

Suffolk/Virginia

# Carolina Road Corridor Land Use Strategy

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Prepared for  
City of Suffolk

5 APRIL 2006



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# Issues for the Update



## Issues for the Update

BASED ON THE PREVIOUS 2018 COMPREHENSIVE PLAN for the area south of greater downtown is zoned for primarily industrial and business uses within the developable area. For the rest of the City, the plan calls for a mixed use approach with residential, business, and civic uses within reasonable proximity to each other. Questions have been raised for this update about this particular area including:

1. Is it possible to introduce new residential uses within this general area, and if so, where?
2. Can the historic isolation of the east side neighborhoods be overcome through development patterns in this area?
3. How can retail uses be encouraged in the area?
4. What is the best type and range of economic development activities for the area?
5. What is the role of the Suffolk Executive Airport in the future economy of the city and how can it be enhanced and protected?
6. What is the best way to protect the environmental quality and character of this urban edge?
7. What is the future of agriculture in this quadrant?

The analysis and associated modifications to the 2026 Comprehensive Plan address these issues and provide some new opportunities for economic development.

# Analysis



# Analysis



*Carolina Road*



*White Marsh Road*



*Hosier Road*

AS DESCRIBED IN THE PORTRAIT DRAWING, the south eastern quadrant has developed along two corridors, Carolina Road and White Marsh Road, with minimal development along Hosier Road. Otherwise it is sparsely developed which is consistent with its current zoning, and therefore serves as a natural boundary to the South. 4

Part of the City's unique character is the close relationship between the downtown and the agricultural landscape to the south, particularly visible along White Marsh Road. The traditional character is eroding due to both residential and economic development. Currently Carolina Road is characterized by some residential frontage, behind which are large warehouse and industrial uses.

There is little suburban residential expansion to the south of greater downtown Suffolk compared with that to the west and north of the Downtown. The southern quadrant involved in this study is bounded on the east by the Great Dismal Swamp and to the west by the industrial areas along Carolina Road.

**Building Coverage**

The sparse pattern of buildings in the area further illustrates this development pattern. It consists of large commercial and industrial buildings mixed with single family houses.

**Road Network and Infrastructure**

The existing road network is not well developed in the southern quadrant of the city. There are three north-south corridors; Carolina Road, Hosier Road, and White Marsh Road. The new Rt. 13 by-pass to the west ends at Carolina Road. There are no east-west connections between White Marsh, Hosier, and Carolina Roads. This is particularly difficult for the East Side Neighborhoods which are separated from Main Street by rail lines and suffer from very few east-west connections. The lack of a fully developed inter-connected network is a serious impediment to effective development of either residential or economic development uses in this area.

In addition, the only sewer and water infrastructure is along Carolina Road, limiting development to the east which must rely on septic systems. The soil is not well suited to this which has further limited development, especially between Hosier and White Marsh Roads.

**Rail and Traditional Industry**

Historically the railroad lines were the traditional means of access for industry in Suffolk. Currently very few of the uses in this area are dependent on rail access and it has been difficult to attract new ones to sites adjacent to rail lines when it is required that they be rail dependent. The north-south CSX line is abandoned from a point just south of the alignment of the by-pass. The east-west CSX line is heavily used and is critical to the shipments that pass through Suffolk.

**Economic Development and the Future of the Suffolk Executive Airport**

Although the airport currently anticipates that it will lose state maintenance funding for the secondary cross-wind runway, it is in the City's long term interest to preserve it. This is especially true with current changes in aviation which will greatly favor Suffolk. The elimination of air traffic control towers in favor of guidance systems on planes, and new low cost jets will result in a system of "air taxis."

The Suffolk airport is ideally suited to serving such a system. The impact on economic development will be significant and most likely expand the type of businesses which Suffolk will be able to attract to this area.

The impact of this on land planning is to eliminate the potential for the incroachment of non-compatible uses, particularly residential development along the flight paths approaching the

airport. The diagram to follow identifies a reasonable area within which residential, multi-story, high density, commercial and school uses should not be located. However, residential expansion area to north, east, and west of these areas may be accommodated.

Current economic development activity has a high percentage of warehouse and distribution uses. The challenge for the City is to expand the range of economic uses to include office and research.

#### **Wetlands**

There seems to be the perception that much of the land between White Marsh and Carolina Roads is wetlands, yet the surveys indicate that there are only a series of linear wetlands and they are located along creeks running north-south. There is ample upland especially north of the east- west line of the bypass. More extensive wetlands are located south of this line especially in the area around the airport and southwest of the airport.

#### **Woodlands**

There are substantial woodlands between White Marsh and Carolina Roads which are important to the environmental character of the area and therefore an asset to protect.

#### **Community Character and Image**

Part of appeal of this southern part of the City, both to long term residents and for newcomers, is the close relationship between a rural environment and down-

town. If either commercial or residential development follows current practices, this character will be lost. Therefore it is critical to protect the visual corridors along Carolina, Hosier, and White Marsh Roads. Each has its own character and specific design guidelines are needed to protect this character while enhancing, rather than inhibiting development potential.

#### **Current Zoning**

The current zoning limits land uses along the Carolina Road Corridor to industrial and business uses. Many of the existing homes fronting Carolina Road are zoned for industrial and commercial uses, and as such are non-conforming. Also the 2018 urban/suburban development area boundary limits development along the White Marsh and Hosier Road corridors to rural and agricultural

uses.

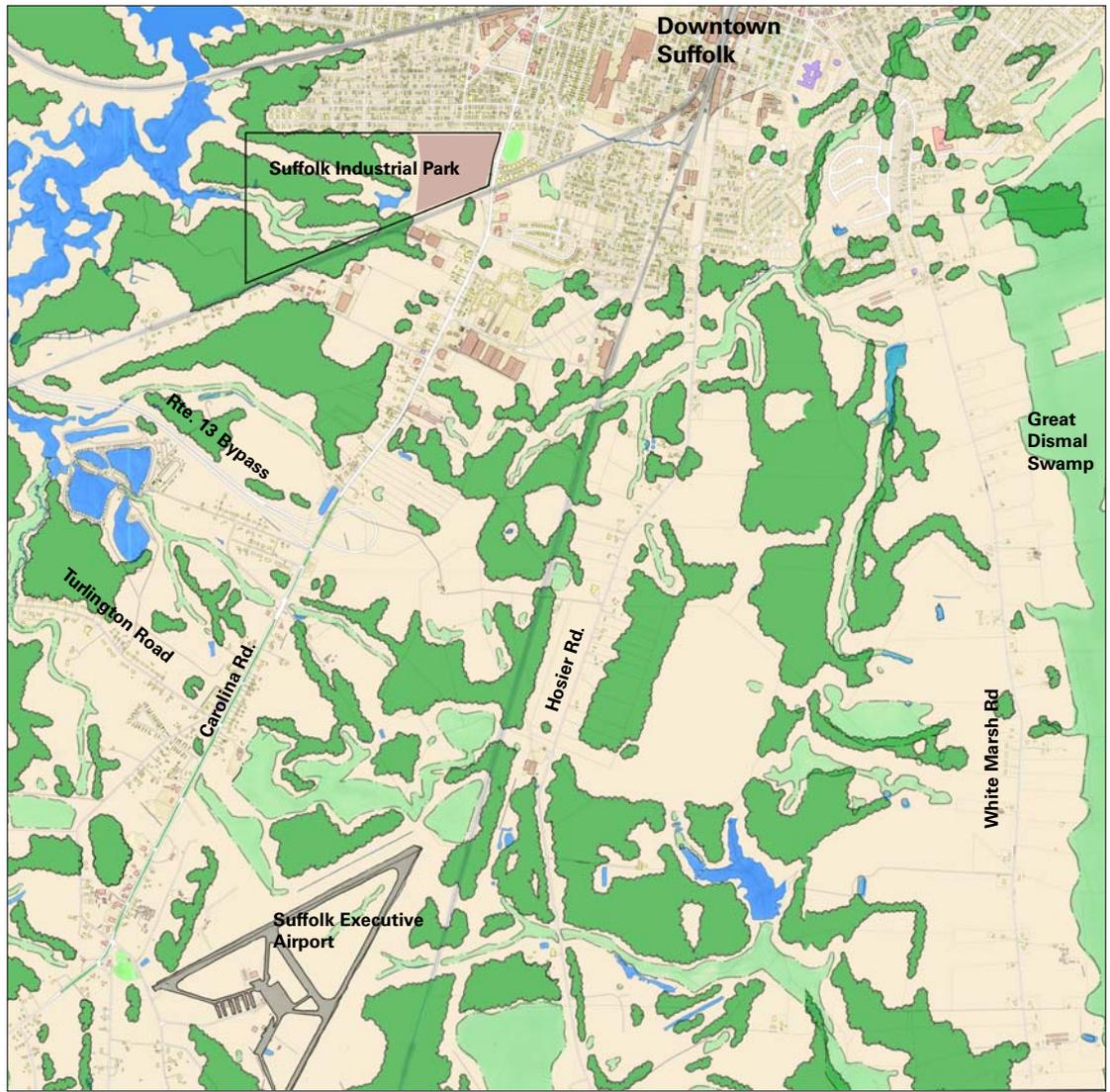
7

### **Current Development Activity**

Existing development and currently planned activity is dominated by warehouse and other economic development activity. It includes individual parcels of land, all relying on access from Carolina Road. Key public elements will be the City's proposed Operations and Service Center and the publicly and privately owned land around the airport.

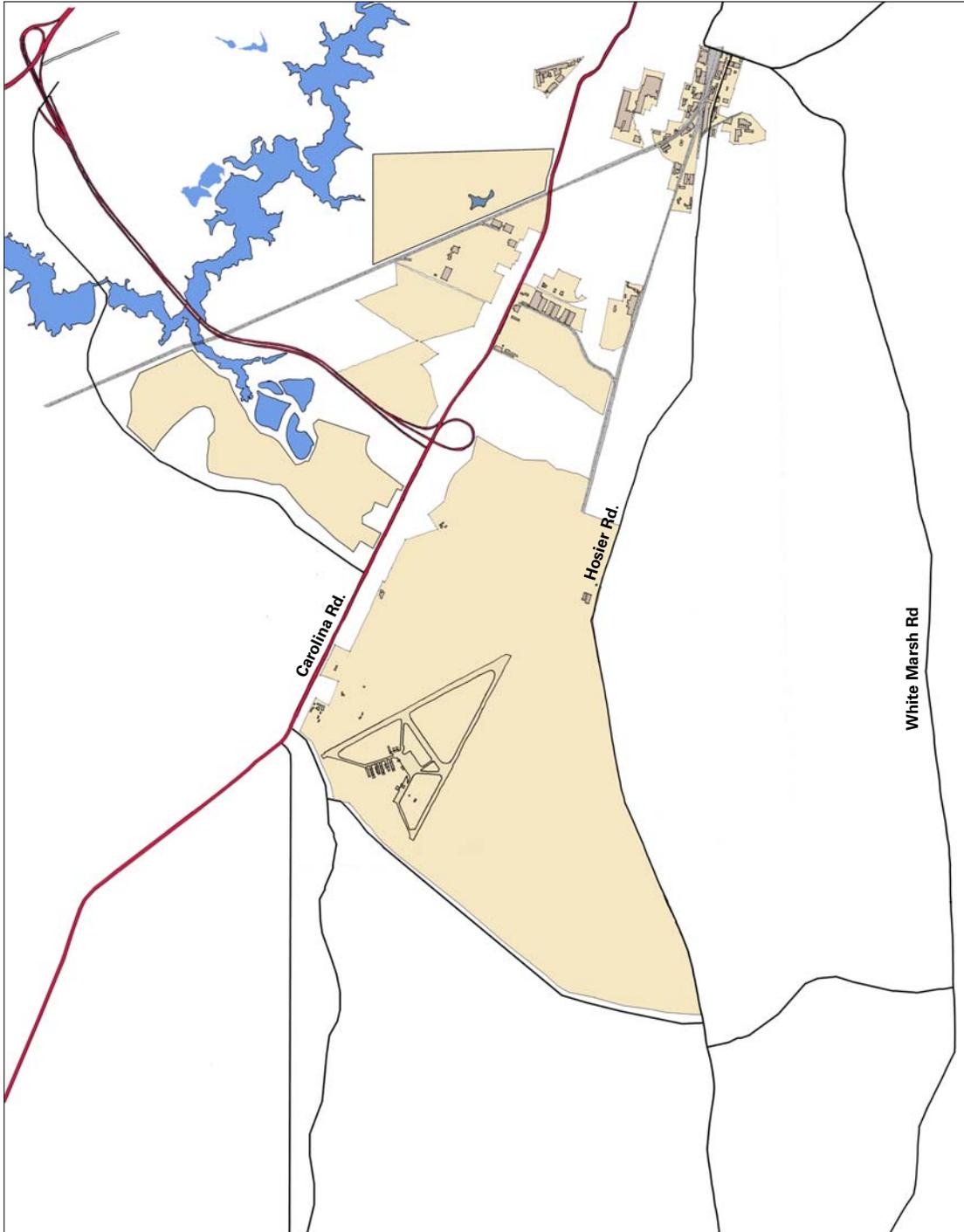
### **Composite Diagram**

By combining several of these physical features and constraints diagrams, the issues become clear. The area immediately around the airport is best suited for economic development. The areas to the east and west of this zone generally do not have limitations for residential and mixed-use development. Natural features should be respected within new patterns of development and should qualify the forms of that development. This area should continue to be an important edge between the city and its agricultural hinterland. The character of the development along the corridors leading to the downtown should support the overall objectives of the city.

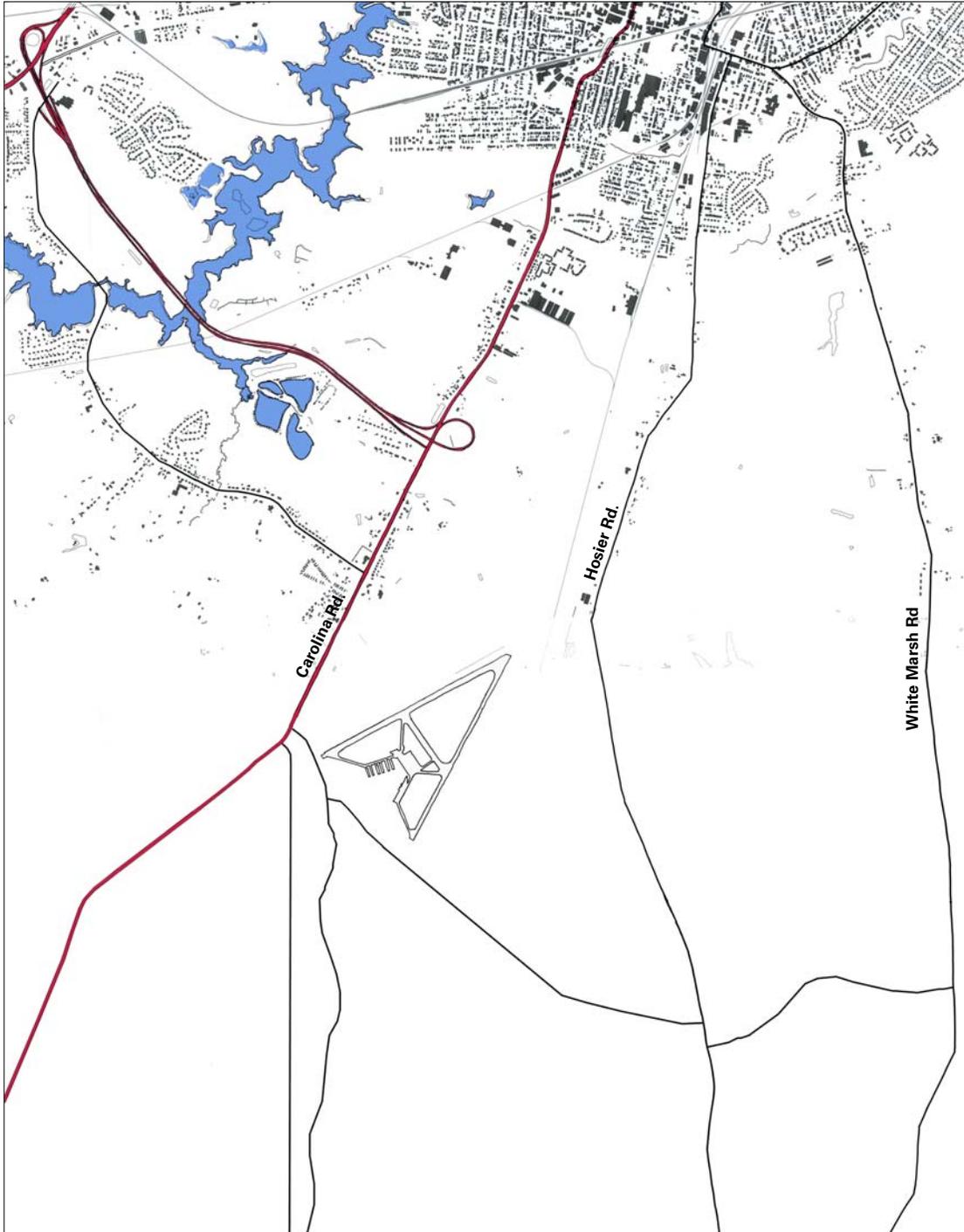


**Portrait**  
*The Portrait illustrates primarily residential uses along the frontage of Carolina Road while large industrial uses are tucked behind.*

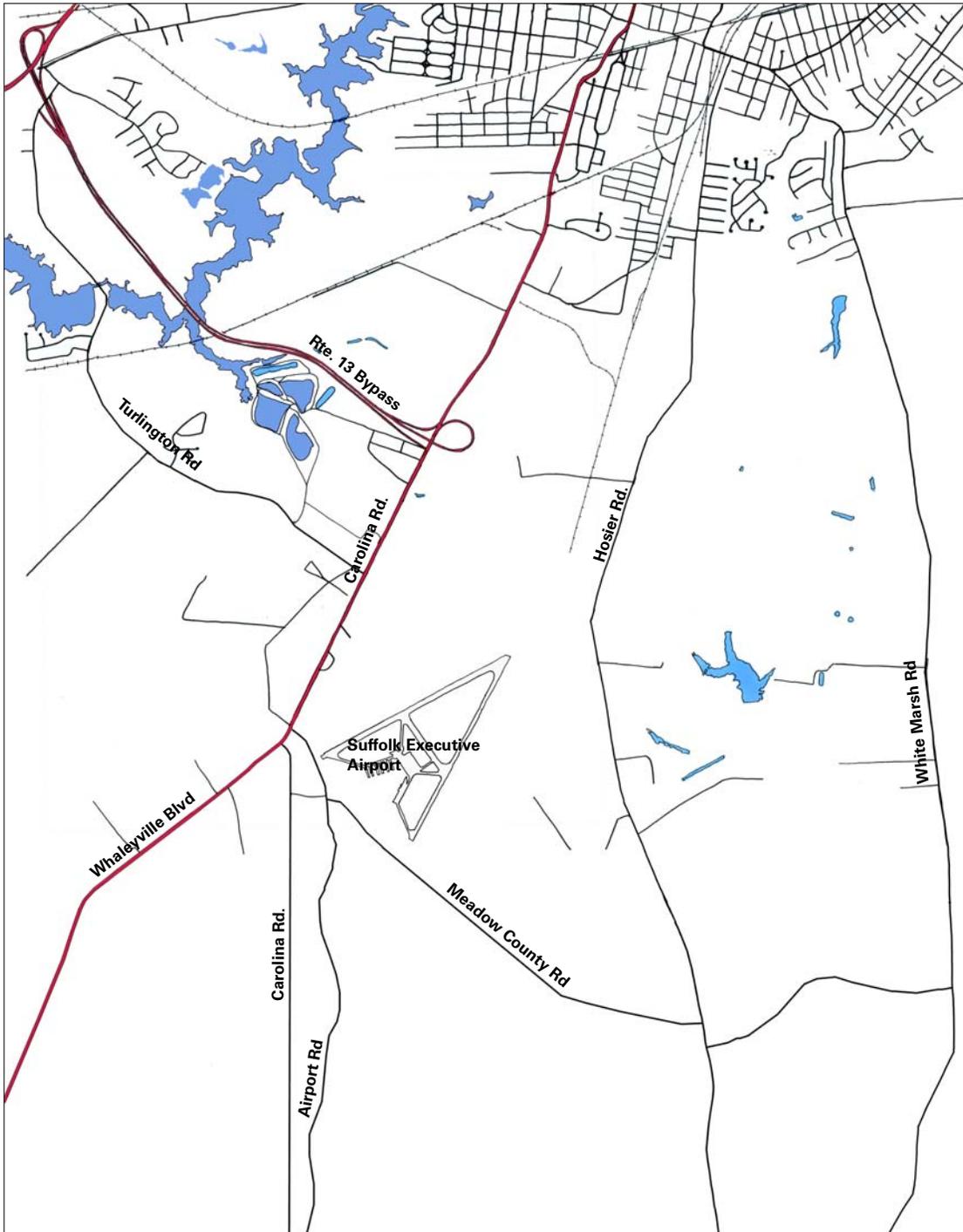
- Residential
- Industrial
- Commercial
- Institutional



**Industrial and Rail**  
*Industrial Zoned land and uses occupy large tracts of land along Carolina Road and are centered along the primary North-South rail corridors.*

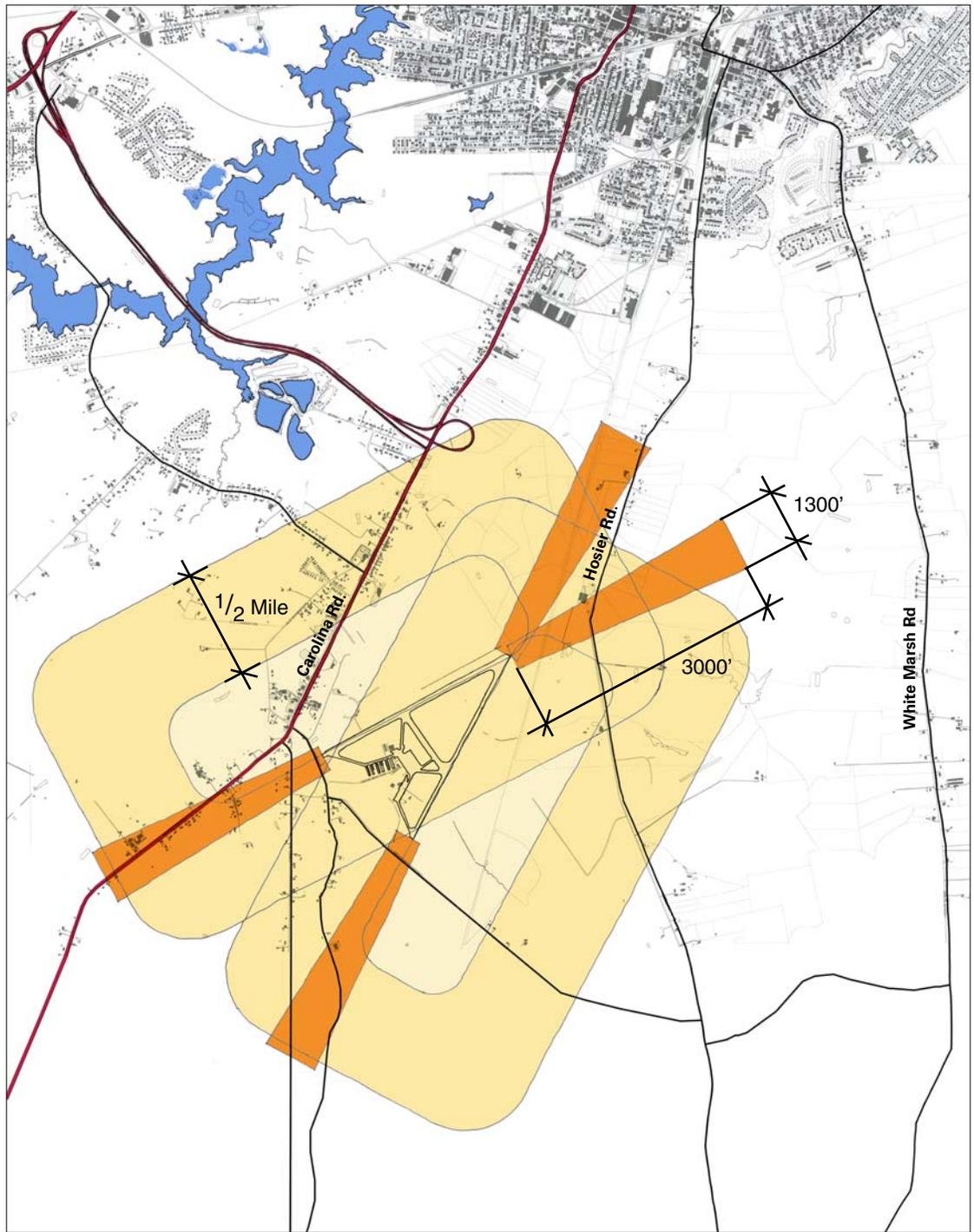


**Figure Ground** IO  
Settlement patterns are concentrated  
Downtown and are  
also strung along the  
three corridors –  
Carolina, Hosier, and  
White Marsh Roads.



**Roads**

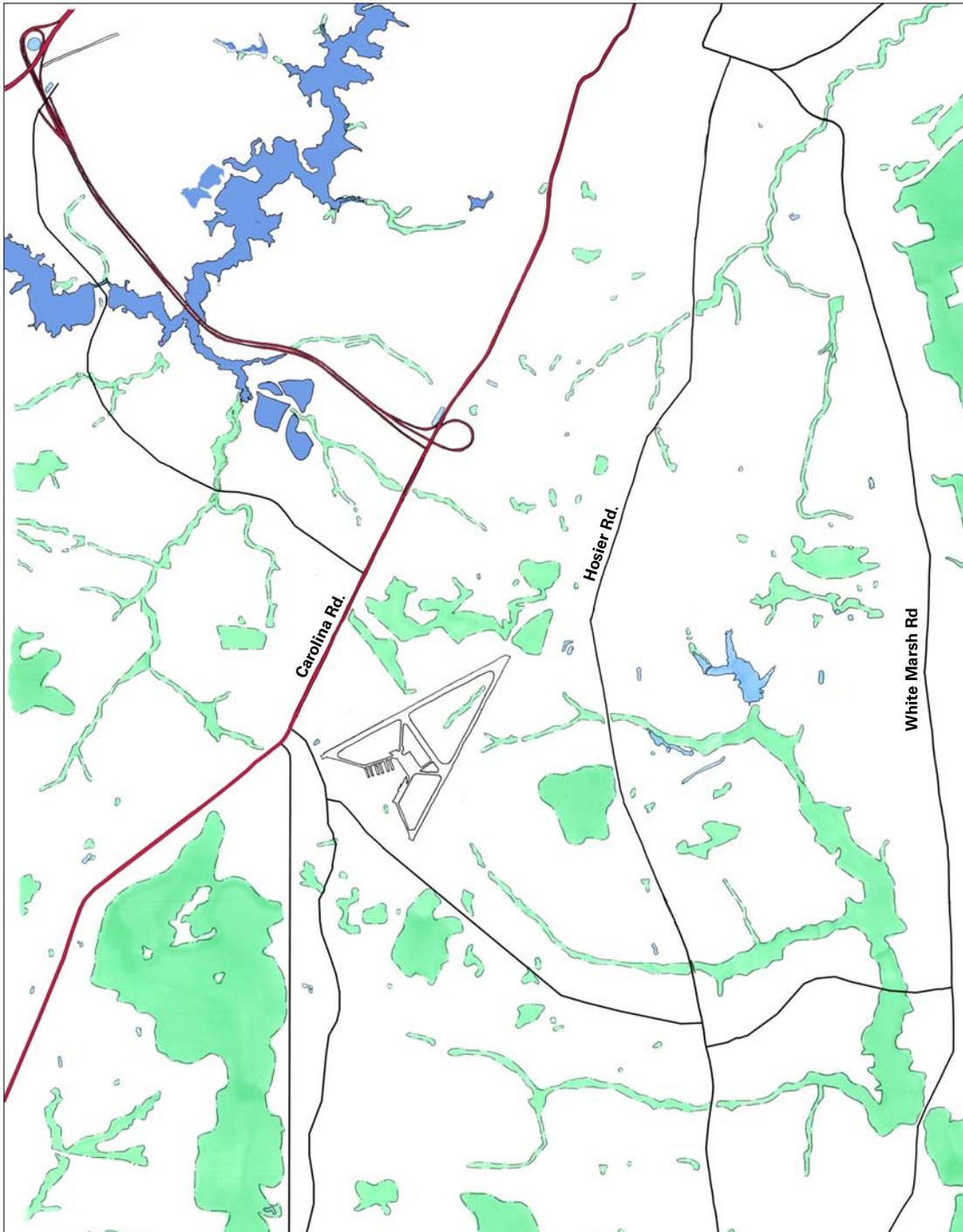
North-south connections are dominant while the primary east-west connection is the Rt. 13 Bypass which ends at Carolina Road. There are no convenient east-west connections between White Marsh, Hosier and Carolina roads. The result is a lack of service for the eastern neighborhoods.



**Airport and Flight Path**

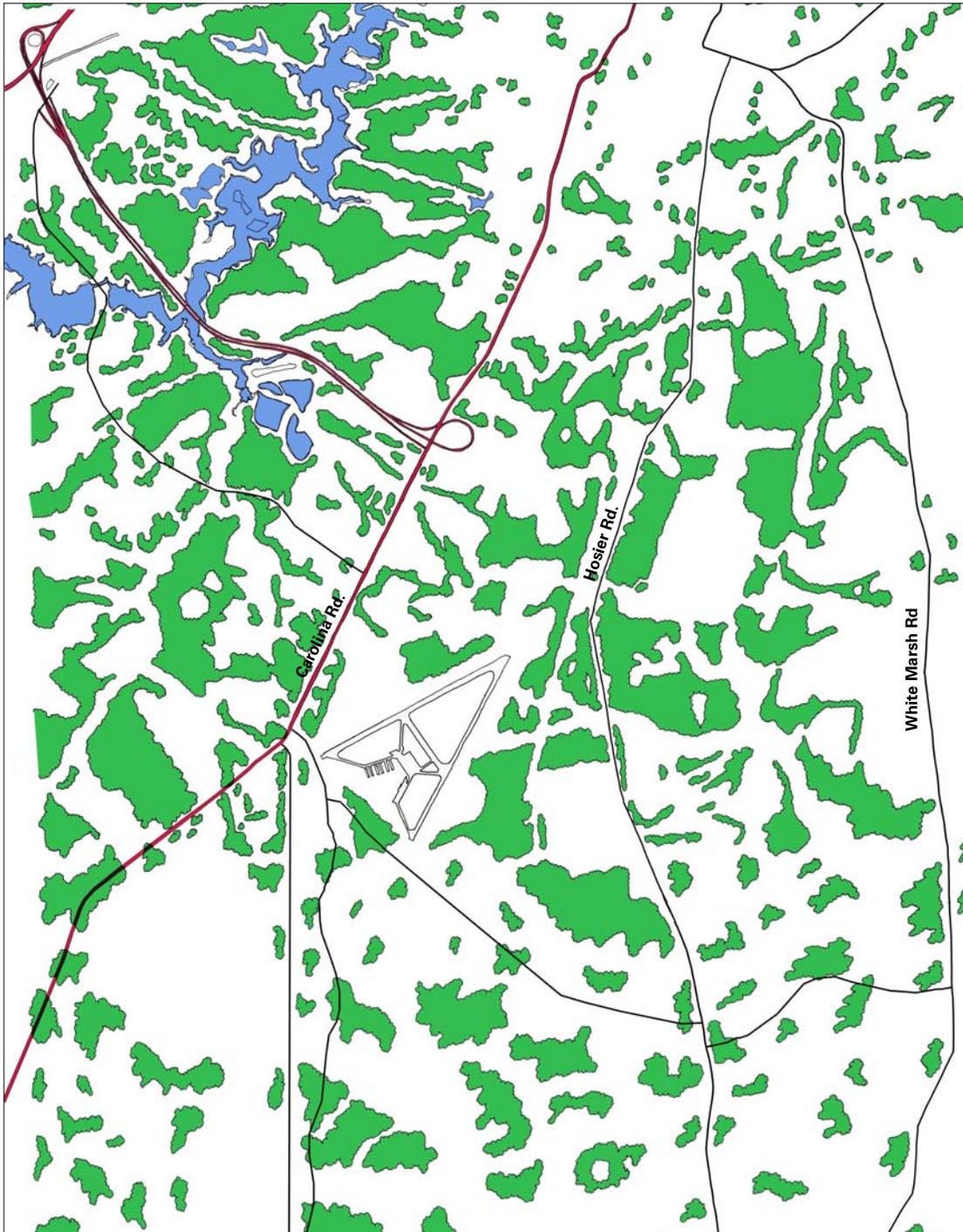
*The airport flight paths place considerable obstacles to residential development in adjacent parcels.*

-  Flight Paths of Approach and Landing
-  Restricted from Residential Development



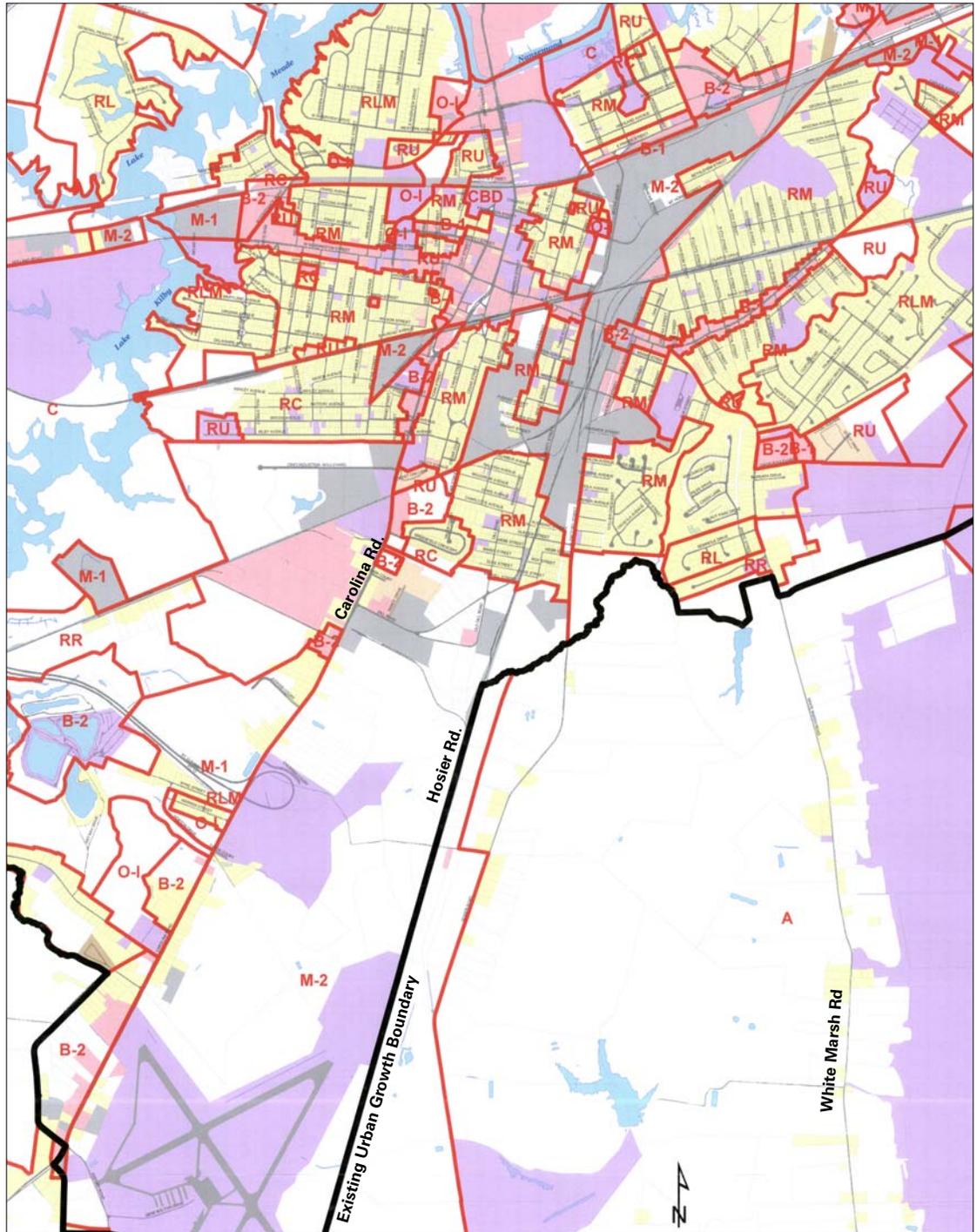
**Wetlands**

*Wetlands are concentrated along creeks and are relatively sparse in the parcels North of the airport and extending East from the Bypass.*



**Tree Coverage  
(Woodlands)**

*There is a substantial tree canopy between Carolina and White Marsh Roads that should be preserved when new development is planned.*



**Zoning and Downtown Land Uses**

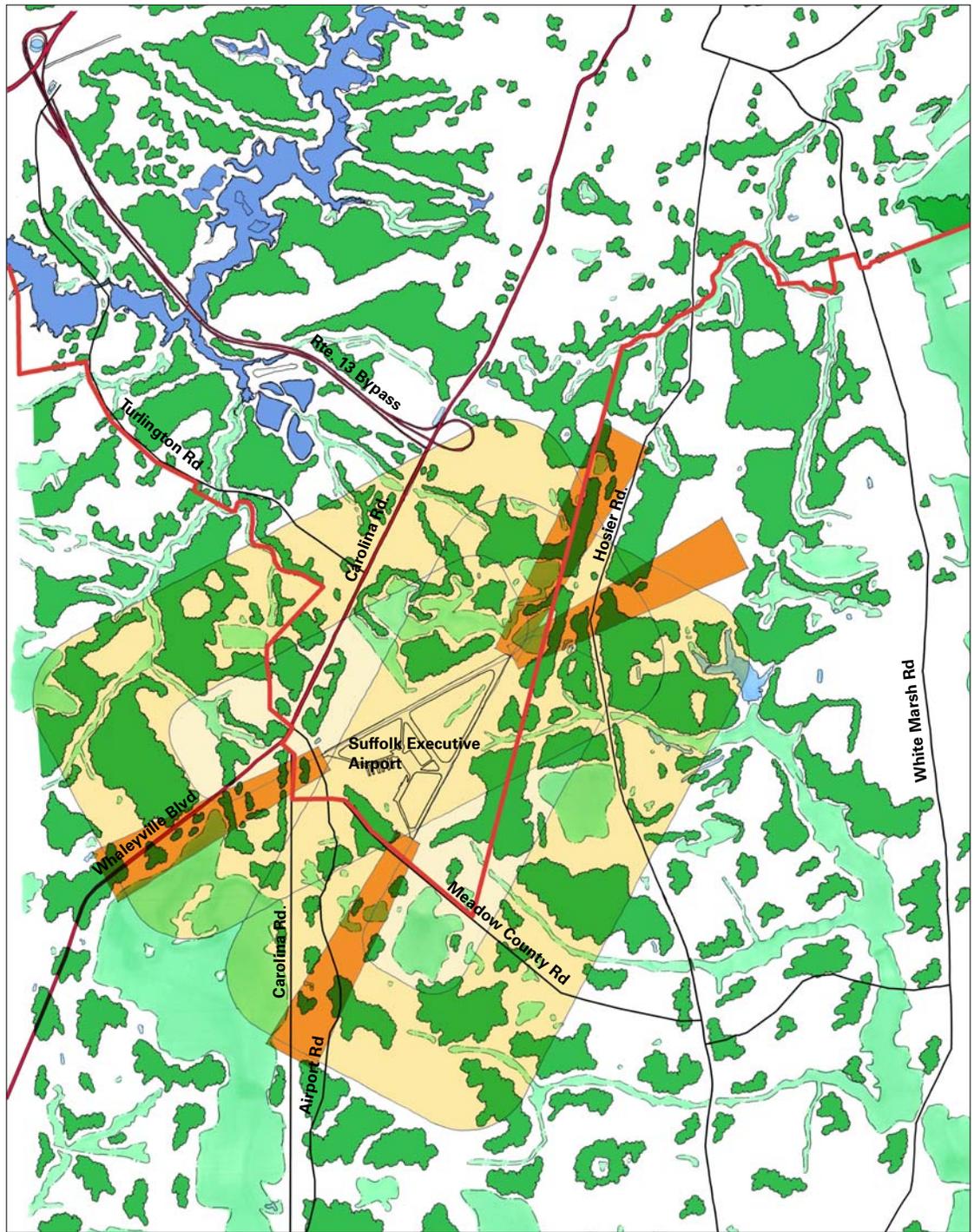
The current zoning limits the development of Carolina Road by making it principally a single use.

**Zoning Districts**

- C Conservation
- A Agricultural
- RE Rural Estate
- RR Rural
- RL Residential Low Density
- RLM Residential Low Medium Density
- RM Residential Medium
- RC Residential Compact
- RU Residential Urban
- B-1 Neighborhood Commercial
- B-2 General Commercial
- O-1 Office Institutional
- CP Commerce Park
- M-1 Light Industrial
- CBD Central Business

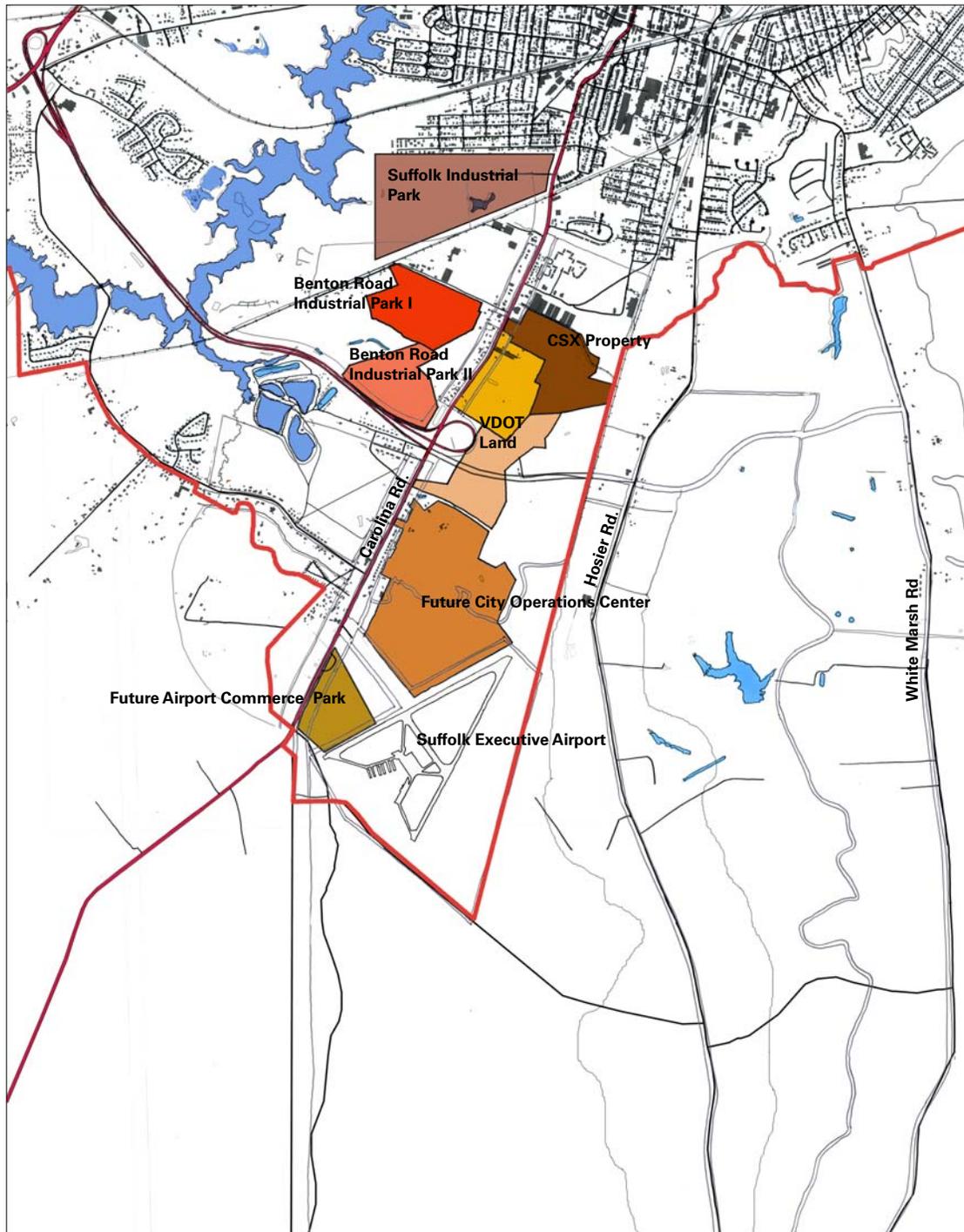
**Land Uses**

- Single Family Residential
- Multi Family Residential
- Public/Semi-Public Use
- Commercial
- Industrial



**Composite**  
 By overlaying several elements, it is suggested that the land most suitable for development is North of the Airport and East to White Marsh Road.

- Existing Urban Growth Boundary
- Tree Coverage
- Wetlands
- Protection Zones

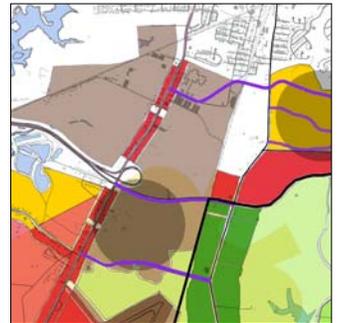


**Existing Initiatives**

Several large projects have been proposed that suggests industrial and office uses are appropriate when screened from the road, and developed in the appropriate architectural character.

Existing Urban Growth Boundary

# Recommendations



## Recommendations

IT IS ESSENTIAL TO ENCOURAGE a balanced development pattern in this area, including residential and retail uses in order to provide a more sustainable city and to better serve and integrate the currently isolated east side neighborhoods into the city and region. This can only be accomplished by expanding the utility infrastructure and road network between Carolina and White Marsh Roads. At the same time it is essential to continue to support an economic development zone in the area around the airport and to preserve the airport's future capacity to play a larger role in economic development. However, it is equally important to continue the city's policy of "Smart Growth" and prevent sprawl development from destroying the city's character and overbuilding residential development. Furthermore, innovative approaches to creating an appropriate agricultural edge for the city should be explored.

### Expanded Road Network

The most critical element of a plan for this area is the creation of an east-west road network that would be an extension of the Rt. 13 by-pass and link White Marsh Road and Hosier Road to Carolina Road. We, therefore, recommend that the City's proposed Operations Center design be modified to include an east-west road between Carolina and Hosier on the alignment of the Bypass. This new road should be designed as a four lane, median divided, principal arterial with a "parkway" character. It will serve as the primary access into the City's development site. This principal east-west connection would be completed with the construction of a second arterial road extending between Hosier Road and White Marsh Road.

Additionally, there should be a secondary road network linking the three roads through each development parcel. This should be accomplished with design guidelines for each development and would apply to both residential and commercial development.

### General Use Zones

The urban boundary should be expanded south, between the edge of the Great Dismal Swamp and the railroad line, to the proposed extension of the Rt.13 by-pass. Zoning that permits warehouse and distribution uses and other one story low density and low intensity economic development should be in

place in the areas within the flight paths for the airport. The buffer areas should be limited to economic development but in compliance with the airport overlay zone, and may include multi-story development, office and retail uses. Areas in the residential zone that are in the flight path or buffer zones of the airport protection zones should be natural conservation areas.

### Qualified Zones

In the expanded development area, it is essential that the physical form of the development be sustainable and support the principles of the Comprehensive Plan. Therefore, design criteria for development are an integral part of the proposed rezoning needed to expand the developable area. In general, these criteria call for preserving natural features, protecting the character and quality of the corridors into the city, and finding ways of encouraging new approaches to agriculture. This calls for the preservation of open space in exchange for higher density development in concentrated areas. Such development should only be permitted when sewer and water services are available. The plan, therefore, calls for expanding the utility infrastructure along White Marsh and Hosier Roads. These criteria deal with three issues: Visual Corridors, Natural Features, and Agriculture, as follows:

#### Visual Corridors

The character of the corridors approaching downtown Suffolk from the South are important assets for the City with

regard to its economic development strategy. The preservation of this character is often the motivation for opposition to new development. Therefore, the plan should encourage new development in a form that preserves this character. There are three corridors, each with its own character.

#### Carolina Road

The existing residential uses are generally well maintained and preserve the “small town” image of Suffolk. Present zoning however generally does not permit residential uses. Therefore, the zoning should be revised to permit existing residential uses and set design standards for new commercial buildings that would ensure a residential character and provide an adequate buffer along the road to screen views of the industrial buildings behind. For those properties within the airport protection zone, residential zoning cannot be applied. Design guidelines are needed for appropriate development forms. Consideration should be given to providing incentives for evergreen farms along this corridor to serve as an economically productive buffer.

#### Hosier Road

The character of Hosier Road is generally wooded and rustic. This character should be preserved through land conservation and preservation of tree coverage. While the general land use category will define the amount of development, the design guidelines should control the land coverage and location of that development within these areas.

### White Marsh Road

White Marsh Road has a distinct character to that of Hosier Road. It is a series of large meadows with open vistas to a tree line set back from the road. Traditional farm complexes, surrounded by trees, are set within this open space. Recent development has departed from this pattern resulting in free-standing single family houses in an open field. New design standards would strive to preserve the meadows and would limit land coverage but not density within the meadows. Proposed architectural and landscape standards would create development that has the image of an agricultural complex. This would also suggest that part of the development be transferred to an area behind the tree line.

*Note, to assist in protecting the Great Disposal Swamp, new major development activities east of White Marsh Road are to be prohibited.*

### Agricultural Land

There have been recent developments and interest in finding new strategies for creating an agricultural edge for urban areas. These developments have taken place in the context of growing interest in locally grown and organic foods as a counter trend to the continuing disappearance of small farms. There is some interest in small, high quality production among people in Suffolk, but there is a need to find ways of supporting it. These types of agricultural uses tend to be more appropriate for sites near residential development. Therefore, innovative site

design coupled with incentives for farmers would be part of this program.

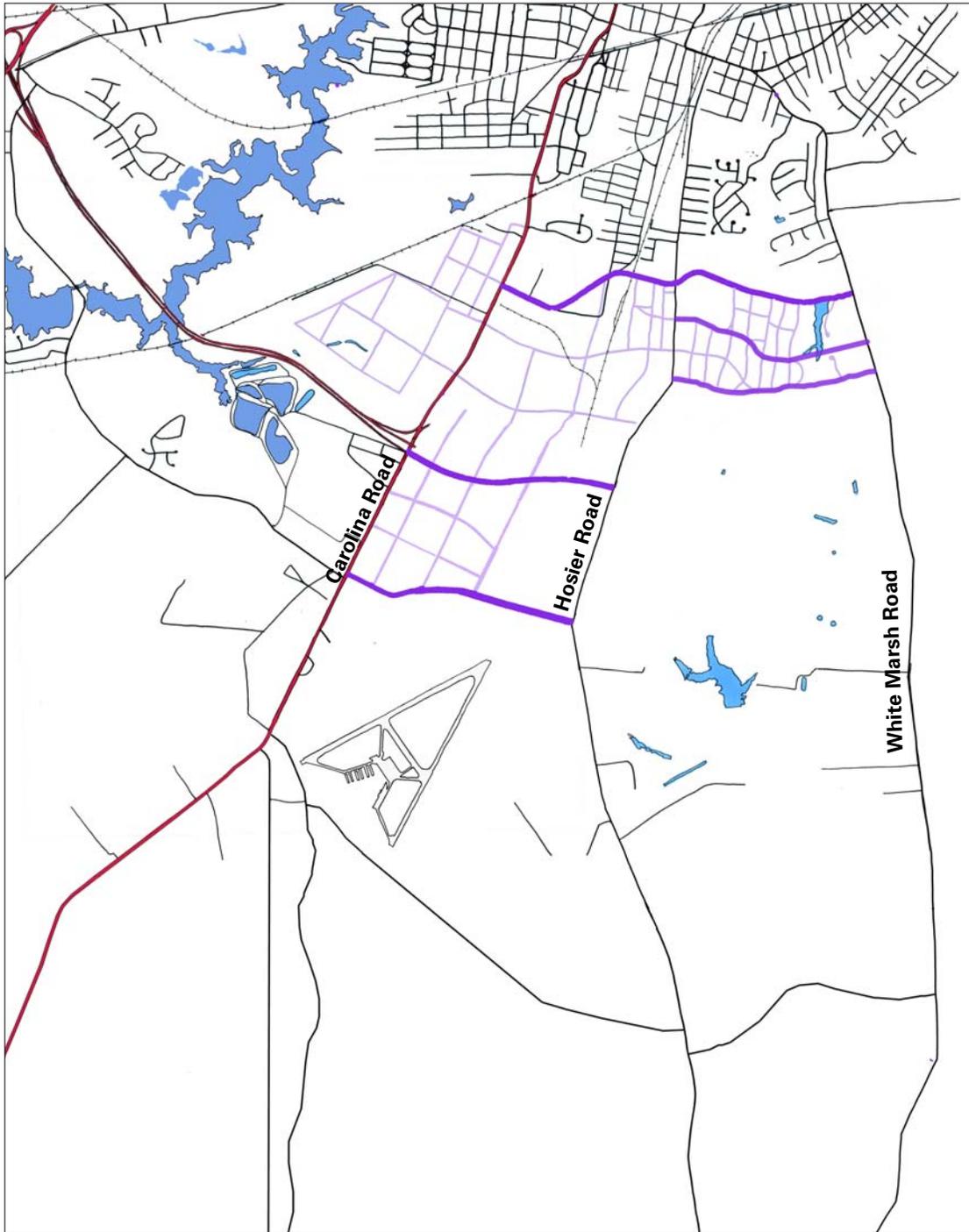
### Woodlands

The design guidelines for wooded areas would require small land coverage but not limit the density of such development.

### Phasing Strategy

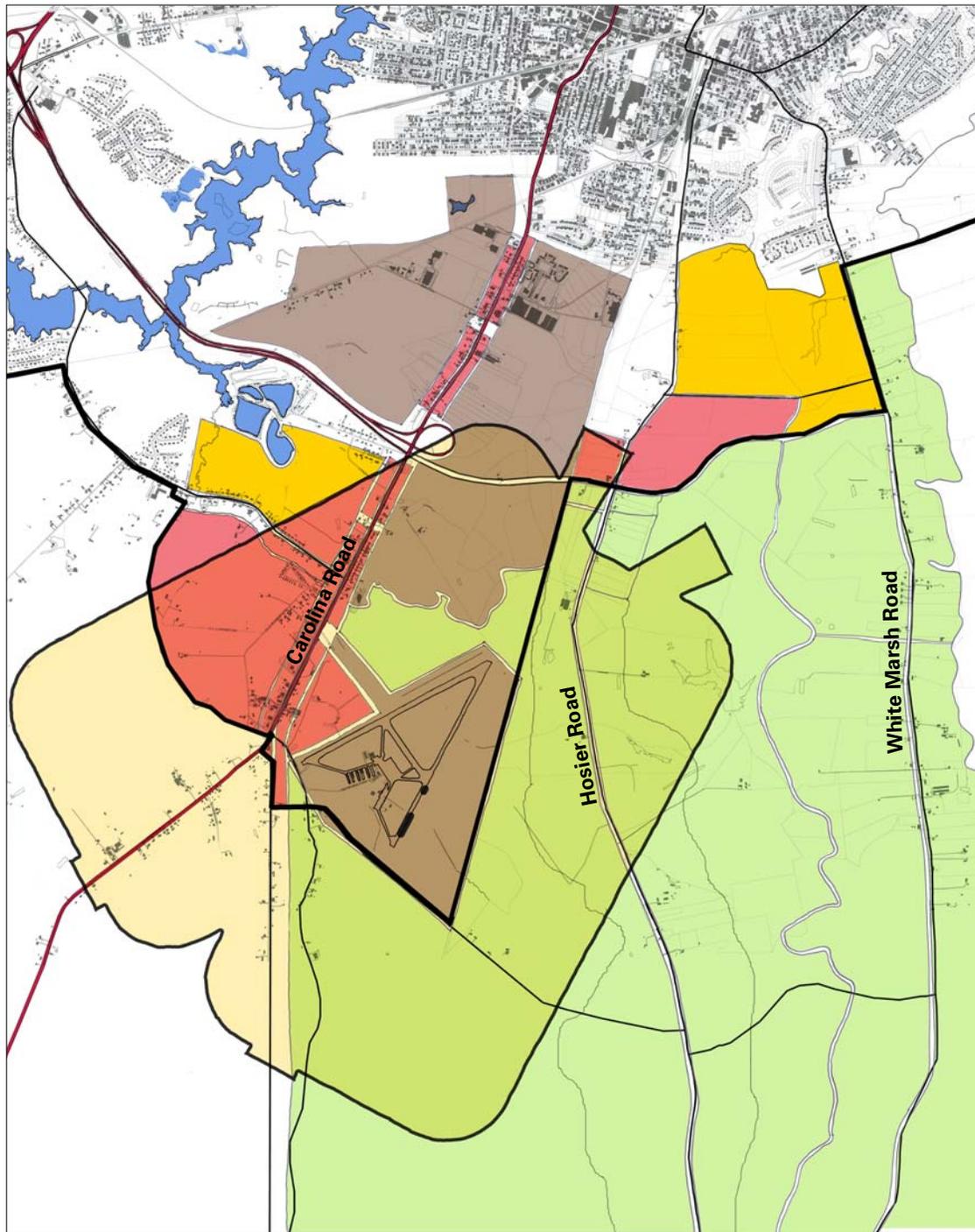
Extending a principal arterial between Carolina and White Marsh Roads will require funding and time. Therefore, a means of more rapidly implementing the program should be developed. We suggest that the proposed design for the City Operations Center be modified to provide initial access via a two lane road that would extend the alignment of the by-pass and extend to Hosier Road. This road could in time, be widened to a four lane parkway.

The first residential site should be in the area closest to existing development and utility lines. The plan should require that individual developments provide for connections to both Hosier and White Marsh Roads. Therefore, in conjunction with the road between Carolina and Hosier, these developments will create the first phase of the network needed in the Southeast. As funding becomes available, the primary connection between Carolina, Hosier, and White Marsh Roads should be completed. All individual developments in this area should have design guidelines that require an interconnected network within each parcel, and between the three major north south roads.



**Proposed Street Network**

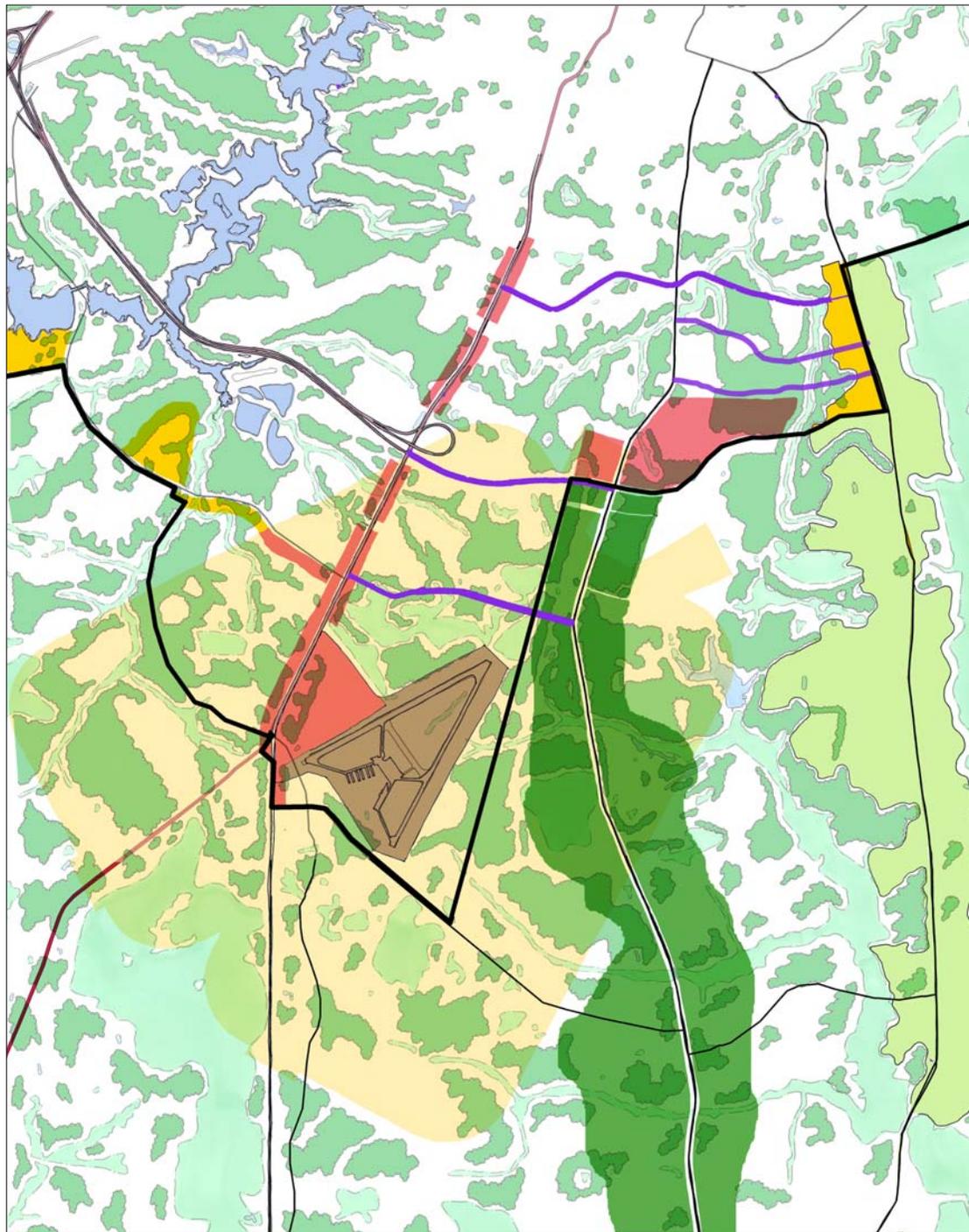
*New East-West connections are a critical element of this plan, primarily the extension of a principal arterial from Carolina Road to White Marsh Road. This new arterial network will be supported by a smaller network of interconnected streets where development nodes occur.*



**General Land Use Zones**

The uses along Carolina Road will be determined in part by where flight paths affect development. An expanded residential zone is designated south of downtown which will allow for contained future growth.

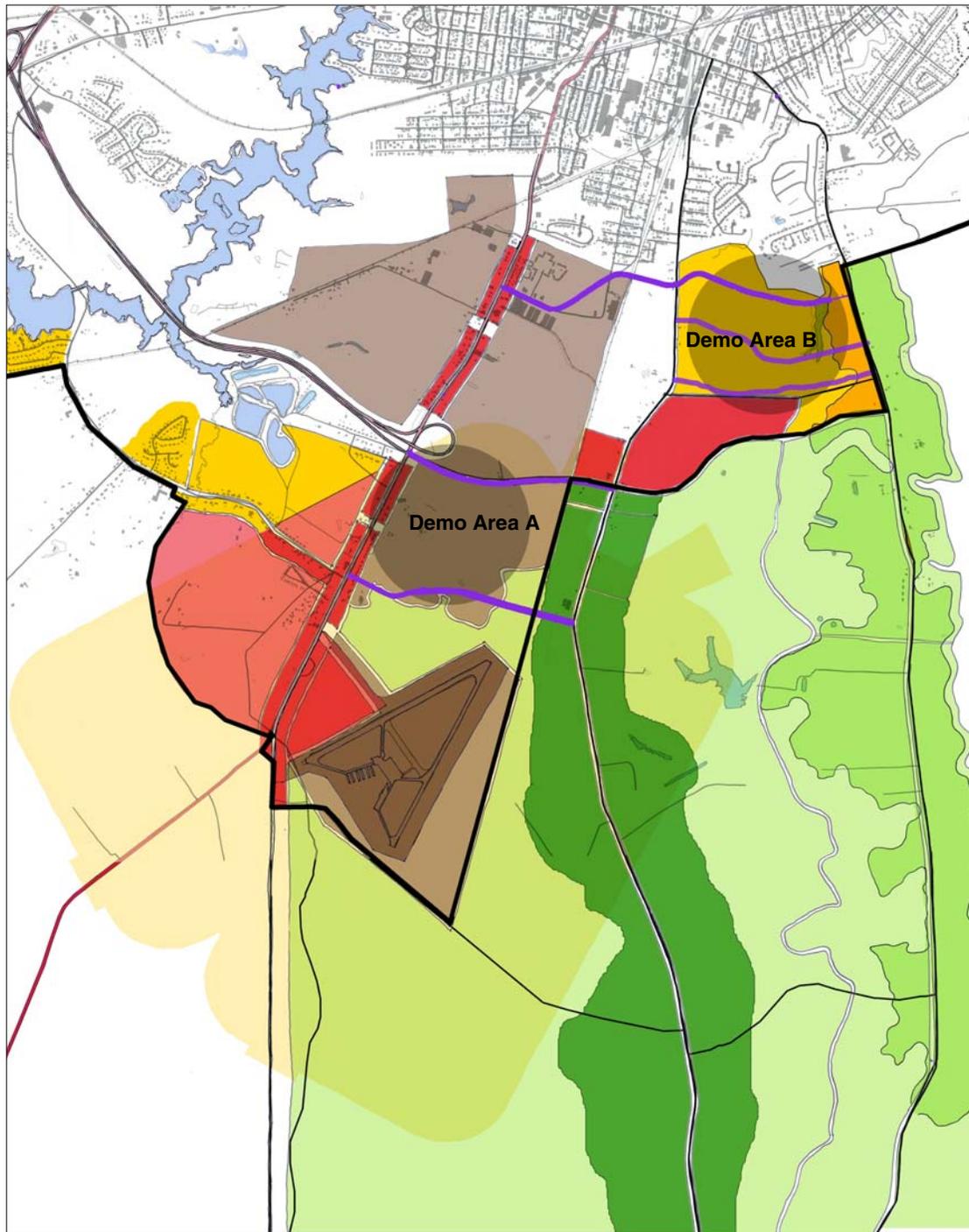
-  Proposed Urban Growth Boundary
-  Residential
-  Industrial
-  Business
-  Agricultural Zone



**Environmental Qualities for Preservation**

*Tree coverage and wetlands will help to inform the appropriate areas for development. The result are corridors of development that will have varying restrictions on the location of land coverage depending on surrounding natural features.*

-  Proposed Urban Growth Boundary
-  Residential
-  Industrial
-  Business
-  Woodland Preserve Zone
-  Agricultural Zone



**Special Design Corridors**

*Carolina, Hosier, and White Marsh roads will have special design restrictions based on land coverage rather than density alone. Guidelines will differ for industrial land, meadows, and woodlands.*

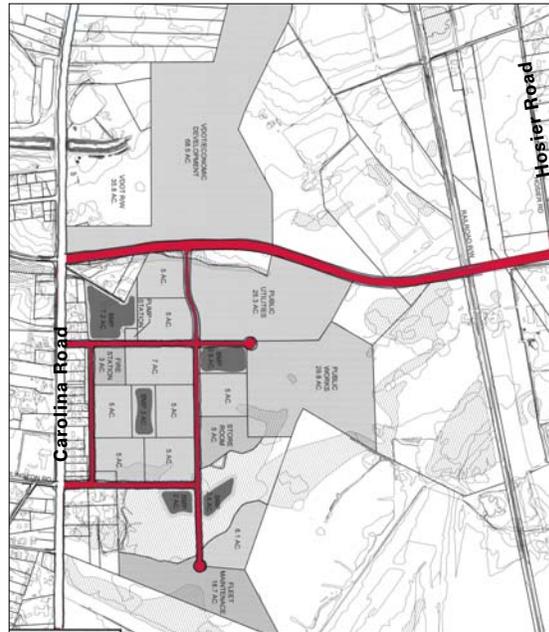
-  Proposed Urban Growth Boundary
-  Residential
-  Industrial
-  Business
-  Woodland Preserve Zone
-  Agricultural Zone

**I. Prototype Concepts**

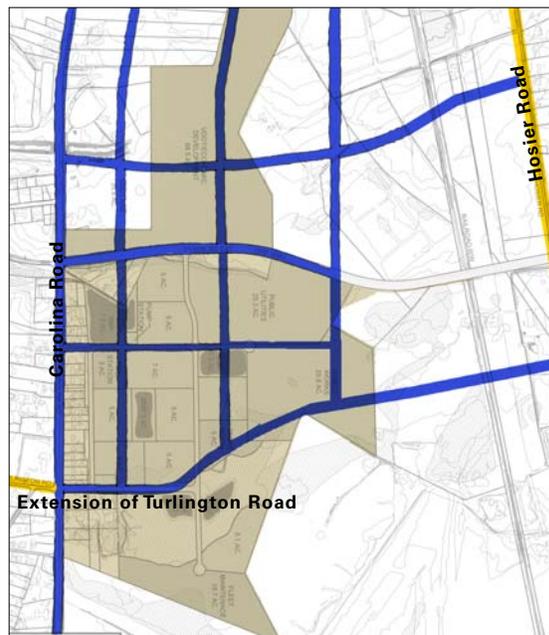
**A. Industrial and Economic Development**

The City Operations Center provides an opportunity to demonstrate the principles recommended in this section. The diagram indicates modifications to the current plan which accomplish the following:

- 1 Access is from a new road on the alignment of the By-pass extension which should be completed to Hosier Road
- 2 The site plan has an interconnected network of streets within it which are aligned with future street patterns in adjacent properties, including an alternative access to Carolina Road.
- 3 The Carolina Road frontage is either residential or has special design guidelines for economic development.
- 4 The wetlands are protected
- 5 The edge of tree canopies are preserved and the alignment of roads permits retaining 20% of the existing tree coverage.



*Industrial Parcel as currently proposed*



*Recommended Industrial parcel with interconnected network*

**B. Residential Development in Current Agricultural Area**

The goal should be to preserve the character of the corridor along White Marsh and Hosier Roads and to encourage appropriate agricultural uses while permitting residential development. In this hypothetical example, 100 acres between White Marsh and Hosier Roads is considered for development. The following guidelines should be followed:

- 1 Density** The Comprehensive Plan recommends two to four units per acre in this zone. For purposes for this demonstration we will assume four units per acre. The total number of units on this 100 acre property would be 400.
- 2 Coverage** The distribution of those units, however, should be governed by the qualified zones on the site. There are two zones:
  - a. Agricultural meadow: 40% of the land is in this category. 10% can be developed for residential development and should be placed as close as possible to the tree coverage at the back of the property. In this case 4 acres would be developed for the residential and the rest remain in some type of agricultural use (see p. 27).
  - b. Woodland: 60% of the land is in this category. 60% can be developed for residential uses which means that 36 acres of land can be covered with development (see p.27).

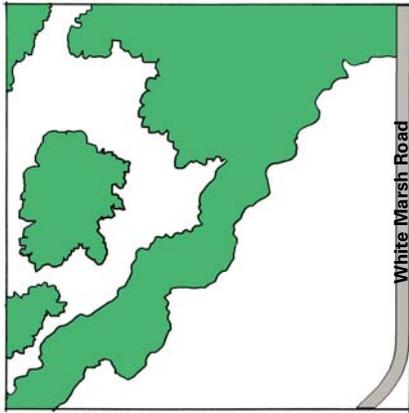
**3 Net Densities** The net 40 acres of land for development would carry the 400 units, or 10 units per acre.

**4 Character of Development** The architectural character of the development should be compatible with either the woodland setting or the agricultural landscape. Planting of new trees and landscape elements should reinforce this image.

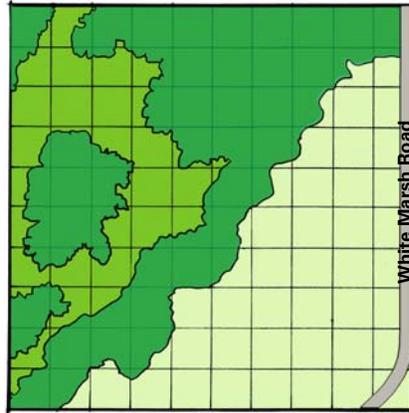
**5 Agricultural Development** There have been recent advances in understanding the types of agricultural uses that are most appropriate near residential development. In general, it is high quality, specialized agriculture. This could include orchards, vineyards, tree farms, and crops that are integrated with small scale processing. There is a need for some form of buffer.

**Residential in Agricultural District**

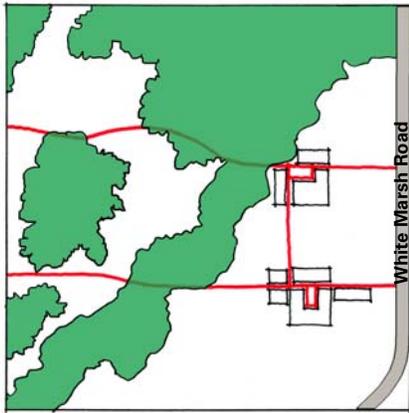
*Typical development coverage in a agricultural meadow and woodland zone.*



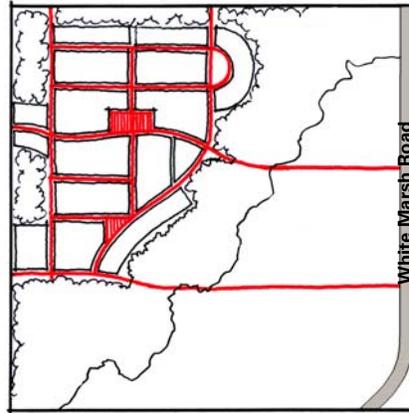
100 Acre Parcel @ 4 units/acre= 400 units permitted



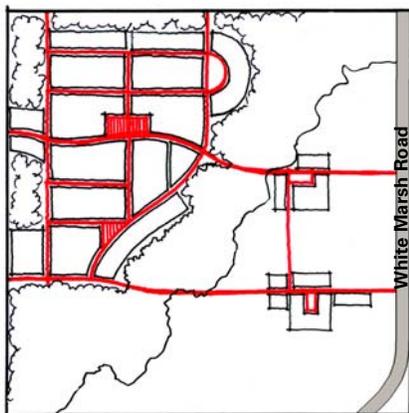
1 acre quadrants: 40% meadow, 60% woodlands



10% of 40 acres of meadow land is developed as hamlets= 4 acres of ground coverage



60% of 60 acres of wooded land is developed as a village= 36 acres of ground coverage

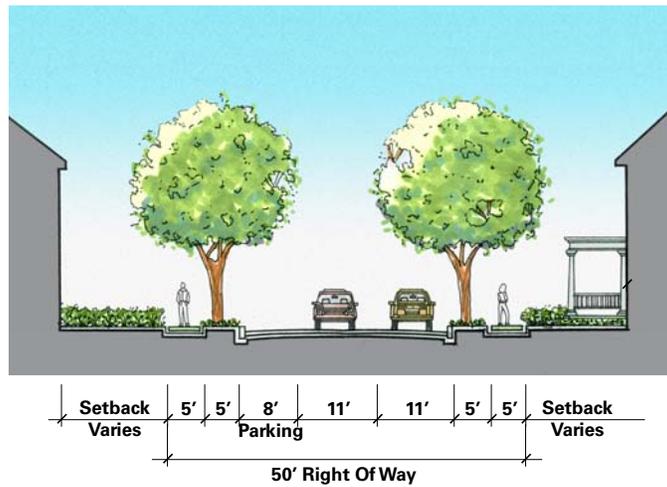


Composite of 4 acres of meadow developed + 36 acres of woodland development= 40 total acres of development. When 400 units were permitted, this pattern results in a density of 10units/acre.

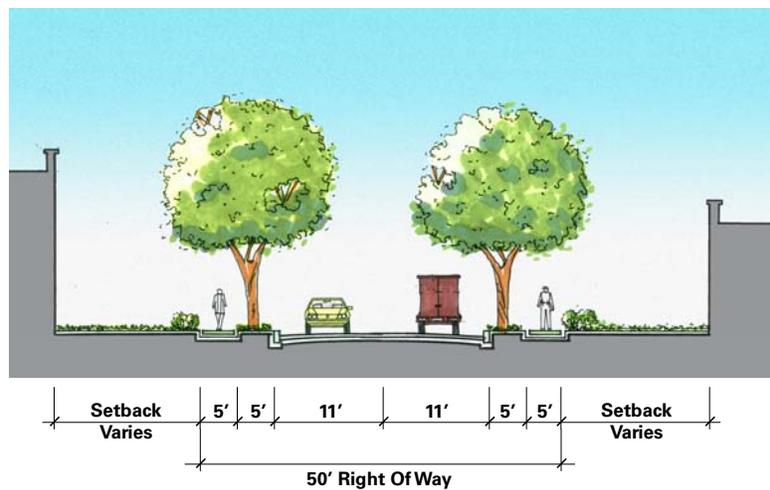
**C. Proposed Street Sections**

The following images are proposed street standards for future development. They include:

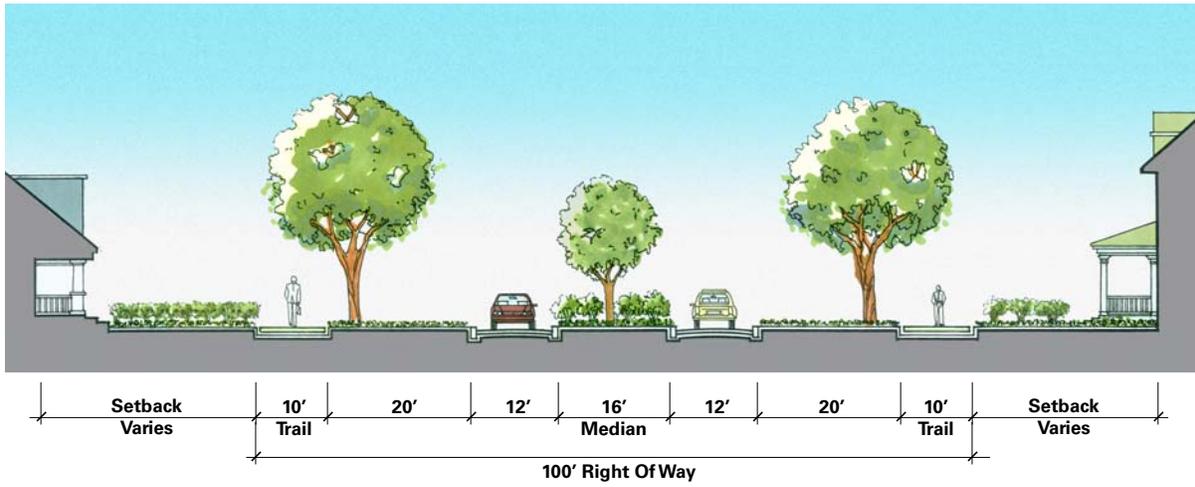
- 1 Residential Street**
- 2 Industrial Street**
- 3 Collector Street**
- 4 Arterials**



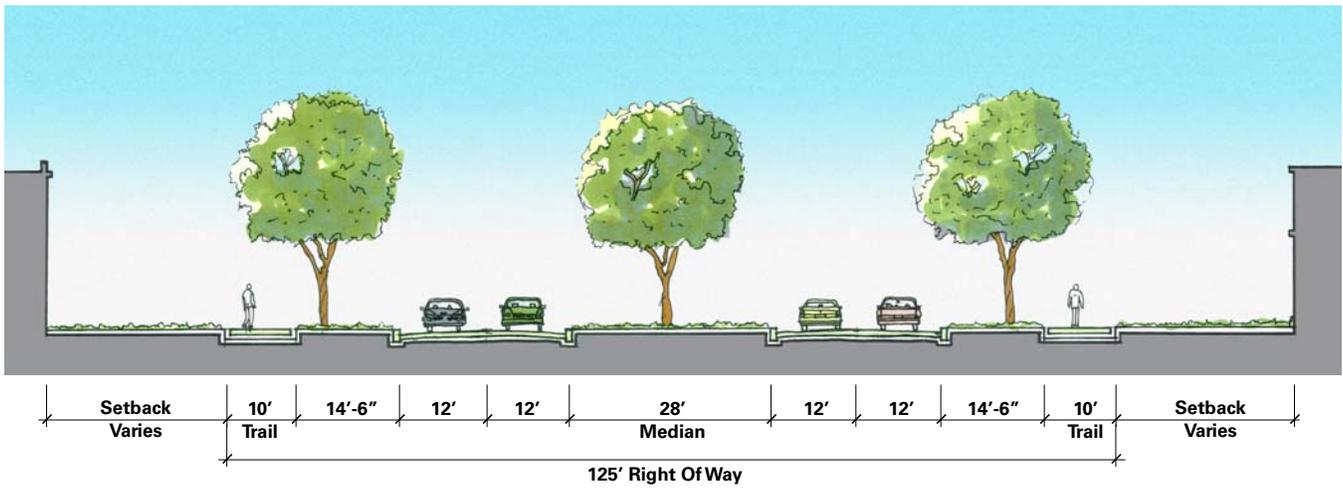
*Typical section along Neighborhood Street*



*Typical section along Industrial Street*



Typical section along Collector Road



Typical section along Arterial Road

# Development Models



# Development Models

## II. Prototype Exhibits

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Examples of new development which would be compatible with these objectives are illustrated on the following pages and include:

### A. Industrial and Business Uses in Agricultural Setting

- 1 Knoll Furniture, Zeeland, Michigan
- 2 DeKalb Plan Genetics Corporation, Stonington, Connecticut
- 3 Church Street, Norfolk, Virginia
- 4 New Sewickley Township, Pennsylvania
- 5 Adams Township, Pennsylvania

### B. Agricultural Edge

- 1 SAGE
- 2 Mills Ranch, King City, California
- 3 New Sewickley Township, Pennsylvania

### C. Residential in Agricultural District

- 1 Bluegrass Tomorrow analysis and proposals
- 2 Erie Station Apartments, Henrietta, New York
- 3 Boston Ranch, California
- 4 Adams Township, Pennsylvania

### D. Woodlands

- 1 The Homestead Preserve, Virginia
- 2 Gibson's Grant, Maryland



**Industrial and Business Uses in an Agricultural Setting**

*Herman Miller  
Headquarters,  
Zeeland, Michigan*

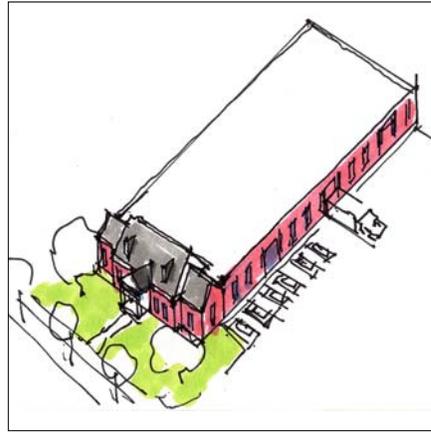
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**Industrial and Business Uses in an Agricultural Setting**

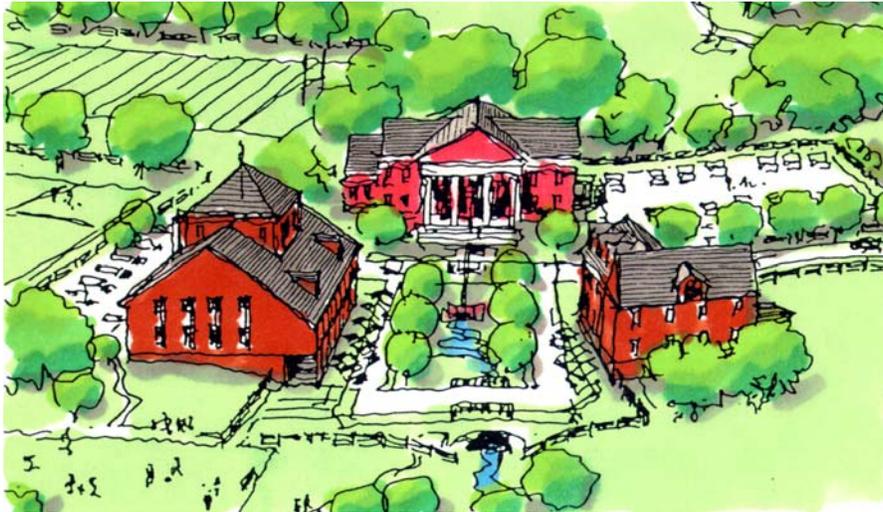
*DeKalb Plant Genetics  
Corporation,  
Stonington,  
Connecticut*





**Industrial and Business Uses with Frontage That is Compatible With Residential Development**  
*Church Street, Norfolk, Virginia*





**Industrial and Business Uses in an Agricultural Setting**

*New Sewickley Township, Pennsylvania*



**Industrial and Business Uses in an Agricultural Setting**

*Adams Township, Pennsylvania*

**Agricultural Edge**  
*Mills Ranch, King  
 City, California*

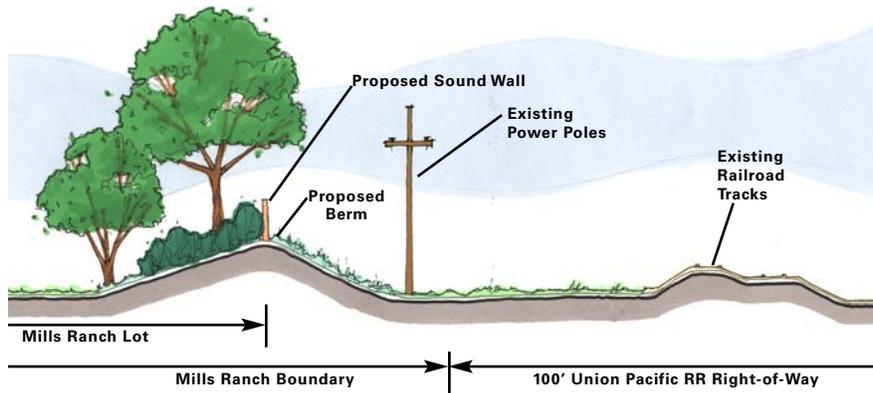


FIGURE 2.13: Illustrative Railroad Buffer Section (7)

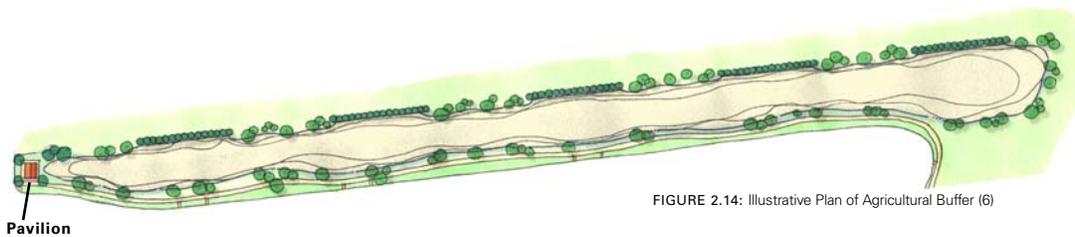


FIGURE 2.14: Illustrative Plan of Agricultural Buffer (6)

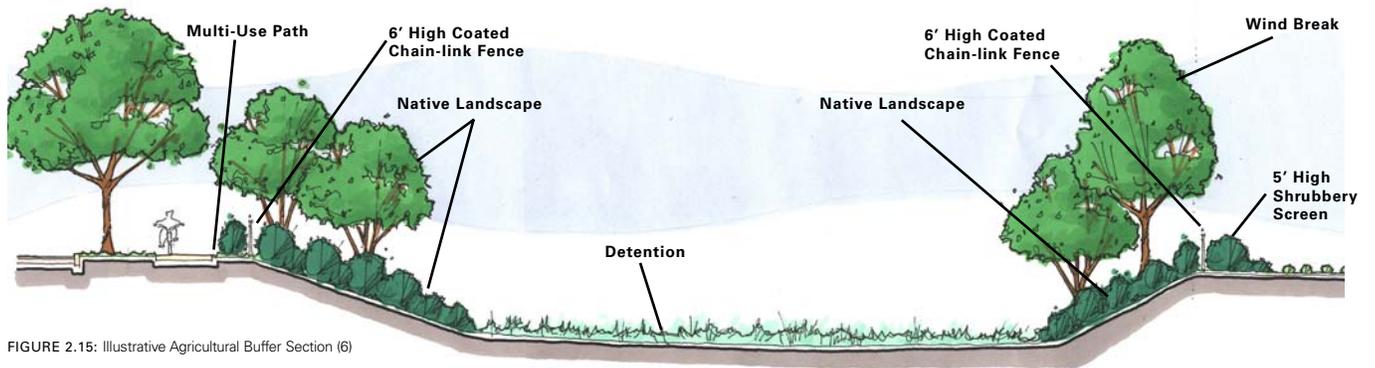
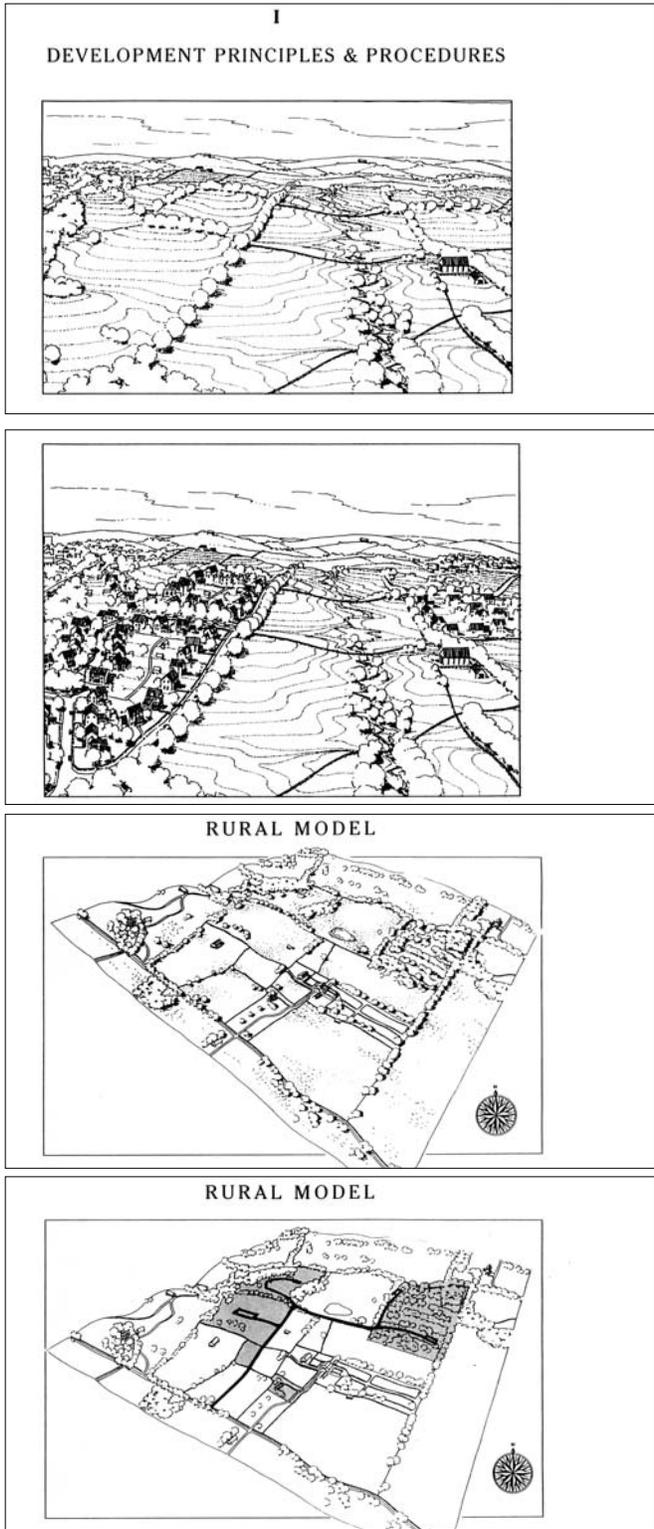


FIGURE 2.15: Illustrative Agricultural Buffer Section (6)

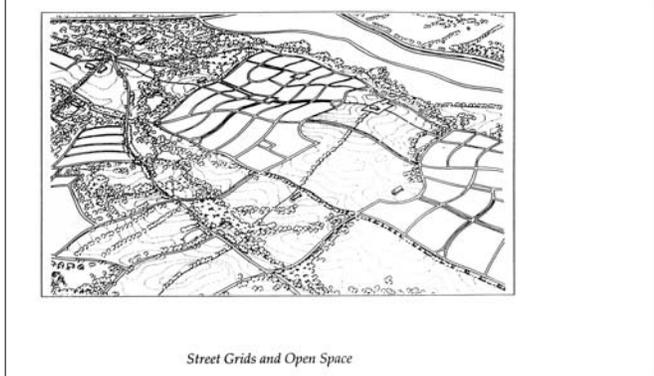
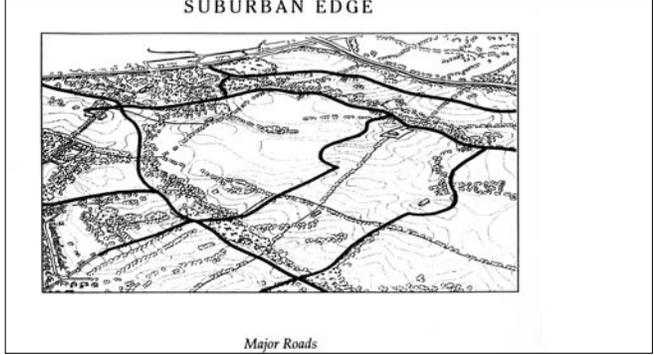
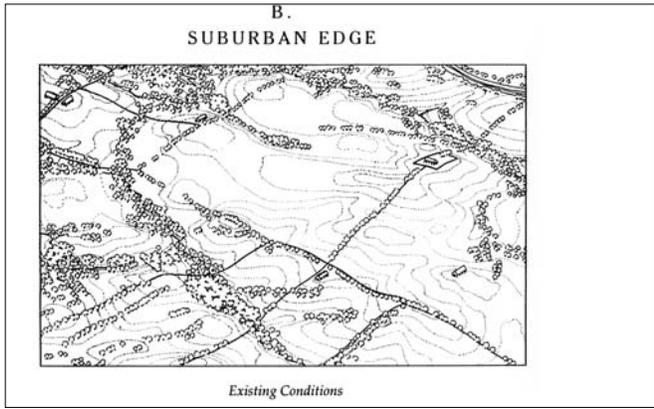
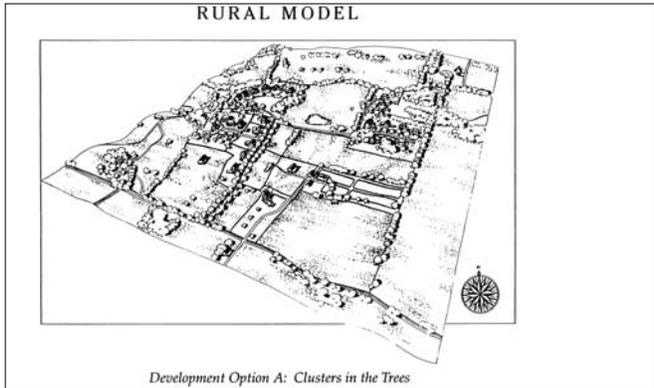


**Agricultural Edge**  
*New Sewickley  
 Township,  
 Pennsylvania*



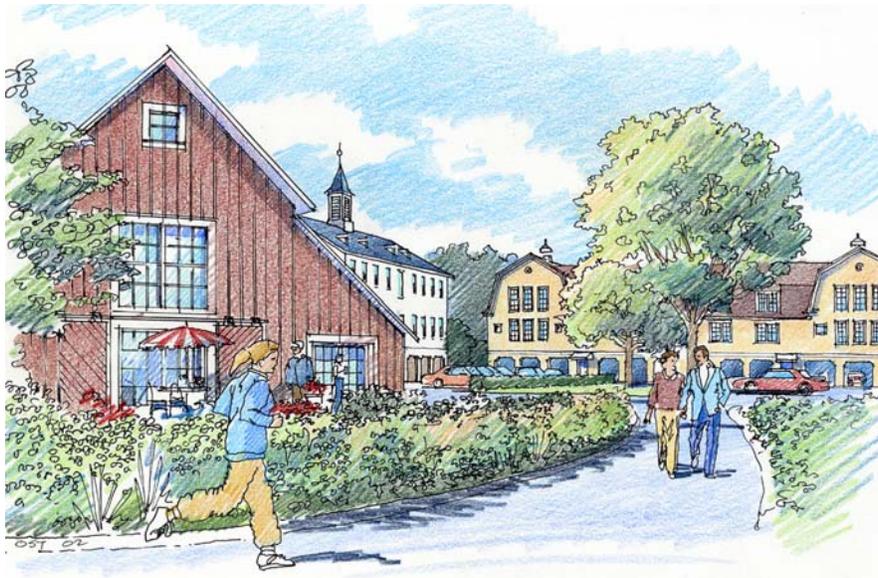
Residential in  
Agricultural  
District

*Bluegrass Tomorrow*





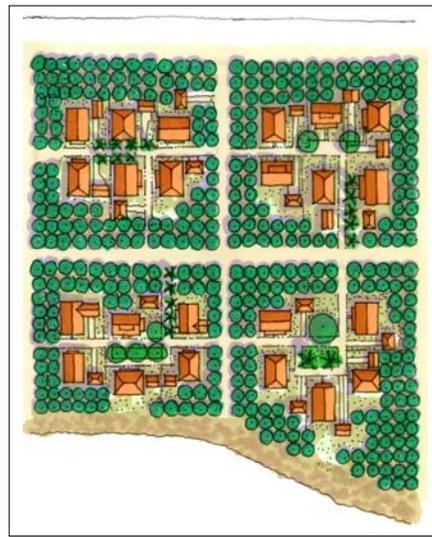
**Residential in  
Agricultural  
District**  
*Erie Station,  
Henrietta, New York*





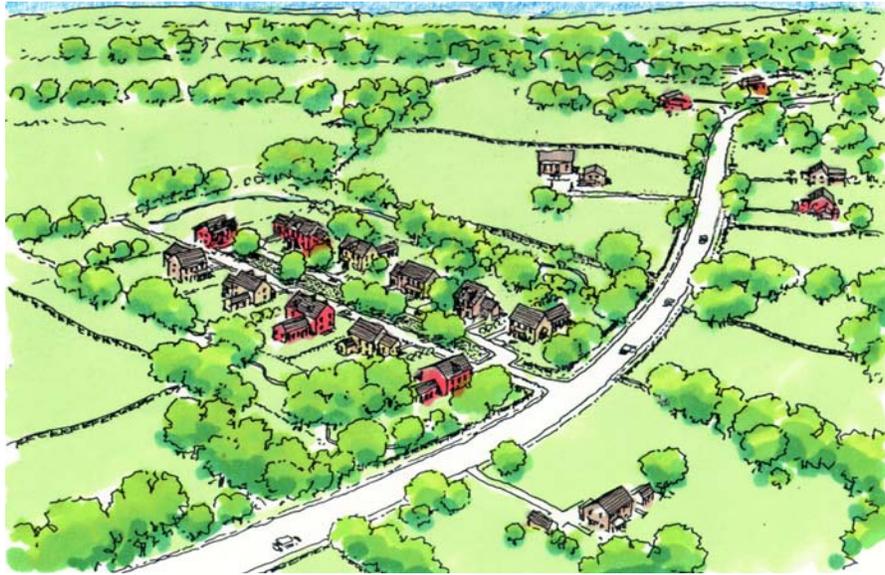
**Residential in  
Agricultural  
District**  
*Erie Station,  
Henrietta, New York*





**Residential in  
Agricultural  
District**  
*Boston Ranch,  
California*





**Residential in  
Agricultural  
District**  
*Adams Township,  
Pennsylvania*



**Woodlands**  
*The Homestead*  
*Preserve, Virginia*





**Woodlands**  
*Gibson's Grant,  
Maryland*