

SOUTHWEST AREA TRANSPORTATION AND LAND USE STUDY

The Southwest Growth Scenarios Technical Memorandum - #3

THE SOUTHWEST GROWTH SCENARIOS

As discussed in Technical Memorandum #1, the jurisdictions of the Southwest subregion have undertaken a significant volume of planning work designed to bring land use policies in line with certain community objectives. Coupled with this are environmental and cultural factors that prevent large-scale development in significant portions of the study area. Land use analysis in the Southwest subregion, then, should consider these factors and work inside of them to determine their likely effects on transportation within the region.

In order to effectively test the modeling tools and land use policies at work in the study area, two alternative growth scenarios have been developed and analyzed. The purpose of these scenarios is to provide an understanding of how modifications in land use patterns and policies can affect the distribution of growth and, ultimately, transportation conditions. The alternatives are intended to provide some contrast to the business-as-usual (BAU) scenario, but are also grounded somewhat by the realities of existing local land use plans.

Like in the BAU, a major assumption inherent in the alternative growth scenarios is that parcels already developed cannot be re-developed with new density within the model. This assumption especially impacts urban areas of the BAU and alternative growth scenarios because otherwise highly-suitable locations are removed from consideration before new population and employment growth is allocated, thus not allowing an area to become any more dense than it already is.

Both alternative growth scenarios were developed from the underlying BAU scenario. In addition to the BAU components of suitability, future land use, and character area, the scenarios are defined by a fourth component – the target growth area. The target growth area is simply a geographic designation which provides a broad-scale emphasis and limitation for where growth is or is not expected. Specifically, the designation of the target growth area specifies that 80% of the total allocation of the county's growth will be within the target growth area, with the remaining 20% being allocated outside of it. Because Williamson County is the only whole county within the study area, target growth areas, and, as a result, alternative growth scenarios, were only applied within Williamson County.

Both alternative growth scenarios were developed with input from Williamson County and the MPO. The two alternative growth scenarios developed for study are referred to as Centers and Corridors (CC) and Wedge Growth (WG).

Perhaps the most critical role of the two alternative growth scenarios is that they have been used to inform the development of the Preferred Growth (PG) scenario for the subregion. The development and makeup of the PG is detailed in this technical memorandum as a direct outcome of the alternative growth scenarios.

1. CENTERS AND CORRIDORS GROWTH SCENARIO

The Centers and Corridors (CC) growth scenario is defined by designated target growth areas around cities, towns, and villages as well as along strategic roadway corridors in Williamson County. The six major jurisdictions, the hamlets and villages designated in the Williamson County Comprehensive Land Use Plan, and six corridor segments were identified as target growth areas. Specifically, these areas are:

- Brentwood
- Franklin
- Fairview
- Nolensville
- Spring Hill
- Thompson’s Station
- Arrington
- Bending Chestnut
- Bethesda
- Boston
- Burwood
- College Grove
- Duplex
- Fernvale
- Flat Creek
- Grassland
- Greenbrier
- Harpeth
- Kingfield
- Kirkland
- Leiper’s Fork
- Rudderville
- Triune
- US 431 – Hillsboro Road and Lewisburg Pike
- US 31 – Franklin Road and Columbia Pike
- US 31A – Nolensville Road and Horton Highway
- SR 96 east of Franklin
- SR 96 west of Fairview
- Highway 100

The target growth areas of CC are shown in Figure 1.1.

Emphasizing development in these areas reflects the objectives of PC1101 which sets forth designated urban growth boundaries to help prevent the widespread growth of new development far from existing city services. Scenario CC also adds a function of reality in the model wherein growth is structured within areas that are most able to accommodate it.

The CC scenario also emphasizes the attractiveness of existing developed or emerging regional corridors for new development. The impact of designated centers likely has less of an impact on the growth allocations for two reasons. First, being located within service areas already established within cities would give these target growth areas a high suitability standing anyway. Second, much of the land within the cities is already developed and the model, therefore, does not allocate new development to these parcels.

By assigning 20% of the total Williamson County growth to areas outside of the target growth areas, several desirable outcomes exist. First, less growth pressure is exerted on areas least likely to accommodate these changes. Most non-target growth areas are rural and do not currently have the infrastructure that is needed to accommodate development. Second, the objective to “keep rural areas rural” as found in the Williamson County Comprehensive Plan is better achieved. Third, forcing the growth inside target growth areas requires urban areas to develop with greater densities – more in keeping with desirable regional trends. Although limiting rural areas to 20% of the growth is an artificial modeling practice and somewhat arbitrary, it may be that the results of such a scenario are quite in keeping with the reality of future development.

Within the CC scenario, 71,074 acres of land (20% of the county total) are designated as a target growth area.

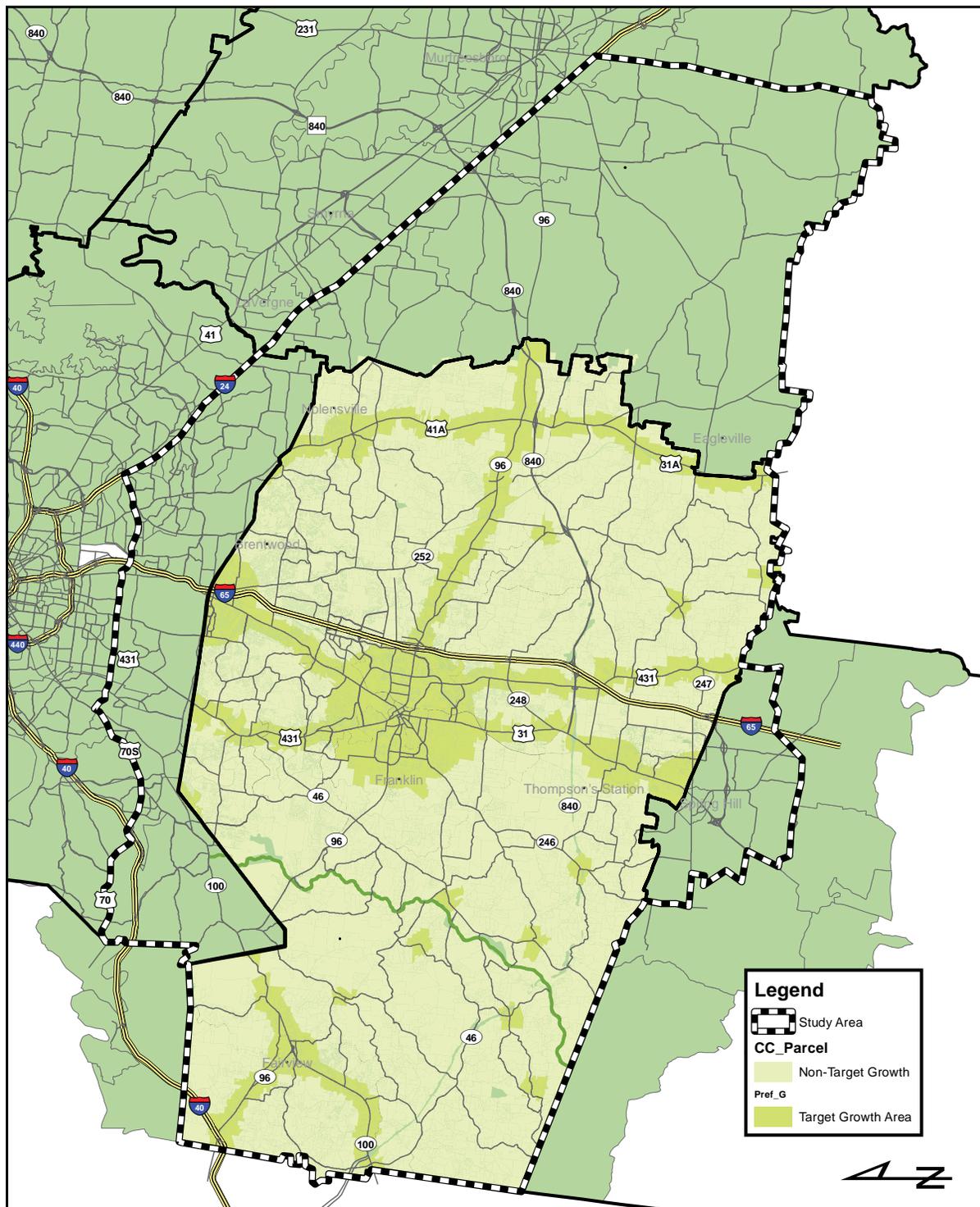


Figure 1.1 Target Growth Areas, Centers and Corridors Scenario

2. WEDGE GROWTH SCENARIO

The Wedge Growth (WG) scenario is based less on regional planning objectives and more on an exaggerated extension of current growth trends within the county over the past few years. This scenario focuses on the growth corridors of I-65 and I-24, with the target growth areas widening in the northern portion of Williamson County. The interstate-influenced growth wedges overlap in the area between Brentwood, Franklin, and Nolensville which has been and continues to be a high-growth area. The growth wedges taper down in width as they extend south, but remain intact in buffered areas along I-65 and I-24. The western edge of the target growth area approximately follows Hillsboro Road, the Franklin City Limits, and Columbia Pike. The WG scenario allows emphasis of growth in all the major jurisdictions except Fairview, few of the identified hamlets or villages, and only the I-65, I-24, US 431, and US 31 corridors.

Within the WG scenario, 93,794 acres of land (26% of the county total) are designated as a target growth area. The target growth areas of the WG scenario are shown as Figure 2.1.

3. PREFERRED GROWTH SCENARIO

A review of the results of the CC and WG scenarios (see Tech Memo 4) allowed the study development team and the local stakeholders to better understand how the model components of suitability, future land use, character area, and target growth areas worked together to produce different subregional demographic results. The Preferred Growth (PG) scenario was a direct outcome of this review and was the scenario most directly built upon stakeholder input.

To formulate the PG scenario, stakeholders were interviewed in small groups and individually to determine what changes to the land use model scenarios were needed in order to most effectively bring the model into alignment with desirable local land use policy. In this discussion, the land use scenario results made it possible to use examples of the effects of model changes within the subregional jurisdictions as well as help explain how best to make model adjustments to introduce the effects of real-world planning policies. Through this process, it was determined that the CC scenario gave demographic allocation results that were both realistic given Williamson County's growth history and were in tune with local planning objectives of planning.

Specifically, the PG scenario was developed by modifying three of the four land use model attributes in particular locations of Williamson, Davidson, and Rutherford Counties. These were parcel suitability, future land use, and character area.

A summary of the model attribute changes made in the development of the PG scenario is given in Table 3.1. Figure 3.1 shows the character areas used by the PG.

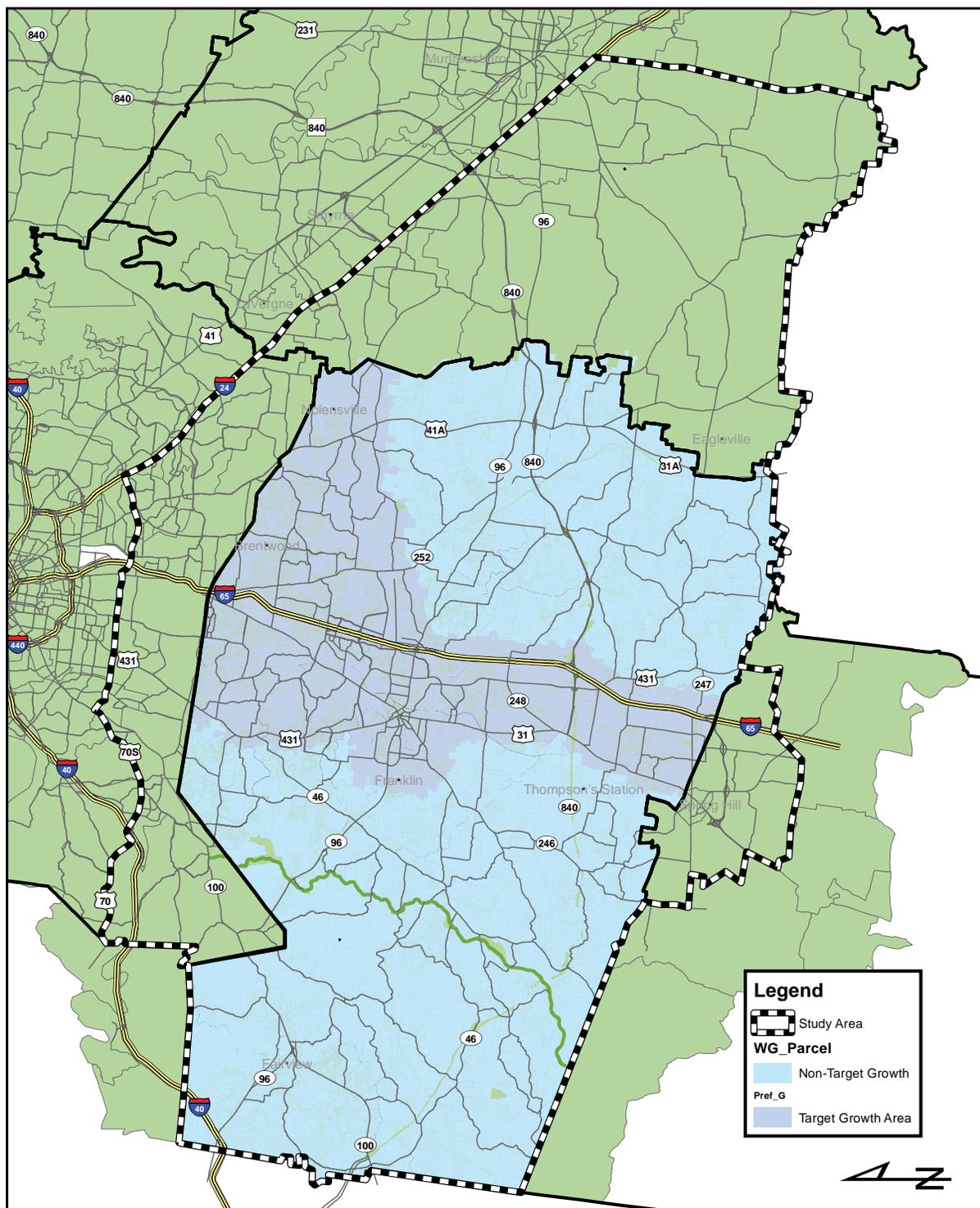


Figure 2.1 Target Growth Areas, Wedge Growth Scenario

Jurisdiction	Revised Model Attribute	Revision Made (using CC scenario as base)
Brentwood	Parcel Suitability	Modified parcels to allow selective redevelopment of office uses within the Brentwood Town Center
Franklin	Future Land Use/ Character Area	Modified allocation of general urban, mixed use to be 67% residential and 33% non-residential Modified allocation of suburban mixed use to be 80% residential and 20% non-residential Modified allocation of activity center mixed use to be 80% residential and 20% non-residential
Fairview	Parcel Suitability/ Future Land Use/ Character Area	Changed character area of Bowie Nature Park to open space Allow redevelopment of I-40/SR 96 interchange to suburban general commercial on the northwest side of I-40 Create uniform corridor of general commercial along Hwy 100 and extending west to Valley Rd Create a suburban general commercial node at the SR 840/Hwy 100 interchange Develop a small area of urban general commercial along Hwy 100 at the northeast corner of Bowie Park
Nolensville	Future Land Use/ Character Area	Create a uniform corridor of general commercial along Nolensville Rd and extending south to Williams Rd Develop a small suburban mixed use node at the intersection of Nolensville Rd and York/Williams Rd Modified allocation of suburban mixed use to be 80% residential and 20% non-residential
Spring Hill	Parcel Suitability/ Future Land Use/ Character Area	Changed suitability of mixed use areas adjacent to I-65 and Thompson Station Rd (new interchange proposed in this area would make this acreage more desirable) Modified allocation of suburban mixed use to be 60% residential and 40% non-residential

Table 3.1 Summary of Model Changes Defining the PG Scenario (1 of 3)

Jurisdiction	Revised Model Attribute	Revision Made (using CC scenario as base)
Thompson's Station	Future Land Use/ Character Area	<p>Revised all multi-family residential along the Columbia Pike corridor and south of SR 840 to single family residential. Lowered the density of suburban single family residential to 4.0 units per acre.</p> <p>Defined a commercial corridor (suburban general commercial) along the Columbia Pk (from 840 to Buckner Rd) and Lewisburg Pk (from 840 to Thompson's Sta Rd) corridors</p> <p>Changed triangle of land in between 840, I-65, and Lewisburg Pk to suburban general commercial</p> <p>Added a small node of suburban general commercial at the intersection of Columbia Pk and Thompson's Station Rd</p> <p>Added a small area of suburban general commercial around the intersection of Thompson's Station Rd and I-65</p>
Williamson County (unincorporated)	Character Area	Adjusted the transitional areas (rural and conservation character areas) of eastern county boundary to blend with character areas of western Rutherford County
Smyrna	Future Land Use/ Character Area	<p>Changed the character area around the interchange at SR 840 and Almadillo Rd to an employment center</p> <p>Selectively changed land uses in the Almadillo Rd corridor (from Rocky Fork Rd to SR 840) to general commercial and mixed use</p> <p>Created a general commercial, multi-family residential, and mixed use (80% residential, 20% non-residential) corridor along the proposed Rocky Fork Rd extension from Almadillo Rd to a proposed interchange at SR 840</p> <p>Created a general commercial node in the area of a proposed interchange of Rocky Fork Rd and SR 840. Increased suitability here due to potential interchange access</p>

Table 3.1 Summary of Model Changes Defining the PG Scenario (2 of 3)

Jurisdiction	Revised Model Attribute	Revision Made (using CC scenario as base)
Rutherford County (unincorporated)	Future Land Use/ Character Area	<p>Modified character areas to replicate those found in new county comprehensive plan</p> <p>Adjusted the transitional areas (rural and conservation character areas) of western county boundary to blend with character areas of eastern Williamson County</p>
Metro Nashville-Davidson County	Character Area	Modified character areas into closer conformity with the 2008 Community character Manual)

Table 3.1 Summary of Model Changes Defining the PG Scenario (3 of 3)

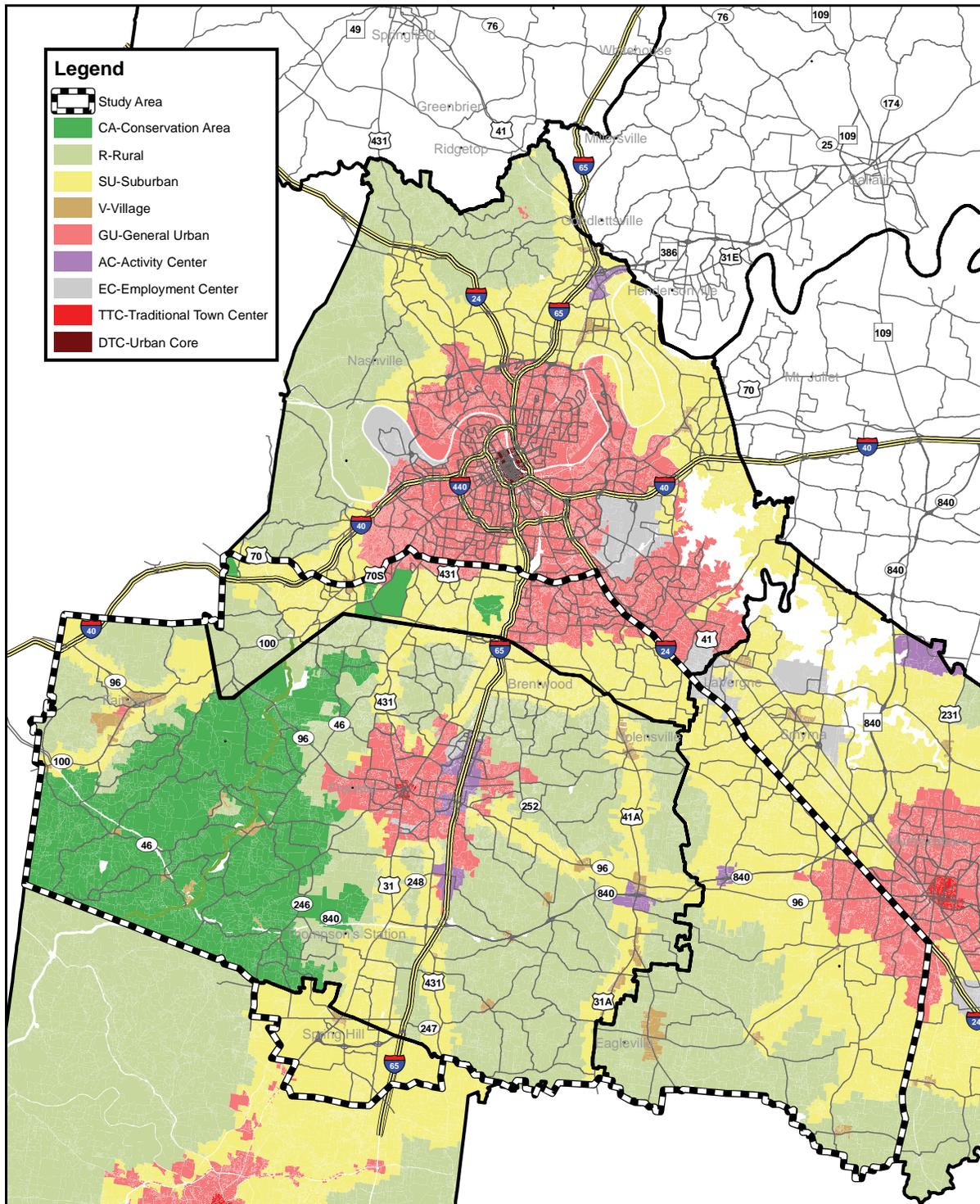


Figure 3.1 Character Areas, Preferred Growth Scenario