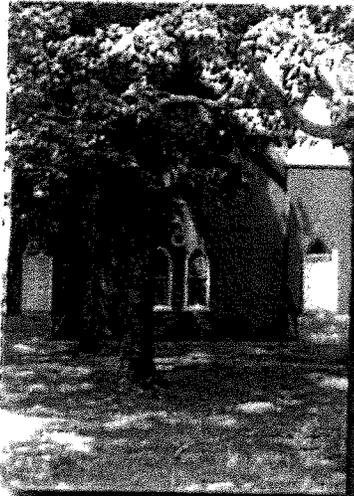
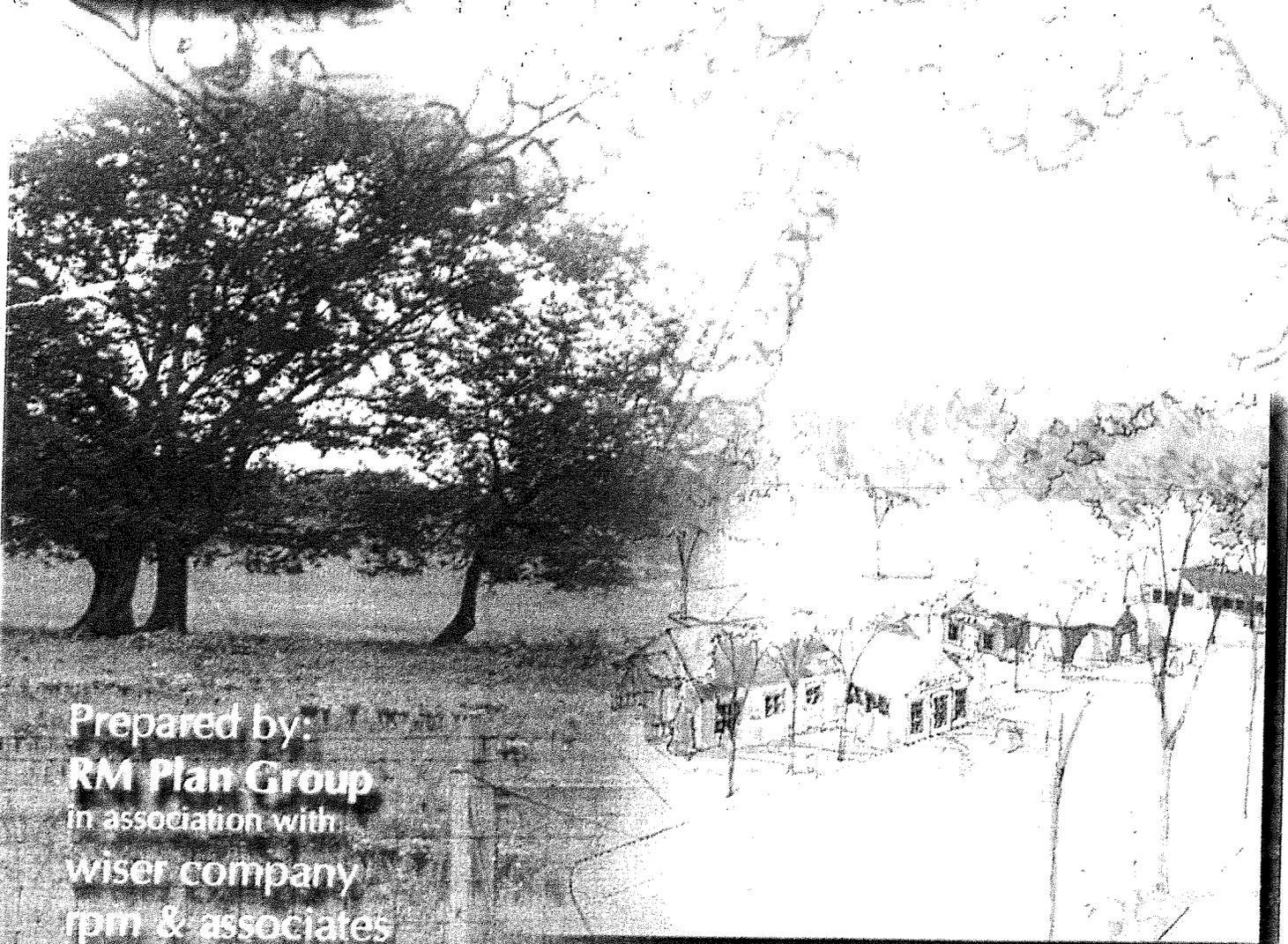


**Office Copy**  
**Salem Pike Study Area**  
Murfreesboro, Tennessee



**LAND USE PLAN**



Prepared by:  
**RM Plan Group**  
in association with  
wiser company  
rpm & associates

**9 October 2001**

# Salem Pike Study Area

Murfreesboro, Tennessee

## LAND USE PLAN

### DRAFT

10 August 2001

Prepared for:  
**City of Murfreesboro  
Planning Commission**

*Prepared by*  
**rm plan group**  
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# Foreword

---

Murfreesboro has for many years been one of the most desirable places to live in the mid-South region, embodying the small town quality of life while offering many of the amenities of a metropolitan area. Among the characteristics making Murfreesboro such a desirable place are the following:

- Affordable residential areas that are attractive, safe and close to schools;
- Diverse and well-paying employment base;
- Major university presence offering lifetime learning and extensive cultural and entertainment opportunities;
- Multi-faceted and readily accessible parks and recreation system; and,
- Attractive environmental setting with convenient access to pastoral and historical areas.

It is an established axiom that successful communities attract growth. Since the mid-90's, Murfreesboro and Rutherford County have become one of the fastest growing areas in the nation according to the U.S. Census Bureau. Success can be a tribute. It can also be a challenge to maintaining the qualities that contribute to the attraction.

One of the consequences of growth without proper planning and regulation is unchecked land expansion commonly referred to as *sprawl*. Urban sprawl in its most exaggerated form is characterized by endless development without shape, center, intervening green space and connecting streets. Provision of utilities and other public services is also less efficient under sprawl conditions. It is with the intent of countering the wanton effects of sprawl through effective planning that this Salem Pike Study Area Land Use Plan has been prepared.

The Tennessee Legislature, in 1998, enacted Public Chapter 1101 requiring every county and municipality therein to establish *growth boundaries* for urbanizing areas. The City of

Murfreesboro, in consultation with other governmental entities, has identified its growth boundaries in compliance with the Act. Within those boundaries is the currently unincorporated Salem Pike area, the subject of this land use plan. In the desire to better guide and serve growth, the City of Murfreesboro established a Citizens Advisory Committee to work with a community planning consultant in preparing recommendations for development of the Salem Pike area. Given that the mostly rural Salem Pike area is in the direction of much of Murfreesboro's urban growth, the Citizen's Advisory Committee has done a highly commendable job of addressing development in a creative and responsible manner while remaining sensitive to aesthetic, environmental and cultural qualities of the area. The planning process has been a consensual effort. There is broad agreement on the recommendations of this plan. More information about community participation and the planning process can be found in the appendices section of this plan. A map of Murfreesboro Urban Growth Boundaries can also be found in the appendices.

Appreciation is expressed to the following people for participating in the preparation of this plan.

## **Citizen's Advisory Committee**

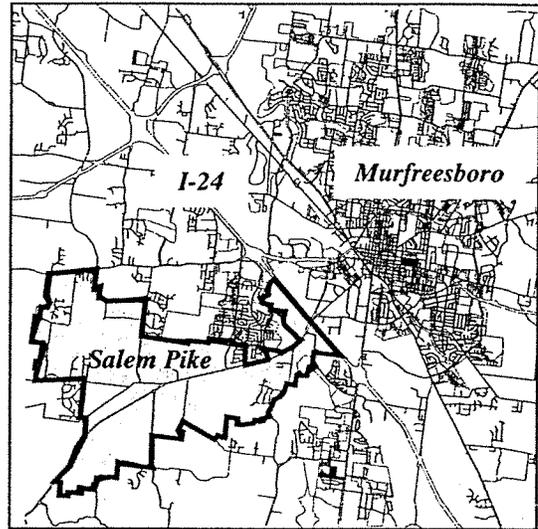
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**Chapter One**  
**EXISTING CONTEXT**

**Planning Boundaries.** For planning purposes, the study area consists of the mostly rural land along both sides of Salem Pike (State Highway 99) from interstate highway I-24 to near Rockvale Elementary School, a distance of approximately 6.5 miles. The northern boundary, while mostly contiguous with the City of Murfreesboro corporate limit, extends to include a small portion of Franklin Road (State Highway 96). The western boundary encompasses Kingwood Drive and the Salem community before following Salem Pike to near Rockvale Elementary School. The southern boundary generally encompasses the large properties adjoining the south side of Salem Pike. The eastern boundary follows I-24.



*Salem Pike Study Area*

The study area encompasses approximately 8,400 acres or 13 square miles. At the center of the study area is the culturally significant Salem community. Located at the intersection of Old Salem Hwy. and Rucker Lane, the Salem community consists of approximately 20 homes surrounding a church. The former cross-roads commercial function is no longer present. In addition to its cultural significance, the Salem community provides an important source of affordable housing in the area.



*Salem Community*

**Property Ownership Patterns.** Most of the property is in large holdings as of 2001. The presence of many large holdings represents an opportunity to guide development in the preferred manner through master planning. Approximately 24 or 17.5 percent of the 137 total farmstead parcels in the study area are over 100 acres in size. Another 28 or 20.4 percent of the total parcels are 25 to 100 acres. Frontage along Salem Pike is similar to acreage patterns. Approximately 25 or 48.1 percent of the 52 parcels have over 500 feet of frontage on Salem Pike.



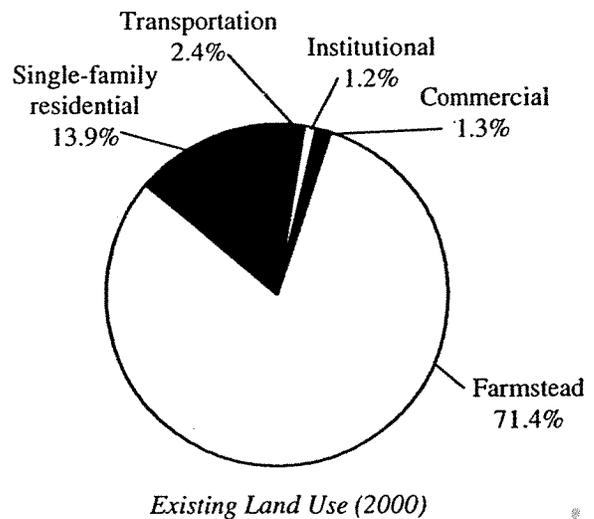
**Existing Development.** As of the year 2000, approximately 6,813 acres, or 81 percent, of the total 8,400 acres are characterized as rural (i.e. farmstead, agricultural and open space). Agricultural uses have been attracted to the area due to the suitability of soils. Historically, the Salem community has been the extent of development in the area. More recently, low-density residential subdivisions supported by individual lot septic tanks have emerged in scattered locations.

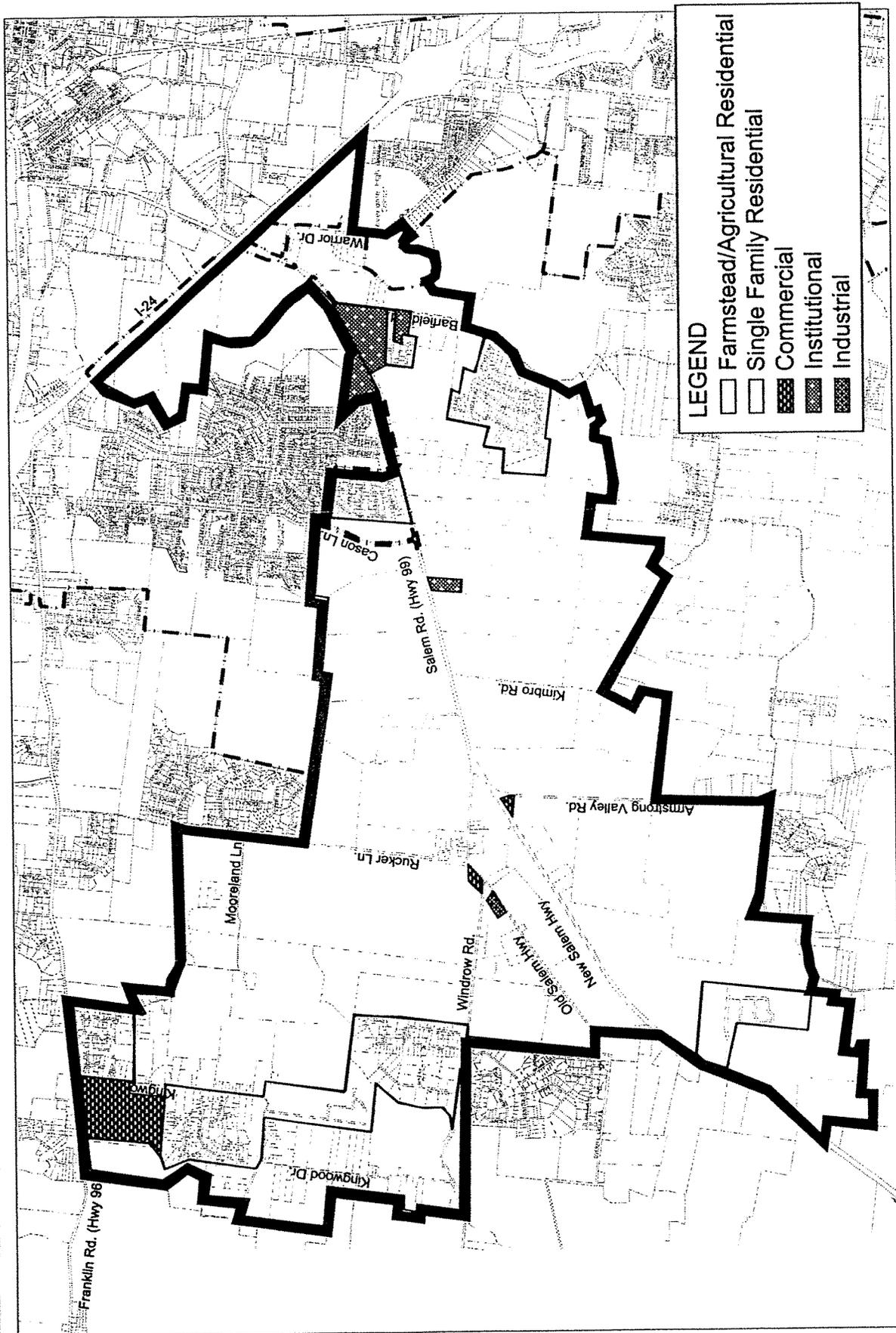
**Population.** Year 2000 population for the area is estimated at 2,700 to 2,900. Of the approximately 825 houses, about half contain an average of two persons per household. The other half, which are the most recently built, contain an average of three persons per household.

**Zoning.** Almost the entire area is controlled by Rutherford County zoning as administered by the Rutherford County Regional Planning Commission. The predominant zoning district is R-20. R-20 permits single-family residential with a minimum 20,000 square foot lot. Due to the percolation requirements of septic tanks, residential parcels typically average one dwelling unit per acre. Industrial zoning is located at I-24 and Warrior Road. Commercial zoning locations include a convenience-scale use at Salem Pike/Armstrong Valley Road, plus locations at River Rock Road/Salem Pike, Barfield Road/Salem Pike and a 100-acre equestrian facility on Highway 96. The latter zoning is permissive of alternative retail, services and office.

**Existing Land Use.** As of 2000, approximately 6,813 or 81 percent of the total 8,400 acres are in farmstead use or undeveloped. Farmstead is defined as a property of five or more acres that includes a principal residence and may involve agricultural and/or animal activity adjoining. Single-family residential is the next largest use at 1,172 acres or 13.9 percent, followed by transportation at 201 acres (2.4 percent), commercial at 108 acres (1.3 percent) and institutional at 102 acres (1.2 percent).

Type	Acres	%Total
<b>Farmstead-Total (5+ acres)</b>	<b>6,001</b>	<b>71.4</b>
<b>Residential-Total</b>	<b>1,172</b>	<b>13.9</b>
Single-Family	1,172	13.9
Multi-Family	0	0
<b>Commercial-Total</b>	<b>108</b>	<b>1.3</b>
Convenience	8	0.1
Neighborhood	0	0
Community	100	1.2
<b>Institutional-Total</b>	<b>102</b>	<b>1.2</b>
School	0	0
Worship/Other	102	1.2
<b>Industrial-Total</b>	<b>4</b>	<b>&gt;0.1</b>
<b>Recreation-Total</b>	<b>0</b>	<b>0</b>
Park	0	0
Other	0	0
<b>Transportation-Total</b>	<b>201</b>	<b>2.4</b>
Major Thoroughfare	80	1.0
Other than Local	121	1.4
<b>Undeveloped-Total (Agricultural, Open Space, Other)</b>	<b>812</b>	<b>9.7</b>
<b>Total</b>	<b>8,400</b>	<b>100.0</b>
<i>Source: RM Plan Group 2000</i>		





# Existing Land Use (2000)

## Salem Pike Study Area

City of Murfreesboro, Tennessee

rm plan group • Nashville  
community & campus planners

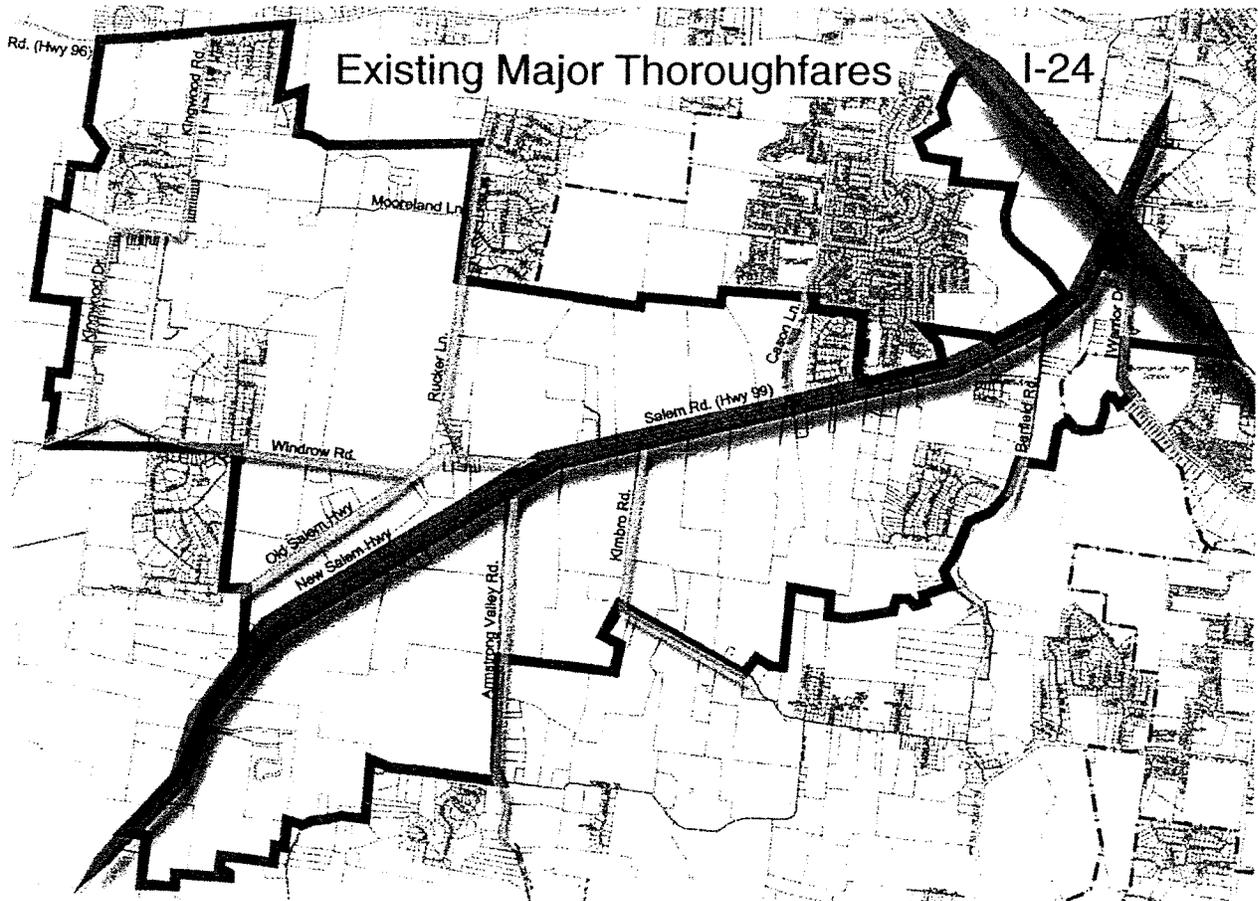


**Existing Roadway System.** The Salem Pike study area has limited access to Murfreesboro and the remainder of the county through a major east-west route with three partially connecting north-south routes. State Highway 99/Salem Pike is a two-lane arterial that links Murfreesboro with the Eagleville community to the southwest. In addition to serving as a gateway, Salem Pike provides direct access to Middle Tennessee State University with an enrollment of 19,121 students as of Fall 2000. Salem Pike also connects with Warrior Drive in providing access to Riverdale High School with an enrollment of 1,848 as of Fall 2000.

North-south connections are limited due to the interrupted and disjointed way which they pass through the study area. Cason Lane provides the newest and most direct connection with State

Highway 96/Franklin Road; however, it terminates at Salem Pike. Rucker Lane and Old Salem Highway also connect State Hwy. 96 and Salem Pike. Also disjointed, Armstrong Valley Road continues the Rucker Lane/Old Salem Hwy. connection southward. A pending extension of St. Andrews Drive with Salem Pike creates a potential north-south connecting route through linking with Kimbro Road.

Pending construction of an interchange with I-24 will significantly increase Salem Pike's access with the rapidly growing northern portions of Rutherford County and with the region. The proposed Joe B. Jackson Parkway will provide a new north-south connection that will link the northwestern and southwestern portions of Murfreesboro's growth area with direct access to Salem Pike and Franklin Road.



# Topography

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Terrain. The relatively flat terrain in the middle and eastern portions, coupled with the fertile soils along the river, is what attracted farming to the area many years ago. The low topographic point is located in the northeast portion where Stones River flows through the study area. The high points are located in the southwest and northwest portions.

Drainageways. The three major drainageways associated with the study area are Overall Creek, Armstrong Branch / Puckett Creek and West Fork Stones River. Overall Creek flows north through rolling hills and does not appear to pose any threat of flooding. The combined Armstrong Branch and Puckett Creek flow north from the hills of the southwest portion to the flatter planes in the center of the study area. Some flooding and erosion may become a factor in the planes of the central portion of this drainage basin as development occurs. A major tributary which drains into the West Fork Stones River runs along the south side and crosses to the north of Salem Pike. Because the terrain is fairly flat on the north side of Salem and well-established drainage swells are not present as they are on the south side, keeping major drainage swells open and undeveloped is very important to prevent flooding.

Vistas. Salem Pike is known for its openness and framing landscape. Vistas are created when rolling terrain on the northern portion of the study area forms a backdrop over the flat plane. Maintaining the scenic vista located on the western portion of Salem Pike along the angle of view to the north is desirable as development occurs within the study area.



*Drainageways and Vistas*



*Scenic Vista*

# Historical and Cultural Resources

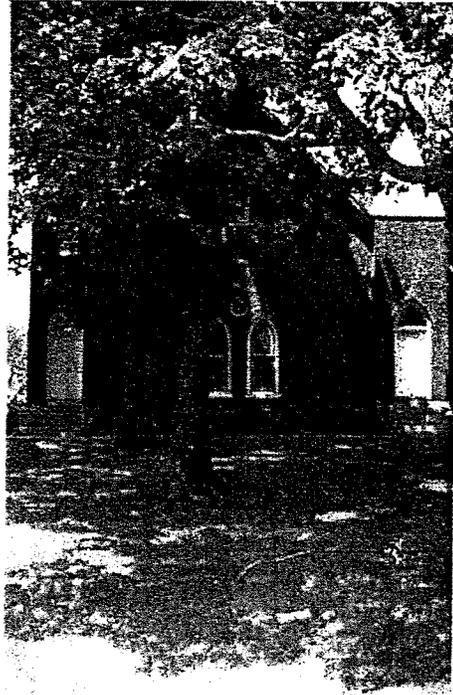
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**Historically-Significant Resources.** As the recipient of a historic marker in 2001, Salem Methodist Church has long been a landmark in the Salem community. The church and a cluster of homes located near the intersection of Rucker Lane and Old Salem Highway make up the heart of the Salem community.

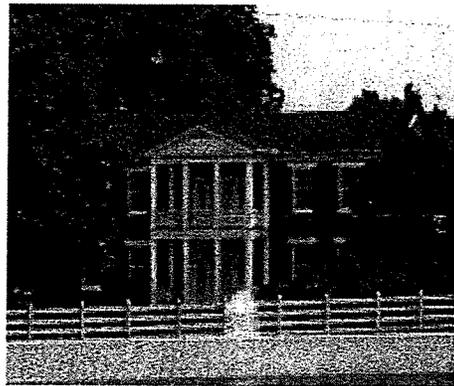
North of Salem on Rucker Lane is Marymont, a house which is listed on the National Register of Historic Places. Another house which is listed on the National Register is Boxwood, located off of Salem Pike, east of Kimbro Road. The placement of these two structures and the historic Kingwood School built in close proximity to the Salem community adds to the historical significance of the area.

Two historically-significant sites are located just outside the study area. Cherry Grove Church, located on Yeargan Road, and Barfield School on Barfield Crescent Road are just south of the study area. Another historic site, a Civil War camp, is located partially in the study area on the west side of I-24.

**Culturally-Significant Resources.** The many cemeteries located in the Salem community contribute to the cultural significance of Salem. Several of the cemeteries have important historical connections. Most of the cemeteries are small family plots located throughout the community. The following map identifies the location of these cemeteries.



*Salem United Methodist Church*



*Boxwood Estate*



## **Chapter Two**

# **COMMUNITY DIMENSIONS**

# Growth Dimensions

---

**Growth Factors.** The adjoining Rutherford and Williamson Counties experienced unprecedented growth during the 90's based on population and employment trends. Much of the growth is associated with the major economic expansion of the greater Nashville region. The proximity to Nashville of the largest urban center in each county – Murfreesboro in Rutherford and Franklin in Williamson – is a major factor in the growth. Also contributing to the growth is the location of each community on a major interstate system – I-24 and I-65. Murfreesboro has a third growth factor in the expansion of Middle Tennessee State University.

The combined attraction of Murfreesboro and Franklin is apparent in the recent development in the once rural area between the two. The location of Salem Community, and the adjoining Blackman Community to the north, within the Murfreesboro side of the Murfreesboro-Franklin expansion is basis for assuming that significant growth will occur within Salem in the near future. The scheduled completion by the year 2003 of the I-24 and Salem Pike interchange should hasten the growth.

In dimensioning growth in the Salem Community, the availability and sustainability of land resources and the provision of public infrastructure (e.g. roads, water, sewer) are key factors. Public policy for development (e.g. zoning) is another key factor. The low intensity of County zoning for the study area as of the year 2000 reflects the general absence of public infrastructure. It is assumed that incorporation with the City of Murfreesboro and its provision of water, sewer and thoroughfare improvements will be accompanied by more intensive development. Diversification of uses and higher residential densities are anticipated.

This plan utilizes population and employment projections in identifying and quantifying land use requirements. Proposed land use is the basis for identifying and quantifying thoroughfare improvements. The nature, location and relationship of proposed land use is guided by the community's development goals and objectives. Details can be found in Appendix C.

**Population Projections – Salem Pike Study Area.** As of 2000, the Salem Pike Study Area’s population is estimated at 2,700-2,900. By the planning horizon of 2020, the Study Area’s population is projected to reach 11,500-18,400. A range is given because growth rates may vary with absorption/demand in other parts of Murfreesboro where development trends and infrastructure improvements are ahead. The high change of 15,500 between 2000 and 2020 represents an average annual increase of 775 or 2.7 percent. The low change of 8,800 represents an average annual increase of 440 or 1.6 percent. In both the high and low scenario, population increase is more noticeable after 2005 due to the effect of the I-24/Salem Pike interchange opening by 2003.

**Employment Projections (Full-Time)– Salem Pike Study Area.** As of 2000, employment in the Salem Pike Study Area is estimated at 50 exclusive of agriculture. By the planning horizon of 2020, full-time employment is projected to reach 3,500-5,000. Most of the increase will occur after 2005 due to the effect of the I-24/Salem Pike interchange opening.

Contributing factors for the employment increase will be the additional residential and school population, which will generate a need for retail and services activities, and diversification of land uses which are likely to include industrial-related activities. Of the projected 3,500-5,000 employment, 1,000-1,400 are estimated to be retail, 1,000-1,400 are estimated to be services and 1,500-2,200 are estimated to be industrial related.

**Table 2.1  
POPULATION PROJECTIONS  
2000-2020  
Salem Pike Study Area & Rutherford County**

Year	Population		Rutherford County	% Share	
	Salem Pike Study Area			Area of County	
	High	Low	High	Low	
2000	2,900	2,700	182,023	1.6	1.5
2005	4,200	3,900	206,820	2.0	1.9
2010	8,800	7,900	250,421	3.5	3.1
2015	15,200	9,500	303,213	5.0	3.1
2020	18,400	11,500	367,135	5.0	3.2
Total Change	15,500	8,800	185,112	8.4	4.7
Avg. Annual Change	775	440	9,255.6	8.4	4.7

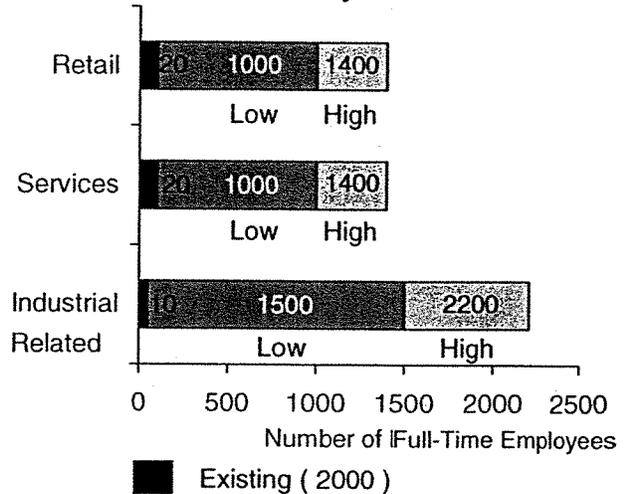
Source: U.S. Census 2000 for Rutherford Co.; City of Murfreesboro Planning Dept. for Rutherford Co. 2005, 2010, 2015, 2020; RM Plan Group, Nashville for Salem Pike Study Area 2000, 2005, 2010, 2015, 2020

Note: The more noticeable increase between 2005 and the following years reflects the effect of the I-24/Salem Pike interchange opening by 2003.

**EMPLOYMENT PROJECTIONS**

2000 - 2020

Salem Pike Study Area



Source: RM Plan Group, Nashville

# Land Use Trends

**Land Use Projections – Salem Pike Study Area.** Based on a projected population of 11,500-18,400 by 2020, an additional 4,078-6,813 acres are proposed for developed uses. The increase in developed uses involves an acreage reduction of 3,666-6,001 in existing farmstead and 412-812 in undeveloped.

The largest proposed use is residential at 4,400-6,685 acres or 52.4-79.6 percent, including single-family at 4,220-6,355 acres and multi-family/other at 180-330 acres. The other development uses in order of size are: transportation at 350-450 acres or 4.2-5.4 percent; commercial at 250-380 acres of 3.0-4.5 percent; institutional at 240-360 acres or 2.8-4.3 percent; industrial at 300 or 3.6 percent; and recreation at 125-225 acres or 1.5-2.7 percent.

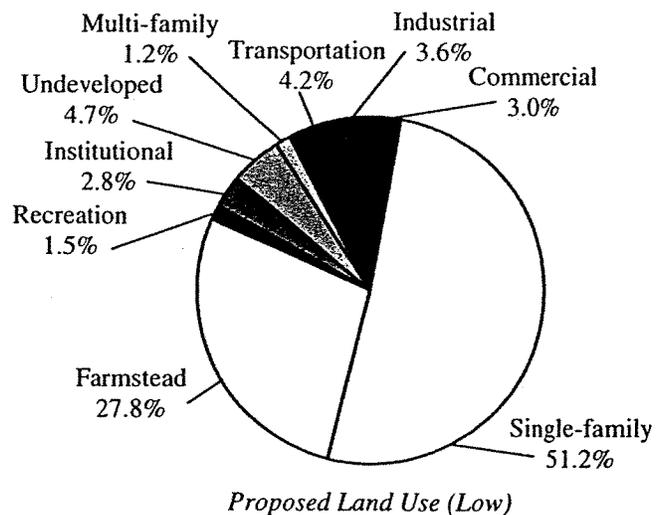
The projected reduction in the undeveloped category, which includes agriculture, reflects the likelihood of farming activities being displaced by the higher property values associated with residential and other more intensive uses. Agricultural uses are desirable, and their continuation should be encouraged. In addition to being an economic activity, farming represents the heritage of the Salem Community. Agricultural uses also provide a holding zone until the need for development is established.

The high population- and employment-based land use projections leave no farmstead or undeveloped by 2020; however, the low projections indicate that not all of the community's land resources are required for development by the year 2020. The surplus of land suggests the desirability of a holding zone to permit long-term development in an efficient manner. The County's single-family zoning for the community as of 2000, plus the City's Zoning Ordinance requirement that annexed areas with existing agricultural or residential zoning be zoned Residential Single-Family-15, precludes the use of a holding zone.

**Table 2.2  
LAND USE – EXISTING & PROPOSED  
2000-2020  
Salem Pike Study Area**

Type	Existing (Acres)	Proposed (Acres)	
		Low	High
<b>Farmstead-Total (5+ acres)</b>	<b>6,001</b>	<b>2,335</b>	<b>0</b>
<b>Residential-Total</b>	<b>1,172</b>	<b>4,400</b>	<b>6,685</b>
Single-Family	1,172	4,220	6,355
Multi-Family/Other	0	180	330
<b>Commercial-Total</b>	<b>108</b>	<b>250</b>	<b>380</b>
Convenience	8	40	60
Neighborhood	0	50	120
Community	100	160	200
<b>Institutional-Total</b>	<b>102</b>	<b>240</b>	<b>360</b>
School	0	60	120
Worship/Other	102	180	240
<b>Industrial-Total</b>	<b>4</b>	<b>300</b>	<b>300</b>
<b>Recreation-Total</b>	<b>0</b>	<b>125</b>	<b>225</b>
Park	0	25	125
Other	0	100	100
<b>Transportation-Total</b>	<b>201</b>	<b>350</b>	<b>450</b>
Major Thoroughfare	80	150	200
Other than Local	121	200	250
<b>Undeveloped-Total (Agricultural, Open Space, Other)</b>	<b>812</b>	<b>400</b>	<b>0</b>
<b>Total</b>	<b>8,400</b>	<b>8,400</b>	<b>8,400</b>

*Source: RM Plan Group 2000, 2020*



## **Chapter Three**

# **COMMUNITY DEVELOPMENT GOALS & OBJECTIVES**

# Community Development Goals & Objectives

---

**Vision – 2020 and Beyond.** The plan’s vision for the Salem Pike Study Area by the year 2020 involves a model for development that enhances quality of life and creates a sense of place. This vision also involves development that ensures economic vitality, environmental compatibility and connectivity.

Salem Pike is one of the more attractive entries for Murfreesboro. The natural elements and mostly farmstead development contribute to a visually appealing open character. A shared value in the development of this regional gateway is to maintain this sense of openness.

**Goals and Objectives.** Six goals are identified for guiding development of the Salem Pike Study Area. The specific objectives identified with each goal are the basis for this Plan’s recommendations. The order of the goals and objectives do not constitute any priorities. They should be viewed as equal and integrated. Their implementation should involve the community as a whole – public and private.

**Goal No. 1 – Maintain Openness of Salem Pike.** It is the goal of the plan to maintain the existing sense of openness along Salem Pike. It is likely that future land use will become more diverse and intense nearer the I-24 interchange, and some variation in the techniques for creating a sense of openness is appropriate.

**Objectives.** In maintaining a sense of openness along Salem Pike, the following objectives are sought:

- A. to cluster commercial uses within activity nodes as opposed to strip development;
- B. to increase future building setback from the existing county zoning minimum of 35 feet with the greatest increase associated with residential office and institutional uses;
- C. to utilize landscape buffers as an alternative technique to building setback increases in selective cases; and,

- D. to encourage the location of parking to the side and rear of uses.

**Goal No. 2 – Provide a Unified Appearance for Salem Pike.** It is the goal of the plan to provide a unified appearance in conjunction with Salem Pike serving as a gateway for Murfreesboro.

**Objectives.** In providing a unified appearance for Salem Pike, the following objectives are sought:

- A. to establish a gateway identifier at one or more major transition points within the corridor;
- B. to reduce the size of commercial signage between the I-24 interchange and the western entry;
- C. to encourage a compatible architectural style between future and existing buildings; and,
- D. to encourage the location of transmission lines underground.

**Goal No. 3 – Provide a Mixture of Uses.** It is the goal of the plan to provide a mixture of complementary uses that provide preferred living environments with alternative housing choices, supporting commercial and employment opportunities. It is the further goal to provide master planning for future development in assuring their use and design integration.

**Objectives.** In providing a mixture of complementary and compatible uses, the following objectives are sought:

- A. to create a pedestrian-scale development pattern that incorporates housing, supporting commercial, institutional and recreational uses in an integrated arrangement and in convenient proximity;
- B. to provide a diverse housing stock that offers different types, sizes and tenure in serving a full range of family type, income, age and disability needs;

- C. to conserve the existing housing stock, especially the Salem Community and its affordable housing;
- D. to incorporate any future school with community shared use of facilities and enhanced mobility connections;
- E. to conserve existing historical and cultural resources; and,
- F. to provide placement of future uses and buffering alternatives that assure the preferred transition and compatibility with existing uses.

**Goal No. 4 – Enhance Connectivity.** It is the goal of the plan to provide alternative mobility arrangements that enhance connectivity among uses within the area and the community overall.

**Objectives.** In enhancing connectivity the following objectives are sought:

- A. to improve the accessibility, capacity and safety of the major thoroughfare system;
- B. to provide supporting commercial in convenient proximity to residential uses in promoting pedestrian activity and reducing vehicular trips;
- C. to provide an area-wide sidewalk system that is integrated with other mobility arrangements;
- D. to provide an area-wide bikeway system that is linked with the community system;
- E. to provide an area-wide trailway and greenway that is linked with parks, schools and open space and that is further linked with the community greenway system;
- F. to provide connection with a public or private transit system that links residents, including the elderly and handicapped, with essential services, employment and recreation.

**Goal No. 5 – Ensure Environmental-Friendliness.** It is the goal of the plan to ensure compatibility of development with the ecological system.

**Objectives.** In being environmentally-friendly, the following objectives are sought:

- A. to protect and enhance the value of stream corridors as drainageways and flood management areas, plant and animal habitats, recreational and scenic areas and as pathways for the community;
- B. to conserve energy / protect air quality through trip reduction in assuring a long-term source for residential, economic and agricultural purposes;
- C. to protect and conserve vegetation and woodland resources to provide scenic attractiveness and stabilize soils; and,
- D. to protect and conserve water resources in providing aquifer/water quality protection, plant and animal support, recreation and a long-term source of water for residential, economic and agricultural purposes.
- E. To protect the existing ambience of the area including the visibility of the night sky, low noise levels, clean air, etc.

**Goal No. 6 – Ensure Orderly Development.** It is the goal of the plan to ensure that development is orderly, includes timely provisions and is coordinated with other areas.

**Objectives.** In providing orderly development, the following objectives are sought:

- A. to ensure that annexation and zoning action promote the use and design recommendations of this plan;
- B. to ensure that public infrastructure is provided in a timely manner that guided the nature, location and extent of development in accordance with the use and design recommendations of this plan;

- 
- C. to ensure that the use and design recommendations of this plan are coordinated with the public policies and investments of adjoining entities.
  - D. to ensure the continuation of community participation in the further decision-making and implementation of this plan; and,
  - E. to ensure a fair and consistent process in the implementation of this plan.

**Chapter Four**

**COMMUNITY FRAMEWORK**

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### **Community Frame Transition.**

Community frame refers to the skeletal physical elements, natural and man-made, that shape the form and appearance of an area. Historically, the Salem Community has been shaped by farming activity and the crossroads center serving it. This frame has created a character and sense of identity that is of cultural importance in the community's further development.

In recent years, scattered groupings of single-family residential have emerged, their frame shaped by thoroughfare access, property lines and suitability of soils for development. The shape and form of these recent developments bear little resemblance to the earlier Salem Community.

Further transition in Salem is anticipated as new external frame-shaping elements evolve. Those elements with the greatest man-made influences include the I-24 interchange, Joe B. Jackson Parkway and the diversification of uses that is likely to accompany the two improvements. There are also natural elements that influence the form and appearance. Elements with a natural influence include terrain, major drainageways, scenic vistas and areas with open space, recreational and continuing agricultural potential. Incorporating these natural elements with future development honors and retains symbolically the character and sense of identity associated with the earlier Salem Community.

**Community Frame - Future Land Use Locational Factors.** In maintaining symbolically the character and sense of identity associated with the earlier Salem Community, it is recommended that future land use location be guided by the following:

1. Locate future uses along each side of Salem Pike using increased building setback and group vehicular access;

2. Cluster commercial uses in conjunction with major thoroughfare intersections;
3. Locate industrial related uses and other major employment centers in close proximity to the I-24 and Salem Pike interchange in minimizing non-residential / commuting traffic within the community;
4. Locate institutional uses so that they can be accessed alternatively by pedestrian and bicycle connections with residential areas, Locate schools so that their vehicular access is not directly with Salem Pike;
5. Locate compatible land uses and buffering provisions in conjunction with the earlier Salem Pike Community; and,
6. Encourage continuation of agricultural use.

### **Future Land Use Character Factors.**

Based on the development Goals and Objectives, it is recommended that future land use character be guided by *livability standards*. Not to be confused with the Murfreesboro Zoning Ordinance Livability Space Ratio; livability standards are intended to promote the following in future development:

- Place-making that creates a sense of identity and belonging;
- Connections that link people and activities; and,
- Conservation that promotes sustainability.

Livability standards that are recommended by this plan are identified in the following.

**Density.** The preferred density for most future residential areas is at least three units but less than eight units per acre (Medium-Density). Densities of less than three units per acre are associated with existing residential areas (Low-Density). Densities of

more than eight units per acre are associated with areas in close proximity to the intersection of a major arterial and at least a minor arterial thoroughfare (High-Density).

Scale. The preferred scale for future residential and commercial areas is pedestrian oriented. Pedestrian scale in residential areas involves the ability and provisions to walk one-half to one mile in accessing open space and recreation amenities, convenience commercial services and educational and cultural facilities (when practical).

Mixed Use. Mixing of uses for future development is preferred along Salem Pike and for areas in close proximity to the intersection of a major arterial and at least a minor arterial thoroughfare. In preferring the mixing of uses at the appropriate locations, it is the recommendation of this plan that they involve a higher level than traditional development of master planning, design integration, pedestrian scale and amenities.

Open Space and Recreational Amenities. Provision of open space and recreational amenities is preferred for all future residential areas. Inclusion of private provisions and / or connections with public provisions are appropriate. It is also recommended that there be open space and recreational provisions sharing and connection between institutional and residential uses. Open space and recreational provisions are further recommended to include and link pedestrian trails and bikeways for the community.

Future and Existing Development Compatibility. Future land use should be compatible with existing development. It is recommended that the compatibility be addressed through one or more of the following:

- Grouping similar uses;

- Similar building scale or, alternatively, additional yard setback for larger buildings;
- Similar architectural appearance;
- Directing vehicular traffic associated with more intensive uses so that it does not go through less intensive uses;
- Buffer yards between less compatible uses; and,
- Landscape screening between incompatible uses.

Future Land Use Map. The Future Land Use Map delineates the type, location and extent of future land use. Some types of uses, such as agricultural, office and convenience commercial, incorporated with future residential developments, are not mapped even though they are intended for inclusion. The land use classifications associated with the Map are identified and defined in the following.

Residential. Future residential uses include three designations – Low-Density Residential, Medium-Density Residential, and High-Density Residential. The three designations are defined as follows:

1. Low-Density Residential – All single-family residential uses that involve a density of less than three units per acre; Institutional; General farming;
2. Medium-Density Residential – All single-family and two-family residential uses that involve a density of at least three units per acre but less than eight units per acre; Institutional; Convenience-scale commercial uses on a selective and limited basis; General farming; and,
3. High-Density Residential with Optional Village Overlay – All single-family, two-family, three-family, four family, multi-family, retirement and manufactured housing residential uses that involve

a gross density of eight or more units per acre; Institutional; Convenience-scale commercial uses on a selective and limited basis; General farming.

Commercial. Commercial uses include five designations – Convenience Commercial Node, Neighborhood Commercial Node, Neighborhood Commercial Node with Optional Village Overlay, Community Commercial Planned Development and Interstate Commercial Node. The five designations are defined as follows:

1. Convenience Commercial – Convenience-scale commercial uses that serve an adjoining and limited residential market. Maximum gross square footage is 10,000, all in one building;
2. Neighborhood Commercial Node – Neighborhood-scale commercial uses that serve a nearby and limited residential market. Maximum / total gross square footage is 100,000 and 60,000 for any one building;
3. Neighborhood Commercial Node with Optional Village Overlay – Neighborhood-scale commercial uses that involve a greater mix of uses, pedestrian orientation, unified design, shared access and parking and master plan approval. Maximum / total gross square footage is 200,000 and 75,000 for any one building;
4. Community Commercial Planned Development – Community-scale commercial uses as part of a Planned Development; and,
5. Interstate Commercial Node – Community-scale commercial uses that benefit from regional thoroughfare access.

The maximum gross square footage is recommended. Minor deviations over the maximum will be permissive. Major

deviations should require amendment to the plan.

Mixed Use Limited Planned Development - Mixed Use Limited Planned Development uses include the one designation – Mixed Use Limited Planned Development. The designation is defined as follows:

1. Mixed Use Limited Plan Development – All medium and high-density residential; Institutional; Offices with a maximum 30 percent floor area ratio; and, General farming. Uses along Salem Pike subject to adherence to Scenic Corridor building setback, pedestrian orientation, unified design, shared access and parking and master plan approval.

There is not a specific commercial category for offices; however, offices are generally appropriate uses in Neighborhood Commercial Node, Neighborhood Commercial Node with Village Overlay, Community Commercial Planned Development, Interstate Commercial Node and Mixed Use Limited Plan Development. Offices are particularly appropriate in transitioning between residential and non-residential uses provided that the scale, operating hours and traffic impact are compatible with the residential use and scale.

Industrial. Industrial uses include one designation- Light Industrial. The designation is defined as follows:

1. Light Industrial – Light- intensity industrial and related uses that are associated with a clustered / park setting in order to achieve greater integration of uses, access and appearance; Community-scale commercial uses; and, Cellular phone and other communication towers.

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Institutional. Institutional uses include two designations – Cultural and Worship and Educational. The two designations are defined as follows.

1. Cultural and Worship – All cultural and worship uses provided that the scale, operating hours and traffic impact are compatible with any nearby residential uses and scale; and,
2. Educational – All public schools and private schools exclusive of trade.

Park and Greenway. Park and Greenway uses include two designations – Park and Greenway.

The designation is defined as follows.

1. Park – All public and private park, open space and recreational areas; and,
2. Greenway- All public areas designated as Greenway or connection thereto.

The following Future Land Use Map identifies the location and extent of each land use classification. Mapping is generalized. The Future Land Use Map does not constitute zoning for an area or specific parcel.

# FUTURE LAND USE MAP Salem Pike Study Area Murfreesboro, Tennessee

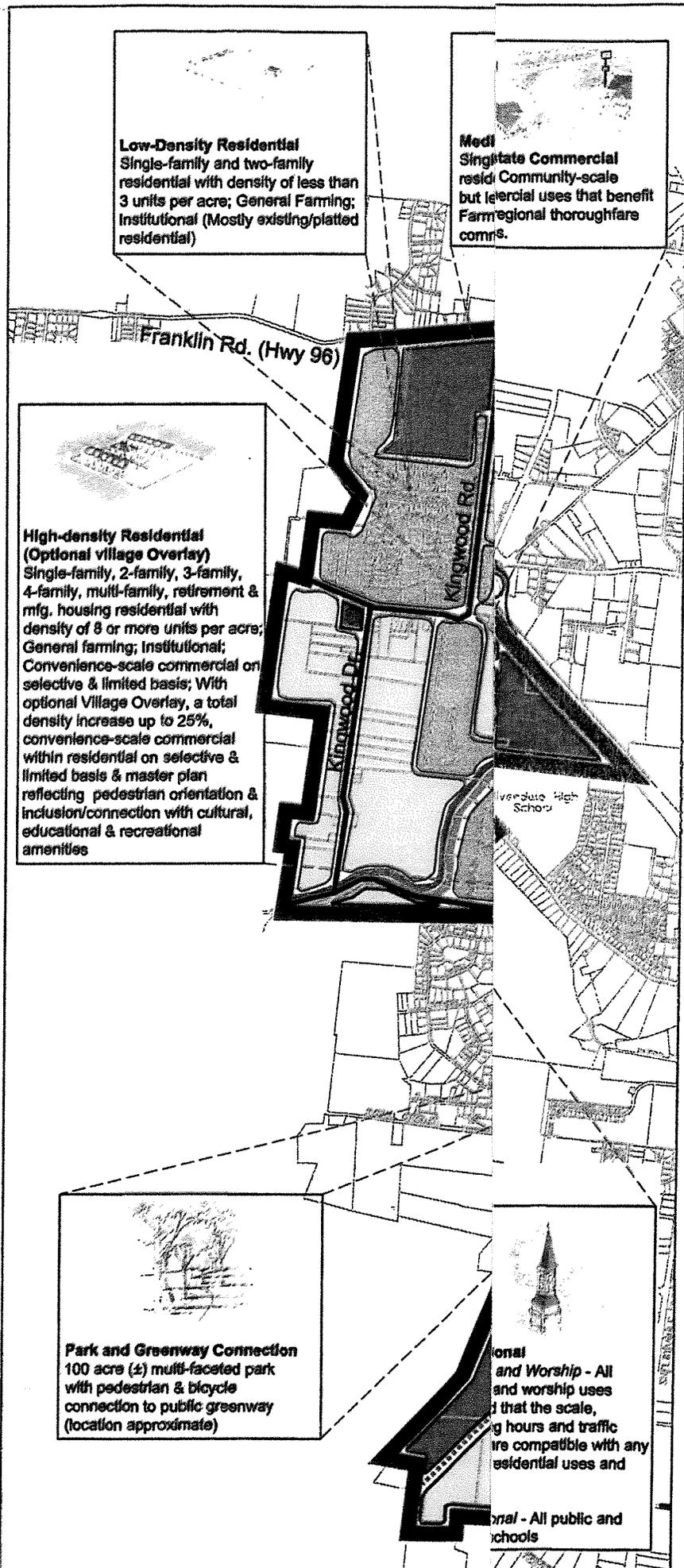
**Low-Density Residential**  
Single-family and two-family residential with density of less than 3 units per acre; General Farming; Institutional (Mostly existing/platted residential)

**Medium-Density Residential**  
Community-scale but commercial uses that benefit Farm/regional thoroughfares comm.

**High-density Residential (Optional village Overlay)**  
Single-family, 2-family, 3-family, 4-family, multi-family, retirement & mfg. housing residential with density of 8 or more units per acre; General farming; Institutional; Convenience-scale commercial on selective & limited basis; With optional Village Overlay, a total density increase up to 25%, convenience-scale commercial within residential on selective & limited basis & master plan reflecting pedestrian orientation & inclusion/connection with cultural, educational & recreational amenities

**Park and Greenway Connection**  
100 acre (±) multi-faceted park with pedestrian & bicycle connection to public greenway (location approximate)

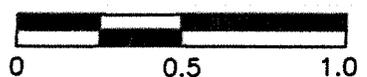
**Community Commercial Planned Development**  
All public and schools



## LEGEND

- High Density Residential
- Medium Density Residential
- Low Density Residential
- Community Commercial Planned Development
- Interstate Commercial Node
- Neighborhood Commercial Node-Village Overlay
- Neighborhood Commercial Node
- Convenience Commercial Node
- Industrial
- Potential School Site
- Institutional (Cultural/Worship)
- Potential Park Site
- Greenway
- Mixed Use Limited Planned Development
- Scenic Corridor Overlay
- Major Thoroughfares
- Major Thoroughfare Improvements

Scale in Miles



north



rm plan group • nashville  
community & campus  
planning & design

**Chapter Five**

**COMMUNITY  
DESIGN GUIDELINES**

# Community Design Guidelines

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**Functional Objectives.** As of 2000, Salem Pike serves as the gateway between rural southwestern Rutherford County and the Murfreesboro urban area. Utilization and visual characteristics within the gateway are relatively uniform. Existing land uses are mostly farmstead. Individual properties typically have direct access to Salem Pike. While several buildings have the minimum 35-foot setback prescribed by County zoning, their scattered locations minimize any detractor from the corridor's appearance.

While other functions are likely to emerge with development of the corridor (e.g. destination shopping), it is envisioned that Salem Pike will maintain its gateway status and sense of openness. It is further envisioned that there will be greater diversification and intensification of uses within the future corridor. As a result of the diversification and intensification, the gateway will involve a more transitional character between the rural setting to the west and the urban setting to the east in conjunction with the I-24 interchange.

**Corridor Segments.** In maintaining a sense of openness while accommodating the transition between rural and urban, it is recommended that the future corridor's design involve three segments. These segments are identified and located as follows:

- **Pastoral Segment** located between Rockvale Elementary School and the approximate intersection of the proposed Joe B. Jackson Parkway and Salem Pike;
- **Transitional Segment** located between the approximate intersection of the proposed Joe B. Jackson Parkway and Salem Pike and Cason Lane; and,

- **Urban Segment** located between Cason Lane and the I-24 interchange at Salem Pike (with the continuation into Murfreesboro as appropriate).

Recommended guidelines associated with each segment are described in the following.

Pastoral Segment. It is recommended that this segment reflect the existing rural character associated with the western extreme of the corridor. Maintaining the informality of the landscape and the vistas formed by the changing topography on either side is desirable. The following elements are proposed in maintaining a sense of openness:

- 80-foot building setback for future uses;
- Parking to the side and rear of any future multi-family residential and non-residential uses;
- All utilities located underground;
- Naturalistic open massing of trees set back from the road;
- Any fencing within the building setback should be low in height and constructed of natural materials with an open design;
- Signs should be of a ground type, constructed of natural materials and limited to residential, public and semi-public uses;
- Collective access for future residential development;
- 5-foot sidewalk separated by 5-foot grass strip from bike lane; and,
- 5-foot bike lane on Salem Pike shoulder.

Transition Segment. It is recommended that this segment reflect the emerging suburban residential character associated with the middle of the corridor. Enhancing the

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formality of the landscape and integrating architectural design is desirable. The following elements are proposed in maintaining a sense of openness:

- 60-foot building setback for future uses;
- Parking to the side and rear of any future multi-family residential and non-residential uses (including shared parking);
- All utilities located underground;
- 30-foot spacing of shade trees adjacent to Salem Pike right-of-way;
- Any fencing within the building setback should be low in height and constructed of natural materials with an open design;
- Signs for residential development should be of a ground type and constructed of natural materials;
- Signs for non-residential developments should be of a ground and/or 8-foot height pole type, Signage area should be reduced from standard;
- Collective access for future residential and non-residential development;
- 5-foot sidewalk separated by 5-foot grass strip from the bike lane; and,
- 5-foot bike lane on Salem Pike shoulder.

**Urban Segment.** It is recommended that this segment reflect a more diverse and intensive urban character. Uniformity in appearance of improvements is desirable. The following elements are proposed in maintaining a sense of openness:

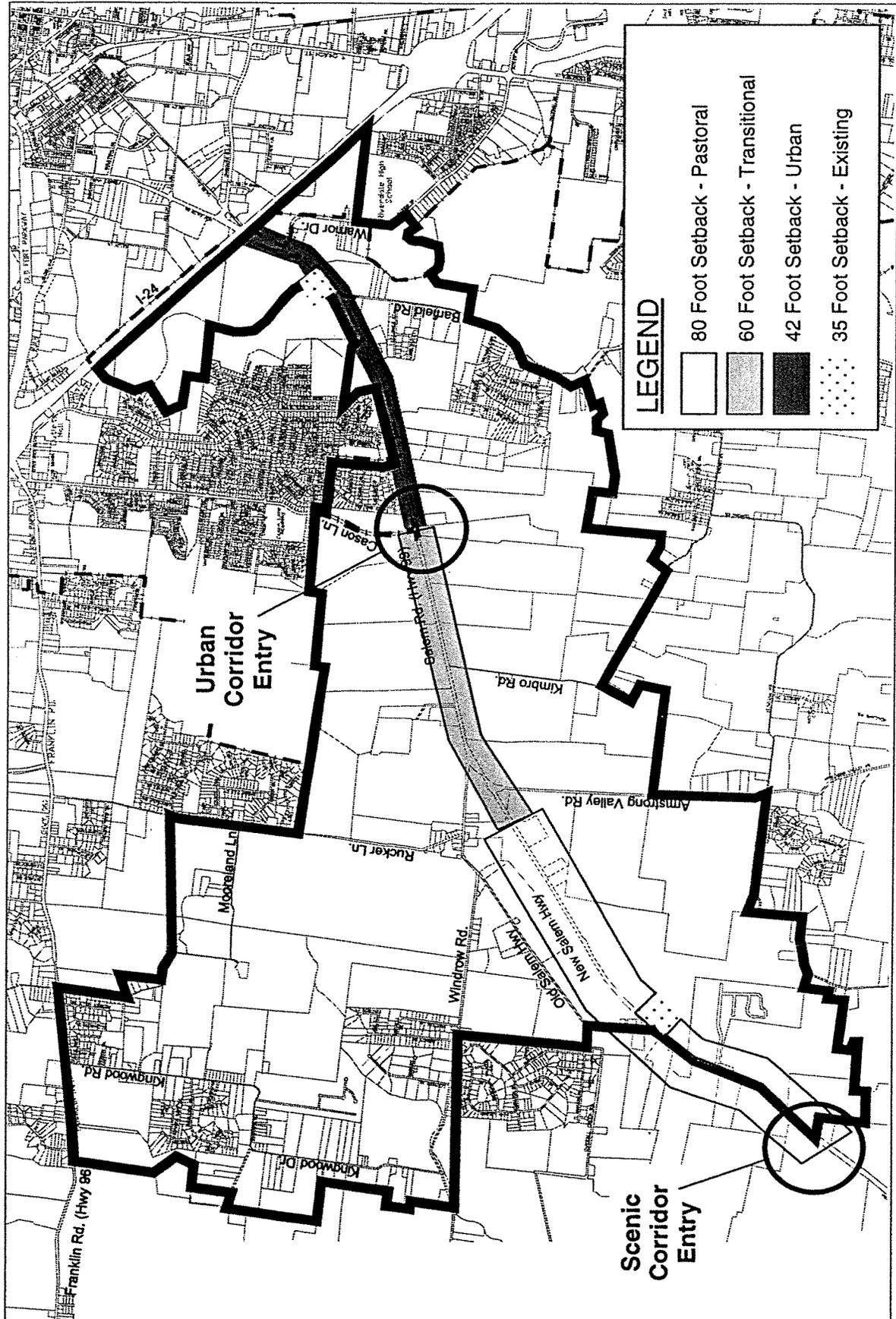
- 42-foot building setback for all future uses;
- Parking to the side and rear of any future uses (including shared parking);

- Alternative landscaped berm adjacent to Salem Pike right-of-way where parking to the side and rear is not feasible;
- All utilities located underground;
- 30-foot spacing of street trees adjacent to Salem Pike right-of-way;
- Any fencing within the building setback should be constructed of natural materials;
- Signs should be of a ground and/or 16-foot height pole type except for interstate-related signs which may be higher, Signage area should be reduced from standard;
- Collective access for future residential and non-residential development;
- 5-foot sidewalk separated by a 5-foot grass strip from bike lane; and,
- 5-foot bike lane on Salem Pike shoulder.

**Gateway Identification.** In conjunction with the gateway function, it is envisioned that an identifying entry point would be established. A location near Rockvale Elementary School is recommended. Identification should consist of a landscape feature with ground signage.

**Implementation.** It is recommended that a *Scenic Corridor* zoning overlay be established for the length of the Salem Pike Corridor. The width of the overlay should be based on the ability to regulate future building setback and signage. The overlay's provisions should include the following:

- Adjustable building setback;
- Parking location;
- Signage type, height, area and construction material;
- Access management for collection and location; and,
- Scenic vista conservation.



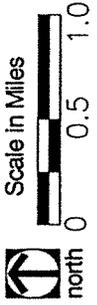
**LEGEND**

	80 Foot Setback - Pastoral
	60 Foot Setback - Transitional
	42 Foot Setback - Urban
	35 Foot Setback - Existing

# Salem Pike Corridor Design Guidelines

## Salem Pike Study Area

City of Murfreesboro, Tennessee



rm plan group • Nashville  
 community & campus planners

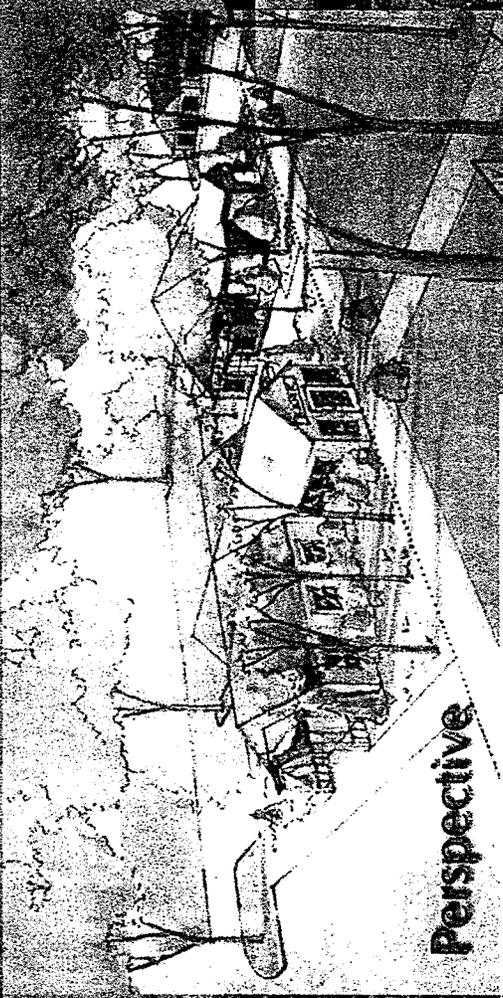
42 Foot Urban Segment



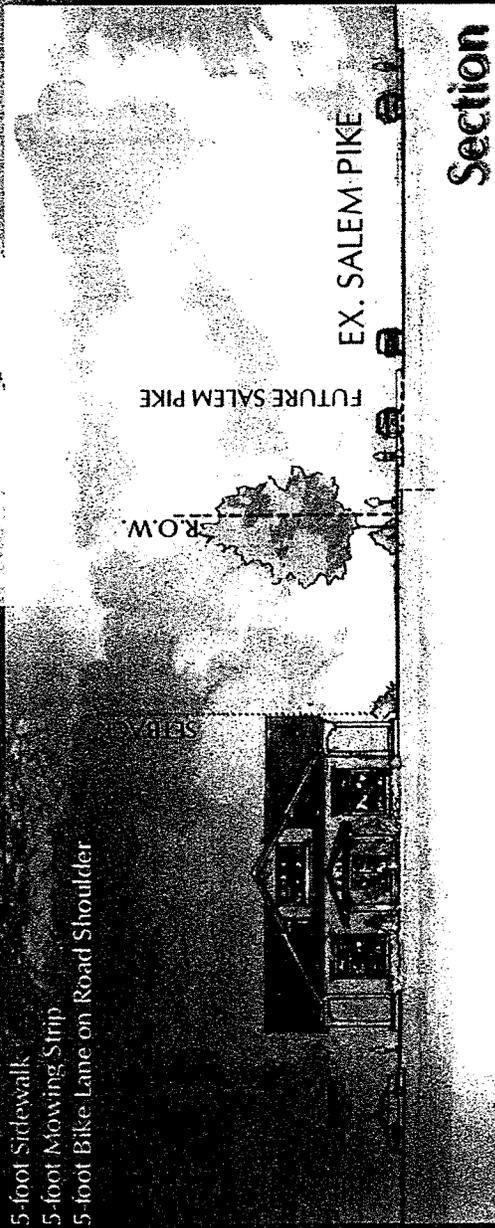
Locator Map

Design Elements

- Shade Trees, 30' O.C.
- 5-foot Sidewalk
- 5-foot Mowing Strip
- 5-foot Bike Lane on Road Shoulder

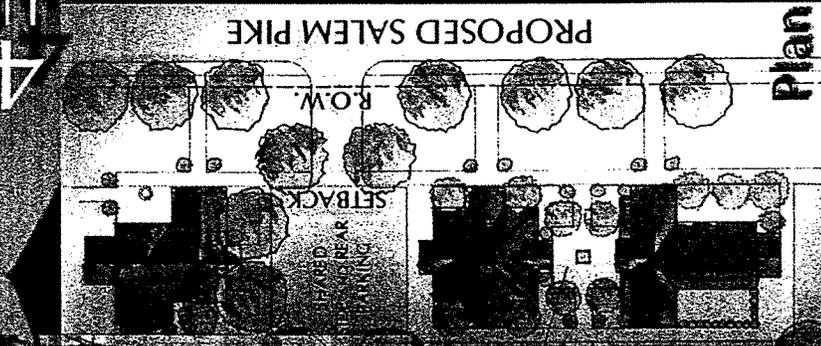


Perspective



Section

R.O.W.  
 FUTURE SALEM PIKE  
 EX. SALEM PIKE



Plan

PROPOSED SALEM PIKE

SETBACK

SHADE TREES

Commercial Architecture should complement existing residential vernacular through:

- Scale
- Massing
- Building Material
- Style

# Salem Pike Corridor

## Locator Map

### Design Elements

- Shade Trees, 30' O.C.
- 5-foot Sidewalk
- 5-foot Mowing Strip
- 5-foot Bike Lane on Road Shoulder



## Section

*The Transitional Segment reflects the emerging suburban residential character associated with the middle of the corridor.*

# Salem Pike Corridor

# 60 Foot

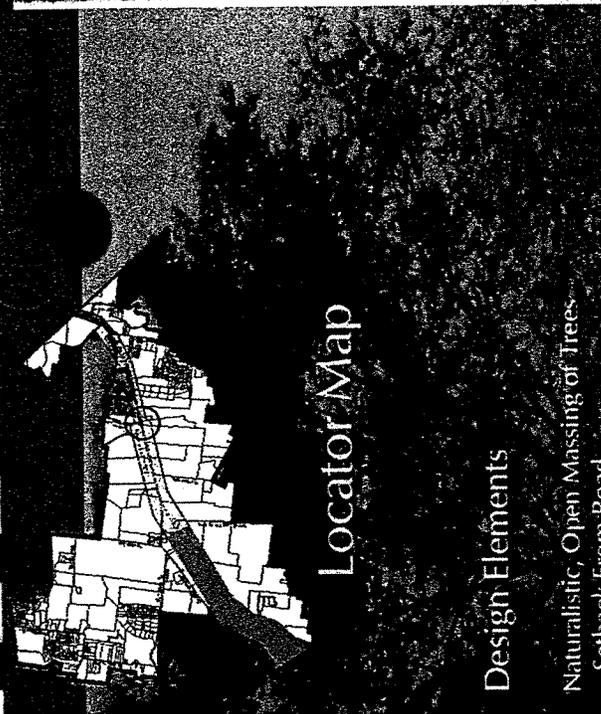
Transitional Segment

EXISTING SALEM PIKE

FUTURE SALEM PIKE

Plan

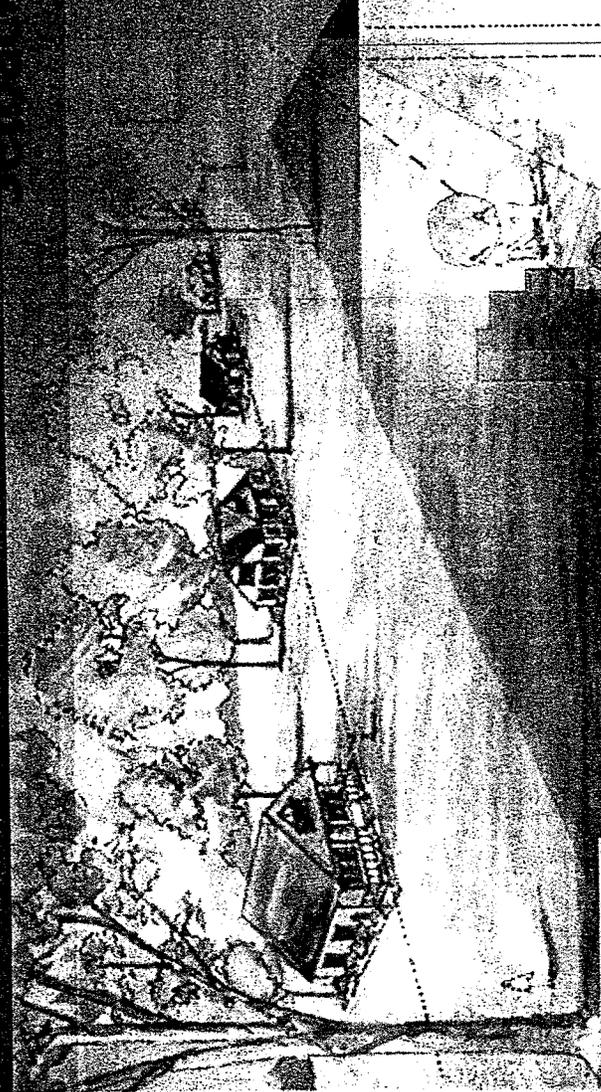
# 80 Foot Pastoral Segment



Locator Map

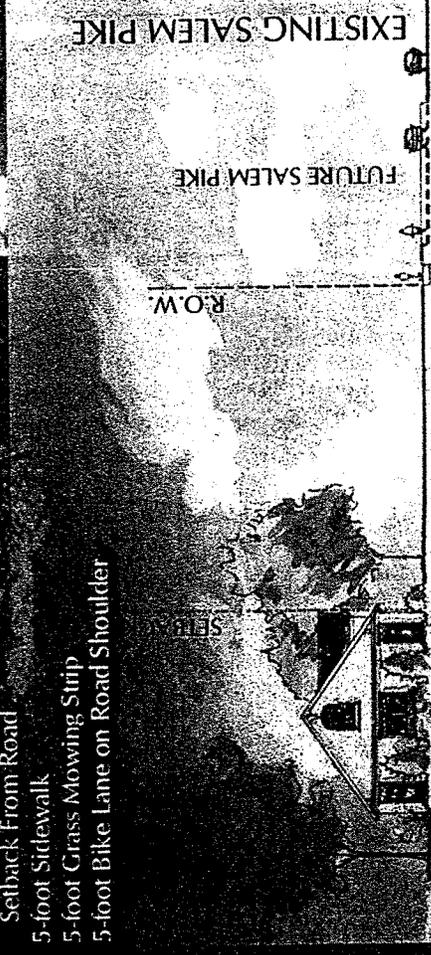
## Design Elements

- Naturalistic, Open Massing of Trees
- Setback From Road
- 5-foot Sidewalk
- 5-foot Grass Mowing Strip
- 5-foot Bike Lane on Road Shoulder

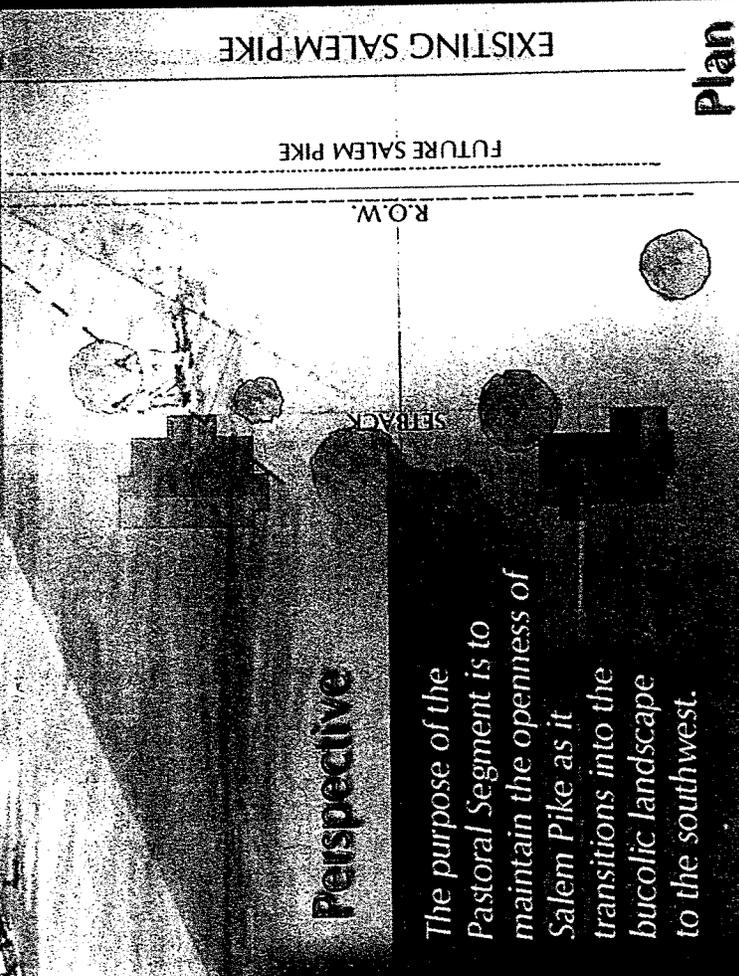


## Perspective

The purpose of the Pastoral Segment is to maintain the openness of Salem Pike as it transitions into the bucolic landscape to the southwest.



Section



Plan

# Salem Pike Corridor

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**Village Overlay Options.** As an option to conventional use and design, a *village* concept is recommended for future development. The village concept involves more mix of use and integration of design with greater potential for social and physical interaction. The village concept should create living environments with more pedestrian scale, self-sufficiency and land utilization efficiency. The village overlay has two components which can be utilized separately or collectively. The two components are identified and described in the following.

Residential Village Overlay. The residential village can be described as a relatively compact and discrete area. The following characteristics are typically associated:

- Mixed-use (residential and supporting commercial of a convenience scale on a selective and limited basis);
- Pedestrian orientation (approximately 1-mile diameter) and comfort;
- Integrated and unified design in use and appearance;
- Inclusion of or convenient connection with amenities such as school, park, open space, cultural facilities, etc; and,
- Plan certain approval involving delineation of a detailed master plan (site, covenants, appearance guidelines, etc.) and adherence to the master plan as a condition of approval.

The intent in including convenience-scale commercial is supported by the objectives of reducing vehicular trips and encouraging pedestrian activity. It is the further intent that the convenience-scale commercial support primarily the

occupants of the adjoining villages. Permitted uses of a maximum / total 10,000 gross square feet include the following:

- Convenience establishments selling food and gas;
- Personal services;
- Clothing cleaners (pick-up only); and,
- Child care and elderly care.

Neighborhood Commercial Node Village Overlay. The village concept should create a node for commercial activity with more pedestrian scale, mutual customer attraction and sharing of access and parking. The commercial village can be described as a relatively compact and discrete area. The following characteristics are typically associated:

- Mixed-use (retail, personal services, food services, offices, etc.) of a neighborhood scale.
- Pedestrian scale (approximately one-half-mile diameter) and comfort;
- Integrated and unified design in use and appearance;
- Shared parking, sidewalks and signage;
- Convenient connection with residential areas and amenities such as school, park, open space, cultural facilities, etc; and,
- Plan certain approval involving delineation of detailed master plan (site, covenants, appearance guidelines, etc.) and adherence to the master plan as a condition of approval.

It is intended that the neighborhood-scale commercial support primarily the occupants of the nearby neighborhoods. Permitted uses of an individual 60,000 gross square feet and

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a maximum / total 100,000 gross square feet include the following:

- Neighborhood establishments selling food;
- Personal services;
- Clothing cleaners (pick-up only);
- Sit-down restaurant / dining facilities with a maximum seating capacity of 75;
- Small retail facilities limited to booksellers, florists, gifts, drugs, personal items and similar uses;
- Child care and elderly care;
- Business and professional offices of a neighborhood scale;
- Medical clinics of a neighborhood scale; and,
- Banks of a neighborhood scale (no drive-through service).

# Optional Village Overlay Guidelines

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**Use Example.** The Village Overlay concept incorporates a neighborhood commercial node (Market Square) at the center of a mixed residential area with an adjoining park (Village Green) and a potential school or other institutional use. The concept also incorporates a greenway that would provide a link with the public park and the Stones River Greenway. Residential uses would include single-family in conjunction with the Village Green and multi-family in conjunction with the Institutional. The residential, institutional, commercial and recreational areas would be linked by pedestrian and bicycle connections.

**Design.** The design of all uses and amenities are intended to be integrated so as to create a unified appearance. General design recommendations include the following:

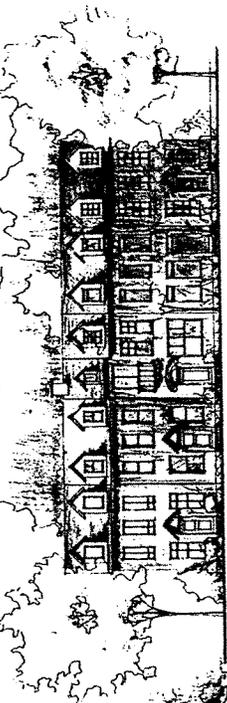
- Two-story buildings;
- Reduced spacing between buildings;
- Reduced building setback from any internal street;
- Reduced width for any internal street;
- Parking to the side or rear of building;
- Interconnected system of streets;
- Sidewalks on both sides of internal streets and between residential, institutional, commercial and recreational uses;
- Recreational pathways (walking and bicycling) throughout the center and linking with community trails and greenways;
- Landscape shading for all streets and sidewalks;
- Provisions for transit stop (school bus, public transit); and,
- All utilities located underground.

**Implementation.** It is recommended that a *Village Overlay* zone be established for residential and for neighborhood commercial. The overlay can be established like the Historic zone or it can be a variation of the Planned development provisions. The overlay should allow additional commercial floor and greater mixing of use in conjunction with the enhanced design provisions.

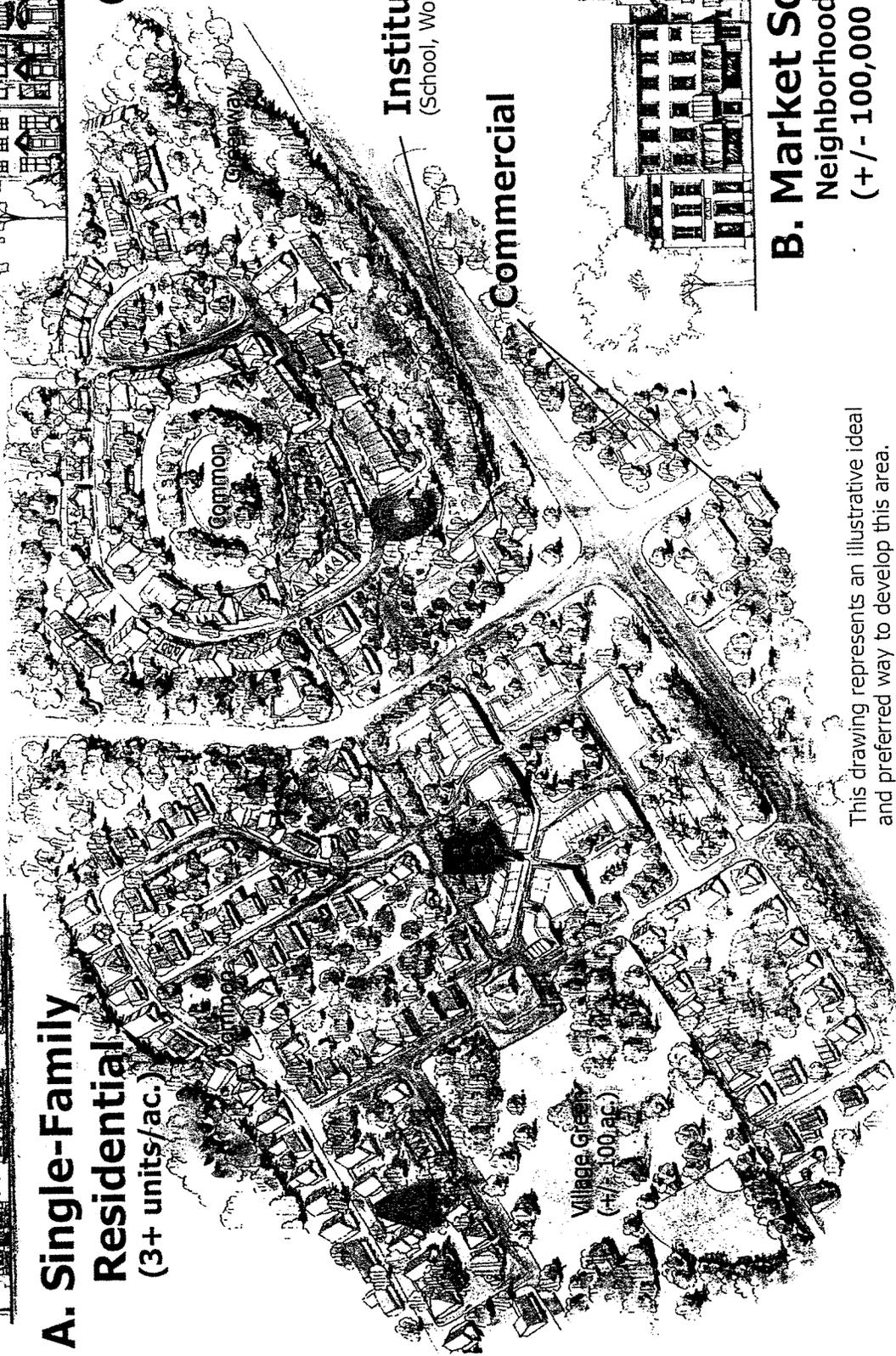
# Conceptual Village Overlay Example



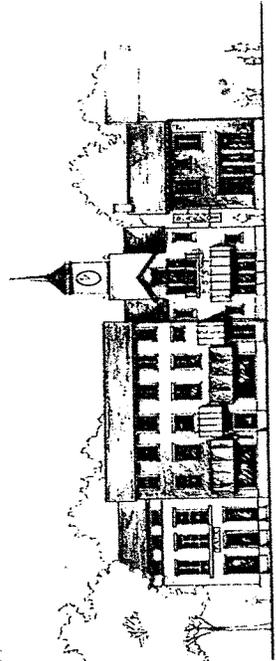
**A. Single-Family Residential -**  
(3+ units/ac.)



**C. Multi-Family Residential -**  
(9+ units/ac.)



**Institutional**  
(School, Worship, etc.)



**B. Market Square -**  
Neighborhood Commercial Node  
(+/- 100,000 s.f.)

This drawing represents an illustrative ideal and preferred way to develop this area. It is not meant as an absolute.

**Chapter Six**  
**Community Connection**

# Transportation Issues

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## **Roadway Classifications and Characteristics.**

The Salem Pike Corridor study area is bounded by Interstate 24 and the urban growth boundary for the City of Murfreesboro in the east and west directions, respectively. The northern boundary of the study area is generally defined by Highway 96, while the parcels adjoining the south side of Salem Pike comprise the southern boundary to the study area. Salem Pike is a two-lane highway and is also classified as State Route 99. A variety of roadways provide regional and local access to the Salem Pike corridor. The major roadways are classified according to the Long Range Transportation Plan for Rutherford County and the City of Murfreesboro Major Thoroughfare Plan. According to these documents, roadways are classified as expressways, major arterials, minor arterials, and collectors.

The two roadways classified as expressways are Interstate 24 and State Route 840. These facilities are actually freeways. The primary purpose of freeways is to provide efficient and uninterrupted travel between and across states and large metropolitan areas. Uninterrupted flow of traffic is accomplished by using grade-separated interchanges to provide controlled access. At-grade intersections are not utilized in the design of freeways. Freeways are designed to provide high-speed access to high volumes of traffic. Interstate 24 is a freeway in the vicinity of the Salem Pike Corridor study area. A new interchange at Interstate 24 and Salem Pike is included in the City of Murfreesboro's Major Thoroughfare Update Plan.

Arterials are intended to efficiently accommodate moderate to high traffic volumes. The major arterial system serves the highest volume corridors including significant long distance intra-area travel and travel between major suburban centers. The primary purpose of major arterials is to provide efficient access between major streets. For major arterials, access to abutting properties is subordinate to providing efficient service to major traffic movements, particularly through traffic.

The minor arterial street system serves to interconnect major arterials. Minor arterials generally provide continuity within the community while ideally avoiding the bisection of identifiable neighborhoods. These roadways are typically similar to major arterials with relatively lower traffic volumes over shorter distances. Often, minor arterial streets provide primary access to a variety of land uses.

Collector roadways facilitate traffic circulation and provide access between arterial roadways and neighborhoods. These roads collect the traffic from local streets in residential neighborhoods and channel it onto the arterial system. A secondary function is to provide access to abutting land uses. A well-designed roadway network includes ample interconnections amongst the collectors and minor arterials identified within the system. This allows motorists to use minor roads for many of their trips, as they are not forced to travel on the congested major arterials.

Local roads are typically all those roads not classified as an arterial or collector. The local roads are not specifically identified in the Long Range Transportation Plan. The primary purpose of local roads is to serve abutting land uses. Local roads typically provide access to neighborhoods and offer the lowest level of mobility. Through traffic is intended to be minimal on local roads, and cut-through traffic is discouraged.

**Existing Roadway Inventory.** An inventory of general roadway characteristics was developed for the roadways that are within or adjacent to the Salem Pike Corridor study area. Brief descriptions of the roadways considered for this study are as follows:

- **Armstrong Valley Road** is classified on the Rutherford County Long Range Transportation Plan as a two-lane collector roadway. This roadway provides a connection between State Route 99 and

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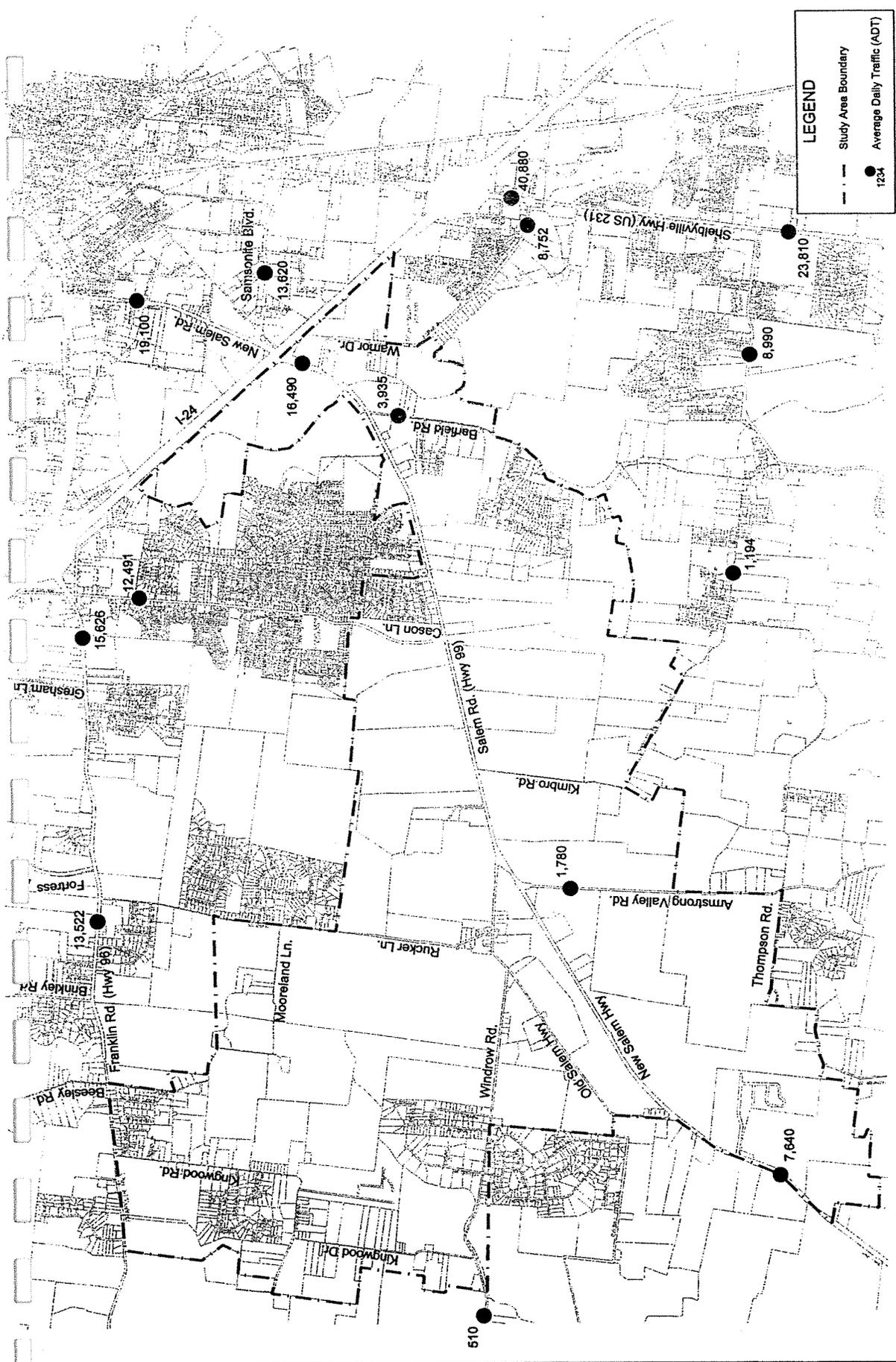
Barfield Crescent Road and generally travels in a north-south direction.

- **Barfield Road** is classified by Rutherford County as a two-lane collector road. On the Major Thoroughfare Plan for the City of Murfreesboro, Barfield Road is shown as a two-lane local roadway. Barfield Road generally travels in a north-south direction. Similar to Armstrong Valley Road, this roadway also provides a connection between State Route 99 and Barfield Crescent Road.
- **Beesley Road** is a two-lane major arterial roadway that generally travels in a north-south direction. Beesley Road forms a connection between Highway 96 and Manson Pike/Burnt Knob Road. An interchange with State Route 840 is planned for Beesley Road. Mooreland Lane intersects Highway 96 directly opposite Beesley Road. The speed limit on Beesley Road is posted at 35 mph.
- **Brinkley Road** is currently classified as a two-lane minor arterial roadway. Brinkley Road connects Highway 96 and Manson Pike, and generally travels in a north-south direction. The speed limit on Brinkley Road is posted as 40 mph.
- **Cason Lane** is a three-lane minor arterial that provides a north-south connection between Highway 96 and State Route 99. Most of the property with frontage along Cason Lane has been developed as residential.
- **Fortress Boulevard** travels in a north-south direction and connects Highway 96 to Manson Pike. Between Highway 96 and Wilkerson Crossing, Fortress Boulevard has a five-lane cross-section. A three-lane cross-section exists between Wilkerson Crossing and Manson Pike. The speed limit of Fortress Boulevard is posted at 40 mph.
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  - **Salem Pike** is a two-lane highway and is also classified as State Route 99. According to the County and City Major Thoroughfare Plans, Salem Pike is a major arterial. This roadway generally travels in a east-west direction in the vicinity of the study corridor, and provides an important route into the City of Murfreesboro.
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  - **Yeargan Road** is a two-lane collector roadway that provides an east-west connection between Kimbro Road and Armstrong Valley Road. At the intersection with Armstrong Valley Road, Yeargan Road generally travels in an east-west direction. Yeargan Road travels in a north-south direction at the intersection with Kimbro Road.

**Existing Traffic Conditions.** Existing average daily traffic (ADT) counts were obtained for the year 2000 from the Tennessee Department of Transportation (TDOT) for 15 separate locations in or near the study area. These existing ADT counts, which are shown in Figure 1, are collected at the same locations each year as part of TDOT's annual coverage count program.

The segments of roadways where ADT counts are available were analyzed to determine the capacity and level of operation for the roadway. The capacity calculations were performed according to the methods outlined in the Highway Capacity Manual, TRB Special Report 209. The capacity analyses are used to determine a Level of Service (LOS) for the roadway segments studied. The LOS is a concept used to describe how well an intersection or roadway operates. LOS A is the best, while LOS F is the worst. LOS D is typically considered as the minimum acceptable LOS for an urbanized area. Table 1 presents the general descriptions for each LOS, while Figure 2 shows the existing LOS for the roadways in the study area.



**Figure 1.**  
Existing Year 2000 Average Daily Traffic (ADT)

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**TABLE 1**

**GENERAL DESCRIPTIONS OF LEVELS OF SERVICE**

<b>LEVEL OF SERVICE</b>	<b>DESCRIPTION</b>
A	Represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high.
B	Within the range of stable flow, but the presence of others in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A.
C	Within the range of stable flow, but LOS C marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	LOS D represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	LOS E represents operating conditions at or near capacity levels. Freedom to maneuver within the traffic stream is extremely difficult. Comfort and convenience levels are extremely poor, and driver frustration is generally high.
F	LOS F is used to define forced or breakdown flow. This condition exists when the amount of traffic approaching a point exceeds the amount which can traverse the point.

Source: Highway Capacity Manual, TRB Special Report 209

# FUTURE LAND USE MAP

## Salem Pike Study Area

### Murfreesboro, Tennessee

### LEGEND

- High Density Residential
  - Medium Density Residential
  - Low Density Residential
  - Community Commercial Planned Development
  - Interstate Commercial Node
  - Neighborhood Commercial Node-Village Overlay
  - Neighborhood Commercial Node
  - Convenience Commercial Node
  - Industrial
  - Potential School Site
  - Institutional (Cultural/Worship)
  - Potential Park Site
  - Greenway
  - Mixed Use Limited Planned Development
  - Scenic Corridor Overlay
  - Major Thoroughfares
  - Major Thoroughfare Improvements
- Scale in Miles north

**Low-Density Residential**  
Single-family and two-family residential with density of less than 3 units per acre; General Farming; Institutional (Mostly existing/platted residential)

**Medium Density Residential**  
Single-family, two-family & retirement residential with density of more than 3 units but less than 8 units per acre; General Farming; Institutional; Convenience-scale commercial on a selective & limited basis

**Convenience Commercial**  
Convenience-scale commercial uses that serve an adjoining and limited residential market. Maximum sq. ft. of 10,000 for one building.

**Industrial Light-intensity industrial**  
associated with clustered/ park setting; Community-scale commercial.

**Interstate Commercial Node**  
Community-scale commercial uses that benefit from regional thoroughfare access.

**High-density Residential (Optional village Overlay)**  
Single-family, 2-family, 3-family, 4-family, multi-family, retirement & mfg. housing residential with density of 8 or more units per acre; General farming; Institutional; Convenience-scale commercial on selective & limited basis; With optional Village Overlay, a total density increase up to 25%, convenience-scale commercial within residential on selective & limited basis & master plan reflecting pedestrian orientation & inclusion/connection with cultural, educational & recreational amenities

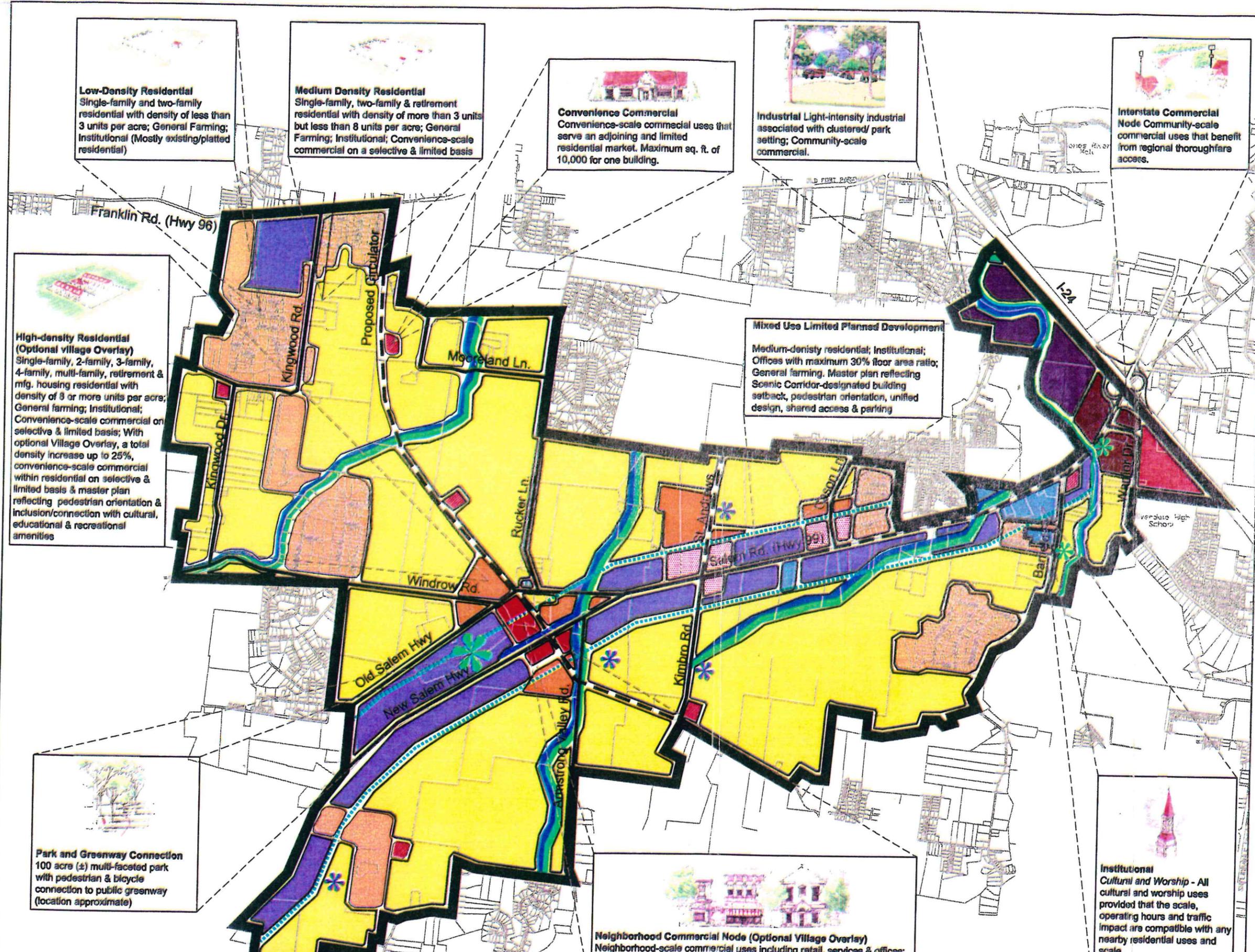
**Mixed Use Limited Planned Development**  
Medium-density residential; Institutional; Offices with maximum 30% floor area ratio; General farming. Master plan reflecting Scenic Corridor-designated building setback, pedestrian orientation, unified design, shared access & parking

**Neighborhood Commercial Node (Optional Village Overlay)**  
Neighborhood-scale commercial uses including retail, services & offices; with optional Village Overlay, maximum square footage of 200,000/75,000 for one building & master plan reflecting greater mix of uses, pedestrian orientation, unified design, shared access & parking

**Park and Greenway Connection**  
100 acre (±) multi-faceted park with pedestrian & bicycle connection to public greenway (location approximate)

**Institutional Cultural and Worship** - All cultural and worship uses provided that the scale, operating hours and traffic impact are compatible with any nearby residential uses and scale

**Educational** - All public and private schools



**Chapter Five**

**COMMUNITY  
DESIGN GUIDELINES**

# Community Design Guidelines

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**Functional Objectives.** As of 2000, Salem Pike serves as the gateway between rural southwestern Rutherford County and the Murfreesboro urban area. Utilization and visual characteristics within the gateway are relatively uniform. Existing land uses are mostly farmstead. Individual properties typically have direct access to Salem Pike. While several buildings have the minimum 35-foot setback prescribed by County zoning, their scattered locations minimize any detracting from the corridor's appearance.

While other functions are likely to emerge with development of the corridor (e.g. destination shopping), it is envisioned that Salem Pike will maintain its gateway status and sense of openness. It is further envisioned that there will be greater diversification and intensification of uses within the future corridor. As a result of the diversification and intensification, the gateway will involve a more transitional character between the rural setting to the west and the urban setting to the east in conjunction with the I-24 interchange.

**Corridor Segments.** In maintaining a sense of openness while accommodating the transition between rural and urban, it is recommended that the future corridor's design involve three segments. These segments are identified and located as follows:

- **Pastoral Segment** located between Rockvale Elementary School and the approximate intersection of the proposed Joe B. Jackson Parkway and Salem Pike;
- **Transitional Segment** located between the approximate intersection of the proposed Joe B. Jackson Parkway and Salem Pike and Cason Lane; and,

- **Urban Segment** located between Cason Lane and the I-24 interchange at Salem Pike (with the continuation into Murfreesboro as appropriate).

Recommended guidelines associated with each segment are described in the following.

Pastoral Segment. It is recommended that this segment reflect the existing rural character associated with the western extreme of the corridor. Maintaining the informality of the landscape and the vistas formed by the changing topography on either side is desirable. The following elements are proposed in maintaining a sense of openness:

- 80-foot building setback for future uses;
- Parking to the side and rear of any future multi-family residential and non-residential uses;
- All utilities located underground;
- Naturalistic open massing of trees set back from the road;
- Any fencing within the building setback should be low in height and constructed of natural materials with an open design;
- Signs should be of a ground type, constructed of natural materials and limited to residential, public and semi-public uses;
- Collective access for future residential development;
- 5-foot sidewalk separated by 5-foot grass strip from bike lane; and,
- 5-foot bike lane on Salem Pike shoulder.

Transition Segment. It is recommended that this segment reflect the emerging suburban residential character associated with the middle of the corridor. Enhancing the

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formality of the landscape and integrating architectural design is desirable. The following elements are proposed in maintaining a sense of openness:

- 60-foot building setback for future uses;
- Parking to the side and rear of any future multi-family residential and non-residential uses (including shared parking);
- All utilities located underground;
- 30-foot spacing of shade trees adjacent to Salem Pike right-of-way;
- Any fencing within the building setback should be low in height and constructed of natural materials with an open design;
- Signs for residential development should be of a ground type and constructed of natural materials;
- Signs for non-residential developments should be of a ground and/or 8-foot height pole type, Signage area should be reduced from standard;
- Collective access for future residential and non-residential development;
- 5-foot sidewalk separated by 5-foot grass strip from the bike lane; and,
- 5-foot bike lane on Salem Pike shoulder.

**Urban Segment.** It is recommended that this segment reflect a more diverse and intensive urban character. Uniformity in appearance of improvements is desirable. The following elements are proposed in maintaining a sense of openness:

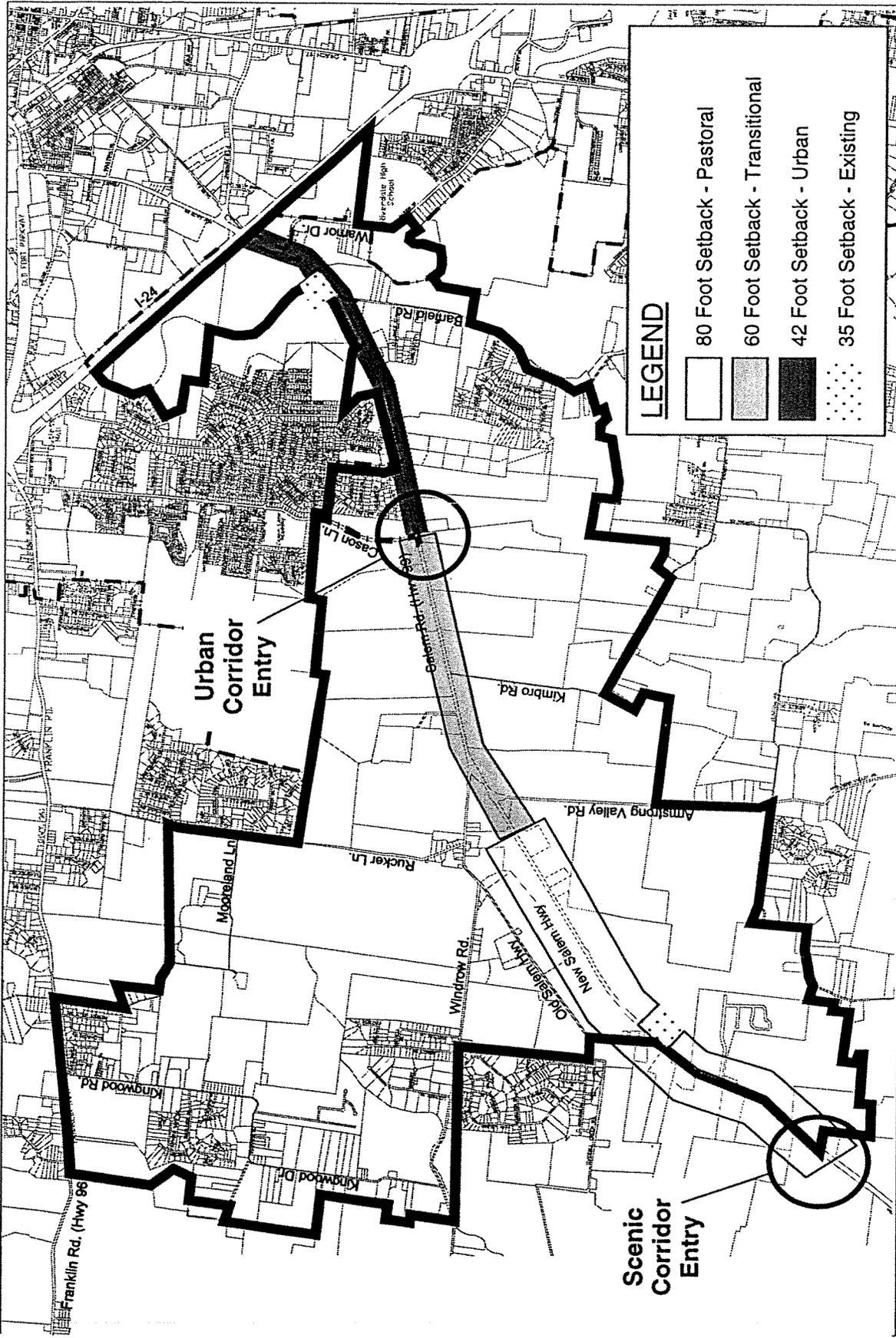
- 42-foot building setback for all future uses;
- Parking to the side and rear of any future uses (including shared parking);

- Alternative landscaped berm adjacent to Salem Pike right-of-way where parking to the side and rear is not feasible;
- All utilities located underground;
- 30-foot spacing of street trees adjacent to Salem Pike right-of-way;
- Any fencing within the building setback should be constructed of natural materials;
- Signs should be of a ground and/or 16-foot height pole type except for interstate-related signs which may be higher, Signage area should be reduced from standard;
- Collective access for future residential and non-residential development;
- 5-foot sidewalk separated by a 5-foot grass strip from bike lane; and,
- 5-foot bike lane on Salem Pike shoulder.

**Gateway Identification.** In conjunction with the gateway function, it is envisioned that an identifying entry point would be established. A location near Rockvale Elementary School is recommended. Identification should consist of a landscape feature with ground signage.

**Implementation.** It is recommended that a *Scenic Corridor* zoning overlay be established for the length of the Salem Pike Corridor. The width of the overlay should be based on the ability to regulate future building setback and signage. The overlay's provisions should include the following:

- Adjustable building setback;
- Parking location;
- Signage type, height, area and construction material;
- Access management for collection and location; and,
- Scenic vista conservation.



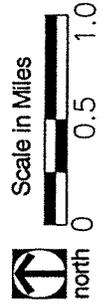
**LEGEND**

- 80 Foot Setback - Pastoral
- 60 Foot Setback - Transitional
- 42 Foot Setback - Urban
- 35 Foot Setback - Existing

# Salem Pike Corridor Design Guidelines

## Salem Pike Study Area

City of Murfreesboro, Tennessee



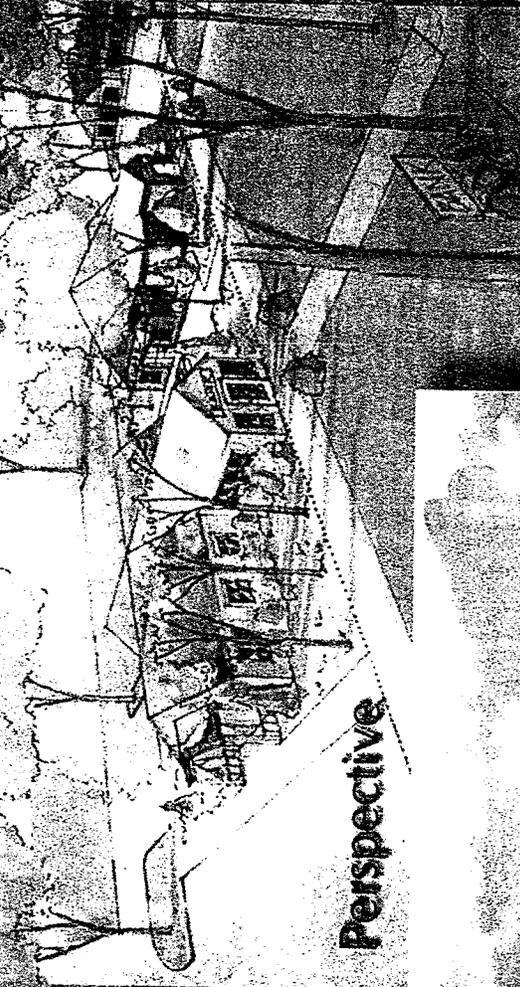
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Locator Map

Design Elements

- Shade Trees, 30' O.C.
- 5-foot Sidewalk
- 5-foot Mowing Strip
- 5-foot Bike Lane on Road Shoulder



Perspective



Section

Commercial Architecture should complement existing residential vernacular through:

- Scale
- Massing
- Building Material
- Style



Plan

42 Foot Urban Segment

# Salem Pike Corridor

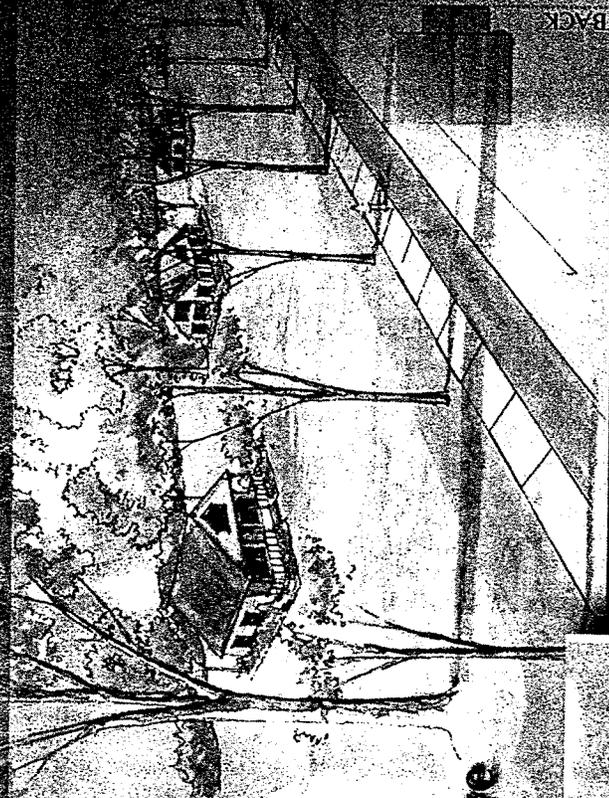
# 60 Foot Transitional Segme



Locator Map

## Design Elements

- Shade Trees, 30' O.C.
- 5-foot Sidewalk
- 5-foot Mowing Strip
- 5-foot Bike Lane on Road Shoulder



The Transitional Segment reflects the emerging suburban residential character associated with the middle of the corridor.

SEE BACK



Section

EXISTING SALEM PIKE

FUTURE SALEM PIKE

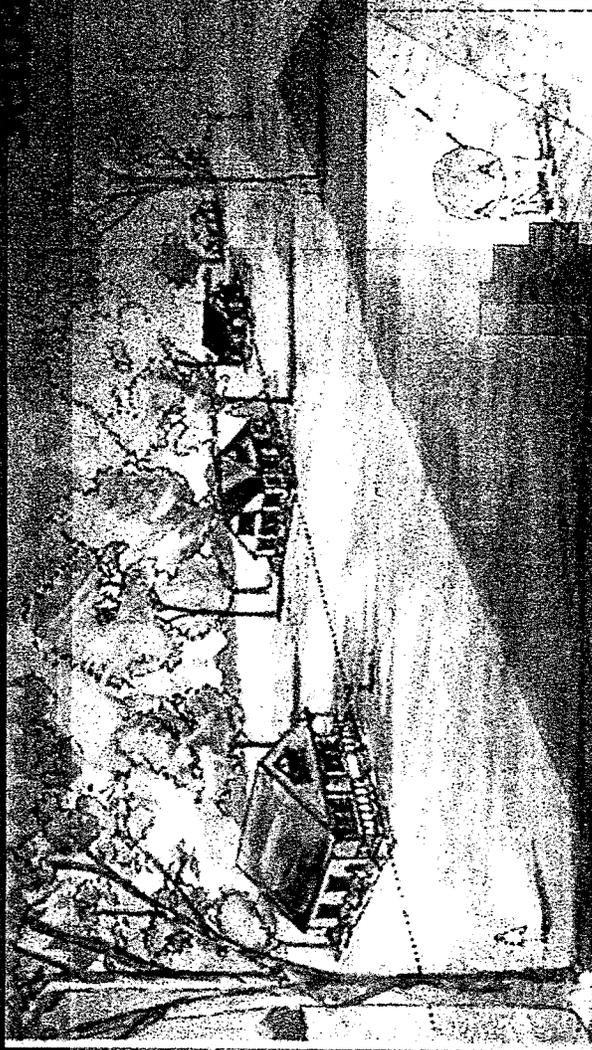


Plan

# Salem Pike Corridor



Locator Map

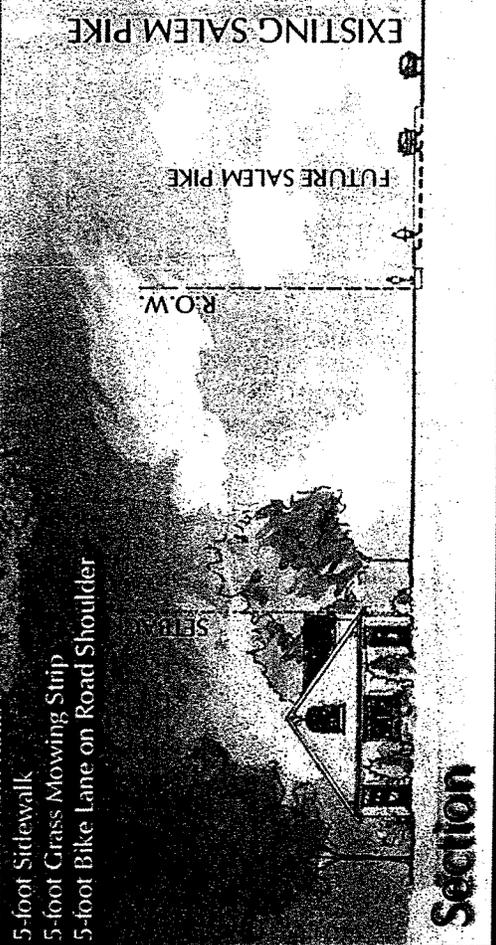


**Perspective**

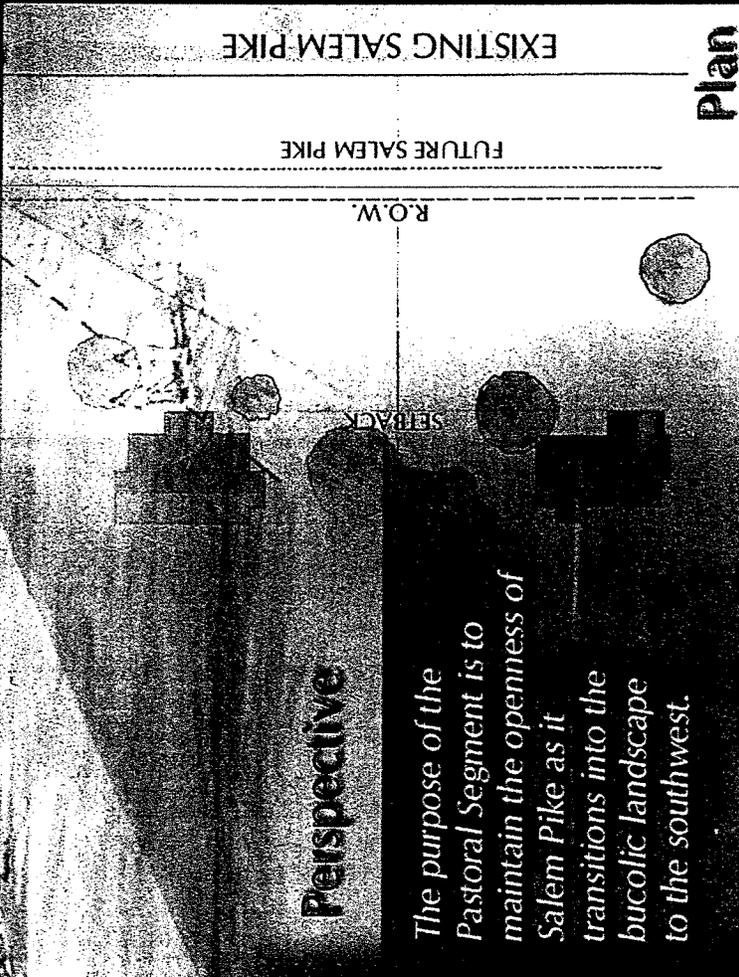
The purpose of the Pastoral Segment is to maintain the openness of Salem Pike as it transitions into the bucolic landscape to the southwest.

**Design Elements**

- Naturalistic, Open Massing of Trees
- Setback From Road
- 5-foot Sidewalk
- 5-foot Grass Mowing Strip
- 5-foot Bike Lane on Road Shoulder



**Section**



**Plan**

# Salem Pike Corridor

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**Village Overlay Options.** As an option to conventional use and design, a *village* concept is recommended for future development. The village concept involves more mix of use and integration of design with greater potential for social and physical interaction. The village concept should create living environments with more pedestrian scale, self-sufficiency and land utilization efficiency. The village overlay has two components which can be utilized separately or collectively. The two components are identified and described in the following.

Residential Village Overlay. The residential village can be described as a relatively compact and discrete area. The following characteristics are typically associated:

- Mixed-use (residential and supporting commercial of a convenience scale on a selective and limited basis);
- Pedestrian orientation (approximately 1-mile diameter) and comfort;
- Integrated and unified design in use and appearance;
- Inclusion of or convenient connection with amenities such as school, park, open space, cultural facilities, etc; and,
- Plan certain approval involving delineation of a detailed master plan (site, covenants, appearance guidelines, etc.) and adherence to the master plan as a condition of approval.

The intent in including convenience-scale commercial is supported by the objectives of reducing vehicular trips and encouraging pedestrian activity. It is the further intent that the convenience-scale commercial support primarily the

occupants of the adjoining villages. Permitted uses of a maximum / total 10,000 gross square feet include the following:

- Convenience establishments selling food and gas;
- Personal services;
- Clothing cleaners (pick-up only); and,
- Child care and elderly care.

Neighborhood Commercial Node Village Overlay. The village concept should create a node for commercial activity with more pedestrian scale, mutual customer attraction and sharing of access and parking. The commercial village can be described as a relatively compact and discrete area. The following characteristics are typically associated:

- Mixed-use (retail, personal services, food services, offices, etc.) of a neighborhood scale.
- Pedestrian scale (approximately one-half-mile diameter) and comfort;
- Integrated and unified design in use and appearance;
- Shared parking, sidewalks and signage;
- Convenient connection with residential areas and amenities such as school, park, open space, cultural facilities, etc; and,
- Plan certain approval involving delineation of detailed master plan (site, covenants, appearance guidelines, etc.) and adherence to the master plan as a condition of approval.

It is intended that the neighborhood-scale commercial support primarily the occupants of the nearby neighborhoods. Permitted uses of an individual 60,000 gross square feet and

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a maximum / total 100,000 gross square feet include the following:

- Neighborhood establishments selling food;
- Personal services;
- Clothing cleaners (pick-up only);
- Sit-down restaurant / dining facilities with a maximum seating capacity of 75;
- Small retail facilities limited to booksellers, florists, gifts, drugs, personal items and similar uses;
- Child care and elderly care;
- Business and professional offices of a neighborhood scale;
- Medical clinics of a neighborhood scale; and,
- Banks of a neighborhood scale (no drive-through service).

# Optional Village Overlay Guidelines

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**Use Example.** The Village Overlay concept incorporates a neighborhood commercial node (Market Square) at the center of a mixed residential area with an adjoining park (Village Green) and a potential school or other institutional use. The concept also incorporates a greenway that would provide a link with the public park and the Stones River Greenway. Residential uses would include single-family in conjunction with the Village Green and multi-family in conjunction with the Institutional. The residential, institutional, commercial and recreational areas would be linked by pedestrian and bicycle connections.

**Design.** The design of all uses and amenities are intended to be integrated so as to create a unified appearance. General design recommendations include the following:

- Two-story buildings;
- Reduced spacing between buildings;
- Reduced building setback from any internal street;
- Reduced width for any internal street;
- Parking to the side or rear of building;
- Interconnected system of streets;
- Sidewalks on both sides of internal streets and between residential, institutional, commercial and recreational uses;
- Recreational pathways (walking and bicycling) throughout the center and linking with community trails and greenways;
- Landscape shading for all streets and sidewalks;
- Provisions for transit stop (school bus, public transit); and,
- All utilities located underground.

**Implementation.** It is recommended that a *Village Overlay* zone be established for residential and for neighborhood commercial. The overlay can be established like the Historic zone or it can be a variation of the Planned development provisions. The overlay should allow additional commercial floor and greater mixing of use in conjunction with the enhanced design provisions.

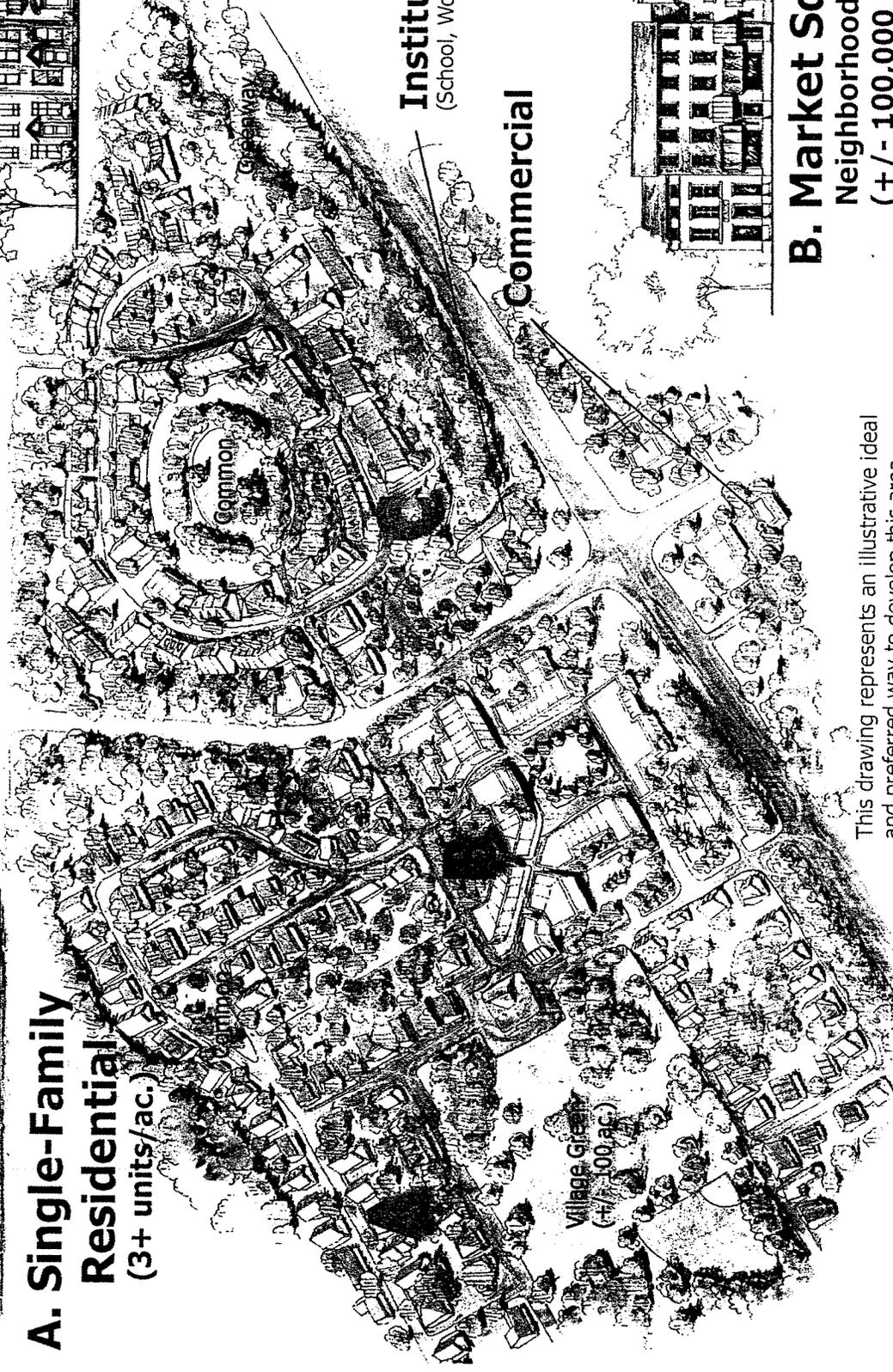
# Conceptual Village Overlay Example



**A. Single-Family Residential**  
(3+ units/ac.)



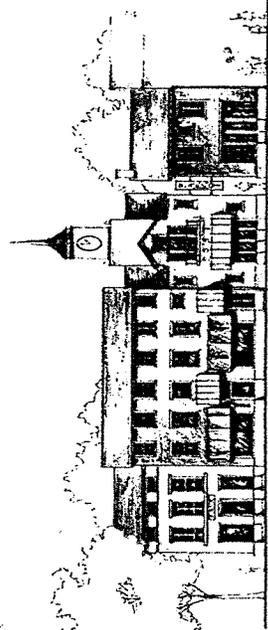
**C. Multi-Family Residential**  
(9+ units/ac.)



**Institutional**  
(School, Worship, etc.)

**Commercial**

**Village Green**  
(+/- 100 ac.)



**B. Market Square -**  
Neighborhood Commercial Node  
(+/- 100,000 s.f.)

This drawing represents an illustrative ideal and preferred way to develop this area. It is not meant as an absolute.

**Chapter Six**  
**Community Connection**

# Transportation Issues

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**Roadway Classifications and Characteristics.** The Salem Pike Corridor study area is bounded by Interstate 24 and the urban growth boundary for the City of Murfreesboro in the east and west directions, respectively. The northern boundary of the study area is generally defined by Highway 96, while the parcels adjoining the south side of Salem Pike comprise the southern boundary to the study area. Salem Pike is a two-lane highway and is also classified as State Route 99. A variety of roadways provide regional and local access to the Salem Pike corridor. The major roadways are classified according to the Long Range Transportation Plan for Rutherford County and the City of Murfreesboro Major Thoroughfare Plan. According to these documents, roadways are classified as expressways, major arterials, minor arterials, and collectors.

The two roadways classified as expressways are Interstate 24 and State Route 840. These facilities are actually freeways. The primary purpose of freeways is to provide efficient and uninterrupted travel between and across states and large metropolitan areas. Uninterrupted flow of traffic is accomplished by using grade-separated interchanges to provide controlled access. At-grade intersections are not utilized in the design of freeways. Freeways are designed to provide high-speed access to high volumes of traffic. Interstate 24 is a freeway in the vicinity of the Salem Pike Corridor study area. A new interchange at Interstate 24 and Salem Pike is included in the City of Murfreesboro's Major Thoroughfare Update Plan.

Arterials are intended to efficiently accommodate moderate to high traffic volumes. The major arterial system serves the highest volume corridors including significant long distance intra-area travel and travel between major suburban centers. The primary purpose of major arterials is to provide efficient access between major streets. For major arterials, access to abutting properties is subordinate to providing efficient service to major traffic movements, particularly through traffic.

The minor arterial street system serves to interconnect major arterials. Minor arterials generally provide continuity within the community while ideally avoiding the bisection of identifiable neighborhoods. These roadways are typically similar to major arterials with relatively lower traffic volumes over shorter distances. Often, minor arterial streets provide primary access to a variety of land uses.

Collector roadways facilitate traffic circulation and provide access between arterial roadways and neighborhoods. These roads collect the traffic from local streets in residential neighborhoods and channel it onto the arterial system. A secondary function is to provide access to abutting land uses. A well-designed roadway network includes ample interconnections amongst the collectors and minor arterials identified within the system. This allows motorists to use minor roads for many of their trips, as they are not forced to travel on the congested major arterials.

Local roads are typically all those roads not classified as an arterial or collector. The local roads are not specifically identified in the Long Range Transportation Plan. The primary purpose of local roads is to serve abutting land uses. Local roads typically provide access to neighborhoods and offer the lowest level of mobility. Through traffic is intended to be minimal on local roads, and cut-through traffic is discouraged.

**Existing Roadway Inventory.** An inventory of general roadway characteristics was developed for the roadways that are within or adjacent to the Salem Pike Corridor study area. Brief descriptions of the roadways considered for this study are as follows:

- **Armstrong Valley Road** is classified on the Rutherford County Long Range Transportation Plan as a two-lane collector roadway. This roadway provides a connection between State Route 99 and

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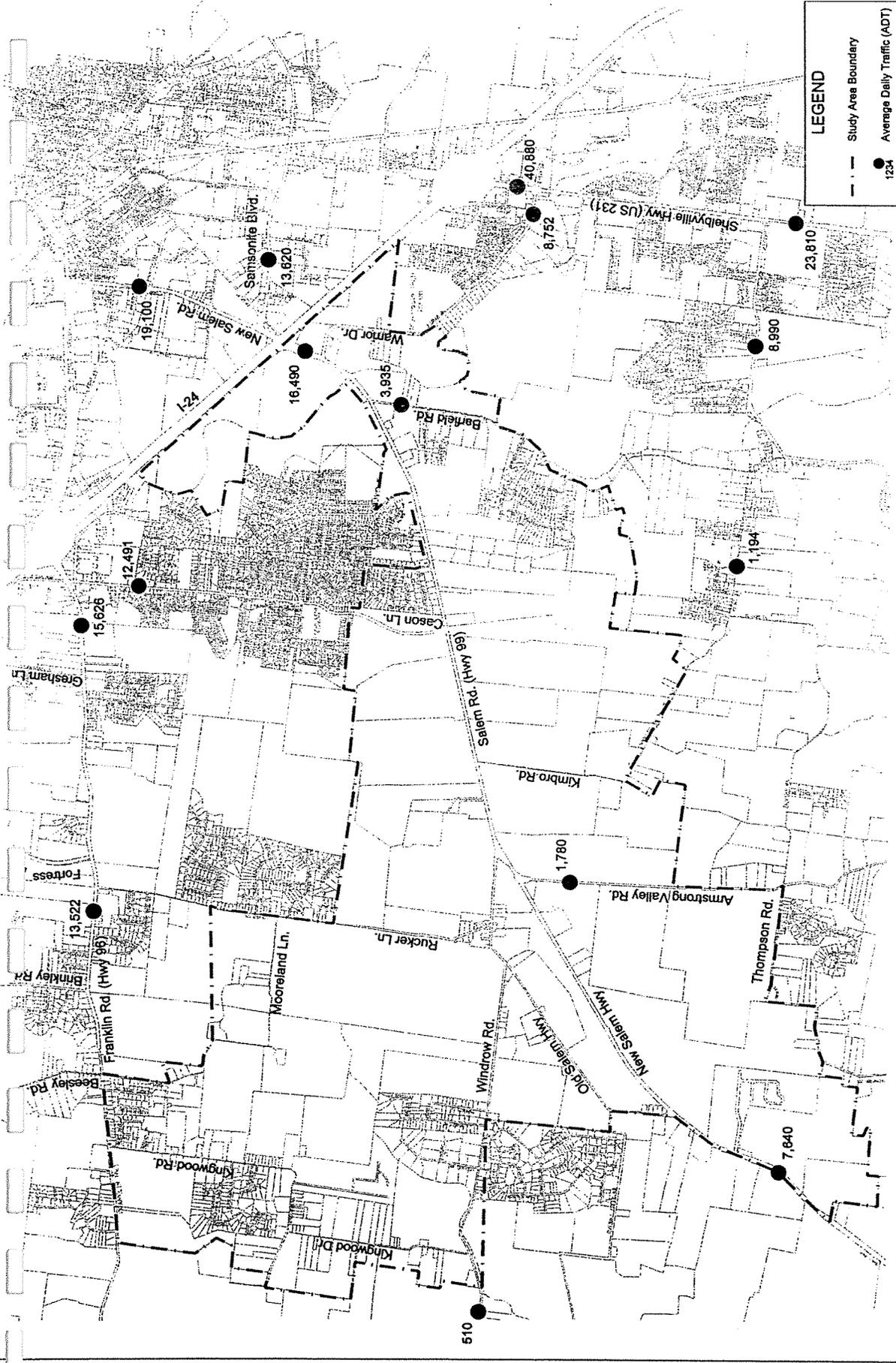
Barfield Crescent Road and generally travels in a north-south direction.

- **Barfield Road** is classified by Rutherford County as a two-lane collector road. On the Major Thoroughfare Plan for the City of Murfreesboro, Barfield Road is shown as a two-lane local roadway. Barfield Road generally travels in a north-south direction. Similar to Armstrong Valley Road, this roadway also provides a connection between State Route 99 and Barfield Crescent Road.
- **Beesley Road** is a two-lane major arterial roadway that generally travels in a north-south direction. Beesley Road forms a connection between Highway 96 and Manson Pike/Burnt Knob Road. An interchange with State Route 840 is planned for Beesley Road. Mooreland Lane intersects Highway 96 directly opposite Beesley Road. The speed limit on Beesley Road is posted at 35 mph.
- **Brinkley Road** is currently classified as a two-lane minor arterial roadway. Brinkley Road connects Highway 96 and Manson Pike, and generally travels in a north-south direction. The speed limit on Brinkley Road is posted as 40 mph.
- **Cason Lane** is a three-lane minor arterial that provides a north-south connection between Highway 96 and State Route 99. Most of the property with frontage along Cason Lane has been developed as residential.
- **Fortress Boulevard** travels in a north-south direction and connects Highway 96 to Manson Pike. Between Highway 96 and Wilkerson Crossing, Fortress Boulevard has a five-lane cross-section. A three-lane cross-section exists between Wilkerson Crossing and Manson Pike. The speed limit of Fortress Boulevard is posted at 40 mph.
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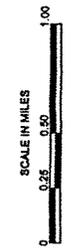


**LEGEND**

- - - Study Area Boundary
- Average Daily Traffic (ADT)

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**Figure 1.**  
**Existing Year 2000 Average Daily Traffic (ADT)**

**TABLE 1**

**GENERAL DESCRIPTIONS OF LEVELS OF SERVICE**

<b>LEVEL OF SERVICE</b>	<b>DESCRIPTION</b>
A	Represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high.
B	Within the range of stable flow, but the presence of others in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A.
C	Within the range of stable flow, but LOS C marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	LOS D represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	LOS E represents operating conditions at or near capacity levels. Freedom to maneuver within the traffic stream is extremely difficult. Comfort and convenience levels are extremely poor, and driver frustration is generally high.
F	LOS F is used to define forced or breakdown flow. This condition exists when the amount of traffic approaching a point exceeds the amount which can traverse the point.

Source: Highway Capacity Manual, TRB Special Report 209



# Planned Roadway Improvement Projects

As shown by Figure 2, all of the roadways with count stations in the study area operate at LOS D or better. Outside the Salem Pike Corridor study area, Shelbyville Highway (US 231) is shown to operate at LOS F just south of Interstate 24. However, the Major Thoroughfare Plan for the City of Murfreesboro shows that Highway 231 is planned to be widened from the existing 5-lane cross-section to a 7-lane undivided curb-and-gutter section. The length of this improvement would extend from Sanbryn Drive in the north, across Interstate 24, to Warrior Drive in the south. This widened cross-section would improve the operation of this roadway to LOS D or better.

Furthermore, New Salem Road north of Interstate 24 is shown to operate at LOS E. However, the Major Thoroughfare Plan for the City of Murfreesboro includes a project to widen Salem Highway from Old Fort Parkway to Interstate 24. The new cross-section that is proposed for this segment of New Salem Road is a 5-lane undivided roadway with curb-and-gutter. This widening improvement would improve the operation of New Salem Road to LOS B.

There are several other roadway improvement projects that are planned within the Salem Pike Corridor study area or in the nearby vicinity. These projects include the TDOT project to widen Highway 96, the widening of Salem Pike, and the addition of new interchanges on Interstate 24 at Salem Pike, and Elam Road. These projects are described below.

- Design plans have been developed by TDOT for the widening of Highway 96 to five lanes from I-24 to Overall Creek. This project is currently under construction. Also, as a separate project, TDOT plans to widen Highway 96 to five lanes between Overall Creek and SR 840. Construction plans are being finalized for this project.
- The Major Thoroughfare Plan for the City of Murfreesboro includes projects to widen Salem Pike from Old Fort Parkway to

Cason Lane. The proposed cross-section is a 5-lane undivided roadway with curb-and-gutter.

- A new interchange is proposed at Interstate 24 and Elam Road. This interchange will provide an alternative to the congested existing Interstate 24 interchanges in Murfreesboro, especially for M.T.S.U. and truck traffic.
- The new interchange that is proposed at Interstate 24 and Salem Pike would have a direct and significant impact on the traffic operations within the Salem Pike study area. Much of the traffic associated with the development of land within the Salem Pike Corridor study area would be focused towards this new interchange.

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A new roadway is proposed in both the Long Rang Transportation Plan for Rutherford County and the Major Thoroughfare Plan for the City of Murfreesboro. This new road would function as a by-pass around the western side of Murfreesboro enabling traffic to avoid the congested existing Interstate 24 interchanges. The road would serve as a connection between State Route 840, Highway 96, Salem Pike, Highway 231, and Interstate 24.

southern major roadways within the Salem Pike study area.

The proposed connector roadway would begin as a 5-lane minor arterial constructed with curb and gutter from the proposed Interstate 24 Elam Road Interchange. This roadway will narrow to a three-lane cross-section as it approaches Highway 231. This portion of the connector roadway will require right-of-way acquisition and the widening of Country Farm Road. The next segment of the proposed connector would follow US 231 north and extend west on Barfield Crescent Road. The connector would then follow Kimbro Road to Salem Pike. The next segment of the new connector road would extend from Salem Pike along a portion of Rucker Lane and form the fourth leg of the intersection with Beesley Road and Highway 96. Then an improved Beesley Road would connect with State Route 840 at a new interchange.

The potential improvements of a 5-lane cross-section along Salem Pike and interchange at Interstate 24 will redirect a large amount of traffic that previously used the interchanges at Highway 96 and Highway 231. As property develops within the Salem Pike Corridor study area, increasing traffic volumes are anticipated along Salem Pike near the Interstate 24 interchange. However, some of the traffic generated by land uses in the northern portions of the study area will be expected to access these sites from Highway 96 and Beesley Road at State Route 840 instead of Salem Pike. Furthermore, the proposed new connector road from the Elam Road/Interstate 24 interchange will redirect some of the generated traffic to the

# Recommended Transportation Plan

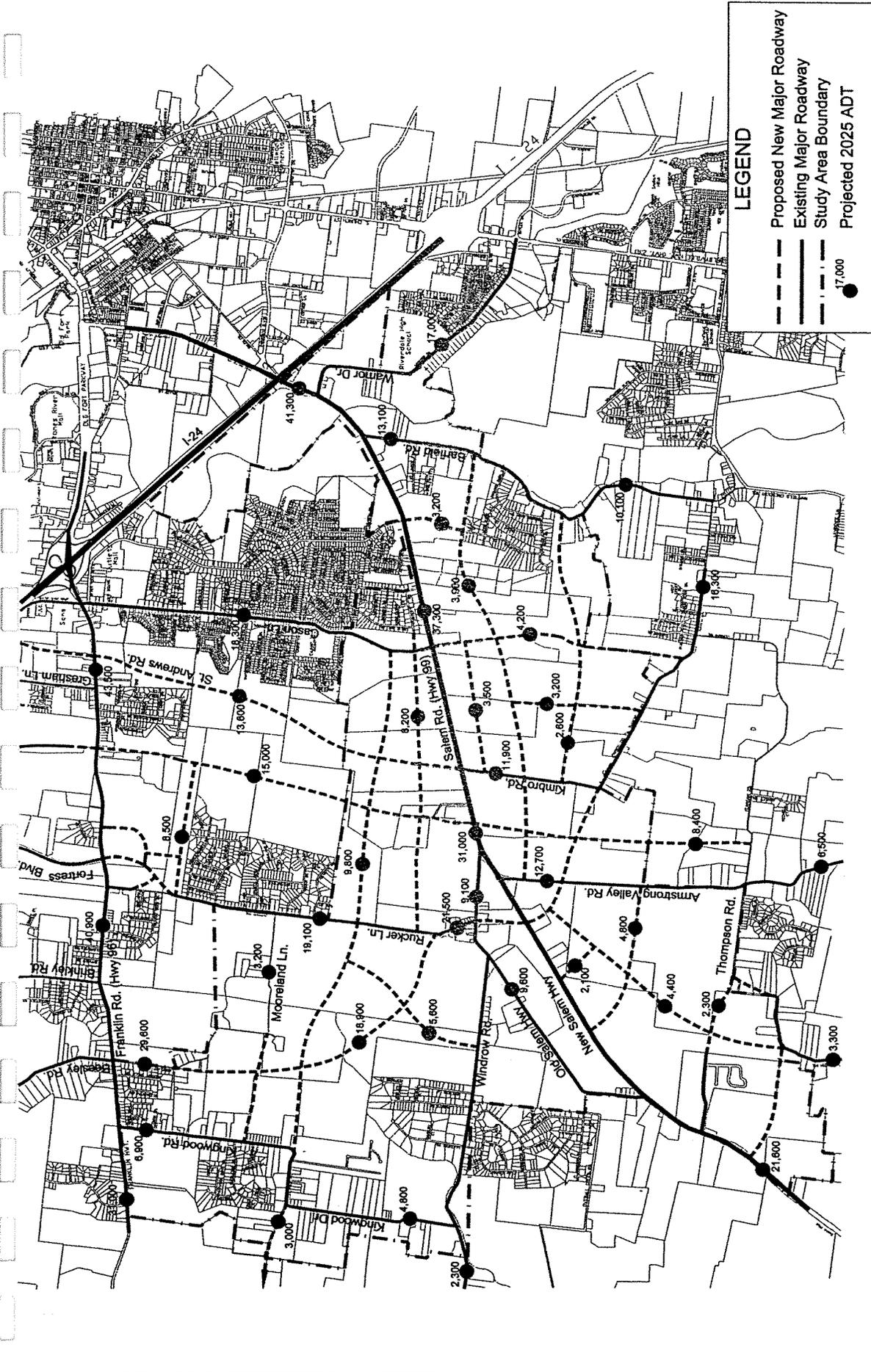
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**Introduction of Plan.** The Salem Pike Corridor Transportation Plan presents recommendations for a future transportation roadway system based on the projected growth identified in the land use plan. The goal of the transportation plan is to establish a comprehensive future roadway network that will ensure the availability of adequate infrastructure capacity for the Salem Pike Corridor as property develops. The transportation plan outlines a network of roadways designed to accommodate the traffic that will be generated by the land uses and intensities projected for the Salem Pike study area. A primary objective of this transportation plan is to spread the traffic throughout an interconnected network of streets. Interconnecting roadways as well as adjacent developments will minimize traffic impacts throughout the network and will help to avoid the creation of “bottle necks” in the system.

**Projected Traffic Volumes.** Traffic volumes for each roadway segment in the study area were projected to the year 2025 based on development according to anticipated land uses. A linear growth rate of 1% per year was applied to the existing volumes in order to develop the background year 2025 traffic volumes. Then, the land uses within the study area were categorized into sites. Trip generation rates were applied to each site according to typical densities identified for the Salem Pike Land-Use Plan. The expected trips generated by each site were added to the background traffic and distributed to the roadway network. The sum of the background traffic and the site-generated traffic yields the projected 2025 ADT volumes. These projected traffic volumes for each of the roadways within the transportation network are shown in Figure 3.

**Anticipated Operation of Proposed Roadway Network.** Capacity analyses of the projected 2025 traffic volumes were conducted to ensure that the recommended roadway system will accommodate the future traffic. The analyses

were used to determine the roadway cross-sections that would be required to provide at least LOS D or better for the operation of each roadway. The projected 2025 LOS that was determined for each roadway segment is shown in Figure 4. As shown by Figure 4, the operation of the roadways within the study area will operate at LOS D or better for the projected year 2025.



**LEGEND**

- Proposed New Major Roadway
- Existing Major Roadway
- · · · Study Area Boundary
- Projected 2025 ADT

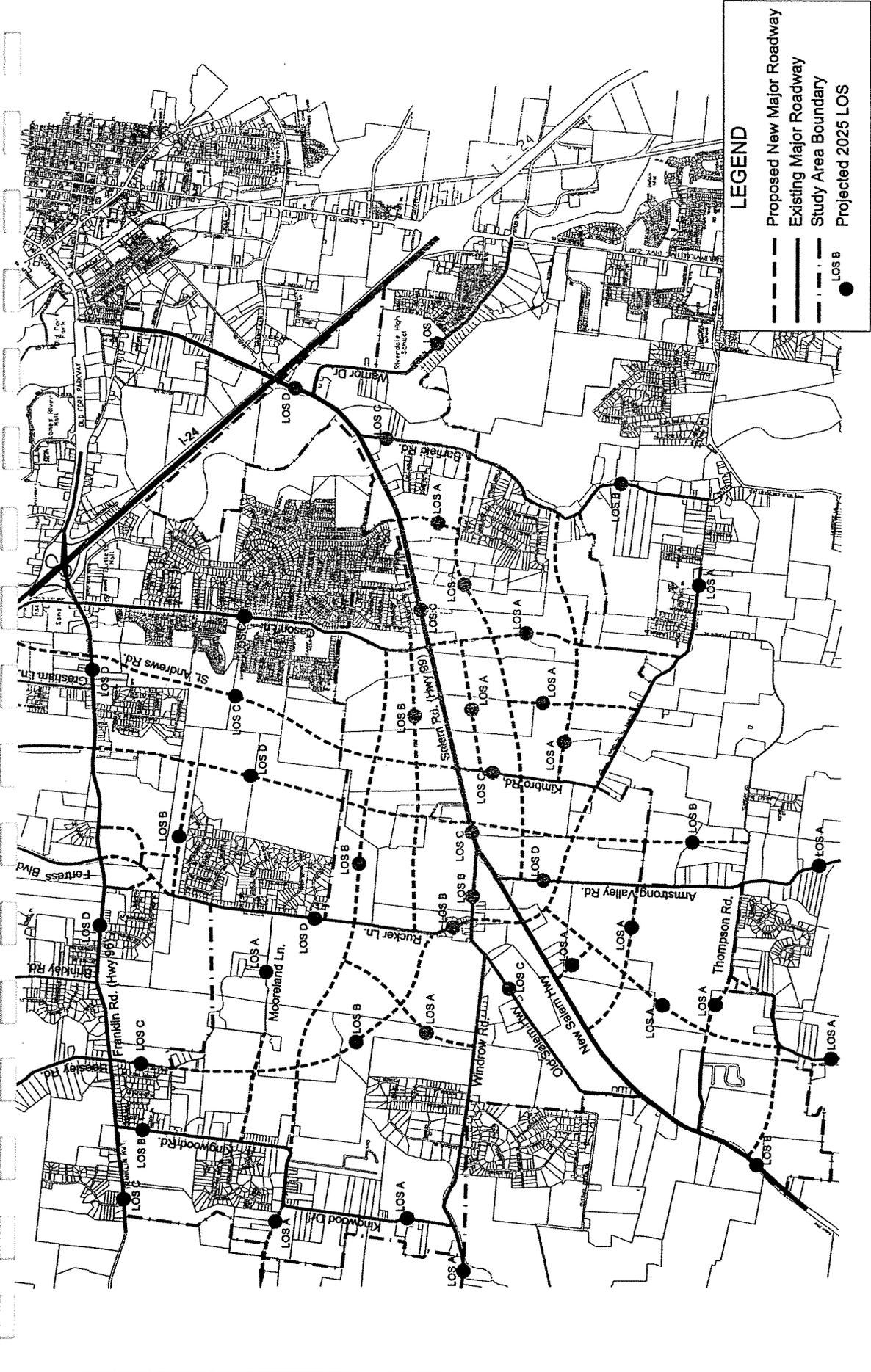


Projected 2025 Average Daily Traffic (ADT)

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Brentwood, Tennessee



**LEGEND**

- Proposed New Major Roadway
- Existing Major Roadway
- - - Study Area Boundary
- LOS B
- Projected 2025 LOS

Projected 2025 Levels of Service (LOS)



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& associates  
1000 North Center Street, Suite 200  
Nashville, Tennessee 37203

**Transportation Network Concept Plan.** The intent of this transportation plan is to identify the roadway improvement projects and policies that are necessary to adequately serve the vehicular transportation needs of the community over the next 25 years. However, a balanced transportation system provides alternatives to automobile travel such as bicycling, walking, and transit. Bikeways and sidewalks are important elements of a balanced transportation plan and these facilities should be evaluated and strategically implemented in order to enhance mobility within the study area. This will likely occur on a case by case basis as development of the area continues, and roadway improvement projects take place. Generally, when a roadway such as Salem Pike is widened, the design of the cross-section should at least include a paved shoulder. This paved shoulder creates an attractive bike route to cyclists, and the road should be considered for such a designation.

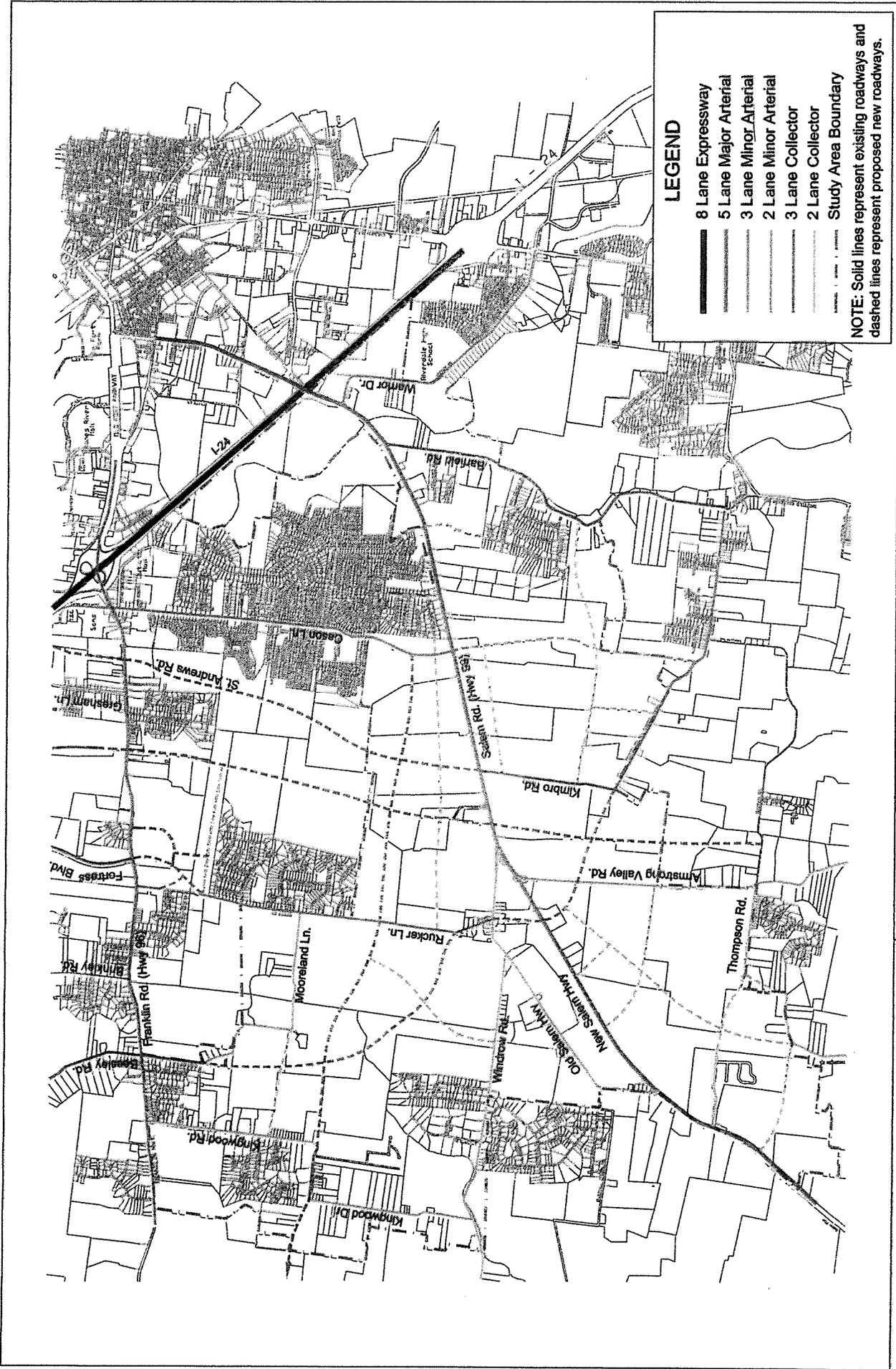
The roadways within the Salem Pike study area were evaluated based on the projected 2025 ADT for each segment. The capacity analyses were used to determine and evaluate the number of lanes and classification appropriate for each roadway to operate at an acceptable LOS. The recommended roadway concept plan includes the existing and proposed new roads in the Salem Pike transportation network. The number of lanes and classifications for each of the major roadways in the Salem Pike Corridor are shown in Figure 5. The alignments shown for the newly proposed roadways are conceptual in nature and are shown to indicate the desirability of roadway interconnections. Furthermore, intersections that are potential candidates for future traffic signals are also shown in Figure 5.

The transportation plan shown in Figure 5 identifies the existing and proposed new roadways in the Salem Pike Corridor study area. These roadways have been classified accordingly to be consistent with the classifications from the Long Range Transportation Plan of Rutherford County and the Major Thoroughfare Plan for the City of

Murfreesboro. The proposed roadways in the study area include major arterials, minor arterials and collectors. Arterial roadways are extremely important because they provide the backbone of the transportation network. The proper location and spacing of arterial roadways is vital to the success of any transportation plan.

The recommended plan also includes an alternative alignment for the proposed arterial connector roadway. This alternative alignment is included as an attempt to minimize potential impact to existing residential developments near the intersection of Rucker Lane and Old Salem Highway. An evaluation of this alternative alignment should be included as part of the next update to the City of Murfreesboro's Major Thoroughfare Plan.

These roadways proposed will form the major components of the street network. In addition to these roads an extensive, interconnected local roadway network is envisioned to be an integral part of this transportation system. In the future, new local roadways will be constructed as properties are developed. The purpose of local streets is to provide access to property in a manner appropriate for the type and density of the anticipated development. These future local roadways should be located and designed in a manner that provides good connectivity between adjacent neighborhoods, while limiting extensive through traffic volumes or cut-through traffic. In order to keep travel speeds low, local streets should have design speeds of 20 to 30 mph and should not have excessive widths. Bike facilities and sidewalks should be included where appropriate. This design practice will enhance mobility and livability for residents within the Salem Pike Corridor study area.



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Proposed Roadway Network and Classifications

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### **Accessibility Policies and Design Guidelines.**

The Salem Pike Transportation Plan should be reevaluated on a regular basis to ensure that adequate transportation infrastructure and operations are maintained within the study area as development occurs. The traffic impacts of new developments will need to be evaluated to address future implications to the transportation system. The Planning Commission should require developers of major projects to submit a traffic impact study that identifies the expected impacts of the project. Any necessary modifications to the Salem Pike Transportation Plan should be identified in the traffic impact study. Also, the traffic impact study should address specific design issues such as traffic signals, roadway cross-sections, turning lanes, and potential needs for alternative transportation measures.

The Salem Pike Corridor Transportation Plan has been developed to provide LOS D or better for the projected 2025 traffic conditions anticipated for the roadways within the study area. The future LOS for these roadways should not be diminished below LOS D by any proposed development. This will ensure that acceptable mobility and traffic operations will be maintained. If indications are that a specific proposed development will result in roadways operating below LOS D, then appropriate mitigation should be implemented in conjunction with the development.

Access control will be necessary to provide safe and efficient travel on arterial roadways. Wherever possible, access onto major arterials such as Salem Pike should be minimized. Driveway design is an important component of good access control. Joint-use driveways should be encouraged to the extent practical. If there is to be access on both sides of a roadway, the driveways should be aligned if possible. Where this is not possible, the driveways should be offset by at least 150 feet. Generally, a minimum of approximately 200 feet should separate commercial driveways on arterials. The

maximum width of a driveway opening at the property line along an arterial or collector street should be no greater than 40 feet and minimum driveway radii of 15 feet should be provided.

Throat length is the distance measured from the radius return of the driveway to the first parking aisle or driveway. There may be situations where these throat lengths conflict with the minimum setback lines that are established in the Zoning Ordinance. The throat length recommendations presented for the Salem Pike study area are not intended to supercede the setback lines that are allowed in the Zoning Ordinance. However, wherever possible, the throat length for a commercial driveway on an arterial roadway should be a minimum of 75 feet and the minimum throat length for a commercial driveway on a collector roadway should be 50 feet.

The spacing of signalized intersections has a direct effect on traffic operations along arterial and collector roadways. In order to ensure good signal progression, wherever possible, a minimum spacing of approximately 1,250 feet should be maintained between signalized intersections. Figure 5 identifies potential candidates for signalized intersections along Salem Pike. As shown in Figure 5, the potential signals along Salem Pike are spaced at approximately 1,500 feet or more. Therefore, good signal progression can be provided by the proposed transportation system.

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**Conclusion.** This document constitutes the transportation plan for the Salem Pike Corridor. As shown by the network of existing and proposed major roadways within the study area, adequate traffic operations can be provided to meet the vehicular needs and future demand of a growing community. While this roadway network has been designed to satisfy future traffic demand, it is important for the City of Murfreesboro to continue to explore and evaluate the potential for bikeways, greenways, sidewalks, and trails. New roadways that are constructed should be designed to be bicycle and pedestrian friendly.

In conclusion, the roadway network and policies that are recommended will enhance mobility, accessibility, safety, and quality of life for residents of the Salem Pike community.

# Pedestrian and Bikeway Improvements

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The overall concept for the design of the open space and greenway improvements recommended in this plan is based on maximizing connectivity to all areas for all persons. A strong emphasis is placed on pedestrian and bicycle transport as a desired and valued means of travel within the community and between communities.

Recommended provisions include sidewalk and bikeway improvements along major thoroughfares, trails and greenways, and various scaled open space areas for passive and active recreation.

Pedestrian connection is broken down into two categories: sidewalks and trails. Sidewalks refer to improvements made to pedestrian pathways associated with a roadway and usually running parallel to it. Trails are pedestrian pathways associated with a greenway. Most proposed greenways are associated with drainageways and creeks.

Bicycle improvements are described in one category: Bikeways. Bikeways are typically associated with roadways and are noted in the plan as such, however, they can also be associated with greenways and should be thought of as a potential addition to the pedestrian trail system occurring in them.

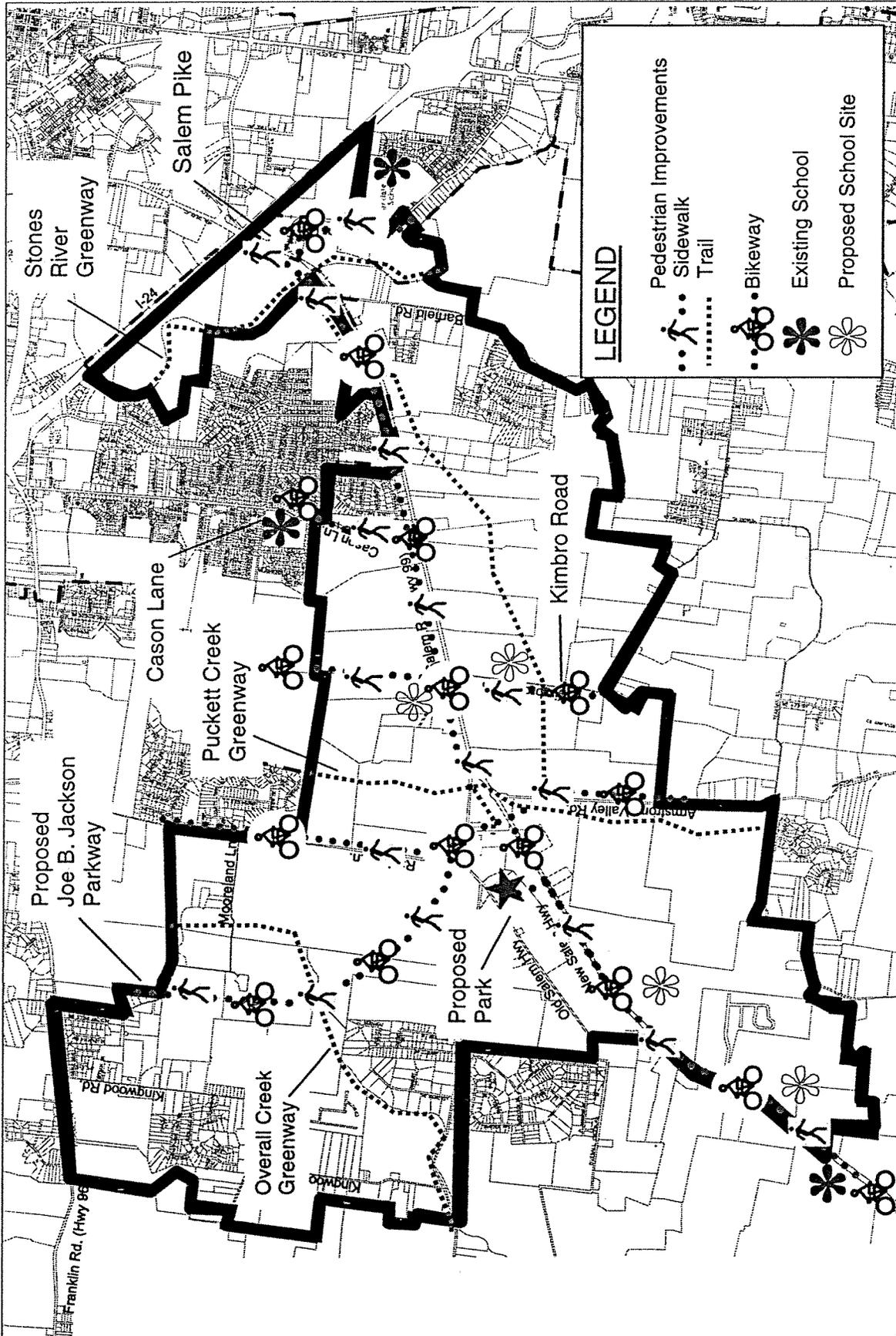
Sidewalk and Bikeway improvements are proposed along major thoroughfares in the community. Recommended sidewalk improvements generally include the provision of a 5-foot sidewalk along one or both sides of the road, a 5-foot grass mowing strip and street trees. Recommended bikeway improvements generally include the provision of a minimum of a five-foot bike lane in the road shoulder. Signage and bike lane striping are recommended.

The proposed Puckett Creek Greenway, Overall Creek Greenway, Armstrong Branch Greenway and others along drainageways serve the dual

purpose of providing stormwater management and filtration. Educational interpretive areas can be designed with outreach programs being established with local schools to educate children and adults on the importance of threatened wetland ecological systems at intervals along the creeks.

Improvements along the Salem Pike Corridor include design guidelines to maintain the sense of openness and to provide a graceful transition from the pastoral landscape to the southwest to the urban landscape associated with Murfreesboro and the proposed interchange at Salem Pike and I-24 to the northeast in addition to the provision of sidewalks and a bike lane.

It is the intention of this pedestrian and bikeway improvement plan to make all connections to existing and future regional bicycle and greenway systems and to provide an outstanding augmentation to Murfreesboro's generous greenway provisions.



# Pedestrian and Bikeway Improvements Salem Pike Study Area

City of Murfreesboro, Tennessee

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**Chapter Seven**

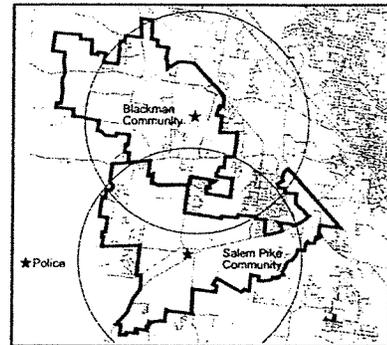
**COMMUNITY SERVICES**

**Community Services.** Many of the services proposed in the Blackman Community will service the northern portion of the Salem Pike Community. Any additional services needed will be located in the village center of the Salem Pike Community located between Old Salem and Salem Pike. Clustering community services around the proposed community park in the village center will provide added security for the park and allow sharing of personnel and maintenance crews in the community centers.

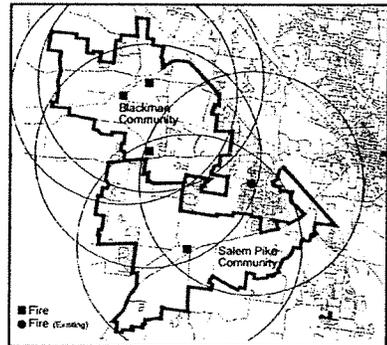
**Police Services.** A police precinct proposed on the Blackman School campus will serve a 3-mile radius which extends into the northern portion of the Salem Pike Community. If an additional precinct is needed for Salem Pike, the optimum location will be in the village center near similar community services. Police stations will be located near the major thoroughfares of Hwy. 99 and the proposed Joe B. Jackson Parkway so that residential areas will not be disturbed.

**Fire Services.** An existing fire station on Cason Lane services the eastern portion of the Salem Community. A proposed fire station in the Blackman Community near the intersection of Beasley and Hwy. 96 will service the remaining northern portion of the Salem Community. When fire protection is deemed necessary for the southwestern portion of the community, an additional fire station will be located on a major thoroughfare in the village center servicing a 3-mile radius which will include most of Salem Pike.

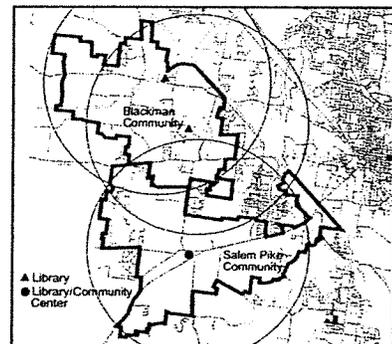
**Community Services.** Two libraries proposed for the Blackman Community will service portions of the Salem Pike Community within a 3-mile radius of the proposed sites. These libraries will be located at the intersection of Manson/840 and on the Blackman School campus. A proposed library/community center located in the village center will service the entire Salem Community.



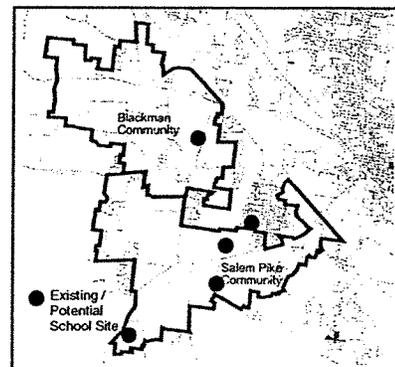
*Proposed Police Services*



*Existing & Proposed Fire Services*



*Proposed Community Services*



# Open Space

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In conjunction with the Greenways and Pedestrian and Bikeways plans a +/-100 acre, centrally located park is proposed adjacent to the intersection of the future Joe B. Jackson Parkway and Salem Pike. The park is associated with the Village Overlay for the Neighborhood Commercial Node proposed in this plan. The high accessibility from the major north-south thoroughfare (Joe B. Jackson Parkway) and the major east-west thoroughfare (Salem Pike) allows usage from outside the community while the pedestrian-friendly greenway linkages (e.g. Puckett Creek Greenway, Overall Creek Greenway) connect the major open space to residential development and its associated open space occurring within the community. These greenway and bikeway improvements connect to the larger system of existing greenways in Murfreesboro and beyond (e.g. Stones River Greenway).

The proposed 100 +/- acre park is sited in a major drainage basin prone to periodic inundation of water. Because of this threat development is not recommended for use other than that of open space. In addition to providing the environmental function of stormwater management via interception, filtration, and percolation of regional run-off, the park and is a valuable green space asset to the community as a permanent provision of open space. The siting of the park allows for attractive vistas into the park and was designed to enhance the sense of openness of the Salem Pike Corridor.

Nice open space features can be incorporated with drainage management practices. Interpretive areas for the wetland areas can be designed with outreach programs being established with local schools to educate children and adults on the importance of such threatened ecological areas.

Provisions for active recreational facilities (e.g. playing fields, amphitheater, skateboard park, tennis courts, etc.) should be included in the park. Facilities for educational and event programming within the park is encouraged. and provides a broader level of usage in the park.

# Drainage

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**Major Surface Drainage Facilities.** Some areas have undulating topography, creating small areas that collect water during major rain events. If development occurs in these areas, a detailed evaluation should be made on a case by case basis. There are three major drainageways associated with the study area. These drainageways are identified as follows:

- Overall Creek;
- Armstrong Branch and Puckett Creek; and,
- West Fork Stones River.

The characteristics of these drainageways are described in the following.

Overall Creek. Overall Creek is a major south to north drainage basin facility that traverses across the northwest corner of the study area. This creek provides the major outlet for most of the surface water in this position of the study area from the hills to its northwest and to the roadways of Rucker Lane on the east and Old Salem Road to the southeast.

The creek is approximately 50 feet wide throughout the study area with an average bank height of 10 feet above the normal water level. The creek flows north at a grade of approximately 0.2 percent. Frequent flooding does not appear to be a problem in the drainage plane of this creek.

A one and a quarter mile section of Old Salem Road southwest of the Salem community defines the southeast boundary of the Overall Creek drainage plane. It is a gentle slope for approximately 6000 feet to the creek with a maximum change in elevation of 30 feet. Rucker Lane, traversing north from the Salem community provides the eastern boundary of the Overall Creek drainage plane. The western side of Rucker Road drains well to the creek over gently rolling terrain, an elevation difference of 25 feet over a 3500 foot distance. The north and west boundaries of the drainage plane are made up of hills which provides excellent water runoff to the creek and its tributaries. The 6000 foot drainage distance and the 50 to 100 foot

drop in elevation limits any drainage problems in the northwest portion of the study area.

Armstrong Branch & Puckett Creek. The Armstrong Branch and Puckett Creek tributary system traverses from south to north through the center of the study area and crosses under the New Salem Road. This branch provides drainage from the hills of the southwest portion to the flatter planes in the center of the study area.

The branch has a width of approximately 16 feet with banks ranging from 2 to 4 feet above normal water level. The branch flows to the north at a grade of 0.27 percent and has few sharp bends or oxbows inside the study area. Since the banks are low and the branch drains a wide area, flooding appears to be a possibility around the stream bed itself. The south section of the bank traverses along and under the Armstrong Valley road. Unless the road has sufficient drainage structures and flood protection, it may be subject to periodic flooding. Because the branch has a steeper grade of flow, some flooding may be avoided but erosion may become a factor.

Drainage from the hills in the southwest portion of the study area, having peaks approximately 150 feet higher in elevation than Armstrong Branch, provides a source of water to this drainage facility. Surface water travels a distance of 10,000 feet to meet up with the branch and its tributaries. Old Salem Road and Rucker Lane are the western boundary of the drainage plane. The branch ranges from 800 to 3500 feet to the east of the roadways and should be able to provide adequate drainage with an elevation difference of 18 feet.

Approximately 2500 feet north of the intersection of New Salem Road and Kimbro Road, there is a bowl shaped 30-acre parcel that does not have an apparent drainage outlet. This may be of some concern if development occurs in this area. The east boundary of the drainage area is a ridge that follows the branch through the study area. The top of the ridge is

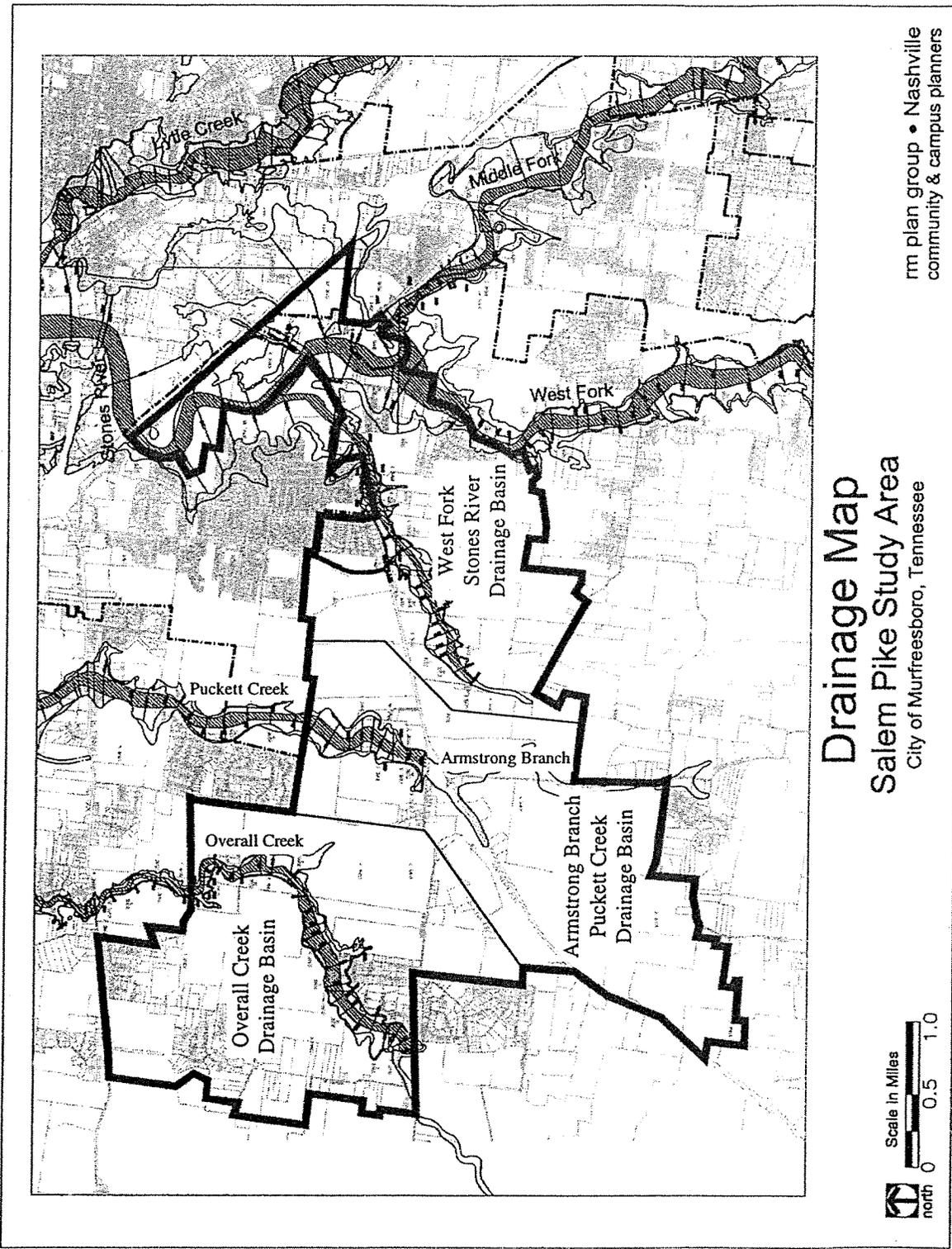
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approximately 3000 feet to the east of the branch with an elevation difference of 20 feet, which should provide adequate drainage to the area.

West Fork Stones River. West Fork Stones River and its tributaries are a major drainage facility that provides drainage to the east section of the study area. The east section of the study area is the lowest and flattest because of its association with the river. The West Fork of the Stones River has many tributaries that spur off to collect the surface water. The most dominant tributary runs northeast along the New Salem Road. The Middle Fork Stones River merges into the West Fork of the Stones River on the east side of the study area.

The river ranges in width from 75 to 100 feet with many turns along its northern course creating the east border of the study area. The river has a gentle grade of 0.16 percent over a 20,000 foot course across the area. The Middle Fork joins the West Fork approximately 2000 feet southwest of Riverdale High School. The major unnamed tributary joins the river 2500 feet after it passes under the New Salem Highway.

The unnamed tributary is the major collector for the east side of the study area. It follows the New Salem Highway where the surface water south of the highway travels 3500 feet over fairly flat land with an elevation difference of 25 feet. Because the tributary has many well- established drainage swells that protrude into the flat plane, there should not be any difficulty with surface water run-off. The tributary also drains surface water from the north side of the New Salem Highway for a distance of 3000 feet. This terrain is also fairly flat which makes keeping major drainage swells open and undeveloped very important. With the increasing development on the north side of the highway, the surface water run off will increase and therefore increasing the possibility of flooding and other problems. The drainage around Barfield Road has a very short distance to flow overland prior to reaching the West Fork Stones River because a ridge rises 20 feet and creates a divide 2500 feet or less to the west.



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# Drainage Map

## Salem Pike Study Area

City of Murfreesboro, Tennessee



# Water Services

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**Purpose.** The purpose of this report is to evaluate the general water system capacity of the study area. While all current residential water demands are being met, the study will provide a cursory review of the capacity for supporting industrial demands, primarily through the analysis of available water supply for fire protection.

The method in which the area will be studied is by identifying the major water mains and tank capacities. The existing storage facilities, which include two major tanks, Moreland Road Tank and Tiger Hill Tank provide two distinct pressure zones within the study area. These tanks are solely responsible for providing domestic, commercial and industrial water supply as well as fire protection. Note that due to the large area that CUD's water system serves, their network of fire hydrants is not as densely populated within this area. In most cases, with respect to large commercial or industrial sites, additional provisions for fire protection may be required.

Note that this is a cursory evaluation of the storage capacity the study region. A detailed hydraulic analysis has not been performed and existing fire hydrants have not been pressure tested in the field. Prior to any recommendations for potential industrial or large commercial sites, these analyses should be performed.

**Moreland Road Tank.** The Moreland Road Tank is a 3.0 million gallon (MG) storage tank owned and operated by Consolidated Utility District (CUD). The tank is located approximately one-half mile down Moreland Road off of Franklin Road (SR96). This tank is filled directly from the high service pumps of Consolidated Utility District's water treatment plant.

An existing pumping station is within close proximity to the tank, at the corner of Moreland Road and Franklin Road. This pumping station pumps out highway 96 to serve a small subdivision of Hickory Hills. This pumping station is slated to be abandoned in the future.

The Moreland Road tank has an overflow elevation of 756'. This pressure zone encompasses approximately 40% of the Salem Area study region. Currently, the tank site has the area to incorporate two additional tanks.

Industrial water usage is highly variable in quantity, depending principally on the product produced. Since no development is proposed, no accurate demand flows can be estimated at this time but it is anticipated that Consolidated Utility District will be able to satisfy the water supply needs of any industry that would build in the study area.

Estimated fire flow service can only be provided given the following assumptions:

1. Fire flow coming directly from existing Moreland Road tank.
2. Static Head Difference = 121 ft. (Overflow Elev. 756' to assumed Avg. Elev. of 635')

Using the above information, it is estimated that a sixteen (16) inch water main can provide 3500 to 3850 gpm to the service area, maintaining a residual pressure of forty-six (46) feet (or 20 psi.)

Pipe Size (in.)	Pipe Material	Length (ft)	Flow (gpm)	Head Loss (ft/1000 ft) *	Total Friction Head Loss (ft)	Residual Pressure (ft)
16	Ductile Iron**	15,840	3,500	4.7	74.7	46.5
16	PVC***	15,840	3,850	4.7	74.4	46.5

\* Based on Darcy-Weisbach Equation

\*\* Roughness Coef. (f) = 5.0x10<sup>-4</sup>

\*\*\*Roughness Coef (f) = 1.0x10<sup>-7</sup>

Assuming a fire flow demand of an industry located within the study area will not exceed 1,500 gpm for a period of 8 hours (720,000 gallons total), CUD's current water system infrastructure for this area should be adequate.

**TIGER HILL TANK.** Tiger Hill Tank is a 5.0 million gallon (MG) storage tank owned and operated by Consolidated Utility District (CUD). The tank is located approximately one-quarter mile off of Shelbyville Hwy (US231) near County Farm Road. This tank is filled directly from a pumping station off of Rucker Lane.

The Tiger Hill tank has an overflow elevation of 887'. This pressure zone encompasses approximately 55% of the Salem area study region.

As mentioned previously, industrial water usage is highly variable in quantity, depending principally on the product produced. Since no development is proposed, no accurate demand flows can be estimated at this time.

Estimated fire flow service can only be provided given the following assumptions:

1. Fire flow coming directly from existing Tiger Hill tank.
2. Static Head Difference = 262 ft. (Overflow Elev. 887' to assumed Avg. Elev. of 625')

Using the above information, it is estimated that a twelve (12) inch water main can provide to 2,195 to 2,375 gpm to the service area, maintaining a residual pressure of forty-six (46) feet (or 20 psi.)

Pipe Size (in.)	Pipe Material	Length (ft)	Flow (gpm)	Head Loss (ft/1000 ft) *	Total Friction Head Loss (ft)	Residual Pressure (ft)
12	Ductile Iron**	26,400	2,195	8.1	213.8	48.2
12	PVC***	26,400	2,375	8.1	213.8	48.2

\* Based on Darcy-Weisbach Equation

\*\* Roughness Coef. (f) = 5.0x10<sup>-4</sup>

\*\*\*Roughness Coef (f) = 1.0x10<sup>-7</sup>

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Assuming a fire flow demand of an industry located within the study area will not exceed 1,500 gpm for a period of 8 hours (720,000 gallons total), CUD's current water system infrastructure for this area will be adequate.

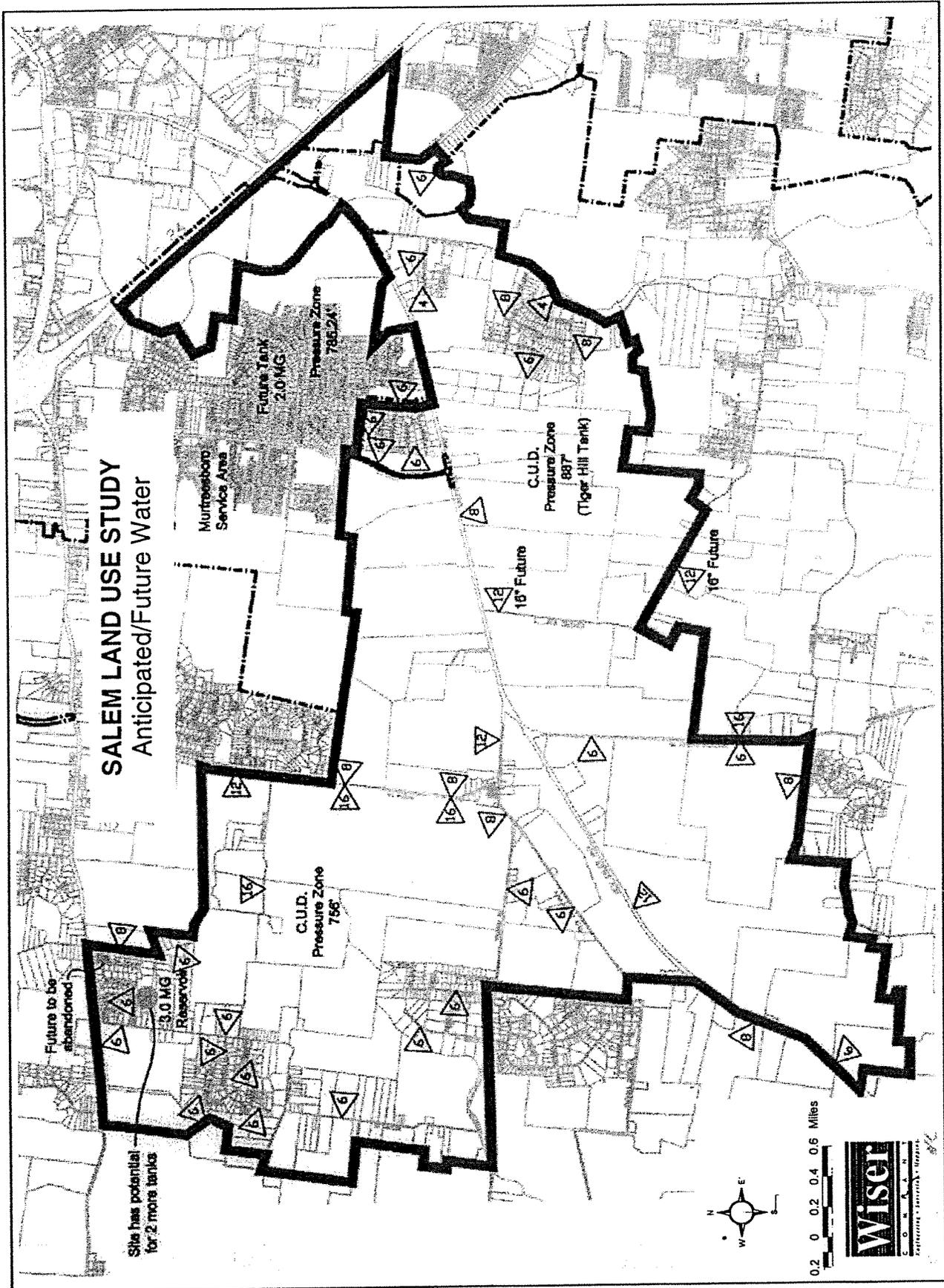
**MWSD SERVICE AREA.** Murfreesboro Water and Sewer Department (MWSD) serves approximately 5% of the Salem study area. MWSD's existing Jones Tank services this area and has a capacity of 500,000 gallons (0.5 MG). The tank is approximately one-third mile due west of the intersection of Broad and Church Street. The existing tank overflow elevation is 785.24'.

A new tank, with the same overflow elevation is proposed to be constructed by MWSD within the approximate boundaries of the study area. The tank's capacity is proposed as 2.0 MG. Due to the relatively short distance of the proposed tank and the short time frame anticipated for its construction, it is safe to assume that adequate water supply for fire protection will be available within the MWSD service area of the Salem study area.

The majority of the MWSD service area within the study area is between the West Fork Stones River and I-24, a large portion of which is apparently within the flood plain and not easily accommodating development.

**Conclusion.** The existing water distribution and storage infrastructure within the Salem study area is more than capable for providing water supply for domestic and commercial consumption. Water appears to be adequate in providing water supply for fire protection to 95% of the study area. Adequate pressure and flow requirements on some high points on various knobs within the area will not be sustainable with respect to fire protection. This area represents only approximately 5% of the total study area.

Approximately 95% of the study area's water supply is served by Consolidated Utility District (CUD) through two (2) storage tanks, Moreland Road Tank and Tiger Hill Tank, and 5% by Murfreesboro Water & Sewer Department (MWSD).



**SALEM LAND USE STUDY**  
Anticipated/Future Water

Future to be abandoned

Site has potential for 2 more tanks

3.0 MG Reservoir

C.U.D. Pressure Zone 756

Future Tank 2.0 MG

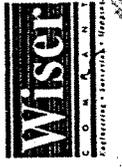
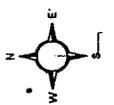
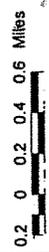
Pressure Zone 788.24

Murfreesboro Service Area

15" Future

C.U.D. Pressure Zone 887 (Tiger Hill Tank)

16" Future



# Sanitary Sewer Services

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**Purpose.** The purpose of this report is to evaluate the general sanitary sewer system capacity of the study area. The support of this preliminary report is based on the Murfreesboro Water & Sewer Department's 201 Wastewater Facilities Plan and subsequent master plans for assessment districts within a portion of the study area. Murfreesboro Water & Sewer Department is the only entity capable of providing conventional sanitary sewer service via gravity mains and lift stations /force mains to a centralized wastewater treatment facility for this region.

A portion of two assessment districts studied by MWSD are contained within the Salem Pike study area – Overall Creek Sanitary Sewer Special Assessment District and District 71 & 72 Assessment Area. Note that the Overall Creek Sanitary Sewer Special Assessment District is an ordinance (ORDINANCE 99-O-39) amending Chapter 33 of the Murfreesboro City Code. District 71 & 72 Assessment area has not been passed as an ordinance to date.

At the time these reports were prepared, preliminary planning occurred with the Murfreesboro Water & Sewer Department and the City of Murfreesboro Planning Department in an attempt to anticipate the population during the build-out time frame of the service area. Note that no formal report was prepared on the Overall Creek Sanitary Sewer Special Assessment District.

In lieu of the fact that no formal report was made on Overall Creek Sanitary Sewer Special Assessment District and the fact that the

previous preliminary planning which occurred to populate the area will not coincide with the results of the Salem Pike Land Use Study, this report will discuss the general technical approach taken to appropriately size the main interceptors for this area and provide the capacities of the anticipated/future sewer interceptors for this study region as anticipated by the Murfreesboro Water & Sewer Department.

General Technical Approach. Prior to populating the study area for sizing of main sanitary sewer interceptors, all existing land use areas unable to support development are accounted for, such as, floodway, golf courses, cemeteries, existing right-of-way, etc. These areas are subtracted from the total basin area to be served. Subsequently, an assumption is made as to the yield on the remaining area with regards to development. Such criteria as topography, existing roadway infrastructure, school sites, recreational facilities, etc., influence the anticipated percentage of development for this remaining acreage. The percentage used for District 71 & 72 Assessment area, which comprises approximately 35% of the Salem Pike study area, is 85% yield of undeveloped acreage.

When the area of remaining acreage for development is defined, a land use type is defined. The land use type correlates with an anticipated "equivalent single family unit" count per land unit area, or Eq. SFU / Acre. The following table defines the land use types and equivalent sfu's per acre for each type as used in the master plan for District 71 & 72 Assessment area.

Land Use Type	Eq. SFU's /Acre
Undeveloped Residential	2.5
Developed Residential	1.0 – 1.5
Multi-family Residential	12
Industrial	8
Commercial	4

The land use acreage is multiplied to the anticipated Eq. SFU / Acre to develop a total count of equivalent single family units. A hydraulic loading of 260 gallons per day per equivalent single family unit is multiplied to the total Eq. SFU's. The total calculated capacity is used to determine the average daily flow anticipated for the basin and is used to determine the size of the main interceptor for that area.

The following main trunk interceptors are defined in the attached drawing going from east to west:

1. West Fork Stones River Interceptor – 12” or 15”.
2. Spence Creek Interceptor – 18”.
3. Puckett Creek Interceptor – 21”.

4. Overall Creek Interceptor – 18”.

The following paragraphs detail the hydraulic calculations used to determine the capacity for the above described interceptors and subsequent assumptions that can be made with respect to support of the study area.

West Fork Stones River Interceptor. The West Fork Stones River Interceptor is a 12” or 15” interceptor laid on a 0.15% slope. Constructed at this specification, this main interceptor can theoretically support approximately 1.3 and 2.3 million gallons per day of sewage, respectively.

The following table details the assumptions used in determining these capacities.

Pipe Size (in.)	Pipe Material	Mannings Coef.	Slope (ft/ft)	Percent Full*	Velocity (ft/s)	Capacity (MGD)
12	PVC	.009	.0015	100	2.54	1.3
15	PVC	.009	.0015	100	2.94	2.3

\* Based on Manning's Formula

Based on the State of Tennessee Design Criteria for Sewage Works, all main interceptors must be designed to handle peak design flows that are assumed to be 250% greater than average daily flows. Therefore, using 260 gallons per day (average) per equivalent single family unit, this interceptor can theoretically service 1,979 to 3,590 equivalent single family units, depending on the 12” or 15” line size, respectively.

Based on the simple assumption that the area served will contain 2.5 eq. sfu's per acre and 15% of this area will be reserved for other facilities, the 12” or 15” interceptor can service

931 to 1,689 acres of undeveloped area, respectively.

Spence Creek Interceptor. The Spence Creek Interceptor is planned as an 18” interceptor laid on a 0.10% slope. Constructed at this specification, this main interceptor can theoretically support approximately 3.1 million gallons per day of sewage.

The following table details the assumptions used in determining these capacities.

Pipe Size (in.)	Pipe Material	Mannings Coef.	Slope (ft/ft)	Percent Full*	Velocity (ft/s)	Capacity (MGD)
18	PVC	.009	.0010	100	2.72	3.1

\* Based on Manning's Formula

Based on the State of Tennessee Design Criteria for Sewage Works, all main interceptors must be designed to handle peak design flows that are assumed to be 250% greater than average daily flows. Therefore, using 260 gallons per day (average) per equivalent single family unit, this interceptor can theoretically service 4,773 equivalent single family units.

Based on the simple assumption that the area served will contain 2.5 eq. sfu's per acre and 15% of this area will be reserved for other

facilities, the 18" interceptor can service 2,246 acres of undeveloped area.

Puckett Creek Interceptor—is planned as an 21" interceptor laid on a 0.10% slope. Constructed at this specification, this main interceptor can theoretically support approximately 4.7 million gallons per day of sewage.

The following table details the assumptions used in determining these capacities.

Pipe Size (in.)	Pipe Material	Mannings Coef.	Slope (ft/ft)	Percent Full*	Velocity (ft/s)	Capacity (MGD)
21	PVC	.009	.0010	100	3.01	4.7

\* Based on Manning's Formula

Based on the State of Tennessee Design Criteria for Sewage Works, all main interceptors must be designed to handle peak design flows that are assumed to be 250% greater than average daily flows. Therefore, using 260 gallons per day (average) per equivalent single family unit, this interceptor can theoretically service 7,199 equivalent single family units.

Based on the simple assumption that the area served will contain 2.5 eq. sfu's per acre and 15% of this area will be reserved for other facilities, the 21" interceptor can service 3,388 acres of undeveloped area.

Overall Creek Interceptor. Overall Creek Interceptor is planned as an 18" interceptor laid on a 0.12% slope. Constructed at this specification, this main interceptor can theoretically support approximately 3.4 million gallons per day of sewage.

The following table details the assumptions used in determining these capacities.

Pipe Size (in.)	Pipe Material	Mannings Coef.	Slope (ft/ft)	Percent Full*	Velocity (ft/s)	Capacity (MGD)
18	PVC	.009	.0012	100	2.72	3.4

\* Based on Manning's Formula

Based on the State of Tennessee Design Criteria for Sewage Works, all main interceptors must be designed to handle peak design flows that are assumed to be 250% greater than average daily flows. Therefore, using 260 gallons per day (average) per equivalent single family unit, this interceptor can theoretically service 5,230 equivalent single family units.

Based on the simple assumption that the area served will contain 2.5 eq. sfu's per acre and 15% of this area will be reserved for other facilities, the 18" interceptor can service 2,461 acres of undeveloped area.

**Conclusion.** The interceptors detailed above encompass a lot of area outside of the boundaries defined within the Salem Pike Study Area. At a maximum, based on the State of Tennessee Design Criteria for Sewage Works and based on the simple assumption the entire area served by the above interceptors maintains an average density of 2.5 equivalent single family units per acre and 15% of this area will be reserved for other facilities, the maximum

area capable of being serviced is approximately 9,784 acres or 20,792 eq. sfu's.

As indicated on the attached drawing, it appears that a small region within the southwest portion of the study area, approximately 394 acres, is outside the Murfreesboro Water & Sewer Department's 201 Wastewater Facilities Plan.

Using the information provided in Technical Memorandum No. 2 for the Salem Pike Study Area prepared by RM Plan Group, the population projections for the year 2020 for this area is estimated as a total change from 1998 in a range of 9,200 to 13,800.

The memorandum also breaks down the proposed study area with respect to land use in the year 2020. Using the high limit with respect to land use breakdown in conjunction with the assumed equivalent single family unit densities as described previously, the sewerage for the Salem Pike Study Area in 2020 calculates as follows:

Year 2020 Land Use	Acres	Eq. SFU's / Ac.	Eq. SFU's	Estimated Sewerage Rates (MGD)
Farmstead	405	0	0	0
Residential Single	5900	2.5	14,750	3.84
Residential Multi	150	12	1,800	0.47
Commercial	360	4	1,440	0.37
Industrial	300	8	2,400	0.62
Institutional	360	4	1,440	0.37
Recreational	225	0	0	0
Transportation	450	0	0	0
Undeveloped	250	0	0	0
<b>Totals</b>	<b>8,400</b>	<b>-</b>	<b>21,830</b>	<b>5.67</b>

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The lower limit of planned development for year 2020 equates to **16,310** equivalent single family units with an estimated sewerage of **4.24** MGD. It should also be noted that approximately 1,172 acres within the study area contain existing residential units, thereby decreasing the 2.5 eq. sfu / acre average in single residential areas to approximately 2.3 eq. sfu / acre.

When multiplying the equivalent single family units estimated using the above described technique by the 3.5 persons / equivalent single family unit and assuming 70% development, the estimated population increase is estimated between 40,000 to 50,000 constituents within the study area. This does not coincide with the population trends published in Technical Memorandum #2, page 4. Based on Technical Memorandum #2, the estimated increase in the population for the study area is between 9,200 and 13,800 which equates to approximately 2,600 and 4,000 equivalent single family units. This would result in an increased demand for sewerage of approximately 0.7 and 1.0 MGD, respectively.

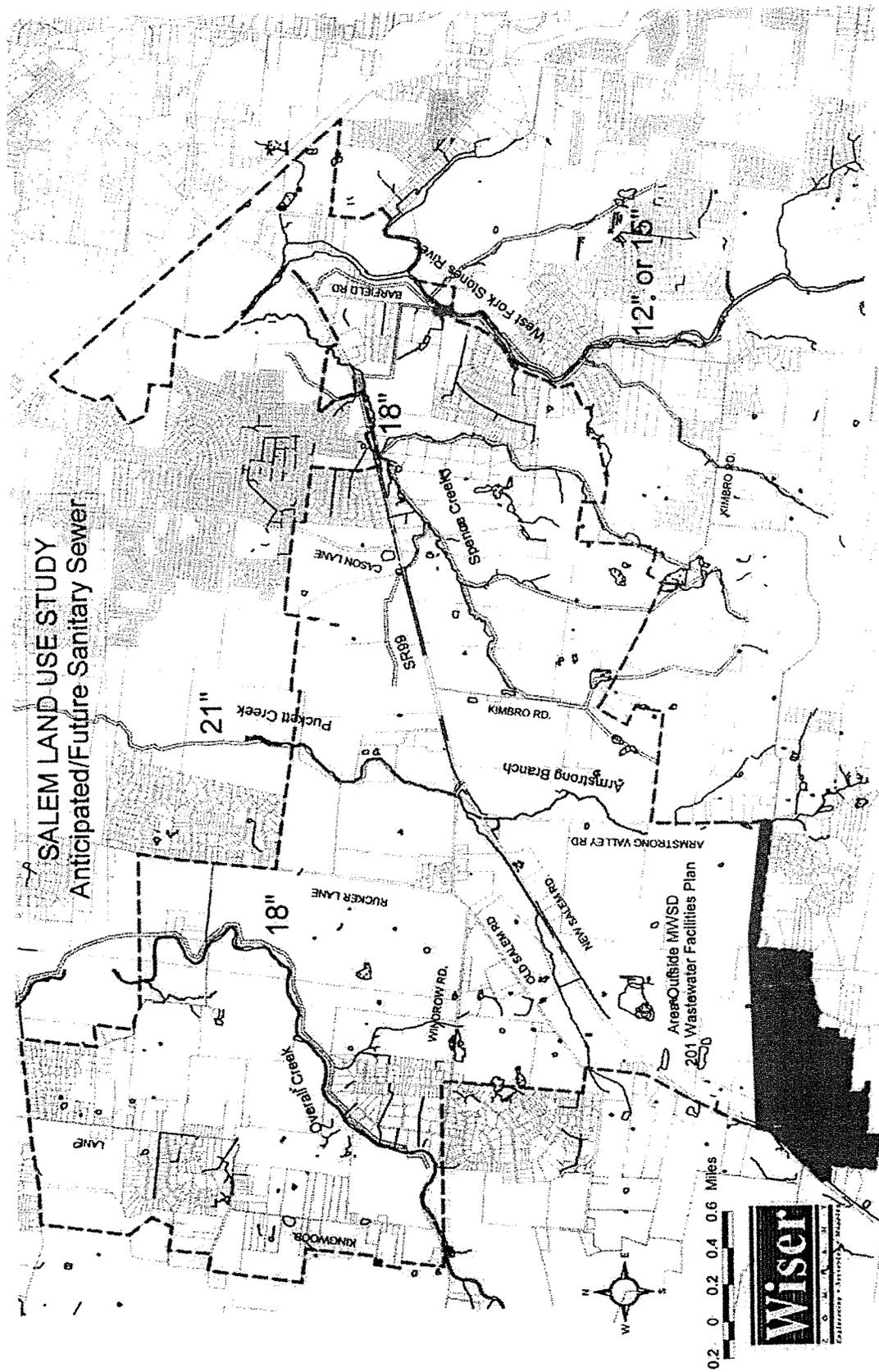
Using Technical Memorandum #2 Table 1.2 *Population Projections 1998-2020 Salem Pike Study Area & Rutherford County* as the correct estimate for the projected population within the study area at year 2020, the anticipated / proposed sanitary sewer infrastructure to this area appears to be more than capable of handling the anticipated future population growth of the area at year 2020.

Per discussion with the Murfreesboro Water & Sewer Department, the following comments are noted:

1. In order to attain the anticipated densities, sanitary sewer must be implemented into the study area first. Development will not meet the magnitudes tabulated if conventional septic or septic tank effluent pumps (STEP) with dedicated drip irrigation

field systems are implemented into the study area as a primary means of sanitary sewerage waste disposal.

2. Conventional septic or STEP systems may be considered a temporary means of disposing of sanitary sewerage. While these systems may stay in operation for decades, they may ultimately require a collection system that carries the waste back to a centralized waste treatment facility. Therefore, a significant portion of land that is dedicated to these waste disposal systems would ultimately take away from the optimum density that is presumed in the development of the study area.



**Chapter Eight**  
**IMPLEMENTATION**

# Zoning Conversion For Land Use

**Residential Classifications.** The three residential land use classifications are applicable to the Murfreesboro Zoning Code in accordance with the following chart.

LAND USE CLASSIFICATION	DENSITY	ZONING DISTRICT
Low-Density Residential	Less than 3 units per acre	RS-15
Medium-Density Residential	At least 3 units but less than 8 units per acre	RS-12, RS-10, RS-8, RD
High-Density Residential	At least 8 units per acre	RM-12, RM-16, RM-22, RZ-14
Mixed-Use Residential Portion	At least 3 units per acre	RS-12, RS-10, PRD
Mixed-Use Commercial/Institutional Portion	At least <u>8</u> units per acre	PND, PCD, PRD

**Commercial Classifications.** The five commercial land use classifications are applicable to the Murfreesboro Zoning Code in accordance with the following chart.

LAND USE CLASSIFICATION	INTENSITY	ZONING DISTRICT
Convenience Commercial	Max. 10,000 sq. ft. all one building	C-L
Neighborhood Commercial Node	Max. 100,000 sq. ft. 60,000 any one building 35-foot height limitation	C-H, OG-R
Neighborhood Commercial Node w/ Village Overlay	Max. 200,000 sq. ft. 75,000 any one building .3 FAR for office 35-foot height limitation	C-H, OG-R, O-G
Community Commercial Planned Development	Community Scale Commercial .3 FAR for office	PCD
Interstate Commercial Node	Community Scale Commercial	C-H, OG-R, O-G

# Policies For Implementation

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**Timing of Development.** Given the broad range of population projections within the Salem Community, it is uncertain whether resultant development will require the entire land resources by the year 2020. It is the recommendation of this plan that the timing, location and intensity of further development be guided by the provision of public infrastructure. It is anticipated that public sewer provisions will involve a minimum of two major phases and possibly sub-phases within each. It is further recommended that future development be guided by the following policies:

- Contiguous. Future development should be contiguous with existing development and with public water and sewer provisions; and,
- Compact. Future development should be at the densities/intensities identified by the Future Land Use Map.

**Holding Zone.** While agricultural zoning is typically used to hold areas from development until the appropriate time, the City of Murfreesboro has no such zoning. It is recommended that the City and County utilize an intergovernmental agreement that creates a holding zone category for properties that do not meet the contiguous and compact policies. There are alternative techniques to the holding zone category. These alternatives include the following:

- Utilities provision concurrency with some stage of development; and,
- Building moratorium.

This plan does not make a recommendation for the alternative techniques nor does its preparation involve the resources to evaluate the implications of such techniques.

**Community Involvement in Changes to the Plan.** The preparation of this plan involved the recommendation of a Citizen Advisory Committee and communitywide review through a series of public meetings. Future developments that are not consistent

with this plan should be subject to the following considerations:

- Consistency with the stated intent of this plan's livability standards; and,
- Consistency with the stated intent of the future land use classifications for the Future Land Use Map.

Changes affecting either or both of the above considerations should be further reviewed by a Citizen Advisory Committee. Changes to the Future Land Use Map should be reviewed by a Citizen Advisory Committee and incorporated into the plan through amendments to the document.

**Annexation.** In implementing this plan, it is anticipated that the City of Murfreesboro will annex the study area either in parts or as a whole. The City's stated annexation policies are as follows:

- The City shall annex all property whose owner requests annexation as a condition of receiving municipal services; and,
- The City shall annex land necessary to accomplish incorporation of property requested for annexation.

**Appendix A**  
**Community Participation**

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**Community Participation.** Successful plans begin with creating a vision for the future and establishing specific objectives for guiding change. The planning process for the Salem Pike Study Area has focused on understanding the community's needs and aspirations and on achieving plan consensus through effective constituency involvement. Through the community participation process, the plan will become effective on a long-term basis because of the commitment whereby the community will implement the recommendations of the plan.

The purpose of the community participation efforts was three-fold: (1) Involve decision-makers and the community in general in the planning process; (2) Provide an educational forum for eliciting a more creative decision-making process; and, (3) Build consensus and meaningful support for the plan. This goal was achieved through involvement of the following three groups.

Citizens Advisory Committee. The members of the Citizens Advisory Committee, CAC, included a broad cross-section of the community and it's leadership. Representatives consisted of six land owners/residents, two members of the engineering industry, one member from the building industry, one member from the developers/real estate industry and one member from local industries. Ex officio members were comprised of City officials including the planning director who served as a liaison to the governing body which will implement the plan. The CAC guided the preparation of the plan, served as liaison with the overall community and provided an advocate for the plan's formal approval/adoption.

Leadership Interviews. Individual interviews were held with decision-makers and key representatives of the community. These interviews were conducted so that community members not on the CAC could voice issues and concerns prior to the initial communitywide

meeting. The interviews were conducted with Chamber of Commerce representatives, realtors, developers, residents and public officials.

Communitywide Meetings. In order to provide an opportunity for all citizens to participate, a communitywide meeting was held after the second meeting of the CAC. Development issues including the proposed interchange were discussed, the vision for the community was expanded upon and four development scenarios were presented for comment. A second communitywide meeting was held after the fourth meeting with the CAC at which point the goals and objectives that had been developed at the CAC meetings were presented for comment.

**Process.** The community participation process consisted of three elements – one for visioning, one for goals and a final one involving recommendations. Through this process the community identified what it can support on a sustained basis. The plan then provides both a highly reliable planning strategy and a compact among community stakeholders for its implementation.

Visioning. It was essential to the success of the plan to be able to identify in a collective framework what those who live and work in the community want the future of the community to be. The vision represents both the citizens' concerns and aspirations. The visioning session was conducted at the initial meeting with the CAC. Those who attended the communitywide meeting were also able to expand on the vision statements.

Goals and Objectives. A comparison of the development issues and the vision led to identification of goals and objectives to be accomplished through the plan. We identified and finalized these goals and objectives in a meeting with the CAC. The goals and objectives were then summarized and reported in a Technical Memorandum.

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Recommendations. Comparison and assimilation of the development opportunities and constraints identified in our needs assessment with the goals and objectives led to our ultimate recommendations for the plan. The four development scenarios which were presented early in the process were refined and an optimum development plan was chosen during a CAC meeting in which all members of the committee were encouraged to participate. Through projecting a map of the Salem Pike Study Area onto a screen, the CAC members were able to voice their recommendations for land uses and activity centers, which were then drawn directly on the map and moved around on the map for discussion. After reaching consensus of the optimum development scenario, the finalized map was displayed on the screen.

At the second communitywide meeting, we presented the optimum development scenario and our recommendations for review and comment. Their comments and suggestions marked a critical point in our planning process before moving to the final draft because it permitted continuity between the concerns and ideas expressed by participants and the response to their concerns and ideas expressed in the plan recommendations. Community participation played an important role in the development of the Salem Pike Study because participants had the confidence of knowing that their ideas and concerns were being heard and acted upon by the persons who were responsible for the plan's recommendations.

**Appendix B**  
**Existing Conditions**

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**Salem Pike Study Area.** For planning purposes, the study area consists of the mostly undeveloped land along both sides of Salem Pike from I-24 for a distance of approximately 6.5 miles. The study area approximates the southwestern portion of Murfreesboro's designated urban growth boundaries.

Approximately 8,320 acres or 13 square miles are included. Approximately 10 percent of the area is developed for urban use currently—mostly single-family residential and some convenience-scale commercial. The remaining 90 percent is for farmstead use, agricultural and open space. Most of the parcels are individually owned. Approximately 60 or as much as two-thirds of the non-urban use parcels are over 10 acres.

The ownership patterns are important because they attest to the opportunity, at this early stage, to shape long-term development and appearance in the most desirable manner. While Murfreesboro's Future Land Use Map, adopted 1989, reflects the future use as almost totally single-family residential, the purpose of this Salem Pike Study is to reassess options for the area.

**Visual Context.** Salem Pike is one of the more attractive areas in Rutherford County. The mostly farmstead, agricultural and open space uses currently contributes to the open appearance. Where existing buildings occur, they generally have deep setbacks from the roadways. The scale of most existing residential uses is low.

**Existing Zoning.** The study area is currently under Rutherford County zoning. The predominant zoning district is R-20. R-20 permits single-family residential with a minimum 20,000 square foot lot (approximately two dwelling units per acre.)

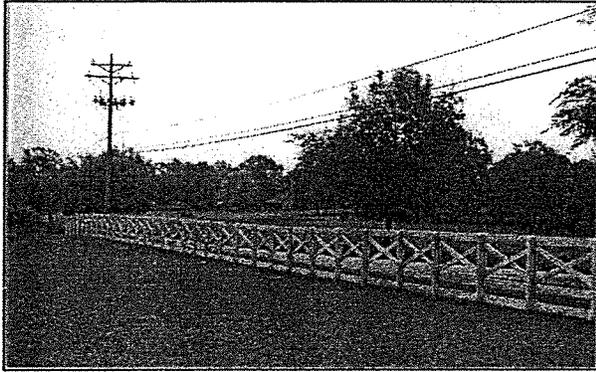
**Topography.** The study area is relatively flat. There are three general drainage areas generally associated with the three north-south running

drainageways. Flood prone areas are generally immediate to the three drainageways and to the West Fork of Stones River which is located along the eastern edge of the study area.

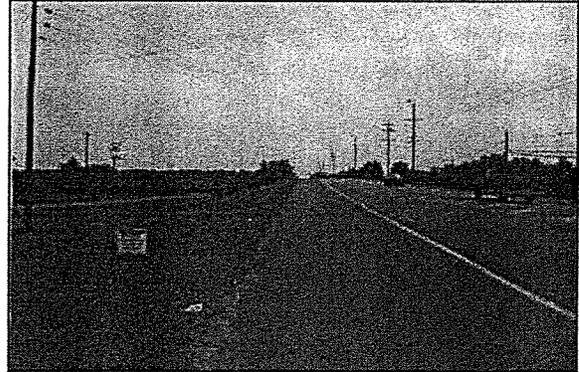
**Proposed Improvements.** There are several improvements currently underway in the mid-northern portion of the study area. Scheduling of the sewer master plan for the western portion is under consideration at this time.

The most significant thoroughfare improvement is the proposed Salem Pike interchange at I-24. Construction is anticipated relatively soon. The interchange will significantly increase access with the study area and affect land use choices near the interchange.

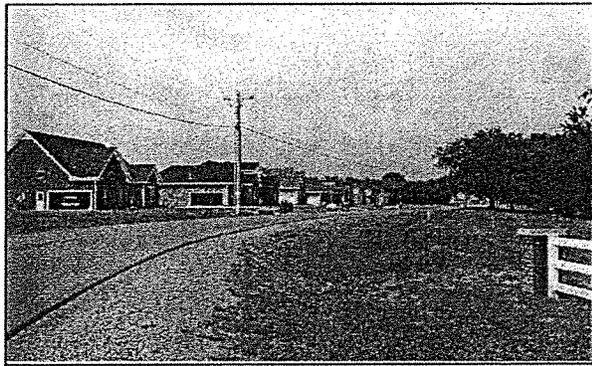
A new elementary school is targeted within the study area. The Board of Education has identified five potential sites.



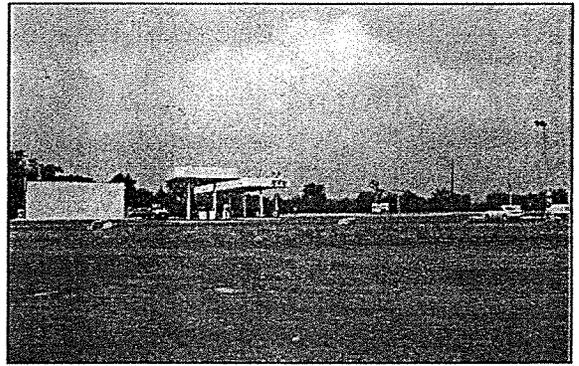
*Agricultural character of Salem Pike Study Area*



*Location of proposed interchange at I-65 and Salem Road*



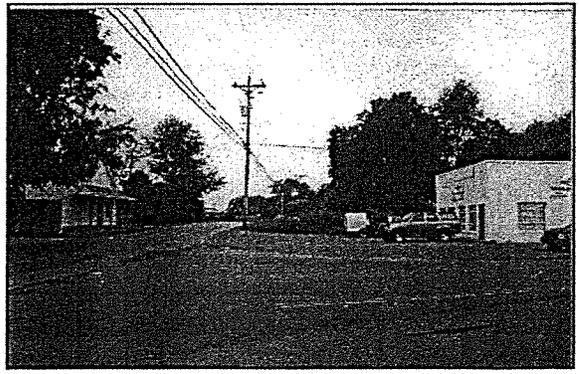
*River Downs residential development*



*WT's convenience store near Armstrong Valley Road*



*Residential development along St. James Street*



*Commercial area at Rucker Lane and Old Salem Hwy.*

**Appendix C**  
**Growth Factors**

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**Growth Factors.** Rutherford County, including Murfreesboro and the other incorporated communities, is one of the fastest growing areas of the nation. The growth is associated with a major expansion of population and employment within the Greater Nashville region. The proximity of Murfreesboro to the greater market and high accessibility to the regional transportation system, in addition to several others, are major factors contributing to the growth.

Concurrent with the population and employment growth is a major expansion of land use associated with Murfreesboro. While occurring throughout the community, the expansion is most evident to the north and west in conjunction with interstate highway I-24 and state highway 840. Both the Blackman Community and the Salem Pike Study Area are located within the major expansion area.

The purpose of this Technical Memorandum is to identify and quantify the potential population and related land use requirements associated with the Salem Pike Study Area. Population is the primary determining factor; however, other communitywide factors should be considered in the ultimate land use choices. Opening of the I-24/Salem Pike interchange by 2003 should enhance the regional attraction. Some observers anticipate that the interchange will become the primary regional access for Middle Tennessee State University. The interchange should also improve connection with nearby industrial employment centers.

# Population Trends

**Population Change – City of Murfreesboro and Rutherford County.** The City of Murfreesboro and Rutherford County have a long and sustained history of population growth. As the primary economic center and the seat of County government, Murfreesboro has shared approximately 39 percent of the overall County population growth since 1950. During the last five decades, Murfreesboro’s population has increased from 13,052 in 1950 to 68,816 in 2000. The change of 55,764 represents an average annual increase of 1,115.3 or 8.5 percent. During the same period, Rutherford County’s population increased from 40,696 in 1950 to 182,023 in 2000. The change of 141,327 represents an average annual increase of 2,826.5 or 6.9 percent. Beginning in the 80’s, Murfreesboro’s share of the County’s population became increasingly less through suburbanization of the northern part of the County.

**Population Projection – City of Murfreesboro and Rutherford County.** By the planning horizon of 2020, Murfreesboro’s population is projected to reach 133,000. The change of 64,184 between 2000 and 2020 represents an average annual increase of 3,209.2 or 4.7 percent. During the same period, Rutherford County’s population is projected to reach 367,135. The change of 185,112 represents an average annual increase of 9,255.6 or 5.1 percent. Murfreesboro’s share of the County’s population will continue to be increasingly less.

(Note: The methodology for projecting Murfreesboro’s population is approximately straight line using 1990-2000 trends. The projection assumes annexation in addition to natural growth.)

**Table 1.0  
POPULATION CHANGE  
1950-2000  
City of Murfreesboro & Rutherford County**

Year	Population		% Share
	City of Murfreesboro	Rutherford County	City of County
1950	13,052	40,696	32.1
1960	18,991	52,368	36.3
1970	26,360	59,428	44.4
1980	32,845	84,058	39.1
1990	44,922	118,570	37.9
1996	52,341	146,573	35.7
2000	68,816	182,023	37.8
Total Change	55,764	141,327	39.5
Avg. Annual Change	1,115.3	2,826.5	39.5

*Source: U.S. Census 1950, 1960, 1970, 1980, 1990, 2000; Special Census 1996*

**Table 1.1  
POPULATION PROJECTIONS  
2000-2020  
City of Murfreesboro & Rutherford County**

Year	Population		% Share
	City of Murfreesboro	Rutherford County	City of County
2000	68,816	182,023	37.8
2005	77,000	206,820	37.2
2010	91,000	250,421	36.4
2015	110,000	303,213	36.3
2020	133,000	367,135	36.2
Total Change	64,184	185,112	34.7
Avg. Annual Change	3,209.2	9,255.6	34.7

*Source: City of Murfreesboro Planning Department for Rutherford Co. 2005, 2010, 2020; RM Plan Group, Nashville for City of Murfreesboro 2005, 2010, 2015, 2020.*

# Population Trends

**Population Projections – Salem Pike Study Area.** The model for projecting population in the Salem Pike Study Area is based on its share of projected population for Rutherford County. The model assumes the total increase of 64,184 for Murfreesboro by 2020 and allocates the growth into sectors including the Blackman Community and the Salem Pike Study Area. The Blackman Community's share is higher than Salem Pike's due to the former's location, current access and earlier sewer availability.

As of 2000, the Salem Pike Study Area's population is estimated at 2,700-2,900. By the planning horizon of 2020, the Study Area's population is projected to reach 11,500-18,400. A range is given because growth rates may vary with absorption/demand in other parts of Murfreesboro where development trends and infrastructure improvements are ahead. The high change of 15,500 between 2000 and 2020 represents an average annual increase of 775 or 2.7 percent. The low change of 8,800 represents an average annual increase of 400 or 1.6 percent. In both the high and low scenario, population increase is more noticeable after 2005 due to the effect of the I-24/Salem Pike interchange opening by 2003.

**Table 1.2  
POPULATION PROJECTIONS  
2000-2020  
Salem Pike Study Area & Rutherford County**

Year	Population		Rutherford County	% Share	
	Salem Pike Study Area			Area of County	
	High	Low	High	Low	
2000	2,900	2,700	182,023	1.6	1.5
2005	4,200	3,900	206,820	2.0	1.9
2010	8,800	7,900	250,421	3.5	3.1
2015	15,200	9,500	303,213	5.0	3.1
2020	18,400	11,500	367,135	5.0	3.2
Total Change	15,500	8,800	185,112	8.4	4.7
Avg. Annual Change	775	440	9,255.6	8.4	4.7

*Source: City of Murfreesboro Planning Department for Rutherford County 2005, 2010, 2015, 2020; RM Plan Group, Nashville for Salem Pike Study Area 2000, 2005, 2010, 2015, 2020*

*Note: The more noticeable increase between 2005 and the following years reflects the effect of the I-24/Salem Pike interchange opening by 2003.*

# Land Use Trends

## Existing Land Use – Salem Pike Study Area.

As of 2000, approximately 6,813 or 81 percent of the total 8,400 acres are in Farmstead use or Undeveloped. Farmstead is defined as a property of five or more acres that includes a principal residence and may involve some agricultural and/or animal husbandry activity adjoining. Single-Family Residential is the next largest use at 1,172 acres or 14.0 percent, followed by Transportation at 201 acres (2.4 percent), Institutional at 102 acres (1.2 percent) and Commercial at 108 acres (1.3 percent).

**Proposed Land Use.** Based on a projected population of 11,500-18,400 by 2020, an additional 4,078-6,813 acres are proposed for developed uses. The increase in developed uses involves an acreage reduction of 3,666-6,001 in Farmstead and 412-812 in Undeveloped.

The largest proposed use is Residential at 4,400-6,685 acres or 52.4-79.6 percent, including Single-Family at 4,220-6,355 acres and Multi-Family/other at 180-330 acres. The other development uses in order of size are: Transportation at 350-450 acres or 4.2-5.4 percent; Commercial at 250-380 acres of 3.0-4.5 percent; Institutional at 240-360 acres or 2.8-4.3 percent; Industrial at 300 or 3.6 percent; and Recreation at 125-225 acres or 1.5-2.7 percent.

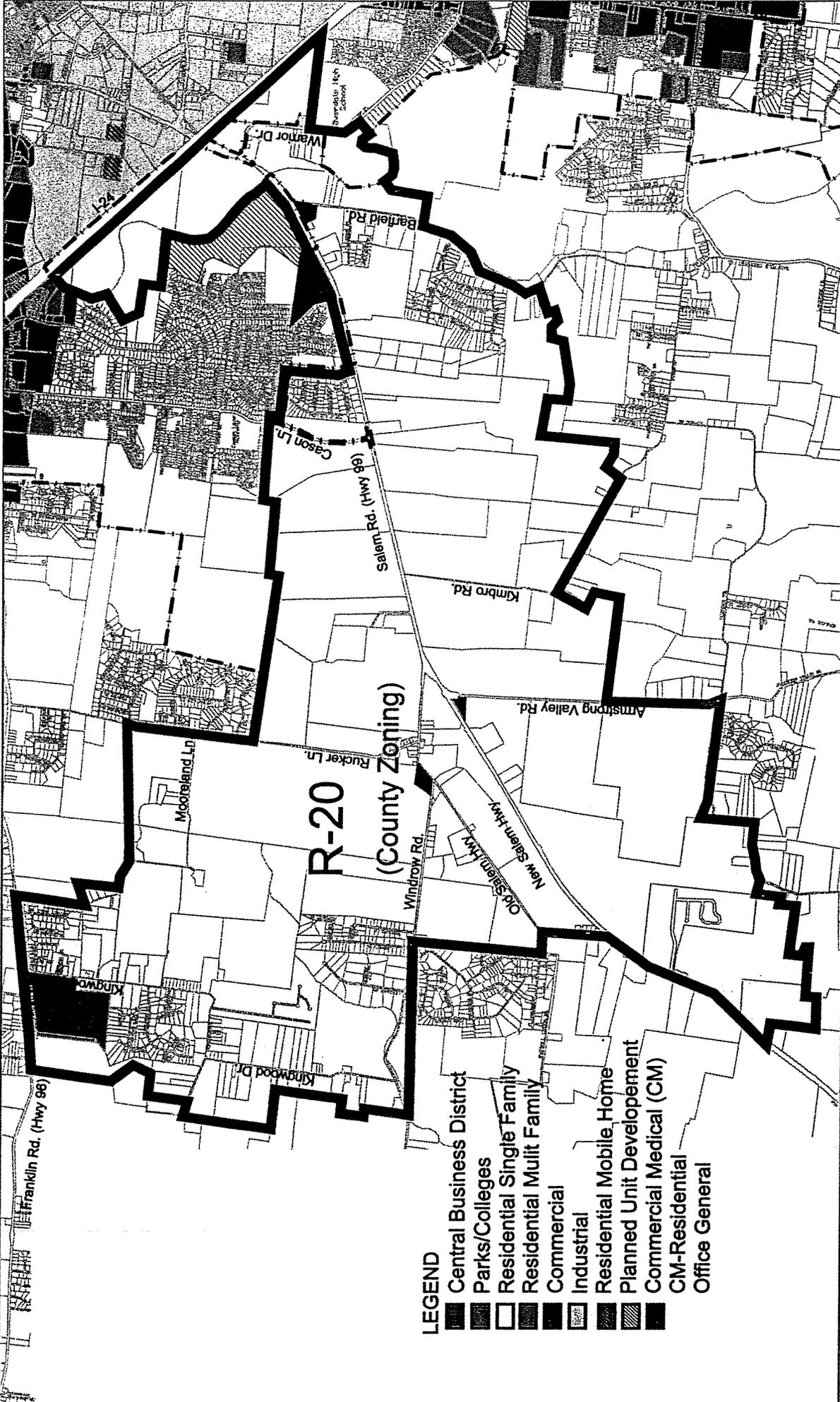
The lower projected population and associated proposed land use does not require build-out of the Study Area by 2020. The higher projected population and associated proposed land use leaves no Farmstead or Undeveloped by 2020.

Table 2.2  
LAND USE – EXISTING & PROPOSED  
2000-2020  
Salem Pike Study Area

Type	Existing (Acres)	Proposed (Acres)	
		Low	High
<b>Farmstead-Total (5+ acres)</b>	<b>6,001</b>	<b>2,335</b>	<b>0</b>
<b>Residential-Total</b>	<b>1,172</b>	<b>4,400</b>	<b>6,685</b>
Single-Family	1,172	4,220	6,355
Multi-Family/Other	0	180	330
<b>Commercial-Total</b>	<b>108</b>	<b>250</b>	<b>380</b>
Convenience	8	40	60
Neighborhood	0	50	120
Community	100	160	200
<b>Institutional-Total</b>	<b>102</b>	<b>240</b>	<b>360</b>
School	0	60	120
Worship/Other	102	180	240
<b>Industrial-Total</b>	<b>4</b>	<b>300</b>	<b>300</b>
<b>Recreation-Total</b>	<b>0</b>	<b>125</b>	<b>225</b>
Park	0	25	125
Other	0	100	100
<b>Transportation-Total</b>	<b>201</b>	<b>350</b>	<b>450</b>
Major Thoroughfare	80	150	200
Other than Local	121	200	250
<b>Undeveloped-Total (Agricultural, Open Space, Other)</b>	<b>812</b>	<b>400</b>	<b>0</b>
<b>Total</b>	<b>8,400</b>	<b>8,400</b>	<b>8,400</b>

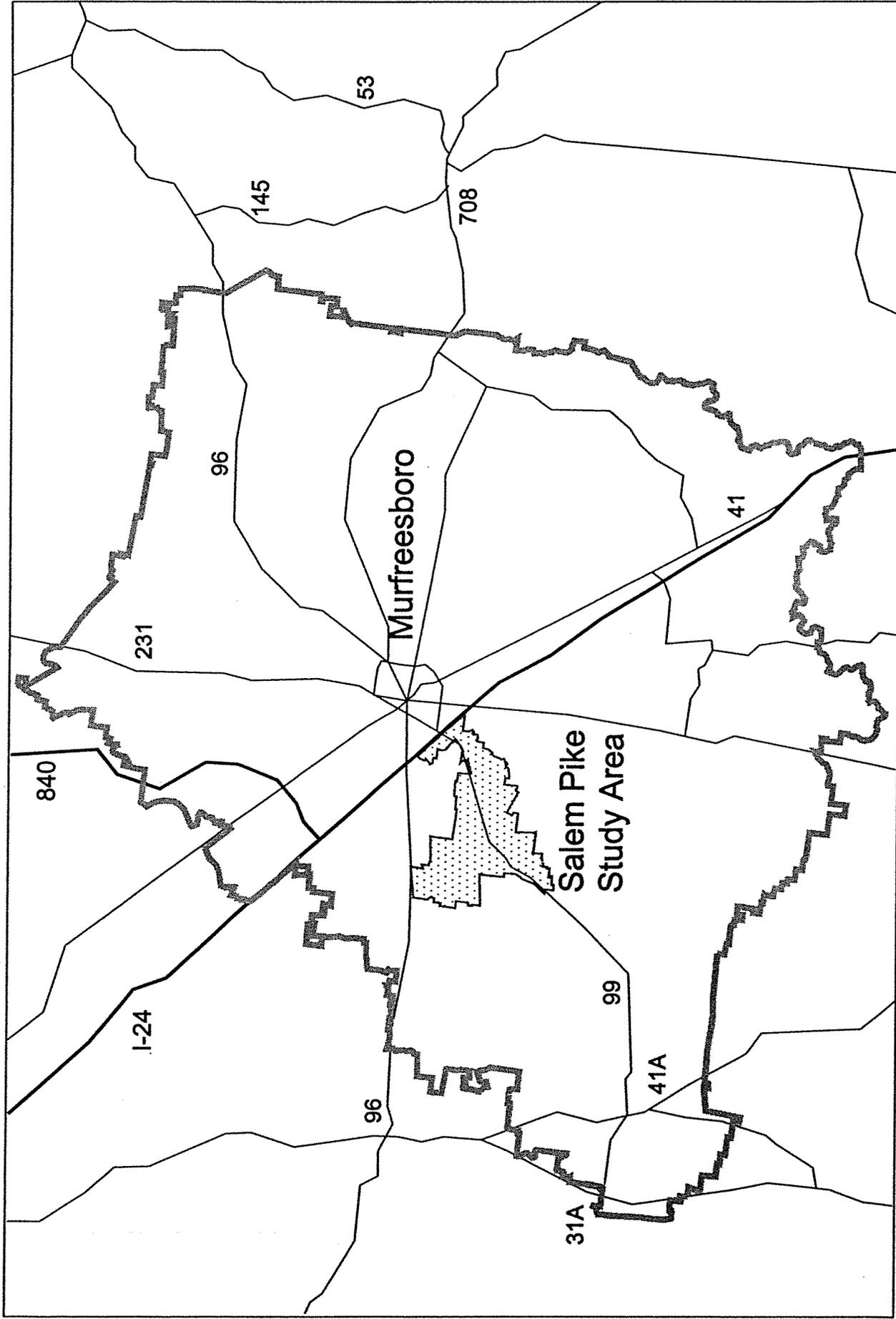
Source: RM Plan Group 2000, 2020

**Appendix D**  
**Existing Zoning Map**  
**and**  
**Urban Growth Boundary Map**



Spring 2000  
**Existing Zoning Map**  
**Salem Pike Study Area**  
 City of Murfreesboro, Tennessee





# Urban Growth Boundary

## Salem Pike Study Area

City of Murfreesboro, Tennessee



rm plan group • Nashville  
community & campus planners