the lake)
2. Lakeshore Land Use Intensity (Land uses that have an effect on water quality)
   a. On-site sewage systems
   b. Developed lot size
   c. Road proximity
   d. Intensive public-use areas
   e. Adequate setbacks from Corps. Property
   f. Adequate storm water regulation
   g. Adequate floodplain control regulation
3. Upland Land Use Intensity
   a. Intensive land use development
   b. Amount of agriculture and open space
   c. Amount of forest cover
   d. Require buffers – earthen or vegetation
4. Existing Lake Water Quality

The variables in the first criterion are controlled by the Corps of Engineers and even they, once perimeters were established, have little room for variation. Two of these criteria which Vance County could have direct control over are: Lakeshore and Upland Land Use Intensity for that portion of the watershed that is within North Carolina. The final criterion Vance County has little control over at this time, but could impact in a positive manner with wise planning and adequate regulations.

The Kerr Lake water quality is impacted by the discharges from the wastewater treatment plant, the water plant and other permitted dischargers, and stormwater runoff. It will be further impacted by land use development in the watersheds that flow into the reservoir. Streams and creeks in the upland watershed must be protected as they contribute to the quality and quantity of water in the lake. Water quality will be impacted by the use of the water and the lake area by the public. Sensible and sensitive development and use of the lake will preserve its potential for future economic development, tourism and use by all, residents and visitors alike.

In 2007, a joint task force was created to address “point source” contamination at Kerr Lake. The task force included representatives of the City of Henderson, Vance County, DENR, the NC State Park Service and the North Carolina Rural Water Association. The outcome of the task force was to provide educational materials to residents of Henderson/Vance County and encourage residents to use a system of Best Management Practices when impacting the soils or water sources.

**ADDITIONAL AREAS OF IMPACT**

Since the time of the original drafting of the Vance County Land Use Plan, there have been two additional areas of concern:

1. Floodplain Controls
2. Stormwater Regulations

Floodplain Controls: Due to the severe flooding of areas east of Vance County during hurricanes over the past 10 years, both the State and Federal Governments have begun reviewing floodplain areas. Cities, towns and counties have had to adopt floodplain ordinances in order to qualify for FEMA sponsored flood insurance. This also requires local planning departments to review more critically development in flood prone areas.

Stormwater Regulations: Water quality experts in conjunction with state and federal authorities, have been looking more critically at the impact stormwater has on water quality. Elements that are applied to the soils, for
example fertilizers, herbicides, pesticides and other petroleum based products have been found in rivers, streams and other tributaries that flow into water reservoirs. Portions of these products that are not absorbed by the soils “run off” during heavy rains. The cumulative affect of these products have an impact on the soils and on water quality. Both state and federal regulators are placing stricter controls on wastewater treatment facilities. These same regulators are moving towards stricter storm water controls as demonstrated in the revised version of the federal “Clean Water Act.” Phase II requirements of the Clean Water Act will have direct impacts on smaller cities, towns and counties. Vance County needs to be prepared to address these requirements. As of 2008, Vance County has no storm water regulations and relies on the Department of Environment and Natural Resources to regulate land and water quality.

**Conclusions:**

- The protection of our water sources must be a top priority.
- A formula for the equitable distribution of withdrawals from Kerr Lake reservoir must be designed and approved at all levels immediately to protect Kerr Lake water supplies.
- Vance County leaders must take an active role in negotiations for water rights.
- A public awareness or education campaign must be initiated to help private well owners understand the importance of well testing on a regular basis, the role of the public health department in well testing and the importance of protecting their wells from contamination.
- County residents are charged more than City residents for water.
- Wise land use can have a positive impact on the water treatment plant and water quality throughout the County.
- Careful land use will preserve the use of the lake for years to come.
- Organisms transported to the lake on boats may have a detrimental impact on the water treatment plant. This importation of detrimental organisms should be monitored closely. Plans should be made to help prevent this importation. Currently this is a problem for Lake Gaston, but not for Kerr Lake.
- There are different types of watersheds. All watersheds are vulnerable to land uses and will require different types of protection. There are many solutions and alternatives to consider.
- Stricter mandated supply watershed regulations may have an impact on proposed land uses.
- Water quality protection begins with the individual and requires the cooperation of all levels of government.
Proposed Vance County Water District

- Phase 2B
- Phase 2A
- Phase 1A
- Phase 1B

Municipalities:
- Henderson
- ETJ
- Middleburg
- Kittrell

Vance County Water District:
- Phase 1A
- Phase 1B
- Phase 2A
- Phase 2B
- Phase I Water Mains
- Phase II Water Mains
- Existing Henderson/KLRWS/Oxford Water Mains
Wastewater Provisions

General
Pit Privies
Package Treatment Plants
Septic Tanks
Decentralized Waste Treatment Systems
Public Sewer System
Alternative Systems
Conclusions
**General**

The disposal of wastewater is important to existing and proposed development in Vance County. There are four methods for disposal of wastewater currently used in Vance County.

1. Public sewer - connection to Henderson Wastewater Treatment Plant.
2. Package Treatment (Private treatment plants)
3. Septic Tank or Cesspool
4. Pit privies (outhouses) or none

The following is a chart of the number of residences using each method of disposal in Vance County, and in Kittrell, Middleburg and the City of Henderson from the 1990 census. Most of the homes connected to public sewer are within the corporate limits of Henderson or just outside of Henderson in the Extra-Territorial Planning Jurisdiction (ETJ) of the City. The reason for the use of 1990 data is because the US Census no longer collects information on methods of waste disposal. While there are still some outhouses, it is anticipated that this number (other means) has been reduced since the last available census data. The Vance County Environmental Health Group estimates that no more than 10 new permits for private privies were issued between 1990 and 2008.

<table>
<thead>
<tr>
<th>Sewage Disposal Method</th>
<th>Public Sewer</th>
<th>Septic Tank/Cesspool</th>
<th>Other Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henderson</td>
<td>6,175</td>
<td>286</td>
<td>6</td>
</tr>
<tr>
<td>Kittrell</td>
<td>7*</td>
<td>88</td>
<td>---</td>
</tr>
<tr>
<td>Middleburg</td>
<td>---</td>
<td>51</td>
<td>12</td>
</tr>
<tr>
<td>County-wide</td>
<td>7,015</td>
<td>8,288</td>
<td>440</td>
</tr>
</tbody>
</table>

**Source:** 1990 United States Census

*Package Treatment Plant

The following three charts illustrate the increases in sewage disposal in Vance County.

### Increase in Septic Tank Installations (1990 - 2007)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>303</td>
<td>246</td>
<td>269</td>
<td>281</td>
<td>293</td>
<td>379</td>
<td>438</td>
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<td>228</td>
<td>269</td>
<td>204</td>
<td>165</td>
<td>127</td>
<td>117</td>
</tr>
</tbody>
</table>

**Source:** Vance County Public Health

### Connections to Public Sewer

<table>
<thead>
<tr>
<th></th>
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<tr>
<td></td>
<td>74</td>
<td>50</td>
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<td>59</td>
<td>74</td>
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<td>47</td>
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<td>35</td>
<td>36</td>
<td>23</td>
<td>72</td>
<td>15</td>
<td>9</td>
</tr>
</tbody>
</table>

**Source:** City of Henderson – Engineering Department
The large increase in septic tank permitting in the 1990’s was primarily due to extraordinary increases in single lot development throughout the County. The increase is all the more apparent because a sizeable portion of the housing units are manufactured homes, which can be installed relatively quickly as opposed to the time required for construction of a site built home.

**Pit Privies (outhouses)**

There were approximately 440 homes with pit privies according to the 1990 census. The US census no longer surveys the use of privies, but the Vance Granville Health District’s Environmental Health Unit has reported that the number of privies in Vance County has been reduced. The use of pit privies does continue today however. It is difficult, under the best conditions, to maintain a pit privy to comply with health and sanitary regulations. If the pit privy is located on poor soils, too close to a surface water well or where rock layers are very close to the surface, not only does the pit privy not perform well, but it is likely to contaminate surficial wells in the surrounding area.

Locations with pit privies usually accompany substandard housing. Where there is a well to provide inside water, or a hand pump is installed in the house, the “gray” wastewater is usually piped outside the house and released onto the ground, further compounding poor sanitation conditions. This condition is not acceptable but is difficult to find unless a complaint is filed.

**Package Treatment Plants (Private Treatment Plants)**

Several package treatment plants are located in the county. Two of the package treatment plants have had state compliance issues, one services seven federally funded low-income homes, and the second is located at the Kittrell Job Corps. One of the Vance County Schools, E.O. Young Elementary, has a state approved private treatment facility with accompanying certified waste treatment operations.

Installation of a septic tank in some areas of the county can be difficult and expensive due to soil and subsoil conditions. Solid granite shelves are often located approximately 12” below the land surface. Expensive repairs and improvements have been made to the existing package plants. Development pressures in the southern Vance County area make the possibility of extending a sewer line (with a lift station to the Red Bud lift station) more cost effective and practical than it may have been in the past. As of 2008, there has been no movement to provide a sewer system through Vance County.

Three of the schools that are not connected to private or public waste treatment, Carver Elementary, New Hope Elementary and Western Vance High School still use traditional septic systems.

**Septic Tanks**

Septic tanks have been used widely throughout Vance County. Space must be provided for the septic tank, an absorption field and a replacement absorption field (for when the first one fails). Regular maintenance will extend the life of the septic tank and absorption field, but inevitably absorption fields will fail. Until 1982, replacement absorption fields were not required. Many lots were created that do not have enough space for this repair field. This creates a serious problem, which may be remedied only if a public sewer line is close enough to extend to the site or an “off site” treatment location can be found.

The State does not allow the repair or replacement of a septic tank, when a septic tank fails and a sewer line is available. The owner must hook up to the sewer line, if it is available.

Several factors must be considered for the effective use of septic tanks. The first is the type of soil on the site. Many soils in Vance County have severe restrictions for the installation of septic tanks. (see table “Residential and Commercial Development Potential”). This means that additional land, expense and maintenance would be required for a successful installation. The second factor is the underlying rock formations. In some areas of the county, very shallow rock layers make the installation and operation of a septic tank and absorption field very difficult. A third factor would be the depth of the water table. An absorption field can not function if the soil is already saturated with water. Also, a poorly sited septic tank can contaminate an aquifer that serves many other homes. A study of four counties for hog sewage contamination in wells showed no contamination by the hogs, but rather severe fecal contamination due to septic tanks in the area.

Another factor of serious consideration in locating a septic tank is the proposed or existing location of a water supply well on the site and wells on the surrounding property. Poor records locating existing wells, wells that are capped below the surface of the land and changes to locations of wells after permits have
been issued are cause for concern. Wells draw water from soil layers near them and can draw wastewater into them if located too close.

The use of septic tanks is a commonly accepted practice. The general public does not understand that a septic tank requires maintenance, and most property owners do not concern themselves with maintenance until the system fails. At this point it would be too late as the damage to the drainage field will have already occurred. Two types of maintenance are required. First, the solids in a septic tank must be pumped out periodically. It is recommended that this be done every 2 years; however this will vary depending on the tank size and family size using the system. The addition of certain household chemicals can kill “friendly” bacteria necessary for the continued operation of the septic tank. A monthly additive is recommended. The use of dishwashers and washing machines add significantly to the failure of septic tanks by overloading the system. Three alternatives present themselves for this problem:

1. Size the septic tank to incorporate the additional wastewater.
2. Installation of a separate septic tank for laundry and dishwasher
3. Installation for “graywater” recycling

The public must be informed of these maintenance requirements. They must be encouraged to adopt a maintenance schedule. Pumping on a two year schedule can be made mandatory with proof submitted to the Public Health Department, if septic tank and drainage field failures continue.

There is no method in use in Vance County to determine the cumulative effects of septic tanks in a given area. Each septic tank is evaluated individually without respect to the proximity of other septic tanks. The cumulative effects of multiple septic tanks within a given area can be assessed and could have the potential for preventing serious and expensive problems in the future.

Decentralized Waste Treatment Systems

Significant advances have been made in on-site waste treatment technologies. In the past, on site waste treatment consisted of waste flowing into septic tanks and the liquids then flowed from the tank to a distribution box which sends the liquid to various lines of the “stone and pipe” waste dispersal fields. Because of the distances the state requires between wells and septic tanks/fields, plus requiring space for a replacement absorption field, a significant amount of land is required. The newer technologies require much less space. For example, a “chamber” type dispersal field required 24% less space. The State of North Carolina has embraced the new technologies and began permitting them several years ago. The new centralized treatment systems consist of a collection and storage component (tanks), and a “pre-treatment” component which consists of such treatment processing as aerobic treatment, media filters, membrane bio reactors and a disinfectant component. Although these newer systems are more expensive than the old stone and pipe process, they are much more effective in processing waste water. These systems can be developed for individual households or multiple house communities. In general, these types of waste treatment systems are much more cost effective than “centralized sewer systems” for areas such as Vance County.

Public Sewer System

The Henderson Wastewater Treatment Plant does not just serve Henderson; it must also serve residents of the County. The Henderson treatment plant is the only alternative for the County.

At one time the wastewater treatment plant was located on Red Bud Creek south and west of Henderson. Numerous problems were encountered at that site. After the construction of the new treatment plant on Nutbush Creek north of Henderson, a lift station was installed at the old location to carry effluent to the new plant.

The Henderson Waste Water Treatment Plant has a possible maximum capacity of 4.1 million gallons. Currently, the plant is processing about 2.2 million gallons of effluent. The current NPDES permit allows for a capacity of 4.14 million gallons, thus leaving approximately 1.9 million gallons of additional capacity under the permit.

Current problems at the treatment plant limit the potential for expansion of the treatment plant, although there is sufficient land to expand the plant up to 6 or 8 million gallons. Problems being experienced at this time include toxicity and excessive nutrient loading. Also, quality and quantity of the stream water entering the treatment plant is of major concern. Serious problems are being caused by uncontrolled, poor quality, storm water runoff. Unrestricted new development in the area would further compound the problem of increased treatment as well as
increased storm water runoff. Increasingly stricter regulations for the treatment plant have made it more difficult and expensive to comply with the requirements to sustain the NPDES permit, despite substantial progress made in the quality of water being released from the treatment plant.

While the amount of sewage processed has dropped since 1996, (mainly due to the closure of several manufacturing plants), the connection to Vance Granville Community College, Dabney Elementary School and other subdivisions in the area have kept the processed amount from dropping below 2 million gallons. With the expansion of the system to western Vance County, additional areas could open for development along the I-85 and US 158 corridors.

At some time in the near future the County may have to make choices about which development can be built and which can not based on sewer capacity. There has been considerable discussion of measures that would help protect the present and future capacity of the treatment plant. This, in turn, would keep the capacity available for new development in the County.

**Alternative Systems**

Many alternative wastewater disposal systems are in use throughout Europe and in other states. North Carolina State University has tested several of these systems and is currently testing additional systems. The possible use of alternative systems should be explored and considered for Vance County. Policies established for waste disposal systems should be flexible enough to allow the use of viable innovative or new systems on a limited or test basis.

**Conclusions:**

- According to the most recent available data, more than fifty-five percent of the residents of Vance County use septic tanks as the method for wastewater disposal.
- There has been a 85 percent increase in septic tank installations since 2000. The rise in septic tank installations is largely due to increased single lot development.
- A public education campaign must be initiated to help property owners to understand the need for septic tank maintenance and to encourage the public to adopt a maintenance schedule. Mandatory maintenance regulations will need to be adopted if failures continue.
- Pit privies need to be located and replaced with septic tanks or hooked to the public sewer system.
- Failing package treatment plants need to be hooked to the public sewer system.
- There have been many lots developed without adequate space for a replacement drainage field. These lots need to be located and encouraged to begin a closely monitored maintenance program immediately.
- Proposed development should not be approved for septic tank installations if soils have severe restrictions for septic tank installations. Increased lot size will be required to mitigate soils with moderate restrictions. Moderate to high density development should only be approved in areas with access to public sewer systems.
- A database must be established to track the location of all private wells and septic tanks. Regulations must be adopted that assure property owners that installation of septic tanks will not jeopardize drinking water supplies.
- One or more methods must be adopted to determine the cumulative effects of multiple septic tanks in a given area. The adoption of regulation to limit the number of septic tanks in a specific area may be necessary.
- As federal standards become more restrictive, it will more difficult for the Henderson Wastewater Treatment Plant to comply. Henderson and Vance County must work together to protect the future capacity at the treatment plant.
- The quality of the stream water entering the treatment plant has become a problem due to storm water runoff. The City of Henderson and Vance County need to work together to regulate existing and additional stormwater runoff. Development regulations must address this issue to protect the sewer capacity for the use of the City and the County.
Solid Waste Provisions

Collection
Disposal
Waste Stream Reduction
Junkyards
Conclusions
Vance County Land Use Plan

Solid Waste Provisions

Collection

Vance County has seven manned convenience sites for solid waste disposal. Each site is equipped to handle household garbage and recyclable materials. Materials are collected at these sites, and then are transported to the county transfer station.

The locations of the existing conveniences sites are shown on the map included in this section.

Disposal

Vance County no longer operates a landfill. The former landfill was closed in 1997 under the EPA and North Carolina Department of Environment and Natural Resources (DENR) guidelines. The transfer station is located on Highway 39 approximately two (2) miles north of Interstate 85. The transfer station and convenience sites are currently operated under a long term contract with Waste Industries.

In the late 1990’s, the County decided not to construct a new Municipal Solid Waste or a Construction and Demolition landfill. Exorbitant costs associated with mandatory requirements from the Environmental Protection Agency (EPA) to construct only lined landfills forced many counties, including Vance, to work with other entities as a means of reducing costs. Thus, a solid waste transfer station was built and collected solid waste will be transferred to the regional solid waste facility in Person County or the large Waste Industries landfill in southern Virginia. The closed landfill site is being used for recycling yard wastes, storing scrap tires, storing recyclable materials and temporary storage of appliances.

There are also a few private landfills in use for the disposal of inert debris (stump dumps). These private landfills are regulated by the State and meet strict guidelines for the type of materials that may be disposed of at these sites.

Waste Stream Reduction

The North Carolina Division of Environment and Natural Resources has been encouraging counties to reduce their waste stream placed in landfills through recycling programs. Vance County currently has recycling containers at the manned convenience sites for the recycling of: glass, aluminum, newspapers, plastic, used motor oil and “White Goods” (appliances). DENR has set recycling requirements for the following items with corresponding dates for implementation:

- Oyster Shells 1-1-07
- ABC Glass 1-1-08
- Plastics and bottles 10-30-08
- Pallets 10-1-09
- Oil filters 10-1-09
- Light bulbs with Mercury 3-1-08
- Computers/terminals 1-1-12

Junkyards

There are locations throughout the County where wrecked and abandoned cars are stored for individual use, salvaging of parts or resale. Other locations have miscellaneous materials temporarily stored for sale or individual use. Some sites have materials that have accumulated gradually over the years including broken household appliances, furniture and general waste.

These are three very different types of situations and should be handled accordingly. All three have a potential for public health concerns, have the potential for substantial impact on surrounding property values and have the potential for visual and other negative impacts on adjoining property owners.
In 2008, Vance County adopted a Junkyard Ordinance. These regulations must be cultivated and enforced to assure that vermin infestations do not occur as a result of the use. This infestation must not occur on the site or encroach on adjoining properties. Vehicles of any type may contain oils, gasoline products and anti-freeze liquids that can contaminate soil, watersheds and water supplies. These same materials are also highly flammable. Appropriate regulations, such as setbacks, have been developed to safeguard adjoining properties and the community’s safety.

The visual impact of such uses can be detrimental to adjoining properties and the neighborhood. Requirements for visual screening such as fencing, landscaping, earthen berms, walls or any combinations of these have been adopted. Existing enterprises will be required to install such measures on an amortization schedule or up to three years.

Those locations that do not operate as a commercial concern, whose storage of materials is not temporary and where materials have simply not been removed to a landfill need to be required to do the same. Any materials that are considered trash or rubbish must be removed immediately to reduce public health risks.

**Conclusions:**

- The Vance County Landfill was closed in December of 1997.

- The County has determined that it is not feasible to construct a new landfill that will meet the existing federal regulations. The County has determined that participation in a joint landfill with other governmental entities was the most attractive method of providing solid waste disposal for the County.

- Future use of the landfill will be limited to serving as a solid waste transfer station, composting of yard wastes, storing of recyclable materials and temporary storage of appliances.

- The County needs to consider an enhanced “Waste Stream Reduction” program to meet DENR requirements.

- The County should consider revising and amending the Solid Waste Ordinance and Solid Waste Plan.

- Junkyards should be given the opportunity to voluntarily dispose of waste materials, visually screen materials from the public view and to assure that public health concerns have been addressed. Mandatory measures are in place in the event voluntary compliance does not occur. It is important that these measures are enforced in order to encourage compliance.
Floodplains and Flood Protection

What is a floodplain?
What can be done to prevent flood damage?
What can floodplains be used for?
Conclusions
What is a floodplain?

Rivers, stream and lakes vary in depth due to climatic conditions. They will be shallower during periods of draught and when evaporation is high. They will be higher and even overflow their bank during times of excessive rainfall or rapid melting snows. River, streams and lakes have natural flood areas. A floodplain is the area of land adjacent to a river, stream or lake that has been or may be covered by floodwater.

Flood hazard areas are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

These flood losses are caused by the cumulative effect of obstructions in flood plains causing increases in flood heights and velocities. Further losses are caused by the occupancy of structures in flood hazard areas by uses vulnerable to flood or hazardous to other properties which are inadequately elevated, flood-proofed, or otherwise protected from flood damage. Through the use of floodplain management practices, decisions can be made that aim to achieve the wise use of floodplains.

What can be done to prevent flood damage?

The National Flood Insurance Program (NFIP) is a federal program administered by the Federal Emergency Management Agency (FEMA) which enables property owners in participating communities to purchase flood insurance. The program is based on an agreement between local communities and the federal government which states that if a community will implement measures to reduce future flood risks to new construction in special flood hazard areas, the federal government will make flood insurance available within the community as a financial protection against flood losses which do occur. Essentially the intent of the program is to reduce future damage and to provide protection for property owners from potential losses through an insurance mechanism that allows a premium to be paid by those most in need of the protection.

Participation in NFIP helps to reduce losses and discourage unwise development and to prevent the destruction of floodplains. When a community chooses to join the NFIP, it then must require permits for all construction or other developments in these areas and ensure that construction materials and methods used will minimize flood damage. Since the beginning of the program in the 1970s, FEMA has been creating, storing, and updating the flood insurance rate map (FIRM) for the participating communities across the United States. As of September 2000, the State of North Carolina has signed into a partnership with FEMA which designates North Carolina as a Cooperating Technical State and delegates the primary responsibility for the creation and maintenance of all FIRMs for participating communities to the State.

While Vance County did not choose to participate in NFIP when it was initially offered to them in the 1970s, the county has participated in the program since 1997. Although participating in NFIP, Vance County is not participating in FEMA’s Community Rating System (CRS). Essentially the CRS is a point system program that rewards communities that undertake floodplain activities beyond the requirements of the NFIP by reducing flood insurance premiums. Although not participating in the CRS, Vance County has taken a great step by participating in the NFIP. As a result of this participation permits for all construction or other developments in flood designated areas are required and flood insurance is now offered to those located within the floodplains. Updated FIRM panels became effective on April 16, 2007 and are available through the North Carolina Floodplain Mapping Program.

What can floodplains be used for?

Floodplains have a number of potential uses besides flood damage mitigation. They support a variety of outdoor recreational and economic activities as well as provide access to public waters. Floodplains are invariably scenic, ribbons of green open space even in arid environments. Flood plains are indispensable to a quality environment, and together with streams, rivers, marshes, ponds, and wetlands, support prime fish and wildlife habitats.
Floodplains also include some of the best soils for agriculture. Recreation, agriculture, open space, and flood hazard mitigation in floodplain areas should be given greater consideration and support at the local and state level.

<table>
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<tr>
<th>Floodplain Use and Compatibility with Flooding</th>
<th>Compatible with Flooding</th>
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<tbody>
<tr>
<td>Flood damage reduction</td>
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<td>Agriculture</td>
<td>Yes</td>
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<td>Greenbelts</td>
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</table>

Conclusions:

- Flood losses can be minimized or avoided through floodplain management practices.
- Participation in FEMA’s National Flood Insurance Program (NFIP) has been a great step taken by Vance County and will aid in discouraging unwise development while preventing the destruction of floodplains.
- Participation in NFIP enables property owners to purchase flood insurance and receive federal benefits in the event of a major disaster.
- Because of the importance of water to Vance County, the county should participate in NFIP’s Community Rating System (CRS) which would not only reduce flood risk even farther, but would ensure even lower flood insurance premiums.

Rural Environmental Planning for Sustainable Communities; 1991; Fredric O. Sargent, Paul Lusk, Jose A. Riveria, Maria Varela
Utilities

Electricity
Telephone
Cable Television
Natural Gas
Conclusions
General

The majority of line services - electricity, telephone, and cable, are provided on overhead poles.

During recent winters, heavy ice storms and high winds have brought many of these lines down leaving thousands of homes with no heat or communications. During any given winter, the chances of similar events are very realistic. As a result of this, several groups of people including the elderly, the very young and those with medical conditions are especially vulnerable to excessive cold temperatures. During the summer, powerful thunderstorms have also contributed to loss of electricity which exposes this same group of people to excessive heat conditions. Additionally, when electrical lines are knocked to the roads the public becomes exposed to the risk of electrocution.

For many, memories of Hurricane Fran are still present. This particular storm and any other hurricane to effect North Carolina has the potential for uprooting many trees knocking out power, telephone service and cable service for several days at a time.

In many parts of the country, new subdivisions and businesses are required to have all utilities installed underground. Utility companies often place old lines underground as routine replacement is required.

Electricity

Progress Energy provides most of Vance County with electricity. Wake Electric Membership Corporation provides service to the southwestern tip of the county and a narrow strip along the western portion of the County.

Within Vance County, Progress Energy’s electricity comes from coal-fired plants in Person County and from the Harris Nuclear in Wake County. There are three electric substations in and around Henderson. Single-phase service is available in all areas within Progress Energy’s service area and three-phase service is available within many areas of the county.

Telephone

Embarq provides telephone service to all areas within Vance County.

Cable and Satellite Television

Cable television is supplied by Time Warner Cable. Service may not be available to the remotest areas and low density areas of the County. However, Vance County does have a franchise agreement with Time Warner should service be needed in any areas for future development. Additionally the availability of satellite TV, such as DirecTV or Dish Network ensures that television is available within any area within the County. As of June 12, 2009, all full power broadcast television stations in the U.S. will stop broadcasting on analog airwaves and begin broadcasting only in digital.

Natural Gas

Vance County is served by Public Service Company of North Carolina (PSNC). The gas line enters the County approximately .5 mile south of the Watkins Community from Granville County. This line proceeds east along to Business 1 approximately .3 mile north of Bearpond Road. The natural gas line provides service to industrial users south of Henderson and within the City of Henderson. Other parts of the County use propane bottled gas.

Conclusions:

- New subdivisions and businesses should install all utilities underground.
- Generally, utility services are available throughout the County with the exception of natural gas.
Transportation

Thoroughfare Planning
Highways
Air Service
Rail Service
SEHSR – Southeast High Speed Rail
Bus Service
Entrances and Scenic Vistas
Bicycle Highways
Conclusions
Thoroughfare Planning

The NCDOT plays a major role in planning, financing and implementing road construction within the counties of North Carolina. A thoroughfare plan, recently referred to as a Comprehensive Transportation Plan (CTP), considers anticipated needs, problems and solutions for a 30 year period. Unlike the thoroughfare plan which shows only one mode of transportation with the highway system, a comprehensive transportation plan looks at multimodal transportation and includes the highway element along with transit and bicycle/pedestrian elements without a specific timeline.

One benefit of transportation planning is that it allows for cooperatively creating an efficient, cost effective plan for existing and proposed streets by ensuring the development of the most appropriate street system. A formal plan allows local authorities to be aware of future improvements and incorporate them into planning and policy decisions.

Vance County’s most recent Thoroughfare Plan was adopted in October 1997. This plan was prepared by the Small Urban Planning Department within NCDOT and has not had any revisions or updates since its adoption. While this plan allows Vance County to have an opportunity for input for roadway improvements, road rerouting and new roadways, there is little input to be had from an outdated plan. Vance County has put a request to the Kerr-Tar Regional Planning Organization (RPO) to have an updated Thoroughfare Plan/Comprehensive Transportation Plan (CTP) completed. This proposed update is currently second on the RPO’s list and is expected to begin in mid 2009 and be completed in mid 2010. While thoroughfare planning is a very rational process, the implementation funding is highly political. By adopting an up to date transportation plan which includes common transportation goals with adjoining counties, there is a higher likelihood of receiving funding.

The City of Henderson has recently completed an update to their thoroughfare plan (April, 2001) which will impact some County residents who reside outside the Henderson city limits. The Vance County Board of Commissioners were offered the opportunity to participate in a joint thoroughfare plan within Henderson’s original plan in 1994, but declined. Therefore, Vance County residents did not have a great deal of opportunity for input into the Henderson Thoroughfare Plan which covers land outside Henderson’s Extra Territorial Jurisdiction. The NCDOT encourages cooperation of jurisdictions through joint plans, and although not participating with Henderson in their original plan, Vance County needs to encourage collaboration during the update process for the county comprehensive transportation plan.

Highways

Vance County is served by an excellent system of state owned and maintained roads and highways. There is a total of 468.3 miles maintained the N. C. Department of Transportation, Division of Highways. As of January 2007, there are 80.83 miles of the primary system, including:

Interstate 85, which enters Vance County on the west and exits on the northeast, connecting Atlanta with Washington, D. C.

U. S. Highway # 1, which connects Henderson with Raleigh, is a four lane principal arterial highway. U.S. 1 splits just south of Henderson into:

Business Highway # 1 - a two lane major collector highway with free access: proceeds north through Henderson and runs concurrently with US 158 north to the Warren County Line

Bypass Highway # 1 - a four lane divided highway with limited access; proceeds north along the east side of Henderson with interchanges with Bearpond Road, Epsom Road, N.C. 39 (Andrews Avenue), US 1-158 and I-85.

U. S. Highway # 158, a major collector roadway which runs east and west across the County connects Elizabeth City with Winston-Salem. Portions of this route in other counties are scheduled to be improved to a four-lane facility.
N. C. Highway # 39 enters the County on the southeast, near Epsom, continues through Henderson and exits the County on the northwest into Virginia.

The secondary highway system has a total of 387.47 miles of state-maintained roads. Of these, there are 362.62 miles of paved roads and 24.85 miles of unpaved road. Naming of these roads has been accomplished in conjunction with the Enhanced 911 Emergency Response program.

Regarding future improvements to roadways, it is recommended that Phase II of the western outer loop be completed making a connection between Interstate 85 and US Highway 1. This would facilitate better connection between the highways and would encourage significant amounts of economic development. Additional priorities include creating modifications to the US1/Interstate 85 interchange allowing additional movements and creating added width to US 1 Business (Raleigh Road) leading from Henderson to the US Highway 1 intersection.

**Air Service**

Vance County is served by the Henderson-Oxford Airport located between Oxford and Henderson just inside Granville County. This facility has a 5000' x 100' paved and lighted runway, with a paved taxiway. There is hangar space for forty-four airplanes and at this time, there are 45 airplanes based at this airport. The airport currently averages 58 landings and take-offs per day.

There is no commercial air service available at the Henderson-Oxford Airport. The nearest commercial air service is located 50 miles southwest at Raleigh-Durham International Airport.

The Henderson-Oxford Airport is owned by Oxford, Henderson, Granville County and Vance County. An airport authority is appointed and has representatives from each unit of local government. The airport was operated by Aircobra Corp. until April 2007, and is now operated by Dominion Aviation Services which is based out of Chesterfield Airport in Richmond, Virginia. Dominion Aviation is a full service fixed base operator which rents the airport from the Airport Authority.

There are plans to expand the runway from 5,000 to 6,000 feet with 5,500 feet of use. Long range plans call for a cross runway, but there is not current timetable for this change.

**Rail Service**

Vance County has a rich history which was helped greatly by the presence of railroads. With the creation of the Interstate Highway System and as manufacturing has been outsourced and replaced with higher tech industries throughout the United States, rail service has also seen a decline. With this has come the abandonment of rail lines, one of which (Norfolk and Southern) ran from Oxford to Henderson before being abandoned and removed during the 1990s.

Although there has been a reduction in rail usage, Vance County still has a vital position relating to future rail transport. There are no passenger rail lines running through the county, although as described below, this may change if the Southeast High Speed Rail were to take place as projected in the next 10 to 15 years. Currently the nearest passenger service is available in Raleigh, 45 miles from Henderson.

With the reduction in rail, Vance County has continued to be served by the railroad. Currently CSX (formally Seaboard Coastline) has a mainline which runs from the Raleigh railroad hub along US 1 through southern Vance County, past the Industrial Park, following US Highway Business 1 to Henderson. The line proceeds throughout Henderson following US Highway Business 1-158 to the east county line. This line continues into Warren County and ends at Ridgeway.
SEHSR – South East High Speed Rail

With tremendous economic and population growth, the Southeast needs a comprehensive, multi-modal transportation system. The may become a reality with high-speed rail service which would provide business and leisure travelers with a competitive alternative to air and auto for trips between 100-500 miles. High speed rail in the southeast would mean top speeds of 110 mph and average speeds between 85-87 mph. Virginia, North Carolina, South Carolina and Georgia have joined together with the business communities in each state to form a four-state coalition to plan, develop and implement high speed rail in the Southeast. The system will be developed incrementally, upgrading existing rail rights-of-way.

Developing the Southeast High-Speed Rail Corridor will take several years. All transportation projects that use public funds must examine potential environmental impacts and involve the public in the decision-making process. North Carolina, Virginia and the FHWA and FRA completed the vital first part of a two-part environmental study for the Washington, DC to Charlotte portion of the Southeast High Speed Rail Corridor (SEHSR) in October 2002.

The first study phase - referred to as the Tier I Environmental Impact Statement (EIS) - examined the need for the project and looked at potential impacts on both natural and man made environments along nine possible routes. Public involvement was critical during this phase with 26 public information workshops and 18 public hearings held in North Carolina and Virginia to solicit feedback about the project. Throughout the Tier I EIS process, meetings with the public, political leaders, planners, resource agencies, railroads and other interested parties were held to obtain input on the project.

Virginia and North Carolina are now proceeding with the next phase, Tier II, which provides a detailed analysis on the impacts, including track location, station arrangement and detailed design. Rather than a single large document, smaller Tier II environmental studies will be conducted for specific segments of the route where track work will be needed.

The Washington, DC to Charlotte portion of the SEHSR corridor could be implemented by 2013 depending on funding availability. In the meantime, other projects will reduce travel time within the next few years. Implementation of the remainder of the SEHSR into South Carolina, Georgia and Florida will follow by several years.

Virginia and North Carolina are now proceeding with the next phase, Tier II, which provides a detailed analysis on the impacts, including track location, station arrangement and detailed design. Rather than a single large document, smaller Tier II environmental studies will be conducted for specific segments of the route where track work will be needed.


2011--The Final Tier II EIS and Record of Decision are expected to be completed by the end of the year. Right-of-way and permit acquisition can then begin.

2015-2020--This is the goal for passenger service to begin over the preferred alternative as identified by the SEHSR Tier I EIS, Washington DC to Charlotte, NC, dependent upon funding availability.

Within Vance County this potential project would utilize portions of existing rail lines and would involve building overpasses or underpasses at virtually all intersections of the rail line and roads within the county. This project has the potential to provide great benefit and exposure to Vance County and may include a passenger stop in downtown Henderson. Additionally there is the opportunity for a connected greenway which would run parallel to the rail right-of-way. With the timetable for this project inside of 10 years, it is important that the county is prepared for the development pressures which could be a result of the rail line. For further information including status updates, aerial photos, etc. the following website is the home for the Southeast High Speed Rail Corridor project: http://www.sehsr.org/.
Bus Service

The Greyhound Bus Terminal is located at 162 W. Andrews Street (NC 39) and has three (3) buses arrive and depart daily. All buses arrive and depart in a north and south direction, from Jacksonville, Florida to New York City. The bus station is only open from 11:00 AM to 2:00 PM and from 7:00 PM to 9:00 PM. The average daily ridership is approximately 20, but the weekends are higher with 30-40 per day. There are not immediate plans for expansion and this transportation mode is NOT a satisfactory method for work force commuting due to the bus schedules (i.e. the first bus is not until 2:00 PM).

An additionally bus service is provided by the Kerr Area Rural Transportation System (KARTS), which has been in existence since 1983. KARTS is a public non-profit rural transportation system which covers Franklin, Granville, Vance and Warren Counties. Rides are provided on a scheduled (reserved) ride basis with the exception of the Henderson “Loop”, which is a designed bus route through the City of Henderson.

In 2007 alone, 30,000 trips were provided by the Henderson Loop service. The rates are determined by the distance of travel and in 2008, the cost was $4.00 to step on the bus and $1.00 for every 10 miles. KARTS is subsidized from the US Department of Transportation via pass through grants to NC DOT. The four jurisdictions pay approximately 10% of the costs and rider fees pay the remaining cost of operation.

KARTS currently has 45 vans/buses, half of which are handicapped accessible. The last fiscal year, the ridership was approximately 178,400 trips or 570 daily operating 6 days a week. Approximately 1.559 million miles were traveled over this time period. Over the past four years, the average yearly rider ship has been approximately 179,000.

KARTS has attempted a “work force commuter” program but it was cancelled due to low rider ship. KARTS is willing to reexamine a ‘commuter’ route again in the future.

Henderson also has RAEMAC Transportation which is similar to KARTS but is privately owned. Much of the service provided by RAEMAC is to and from medical facilities.

Within Vance County there are also at least 2 private charter bus lines, Long Creek Coach Line and T&T Charter Services. These companies provide local and long distance charter service.

Entrances and Scenic Vistas

There are no existing designations of entrances or scenic vistas at this time. The City of Henderson has cooperated with the North Carolina Department of Transportation to effect some landscape improvements along I-85 near the city limits and along Williams Street.

Bicycle Highways

The N. C. Department of Bicycle and Pedestrian Transportation has established many bicycle routes throughout the State. Those routed through Vance County include:

Carolina Connection - This route is designated as a portion of U. S. Bike Route 1, which runs from Maine to Florida. In North Carolina, U. S. Bike Route 1 covers almost 200 miles. It enters Vance County on SR 1304 near Dabney; continues in a northeasterly direction going through Harris Crossroads, across Kerr Lake; and in an easterly direction, exiting the county near the Warren County community of Drewry.

North Line Trace - This is a route that runs from the mountains to the coast. In Vance County, North Line Trace uses some of the same routes used by Carolina Connection. On the west, it enters the county near Hick’s Crossroads and exits the county near Drewry.
Conclusions:

- Vance County should continue to participate in discussions regarding the high speed rail in order to advocate for a stop in Henderson. Such a stop could add greatly to Vance County’s economic development efforts.

- Vance County must continue to participate in the North Carolina Department of Transportation’s Thoroughfare Planning program by developing a comprehensive transportation plan. This will enable the County and its citizens to have a voice in future road alignments and improvements. This also will enable the County to propose new roads and improvements and have them considered for funding. Comprehensively planning the transportation system will allow the County to ensure that transportation provisions keep pace with land use development.

- All secondary highways have been named in conjunction with the Enhanced 911 Emergency Response program.

- Designation of entrances and possible scenic vistas should be accomplished. This would make funding available for improvements to these areas.
Housing

General Housing
Substandard and Low Income Housing
Low Income Housing Programs
Conclusions
General Housing

There were 15,743 housing units in Vance County in 1990, 16,638 units in 2000 and just over 19,000 housing units today. Approximately 76.7 percent of households are living in single family units. Shifts in the housing industry have brought about changes in Vance County. The first major change was seen with the marked increase in the purchase and placement of manufactured homes on single lots, either owned or rented, and not in subdivisions. This took place in the mid 1990s, but has slowed down in the last several years as indicated by the building permits. As a result of this trend, several abandoned mobile homes exist throughout the county today. Over the past few years the proportion of site built home permits has increased coming closer to equaling the permits for mobile homes. This may be a result of recent interest in site built development along Kerr Lake. While much of this development along the lake can be considered seasonal housing, there is little doubt that this pattern will continue in the future. Because of the amount of housing and building activity taking place surrounding the lake, it may be practical to create accessible corridors between the lake and downtown Henderson. Not only could these act as a way of concentrating development along the corridors, but it could also create a closer link between the downtown and the lake. By creating these links, both the lake and the downtown can aid each others growth in the future.

### Vance County Building Permits 2005-2007

#### By Number

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential</th>
<th>Mobile Home</th>
<th>Commercial</th>
<th>Other (Modular)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>91</td>
<td>117</td>
<td>31</td>
<td>27</td>
<td>266</td>
</tr>
<tr>
<td>2006</td>
<td>79</td>
<td>96</td>
<td>65</td>
<td>20</td>
<td>260</td>
</tr>
<tr>
<td>2007</td>
<td>64</td>
<td>56</td>
<td>11</td>
<td>22</td>
<td>153</td>
</tr>
</tbody>
</table>

#### By Value

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential</th>
<th>Mobile Home</th>
<th>Commercial</th>
<th>Other (Modular)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>$14,979,527</td>
<td>$3,675,159</td>
<td>$29,265,394</td>
<td>$3,531,680</td>
<td>$51,451,760</td>
</tr>
<tr>
<td>2006</td>
<td>$14,097,000</td>
<td>$2,574,116</td>
<td>$15,262,457</td>
<td>$3,390,320</td>
<td>$35,323,893</td>
</tr>
<tr>
<td>2007</td>
<td>$10,972,085</td>
<td>$2,596,702</td>
<td>$2,974,610</td>
<td>$3,186,556</td>
<td>$19,729,953</td>
</tr>
</tbody>
</table>

#### Average Value/permit

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential</th>
<th>Mobile Home</th>
<th>Commercial</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>$164,610</td>
<td>$31,412</td>
<td>$944,045</td>
<td>$130,803</td>
<td>$193,428</td>
</tr>
<tr>
<td>2006</td>
<td>$178,443</td>
<td>$26,814</td>
<td>$234,807</td>
<td>$169,516</td>
<td>$135,861</td>
</tr>
<tr>
<td>2007</td>
<td>$171,439</td>
<td>$46,370</td>
<td>$270,419</td>
<td>$144,843</td>
<td>$128,954</td>
</tr>
</tbody>
</table>

Source: Vance County Building Code Enforcement

Additionally when viewing the spatial location of housing units (attached map) throughout the county, there appears to be clustered areas outside and around the ETJ where the highest proportion of units are located. It would be in the best interest of the county to consider these clustered areas when considering areas for future development and when planning infrastructure such as roads, water lines and other items.

The chart below shows the historical increase in manufactured housing units rising from approximately five percent in 1970 to slightly over twenty-three percent of the housing stock in 2000. This may be in part due to the adoption of HUD standards, recent revisions to these standards, adoption of state regulations, and improvement of this housing alternative by the industry itself. Additionally, manufactured homes provide a viable alterative living situation for lower income individuals seeking affordable housing. The second chart below shows the distribution of housing types by township.
### History of Vance County Housing

<table>
<thead>
<tr>
<th>Year of Census</th>
<th>Mobile Home</th>
<th>Site Built</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>529</td>
<td>9,570</td>
<td>10,099</td>
</tr>
<tr>
<td>1980</td>
<td>1,691</td>
<td>12,117</td>
<td>13,808</td>
</tr>
<tr>
<td>1990</td>
<td>3,339</td>
<td>12,404</td>
<td>15,743</td>
</tr>
<tr>
<td>2000</td>
<td>3,870</td>
<td>12,768</td>
<td>16,638</td>
</tr>
</tbody>
</table>

### 2000 Census Data vs 2004 Aerial Update

<table>
<thead>
<tr>
<th>Township</th>
<th>Total Housing</th>
<th>Mobile Home</th>
<th>Site Built</th>
<th>Mobile Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dabney</td>
<td>873</td>
<td>230</td>
<td>643</td>
<td>905</td>
</tr>
<tr>
<td>Henderson</td>
<td>8,228</td>
<td>1,242</td>
<td>6,986</td>
<td>7,050</td>
</tr>
<tr>
<td>Kittrell</td>
<td>1,823</td>
<td>460</td>
<td>1,163</td>
<td>1,729</td>
</tr>
<tr>
<td>Middleburg</td>
<td>1,436</td>
<td>405</td>
<td>1,031</td>
<td>1,449</td>
</tr>
<tr>
<td>Sandy Creek</td>
<td>2,137</td>
<td>857</td>
<td>1,280</td>
<td>1,925</td>
</tr>
<tr>
<td>Townsville</td>
<td>907</td>
<td>307</td>
<td>600</td>
<td>713</td>
</tr>
<tr>
<td>Watkins</td>
<td>258</td>
<td>29</td>
<td>229</td>
<td>267</td>
</tr>
<tr>
<td>Williamsboro</td>
<td>1,176</td>
<td>340</td>
<td>836</td>
<td>1,298</td>
</tr>
<tr>
<td>Total</td>
<td>16,638</td>
<td>3,870</td>
<td>12,768</td>
<td>15,336</td>
</tr>
</tbody>
</table>

Source: Census GIS data – 2004 aerial update overestimates nearly 1,000 units.

The chart below indicates ownership of homes, rental homes and housing units that are vacant. It is apparent that owner occupied housing is strong throughout the county with a 2 to 1 ratio between owner occupied and rental tenure. Additionally, the highest ratio of rental properties is within the City of Henderson, as would be expected of an inner city area with many residents relocating to subdivisions just beyond the city limits. Regarding vacant units, there are approximately 1,997 (or 11% of the housing stock) units, however some of these are due to seasonal homes near Kerr Lake. Nonetheless, many of the homes which are vacant are located within the Henderson city limits and it is anticipated that many of the vacant housing units are uninhabitable.

### Substandard and Low Income Housing

As in other rural counties, there is some substandard housing in Vance County. There are 249 homes without complete kitchen facilities and 290 homes without complete plumbing facilities which may indicate a total lack of plumbing or may indicate housing with just a sink, just a sink and shower, or may indicate a lack of bathing facilities. According to the 1990 census, there were 440 homes with no method of sewage disposal and 193 with no conventional source of water. This statistic however was dropped from the census questioning following 1990, but within Vance County there are still some homes without a method for sewage disposal or conventional water source. Heating is also a problem with 14 homes having no heat source, with 555 units heating with wood. Recent winters have shown the number of fires caused by space heaters. Additionally, throughout the county there are instances of two or more mobile homes using one septic tank, hooking power from one unit to the next by extension cords and sharing a water source with garden hoses.

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**Vance County Land Use Plan**

**Housing**

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**Tenure and Vacated Housing**

Source: Census 2000

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**Substandard and Low Income Housing**

As in other rural counties, there is some substandard housing in Vance County. There are 249 homes without complete kitchen facilities and 290 homes without complete plumbing facilities which may indicate a total lack of plumbing or may indicate housing with just a sink, just a sink and shower, or may indicate a lack of bathing facilities. According to the 1990 census, there were 440 homes with no method of sewage disposal and 193 with no conventional source of water. This statistic however was dropped from the census questioning following 1990, but within Vance County there are still some homes without a method for sewage disposal or conventional water source. Heating is also a problem with 14 homes having no heat source, with 555 units heating with wood. Recent winters have shown the number of fires caused by space heaters. Additionally, throughout the county there are instances of two or more mobile homes using one septic tank, hooking power from one unit to the next by extension cords and sharing a water source with garden hoses.
Vance County Land Use Plan

Housing

The provision of additional housing stock is going to require the serious evaluation of income levels, current market rents and the value of existing housing stock. The two charts below reflect the number of housing units that are owner occupied by the value of the home and the number of rental housing units by rental amount.

<table>
<thead>
<tr>
<th>Value of housing units - owner occupied</th>
<th>Housing Units by Amount of Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than $20,000</td>
<td>less than $100</td>
</tr>
<tr>
<td>$20,000 to $29,999</td>
<td>$100 to $199</td>
</tr>
<tr>
<td>$30,000 to $39,999</td>
<td>$200 to $299</td>
</tr>
<tr>
<td>$40,000 to $49,999</td>
<td>$300 to $399</td>
</tr>
<tr>
<td>$50,000 to $59,999</td>
<td>$400 to $499</td>
</tr>
<tr>
<td>$60,000 to $69,999</td>
<td>$500 or more</td>
</tr>
<tr>
<td>$70,000 to $79,999</td>
<td></td>
</tr>
<tr>
<td>$80,000 to $99,999</td>
<td></td>
</tr>
<tr>
<td>$100,000 to $149,999</td>
<td></td>
</tr>
<tr>
<td>$150,000 to $199,999</td>
<td></td>
</tr>
<tr>
<td>$200,000 to $249,999</td>
<td></td>
</tr>
<tr>
<td>$250,000 to $299,999</td>
<td></td>
</tr>
<tr>
<td>$300,000 to $499,999</td>
<td></td>
</tr>
<tr>
<td>$500,000 to $749,999</td>
<td></td>
</tr>
<tr>
<td>$750,000 to $999,999</td>
<td></td>
</tr>
<tr>
<td>$1,000,000 or more</td>
<td></td>
</tr>
</tbody>
</table>

The median household income (2004) in Vance County was $30,498. The US Department of Housing and Urban Development (HUD) sets income guidelines to define low income and very low income households. The guidelines for a family of four show an income of $24,050 for very low income and $38,500 for low income. About 55 percent, or 6,401 households of Vance County’s population fit into these two categories, provided the household contains 4 or more members. The following chart displays incomes and changes in incomes from 1990 to 2000. As is apparent, the percentage earning higher incomes has increased while the percentage earning lower incomes have decreased.

<table>
<thead>
<tr>
<th>Income range</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income less than $15,000</td>
<td>5,056</td>
<td>3,955</td>
</tr>
<tr>
<td>Income of $15,000 to $24,999</td>
<td>3,042</td>
<td>2,702</td>
</tr>
<tr>
<td>Income of $25,000 to $34,999</td>
<td>2,135</td>
<td>2,301</td>
</tr>
<tr>
<td>Income of $35,000 to $49,999</td>
<td>2,201</td>
<td>2,966</td>
</tr>
<tr>
<td>Income of $50,000 to $74,999</td>
<td>1,141</td>
<td>2,447</td>
</tr>
<tr>
<td>Income of $75,000 to $99,999</td>
<td>254</td>
<td>884</td>
</tr>
<tr>
<td>Income of $100,000 to $149,000</td>
<td>172</td>
<td>570</td>
</tr>
<tr>
<td>Income of $150,000 or more</td>
<td>141</td>
<td>348</td>
</tr>
</tbody>
</table>

Developers wishing to provide housing alternatives in Vance County will need to carefully target the size and income of the population they wish to market. The percentage of income to be spent on rent/mortgage, insurance, taxes and utilities should not exceed 25-33 percent of a household’s income. The number of families that can not afford site built housing and the rise in manufactured housing may have a strong correlation.

Low Income Housing Programs

Within Vance County there are several programs in place to aid those with lower incomes in obtaining housing. One such program which is administered by Franklin, Vance, Warren Opportunity, Inc is the housing choice voucher program, also known as section 8 vouchers. This program increases affordable housing choices for very-low income households by allowing families to choose privately owned rental housing. According to the program guidelines, the landlord is paid the difference between 30 percent of a household’s income and a determined payment standard – about 80 to 100 percent of the fair market rent (FMR). Overall the Franklin, Vance, Warren Opportunity organization administers 579 vouchers for Franklin and Vance counties, with approximately 350 of those in Vance County. Recently over the past few years Section 8 certificates have been phased out into the voucher program. All vouchers within Vance County are tenant-based as opposed to project based meaning that a
tenant within the program is not limited to choosing specific complexes. The waiting list for the voucher program is currently 2 – 3 years.

Other related programs which are administered through the Franklin, Vance, Warren Opportunity organization include the Economic Self Sufficiency program, the Urgent Repair Program, the Home Protection Pilot Program, and the Weatherization (HARRP) program. The economic self sufficiency program provides employment help, support services and mentoring and has taken the place of prior programs offering rental deposit assistance and utility connections assistance. The urgent repair program provides accessibility modification and other energy repairs necessary to prevent the imminent displacement of low income homeowners. The protection pilot program is new as of 2004 and provides protection through interest-free loans up to $20,000 in helping qualifying homeowners resolve mortgage delinquency issues. Through the weatherization program certain populations are able to have their homes weatherized at no cost.

Additionally there are several low income housing units throughout the county that have been constructed using low income housing tax credits (LIHTC). Essentially LIHTC’s provide funding for the development costs of low-income housing by allowing a taxpayer, usually the partners of a partnership that owns the housing, to take a federal tax credit equal to a large percentage of the cost incurred for the development. In order to qualify for LIHTCs at least 20% or more of the residential units in the development must be rent restricted and occupied by individuals whose income is 50% or less of the area median income or at least 40% or more of the units must be rent restricted and occupied by individuals whose income is 60% or less of the area median income. Within Vance County, from 1990 until 2005 there were 46 LIHTC projects.

Finally, besides these programs, the Vance County Housing Authority manages 75 units of public housing which are located in the Lincoln Heights apartment complex in Henderson.

One issue of concern surrounding these low income units and other units throughout the county deals with their condition relative to basic life, health and safety standards. Within North Carolina the State Building Code addresses issues of minimum housing standards for new construction, however there are no minimum standards for existing structures. Within Vance County it is important that such minimum standards are adopted to ensure that existing structures used as residences provide a safe and healthy environment for its occupants.

Conclusions:

• A large percentage, 76.7 percent, of housing in Vance County is single family units.

• Following a significant increase in mobile home permits during the early 1990s, there has been a significant decrease in such permits over the last 5 years. While there has been a 531 percent increase in the number of mobile homes since 1970, the number of mobile home permits has decreased 90% from 1995 to 2006. For comparison, conventional housing has only increased 33.4%, but has also seen similar decreases over the past few years. While the recent decreases seem to be associated with the depressed economy, it appears as if mobile homes have been affected the most.

• Overall permits for all building activity have decreased during the mid 2000s. This has included a decrease in the number of permits as well as the value of permits. This may be due in part to a depressed economy during this time.

• Approximately 4 to 5 percent of the housing stock in Vance County is substandard by one or more factors. City of Henderson and Vance County Housing rehabilitation programs have assisted a number of homes, but a large number remain untreated. A continued and expanded housing rehabilitation program is needed.

• It is important to compare income with value of housing and amount of rent to get a true picture of the housing market. Sixty-one percent of the rents charged are under $300, with thirty percent of the rents under $200. This reflects a low value of rental property. Only twenty-four percent of the households
require housing in the under $300 range. Seventeen percent of the housing units have a value under $30,000.

- Since 1990, housing values and rents have seen improvement. In particular, recently there has been an interest in higher end development in proximity to Kerr Lake. This development has contributed to higher housing values, higher values of rent, and has contributed to the higher incomes apparent in portions of the county.

- Opportunities for a wider range of housing types and pricing should be made available to the citizens of Vance County.

- A minimum housing code must be adopted to assure minimum life, health and safety standards are applied to all housing within the County.

- Vance County should consider adding affordable housing (inclusionary housing) provisions to its subdivision ordinance. If not required within each subdivision, at least money could be set aside by developers in order to aid in affordable housing elsewhere.
Schools

Elementary Schools
Middle Schools
High Schools
Special Facilities
Private Schools and Charter School
Post Secondary Education
Conclusions
The Vance County Board of Education currently operates ten elementary schools, two middle schools and two high schools.

**Elementary Schools**

Within Vance County there are ten elementary schools, all of which serve grades pre K – 5. Of these elementary schools, 2 are located within the City of Henderson, 3 are located within Henderson’s Extra Territorial Jurisdiction (ETJ) and the remaining 5 are located throughout the county. With the addition of Clark Elementary in the fall of 2010 and the closure of Clarke Street Elementary there will be only 1 located in the City of Henderson, 4 within the ETJ and 5 throughout the county.

The combined capacity of the original ten schools is 4,241 students with a 2004-2005 enrollment of 4,141 students. This would reflect that the elementary schools are operating at 97.6 percent of their capacity and have room for 100 new students for the coming years. **This does not reflect the fact that three of the elementary schools are operating over their capacity.** This also does not reflect numbers from the closure of Clark Street Elementary and the opening of Clark Elementary.

<table>
<thead>
<tr>
<th>School</th>
<th>Capacity</th>
<th>Enrollment</th>
<th>% Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clark Street Elementary School</td>
<td>154</td>
<td>231</td>
<td>150.0% (77 over capacity)</td>
</tr>
<tr>
<td>Dabney Elementary School</td>
<td>550</td>
<td>582</td>
<td>105.8% (32 over capacity)</td>
</tr>
<tr>
<td>L.B. Yancy Elementary School</td>
<td>400</td>
<td>420</td>
<td>105.0% (20 over capacity)</td>
</tr>
</tbody>
</table>

Three other schools are operating at 95 percent to 100 percent of their maximum capacity. These figures do not address the issue of age/grade distribution which may place their usage at closer to 100 percent.

<table>
<thead>
<tr>
<th>School</th>
<th>Capacity</th>
<th>Enrollment</th>
<th>% Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aycock Elementary School</td>
<td>550</td>
<td>547</td>
<td>99.5% (3 more students)</td>
</tr>
<tr>
<td>E.O. Young Elementary School</td>
<td>325</td>
<td>319</td>
<td>98.2% (6 more students)</td>
</tr>
<tr>
<td>Zeb Vance Elementary School</td>
<td>550</td>
<td>540</td>
<td>98.2% (10 more students)</td>
</tr>
</tbody>
</table>

The remaining four schools operate between 70.8 percent to 94.0 percent. These figures do not address the issue of age/grade distribution which may increase the percentage of usage.

<table>
<thead>
<tr>
<th>School</th>
<th>Capacity</th>
<th>Enrollment</th>
<th>% Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinkston Street Elementary School</td>
<td>450</td>
<td>423</td>
<td>94.0% (27 more students)</td>
</tr>
<tr>
<td>E.M. Rollins Elementary School</td>
<td>662</td>
<td>619</td>
<td>93.5% (43 more students)</td>
</tr>
<tr>
<td>Carver Elementary School</td>
<td>264</td>
<td>222</td>
<td>84.1% (42 more students)</td>
</tr>
<tr>
<td>New Hope Elementary School</td>
<td>336</td>
<td>238</td>
<td>70.8% (98 more students)</td>
</tr>
</tbody>
</table>
The following is a projection of the elementary school population, assuming the same percentages of elementary school age children per household. Although the elementary schools are under capacity as a whole, it is apparent that at least one new elementary school servicing approximately 600 students should be in the planning stages with construction to begin in the near future. This new school would not only take relief off some of the schools that are over capacity, but it is also needed as many of the current schools are beyond their life years and condition. A second new elementary school would be needed somewhere between the years 2025 and 2030.

<table>
<thead>
<tr>
<th>Year</th>
<th>Est. and Projected Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>4,141</td>
</tr>
<tr>
<td>2010</td>
<td>4,195</td>
</tr>
<tr>
<td>2015</td>
<td>4,313</td>
</tr>
<tr>
<td>2020</td>
<td>4,429</td>
</tr>
<tr>
<td>2025</td>
<td>4,548</td>
</tr>
</tbody>
</table>

Temporary measures, such as mobile classrooms have been employed for many years to delay the need for the new school. Additionally, during the 2000/2001 school year, sixth grade students were moved from the elementary schools to the middle schools. With the new elementary school, many of the mobile classrooms will be eliminated.

**Middle Schools**

There are two middle schools in Vance County, each of which serves the sixth, seventh and eighth grade student population. The combined capacity of the two schools is 1,800 students with a 2004-2005 student population of 1,973. The schools are now operating over capacity at 109.6 percent with 173 students over their capacity. Looking at the two schools individually, Eaton-Johnson is operating over capacity by 155 students while Henderson Middle is over capacity by 18 students. While this change in middle school student populations is certainly a result of moving the sixth grade students to the middle schools, there is no doubt that a new middle school is needed in the near future. The following portrays the capacities.
The following is a projection of the middle school population, assuming the same percentage of middle school age children per household. It appears that the facilities at the middle schools are already insufficient and with the current use of 10 mobile classrooms at the two schools there is a need for one new middle school.

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. and Projected Population</td>
<td>1,973</td>
<td>1,999</td>
<td>2,054</td>
<td>2,110</td>
<td>2,167</td>
</tr>
</tbody>
</table>

**High Schools**

There are two traditional high schools (Southern Vance and Northern Vance High Schools) in Vance County with a third alternative education high school (Western Vance High School). All three of the high schools service the ninth through twelfth grade student population. The Western Vance High School is located at the old Dabney School and serves students who are at risk academically. By providing individualized instruction these students are able to succeed in receiving a diploma. There are a total of 164 students at this alternative school. The two traditional high schools serve a student population (in 2004-2005) of 2,083. These schools have a combined capacity of 2,028. These two schools are operating at 102.7 percent over capacity or 55 students over capacity.

![Vance County High Schools Capacity Status](image)

The following is a projection of the high school population, assuming the same percentage of high school age children per household. It appears that the facilities at the high schools are already insufficient and measures should be taken to alleviate this situation.

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. and Projected Population</td>
<td>2,083</td>
<td>2,111</td>
<td>2,170</td>
<td>2,228</td>
<td>2,288</td>
</tr>
</tbody>
</table>

**Special Facilities**

Several of the former school sites are being used for other purposes. The old West End Elementary School building on Chestnut Street in Henderson is now a privately owned apartment building. The old Aycock Elementary School gymnasium (the school has been demolished) is owned and operated by the Henderson-Vance Parks and Recreation Department. There is also a county owned manned trash site on this property. The old Zeb Vance Elementary School gymnasium (the school has been demolished) continues to be owned by Vance County Schools and is used as the warehouse and purchasing/distribution center for the school system. There is also a county owned manned trash site on this property. The old Henderson Elementary School site (the school has been demolished) is still owned by the school system and remains vacant. The old South Henderson Elementary School site (the school has been demolished) is now privately owned and remains vacant.

**Private Schools and Charter School**

There are three private schools, Kerr-Vance Academy (Pre K-12), Crossroads Christian School (Pre K-12) and Victory Christian School (K-12) located in Vance County. These three schools service a student population of nearly 900 children, who are not all Vance County residents.
Additionally there is one Charter School within the county, Vance Charter School (K-8) which services a student population of nearly 300. A second charter school (Henderson Collegiate) is planned for the inner city area of Henderson beginning in 2010 – 2011.

Post-secondary education

Post-secondary education is offered by Vance-Granville Community College. The community college offers an Associates degree program, college transfer courses, technical and trade courses with one year diplomas, GED high school program, continuing education courses and occupational (short term) programs.

Conclusions:

- Three of the elementary schools in Vance County are overcrowded, three more are nearing full capacity and there is little room for additional students at the remaining four schools. The average enrollment reflects that the elementary schools are operating at 98 percent of their capacity.

- It is apparent that at least one new elementary school servicing approximately 600 students should be in the planning stages with construction to begin in the near future.

- Temporary measures have been used to delay the need for the new school for a long time. With sixth grade students already being moved to the middle schools and with the high use of mobile classrooms, there is a great need for one new elementary school. This is also needed as several of the schools are beyond their life in terms of condition and years.

- The facilities at the middle schools and high schools are operating over capacity at 109.6% and 102.7% respectively. In the near future, an additional middle school building should be added while alleviation measures should be taken at the high schools as well.
County Public Schools (Remaining Capacity)

Percentage Full
- 70.83% - 94%
- 95% - 100%
- Greater than 100%
- New Elementary (opens 2010)

Legend:
- Henderson
- Kittrell
- ETJ
- Middleburg

Miles

- 0
- 5
- 10
Parks, Open Space and Natural Areas

Recreation
Parks
Designated Trails
Open Space
Natural Areas
Funding
Conclusions
Recreation

The word recreation means: refreshment by means of some pastime, agreeable exercise, or the like; a pastime, diversion, exercise or other resource affording relaxation and enjoyment; the act of creating anew. Synonyms for recreation include: amusement, relaxation, diversion, entertainment, fun, merriment, refreshment and renewal. Recreation can take many forms. Organized team programs are only one type of recreation.

There may a distinct difference between rural and city recreation. City recreation may involve organized team sports, playground equipment, and court type games such as tennis, basketball or squash. Rural recreation may include hunting, fishing, horseback riding, nature study, collecting, hiking, thinking, walking, climbing, swimming, boating or skiing. Both indoor and outdoor facilities can provide places for recreation. Formal parks or natural areas can be the site for activities. A restorative drive in the country may be considered recreation, where low traffic flows, scenery and open space are the only tools necessary for relaxation.

Parks

The majority of the urban type park facilities are concentrated within Henderson. Over half the population of Vance County is concentrated in or near Henderson. The recreation facilities located outside of Henderson are located at or near public elementary schools (very limited) and at or near John H. Kerr Reservoir. Many recreational opportunities offered at the lake are not offered in Henderson. The two types of recreation complement each other and offer a diversity of facilities and activities not often available.

Land for public recreation facilities and open space in new development areas must be included in the long range plan for Vance County. One suggested area might include flood plain areas, where prudent development practices would not place permanent structures and would be considered unusable otherwise. Other possible locations for new facilities may include old school sites (which the County already owns), land adjoining proposed new schools, land adjoining streams, creeks, rivers, or the lake.

Neighborhood picnic and play facilities will need to be incorporated into new residential developments and in crossroads communities. Additional land adjoining new public school facilities should be dedicated for expansion of joint use recreational facilities. The provision of open space, scenery and natural areas does not happen by accident and the protection of these areas must be considered as land uses begin to change.

Inside Henderson City Limits

**Chestnut Street Park** is the recreation department’s oldest park, consisting of 2 acres, which was developed with LWCF funds. Park features include a parking lot and a paved/fenced basketball court.

**David Street Park** is a neighborhood park consisting of approximately 1 acre and featuring a play structure for youth ages 5-12 years old, and including a play spring rider for younger youth and parent seating areas. This park was created as part of the David Street Community Development Project and was funded through Community Development Block Grant funds obtained by the City of Henderson.

**Eaton-Johnson Athletic Park** has a multi-purpose field for softball, baseball, and football. The field has lights to support athletic leagues using up to a 250’ outfield fence. Park consists of 4.5 acres, is located on the grounds of the Eaton-Johnson Middle School and is used under terms of a Joint Usage Agreement with Vance County Schools.

**Jackson Park** is a neighborhood park consisting of .05 acres leased from the Church of the Holy Innocents. The park features 1 paved basketball court and a small play area.

**Jaycee Park** is a neighborhood park consisting of 2 acres adjoining Rollins Park and features picnic areas and passive green space.
### Vance County Land Use Plan

#### Parks, Open Space and Natural Areas

**King Daughter’s Park I** is a neighborhood park consisting of 7 acres and includes two tennis courts, a restroom building, a picnic shelter, picnic area and amphitheaters as well as natural and passive green space.

**King Daughter’s Park II** is a neighborhood park consisting of 2 acres which features a play structure, picnic area as well as natural and passive green space.

**Kings Kids Park** is a neighborhood park, consisting of approximately 1/3 acre and featuring 2 play structures; 1 for youth ages 5-12, and 1 for children 5 years old and under. This park was developed as a partnership of 2 local churches and is leased from a non-profit created to develop the park.

**Owen-Davis Park** is a neighborhood park consisting of 2 acres and features a basketball court and passive green space.

**Pinkston Street Park** is a neighborhood park consisting of 5 acres and features a basketball court. The park is located on the grounds of Pinkston Street Elementary School and is used under a Joint Usage Agreement with Vance County Schools.

**Rollins Park** consists of 7 acres and features a lighted baseball/softball field, basketball courts, tennis courts, open play areas. The park is located on the grounds of E.M. Rollins Elementary School and is used under the terms of a Joint Agreement with Vance County Schools.

**South Henderson Athletic Field** consists of 8 acres purchased from Harriet and Henderson Yarns in 2004 and features a lighted softball/football field.

A private 18 - hole golf course is available for members only at the Henderson Country Club. There is swimming available for membership only at the Henderson Country Club, the Parker-Peace Pool and the YMCA.

Additional facilities available through membership at the YMCA include a running track, a gymnasium, a children’s gymnasium, racquetball courts and weight/exercise rooms.

### Vance County - Outside Henderson City Limits

**Aycock Park** is located at the Old Aycock School, consists of 4 acres and features a gymnasium and a practice baseball/softball field, which is owned by Vance County.

**Aycock Recreation Complex** is located behind the new Aycock Elementary School. The complex has 4-lighted softball/baseball fields, concession/restroom/picnic shelter facilities, two batting cages, paved walking trail, paved parking lot, maintenance storage building and a indoor recreation center with indoor pool, gymnasium, walking track, program meeting rooms, fitness room, and locker / shower facilities.

**Fox Pond Park** is located in southeast Vance County and consists of 100 acres, including a 40-acre lake (Fox Pond). Fox Pond Park has the widest range of facilities and features of all the Departments parks. The Parks has 2 picnic shelters, a lighted youth baseball field, 6 lighted tennis courts, playground equipment, amphitheater, horseshoe courts, shuffleboard courts, approximately 2.5 miles of nature/walking trails, a fitness court, and fishing areas.

**Kennametal Ballfields** are located on the property leased from Kennametal and feature 2 practice baseball/softball fields on 6 acres of property.

**North Henderson Athletic Park** consists of 34 acres purchased from Harriet and Henderson Yarns, Inc., and features 1 lighted softball/soccer field, 2 soccer fields and a restroom/concession building.
Additional facilities used by the public include the gyms and fields associated with all public schools throughout the County.

John H. Kerr Reservoir, also called Kerr Lake, is located on the northern boundary of Vance County. Kerr Lake State Recreation Area is one of the most highly visited state parks in North Carolina. There are roughly 1.5 million visitors each year, creating an expanded tourism market. Many of the visitors come to participate in fishing tournaments. The Vance County Department of Tourism actively recruits fishing tournaments.

Kerr Lake State Recreation Area is comprised of seven units. There are different facilities available at each site. There are two projects currently in design including a boat ramp at Nutbush Bridge S.R.A. and a campground improvement project at Henderson Point S.R.A. The following is a list of facilities available at the seven sites.

Camping - There are 650 tent and trailer camping sites with nearby showers and rest rooms, playground areas and picnic areas at the seven locations. Small fees are charged to defray the cost of maintaining the campsites and facilities. Three of the sites also offer group camping facilities.

Public Picnic Facilities - There are 300 picnic tables and 11 picnic shelters providing daytime picnic facilities for the public. Three shelters have four tables and eight shelters have six tables. A fee is charged per car on weekends from the first weekend in April through Memorial Day and from Labor Day until the end of September. The fee is charged seven days a week from Memorial Day through Labor Day. No fee is charged from October to March.

Public Boat Facilities – Twelve public boat ramps are provided at the seven State recreation areas. Kerr Lake State Recreation Area manages nine of the ramps and the vehicle fee above applies. NC Wildlife Resources Commission (NCWRC) operates three. NCWRC also operates a boat ramp facility at Flemingtown. There are no fees at the NCWRC ramps. Two additional public boat ramps are available at two commercial marinas. Also available at the marinas are moorings, slips, services and supplies.

Public Fishing Areas – Fishing is possible along much of the shoreline in Kerr Lake State Recreation Area. Kerr Lake State Recreation Area also provides a fishing pier at Bullocksville S.R.A. and at Henderson Point S.R.A. NCWRC provides public fishing access at Nutbush Bridge and at Williamsboro Wayside.

Additional Public Programs – Kerr Lake State Recreation Area provides free interpretive and educational programs at the park areas for the public on a regular basis. These programs are available to our visitors and for the families of Vance County. Additional programs and workshops are provided to the public schools and organized groups.

The Corps of Engineers has control of the John H. Kerr Reservoir and the shoreline surrounding the lake. A “John H. Kerr Reservoir - Shoreline Management Plan”, which was written by the Corps of Engineers, identifies many types of land uses allowed or encouraged for areas surrounding of the lake. Some of these uses include active recreation such as camping, boating, and swimming. Other areas may be reserved for wildlife habitats, are restricted due to extreme slopes susceptible to erosion, or may be leased to others to provide recreation or education such as the Girl Scout Camp. Additional areas may provide more passive recreation such as nature study, bird watching, walking, climbing or just to sit and think.

Consider the impact these recreational uses have on the Lake and land surrounding the lake. Consider what impact existing and new land uses may have on the lake and recreational uses. There may be overuse of certain areas of the park. The water treatment plant is concerned about the importation of zebra mussels and other organisms on boats, in live fish wells and on bilge pumps. We will have to consider the large traffic volume and noise generated.
by this recreational use. Residential development on the roads to these recreation areas need to be set back further from the road to help buffer traffic noise. There will continue to be a demand for restaurants, hotels, and other tourism related business.

An eighteen hole golf course is available to the public at the Kerr -Lake Country Club. A driving range and golf professional are also available to the public. A swimming pool is available to membership only.

**Designated Trails**

There are no designated trails in Vance County at this time. Currently there are plans underway to designate the Tar River as a paddle Trail. Such a designation could encourage the use of the river for paddling and other recreational purposes.

The use of old railroad right-of-ways may be a viable alternative for trails in the future. There is an opportunity for inclusion of a parallel trail/greenway as a part of the Southeast High Speed Rail Project (SEHSR). This trail would be a separate project from the SEHSR, and would run parallel to and outside of the rail right of way. This trail concept if successful could run from just south of Petersburg, Virginia to the north side of Raleigh at the Neuse River (approximately 116 miles), connecting all the cities and towns along the way. Such a trail could become an important link in the East Coast Greenway, a proposed trail that would traverse the eastern seaboard states from Maine to Florida.

The N. C. Department of Bicycle and Pedestrian Transportation has established many bicycle routes throughout the State. Those routed through Vance County include:

- **Carolina Connection** - This route is designated as a portion of U. S. Bike Route 1, which runs from Maine to Florida. In North Carolina, U. S. Bike Route 1 covers almost 200 miles. It enters Vance County on SR 1304 near Dabney; continues in a northeasterly direction going through Harris Crossroads, across Kerr Lake; and in an easterly direction, exiting the county near the Warren County community of Drewry.

- **North Line Trace** - This is a route that runs from the mountains to the coast. In Vance County, North Line Trace uses some of the same routes used by Carolina Connection. On the west, it enters the county near Hick’s Crossroads and exits the county near Drewry.

**Open Space**

There are few planned open spaces in Vance County. Most of the open space is a result of current land use patterns and must be preserved. The importance of providing and preserving open space in conjunction with land use planning must be incorporated into all long range plans.

One potential opportunity could involve a multi-purpose greenway which is being studied to parallel much of the Southeast High Speed Rail corridor project between Petersburg, Virginia and Raleigh, North Carolina. It would be in the best interest of Vance County to participate in this project in ensuring that the greenway could be continuous throughout the County. This could provide exposure to the county while also providing a recreational area.

**Natural Areas**

The natural areas in Vance County exist because they have not been disturbed yet. Development pressures have not yet reached these areas. It is important that areas of special significance be identified and preserved. Natural area planning can be incorporated into provisions for open space, conservation areas, recreation or civic areas. All development must be sensitive to the need to preserve natural vegetation, the variety of topography and “breathing space” or undeveloped areas.
Funding

Funding for facilities may come from numerous sources. Land may be dedicated to the public by private owners, land developers or donated by an organization or business in the community. Development of recreation facilities can be phased into multi-year construction projects.

The primary source of grant funds for parks and recreation is through the Parks and Recreation Trust Fund (PARTF). The PARTF was established on July 16, 1994 to fund improvements in the state’s park system, to fund grants for local governments and to increase the public’s access to the state’s beaches. The PARTF grants are provided to local governments on a matching basis. There is expected to be approximately $15.6 million for the 2008 fiscal year and increasing amounts each year thereafter.

Conclusions:

- Recreation facilities are provided inside the City of Henderson, at public schools, the Aycock Recreation Center and at Kerr Lake. All parks in Henderson and Vance County are operated by the Henderson Vance Recreation Department. The facilities at Kerr Lake are provided by North Carolina State Parks, while lake recreation is under the control of the Corps of Engineers.

- There has been some improvement in access to swimming facilities. With the YMCA and the Aycock Recreation Center, swimming facilities are available at a cost.

- There is adequate public access to Kerr Lake and facilities are scheduled for improvement. The continuance of quality public facilities at the lake must be encouraged.

- Developing land uses must be sensitive to the natural environment of the lake. New land uses also must be buffered from the visual and audio impacts of seasonal recreational traffic.

- The development of multi-use trails should be encouraged and the use of abandoned rail corridors explored. Additionally, the county should participate and fully cooperate with the plan for a multi-purpose greenway paralleling the proposed high speed rail corridor.

- Open space and the preservation of natural areas must be incorporated into all development plans.
Demographics

Current Demographics
Conclusions
**Current Demographics**

Within Vance County there is a total population of 42,954 according to the 2000 census. Nearly 40% of this population is located within the City of Henderson, which is not only the largest city, but is also the county seat. Overall, due to Vance County’s relatively small size, the county has a high population density relative to other counties in North Carolina. The population density within the county is 169.4 people per square mile which ranks in the top 30% of all counties in North Carolina. While this high density may seem misleading to some who see the county as a predominantly rural one, the main contributor to this density is the relatively small size of the county.

When looking at the population in more depth several additional patterns become evident. For instance, the accompanying population pyramid shows a sharp decrease in the population beyond the age of 60. This pyramid also portrays the post World War II baby boom along with the subsequent baby bust and rippling effects.

Additionally, Vance County is unique in that half of its population is African American while the other half is white. Like many other areas within the United States, the areas within the city have a greater proportion of the African American residents than in the other parts of the county outside the city limits. While the proportion of African American residents is nearly split between the City of Henderson and the rest of the county, there is a stark difference as 71% of the white residents live outside the city limits. It is also important to mention the increase in residents who identify themselves as Hispanic or Latino. Specifically, since the early to mid 1990s there has been a marked increase in these residents. As a result of this shift, there over 900 Spanish speakers within the county. Over time this has increased and looks to increase further in the future.

In terms of educational attainment Vance County ranks next to last (47.8%) in terms of high school graduation rate when compared to the other 100 counties in North Carolina. Along with this the average SAT scores in Vance County schools (868) is located within the bottom eight of the 115 school districts in North Carolina. Additionally, the graduation rate in Vance County schools is ranked nearly last (112 out of 115) in comparison to the other state school districts. Along with this, Vance County also needs much improvement in terms of its population that has received a college education and degree. With the close proximity to Vance Granville Community College there is hope for greater improvement in education in the future.

As is apparent, Vance County faces many challenges in the future directly related to its population and demographics. Not only does the county need improvement in its education, but overall incomes and poverty rates are also in need of improvement for the future. For a rural Tier 1 county, it appears that Vance County has the ingredients and resources which can fuel this improvement for the next generation.
Conclusions

- Although being a rural county in nature, the relatively small size of the county contributes to a relatively high population density.

- Vance County is among a small minority of counties where the size of the white population is nearly equal with the population of another race (in this case the African American population).

- Overall Vance County is classified as a Tier 1 county, which classifies it as economically disadvantaged. Vance County is one of 41 other counties in North Carolina with this distinction.

- The educational attainment in Vance County is in need of improvement. The county ranks near the bottom in many educational related statistics compared to other counties and other school districts in the state. While educating from within needs to be a priority, the county also needs to actively recruit those with higher educations in order to further benefit the county.
<table>
<thead>
<tr>
<th>Existing Land Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential Land Uses</strong></td>
</tr>
<tr>
<td><strong>Agriculture</strong></td>
</tr>
<tr>
<td><strong>Business and Industry</strong></td>
</tr>
<tr>
<td><strong>Economic Development</strong></td>
</tr>
<tr>
<td><strong>Mining and Quarry Operations</strong></td>
</tr>
<tr>
<td><strong>Conclusions</strong></td>
</tr>
</tbody>
</table>
There are 254 square miles in Vance County or 158,360 acres. The City of Henderson encompasses 5,248 acres with an additional 13,662 acres in the Extra Territorial Jurisdiction (ETJ) area.

**Residential Land Uses**

Residential units have risen by 6,539 units or 39.3 percent over the thirty years between 1970 and 2000. Between the years of 1970 and 1980, there was an increase of 3,709 housing units or 36.7 percent growth. Between the years 1980 and 1990, there was an increase of 1,935 housing units or 14.0 percent growth. Between the years 1990 and 2000, there was an increase of 895 housing units or 5.7 percent growth. In the nine years since 2000, growth has been approximately 13.9 percent. Based on growth projections, it appears that the ten year period between 2000 and 2010, Vance County will experience residential growth nearing 16.5 percent.

Most of this development in the past has been manufactured housing. The lack of new large subdivisions may be due to reluctance on the part of financing agencies to finance in areas with no zoning and very few land use controls. Another factor has been the lack of high paying jobs needed in order to attract those who are able to afford such homes. Some concern has also been raised with regard to the difficulty in reselling such homes. Recently however, there has been some interest in developing higher end large subdivisions abutting U.S. Corps. of Engineers Property along Kerr Lake. This type of housing may be fueled in part by the recent rise in health and medical related occupations coming to the area or as a result of Vance County being a bedroom community to neighboring areas.

<table>
<thead>
<tr>
<th>History of Vance County Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year of Census</strong></td>
</tr>
<tr>
<td>1970</td>
</tr>
<tr>
<td>1980</td>
</tr>
<tr>
<td>1990</td>
</tr>
<tr>
<td>2000</td>
</tr>
</tbody>
</table>

There has been a significant increase in single lot development throughout the County along state routes and highways. The lots are typically about one acre and are serviced by a private well and septic tank. The development of this kind of lot is relatively cheap in the short term, but may have very costly impacts at a later time. With the exception of areas along the lake, there are no large concentrations of development and development “leapfrogs” throughout the townships in the County.

This type of development is typically one lot deep along the state roads. There are driveways from each property onto the road. The driveways sometimes have sharp curves making access by emergency vehicles difficult. The placement of the driveways has not been planned in relationship to visibility, curves, hills or extensive vegetation. An additional traffic safety concern is residential traffic backing their vehicles onto roads with oncoming 55 mile per hour traffic. Additionally the movement of farm vehicles along these rural roads can also be difficult and pose a danger as a result of increased traffic.

This single lot development pattern blocks the view of farm and natural areas behind these lots. The view from the road is of houses and driveways. These lots are created on cleared land with few trees to blend the look of these homes with their surroundings. This lack of mature trees is also costly in terms of energy. Access to the land behind these lots will in the future be disruptive and expensive.

The extension of public water and sewer to most of these areas also becomes very difficult. In order for such utilities to be feasible throughout this development pattern, there needs to be a high participation rate along a given road. If the distance is too great and the houses too scattered, it become very difficult to justify the construction costs.

This pattern of growth also “rings” agricultural land and brings about conflicts between land uses. State legislation exists which prohibits certain types of law suits against farms with livestock or who use chemical spraying or other chemical applications from urban land uses such as higher density residential. The premise is that the development occurred after the farm and knowing of the existence of the farming operations. Unfortunately those selling lots may know of the farm operations, but the buyer may not.

Concerns about this type of development were expressed at all five public hearings. The public expressed opposition to this type of development and expressed desire for controlled development.
**Agriculture**

Within the county, there have been significant changes in the farming landscape over the last 25 years. Characterized mostly by a reduction in the number of farms, crops, livestock and farmers, the changing landscape has been noticeable within the county. Today, approximately 55,091 acres of land (or 34% of the land in the county) are being used for farmland as opposed to 72,558 acres in 1982. Of the 55,091 acres in farmland, just under 50% remains as woodland with just over 44% utilized for crops and pastures.

Along with this 24% decrease in farm acreage, the number of farms has decreased significantly since 1982 as well. From 502 farms in 1982 to 246 today, there is a noticeable difference. Surprisingly, while the general trend has been downward in terms of the number of farms, the 2007 census indicates an increase of 18 farms since 2002. Along with these changes, government payments to farms have increased significantly since 2002, with the average farm receiving $4,128.

When examining farm sizes, there have also been noticeable changes. Historically, there have been reductions in the number of smaller farms (defined as smaller than 179 acres), with increases in the number of larger farms (defined as larger than 500 acres). In fact, from 1982 to 2002, there was a 63% reduction in the number of small farms. However, since 2002 this trend has reversed as the number of small farms has increased and the number of large farms has decreased. This trend may be the beginning of many significant changes to follow in the agricultural landscape in Vance County. As the number of full time farmers has decreased and as the average age of farmers has increased, this trend may be the beginning of additional reductions in farm sizes. Additionally, with the economic climate during the late 2000s, there may be a return to farming on a small scale while workers are unable to find jobs elsewhere. In the long run, there are many questions surrounding the sustainability of small scale farming, however as farms have been increasing in the size, there appears to be a point at which the tide will turn.

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<tbody>
<tr>
<td>502</td>
<td>352</td>
<td>289</td>
<td>228</td>
<td>246</td>
<td>-256</td>
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<tr>
<td>72,558</td>
<td>71,442</td>
<td>67,716</td>
<td>74,996</td>
<td>55,091</td>
<td>-17,467</td>
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<tr>
<td>145</td>
<td>203</td>
<td>234</td>
<td>329</td>
<td>224</td>
<td>79</td>
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</thead>
<tbody>
<tr>
<td>1 - 9 acres</td>
<td>62</td>
<td>11</td>
<td>3</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>10 - 49 acres</td>
<td>128</td>
<td>65</td>
<td>37</td>
<td>49</td>
<td>54</td>
</tr>
<tr>
<td>50 - 179 acres</td>
<td>205</td>
<td>109</td>
<td>102</td>
<td>89</td>
<td>122</td>
</tr>
<tr>
<td>180 - 499 acres</td>
<td>83</td>
<td>71</td>
<td>51</td>
<td>40</td>
<td>29</td>
</tr>
<tr>
<td>500 - 999 acres</td>
<td>16</td>
<td>24</td>
<td>26</td>
<td>28</td>
<td>15</td>
</tr>
<tr>
<td>1000 acres +</td>
<td>8</td>
<td>9</td>
<td>13</td>
<td>15</td>
<td>11</td>
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</table>

When looking beyond the county’s general farming story, there is also much to be said regarding the economic impact of farming in Vance County. For instance, while the number and sizes of farms have been fluctuating over the years, there have also been patterns relating to the market value of farm land, buildings and resulting products. In fact, between 1992 and 2002 there was a significant jump in the value of farm land and buildings.
Much like the value of real estate, the 1990s were a time of great expansion in the U.S. economy. This average value per farm also may have jumped as a result of the emergence of larger farms around this same time. When looking at the average value of land and buildings per acre within the county, there is still evidence of this increase. The pattern is a bit different when looking at the market value of agricultural products sold. In fact, as a whole the value of products has dropped in real dollars since 1992, with the average farm seeing the value of products staying roughly the same.

<table>
<thead>
<tr>
<th>Estimated market value of land and buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. per farm</td>
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<tr>
<td>Avg. per acre</td>
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</table>

<table>
<thead>
<tr>
<th>Market value of Agricultural - products sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>in 1000s dollars</td>
</tr>
<tr>
<td>Avg. per farm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operators by Principle Occupation- Farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>324</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Government Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Farms Receiving</td>
</tr>
<tr>
<td>Total Received</td>
</tr>
</tbody>
</table>

In terms of crops, the county has also seen major declines in production. Since 1997 there have been major declines in tobacco (64%), soybeans (49%), and wheat (50%) production. Surprisingly the only crop seeing an increase over this same time period was corn, which prior to 1997 saw its own share of declines. It is also important to note that while corn was the only crop to increase production since 1997, it is also the least produced crop within the county and only makes up a small portion of the other crops produced. One other noticeable pattern relates to the production of tobacco. Traditionally a large producer of tobacco, Vance County has seen the number of farms producing it drop from 125 in 1997 to only 16 farms in 2007. This drop in farms producing tobacco has had very large effects on the total production of tobacco and on the county’s agricultural picture as a whole. A large part of this reduction is due to the tobacco settlement and allocation program. Nonetheless, the county’s agricultural landscape has been significantly altered and continues to be this way with declining crop productions.

As has been the story with nearly every aspect of agriculture in the county, the number of livestock animals has also declined significantly. The number of farms raising beef cows has dropped from 102 in 1987 to 63 in 1997 to 36 in 2007 with the number of beef cows dropping from 1,423 to 914 over this same time period. While the number of milk cows was not recorded in the 2007 census the county saw a drop to zero milk cows in 1997 as the last dairy herd was sold off, before raising to 32 in 2002. The number of hog and pig farms continues to be very low with only 3 farms and 16 animals. At the current rate it appears that certain livestock operations in Vance County will cease to exist in the near future.

The nature of farming in Vance County has changed significantly since 1982... Less farms...fewer individuals farming...very few dairy herds...limited crops.
Business and Industry

Vance County and the City of Henderson have had a long and rich tradition of business and industry growth. The original manufacturers in the county were producers of textile related products. Tobacco and other agriculture products have also played an important role in the county's economy.

Currently Vance County is home to more than 900 businesses. There are over 40 manufacturers in the county, over 200 retailers, and over 300 businesses in the service sector. Major products manufactured in the county include glass containers, mobile and modular homes, pet food, textile products, boat tanks and boat docks, and food products. Vance County is also home to several major distribution centers that serve the East coast.

Vance County and the county seat of Henderson are a major retail center. Retail sales have risen from just over $500 million in 2001 to over $670 million in 2007.

Economic Development

As with many other uses in Vance County, non-residential uses or economic activity have also been seeing their share of changes recently. While historically the trend has been small increases between 5 year economic census collection years, recently there has been a shift in terms of the types of economic activity seeing these increases. In fact, while wholesale trade has stayed the same in terms of firms, they have added 143 jobs from 1997 to 2006 while retail trade has seen a decrease of 52 firms or 318 employees between these same years. Although retail firms and employees have declined, since 2001, retail sales have dramatically increased from just over $500 million to over $670 million. Beyond the retail and wholesale changes, very large and encouraging shifts have been seen in the services as well as the health care sectors. Historically known as a low and moderately skilled area, Vance County has seen an increase in nearly all of the higher skilled job areas. Specifically there has been an increase of 18 firms ($6,065 increase in sales) in the professional services sector between 1997 and 2002. Also, great changes were seen in the health care sector with an increase of 19 new firms ($77,628 in sales) between 1997 and 2002 before adding an additional 27 firms between 2002 and 2006. Overall however, Vance County is dominated by its retail industry and sales, and although there have been increases in the professional services sector and the health care sector, the county is still lacking in these two sectors and is in need of attracting many more of these types of activities.

Within several of the services sectors and the retail sector there is the use of unskilled to semi-skilled labor. Particularly in the other services sector there is a pressing need for a labor force with technical training. With this said, Vance County has a good supply of labor suitable for these positions and the county has a great asset with Vance Granville Community College's excellent vocational training programs.

The following is a breakdown of commercial and industrial developments in Vance County.

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Establishments 1997</th>
<th>Establishments 2006</th>
<th>Employees 1997</th>
<th>Employees 2006</th>
<th>Sales ($1,000s) 1997</th>
<th>Sales ($1,000s) 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>53</td>
<td>43</td>
<td>5,085</td>
<td>2,076</td>
<td>1,217,961</td>
<td>587,867</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>33</td>
<td>33</td>
<td>489</td>
<td>632</td>
<td>273,984</td>
<td>285,218</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>251</td>
<td>199</td>
<td>2,763</td>
<td>2,445</td>
<td>454,018</td>
<td>516,582</td>
</tr>
<tr>
<td>Real Estate/Rental/Leasing</td>
<td>46</td>
<td>48</td>
<td>146</td>
<td>163</td>
<td>17,194</td>
<td>38,062</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Svc.</td>
<td>34</td>
<td>47</td>
<td>208</td>
<td>217</td>
<td>10,191</td>
<td>16,256</td>
</tr>
<tr>
<td>Administrative/Support/Waste Mgmt.</td>
<td>24</td>
<td>26</td>
<td>624</td>
<td>786</td>
<td>11,325</td>
<td>20,632</td>
</tr>
<tr>
<td>Educational Services</td>
<td>1</td>
<td>10</td>
<td>178</td>
<td>316</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>69</td>
<td>114</td>
<td>1,252</td>
<td>2,956</td>
<td>49,639</td>
<td>127,267</td>
</tr>
<tr>
<td>Arts, Entertainment and recreation</td>
<td>9</td>
<td>13</td>
<td>102</td>
<td>197</td>
<td>5,321</td>
<td>8,560</td>
</tr>
<tr>
<td>Accomodation and food services</td>
<td>66</td>
<td>72</td>
<td>1,532</td>
<td>1,498</td>
<td>38,570</td>
<td>46,474</td>
</tr>
<tr>
<td>Other Services (except Public Admin)</td>
<td>41</td>
<td>103</td>
<td>147</td>
<td>409</td>
<td>9,441</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>627</td>
<td>708</td>
<td>12,526</td>
<td>11,695</td>
<td>2,087,644</td>
<td>1,646,918</td>
</tr>
</tbody>
</table>

Source: 1997 & 2002 Economic Census Profile; 2006 County Business Patterns
The following is a breakdown of the economic activity between the City of Henderson and the rest of Vance County in 2002. As is apparent and expected, most of the activity is within the City of Henderson; however, Vance County has its share of activity as well.

<table>
<thead>
<tr>
<th>Population</th>
<th>Retail</th>
<th>Wholesale</th>
<th>Services (Prof.)</th>
<th>Services (Other)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henderson</td>
<td>16,095</td>
<td>165</td>
<td>18</td>
<td>45</td>
</tr>
<tr>
<td>Balance of County</td>
<td>26,859</td>
<td>49</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Total County</td>
<td>42,954</td>
<td>214</td>
<td>31</td>
<td>52</td>
</tr>
</tbody>
</table>

Due to a major loss of manufacturing jobs in the Kerr Tar Region from 2001 to 2006 a new “thinking outside the box” economic development concept was initiated. In 2003 a study was conducted by the University of North Carolina’s Office of Economic Development, to determine the feasibility of what was then called “Mini Hubs”. The original “Research Triangle Park” hub concept has proven to be an outstanding economic development tool and in order to spread the concept in other parts of North Carolina, especially those experiencing a “down turn” in their economies, the concept of “Mini Hubs” was established. Businesses, governments and academic partners are collaborating to create a specialized industrial park to attract 21st-century jobs and investment to the Kerr-Tar Region.

Initial funding was provided by the Golden Leaf Foundation as part of the Federal Tobacco “buy out” program. Vance County has a rich history in the tobacco industry but has suffered greatly in recent years as the tobacco industry has departed from the county. The hub is a much-needed initiative to help Vance, Granville, Warren and Franklin counties participate more fully in the technology-driven economy of the Research Triangle Region. It is anticipated that jobs created in Hub sites provide opportunities for regional workers to enjoy good-paying jobs closer to home. The Kerr-Tar Hub was envisioned as a network of sites that offer a variety of enhancements attractive to employers but require a more substantial investment than any single county could provide on its own. The concept of a focused, attractive, tech-intensive, locally driven regional park network has attracted the interest of federal, state and foundation leaders who can no longer support each county trying to go it alone.

The leaders of the Kerr Tar Project have capitalized on a history of effective multi-county collaboration, community, government, business and community college leaders in the region organized to specify how to implement this long-term vision for the sustainable economic benefit of their citizens. These leaders discussed how to make the hub a true collaborative, involving joint investments and benefits. To compete in the knowledge economy, the hub is envisioned to be a continually innovating partnership between business and education, facilitated by all the local governments working together. The Kerr Tar Council of Governments coordinated the development of the hub project and now serves as project administrator.

The Vance county site is located along I-85 at the intersection with Poplar Creek Road directly across I-85 from the Vance Granville Community College. It consists of approximately 400 plus acres and is “shovel” ready for development.

**Mining/Quarry Operations**

Operations at the largest mining operations in Vance County, the Humme Tungsten Mine, were discontinued some time ago. The mine employed 550 employees and during the 1940-1950’s over $35,000,000 in ore was withdrawn from the mine. This mine was the largest tungsten producer in North America and South America. This mine stills exists, although oak timbers shoring up the tunnels have not been maintained for a number of years. Two parallel vertical shafts approximately 1600 deep and 4000 feet apart were driven and connected underground. There were some 13 miles of tunnels associated with this operation.

In the past, this mine paid in part for the maintenance of the pumping station on the Island Creek Dam on Kerr Lake. The pumping station prevents the mine shafts and surrounding area from flooding. In recent years, the Corps of Engineers has needed to upgrade the pumping station and expand the retention ponds. At one time, a second alternative was being considered which involved discontinuing use of the pumping station and allowing the water to rise to the level of Kerr Lake on the other side of the dam. This would have flooded a number of additional acres of land in the vicinity of the mine.

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Due to the potential hazards to the environment from the processing of the ore, the mine site itself has been designated a state “Super fund” site. The state and federal governments are monitoring the soil and water quality on the site in hopes of preventing the spread of contamination.

The Vulcan Materials Company Greystone Plant at Greystone Quarry was established in 1835 under the name of Cobble and Dimension Stone, then was operated under the name of Greystone Granite Quarries until the purchase by Vulcan in 1959. Stone from this quarry has been used throughout the state, including the Capital Building in Raleigh. Stone from the quarry was used in the Bay Bridge Tunnel in Norfolk, Virginia and most major highways throughout the area.

There are approximately 144 acres under lease to the quarry and another 124 acres owned outright. The older section of the quarry covers approximately 90 acres and is 520 deep (or 20 feet below sea level). Work on this section was discontinued during the mid 1990s and work has taken place on newer sections to the north and east since. While being part of the largest stone extraction company in the world, this particular quarry is considered a medium quarry.

Self-initiated appearance improvements to quarry areas visible to the public were begun in the 1970’s. Earthen berms were constructed and landscaped along the roadside. A scenic overlook and rest area were developed. The existing spring-fed pond on the south side of the quarry operation has been landscaped and development of an “island” area with a gazebo was constructed. Well testing and seismometers on adjoining properties help monitor any possible negative effects.

The quarry does use a significant amount of water for washing rock. The water used for this purpose originally came from on-site wells and storm water retention. The water used then undergoes a three stage settling process and enters a final settling pond. Now, water used for rock washing is pumped from the fourth pond. Most of the water used is recycled continuously and is recharged from storm water. No wastewater exits this process. The only water or sewer use generated by this operation are for rest rooms.

A second operating quarry operation, Sunrock, is located along US Route 1 near the Tar River in southern Vance County. The company opened its first facility in the county, a granite quarry in 2003, which was followed a few years later by a concrete division and an asphalt division. The quarry encompasses 514.02 acres of which 402.5 acres are disturbed and permitted. Overall the quarry owns over 600 acres of which could be used for expansion in the future. The current extraction area includes earthen berms and a 100 foot buffer around the quarry to block the view of the quarry. Currently the shipping of the product is done via truck typically using U.S. Highway #1. There are plans in the works for a future railroad spur to allow for this method of shipment.

Conclusions:

- There are between 20,000 and 21,000 housing units in Vance County. Approximately 77% of these housing units are single family homes. Manufactured housing rose from approximately five percent of the housing stock in 1970 to twenty one percent in 1990 before leveling off at twenty three percent in 2000.

- Based on growth projections, it appears that the ten year period between 2000 and 2010, Vance County will experience residential growth nearing 16.5 percent. This should also result in increases of services and retail growth to service this new population.

- There has been a decrease in the number of farms, decrease in livestock operations, and a decrease in numbers of people employed in farming.

- Economic Activity has experienced a steady increase through the early 2000s with a noticeable increase in Health Care occupations. Additionally, retail sales have dramatically increased from just over $500 million to over $670 million since 2001.

- There are two existing stone quarries in Vance County.
Special Concerns in Land Use

Natural Areas

Wetlands

Forested Lands

Endangered Species and Wildlife

Elevations and Slopes

Historic Sites, Landscapes and Buildings

Archaeology

Cultural Resources

Human Resources
All rural areas have unique natural features. A rural environmental plan can help protect natural areas if they are properly identified, rated, designated and incorporated as elements of the plan. Natural areas should be assessed by size, elevation, frequency of occurrence, diversity or variety, significance and fragility.

There are three conventional methods for protecting natural areas:

- purchasing
- zoning
- designation - identification and recognition

An owner who discovers that his or her land is prized as a natural area may become interested in, knowledgeable about, and protective of that land. The owner may initiate steps to protect it.

Designation allows requirements to be set respecting the integrity of those areas in the event of proposed changes in their use. The effect of designating a natural area on private land may be to increase the value of the property as well as the value of adjacent properties.

**Wetlands**

Wetlands play a vital role in life cycles, flood prevention, and the hydrological cycle. They are often also scenic natural areas. Appropriate recommendations should be made to protect the functions they serve. Wetlands are invariably unsuitable for building sites, and because they frequently act as flood retarding reservoirs or water-table recharge areas, there is strong justification for proposing in the plan that they be maintained as natural greenbelts.

Some changes in land uses may require a special federal permit, an environmental impact study and may require expensive mitigation. Two soils are identified as having good potential for wetlands plants, the Wehadkee (Wh) soils and the Worsham (WoA) soils. Two additional soils are identified as having fair potential for wetlands plants, the Lignum (LgB) soils and Chewacla (Cw) soils. Only one soil is identified as having good potential for wetlands wildlife, the Worsham (WoA) soils. Three additional soils are identified as having fair potential for wetlands wildlife, the Wehadkee (Wh) soils, the Lignum soils (LgB) and Chewacla (Cw) soils.

The Soil Survey should be considered a starting place for wetlands determination. **Any major changes in land use should include an assessment of the site for wetlands. These major changes would include large subdivisions, all commercial, industrial and wholesale uses, forestry clearing and land clearance activities for agricultural.**

**Forested Land**

Forested lands provide habitats for wildlife, serve to slow erosion, and provide oxygen for us to breathe. Good locations for forested areas are where soils may not be appropriate for another use, along streams, ponds and lakes. Wetlands and flood plains are good locations for natural forested lands.

There are two types of forested lands. The first is an undisturbed, natural area and the second is planted forest areas for harvest. The soils for these two types of forested areas may be very different. Many natural forested areas are located in areas with soils or water tables that make the use of heavy machinery very difficult.

Harvesting practices generally consist of clear-cutting an area. This eliminates the possibility of many seedlings surviving. Clear cutting also frequently destroys all undergrowth, thereby making the land susceptible to erosion. The recovery of this land will take many years.

Clear-cutting as a pre-development practice devalues land and exposes the soil to erosion. This practice should be discouraged.

An inventory of its type, acreage, ownership, and market value is an important component of the natural resource base and the economic base. Much forested land is held for non-timber production purposes such as water recharge, game management, even aesthetics and recreation.

**Endangered Species and Wildlife Habitats**
Why do we care about endangered species of plants and animals? If plants and animals cannot survive in an area, humans may not be able to either. Just as the canary warned the miners of poisonous gases, many plants and animals act as early warning that something is going wrong.

Environmentalists are worried about certain species of mussels in Vance County. Some of these mussels are very sensitive to water quality. If these mussels begin to die off, we need to be concerned about our water quality. If we correct the water quality too late for the mussels, we have lost our canary.

For example, certain plants and aquatic life are sensitive to nitrates. Excessive nitrates in drinking water can lead to a condition in people which prevents the normal uptake of oxygen by the blood. Infants are especially susceptible to this condition.

Another reason we became concerned at the loss of a species is the possibility that a species may be the only source of a substance which may cure disease. Certain tribes of Indians in the rain forests of South America have no incidence of certain diseases prevalent in the US. It is believed that this is because of ingestion of certain plants, not found anywhere else in the world.

A third reason is the possibility of breaking natural food chains. Water pollution is killing organisms at the mouth of the Abermarle. These organisms are part of the food chain from which we harvest shellfish. Fishermen on the coast are reporting declines of 50 to 75% in their harvests of shellfish. This reduction in shellfish not only affects our ability to obtain this food, but reduces the number of jobs relating to the fishing industry.

A final reason is perhaps a moral responsibility to preserve wildlife and plant life for future generations. Tremendous effort has been made to identify endangered and threatened species. Inventories of locations and numbers of species have been made, but it may not be known that this is the last area, the last deer or the last creeping juniper until it is gone.

The appearance of wildlife in populated areas is largely due to developing land uses encroaching on natural habitats and migratory routes. As the human population increases, more land is converted for residential housing and commercial areas. This leaves less land for native plants and animals. People are not only moving from one place to another, but there are simply more people. Roads and buildings may cut the wildlife off from their natural feeding and watering areas. Houses, parking lots and sidewalks may be located in the path of their natural migration routes and where berries and nuts once grew. Wildlife and native plants have fewer and fewer places to live.

Certain areas in Vance County have been identified as critical natural areas, wetlands ecosystems and endangered species habitats. These may be of local significance, state wide significance or national significance. Preservation of these areas is difficult, particularly when most of these areas are privately owned. The identification of these areas is a start. Development can occur in a way that is sensitive to the preservation of the areas that support endangered species and wildlife. Preservation of natural habitats as floodplains, wetlands and forested areas help these species survive.

**Elevations and Slopes**
It is essential to prevent expensive mistakes in the location of residences or other more intensive uses. Steep slopes are generally poor locations for roads and buildings or other active uses, because of increased impact on the local ecosystem. On steep slopes plant species are fewer, soils are shallower, erosion is more likely, precipitation damage is heavier, damage from roads or logging is greater, risk for fire is greater, and after-damage recovery is much slower.

**Historic Sites, Landscapes and Buildings**
Historic properties remind people of their cultural heritage; identifying them adds an attractive dimension to a rural area, village or town. Inventorying historic sites is usually one of the easiest inventories to accomplish.
A survey was taken in 1975 of the historic and architectural resources of the Tar-Neuse River Basin. Though the survey was much too broad in scope to be more than a cursory survey, many of the major historic structures of Vance County were inventoried. Ninety-three structures, including ten locations within the city of Henderson, were catalogued. In notes on the Vance County Inventory, it states “A number of other sites of significance are known or reported, but not yet recorded.” No additional work has been known to have been completed or published on the historic structures of Vance County. This survey does not carry a complete history of Vance County to enable us to understand the full settlement patterns, but does give us a few “snapshots” to help place some of these structures in time.

Additional detail from the survey is available in the files of the North Carolina Department of Cultural Resources, Division of Archives and History that was not in the publication.

Historical structures give us a sense of time and place. Many new neighborhoods look so much alike that it is difficult to discern whether we are in Raleigh, Syracuse, Dallas or Phoenix. What makes structures different? Size of lot, type and maturity of the landscape, size and shape of the building, exterior treatment of the building, attached or detached accessory buildings, roof treatment, color, and placement of the structure on the lot and style of the building add variety to neighborhoods and communities.

The diversity of settings, sizes, colors is interesting. Different styles and materials used over a three hundred year period are apparent as we move throughout Vance County. Different size, shape and textures of plant materials lend to this sense of individuality. The contrast of mature hardwoods, sometimes hundreds of years old, next to a newly planted tree helps us understand the passage of time.

Vance County has a rich architectural and historic inventory. These structures are not only attractive, but serve as a focal point and center of activity for a community. They are worthy of protection, for their beauty can be quickly destroyed by the introduction of incompatible land uses. An effective method of protecting such a feature or neighborhood is to designate it as a special architectural zone. Use of the zone for other purposes than residential would require the approval by the planning commission, which could also specify architectural and landscaping details for any changes made.

To protect and preserve other culturally important sites, a historic subcommittee should identify interesting old buildings, historic places or landscapes and encourage the owners and communities to recognize their significance. Such actions as attaching a small plaque noting the date of construction of an old building add charm to a community and enhance civic pride.

The attractiveness of a rural place, its sense of scale and its unique physical and cultural resources can be augmented by designating and maintaining rural byways, providing scenic turnouts, minimizing the impact of utility corridors, creating town commons and landscaped zones, establishing a planting plan, increasing the effectiveness of advertising and other signs by reducing the size and number.

These actions, carried out by rural residents, enhance community pride and form the basis for economic revitalization.

**Archaeology**

To understand early settlement of Vance County, one must begin with the necessary elements of survival. The Tar and Roanoke Rivers provided a transportation trade route southeast to the coast. During prehistoric times, this drainage pattern encouraged the north-south movement of people. The major watercourses provided corridors for movement, trade and communication. These same watercourses also provided rich, fertile soils in their floodplains.

Intense volcanic activity forged what is known as the Carolina Slate Belt. The slate belt with its lava flows, beds of breccia, ash, tuff and slate provided the prehistoric inhabitants with an abundant supply of raw materials from which to make their tools and implements.
Not only was the area attractive to prehistoric people because of its abundant raw materials, it also offered a veritable smorgasbord of natural plant and animal resources. As the climate became more moderate, oak and hickory forest gradually were replaced by a mixed forest of oak and pine. The abundance of pine has increased in recent years. The original forests probably provided an ample supply of nuts and fruits as well as more varied and richer habitat for game animals.

Early surveys of the land in Vance County (1701) give a hint of the rich natural resources of the area. John Lawson traveled in the Piedmont in 1701 and noted 27 different species of animals including buffalo, panther, wolf, elk and bear in abundance. Few of these could be found today.

Extensive colonization brought destructive cultivation practices. The hills and ridges that once harbored an abundance of wildlife were cleared, farmed and abandoned. Erosion became severe.

The soils from the uplands filled the river and stream beds with sediment and created wet, swampy conditions in what had once been prime agricultural land. The Piedmont became one of the most severely eroded agricultural areas in the United States. This has been slowed somewhat by modern practices, but the damage has been irreversible. Cultivation continues to disturb and destroy archaeological sites throughout the Piedmont. Most of the upland sites have become collections of dislocated tools and flakes; most of the other sites in the bottoms have been deeply buried and are rarely discovered.

Archaeological sites in Vance County not only date back to times of a rich Native American history, but also to prehistoric times. Some of these sites are extremely valuable and rare. Care must be taken to preserve our history “underground”.

**Cultural Resources**

The events of history, whether recent or ancient, create a community bond that is as valuable as other more tangible resources. Oral histories of events, people and times past must be preserved before they are lost for all time. Vance County has a long and colorful history. These events, people and times help us to maintain perspective.

**Human Resources**

The collective knowledge, skills, and memory as well as the network of associations among rural residents are the human resources of a place; they provide the framework of its existence.

All of these represent valuable skills that can be transferred to similar tasks that bring greater economic return. Applying old skills to new activities to fit a changing local or world market might be one way of revitalizing a community.

**Conclusions:**

- Natural areas need to be identified and assessed as changes in land use occur.

- The functions of wetlands are beneficial to Vance County and must be preserved.

- The Soil Survey should be considered a starting place for wetlands determination. Any major changes in land use should include an assessment of the site for wetlands. These major changes would include large subdivisions, all commercial, industrial and wholesale uses, forestry clearing and land clearance activities for agriculture.

- Forested lands provide habitats for wildlife, serve to slow erosion, and provide oxygen for us to breathe

- There are two types of forested lands. The first is an undisturbed, natural area and the second is planted forest areas for harvest.
• Harvesting practices generally consist of clear-cutting an area. This eliminates the possibility of many seedlings surviving. Clear cutting also frequently destroys all undergrowth, thereby making the land susceptible to erosion. The recovery of this land will take many years. Clear-cutting as a pre-development practice devalues land and exposes the soil to erosion. This practice should be discouraged.

• An inventory of its type, acreage, ownership, and market value is an important component of the natural resource base and the economic base. Much forested land is held for non-timber production purposes such as water recharge, game management, even aesthetics and recreation.

• Importance of Endangered Species

  Many plants and animals act as early warning that something is going wrong.

  The loss of a species is the possibility that a species may be the only source of a substance which may cure disease.

  A third reason is the possibility of breaking natural food chains.

  A final reason is perhaps a moral responsibility to preserve wildlife and plant life for future generations.

• The appearance of wildlife in populated areas has to do with developing land uses encroaching on natural habitats and migratory routes. As the population increases, more land is converted for residential housing and commercial areas. People are not only moving from one place to another, but there are simply more people. This leaves less land for native plants and animals.

• Certain areas in Vance County have been identified as critical natural areas, wetlands ecosystems and endangered species habitats. These may be of local significance, state wide significance or national significance.

• Preservation of special land use areas are difficult, particularly when most of these areas are privately owned. The identification of these areas is a start. Development can occur in a way that is sensitive to the preservation of the areas that support endangered species and wildlife. Preservation of natural habitats as floodplains, wetlands and forested areas help these species survive.

**Elevations and Slopes**

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**Historic Sites, Landscapes and Buildings**

• Historic properties remind people of their cultural heritage; identifying them adds an attractive dimension to a rural area, village or town. Vance County has a rich architectural and historic inventory. These structures are not only attractive, but serve a focal point and center of activity for a community. They are worthy of protection, for their beauty can be quickly destroyed by the introduction of incompatible land uses.

** Archaeology**

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Public Participation
Issues and Concerns

Golden Leaf Community Assistance
Initiative Planning Process

- Key Issues/Concerns
- Key Assets

Vance County Planning Board

- Infrastructure - Water, Sewer and Transportation Issues
- Planning/Zoning Regulation
- Housing
- Nuisance Regulation
- Economic Development
- Farming/Agriculture
- Character/Appearance
- Natural areas, Endangered Species and Historic Property
- Forestry
- Schools
- Miscellaneous

Citizen Information and Participation Meetings

- Dabney
- Aycock
- E.O. Young
- New Hope
- Zeb Vance
In the early part of 2009 Vance County was approached by the Golden Leaf Foundation with a proposal to carry out a planning process (known as the Community Assistance Initiative) in order to prioritize projects that would be eligible for up to $2 million in grant funding. The planning process began in April and stretched to the end of the year with a single meeting each month. Out of this process key issues and concerns with the county as well as key assets of the county were identified. Once these were identified, they were organized into categories and prioritized. Out of this process the categories were prioritized as follows:

1. Education
2. Economic Development/Job Creation and Retention
3. Emergency /First Response Services

Following this prioritization, measures of success, goals and desired results were created for each of the three categories. As this planning process is nearing its end, it is anticipated that the process will lead to a funded project or projects that will reflect broad community support and engagement while addressing one or more of the prioritized categories above.

Although the focus of these planning meetings was not strictly focused on land use, they provide useful information in moving forward with this comprehensive land use plan. Specifically the issues/concerns as well as the assets which were all determined by citizens of Vance County provide useful insight in setting priorities and goals for land use within the county. The following summarized the key issues/concerns as well as the key assets in addressing these issues.

**Key Issues/Concerns:**

**Education**
- 54% not graduating from High School
- 29% African-American students pass EOGs
- Need homegrown teachers
- Teacher incentives
- Computer literacy
- Overcrowded school
- Lack of Summer school and afterschool activities
- High rate school suspensions
- Teacher turnover
- Strengthen parenting skills
- Globally Competitive Students, Parents & Community

**Workforce Development and Support**
- Vocational/Trades training
- Job readiness and employability
- Workforce development/workforce training
- Green construction jobs

**Economic Development/Job Creation and Retention**
- Need for new jobs
- JOBS now
- Jobs and increase in income will help solve other issues
- Incentives to lure new businesses
- Lack of women owned/minority owned business opportunities
- Business Climate/Quality of Life
- Poverty
- Need destination point for tourism development

**Key Assets:**

**Education**
- Dedicated Teachers

**Workforce Development and Support**
- Community College
- Proximity to universities
- Kittrell Job Corp. Center
- Good working experience in Vance County

**Economic Development/Job Creation and Retention**
- Empty Buildings
- Large Workforce
- Proximity to RTP
- Strong Department of Tourism
- Active Chamber of Commerce
- Kerr Lake (tourism and water source)
- Triangle North Hub Sites
- 2 marinas
- 7 State Parks
Vance County Land Use Plan

Agriculture
- Underutilized agriculture lands/ag. Opportunities for farmers-biofuels?
- Inadequate 4-H/other facilities programs/structure to serve this issue
- Farm ownership transition issues

Infrastructure
- Technology infrastructure
- Aging Infrastructure
- Tap onto existing infrastructure-money to do
- Water/sewer

Health
- Preventive Dentistry
- Weight/obesity-especially among children; juvenile diabetes, adult onset/diabetes
- Vance County - high rate HIV
- Physician retention

Crime and Offender Services
- Gang activity Drugs
- Rehab of Felons
- Child abuse/Domestic Violence
- Crime/Violence
- Drug trafficking

Emergency/First Response Services
- Improved fire and EMS service
- EMS system

Housing
- Access to affordable capital to rehab home
- Affordable/Decent Housing
- Housing for Homeless
- Better standards rental properties
- Demolition of burned out housing/dilapidated buildings
- Green Housing

Resident Services and Resources
- Feeding the Hungry
- Teenage Pregnancy
- Additional services senior citizen
- Rec./cultural center/programs for youth
- Inadequate public Transportation
- Hunger during summer months
- Opportunities for youth
- Parks-upgrades (equipment)
- Camp for autistic children
- Strengthen parenting skills
- Addressing needs of Hispanic population
- Men’s shelter
- Services for Disabled Veterans
- Need for animal control facility

Public Participation – Issues and Concerns

Agriculture
- Open Land
- Good climate/quality of life
- Abundant natural resources including water, wildlife, game lands, open space, productive farmland, rivers, soil, forestland (private & public), etc.

Infrastructure
- Interstate
- No tolls on highways
- On high speed rail route
- Kerr Lake (tourism and water source)

Health
- Hospital

Crime and Offender Services
- Great Law Enforcement (dedicated)

Emergency/First Response Services
- Great Law Enforcement (dedicated)
- Great Fire Department
- Good volunteer Fire Department

Resident Services and Resources
- Great Library
- Good Social Services and Mental Health Org.
- Active United Way
- Recreation complex-excellent
- YMCA—good
- Relay for Life/successful money raisers
Community Collaboration

- Underinvestment in ½ of county that is most challenged
- Lack of Community pride
- Slow government response/ Social Security
- Need unity in decision-making
- Lack of County-wide zoning
- Subdivision roads – not maintained
- Community communications leads to under-utilization of resource programs
- Litter and Trash
- Taxes going down
- Let’s plan to end homelessness
- Airport

The following is a list of issues or concerns expressed by the citizens of Vance County at the five Citizen Information and Participation Meetings held throughout the County. The list does not reflect the number of times the same issue was expressed.

Infrastructure - Water, Sewer, and Transportation Issues

- Complete the planned VC Water District
- Protection of water quality for consumption and recreation
- Protection of Kerr Lake
- Groundwater quality
- Guidelines to protect the environment & water resources
- Protection from storm water runoff & pollutants in watershed
- Lack of water & sewer services in the county
- Creation of infrastructure - water & sewer line extensions, roads, outer loops, upgrades
- The ability of the county’s infrastructure to handle growth & development
- Community wells vs. individual wells; Meeting state requirements for both
- Stricter regulation of septic tanks
- More opportunities for alternate sewage disposal systems
- Preserve natural resources - particularly water quality
- Completion of a Comprehensive Transportation Plan
- Efforts to include multi-modal Transportation planning
- Creation of mechanisms to aid subdivisions in need of road repair

Planning/Zoning/Regulation

- Protecting and enhancing property values & appearance

Community Collaboration

- Good collaboration City/County
- Dedicated leaders
- Churches/Faith-Based community
- Active Volunteer Community
- A lot of cultural history
- Good BBQ
- Good Resiliency
- County Gov. Buildings in good shape
- GLF in Vance County
- Leverage—all of our negatives make this county eligible for every grant out there but we do not seek them
- There are a disparity of views and perceptions that cause stalemates every time we try to move forward to consensus.

Housing

- The lack of regulations (i.e. zoning, minimum housing code, and staff to enforce
- Uncontrolled subdivision development
- Lack of county-wide zoning
- A serious look at zoning throughout the county
- Ability to plan for residential, retail, commercial, & industrial growth for the future in order to preserve the quality of life desired by county residents
- Lack of planned growth around Kerr Lake, outside of watershed area
- Provide for commercial/industrial growth without disrupting existing communities
- Develop a “who does what where” in the ETJ (Regulations and Enforcement) with the City

Economic Development

- Industrial development unplanned
- Prepare the Triangle North Hub Site for development
- Development of an economic growth enhancement plan for the county
- Tourism as an economic development tool
Farming/Agriculture

- Preservation of agricultural base & prime farmland
- Preservation of agricultural land
- Continual loss of harvested cropland

Character/Appearance

- How can we preserve the rural character of our community?
- Lack of rural character - community characteristics - individuality
- General appearance of major arteries needs to be enhanced
- Clean up of abandoned structures and trash especially on main arteries

Natural areas/Endangered Species/Historic Properties

- Guidelines to protect the natural beauty of landscape, endangered species and historical sites

The following is a list of issues or concerns expressed by the citizens of Vance County at the five Citizen Information and Participation Meetings held throughout the County. The list does not reflect the number of times the same issue was expressed.

**Dabney Elementary Meeting**

- Limited Infrastructure
- Protection of churches and schools
- Protection of Neighborhoods

**Aycock Elementary Meeting**

- Family member exemption
- Reasonable/common-sense Regulations /fees
- Comprehensive Transportation Plan
- Subdivision regulation requirements
- Water supply watersheds
- Modular/site-built/manufactured homes
- Annual review of regulations and plans
- Does notifications & hearing meet the intent?
- Review by those directly involved
- Concern for benzene pollution - existing and potential

**E.O. Young Elementary Meeting**

- Loss of timberland (old growth timber)
- Where does the water go?
- Concern for oxygen given off by trees
- Apathy of citizens
- Mobile home parks
- Larger lot sizes
- Enforcement of existing ordinances

- Protection of architectural history
- Appoint a “Historical Preservation Taskforce” and develop an ordinance

**Forestry**

- Reforestation after logging a tract of land
- Forestry practices not monitored
- The need for road and stream buffers

**Schools**

- Satellite library accessibility (stationary or mobile)
- Recreation access in each voting district (either at schools or parks)

**Miscellaneous**

- Preservation and use of vacant and abandoned properties
- County wide high-speed internet connectivity
- Sell, lease or remove abandoned county owned buildings

- Visual appearance has deteriorated
- Mobile homes around Kerr Lake
- Garbage
- Orientation of housing in relation to other homes
- Incompatible uses of Land
- Infrastructure deficiency - Water & Sewer
- Vance Co. Appearance Commission
- Soil and water conservation
- Appearance of existing mobile home parks
- Cost of water
- Kerr Lake

**New Hope Elementary Meeting**

- Litter
- New Development on large lots
- Preserve trees, landscape during development
- Manufactured housing standards improved (i.e. 1 per lot)
- Preserve rural feeling “limit growth – slowly”
- Land costs driven up by Outsiders for Kerr Lake
- Guard lake - good quality development
- Need Zoning
- Industry - uses low water & sewer
- Sustainable development
- Dog control? Freedom vs. property rights
Vance County Land Use Plan

- Loss of control, more regulation
- Personal responsibility toward property - not universal
- Water-extension possible everywhere? Where it makes sense based on population & proximity
- Va. Beach – Water – Island Creek Dam – pending

Zeb Vance Elementary Meeting

- Dilapidated Buildings
- Buffers / Appearance
- Flood prone areas
- Use soil survey in determining lot size
- Metered water/lot size
- Encroachment of business along US 1
- Subdivision of land
- Value of land / property

Public Participation – Issues and Concerns

- Infrastructure - more than water & sewer
- Known development helps utilities to prepare for growth
- Zoning requires utilities to buy too large lot
- Must have infrastructure to accommodate growth
- Modular / Site built / Manufactured homes
- Benzene in water supply
- Water & Sewer needed county-wide
- County-wide water system
- Extension of Cable to all areas
- Protect rural way of life
- Preservation of farming (other existing uses)
- Cost of water too high
- High density development
- Identify growth areas
# Goals, Objectives and Strategies

<table>
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<th>Vance County Land Use Planning Task Force</th>
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GOAL 1: To encourage development at a rate and in a pattern which can be efficiently and effectively served by existing and planned services and facilities.

Objective 1. To limit development to densities which will not overburden the land or utility systems and allow development as utility systems become available.

Strategies
a. Adopt a zoning ordinance and subdivision regulations.
b. Study the feasibility of extending water to key growth areas.
c. Study the feasibility of extending sewer to key growth areas.
d. Cooperate with State Water Quality personnel and local departments to determine maximum carrying capacity around Kerr Lake without deteriorating water quality.
e. Phase development to coincide with the extension of water and sewer.
f. Complete the planning and construction of the Vance County Water District.
g. Develop densities based on availability of water and sewer, soils characteristics, geological conditions, topography and biological conditions.

Objective 2. Enhance property values and quality of life

Strategies
a. Enhance city-county recreation programs by providing facilities and programs in areas where not currently available.
b. Study the need for additional recreation facilities in conjunction with new development.
c. Encourage the Corps of Engineers and the State to continue provision of and maintain quality public access to Kerr Lake.
d. Require improvements appropriate to the density in all new subdivisions at time of development.
e. Encourage environmentally responsive development.

Objective 3. Minimize detrimental effects of incompatible land uses

Strategies
a. Require landscape/screening buffer requirements and additional setback areas between conflicting land uses.
b. Initiate an Environmental review process which includes consideration of natural conditions, adjoining property owners and other stake holder’s interests.
c. Educate elected officials and citizens as to the long term effects of incompatible land uses.

Objective 4. Improve visual image and preserve natural rural character of county

Strategies
a. Require landscaping of new development.
b. Discourage clear cutting of natural vegetation.
c. Use a variety of methods to preserve mature landscape and trees.
d. Require open space appropriate to type and level of development.
e. Develop a volunteer network to help clean up unsightly public areas; Work with DOT to expand the roadside cleanup.
f. Adopt an Abandoned Manufactured Home Ordinance.
g. Continue strict enforcement of the county’s litter control ordinance.
h. Require underground installation of utility lines.
i. Adopt a Property Maintenance Code Ordinance.
j. Adopt a sign code to eliminate oversized, cluttered and unsafe signage.
GOAL 2: To provide and maintain adequate county services and facilities that will accommodate economic development and growth and will protect the environment, public health and general welfare.

Objective 1. To protect public health and safety through adequate water and sewer disposal facilities.

Strategies
a. Educate the public about well drilling, well maintenance, well testing and minimum well standards.
b. Encourage regular well testing.
c. Develop a county water distribution system in conjunction with new development and include provisions to allow targeting of contaminated water supplies.
d. Study the effectiveness of the county’s septic regulations, including the development of a tool to determine the cumulative effects of multiple septic tanks in a given area.
e. Work with City of Henderson to extend the city’s sewer system to areas of the county where feasible.
f. Complete the planning and construction of the Vance County Water District.
g. Develop records for new well locations and seek to locate and record all old wells.

Objective 2. To encourage sustainable economic growth and development

Strategies
a. Study the feasibility of constructing additional industrial parks as needed.
b. Prepare Capital Improvements Plan needed to improve all county services, with emphasis on education.
c. Enhance entrance corridors by improving the visual image for potential corporate and residential clients.
d. Enhance tourism transportation routes.
e. Plan and complete the construction of the Vance County Triangle North Site.

Objective 3. To maintain and enhance recreation facilities and programs

Strategies
a. Prepare a long range Recreation Plan including a community survey.
b. Actively seek alternative funding for recreational facilities.
c. Require open space/recreation with new development.
d. Encourage use of existing local and state facilities and programs;
e. Develop private/public partnerships and partnerships with other governmental entities.
f. Enhance city-county recreation programs by providing facilities and programs in areas where not currently available.
g. Study the need for additional recreation facilities in conjunction with new development.

Objective 4. Maintain and enhance public access to Kerr Lake

Strategies
a. Cooperate with the Corps of Engineers and the N. C. Wildlife Resource Commission to maintain, expand and enhance public access to the Lake.
b. Work with DOT to improve roads serving Kerr Lake.
c. Improve visual appearance of transportation routes to and from the lake.
d. Limit access on tourism routes to minimize traffic disruption.
Objective 5. **Maintain, streamline and where feasible, expand public services and public safety/emergency services.**

**Strategies**

a. Complete the planning and installation of the Vance County Water District.

b. Review the findings and implement the necessary suggestions of the Emergency Services Study.

c. Provide the necessary infrastructure to the planned “high growth” commercial and industrial growth areas.

d. Assure public services, public safety/emergency services, service facilities and service equipment are adequate and available prior to commencement of new development.

Objective 6. **Maintain and improve Transportation Routes**

**Strategies**

a. Request that N. C. DOT prepare a Comprehensive Transportation Plan.

b. Work with DOT to implement the Transportation Plan.

c. Adopt requirements for signage, landscape improvements and development along transportation routes.

d. Discourage multiple single lot access to State routes to prevent traffic congestion and improve safety.

e. Create and implement a Right-of-Way preservation ordinance in order to protect future road right-of-ways.
GOAL 3: To promote, encourage, and stimulate the conservation of existing housing stock, rehabilitation or replacement of substandard housing, and the construction of new housing stock.

Objective 1. To improve housing conditions

Strategies
a. Promote neighborhood improvement projects.
b. Adopt and enforce a minimum housing code or property maintenance code.
c. Enforce ordinances that would require removal of junk and salvageable vehicles and debris.
d. Target available grant funds to provide water and sewage disposal to those having none or whose are dysfunctional.

Objective 2. Preserve historic structures, landscape and settings

Strategies
a. Perform a comprehensive historic survey.
b. Educate property owners, and the public about the public value of historic properties, preservation and land conservation.
c. Establish a Historic Properties Commission to plan protective and preservation efforts.
d. Work with local groups to promote historic tourism.
e. Consider tax value reductions to assist owners in preservation and restoration efforts.

Objective 3. To encourage a variety of housing types and values

Strategies
a. Adopt Zoning and amend the Subdivision and Manufactured Home Park Regulations.
b. Consider density incentives in development communities and new developments which provide a type of housing lacking or in short supply.
c. Encourage the rehabilitation of existing housing in poor or substandard conditions.
d. Encourage the development of an increased supply of medium value housing and medium value rental units.
e. Balance the ratio of housing values and rents to the income of the population of Vance County.
f. Adopt and enforce a minimum housing code or property maintenance code.
GOAL 4. To promote, expand, and diversify the economic base in Vance County to maximize the use of human resources while protecting important natural features and community values.

Objective 1  Encourage industrial and commercial development to increase the tax base and job supply in development communities or areas

Strategies
a. Adopt a Zoning Ordinance.
b. Develop an assessment tool and informational data base for the selection of industrial sites.
c. Provide water and sewer service to prime industrial sites/parks.
d. Study the feasibility of construction of additional industrial parks as needed.
e. Work with existing commercial and industrial concerns to develop expanded and new markets for products.
f. Improve education and skills of work force.
g. Enhance entrance corridors by improving the visual image for potential corporate and residential clients.

Objective 2. Encourage diversification of farming

Strategies
a. Encourage the use of alternative crops and assist to develop on-site processing to increase value of product and create jobs.
b. Work with existing agricultural concerns to develop expanded and new markets for products. An example of this may include a local farmer’s market which would accommodate locally grown produce, meats and products.

Objective 3. Promote tourism

Strategies
a. Cooperate with the State to prepare a complete inventory of historic sites in the county.
b. Encourage the expansion of sustainable tourism based facilities and trade.
c. Enhance/beautify tourism transportation routes.
d. Develop new tourism based alternatives.
GOAL 5. To conserve, protect, and encourage the wise and prudent use of Vance County’s natural and cultural resources.

Objective 1. Protect agricultural areas from development

Strategies
a. Direct and limit development to development communities.
b. Encourage the development of agricultural/forestry type commercial uses.
c. Encourage residential development in development communities or areas by providing public water and sewer facilities and increased densities.
d. Limit single lot development in agricultural areas.
e. Develop a variety of other alternatives to protect prime and locally important land from development pressures.
f. Consider the transfer of development rights from important agricultural lands to more appropriate areas.

Objective 2. Protect water quality.

Strategies
a. Maintain and improve water supply watershed regulations and implement goals, objectives and strategies as adopted.
b. Cooperate with the various local departments and the NC Water Resources Division to develop a range of appropriate requirements for buffers and land use regulations for streams, rivers and other water bodies which have varying degrees of impaired water quality.

Objective 3. Protect fragile natural, archaeological or historic areas

Strategies
a. Discourage development of land identified as having a natural, archaeological or historic significance.
b. Develop public educational materials which promote the preservation of and conservation of natural areas as tourist sites.
Proposed Land Uses

Introduction
Changes in Land Use
Existing Land Use
Transitional Development Areas
Development Communities
Neighborhood Communities
Agricultural and Forestry Areas
Industrial and Warehousing Areas
Overlays
Proposed Land Use Holding Capacities
Introduction

Clear distinctions must be made between urban and rural areas. Provision of services readily available to city dwellers cannot be made available to all residents of the County. The County must be able to sustain its existing level of services, meet federal and state regulations and maintain a healthy financial status. Balanced growth can be encouraged, but the infrastructure to sustain new growth must be put in place at the same time. New residents bring a demand for additional schools, roads, fire service, police service, social services, recreation, and water and sewer service.

High density residential growth and industries requiring high volumes of water must be focused in areas where public water and sewer are already available or where a developer can reasonably extend and pay for such lines. The use of private wells and septic tanks in areas distant from public sewer and public water will be allowed, but only in very low densities. Current development patterns reflect uncontrolled sprawl without regard for the sustainability of the resources necessary to support it. Current unplanned development and construction must be brought under control to mitigate future demands on the County. Economic and political pressure must not be allowed to push the county to exceed its environmental or financial carrying capacity.

It is expected that the majority of the high density growth will occur in Henderson and the area directly outside of Henderson, in the Extra Territorial Jurisdiction (ETJ). Public water and sewer lines have been constructed within the city and have been extended to some extent within the ETJ area. There is sufficient area in the ETJ for high density development over the next several years. This plan does not include the City of Henderson or Henderson’s Extra Territorial Jurisdiction.

Beyond the ETJ there have been scattered pockets of growth, which are reflected within this plan. One contributing factor to these areas of growth is Kerr Lake, which has seen its share of development and acts as a draw for attracting higher end housing. An additional factor which could impact the future development is the countywide water project. While the water line locations will be based upon sign-ups, the system could cause additional development areas. Once this system is in place, the county should actively participate in planning in order to ensure that irregular and uncontrolled growth does not occur.

Changes in Land Use

Proposals for new development must be evaluated on a case by case basis. Vance County elected officials and citizens must decide if a project is desirable and if the County has the resources to support the project. Major factors that will be considered include the quality of the proposed project, the compatibility with adjoining uses, its proximity to existing infrastructure, whether the proposed development incorporates the natural limitations and potentials of the site, and whether the project supports the values of the community.

Undeveloped land in Vance County should be placed in a rural “agricultural residential” land use (zoning) classification. Proposed changes in land uses (zoning) should be approved only where a specific plan for development has been submitted, circulated to appropriate review agencies, reviewed and recommended for approval.

Speculative or anticipatory land use classification changes (zoning) should not be approved. This removes the opportunity for citizen participation, removes the opportunity for needed mitigation measures and development requirements, artificially raises the value of land and encourages developers to “leapfrog” to less costly sites.

Proposed changes in land use classifications (zoning) will require:

a. The submittal of all pertinent information needed for elected officials, planning board members and citizens to review the request.

b. Notification of adjoining property owners

c. Advertisement of public hearings (to notify the general public)

d. Public hearings
**Existing Land Uses**

Existing land uses, developed properties, should be assigned land use classifications that most closely resemble the actual current use. Possible future use or past use should not be considered. There will be some unavoidable non-conforming uses created by land use classifications, but these should be minimized to the greatest extent possible.

**Transitional Development Areas**

Several areas within the county exhibit characteristics of transitional development areas. Specifically these areas are located along transportation corridors and have already experienced a limited amount of mixed use growth. Due to the location of these areas along transportation corridors and due to the nature of the growth which has already occurred in these areas, there is a high probability that similar growth will occur over the next 10 to 15 years. Unlike the scattered rural neighborhood areas, the transitional development areas possess the ability for more immediate growth as opposed to the next 40 to 50 years within the neighborhood areas. While scattered development may occur within the next 10 to 20 years within the neighborhood areas, it is anticipated that the outward growth from the City of Henderson and the ETJ into the transitional areas would reach build out stage much sooner than in the scattered neighborhood areas. In essence these transitional areas act as an additional buffer or transition beyond the city and ETJ prior to entering the rural remainder of the county. This development pattern follows that of a hub and spoke with Henderson as a hub and the transportation corridors acting as the development spokes.

In total, there are three planned transitional development areas in the county. These may be referred to as the north, the west, and the south Vance transitional development areas as they relate to their direction from the City of Henderson.

**North Vance Transitional Development Area**

The first transitional development area is located between the ETJ and Kerr Lake along Satterwhite Point Road. Most of this development is located on the west side of Satterwhite Point Road and is just outside of the Anderson Creek protected watershed. While the other transitional development areas have many mixed uses, this area includes primarily residential development which extends outward from the Kerr Lake Country Club. Both the draw of the lake and the golf course seem to be the largest factors in creating this agglomeration of residential development. Additionally, City of Henderson water runs along Satterwhite Point Road allowing for this development, which should continue in the next 10 – 20 years.

**West Vance Transitional Development Area**

The second area for potential transitional growth includes the area extending outward from the ETJ past Vance-Granville Community College toward the county line. With the extension of City water and sewer that was made to this area, there has been a greater interest in developing this area. The future is bright for this area in terms of attracting additional medical development, office, commercial and possibly limited industrial development. Recently, the Huntstone residential development has begun and has much promise in attracting with its homes and amenities. Additionally, one of the largest additions to this area, which has the potential to transform western Vance County, is the HUB site. While early in its infancy, this site along with its counterparts in Franklin, Granville and Warren counties provides a unique opportunity for attracting major companies to this part of North Carolina over the next half a century. While having this potential, this area also serves as a primary entrance corridor to the county and is significant to the overall impression of Vance County. Only quality development should occur in this area. Siting, landscaping and overall appearance will be of great importance. Anticipated mixed use development for this important area will require careful placement of residential development to ensure compatibility. The completion of the second phase of the western outer loop would contribute significantly to the future development and connectivity of this area.
South Vance Transitional Development Area

The third potential transitional development area is located south of the ETJ along Raleigh Road leading to and beyond its intersection with US 1. While currently much of this area is residential in use, there are several instances of office industrial mixed in. Most of the development in this area appears to either abut Raleigh Road or be located very close by. The Henderson – Vance Industrial Park in close proximity appears to also have an effect on the development of this area. As Raleigh Road is a major route for obtaining access to and from US-1, the natural progression is to have development on either side of this roadway leading from Henderson to US-1. The completion of the second phase of the western outer loop would contribute significantly to the future development and connectivity of this area.

Development Communities

It is recommended that new growth outside the immediate Henderson area be focused in specific “development communities” of the County. While Transitional Development areas appear to be the areas experiencing shorter term growth, development communities serve as the long term recommended growth areas outside the immediate Henderson area. Low to medium residential, tourism and other commercial growth should be directed and limited to these areas. Instead of monotonous stretches of housing and unsightly, unstable strip development, the focus of growth to “development communities” will produce communities of mixed uses, with pedestrian orientation, which are efficient, stable and sustainable communities. Cooperative agreements will need to be formulated with existing community government (where incorporated) to effect land use controls. Specific community plans can be developed as desired or as necessary with the participation of area residents.

These communities serve a large area. People who live in and near these communities want to live in a country setting, but may or may not be involved in farming or forestry. The community may be an incorporated small town with some level of local government. Retail and service establishments such as farm and forestry equipment and repair, car servicing, general stores, veterinary office, beauty or barber shops are often located in such areas. Most of the communities have a post office with rural delivery and use post office boxes for in-town residents.

Some of these communities have histories and historical structures dating back from the early to mid 1700’s. The intrusion of modern architecture, bright lighting or development without consideration of mature landscaping would be detrimental to the sense of past and permanence as well as property values.

New development should occur in these communities in a controlled fashion. Commercial development should be consolidated in these areas with design, landscape requirements and compatibility standards. There should be no buildings of excessive height and large parking lots should be visually broken into smaller areas with extensive landscaping and have provisions for pedestrian traffic. Additionally, signage should be modest and lighting should be subdued. Mature trees and other established vegetation should be preserved where reasonably possible while tourism commerce such as restaurants and resorts should include an awareness of the history and character of the community. The limitation of general commerce to Country Development Communities will provide supplies to year round residents as well as serving the seasonal community and should make for more sustainable business enterprises.

Residential development should continue the feeling or character of the community and should incorporate architecture, lot size, use of natural topography and landscape to blend with existing development.

Provision of public water and sewer to these communities will allow planned growth and the consolidation of less rural residential and commercial development. Compact communities are cheaper to provide services to and discourage the “sprawl” of growth elsewhere.

Gillburg Development Community

The first “development community," Gillburg, has existing City of Henderson water and sewer lines, although somewhat limited in capacity. These lines will be augmented by additional distribution lines once county water is
made available. Gillburg is located within Phase 1A of the County water district and county water should be available within this area by 2010. Although extension of county lines will be based upon the density of sign-ups, the preliminary estimates call for both 6 and 8 inch water lines to be extended within this development community. Following the installment of county water, this community has the great potential to serve as a concentrated development community.

Until water and sewer distribution lines are installed, development would be limited to low density residential and low intensity commercial development. Currently the City of Henderson sewer and water lines encourage development in the Southwest corner of this development community, however following the availability of county water; development could expand on either side of Faulkner Town Road and NC Highway #39.

Four additional areas are identified as “development communities”. These areas are Kittrell, Middleburg and Williamsboro and Townsville. Water and sewer lines sufficient for potential growth should be extended to these areas as quickly as possible. The extension of water and sewer to these areas will allow development to be directed to and limited to easily served areas.

**Kittrell Development Community**

Development pressures in the Kittrell community will begin in the near future as a natural progression of growth extends northward from Raleigh to Wake Forest, through Franklin County and into Vance County. With the easy access provided by US Highway #1 along with improvements that have been made to this highway, it is only a matter of time before growth extends up to and into Vance County. Several people have looked at Vance County as a potential bedroom community for the Raleigh, Durham and RTP areas and southern Vance County provides ample opportunity for this development.

Additionally as areas directly south of Kittrell form the southern primary entrance to Vance County, this area should be developed to the County’s best advantage. Good quality development, minimum disruptions to highway traffic and an attractive, inviting community will attract new business and residential development. Commercial and service development in Kittrell can be developed to better serve the residents of the southern part of the County.

**Middleburg Development Community**

Middleburg has immediate access to water as a water main from the Regional Water System runs through the area. Service lines were extended to Middleburg after groundwater contamination was discovered in wells in the area. The State Emergency funding paid for a major portion of the needed water service line connection. Water distribution lines are needed for development to occur and should become available as part of the county water project. Additionally, sewer lines would need to be extended to the Middleburg area before any intense development could begin. Development has begun to infringe on prime farmlands in the area, although most development has occurred along or near the sensitive Kerr Lake shoreline. A major concern from this development has been contamination of the lake resulting from residential septic tanks placed too close to the shoreline.

The lake side of the Middleburg area is a complex area of prime farmland, sensitive watershed areas, poor soils near streams with water quality degradation and tourism demands. By directing intense development to the Middleburg area, development pressures may be less intense along the lake shore as well as along partially supporting streams that are critical to the water and waste water treatment plant.

Initial development would need to be low density residential and low intensity commercial until water and sewer lines have been extended to the area. An additional consideration is the inclusion of the western most portion of the development community in the Anderson Creek Water Supply Watershed. Commercial development in this area will need to be aware of additional restrictions imposed by these state-required regulations.
Williamsboro and Townsville Development Communities

Neither Williamsboro or Townsville have water or sewer at this time. While neither are experiencing high growth besides lake development, these development communities are important to the northern part of Vance County as they provide a means for focused growth within this area. This focused growth is very important within this part of the county as much of the land in this area is federally classified prime farm land. Although crops have been reduced in the county, it is important to protect the very productive prime soils due to their potential for productivity. Because there are productive soils in close proximity to these development communities, it is important for these development communities to exist in order that conflicts can be minimized between development and the agricultural community.

These areas also have a rich historic background dating back to the early 1700’s. New development in these areas will have an impact on the preservation and protection of this valuable resource. Therefore, careful attention to existing land uses must assure compatibility of old and new development.

Finally, areas east of NC Highway #39 and along Kerr Lake will need careful siting for development to maintain the natural “look” and “feel” of the area. Retention of natural areas as buffers will enhance the area for residents and visitors alike.

Extension of sewer lines will require one or more pumping stations and the topography of the area would make extensions beyond this general area difficult. The Harris Cross Roads area has experienced ground water quality problems due to excessive lime and other salts in the rock formations of the aquifer. Although within the last phase (Phase 2B) of the county water project, once water is available in this area, these water quality problems can be alleviated. Initial development, again, will need to be low density residential and low intensity commercial until water and sewer lines are extended to this area.

Neighborhood Communities

It is necessary to recognize the importance of neighborhood communities to the character of Vance County. These communities, typically located at crossroads intersections, are some of the oldest and most stable neighborhoods in the County. Some of these are located on state roads and have the potential for future development. Excessive or uncontrolled growth in these areas would be detrimental to their stability and future growth potential.

Neighborhoods in rural areas have distinctive characteristics, with a perceptible sense of community. Organizations such as church circles, the Farm Bureau, and 4-H draw people together with common interests. Family connections and long term land ownership give a sense of permanence and stability.

Most of the people in these communities have their own well, individual septic tank and an emergency generator for bad weather. Growth in these areas should be limited and new development should occur with the consensus of residents of the immediate community. Lack of adequate infrastructure requires limiting growth to very low density residential and commercial development that would be allowed in “Agricultural Areas”. Water and sewer lines could be made available, at some point in the future, enabling these neighborhood communities to have a more clustered development pattern which may result in these areas being reclassified as “development communities”. With the current growth potential in the County as a whole, these areas will most likely remain rural and agricultural in nature. Although identified as neighborhood communities, these areas most likely will continue their scattered rural development pattern.

Industrial and Warehousing Areas

Three existing areas of industrial development are possible locations for additional industrial development. An industrial park was constructed on US Highway # 1 near the crossroads community of Bearpond. This park known as the Henderson-Vance Economic Development Park is the only recognized and organized industrial park within the county, and has the capacity for many additional companies. As of late 2008, there were 8 business totaling around 500 employees located within this park. The park consists of 250 acres with two available sites (one 32

- 104 -
acres and one 8 acres). Because of the investments made to this park including the availability of water and sewer, this site is the most cost effective location for industrial expansion.

A second location is located northeast of Henderson along the east side of US Highway #1 and #158. A rock quarry and cement processing plant exist near this location at this time. Transportation and availability of water make this area desirable, however sewer would need to be made available for substantial industrial development to occur, although warehousing, assembly and certain manufacturing could require minimum wastewater facilities. Site planning and land use coverage will require additional attention due to the area’s inclusion in the Anderson Creek Water Supply Watershed.

A third area of industrial development is located in the southern most part of the county and currently includes Sunrock rock quarry. Although covering a large area at just over 500 acres, this industrial area is dominated by this single company. Although held by one company, there is potential for expansion up to 600 acres in the future making this an even more notable industrial area. While there are no water or sewer lines within a reasonable distance of this area, additional development beyond the expansion would not be recommended at this time within this area.

A new area for certain types of industrial or warehousing is located to the west of the City of Henderson next to the West Vance Transitional Development Area. Not only have water and sewer been made available to this area, but plans are underway for the Triangle North Corporate Park within this area. Such a hub site could attract not only industrial and warehousing, but also several other businesses, which makes this area the most suitable for short and long term mixed use growth. As with any industrial development close attention needs to be made to the visual and traffic impacts of such development. Of great benefit to the three industrial areas would be a controlled access bypass connecting Interstate 85 to US Highway #1 and NC Highway 39 through the Bearpond Area (with connections to US Highway #1 Bypass). Not only would such a roadway connect the three possible industrial areas, it would also connect the Raleigh transportation lines to the West Vance Transitional Development area and Hub site, while also reducing heavy truck traffic through the Henderson residential areas. Such a route has begun with the completion of phase I of the western outer loop, however, it is important that both Phase II and III are considered and completed in order for the full benefit to be realized.

Although located outside the county’s planning jurisdiction, several manufacturing/processing and wholesale distribution companies are located in the City of Henderson and in the City’s Extraterritorial Jurisdiction near the US Highway #1 By-Pass. Although outside the County’s planning jurisdiction, this area provides appropriate locations for additional industrial development.

Industrial development can be a good asset to a community. Close cooperation with the Regional Water System and the City of Henderson Wastewater treatment facility will be essential to ensure sustainable water and sewer services. Good building design, careful placement of loading docks and parking, and well-planned landscape design will ensure that the development will have a positive effect on the community and adjoining properties.

**Agricultural and Forestry Areas**

Other areas of the county should be reserved for agriculture, forestry, mining or rock extraction, open space and recreation purposes. The preservation of prime farmland must be given high priority. The addition of limited very low density residential development related to these uses could be allowed, however. It is critical to the strength of Vance County to keep current land in active production and convert potential farmland to productive use.

**Many changes have taken place in recent years that need to claim our attention**. Livestock operations have nearly become extinct. There are no chicken farms left and beef cattle production has also been hard hit in the last few years.

Communities that are made up of a variety of small to large farms have a richer social interaction than communities dominated by large corporate farms. On a larger scale, conversion of prime farmland to non-
agricultural uses takes away land needed for food supply of future generations. **Once farmland is converted to a more intensive use, the process is considered irreversible.**

There are many motives for keeping land in agriculture; economic, cultural and environmental. The aesthetic quality, alone, of open farmland is an incentive to retain land for agricultural use. The varied topography and textures of rural landscapes provide interesting patterns, colors, and tones - pastures, fields, orchards, wood, fence rows, gardens, picturesque farm buildings and homestead lots.

Farms close to cities are located in markets where competing demands for land are the most intense. Many urban residents’ desire locally available fresh fruits and vegetables, however, to increase community self-sufficiency in food production requires truck crop farming near cities. Conservationists see advantages of maintaining agricultural land; it is a way of providing wildlife habitats and protecting environmental cycles.

Knowledgeable taxpayers realize that it costs more to provide services to and maintain most residential developments than they yield in taxes. **Preservation methods must allow agricultural land to remain economically productive as long as possible using land-use controls.**

**Overlays**

**Entrance areas overlays**

The views from the roadway entrances to Vance County are extremely important in attracting perspective business, industry and potential residents. Road entrances into the County should make a positive impression to prospective residents and businesses viewing the area for potential sites. These roadway entrances also make an impression on the 1.5 million people visiting John Kerr Lake and the surrounding county.

Entrances into the county are classified as primary, secondary and county entrances. Primary entrances would include:

- I-85 east from Granville County
- I-85 west from Warren County line
- US 1 north from Franklin County line
- NC 39 northwest from Franklin County line

Secondary entrances would include:

- US 158 east from Granville County
- US 158 Business east from Granville County
- US 158/US 1 west from Warren County
- NC 39 south from the North Carolina-Virginia State line

Other secondary road entrances for attractions:

- Stage Coach Road (SR 1329) from Granville County to NC 39
- Warrenton Road (SR 1001) from Warren County
- Satterwhite Point Road (SR 1319) from I-85 to the State Park
- Jackson Town Road (SR1369) from I-85 to the Virginia State line

Views from primary and secondary entrance roadways should either be scenic (pastoral, natural areas or outstanding geological feature), may highlight an outstanding architectural feature such as a well-maintained historical property or include a significant or outstanding planted landscape area. Signage should have a low profile and subdued lighting.

All natural landscape should be preserved and protected to the fullest extent possible. Additional landscaping may be added in medians and along roadsides. Existing development is encouraged to add landscaping and to keep properties free from litter and trash. If welcome signs are desired they should be low profile, have additional
landscaping and should blend with the natural setting. Any new structures visible from the roadway should blend with the landscape, not become the landscape and should incorporate natural landscape and topography. Direct access should be limited with new development sharing access roads and entrances to minimize disruption of traffic and to visually reduce the impact of development. Parking lots should not be visible from the roadway and the use of landscape, landscape berms and locating parking behind or to the side of structures is encouraged.

Tourism has a major economic impact on Vance County. Tourism sponsors a large number of fishing tournaments on Karr lake, as well as other “lake county” events. Additionally with five (5) North Carolina State Parks along Kerr lake within Vance County, a large number of the 1.5 million people who visit Vance County annually come here for lake activities. It is imperative for the success of tourism and economic development that our roadways are presentable in appearance.

**Conservation Area Overlay**

Conservation areas have identifiable natural resources or physical limitations that require special protection or regulation to prevent either damage to the resource or to prevent construction in unstable or unsafe areas.

These conservation areas may include flood prone areas, wetland areas, locations of endangered plants or wildlife, archaeological sites, special geological features or other natural features that are unique, vulnerable or important to a natural ecosystem.

Development of any kind in these areas will require a special review and permitting process. Special efforts will be made to conserve these lands in their natural condition. Land uses will be limited to conservation and preservation efforts for the feature, educational efforts about the feature, and other activities that in no way harm the nature of the feature. Currently no such overlays exist in Vance County.

**Watershed Area Overlay**

Virtually every piece of land in Vance County is included in a watershed. Some watersheds lead directly to a public water supply. Others ultimately lead to a water supply downstream. Some watersheds contribute to a special area such a nutrient sensitive stream, a stream that supports an endangered species or a stream that feeds into a water treatment plant. Different types of protection are needed for different watersheds. The development of different regulations for these different types of watersheds is needed. One area may have erosion problems causing siltation; another may have contamination from an industrial source. These regulations must be based largely on the existing water quality of the body of water. Cooperation between State and local departments will be required to determine where problems are located and where necessary actions to improve the water quality should be taken. Priority will be given to non-supporting and partially supporting water bodies. The County will limit land uses and development as necessary to maintain the quality of water flowing into and within water courses.

Existing regulations adopted by Vance County apply to public supply watersheds in Vance County. The Anderson Creek Watershed that supplies water to Vance County, Warren County and Oxford County residents is one such watershed with an intake located in John H. Kerr Lake. The Tar River Watershed is the other protected watershed in Vance County as it supplies drinking water to the Town of Louisburg residents. Of the two protected watersheds, stricter regulations apply to land within the Anderson Creek Watershed as the water supply intake is much closer to the surrounding area of the contributing watershed. As the distance becomes closer between the watershed and the intake the regulations become even stricter.

**Proposed Land Use Holding Capacities**

Land use issues should be decided on a rational, defensible and equitable basis. Density should be based on the physical characteristics of the site and its proximity to services. New development should enhance the quality of life for existing residents and businesses. The people of Vance County should be kept informed about the potential positive and negative effects of proposed developments and should have a voice in decisions about new development.
The following are recommendations for determining holding capacity.

**Non-Constrained land** - Non-constrained lands are relatively flat and well drained with full access to public water and sewer. These are areas where the highest net densities are encouraged.

*Recommended Gross Holding Capacity:* Greater than two Dwelling Units per Acre

**Moderate Constraints** - Areas with moderate constraints with limited development at low densities are:

1. Slopes between 15-24%, and ridge tops
2. Class II agricultural soils, if in an existing farming community
3. Secondary aquifer recharge area
4. Soils or locations with moderate septic suitability, ground waste water recharge, or stream discharge problems
5. Areas of mature and or climax vegetation
6. Land with low levels of toxic contamination with clean-up or treatment possibilities
7. Major view-sheds

*Recommended Gross Holding Capacities:* .2 to .4 Dwelling Units per Acre.

**Severe Constraints** - Areas with severe constraints that restrict development (except as modified by Corps of Engineers) are:

1. Food plains
2. Slopes greater then 24% and ridge tops
3. Areas of 0 - 1.5 foot seasonal water
4. Buffer areas to fish streams and wetlands
5. Rock outcrop area and non-rippable bedrock within 2 feet of surface
6. Major aquifer recharge areas
7. Historic or archaeological sites
8. Soils or locations with severe septic suitability, ground waste water recharge or stream discharge areas
9. Land with toxic chemicals (none known)
10. Class I agricultural soils in an active farming community

*Recommended Gross Holding Capacity:* .1 to .2 Dwelling Units per Acre

These areas should be developed as open space. Any development density assigned to these areas should be extremely low and/or transferred to a more suitable portion of the site or to an adjacent site under joint ownership.

**Highest Constraints** - The characteristics of areas which generate the most constraints and areas where development is not permitted are:

1. Flood ways
2. Wetlands
3. Open water
4. Areas with high levels of toxic waste (none known)

*Recommended Gross Holding Capacity:* 0 to .1 Dwelling Units per Acre (to be transferred to developable portion of the site)
The Vance County Planning Board has formulated the following recommendations for initiating land use management in Vance County.

1. **Re-adoption and implementation of the Updated Vance County Land Use Plan.**

2. **Formulation, adoption and implementation of needed Land Development Management Tools**
   
   A. **Zoning Ordinance**  
   B. **Update of the Manufactured/Mobile Home Ordinance** (Separate, then made part of zoning ordinance)  
   C. **Update of the Subdivision Regulations**  
   D. **Completion of a comprehensive Transportation Plan**  
   E. **Minimum Housing Code**  
   F. **Erosion and Sedimentation Control**  
   G. **Stormwater Regulation**  
   H. **Economic Development Plan/Tourism**  
   I. **Capital Improvement Plan/Budget**  
   J. **Addressing Ordinance**  
   K. **Wireless Tower Ordinance**

3. **Necessary Enhancements for administering programs**

   A. **Expansion of GIS Capabilities and Services**
      1. Collection of additional local data using GPS units.  
      2. Creation of an interactive online GIS website with data download capabilities.  
      3. Need for ArcGIS Server program to aid department in simultaneous GIS operation and administration of GIS website.  
      4. Ability to continually update parcels data layer and roads data layer.  
      5. Ability to update streams data layer; Ability to update building and demographic data layers following 2010 census.  
      6. Ability to update aerial photography on a normal schedule (i.e. every 4 years, etc.).  
      7. Ability for tax office to have GIS access and knowledge – will aid in better integration/collaboration between county departments and better data availability to residents. Also will increase accuracy for taxing purposes.

   B. **Creation of County GIS/IT Department**
      1. Responsible for county computer issues/problems.  
      2. Major focus of department would be to manage a countywide GIS system, GIS database and GIS website in addition to its regular website duties.  
      3. Should be responsible for electronic parcel updates to supersede paper tax maps.  
      4. Should be responsible for promoting electronic approach for the county.

   C. **Continual examination and updates to administrative procedures**
      1. Processes  
      2. Coordination of County Departments/Reviews  
      3. Coordination with Cooperating Agencies/Reviews  
      4. Permit Tracking  
      5. Approvals/permitting  
      6. “One stop permitting”
<table>
<thead>
<tr>
<th>Implementation Tool</th>
<th>Function of Implementation Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Use Plan</strong></td>
<td>Guide for placement of proposed land uses, supported by information and written text explaining how future development should occur:</td>
</tr>
<tr>
<td><strong>Zoning Regulations</strong></td>
<td>Regulates under what conditions land and buildings can be used for different purposes. Regulates lot size, building height and size, how much and what part of the land can be covered. Also, rules for changing uses.</td>
</tr>
<tr>
<td><strong>Manufactured Housing Regulations</strong></td>
<td>Regulates conditions under which manufactured or mobile homes can be placed. Includes regulation for rental parks. Should be included in zoning ordinance when completed.</td>
</tr>
<tr>
<td><strong>Subdivision Regulations</strong></td>
<td>Specifies how land can be divided, sold and served by public services and utilities.</td>
</tr>
<tr>
<td><strong>Comprehensive Transportation Plan</strong></td>
<td>Plan considering the anticipated needs, problems and solutions for a 30 year period. The plan looks at multi-modal transportation including a highway elements, transit elements as well as bicycle/pedestrian elements. Existing traffic patterns and population growth aid in considering improvements in the various element areas.</td>
</tr>
<tr>
<td><strong>National Flood Insurance Program</strong></td>
<td>Federal flood insurance program for homeowners which requires the county to make sure people build in such a way as to prevent property damage from flooding.</td>
</tr>
<tr>
<td><strong>Minimum Housing Code</strong></td>
<td>Provides minimum life, health, and safety standards for housing.</td>
</tr>
<tr>
<td><strong>Erosion and Sedimentation Control</strong></td>
<td>Regulations to control the loss of soil during construction and to prevent the runoff from building up in streams and lakes.</td>
</tr>
<tr>
<td><strong>Stormwater Regulations</strong></td>
<td>Provides alternatives to control the high volume, high velocity flow of water caused by rain. The collection of these waters in a storm drain can overload a treatment plant, cause severe erosion and contaminate streams.</td>
</tr>
<tr>
<td><strong>Economic Development Plan</strong></td>
<td>A plan to describe needed actions to support, sustain and expand existing commercial and industrial development. The plan also describes needed steps to attract new non-residential development.</td>
</tr>
<tr>
<td><strong>Capital Improvements Plan</strong></td>
<td>A priority list of facility needs, preliminary cost estimates for construction and a reasonable schedule for completing the list of projects.</td>
</tr>
</tbody>
</table>