

TOWN OF LELAND

MASTER PLAN



Revised and Adopted by Council 5/21/2009

ACKNOWLEDGEMENTS



We would like to thank the Town of Leland and the numerous citizens who participated in this exciting planning process. This effort is a reflection of the community's vision and serves as the foundation for a growing community. It is intended to guide the leaders of today and the visionaries of tomorrow.
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FRAMEWORK PLAN: ENVIRONMENTAL CONSIDERATIONS

The Framework Plan illustrates the practical result of applying the TransectMap methodology to Leland's planning area. Particular attention has been paid to conserving critical wetlands and other environmentally sensitive areas while acknowledging the pace and intensity of development, particularly within the southern portions of the study area on either side of US 17.

The six geographic regional sectors of the transect mapping system create the principal framework of environmental and development classification for this new plan. Sectors S-1 and S-2, the most restrictive environmental classifications, are closely based on requirements and categories established by various North Carolina state authorities, especially the NC-CREWS (North Carolina Coastal Region Evaluation of Wetland Significance) *Strategic Plan for Improving Coastal Management in North Carolina* (1999) and the *North Carolina Wildlife Commission's Guidance Memorandum to Address and Mitigate . . . Impacts to . . . Wildlife Resources and Water Quality* (2002).

One particularly important classification is the NC-CREWS delineation of wetlands into three types: Exceptional Wetlands (the most critical for good water quality); Substantial Wetlands (important wetland areas that contribute to the overall ecology); and "Beneficial Wetlands" (those areas that should be preserved where possible, but which are of lower overall importance on the ecological measurement scales). This Plan uses the NC-CREWS classifications in developing the physical Framework Plan for land uses, development and conservation areas.

The NC-CREWS plan notes that:

"approximately 50 percent of the original wetlands of the coastal area have been drained and converted to other land uses (Hefner and Brown, 1985; Dahl, 1990; DEM, 1991). Although agricultural conversion, the largest historical contributor to wetlands loss, has largely stopped, wetlands continue to be lost as they are drained or filled for development. Conflicts between economic development and wetlands protection continue to be a major concern, with many coastal communities considering wetlands protection to be a major barrier to economic development. Since wetlands are such a dominant part of the coastal landscape and are vitally important to many aspects of the area's ecology, their management and protection is a major concern. . . Environmental considerations play a significant role in land use decision-making and are one of the major objectives of the local land use planning mandated by the NC Coastal Area Management Act."

In their report, the North Carolina Wildlife Resources Commission (NCWRC) notes that "riparian" areas, that is, land areas along and

adjacent to rivers, creeks and streams:

" . . . perform many functions that are essential to maintaining water quality, aquatic species survival, and biological productivity. . . The use of wooded riparian buffers is an important tool in reducing damage to streams (Waters 1995) [and convey] critical benefits to society."

According to the NCWRC, riparian areas provide the following benefits:

- Reduce pollutants and filter runoff
- Improve air quality and lower ozone levels
- Maintain stable water flows
- Help maintain water and air temperature by providing shade
- Stabilize stream banks
- Provide most of the organic carbon and nutrients to support the aquatic food web
- Provide sources of large woody debris for the stream channel
- Help reduce the severity of floods
- Facilitate the exchange of groundwater and surface water
- Provide critical wildlife habitat

In addition to maintaining appropriate stream buffers, this Plan seeks to maintain key wooded areas as wildlife corridors and, where compatible, to utilize these areas for active and passive recreation for the citizens of Leland.

RECOMMENDATIONS

This plan concurs with the following recommendations of NCWRC and further recommends that the NCWRC document be used for guidance in land use and environmental policy and regulation for the Town:

Increase Minimum Riparian Buffer Widths

"For a buffer to effectively perform for all riparian processes, wider contiguous buffers (100–300 feet) are recommended. . . We recommend the maintenance or establishment of a minimum 100-foot native forested buffer along each side of perennial streams and 50-foot native forested buffer along each side of intermittent streams and wetlands throughout the present and future service areas or the entire municipal jurisdiction. . . We additionally encourage the implementation of buffers on ephemeral streams due to the important functions that they provide as headwater streams. . . Buffers should be measured horizontally from the edge of the stream bank. . . and must be provided over the entire length of stream, including headwater streams." This is consistent with recent North Carolina Division of Water Quality recommendations which suggest 50-foot minimum stream buffers, but state that 100-foot buffers are preferred for long-term water quality protection.

Enhance Minimum Open Space Requirements

"Further, we recommend leaving 30% of the development area as greenspace, which would include buffers and wetlands and ensure that the greenspace is connected to natural resources." Open space requirements for specific developments should be based on the location of the development in the Framework Plan. For example, 30% may be an appropriate target for neighborhoods in the S-3 and S-4 sectors. Areas in the S-1 and S-2 sectors should require 50 to 100% undisturbed area. As neighborhoods and centers become more urbanized, the percentage of open space required may be much less in area, but the detailing would be more formal in nature with increased landscaping, seating, play equipment, shelters, and community buildings. The Town will want to develop appropriate open space requirements as it considers updating its development regulations in the near future.

Prohibit Development in the 100-year Floodplain

"We recommend maintaining individual property rights; and the use of a non adverse impact common sense strategy to mitigate loss and protect natural functions of flood plains. The Town should adopt a no rise policy as part of this strategy. No Rise Policy- Property owner may fill in the floodplain with a building or foundation but they have to create an equal amount of void area by digging out "high" ground to offset this. This way the overall basin is not getting smaller, and having less volume to hold water.

Encourage Infill in Developed Areas"In addition we encourage "infill" development in urbanized portions of the jurisdiction." This Plan recommends that the VillageRoad area is the most important infill area for the Town because of the established utilities and infrastructure there, but also because this area has the fewest environmental constraints of any area of the Town. The Town should develop guidelines and development incentives for infill development as part of updates of the Town's policies and regulations.



S-1 PRESERVED OPEN SPACE

The S-1 sector represents the basic “green infrastructure” of the community providing critical habitat for wildlife; protection of water quality and protection from flooding and erosion; and needed recreation and greenspace for the human habitat. This category, indicated in dark green on the Framework Map, comprises lands that are already non-developable, such as protected agricultural lands and woodlands, wildlife habitats and critical wetlands.

In the particular case of the Leland community, this sector specifically consists of:

- “Exceptional” wetlands with riparian buffer;
- Floodways with riparian buffer;
- Existing parks; and,
- Conservation easements.

APPROPRIATE LAND USES/DEVELOPMENT TYPES:

- conservation areas,
- parks & greenways
- agricultural and forestry uses
- water access areas
- limited civic uses such as schools

In addition to the geographic sectors, the Framework Plan indicates two related special land uses: the existing schools and other civic sites such as the town hall, shown in dark purple. These properties are assumed to be part of the community’s permanent green infrastructure since large pieces of land on these properties will be open space.

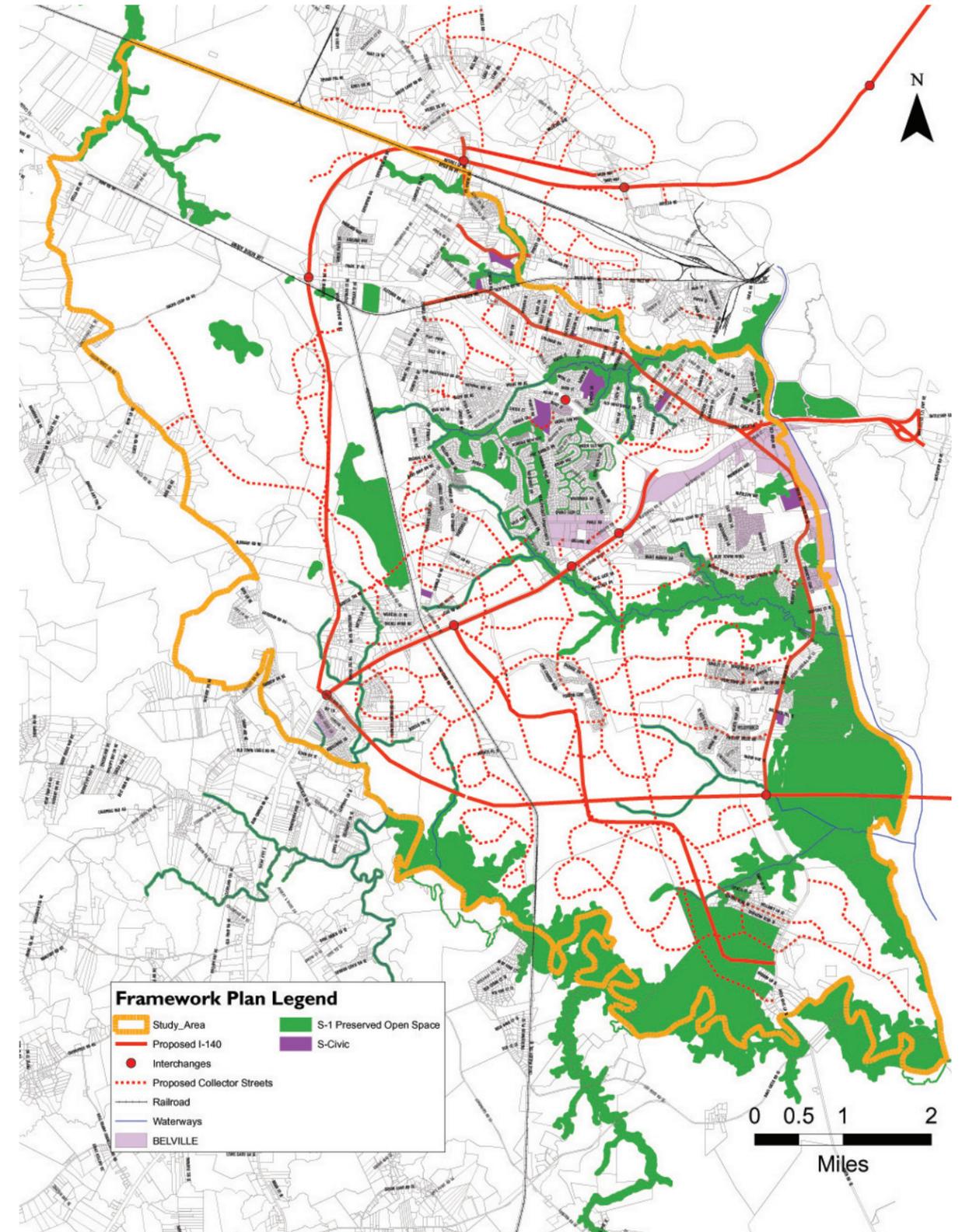


Streams and wetlands are typical S-1 sector features.



Source: Kinley-Horn & Associates

Creekside greenway trail, a typical S-1 sector land use



S-2 RESERVED OPEN SPACE



Rural area outside of a historic Pennsylvania town center

S-2 sector lands represent areas that are prime candidates for moving into the S-1 sector through conservation easements or other open space acquisition/protection measures. This sector, shown in medium green on the Framework Map, consists of lands that should be off-limits to development except occasional structures at very low densities. These areas may be legally developable based on current federal, state, and local regulations. However, they are areas that based on environmental and urban service factors (difficulty of providing sewer and water service and roadways, for example) should be lightly developed or undeveloped, remaining in a rural or natural state.

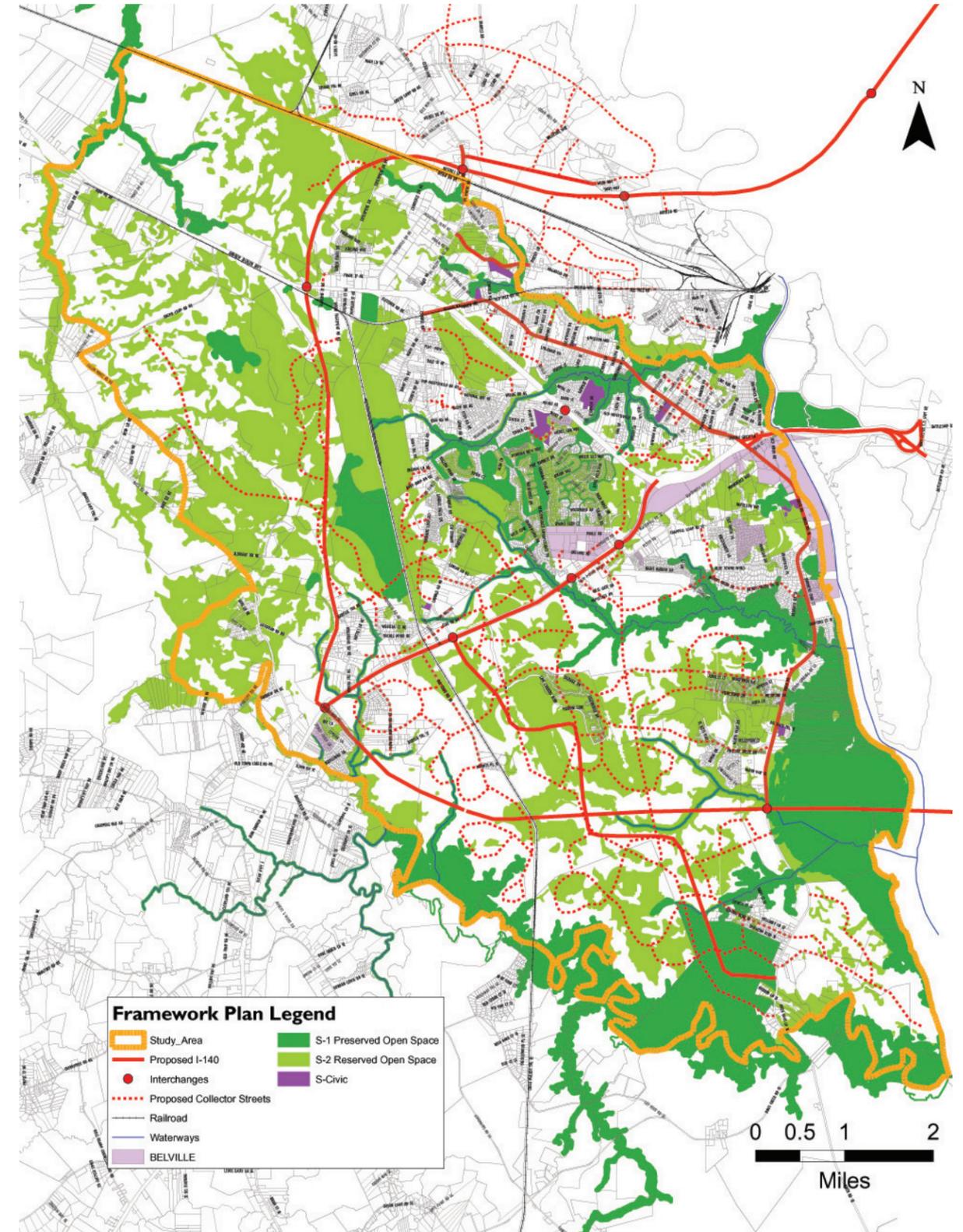
In large part, these areas correspond (however, in a more detailed fashion) with locations recommended for “conservation” on the Brunswick County Future Land Use Map.

Examples of S-2 lands include important agricultural land, floodplains and certain kinds of wetlands. In the particular case of the Leland community, this sector specifically consists of:

- “Substantial” wetlands
- Flood Zones A, AE, V & X500 (100 year or 500 year flood hazard areas)

APPROPRIATE LAND USES/DEVELOPMENT TYPES:

- Conservation areas,
- Parks & greenways
- Agricultural and forestry uses
- Limited civic uses such as schools
- Very low-density residential development and clustered development (no greater than 1 dwelling unit per 5 gross acres)



S-3 RESTRICTED GROWTH SECTOR

Source: Randall Arendt



Conceptual view of hamlet-type development: buildings clustered around a cross-roads

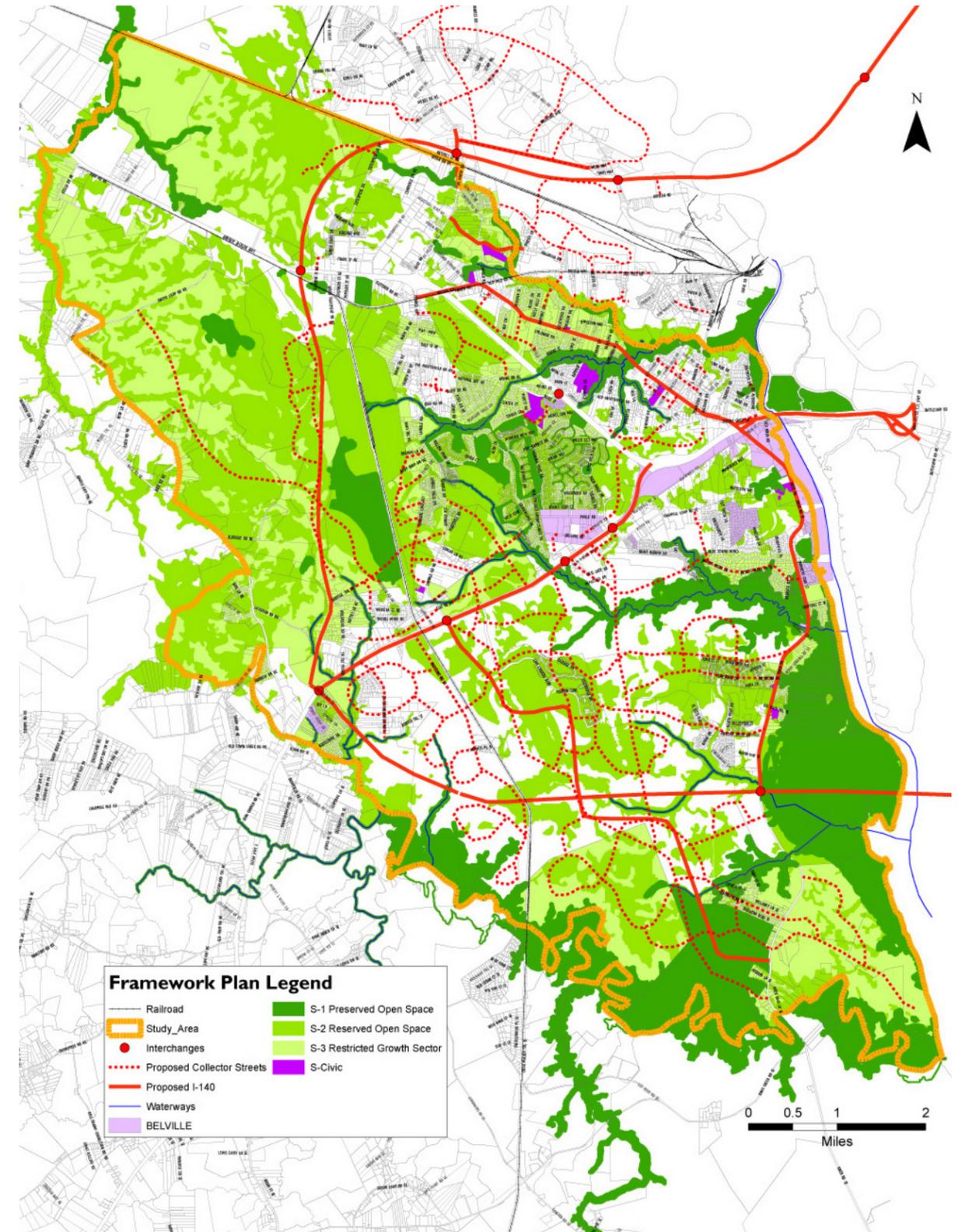
The S-3 sector, indicated by the lightest green on the Framework Map, is intended for very limited development under tightly regulated conditions. This sector is generally classified as lands that are not proximate to thoroughfares and are not projected to be high growth areas due to limited access to transportation networks and utilities.

The S-3 sector includes “Beneficial Wetlands” as defined by NC CREWS. Appropriate development typically consists of small hamlets and cluster developments such as conservation subdivisions, or very low-density residential development on very large lots. In the particular case of the Leland community, this sector is generally located away from planned neighborhood or regional centers and close to heavily encumbered S-1 or S-2 land. This sector is typically the last to be specified as it represents the land that remains after all of the other sectors have been designated.

APPROPRIATE LAND USES/DEVELOPMENT TYPES:

The community types and land uses appropriate for this sector are:

- low density cluster developments or hamlets (a clustering of buildings around a rural crossroad)
- low-density residential development (up to 1 dwelling unit per 2 gross acres; preferably no greater than 1 dwelling unit per 5 gross acres)
- very limited convenience retail uses
- civic uses (parks, schools, religious and government uses)



S-4 CONTROLLED GROWTH SECTOR



Mix of housing types in a new neighborhood



Neighborhood-scaled mixed-use building



Housing and civic uses in a neighborhood

The S-4 sector contains denser, mixed-use development at the scale of neighborhood centers, indicated by light blue circles, and suburban, residential development at the scale of walkable “traditional neighborhoods” shown in beige. This type of residential development creates an identifiable center organized around a small public square or green, often with some civic facilities or a building such as a church or a small store. Local, slow-speed streets form a connected network, with larger collector streets. Paths form pedestrian connections linking sidewalks to internal parks and preserved open space along the boundaries of the neighborhood. This pattern of development can be more environmentally sensitive to its context and can provide improved public health benefits for citizens through its capacity for safe walking and cycling.

S-4 lands are typically close to thoroughfares and at key cross-road locations. In the particular case of the Leland community, this S-4 sector specifically includes much of the Brunswick Forest and Mallory Creek future developments and a smaller amount of developable land on the northern side of US 17. Other neighborhood centers and residential neighborhoods are clustered at the northern end of the Village Road corridor, with limited mixed-use development at freeway interchanges on the future I-140, and the area around the junction of Old Fayetteville and Lanvale Roads.

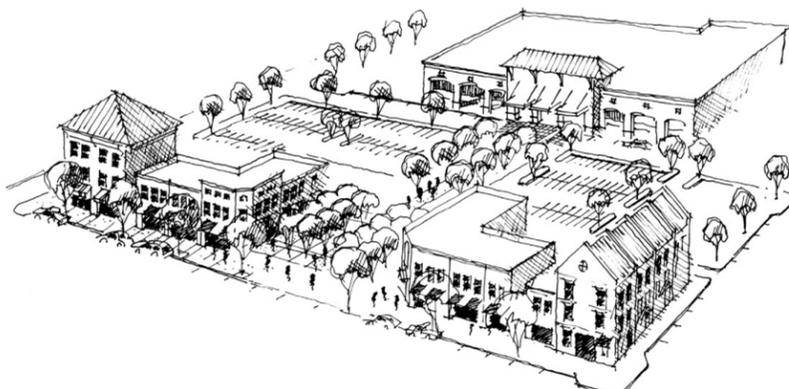
APPROPRIATE LAND USES/DEVELOPMENT TYPES:

The following community types and uses are appropriate in the S-4 sector:

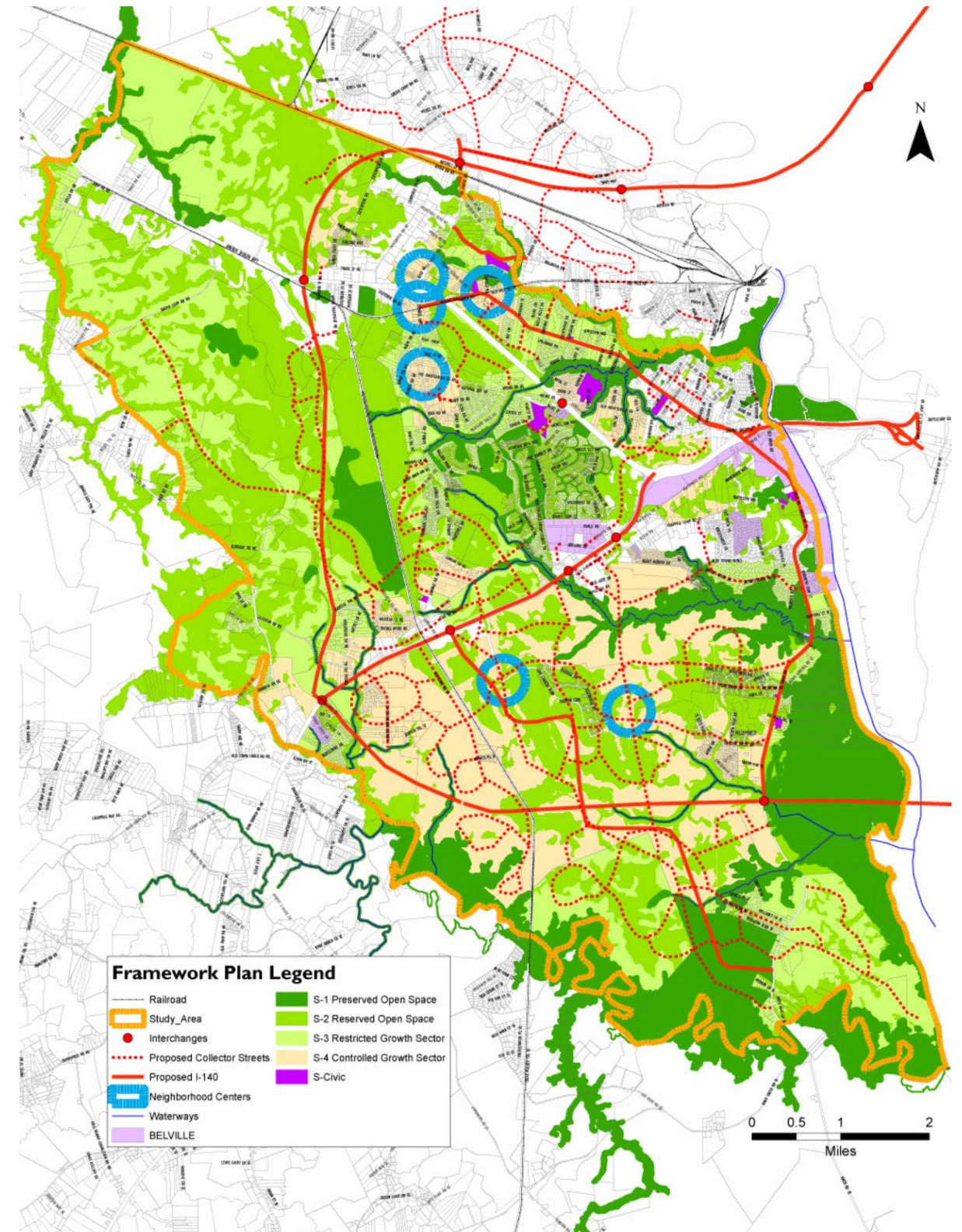
- traditional neighborhood developments
- neighborhood centers
- single-family and multifamily residential
- neighborhood-serving commercial uses (retail and office)
- civic uses
- light industrial uses

NEIGHBORHOOD CENTERS

Neighborhood Centers, shown on the framework plan in the light blue circles, are based on a 1/4 mile radius (a typical 5-minute walk) from a key intersection. They are intended to be mixed-use activity centers serving surrounding neighborhoods with retail, services, civic uses, and higher density housing. A neighborhood center should not contain more than 80,000 to 120,000 square feet of commercial uses. A grocery-anchored mixed-use development is a typical use for a neighborhood center.



A grocery-anchored mixed-use development is a typical neighborhood center use.



S-5 INTENDED GROWTH SECTOR



Mixed-use town center development



Mixed-use building in a regional center with residential above retail



Regional centers contain a mixture of higher density commercial and residential uses



Industrial, warehouse, or distribution-type building

Sector S-5, indicated in mustard yellow, is intended to apply along high-capacity regional thoroughfares at major transportation nodes and interchanges, or along portions of highly-traveled corridors. S-5 land generally falls within areas for higher-intensity regional center development, marked by the dark blue irregular oval boundaries.

Care should be taken to limit the length of S-5 corridor developments to avoid the creation of lengthy, undifferentiated linear strip development. Attention to local geography and landscape conditions can assist in this definition, as indicated on the Framework Map along the US 17 corridor.

APPROPRIATE LAND USES/DEVELOPMENT TYPES:

The full-range of community types and uses are appropriate in the S-5 sector, including:

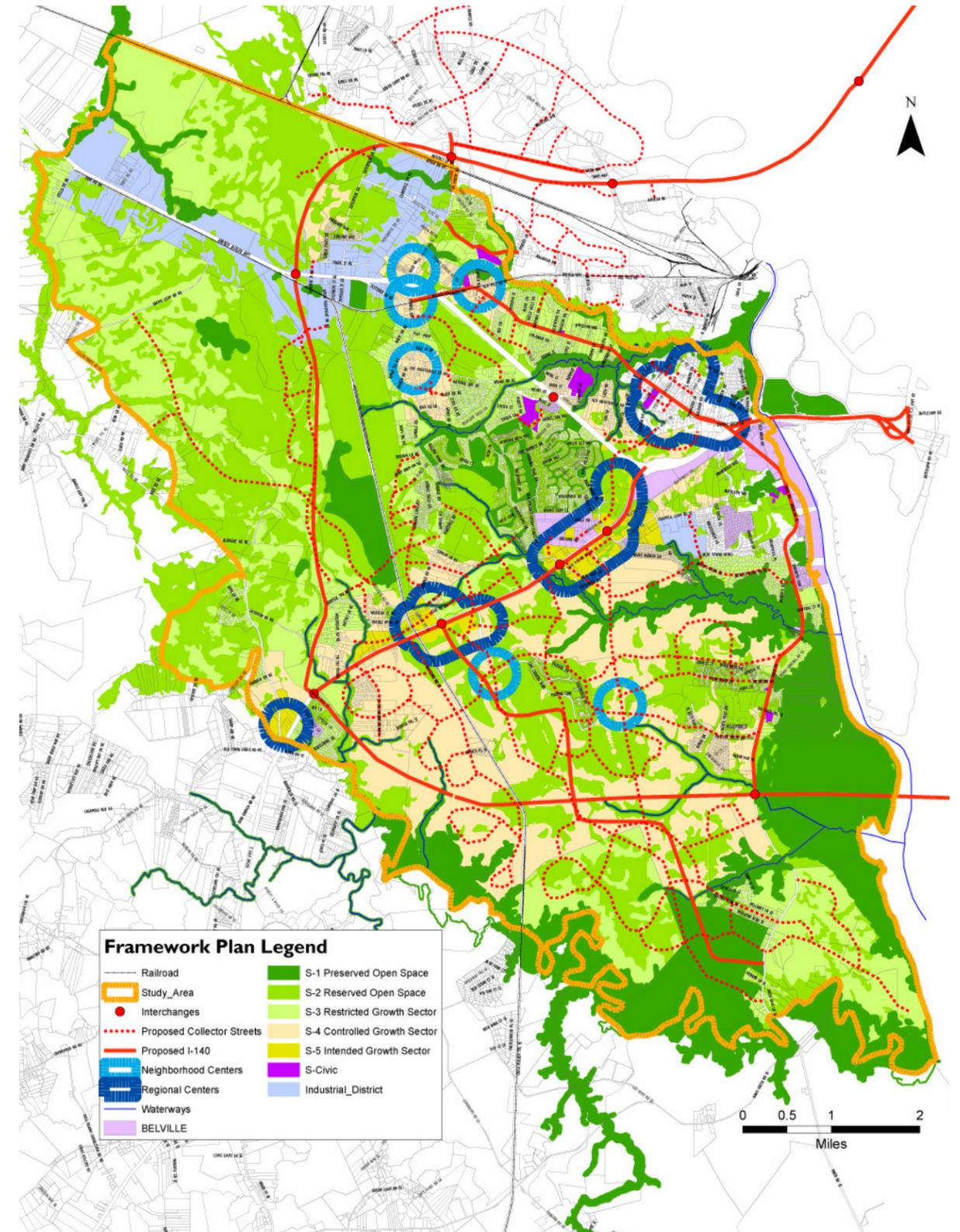
- single-family and multifamily residential
- neighborhood-serving commercial uses (retail and office)
- civic uses
- traditional neighborhood developments
- neighborhood centers
- regional centers
- industrial districts

REGIONAL CENTERS

Regional Centers are mixed-use activity centers with employment and commercial uses that attract people from beyond the immediate neighborhoods and from surrounding communities. These centers are appropriate for commercial and employment development as well as the area's highest density housing. The area of these centers is based on a 1/2 mile radius (a typical 10-minute walk)—the larger dark blue circles on the map. Regional centers are envisioned for downtown Leland; at the emerging retail commercial area along US 17; around the planned commercial development at Brunswick Forest; and near the junction of the future I-140 interchange with US 17. These centers are also logical locations for future mass transit station areas as they will provide the highest concentrations of residential and employment in the Plan area.

INDUSTRIAL DISTRICTS

As regional employment centers, industrial districts also fall into the S-5 sector. Industrial development is shown around the existing Leland Industrial Park and along the US 74/76 corridor in the northwest portion of the study area, where industrial and distribution facilities are currently concentrating.



S-6 INFILL/REDEVELOPMENT



Town center building concept from charrette



New mixed-use, town center buildings in Fort Mill, SC



Town center building concept from charrette



New, urban townhomes and condos

Source: Michael Ronkin

Sector S-6 is comprised of areas with existing development, with a relatively dense street grid, and which are appropriate for redevelopment or additional development. These areas are shown in the red color on the map at right. This includes most of the southern portion of the Village Road corridor and the downtown area adjacent to the US 74/76 interchange.

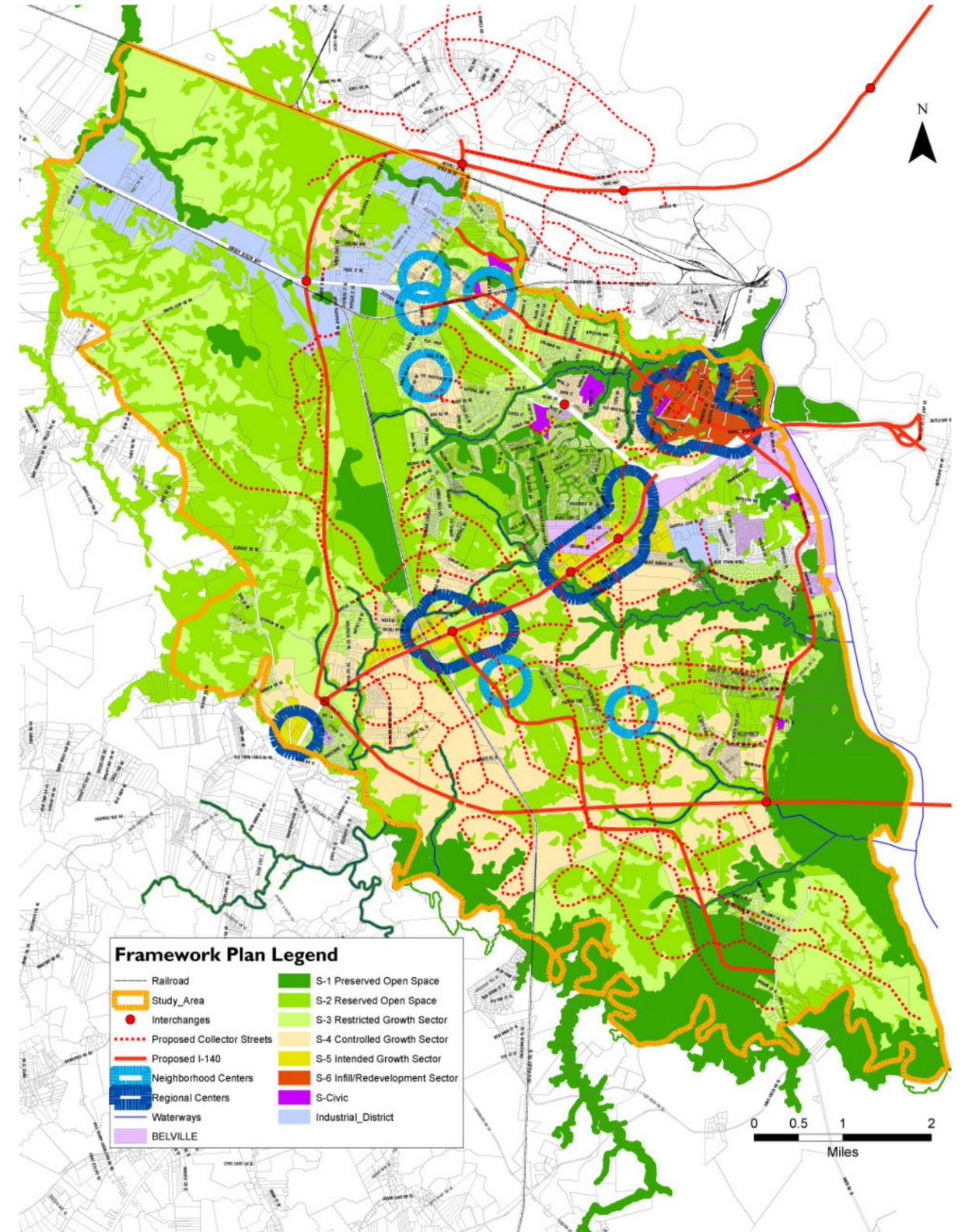
This area is, in large respect, appropriate for redevelopment and new infill development and well served with infrastructure (roads, utilities, etc.), and access to services and amenities. Because this area is already well provided for in terms of urban services, it is the most efficient and most attractive area for redevelopment of underutilized land or development of vacant parcels. It is also one of the best areas for development in terms of minimizing new environmental impacts to natural areas since the area has been built upon for decades.

Infill and redevelopment is already occurring in this area with the construction of new townhomes and multifamily dwellings on vacant land or replacing former mobile home sites.

APPROPRIATE LAND USES/DEVELOPMENT TYPES:

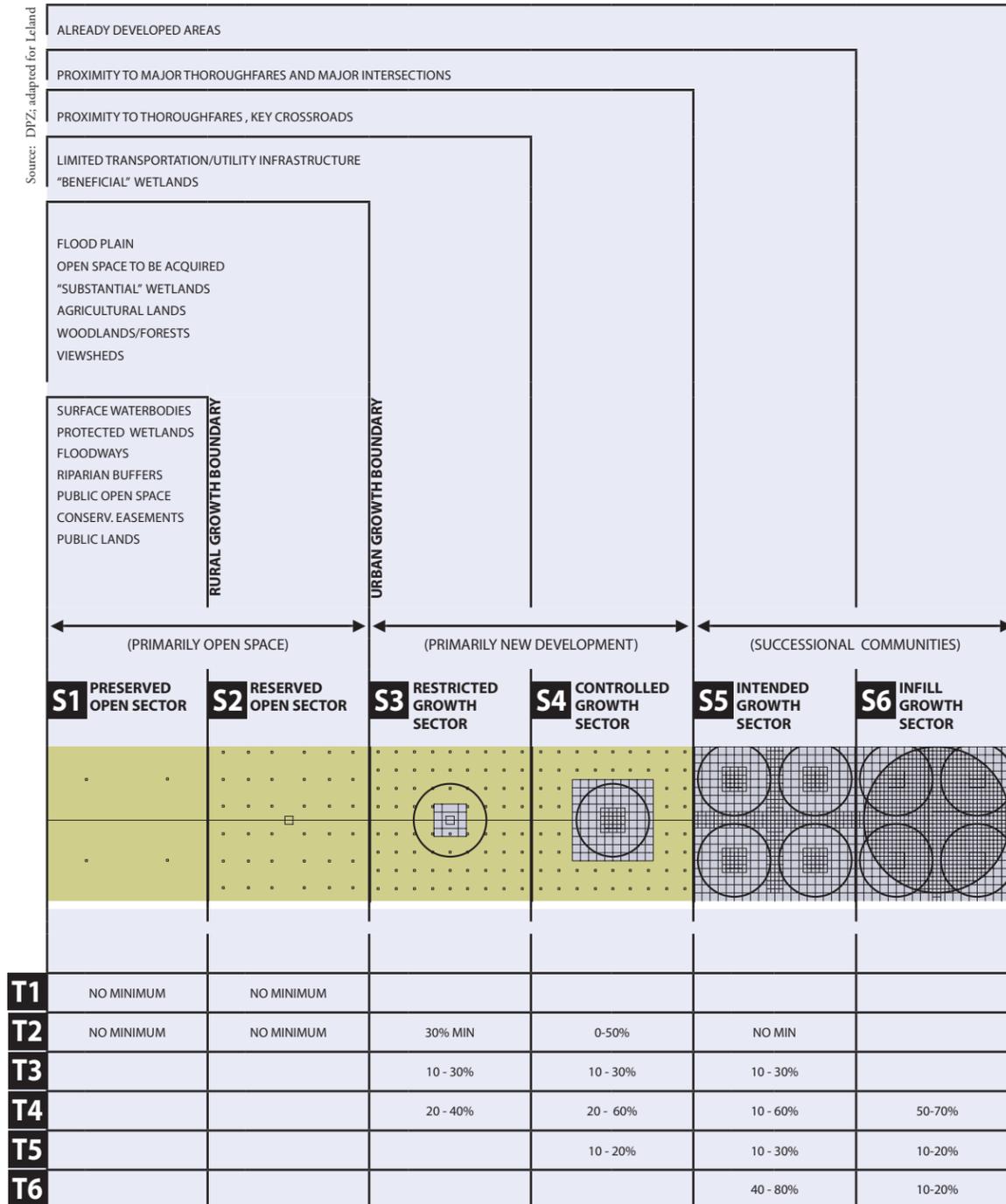
In-depth discussion of concepts for downtown development, redevelopment and infill neighborhood development is included in the Focus Areas section. In general, however, the following development types and uses are appropriate in the S-6 sector.

- single-family and multifamily residential
- new neighborhoods
- commercial uses (retail and office)
- mixed-use development
- civic uses
- light industrial uses



FRAMEWORK PLAN SUMMARY

Sector/Transect Zone Allocation: This table defines the geography, including both natural and infrastructural elements, which determine the areas suitable for the regional sectors specified in the Framework Plan. This table also suggests the appropriate proportions of Transect Zones within each regional sector. The Transect Zone application should be further refined as the community develops new development regulations.



Transect Zone Descriptions: The following are descriptions of the appropriate character of Transect Zones for Leland. These standards should be further detailed as the Town rewrites its development regulations

T1	T-1 NATURAL General Character: Natural landscape with some agricultural use Building Placement: Not applicable Frontage Types: Not applicable Typical Building Height: Not applicable Type of Civic Space: Parks, Greenways
T2	T-2 RURAL General Character: Primarily agricultural with woodland & wetland and scattered buildings Building Placement: Variable Setbacks Frontage Types: Not applicable Typical Building Height: 1- to 2-Story Type of Civic Space: Parks, Greenways
T3	T-3 SUB-URBAN General Character: Lawns, and landscaped yards surrounding detached single-family houses; Building Placement: Large and variable front and side yard Setbacks Frontage Types: Porches, fences, naturalistic tree planting Typical Building Height: 1- to 2-story with some 3-Story Type of Civic Space: Parks, Greenways
T4	T-4 GENERAL URBAN General Character: Mix of houses, townhouses & small apartment buildings, with scattered commercial activity; balance between landscape and buildings; presence of pedestrians Building Placement: Shallow to medium front and side yard Setbacks Frontage Types: Porches, fences, Typical Building Height: 2- to 3-story with a few taller mixed use buildings Type of Civic Space: Squares, Greens
T5	T-5 URBAN CENTER General Character: Shops mixed with townhouses, larger apartment houses, offices, workplace, and civic buildings; predominantly attached buildings; trees within the public right-of-way; substantial pedestrian activity Building Placement: Shallow setbacks or none; buildings oriented to street defining a street wall Frontage Types: Stoops, shopfronts, arcades Typical Building Height: 3- to 5-story with some variation Type of Civic Space: Parks, Plazas and Squares, median landscaping
T6	T-6 URBAN CORE General Character: Medium to high-density mixed use buildings, entertainment, civic and cultural uses. Attached buildings forming a continuous street wall; trees within the public right-of-way; highest pedestrian and transit activity Building Placement: Shallow setbacks or none; buildings oriented to street, defining a street wall Frontage Types: Stoops, shopfronts, and arcades Typical Building Height: 2- to 4-story with a few taller buildings Type of Civic Space: Parks, Plazas and Squares; median landscaping

The American Transect. Drawing by James Wassell

THE FRAMEWORK PLAN

