

Town of Caroline

Draft

2020 Comprehensive Plan

This document has not been fully formatted (no columns, text boxes or other features of layout) in order to facilitate revisions after the first round of public comment. A formatted version with revisions from the first public comment period will be presented for further public comment.



Table of Contents

Welcome	ii
Land Acknowledgement	iii
20 Year Vision	iv
Snapshot of Changes	1
Maps 1-1 to 1-4	5
Livability in Caroline	9
Where We Live	9
How We Live	10
Goals	12
Actions	13
References	13
Environmental Protection and Natural Resources	14
Environmental Protection	14
Natural Resources	18
Goals	21
Actions	21
References	22
Maps 3-1 to 3-10	23
Rural Character	33
Introduction and Purpose	33
Development & Residential Growth: Impact on Rural Character	33
Changing Agricultural Landscape & Strategies for Addressing	34
Current Trends	34
Goals	35
Actions	35
References	35
Appendix A: Assessment of Action Items in 2006 Plan	37
Appendix B: The Plan Review Process	41
Appendix C: Community Survey Results	43
Appendix D: Vision Map from 2006 Plan	51
Acknowledgements	52

Greetings, reader! We are so glad you're here, getting to know our community.

The Town of Caroline is beloved by many because of its people, places and values, all of which have both historic roots and contemporary vision. This Comprehensive Plan represents an articulation of the town's character, preferences and goals for the future as Caroline continues to grow.

This updated plan follows the Comprehensive Plan of 2006. In 14 years, the vision and core values of our town have remained consistent. However, increased interest in our town's growth has catalyzed some additional and important considerations, which are outlined in this updated document. The purpose of comprehensive planning is to identify a clear and compelling vision for the future and to develop strategies to reach that vision. The 2020 Town of Caroline Comprehensive Plan is written in service to this purpose, offering goals and action items that will help lead our town towards a bright future.

Many pieces of the 2006 Comprehensive Plan have been retained in this document, but reorganized into three overarching categories: 1) Livability in Caroline, 2) Environment Protection and Natural Resources, and 3) Rural Character. These categories emerged as consistent themes throughout all types of community conversations and town activities over the past several years, including but not limited to: community meetings, town surveys, public hearings, written commentary, and privilege of the floor during public meetings.

The Planning Board found the "20 year vision" from the existing plan still perfectly relevant and so compelling that it is included in this updated plan verbatim, but with one addition. Given our current climate of racist acts of violence, we felt it crucial to add the following statement of commitment to equity, diversity and inclusion to the vision of what Caroline is like 20 years from now:

People of all identities — including, but not limited to race, gender, sexual orientation, age, religion, disability, national origin, or veteran status — are safe, welcome and valued. The supportive and neighborly ethos of a small rural community is extended to all residents, as the Town recognizes the value that diversity of all identities brings. The Town is actively engaged in antiracist initiatives and policy to guide Town decisions.

It is our hope that this Plan will serve as a guiding document for robust discourse, community engagement, and policy decisions as they arise. May it serve to unify our residents in a shared commitment to the Town of Caroline.

Planning Board Members 2020

Charles Eldermire

Katherine Goldberg Forrest

Bill Podulka

Val Warke

Land Acknowledgement

The Town of Caroline is located on the traditional homelands of the Gayogohó:nq' (the Cayuga Nation). The Gayogohó:nq' are members of the Haudenosaunee Confederacy, an alliance of six sovereign Nations with a historic and contemporary presence on this land. The Confederacy precedes the establishment of the Town of Caroline, New York State, and the United States of America. We acknowledge the painful history of Gayogohó:nq' dispossession, and honor the ongoing connection of Gayogohó:nq' people, past and present, to these lands and waters.

Caroline 20 Year Vision

Working together, we envision Caroline twenty years from now as a place where:

- People of all identities — including, but not limited to race, gender, sexual orientation, age, religion, disability, national origin, or veteran status — are safe, welcome and valued. The supportive and neighborly ethos of a small rural community is extended to all residents, as the Town recognizes the value that diversity of all identities brings. The Town is actively engaged in antiracist initiatives and policy to guide Town decisions.
- Every resident has a safe, affordable place to call home. There is sufficient housing affordable for low, middle, and high-income residents. Houses within Caroline are in good repair. New housing is denser in existing hamlets and housing focus areas, and is surrounded by farms and wooded lands.
- Green space is plentiful, enabling sustainable agriculture and forest production, reducing pollution, providing outdoor recreational opportunities, and preserving biodiversity and the rural views. Sprawl is limited because development is concentrated in housing focus areas and in the hamlets of Brooktondale and Slaterville Springs.
- Environmentally aware and informed citizens take pride in passing along natural areas and resources to future generations. By careful advance planning, they preserve and promote the Town's rural character, public areas, historical heritage, cemeteries, unique natural areas, well-connected recreational spaces, community centers, high quality of water, air and land, and peaceful night skies.
- Residents enjoy a well-planned and maintained transportation system that offers a variety of options to get from place to place. Public transportation is available and encouraged as a way to reduce individual auto trips. A reliable affordable and frequent bus service serves the Town of Caroline, connecting the hamlets to Ithaca and other nodes of transportation, inside and nearby Tompkins County. Several Park and Ride sites encourage car-pooling.
- Bicycle and pedestrian transportation is encouraged and facilitated. A network of bike/pedestrian paths has been built, connecting hamlets and new housing nodes to the elementary school, parks, community centers, and existing neighborhoods. Sidewalks are maintained year-round as an encouragement to pedestrian use. Bicyclists travel local roads to enjoy seasonal color and interesting terrain. Traffic calming measures have been implemented as needed to control vehicular speed.
- The local economy flourishes with locally-owned small businesses. Scattered throughout Caroline, the businesses complement the peaceful rural nature of the town. The prospering local hamlets support a diversity of local businesses and are boosted by increased pedestrian and bicycle traffic due to increased housing density there. Brooktondale has developed a small but viable commercial center. Residents take pride in supporting these local businesses, which allow the town to maintain a modest level of economic self-sufficiency.
- Farming continues to be a viable way of life. Some family farms have become organic, some have developed specialty items, and others have found unique niches. Many of these farms depend on value-added product sales as a significant part of their income.
- The preservation of the best farmland has attracted a stable farming community,

encouraged by the dependable sources of water and good soil and the diversity of agricultural activities within the town. Preservation of quality woodland has contributed to sustainable and responsible forestry practices within the town.

By working together, in our community and with surrounding municipalities, we can become this place, a community that reflects our town's values, builds on our strengths, and improves the quality of life for our children, families, and neighbors. The Town of Caroline Comprehensive Plan will serve as a guiding document to illuminate the actions we need to take to reach this vision, monitor progress along the way, and provide a basis for decisions that will shape the future of our town.

Snapshot of Changes

This section summarizes some of the significant changes relevant to the planning process that Caroline has experienced over the last 15 to 20 years. Over this period, Caroline has had significant growth in both population and housing; in addition, there is evidence of development pressure along the Rt. 79 corridor. Though Caroline enacted a number of policies soon after completing the first Comprehensive Plan designed to give the town more influence on development (see Appendix A, “Reflections on Previous Plan”), the picture over the last fifteen years shows the Town has not exerted any major control over the location or scale of growth in the town. Now, Caroline is at a cross-roads: continuing along the path we are on means many of the things residents cherish about the town are likely to vanish over the next 15 years. While freedom to “do what I want with my land” is often voiced as an important value, that same freedom can lead to unwanted negative impacts on other things important to the town, such as viewsheds, maintenance of open space, and the continued viability of farming in the town. Caroline has reached the point where it is time for a community discussion and an explicit decision about whether to implement stronger land use planning. Various planning strategies that advance the goals many residents have articulated are suggested in the “Actions” throughout this document.

Population

Between 2000 and 2010, Caroline’s population grew 12.8%, the largest increase for any town in Tompkins County (see Table 1-1). Between 2010 and 2017, it is estimated that Caroline’s population grew more slowly: 4.2% for the period (equivalent to a 10-year rate of 6%). However, even with that slower growth rate, Caroline still had the second largest increase in population of any Tompkins County town. Caroline’s rank as one of the fastest growing towns in the last 20 years is in sharp contrast to the 20 years prior to 2000; from 1980 to 2000 Caroline had the second lowest growth in population for any town in Tompkins County.

Table 1-1: Population Growth of Tompkins County Towns¹

	2000-2010	2010-2017
Tompkins County	5.2%	2.8%
Caroline	12.8%	4.2%
Danby	10.7%	4.6%
Dryden	6.7%	3.2%
Enfield	4.2%	3.0%
Groton	2.7%	2.2%
City of Ithaca	2.5%	2.4%
Town of Ithaca	9.5%	2.2%
Lansing	4.9%	3.8%
Newfield	1.4%	2.6%
Ulysses	2.6%	3.3%

¹2000 and 2010 population data from U.S. Census; 2017 population data from 2017 American Community Survey 5-Year Estimate.

Housing

The housing information reported here is drawn from Tompkins County Assessment Department data. From 2005 to 2019, the number of housing units in Caroline has increased by 18% (from 1346 units to 1594 units). As can be seen in Map 1-1, new housing has been scattered across the town with one concentrated development, Boiceville Cottages, near the intersection of Boiceville and Valley roads. The construction of the Boiceville Cottages (begun in 2010 and completed in 2018) is the dominant housing event in Caroline of the last 15 years; the 140 units located there added 56% of the new units built since 2004 and 69% of the new units built since 2009.

Assuming an average occupancy of two people per unit and a low vacancy rate [1] the 280 people living in the cottages is a population influx three-quarters as large as the whole population growth (372) in Caroline's big growth decade of 2000 to 2010. (Since 2010, the total population growth in Caroline as estimated by the 2017 American Community Survey is less than the 280 people added by the Boiceville Cottages, suggesting that Caroline may have lost population outside of the Boiceville area; however, since the American Community Survey data is based on samples rather than a whole population count this suggestion is tentative until the 2020 census data is available).

To quantify regional differences in housing growth, the town was divided up into six sectors (see Map 1-1 and summary results in Map 1-2). A large majority (two-thirds) of the housing is in the northwest sector (Brooktondale area) and north central sector (Slaterville Springs area). Because of the Boiceville Cottages, the north-central sector of the town had by far the largest amount of housing growth, both in terms of absolute numbers and percentage growth (see top figure, Map 1-2). Removing the Boiceville development, housing unit growth is much more evenly divided across the town (see bottom figure, Map 1-2). Though the northwest sector had the second highest number of new houses, it had the lowest percent increase in housing because it is already so densely populated.

The original Comprehensive Plan delineated a set of "Housing Focus Areas" where concentrated development was preferred (see Map 1-3 and Appendix D for maps of the Housing Focus Areas). Locating concentrated development in the Housing Focus Areas would protect open space in the town, allow residents of those developments to more easily take advantage of services (stores, religious facilities, lighting, utilities, and the like) available in those areas, and in turn support the services through increased patronage. However, the Plan explicitly limited the goal to concentrated development, stating: "The Town does not nor wishes to restrict individual housing in Caroline. Housing will likely expand in Caroline as individual houses are added throughout the Town. This is what might be termed isolated development. In contrast, there may be clustered development where multiple houses are built in close proximity." As shown in Map 1-3, scattered individual housing has indeed occurred throughout the town. While the one concentrated development, the Boiceville Cottages, did not entirely occur in a Housing Focus Area, it lies on the edge of one and approximately one-third of the units are in one of the Housing Focus Areas. At the present time, there are no laws or policies in effect to encourage or ensure that clustered development take place in a Housing Focus Area.

Given that the current pattern of housing development is likely to continue, the town must face the issues inherent in continued scattered residential development throughout the town. The current trend is for large rural parcels to be subdivided into smaller parcels that eventually become housing. Over time, this will change the rural character of the town, not in the same way as commercial or industrial development, but just as surely.

Commercial Growth

In contrast to residential development, there has been relatively less commercial growth over the last 15 years. Map 1-4 shows commercial and industrial properties (as listed in the Tompkins

County Assessment Database) on top of the housing map shown earlier. In Map 1-4, “Commercial/Industrial 2005 and After” means new commercial buildings for new businesses. There are businesses that have expanded and added buildings (for example, Celebrations and I-Deal Storage along Rt. 79); those additional buildings on the same parcel that a business was already operating on were not mapped as “new” development. The small number of new commercial buildings also does not mean there are not new businesses in town—many new businesses have simply taken over existing commercial buildings (for example, the former Hollyfarm is now Brookton’s Market and the old Livery is now Copper Horse Coffee Roasters and FLX Athlete’s Retreat). In addition, much business activity in Caroline is “invisible” when viewed through the Assessment database either because many home businesses are not listed there at all or because the primary listing for the property is residential even though commercial buildings on the property are listed as part of the assessment. These types of businesses were not mapped because finding all such businesses was beyond the scope of what could be accomplished accurately for this Plan and the vast majority of them do not visibly impact land use. Finally, agricultural businesses are not shown on Map 1-4 because of the difficulty in defining what constitutes a “farm” and in accurately identifying all the “farms” once a definition was crafted (see Agriculture section, below).

As noted above, over the last 15 years, growth in Caroline has primarily been residential, not commercial. However, the expansions of some businesses along Rt. 79 and the recent application for a retail store along Rt. 79 highlight that the Rt. 79 corridor is an area likely to come under commercial development pressure. This same corridor has much of the remaining prime farmland in Caroline (see the prime farmland map in the Environmental Protection and Natural Resources section of this plan). Development pressures will come in direct conflict with the preservation of that farmland; such preservation is important both for agricultural production and as a key component of Caroline’s rural character. Because of this conflict, Caroline is at a critical point in its history: preservation of open space², prime farmland, and rural character (goals many Caroline residents have articulated as being important) will require enactment of stronger land use planning policies than currently exist.

Agriculture

As noted in the original Comprehensive Plan, there has been a long-term decline in farming in Caroline, both in terms of the number of active farms and in the acreage being farmed. That trend has continued since the time of that plan: from 1995 to 2007 there was a 14% drop in the acreage being farmed (from 7406 acres to 6349 acres) and another 8% drop occurred between 2007 and 2015 (from 6349 acres to 5871 acres).³ The two time periods are different lengths; taking this into account, the average annual decline has remained roughly the same since 1995 at around 1% per year.

GIS analysis of the changes from 2007 to 2015 shows that the 478 acre decline in Agriculture acreage is the net result of changes in both directions: from 2007 to 2015, 597 acres changed from Agriculture to some other land use but 124 acres changed from some other land use to

² Open Space is land that is generally free of buildings. As described in the Environmental Protection and Natural Resources section, open space is “pathways, trails, cemeteries, agricultural lands, and environmentally sensitive important areas, in the form of fields, meadows, wetlands, marshes, streams, and forests.”

³ Data is taken from land use and land cover surveys conducted by the Tompkins County Department of Planning and Sustainability. In those surveys, agricultural land is classified as either “agriculture” (currently being used for agricultural purposes) or “inactive agriculture” (typically land that is fallow at the time the survey was done). Since acreage trades back and forth between those two categories, they have been combined into one “Agriculture” category for the purposes of this section. The numbers listed here differ slightly from Table 3-2 in the Environmental Protection and Natural Resources section because here road area has been subtracted from land use categories to allow direct comparison of changes in land area being farmed.

Agriculture. Of the 597 acres that changed from Agriculture to some other land use, just 121 acres (20%) are part of a parcel of land that had a house built on it between 2007 and 2019. This suggests that demand for housing is not the major cause of the loss of acreage to farming; rather other factors such as low profitability are the root issues. In other words, the low rate of conversion to housing most likely indicates that housing placed on former farmland is a consequence of land being available because it is no longer being farmed, rather than that it is not being farmed because there is a lot of demand to turn it into housing.

Preserving rural character was an important thread running through the original Comprehensive Plan and continues as a central issue in this revised plan. Maintaining the rural nature of Caroline was a concern brought up by many residents during the revision process leading to this current plan. Rural character has no single definition (see discussion in the Rural Character section of this plan) but there is no doubt that agricultural heritage and the open space that farms maintain are important components of Caroline's rural character. The original Comprehensive Plan noted that national agricultural economic conditions made predicting the survival of individual farms difficult and protecting them perhaps beyond the town's abilities, but offered this 20-year vision for farming in Caroline: "[F]arming families have adapted to changing economic conditions. Some family farms have gone organic, some have developed specialty items, such as farm-made cheese or yogurt, and some have found unique niches. Many of these farms market value-added products as a significant part of their income." Some of this vision may be turning into reality as some smaller organic farms have definitely been established in Caroline. The 124 acres that changed from some other land use to Agriculture between 2007 and 2015 is also an indicator that some new farms may have been created.

Preserving agriculture as a piece of Caroline's rural character requires more information on the successes and failures of farming in Caroline so that effective actions can be identified and appropriate policies created; this information should be gathered in the near future. Some large commodity-product-based farms remain; what have been the keys to their survival? What specialty or niche farms have been successful and can their models be replicated? Caroline needs to craft a definition of "farm" that fits the types of farming activities that occur and can be successful here. Hobby farms and part-time farms may not meet traditional definitions of a farm, but play important roles in preserving open space, creating agricultural "feel," and in supporting myriad other business (hay producers, sheep shearers, and fence suppliers...) that are needed by the entire agricultural community.

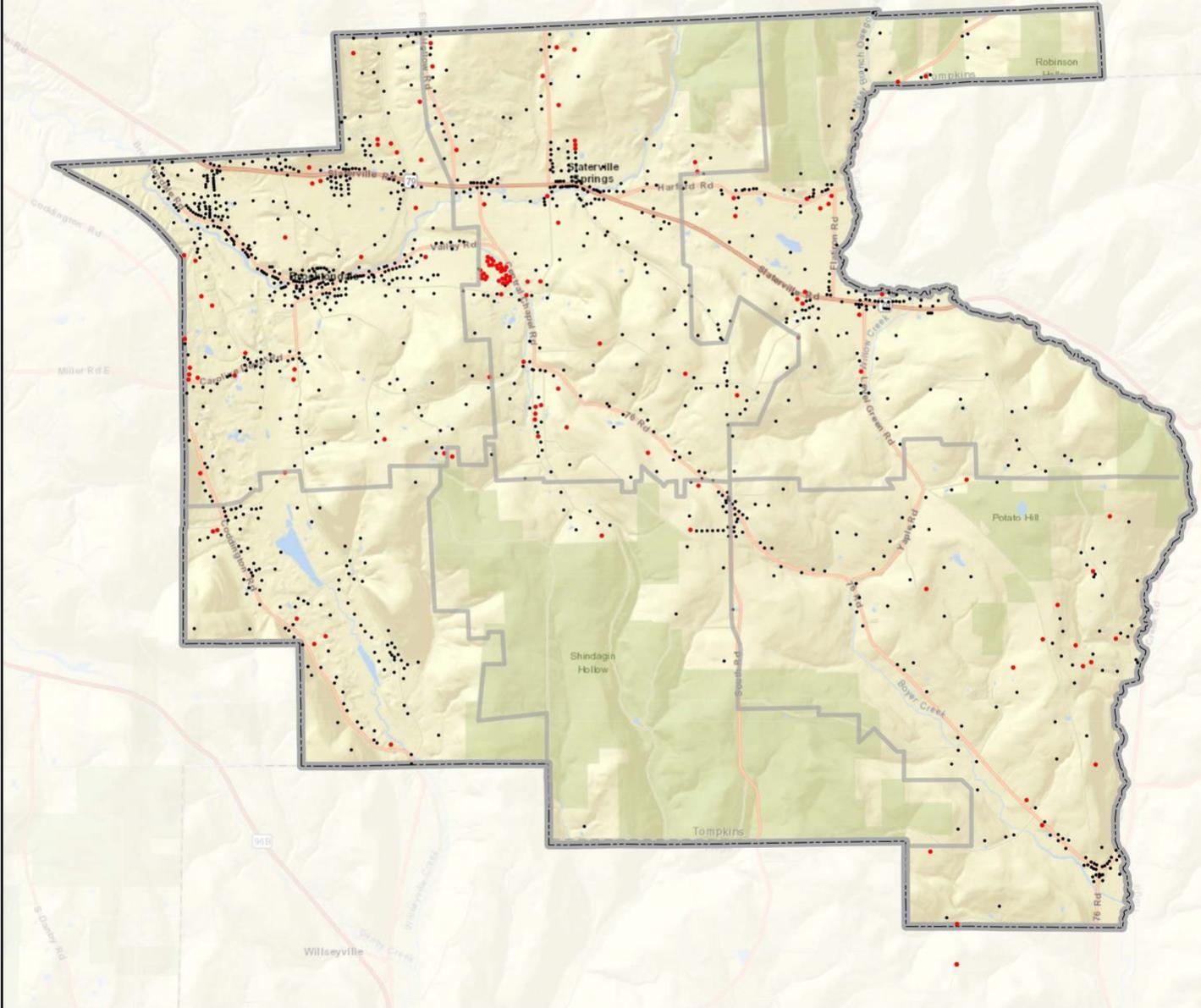
Conclusion

It is time for serious consideration of stronger land use planning in Caroline. Are some areas in town appropriate for commercial development but others not? Are there some industries that are not appropriate for Caroline? Are limits on density of housing in rural areas needed to preserve Caroline's rural character? Are there steps the town can take to preserve agriculture as an important component of Caroline? Caroline is a wonderful place to live, work and play. Working together, we can ensure that growth and development occurs in ways that keep it that way for future generations.

References

[1] Bruno Shickel, personal communication, 2020

Map 1-1 Housing Development Town of Caroline



- Housing Before 2005
- Housing 2005 and After

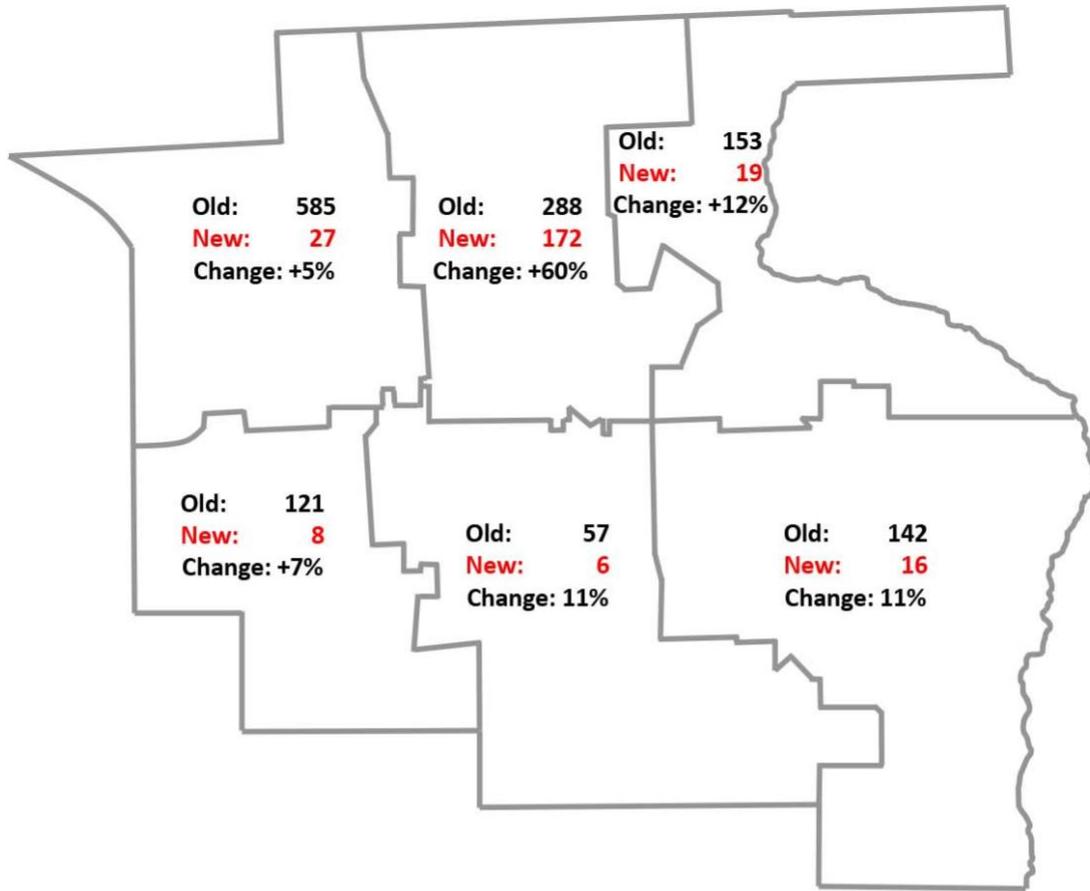


Source: Tompkins County Assessment 2019

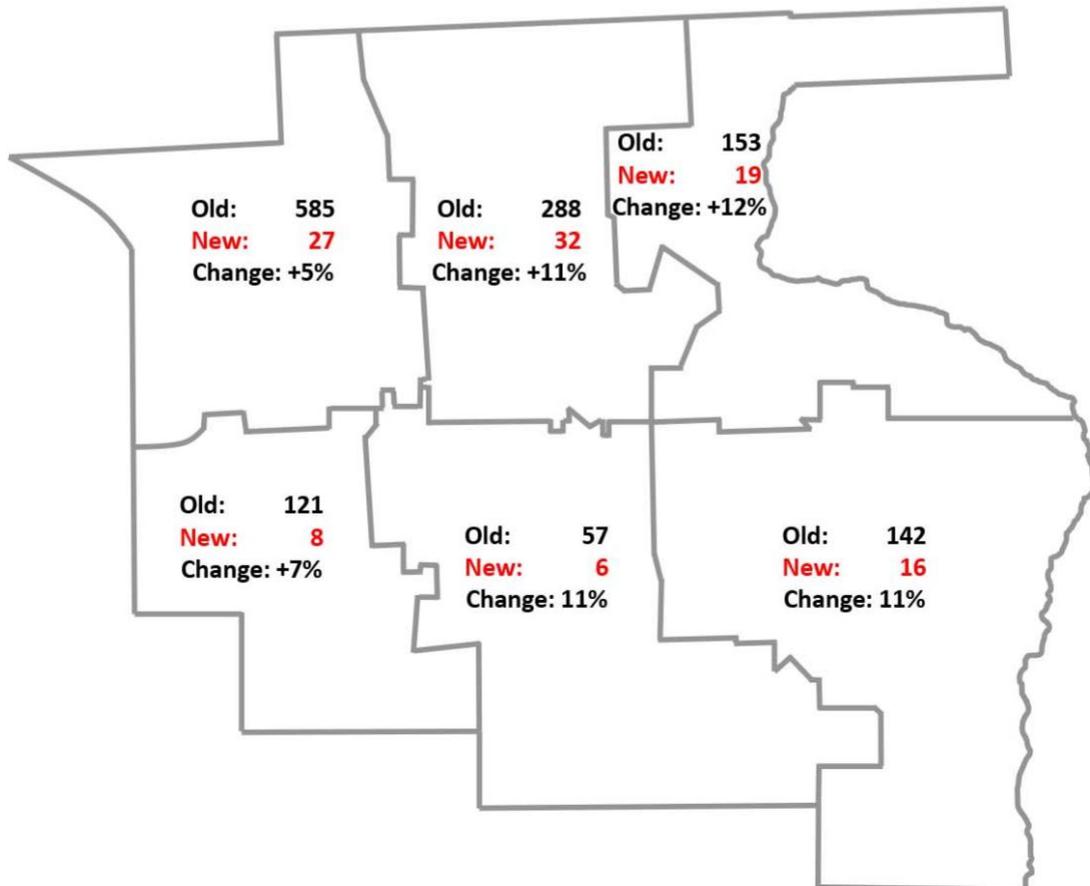
In general, each dot represents one housing structure, which may contain multiple housing units if the building contains apartments. Exceptions are tax parcels with two or three closely spaced houses; the group of houses is depicted with just one dot since dots for each house would overlap on the scale of this map. In addition, the density of housing in the Boiceville Cottages development cannot be properly shown at this scale; for that development, each dot represents approximately five buildings.

Map 1-2 Housing Growth By Sector

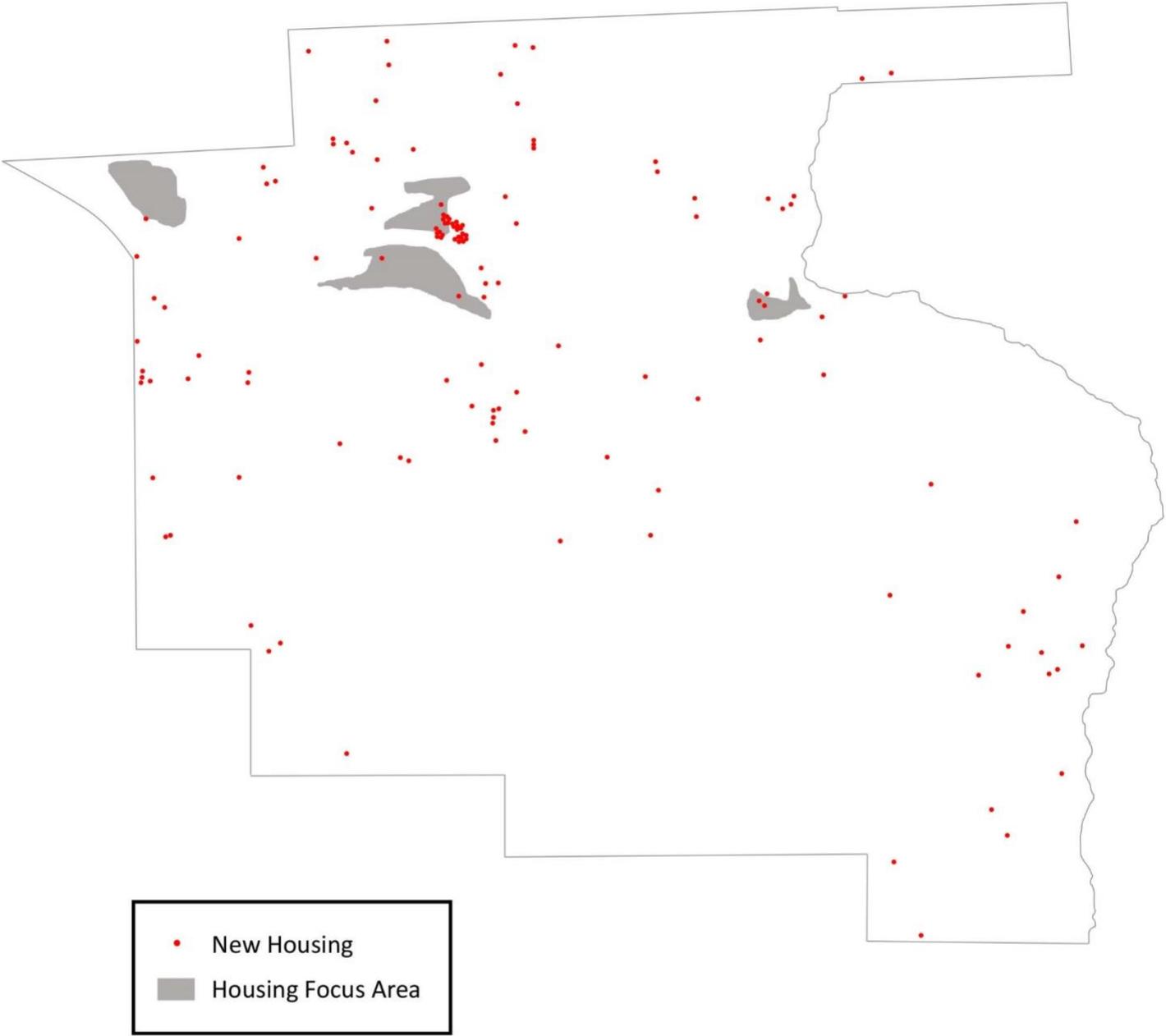
Including Boiceville Cottages



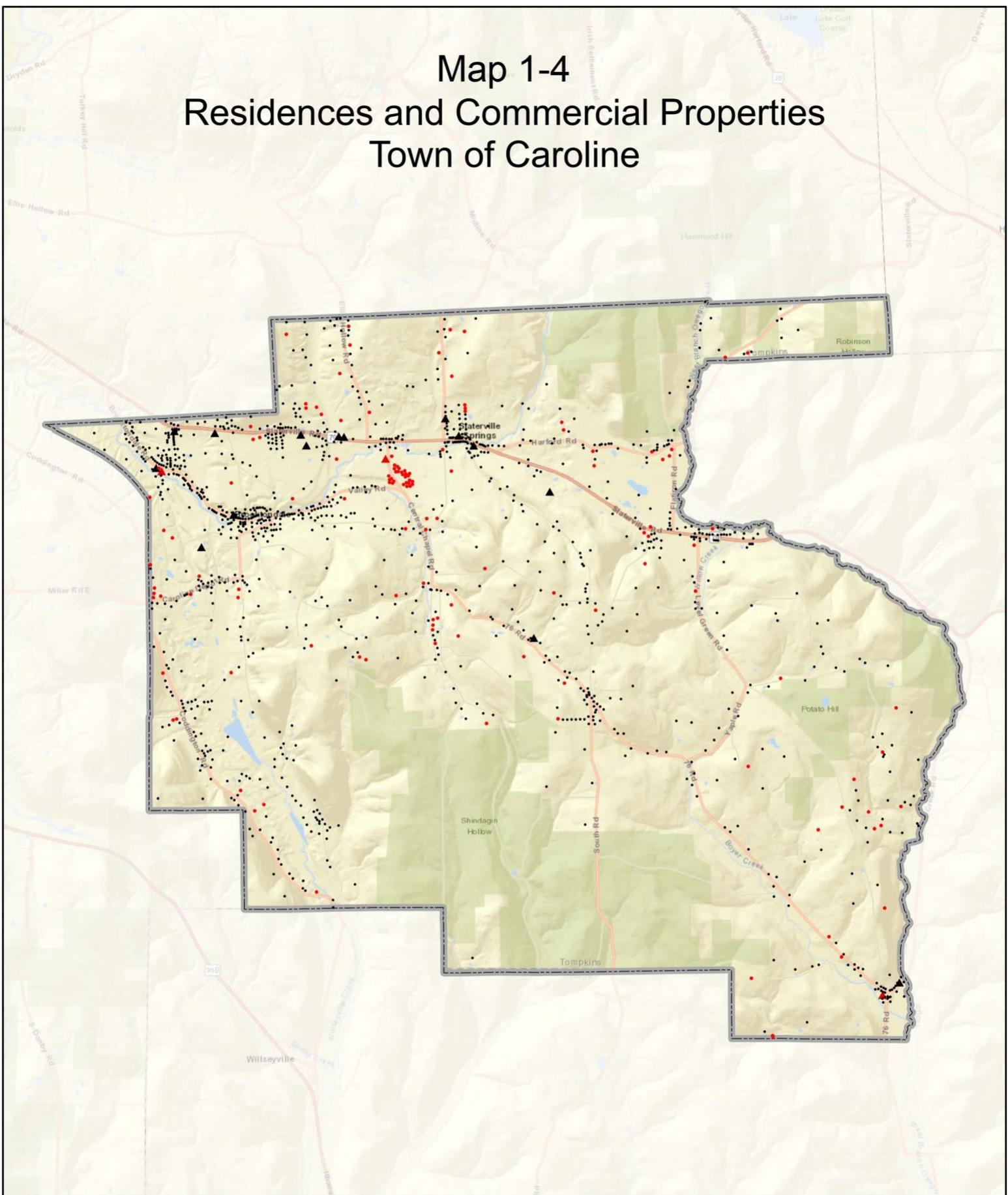
Not Including Boiceville Cottages



Map 1-3 New Housing and Housing Focus Areas



Map 1-4 Residences and Commercial Properties Town of Caroline



- Residences, before 2005
- Residences, 2005 and after
- ▲ Commercial/Industrial, before 2005
- ▲ Commercial/Industrial, 2005 and after

0 0.5 1 2 3
Miles

Source: Tompkins County Assessment 2019

Livability In Caroline

Livability in Caroline encompasses both the necessary housing and infrastructure for citizens to live their lives, and the elements that help make living in Caroline a safe, resilient, and supportive place to live. It's a catch-all phrase that sums up all of the factors that influence our community's quality of life, including the world we build physically and the possibilities for economic security, social stability and equity, educational opportunity, environmental health, and cultural, entertainment, and recreation activities.[1] Residents of Caroline have indicated time and again that quality infrastructure, resilient municipal services, an active community, and a vibrant local economy are of high importance to the future of the town.[2]

Our people are our greatest resource, and it is Caroline's responsibility to serve our community proactively to provide our townspeople with the opportunity to pursue both the quality of life and the resources needed to live their lives. Caroline is a town where people of all identities — including, but not limited to race, gender, sexual orientation, age, religion, disability, national origin, or veteran status — are safe, welcome and valued. The supportive and neighborly ethos of a small rural community is extended to all residents, as the Town recognizes the value that diversity of all identities brings. By focusing our efforts on improving the Town's role in creating a better environment to live, a safer and more inclusive community to be a part of, and a place where residents can make a living, we honor that commitment to keep Caroline a livable community for all its residents.

Where we live

(All statistics quoted are from the *2013-2017 American Community Survey 5-Year Estimates* unless otherwise cited)

Housing

Housing in Caroline reflects the rural character of the Town, and is concentrated in the northwest of the Town, closest to Ithaca. In 2017, Caroline had an estimated 1,359 housing units, composed primarily of houses, apartments, and manufactured housing. Single family homes compose the vast majority of housing stock. Approximately 67 percent of residents own their homes while 33 percent rent.

Housing in the Town continues to age. Similar to most rural communities in the State, Caroline has a high percentage of older homes, which require greater maintenance and upkeep than newer homes. An estimated 36 percent of all residential housing was built before 1950 (493 homes), and 30 percent was built between 1960 and 1990 (413 homes). The remaining 34 percent of homes (462 homes) have been built since 1990.

As the housing stock ages, upkeep and maintenance becomes more difficult. Older homes sometimes need costly and labor-intensive repairs. Maintenance of aging homes may be particularly difficult for low-income and elderly residents because they often lack sufficient resources or assistance to do so. Without adequate upkeep, older homes can deteriorate rapidly. Whether building new structures or renovating, these housing maintenance realities represent opportunities for the Town to develop guidelines and engage with community members, builders, and funding agencies to create safer, more energy-efficient housing for people of all ages that will enable community members to continue to live here in a safe and fulfilling way throughout their lives.

Housing Affordability

Housing is becoming more expensive, reflecting the growing issue of housing affordability in Tompkins County. Rising housing prices in Caroline represent a challenge to housing affordability. A significant proportion of Caroline residents lack affordable housing, defined as housing which costs no more than 30 percent of annual income. According to this definition, in 2017, an estimated 27 percent of home-owning families live in housing they cannot reasonably afford. Rising costs represent a barrier to homeownership, because new homeowners will have more difficulty purchasing a home, and current homeowners will see rising taxes.

Renters are particularly impacted by rising housing costs. In 2017, an estimated 23 percent of renters reported spending 30 percent or more of their total income on rent. If rents continue to rise, renters will be forced to spend increasing proportion of their income on housing. Rising energy costs also contribute to greater homeowner and renter burdens. Rising rents and assessments are making options to reduce housing costs increasingly important. Fortunately, some options do exist. For instance, opportunities are growing in Tompkins County for reducing energy costs through weatherizing and other energy-efficiency programs.

How we live

Hamlets and the Local Economy

Throughout its history, the unique rural character of Caroline has been defined by the presence of several small population centers, the hamlets. Historically, there have been seven hamlets in Caroline. Of these, three are currently viable, defined as having a grocery store, a church, a community gathering place, and emergency services. Brooktondale is the largest hamlet, and has a post office, a store, two churches, a community center, and a fire hall. Slaterville Springs is home to the town hall and the library, a gas station and store, senior citizen housing, a church, and a fire hall. Speedsville is the smallest hamlet, and has a store, a church, a community center, a park, and a fire hall. The four remaining hamlets of Caroline, Caroline Center, West Slaterville, and Besemer are historical housing clusters with limited services.

The three viable hamlets serve to unify the Town and provide a base for the provision of Town services and economic activity. Despite their importance, the hamlets have been significantly weakened in the past 50 years as the population has spread out and economic activity has shifted out of Caroline. Although some small specialized businesses are currently scattered throughout the town, most residents must travel to Ithaca or Dryden for goods and services. In order for the local economy to remain a vibrant part of the community, the Town will need to consider how best to encourage and support locally-owned businesses that integrate well with the Town's other goals of remaining rural and agriculturally oriented.

Recreation and Community

Residents of Caroline have consistently indicated that the opportunities for recreation and community within the Town are of high importance to them.[2] Safe paths for walking and biking within the Town and to neighboring towns provide outlets for residents to enjoy what the Town has to offer and increased connectivity. Community centers, churches, fire halls, and post offices function as social centers, hosting community events and providing resources for residents of the entire Town.

Roads and Transportation

Two trends are converging to create pressures on roads and transportation in Caroline, which in turn affect the quality of rural life. First, Caroline's center of economic activity has shifted away from its farming and logging roots to become a bedroom community for Ithaca and other nearby towns. Indeed, 84 percent of Caroline's employed population drives more than 15 minutes to their workplace. As people commute outside the town to work, traffic increases on Town roads.

Second, here in Caroline and across the United States, dependence upon cars has increased. More people own cars than ever before, commuting times are longer and highway speed limits have increased as cars and roads have improved. People expect to drive individually to destinations both near and far. The same trend exists in Caroline. Over 77% of people who commute from Caroline drive to work by themselves rather than carpooling or taking a bus.

Increased private vehicle use is expensive for the Town and for individuals. Taxpayers bear the burden of higher road maintenance costs and car owners face rising fuel costs. Furthermore, the potential development of industrial and commercial properties would put additional strain on the maintenance of local roads. While many people choose to drive their own cars for convenience, bus ridership might increase if the bus stops were located closer to people's homes, if service were more frequent and went into the evening, and if the bus served more destinations directly.

Taken together, these trends can threaten the quality of rural, small town life in Caroline. The Town's busiest roads, State Route 79 and Brooktondale Road continuing on to Valley Road, run through four of Caroline's historic hamlets (Caroline, Slaterville Springs, West Slaterville and Brooktondale). Mid-twentieth century road-widening initiatives on those main arteries have already taken a toll on hamlet life, shrinking front yards, removing trees, crowding out sidewalks, facilitating higher speed traffic and increasing noise and local air pollution.

While two sidewalks in Slaterville Springs connect businesses and services, sidewalks in Brooktondale are discontinuous, making it more difficult to walk to neighborhood destinations. As residents retreat to their houses and cars, there are fewer opportunities to know their neighbors well, despite residents' interest in stronger community relations.

The design of towns, neighborhoods and cities can contribute to reducing traffic. New buildings can be situated along public transportation routes. Sidewalks and paths for bicycles and pedestrians can be built to facilitate walking and biking to nearby destinations and to bus stops. By encouraging thoughtful design of how our Town continues to develop, we can continue to build a stronger, more resilient community that is better-connected and well-prepared for future challenges.

Communications

An increased population, bringing modern expectations, creates demand for other services and utilities. Spectrum and Haefele Connect both offer broadband service in Caroline, though the penetration of these services is unevenly distributed. Outlying areas rely on satellite, DSL, or cellular service for internet and TV, or weak, limited antenna reception for television. Further penetration of broadband internet is a priority for the Town, as residents rely on high-speed connectivity to keep their lives and businesses viable, to give their kids access to remote learning, and to connect Town residents with the process of the Town's government.

Telephone infrastructure, with limited service provider options, relies upon overhead wires that are susceptible to storm damage. Cellular phone coverage is limited, in part due to the hilly topography; however, the development of additional cell tower sites could affect other qualities such as viewsheds that residents value, and the Town would benefit from a systematic approach to planning and regulating development of cell tower sites. This would ensure that both the cell service needed to provide essential services is sited appropriately and that residents' needs beyond cellular service are considered as well.

Emergency Services

Emergency services, including firefighting and first responder services are provided by three local volunteer fire companies. As residents increasingly work outside the town, it is more difficult to recruit volunteers, even as the demand for services is increased. Significant and focused effort is required to keep these essential volunteer services sufficiently staffed, trained,

and funded to provide the community the emergency response that is needed.

Fundraising activities of these companies, through pancake breakfasts and chicken barbeques, provide important social occasions and community gatherings for local residents. Increasing support and pride in these services will increase quality of life for all residents.

Future Development

Concerns are growing that population increases and housing development will threaten the rural and historic character of our Town and negatively impact livability for all of our residents.

Retaining this character and reinforcing a more livable community will be major challenges in the next 20 years. Caroline must seek strategies to balance any development with preserving Caroline's natural beauty, sense of community, and needs of its residents.

Supporting a diverse mix of local businesses and increasing support for retail trade in the hamlets strengthens the vitality of the Town and offers economic opportunity for residents. Increasingly, concerns have arisen about how businesses fit into the Town's landscape and how they can support the values residents place on living in the Town. Issues such as visual appearance, noise and light pollution, and air and water quality need to be part of the development approval process, as well as promoting environmentally-friendly building practices and renewable energy to lessen the impact of development and promote a cleaner local environment.

Since the town currently has few regulations or guidelines, inappropriate business development could adversely affect the quality of rural living. The situation is exacerbated as neighboring towns place additional restrictions on business development, making unregulated adjacent municipalities susceptible to undesirable businesses unable to find locations elsewhere.

While not discouraging development, advance planning gives the Town the ability to help direct any development to areas that can best support it, while ensuring that our Town remains a vibrant, healthy, and livable community.

Goals:

Availability of affordable, durable, and safe housing for all residents that is maintained in ways that extend longevity with a focus on the upkeep of older homes and preservation of designated historic buildings

Pedestrian ways and bikeways between Slaterville, Brooktondale, and Ithaca, including the Coddington, Six Mile Creek, and Besemer trails.

Housing with pedestrian walkways, safe access to main roads, and easily accessible public transportation that is widely used.

Safe roads in good repair, maintained efficiently, with buildings easily identifiable from the road for emergency response and consistent and sensible speed limits that are enforced.

Reinvigorated investment in sustainable emergency services, disaster preparedness, and community resilience.

Increased support of local businesses and opportunities for new small and home-based businesses, central to continued viability of the town.

Economic development in hamlets compatible with other long-term goals and enhanced infrastructure like modern communications and renewable energy that supports small business enterprises and residents

Increased town pride, civic engagement, and community investment.

Actions:

- Explore and enact land-use planning regulations such as zoning, design guidelines, and formula business regulations that encourage locally-owned businesses that integrate with the rural residential and agricultural nature of the town, and discourage commercial development that would negatively affect local agriculture, business, and residential communities.
- Develop a process to strengthen reviews of significant commercial development to include economic impact reviews.
- Conduct a local business survey to determine the number and scale of Caroline-based small businesses, commercial sites, farms, and industrial operations
- Conduct a housing survey to determine housing stock condition
- Create residential development guidelines that include neighborhood preparedness, resilience, and Age-Friendly Community design principles.
- Develop Town strategy for cell tower siting.
- Develop the South Hill Trail Extension

References

[1] Partners for Livable Communities, 2020

[2] 2016 Caroline Resident Survey

Environmental Protection and Natural Resources

Environmental Protection

One goal of this Comprehensive Plan is to allow Caroline to develop in a way that maintains and improves the environmental factors that influence the quality of all of our lives. There is strong support for protecting the environment in Caroline; over 90% of respondents ranked the environment as either “very important” or “somewhat important” in the 2015 town survey (see Appendix C). Environmental protection is often associated with protection against air and water pollution, but there are other environmental issues that can impact the quality of rural life, especially noise and light pollution. At the present time, Caroline is fortunate to have an environment that is in good condition: we have relatively clean air, adequate clean water, and noise and light levels have not been cited as problems. All of these areas should be monitored to ensure this remains the case, particularly in areas where population density is increasing.

Climate Change

Climate change is a concern for many Caroline residents. There are many expected negative consequences arising from climate change, including the impact of changing rainfall patterns on local agriculture, the impact of more high-heat days on the health of humans and other animals, the impact of more frequent and more intense weather events and more frequent flooding events on Town infrastructure and the impact of changes in season timing on pollinating insects and migrating wildlife. Town actions in response to concerns over climate change include improving the energy efficiency of town buildings, replacing existing street lights with more efficient LED bulbs, installing electric vehicle charging stations, and conducting a greenhouse gas emissions inventory. In recognition of these and other actions, Caroline has been awarded a bronze level certification in New York State’s Climate Smart Communities program. The town is currently conducting a climate vulnerability study to identify areas and populations in the town that are particularly likely to be adversely impacted by climate change and possible strategies for reducing those impacts.

Environmental Justice

The guiding principle of environmental justice is that everyone, regardless of race, color, national origin or income is entitled to equal protection from environmental harms and risks.[1] Statistically, people who live, work and play in America's most polluted environments are commonly people of color and the poor. Communities of color, which are often poor, are routinely targeted to host facilities that have negative environmental impacts such as a landfill or industrial facility with toxic emissions.[2] The US EPA states that the “goal [of environmental justice] will be achieved when everyone enjoys:

- the same degree of protection from environmental and health hazards, and
- equal access to the decision-making process to have a healthy environment in which to live, learn, and work.”[3]

The Town of Caroline has many rural poor and a smaller but valued population of people of color. The lack of land use controls in Caroline makes protecting these groups difficult. If and when stronger land use planning is implemented, the principles of environmental justice should be part of that process.

Open Space

One factor essential to the quality of life in rural areas such as Caroline is the availability of quality open space. Open space in this plan means publicly or privately held land or water that is undeveloped or at most lightly developed (in other words, land that is generally free of built structures). Caroline's open space encompasses many different areas of the landscape such as pathways, trails, cemeteries, agricultural lands, and environmentally important areas in the form of fields, meadows, wetlands, marshes, streams, and forests. Open space enriches our lives and adds value to our community ecologically, socially, and economically by providing many important services such as creating critical habitat and corridors for plants and wildlife; protecting important water supplies; cleaning the air, water and soil; preventing flooding; protecting farmland; buffering sound pollution; establishing privacy; providing areas for recreational activities; protecting historically significant places and moderating changes in our climate. Open space can provide important educational opportunities for teaching about botany, natural history, entomology and cultural history and adds economic value to the surrounding areas by providing areas for recreation, enhancing tourism and increasing land values. Caroline's unique scenic quality and sense of place derive from the interrelationship among rural farmland, other open space, and attractive hamlets supported by a mostly pleasant and healthy environment. Graced with significant natural and historic resources, this rural character creates an economic vitality through its support of numerous diverse rural and home-based businesses and makes Caroline an attractive place to live. Protecting and enhancing open space is an essential ingredient in preserving the rural character of our community and in improving the quality of life in Caroline.

Protected Open Space

Open space can only provide the environmental and social benefits discussed above if the space stays open. Caroline is fortunate to have a significant amount of protected open space: 24% of the town is protected open space, compared to 15% for Tompkins County as a whole. Protected open space in Caroline comes in different forms: state forest, county forest, land trust preserves, land trust easements and Cornell Natural Areas (see Table 3-1 on the next page and Map 3-1 at the end of this section). The vast majority (80%) of the protected open space is New York State Forest. Private conservation easements are also an important category of protected open space, making up over two-thirds of the protected land that is not state forest.

The quality of life in rural towns is intrinsically connected to the preservation of open lands and the environment. Protected land costs little to maintain and the value created by protecting open space is multiplied and shared by the entire community. To balance growth with environmental considerations, priority should be placed on minimizing residential sprawl by focusing residential development within the existing population centers of Brooktondale and Slaterville Springs and other housing focus areas (see Appendix D for a map of the housing focus areas). Concentrating growth in the hamlets and housing nodes reduces costs by using existing infrastructure and simultaneously protects open space from sprawling development.

As discussed in the Snapshot of Changes section, Caroline has seen significant growth in population and housing in the last 15 to 20 years. Fortunately for the protection of open space, a significant portion of that housing occurred in one concentrated development. Nevertheless, in the last fifteen years 108 new houses were built outside that development, scattered across the town (see Maps 1-1 and 1-3). The inexorable trend is for large rural parcels to be subdivided into smaller parcels that are eventually turned into housing. A crucial goal for the town is to find ways to encourage the protection of open space. Providing incentives to maintain open space provides all the benefits listed above and can ease the financial burden on owners of large rural properties, who do much to maintain the rural character that everyone in the town enjoys.

Table 3-1 Protected Open Space¹

	<i>Acres</i>
New York State Forest	6,853
Shindagin Hollow	4,693
Hammond Hill	1,268
Potato Hill	892
Finger Lakes Land Trust Lands	1,220
Goetchius Preserve	113
Summerland Farm Preserve	140
Conservation Easements	967
Cornell University Natural Areas	387
Bald Hill	251
Caroline Pinnacles	52
Tarr Young	16
Slaterville 600	11
Dunlop Meadow	57
Tompkins County Reforestry Land	100
Total	8,600

¹Data provided by the Tompkins County Department of Planning and Sustainability

Development

As shown in the Snapshot of Changes section, the vast majority of growth in Caroline in recent decades has been residential rather than commercial. That being said, even limited commercial growth can have a significant impact on the environment and character of the town because of the large footprint commercial growth has in the form of buildings, parking lots, traffic, noise and light. It is imperative that any significant commercial development support the town’s goals in regard to sustainability, greenhouse gas emissions, and environmental protection. Poor quality development can lead to high rates of site abandonment, leaving behind eyesores and remediation burdens for the town. Non-resilient buildings can become potentially dangerous to occupants and expensive for future owners to maintain. Such development should be discouraged as not in accord with the town’s values.

Water

Water is a resource requiring careful attention and stewardship. Caroline has many streams, ponds, springs and wetlands and is uniquely located at the divide of two major northeastern watersheds: rain that falls in the Town either flows north to feed the St. Lawrence Seaway or south to the Chesapeake Bay. In addition, the City of Ithaca’s municipal water supply is fed directly by Six Mile Creek. Water quality for those communities is fundamentally linked to how well we steward our lands. The Town has been proactive in protecting water resources, for example by stabilizing stream banks, developing storm water control guidelines, and requiring that any intense development not impact the water supplies of neighboring properties. Preserving the quality of our natural water supplies is not only valuable to Caroline, but sets a good example for our downstream neighbors.

All homes and businesses in Caroline rely on wells and private septic systems, as there are no public water or sewer connections. Aquifer studies completed in 2009[4] and 2010[5] determined that groundwater quality and quantity in the gravel-fill aquifers that service some parts of the town ranges from acceptable to good. However, residents in other parts of the town rely on bedrock aquifers for which water quality and quantity vary widely across the Town. Population density is also a factor; for example, parts of Brooktondale — where housing pressure is strong — suffer well water shortages or poor water quality. The sources and rates of

recharge of these different aquifers are not well known despite the studies because the geology and hydrology of Caroline is complex; therefore it is important to monitor aquifer levels and quality as population (and therefore demand on water) increases. One additional concern for the future is that climate change is changing rainfall patterns, leading to more intense but also shorter duration storms. This changing pattern can affect aquifer recharge rates, as intense short storms lead to a greater fraction of the rainfall running off rather than percolating into the ground.

Energy

Caroline takes energy conservation and reducing fossil fuel consumption very seriously. In 2005 a group of Caroline residents formed Energy Independent Caroline, which is now a volunteer advisory board to the Caroline Town Board on policies and initiatives to address climate change by promoting energy conservation and renewable energy use. In 2013, Energy Independent Caroline was instrumental in the creation of Solar Tompkins Southeast, a program that used group buying power to make solar power more affordable. Due in large part to that program there has been tremendous growth over the last decade in photovoltaic installations in the town: since 2010, 72 residences have installed photovoltaic systems totaling 604 kW of power.[6] Other photovoltaic installations in the town installed in the past decade include two large commercial installations that total 487 kW and 12.6 kW installed on the Town of Caroline offices.[6] Options for residents interested in renewable energy but with sites unsuitable for installing their own solar panels include investing in solar farms and purchasing solar- or wind-power-generated electricity through contracts with electricity suppliers.

The best wind resources in Tompkins County are in Enfield, Newfield and Groton, but some ridgetops in Caroline do have potential for small- and medium-scale wind turbines.[7] However, a 2018 study of one specific site in Caroline determined that at this time a medium-sized wind installation was not economically viable.[8] Currently there are few wind turbines in Caroline.

Conventional hydropower is unlikely to be possible or desirable in Caroline, but “micro-hydropower” is a potential option. Micro-hydropower is a technique where a portion of water from a stream is diverted and used to drive a turbine before being returned to the stream. Micro-hydropower has the advantages of (1) not requiring a dam and (2) being able to be used on relatively small streams. A 2017 study identified two possible sites in Caroline, but due to the uncertain costs for licenses and permits for this relatively new technique was not able to determine if the sites were economically viable.[9] Currently there are no hydropower facilities in Caroline.

The vast majority (78%) of buildings in Caroline still rely on fossil fuels for space-heating.[10] The major trend over the last ten years has been a shift from fuel oil and wood to LP gas (typically propane); the reduced use of wood for heating has led to an overall increase in the fraction of homes heated with fossil fuels.[10],[11] In the past, wood was almost the only viable non-fossil fuel home heating fuel (electric resistance heaters were inefficient and most electricity was generated by fossil fuels anyway). Recently, however, advances in heat pump technology and the increased availability of electricity from renewable energy sources creates an opportunity to shift home heating away from fossil fuels. Some programs (such as state rebates, and federal tax credits and HeatSmart Tompkins) are in place to encourage a transition to efficient forms of electric-based heating. Though home heating sources are slow to change, it is an important area to focus on as space heating is a huge fraction (around three-quarters) of home energy use.

Natural Resources

Natural resources are important in many ways to the vibrancy of Caroline. They provide recreational activities such as bird watching, hiking, fishing, and simply enjoying the beauty of the Town. Natural resources also improve the local economy by supporting agriculture and tourism, improve the resiliency of town infrastructure against damage from severe storms, and improve human health by cleaning the air and water and lowering stress levels. In 2019 the Town of Caroline conducted a Natural Resources Inventory (available at <http://www.townofcaroline.org/uploads/6/2/7/8/62781479/caroline-nri.pdf>). Except as noted below, the information in this section is extracted from that document.

Water Bodies

Caroline has many water bodies in many different forms: perennial streams, seasonal streams, ponds, springs and wetlands (see Map 3-2 and Map 3-3). Two streams in Caroline (Boyer Creek and Six Mile Creek) are protected by New York State—Boyer Creek is protected as a trout stream and Six Mile Creek both because it supports trout and because it is the drinking water supply for the City of Ithaca. Because these streams are protected, a Waters Permit is necessary for the disturbance of their bed or banks and for the excavation of or the placement of fill in the streams and their adjacent and contiguous marshes and wetlands.

Wetlands are an important part of the ecosystem that filter harmful toxins, nutrients, and sediment from surface runoff; store floodwaters and reduce the magnitude of flood events; and provide valuable habitat for a diverse array of flora and fauna, including some rare, threatened, or endangered species as well as providing recreational opportunities. Wetlands are not just areas that are wet, but are areas that are characterized by specific plants that out-compete upland plants because of frequent flooding or soils that are wet for extended periods of time. Freshwater wetlands commonly include marshes, swamps, bogs, and fens. Some wetlands, such as swamps and marshes, are easily recognizable but other wetlands, such as forested wetlands and wet meadows, are less obvious. Depending on size, a wetland may be protected by the federal government, by New York State, or be unprotected. Before conducting any work in or near anything that might be a wetland the Region 7 Office of the DEC, or the Army Corps of Engineers Buffalo District, should be contacted. The contacted agency will determine whether or not an area is a wetland and, if it is a wetland, which agency has jurisdiction.

Aquifers

Aquifer studies completed in 2009[4] and 2010[5] investigated the two major gravel-fill aquifers in the town, one in the upper Six Mile Creek Valley, running east-west roughly along the Rt. 79 corridor, and the other running north-south between Coddington Road and White Church Roads in the Wilseyville Creek Valley and extending into Ithaca (see Map 3-4). Most of these aquifers are made up of “confined units,” meaning that there is impermeable material above and below the aquifers and therefore they are slower to recharge than if they were unconfined. Outside of these gravel-fill aquifers, Caroline has primarily a bedrock aquifer of interlayered sandstone, siltstone, and limestone that cannot provide high volumes of water. The quantity is generally sufficient to supply individual homes and small farms but the water may be heavily mineralized and relatively unreliable.

Topography

Caroline has a complex topography of hills and valleys (see Map 3-5). There are two main valleys: Six Mile Creek valley running east-west in the northern part of the town and Willseyville Creek valley running north-south in the western part of the town. The remainder of the town is a mix of smaller valleys and low hills of generally moderate slope with isolated sections that are very steep. This mixed topography gives Caroline much of its natural beauty,

but as discussed in the Livability section it also creates significant challenges for cell phone coverage and related wireless communication.

Soils

There are two main soil groups in Caroline (see Map 3-6). Roughly three-quarters of the town falls in the Volusia-Mardin-Lordstown group. These soils are not particularly agriculturally productive but can support silage corn, small grains, hay, and pasture. Many of the areas with these soil types are cleared but idle and are reverting to brush and trees. These soils are also poorly draining and fall in the class with the highest runoff potential of the general soil types. They are characterized by very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface and shallow soils over nearly impervious material (Hydric Soil Category D).

Much of the rest of Caroline has the Wayland-Palmyra-Howard-Chenango soil group; as can be seen from Map 3-6 these soils are typical of the valley floors. Wayland-Palmyra-Howard-Chenango soils have decent fertility and can support hay, corn, small grains, vegetables, fruits, and nursery stock and also make good pasturelands. Depending on local conditions, these soils may either be characterized as having a moderate infiltration rate and be moderately deep, moderately well drained soils with moderately fine to moderately coarse textures (Hydric Soil Category B), or be Hydric Soil Category D as described above.

Prime farmland is shown in Map 3-7. Prime farmland is a federal designation given to land that has the best combination of physical and chemical characteristics for agricultural production. Prime farmland soils are characterized by moderate pH; good nutrient capacity, structure and texture; well drained; flat to moderate slope; and significant depth before reaching bedrock (for detailed criteria see Code of Federal Regulations, Title 7, Section 657.5). Much of Caroline's prime farmland is along the Rt. 79 corridor—the same area that is likely to come under commercial development pressure. Developing guidelines to guide commercial development in a way that protects this prime farmland is an important task for Caroline and should be done in the near future.

Land Use and Land Cover

About three-quarters of Caroline's area is classified as being covered by forest and brush and another 17% is agriculture (see Table 3-2 on the next page and Map 3-8). As discussed in the Snapshot of Changes section, the acreage of land designated as agriculture and inactive agriculture declined by 8% between 2007 and 2015. The other categories of land use showing significant acreage changes are Vegetative Cover (increase of 482 acres) and Wetlands (increase of 105 acres). The wetland change results from an increase in land designated by New York State DEC and the federal government as wetlands (much of it was previously categorized as open water). The vegetative cover increase likely results from the conversion of agricultural land.

Table 3-2 Town of Caroline Land Use and Land Cover

Category	2007 (acres)	2015 (acres)	2015 Percent of Land Cover
Agriculture	4,999	4,532	12.9%
Inactive Agriculture	1,490	1,465	4.2%
Barren or Disturbed	150	64	0.2%
Commercial	56	56	0.2%
Industrial, Transportation, Transmission	97	106	0.3%
Public/Institutional	71	74	0.2%
Recreation	48	44	0.1%
Residential	1,498	1,532	4.4%
Vegetative Cover	25,696	2,6178	74.3%
Water	130	80	0.2%
Wetlands	1,007	1,112	3.2%

Unique Natural Areas

“Unique Natural Area” is a designation given by the Tompkins County Environmental Council to areas that have outstanding geological and environmental qualities, such as special natural communities or plants and animals that are rare or scarce elsewhere in the county or region. The designation by itself does not provide any regulatory protection for the area, but indicates to landowners and government agencies that the area is deserving of special attention for preservation and protection. Caroline has eighteen Unique Natural Areas covering 23% of the town’s area (see Map 3-9). The relatively high fraction of the town falling within a Unique Natural Area is another indication of the rich and diverse natural environment in the town.

Of particular note are the Belle School Road Fen, Eastman Hill and Caroline Pinnacles Unique Natural Areas as these host state-listed rare, threatened, or endangered species or ecological communities. The flood plain in the Middaugh Woods Unique Natural Area is a remnant tract of old-growth forest that harbors a diverse collection of ferns and wildflowers. Another six areas have locally rare or scarce species, locally rare or scarce vegetation types, and high biodiversity. One of these, Shindagin Hollow, has extensive areas of mature hardwood forest that attract numerous migrating and breeding birds and boasts one of the best spring wildflower displays in Tompkins County.

Scenic Resources

A scenic resource is an area of special visual appeal, whether it be natural or human made. In 2007, Tompkins County created an inventory of scenic resources based on public input. The Tompkins County inventory is broken into three categories: “Distinctive Views,” “Noteworthy Views,” and “Characteristic Views.” Distinctive Views are those that “make a clear, unmistakable impression;” Noteworthy Views are those that “are worthy of attracting attention and are better than many of the scenic views in the County;” and Characteristic Views are “scenic views that are seen frequently that are characteristic of the County.” In the county inventory, Caroline has two Distinctive Views, three Noteworthy Views, and two Characteristic Views (see Map 3-10). These are not all the important scenic resources in Caroline; the county lists an additional 19 views in Caroline that it did not categorize. Scenic resources contribute to

the quality of life of Caroline residents and also attract visitors to the area. They are a large part of what makes Caroline such a beautiful and desirable place to live, work, and visit and are worthy of protection.

Goals:

Prevent environmental degradation: preserve air quality, water quality and quantity and the best soils and farmland.

Have businesses protect air and water quality, reduce their impact on traffic density and road quality, use clean and renewable sources of energy, and embrace sustainable business practices.

Preserve existing protected open space and increase public open space and recreational amenities, particularly close to population centers.

Have recreation on protected public open space that is safe and consistent with designated uses.

Have “cluster development” in order to preserve open space.

Avoid development near environmentally sensitive areas, particularly Unique Natural Areas.

Widespread implementation of low-impact and energy-efficient building practices.

Increased energy conservation and use of renewable energy sources.

Permanent protection of important natural features and open spaces, particularly of Unique Natural Areas.

Good landowner stewardship of natural features, open spaces and wetlands.

Good agricultural and construction practices that protect the quality of land, streams, and wildlife.

Actions:

- Require review of a significant project to consider its impact on the natural resources of the town (at a minimum but not restricted to the natural resources enumerated in the Caroline Natural Resources Inventory). Specific areas of concern are open space, visual resources, air, water, noise, light, and climate change impacts.
- Require an “escrow fund” or similar assurance from significant projects developed on new sites to provide for site remediation in the event the site is abandoned rather taken over by another business.
- Create a town-level environmental review law (TEQR) so that the thresholds that trigger an environmental review can be made appropriate for Caroline.
- Design guidelines should be reviewed to make sure they encourage sustainable over non-sustainable designs, durable over cheap designs, and flexible designs over single-use designs.
- Encourage and support adoption of energy conservation and renewable energy technologies.
- Develop guidelines and incentives for siting wind, solar and micro-hydro power facilities.
- Create an Environmental Justice statement to help guide land use planning decisions.
- Identify currently-used points of public access to waterways for fishing and swimming and assess the desire to and ways to preserve and enhance access.
- Develop the South Hill Trail extension.

- Hold workshops for landowners to learn about conservation easements and other ways to protect private land.
- Explore mechanisms, such as town-granted conservation easements that reduce tax liability, to encourage maintaining open space in the town.
- Add an area to the Town website to host photos and other media that showcase Caroline’s natural environment. Sponsor a contest to generate content for site.
- Establish a Natural Areas and Trails Group.

References

[1] US EPA Region 1 at <https://www.epa.gov/environmentaljustice/environmental-justice-your-community>

[2] <https://www.nrdc.org/stories/environmental-justice-movement>

[3] <https://www.epa.gov/environmentaljustice>

[4] *Geohydrology and Water Quality of the Valley-Fill Aquifer System in the Upper Sixmile Creek and West Branch Owego Creek Valleys in the Town of Caroline, Tompkins County, New York*, 2009.

[5] *Geohydrology of the Stratified-Drift Aquifer System in the Lower Sixmile Creek and Willseyville Creek Trough, Tompkins County, New York*, 2010

[6] TC Assessment Data, 2019

[7] *Tompkins County Energy Road Map*, 2016

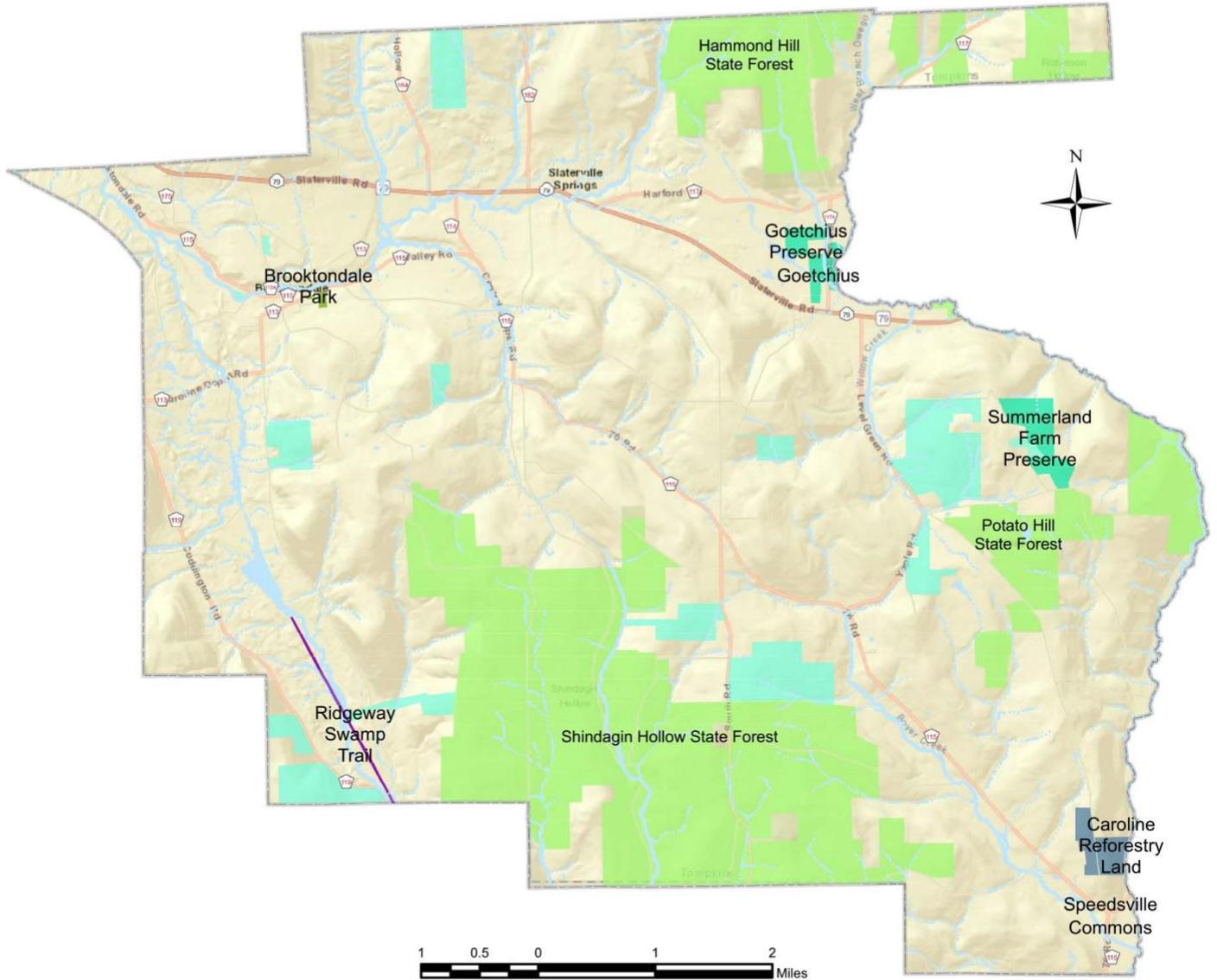
[8] *Tompkins County Small- To Medium-Scale Wind Feasibility Report*

[9] *Micro-Hydro Power Potential for Caroline, NY: A Feasibility Study*

[10] 2017 American Community Survey

[11] 2009 American Community Survey

Map 3-1 Town of Caroline Protected Open Space



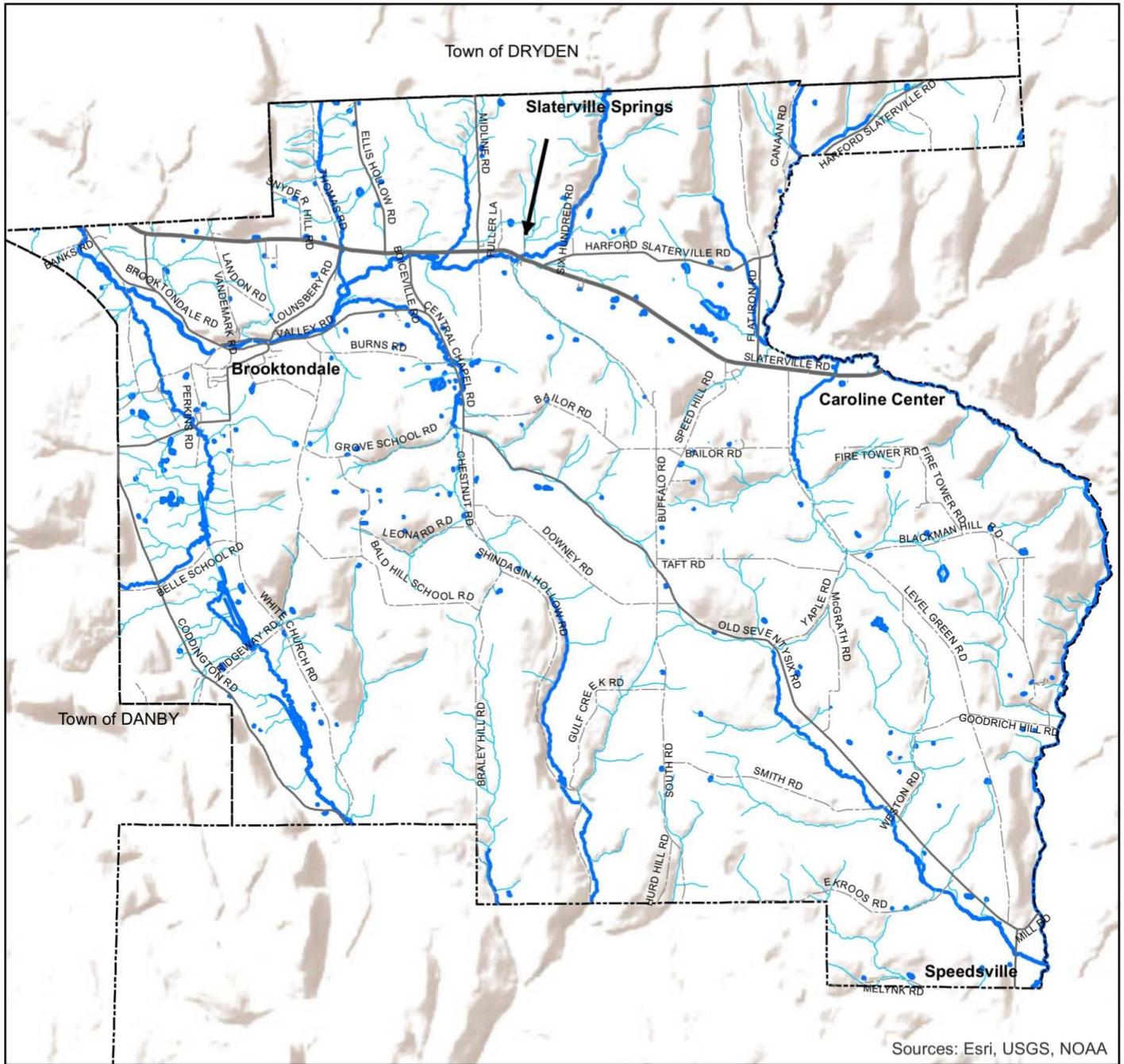
Open Space

- Conservation Easement
- County Forest Lands
- Municipal Park
- Nature Preserve
- Recreation Corridor (Proposed)
- State Forest
- Open Water

There are several Cornell Natural Areas in Caroline but they are not shown on this map as per the policy of Cornell Botanic Gardens.

Sources: Tompkins County Planning and Sustainability 2020
Tompkins County Assessment 2019
ESRI World Street Basemap 2020

Map 3-2 Caroline Streams



Tompkins Co. Municipal Borders

Caroline roads

- Local
- County
- State

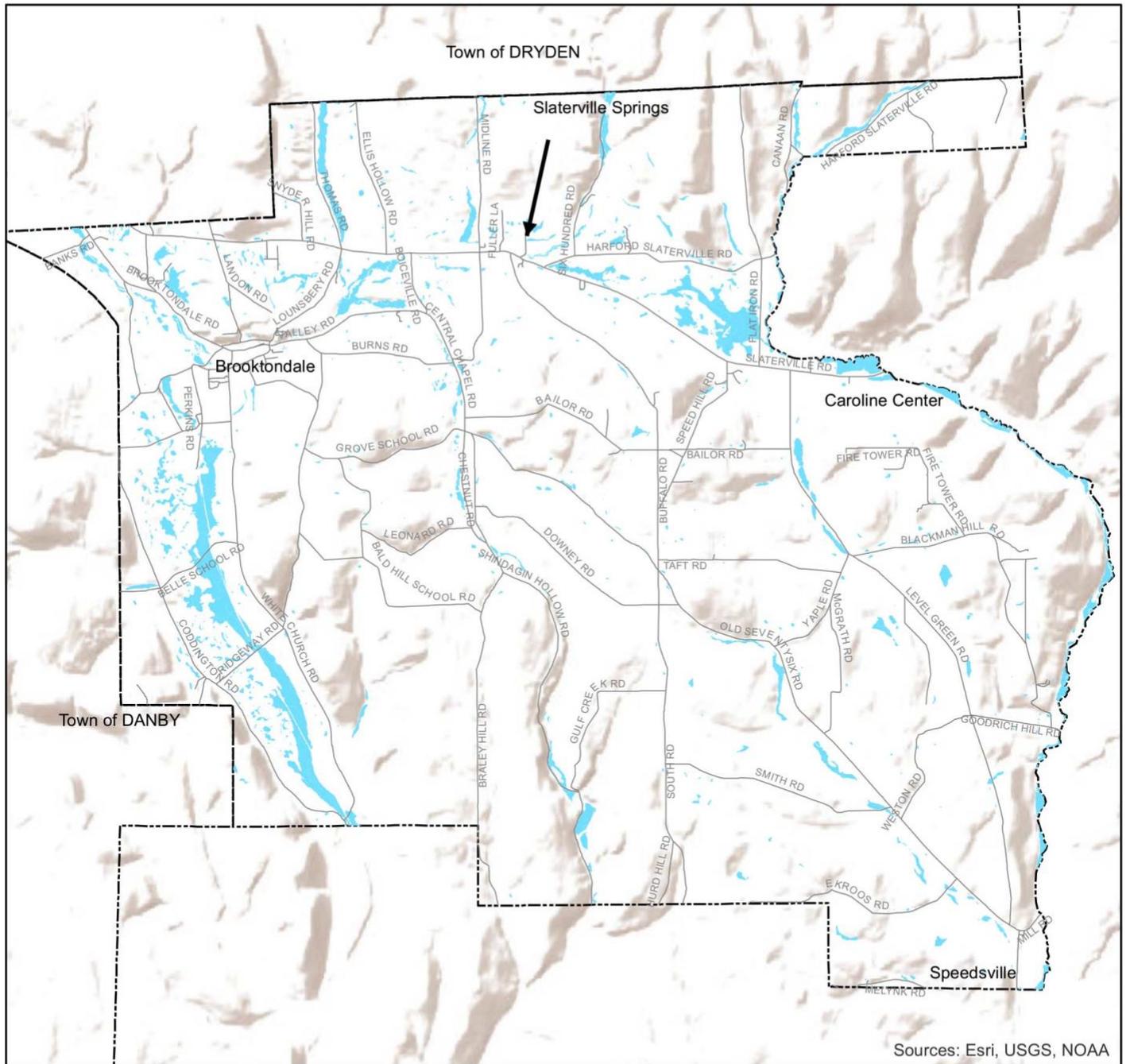
CLASS

- Not Protected
- DEC Protected



2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

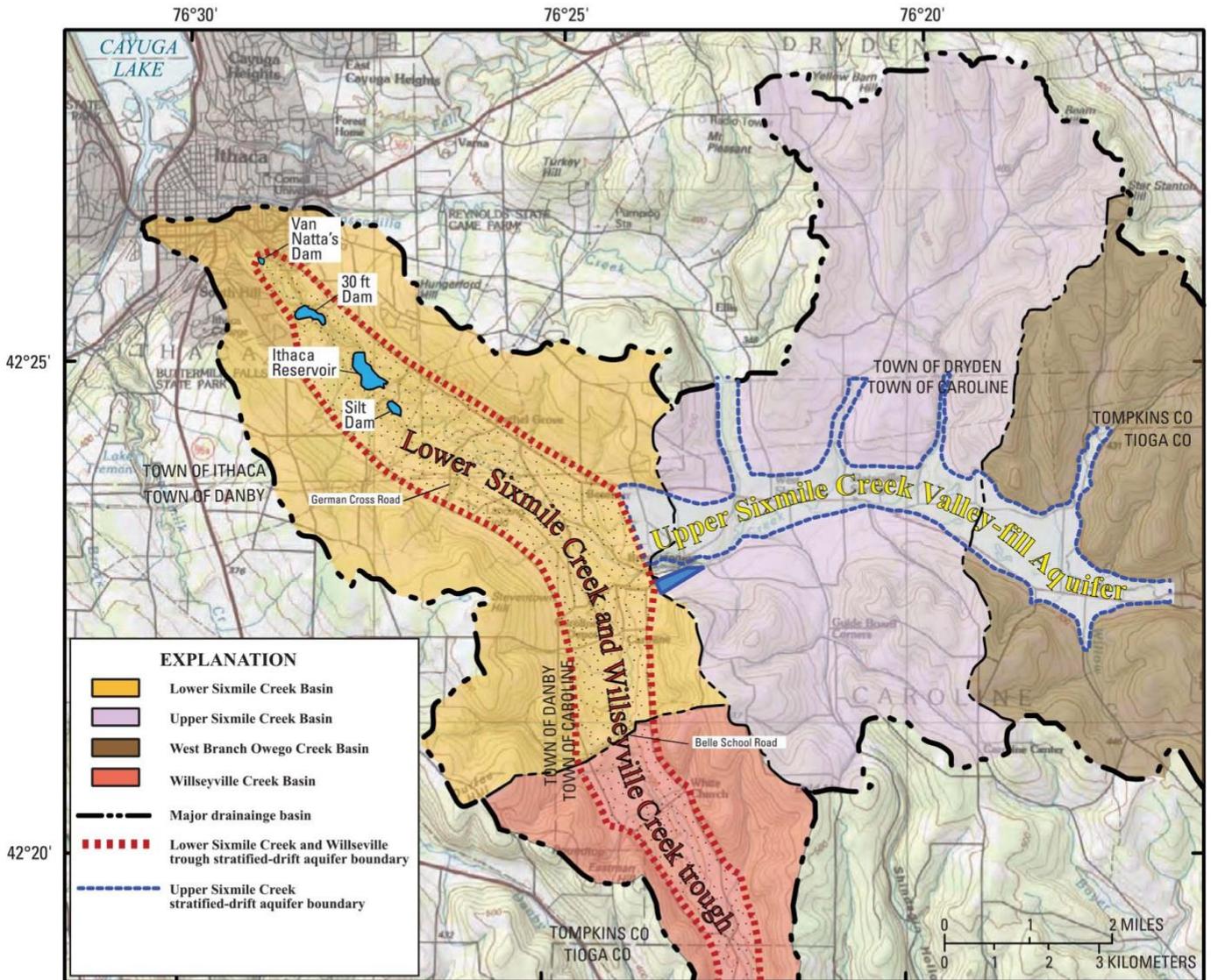
Map 3-3 2015 County Mapped Wetlands



-  Tompkins Co. Municipal Borders
-  Caroline roads
-  Tompkins County Mapped Wetlands

2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

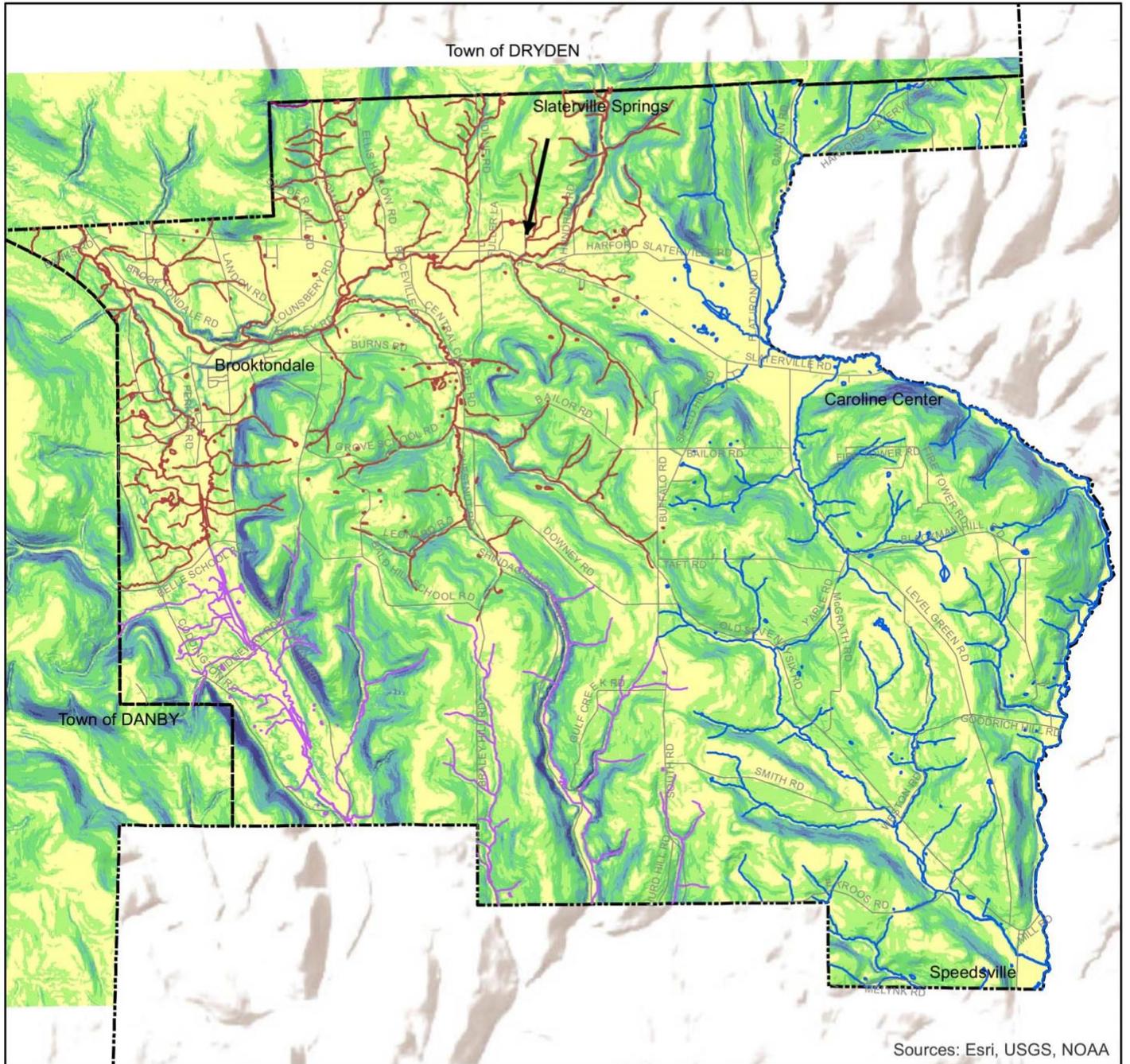
Map 3-4 Aquifers and Watersheds



Base from National Geographic 1:100,000
Topographic, Shaded-Relief Map

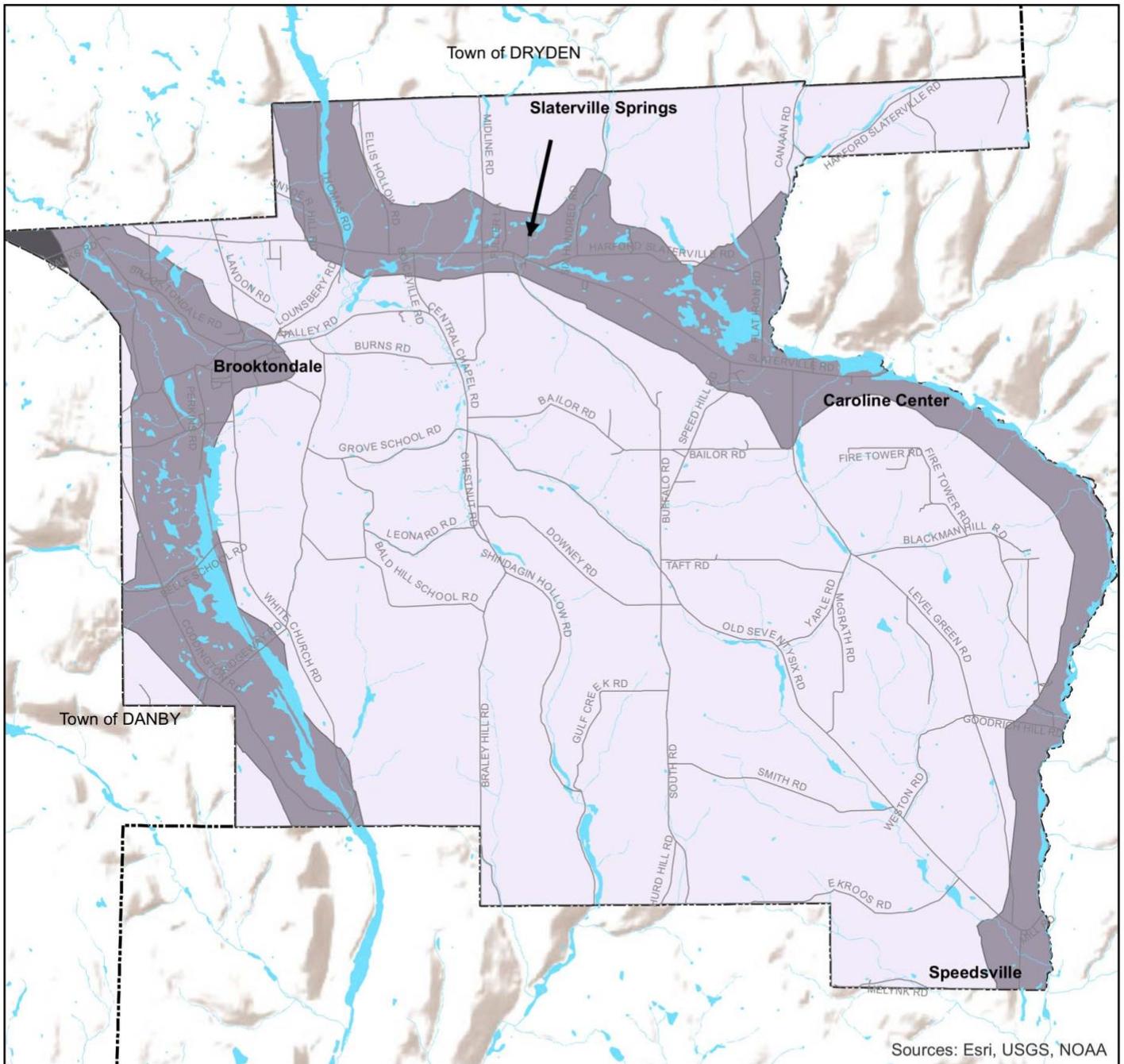
Source: Todd Miller/USGS

Map 3-5 Caroline Topography



2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

Map 3-6 Caroline Soil Map



Tompkins Co. Municipal Borders

Caroline roads

Water

Soil Type

Rhinebeck-Niagara-Hudson-Dunkirk-Collamer (s5987)

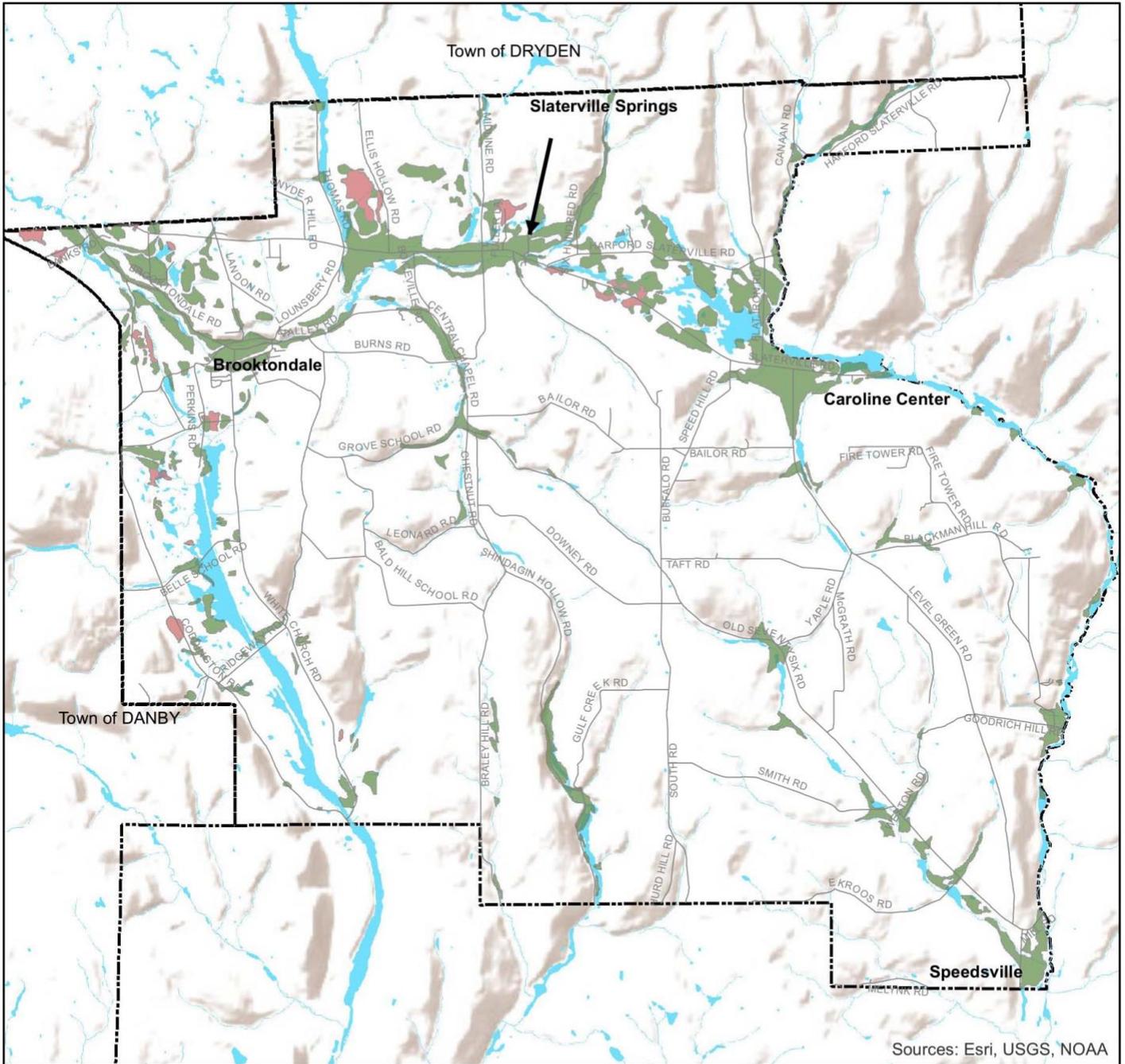
Volusia-Mardin-Lordstown (s5975)

Wayland-Palmyra-Howard-Chenango (s5983)



2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

Map 3-7 Caroline Prime Farmland



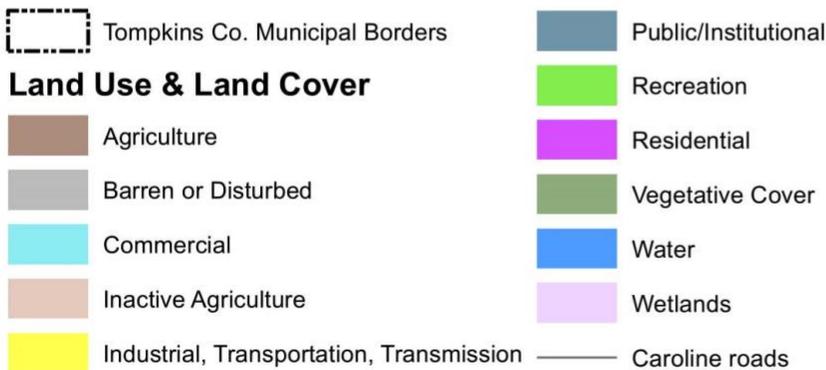
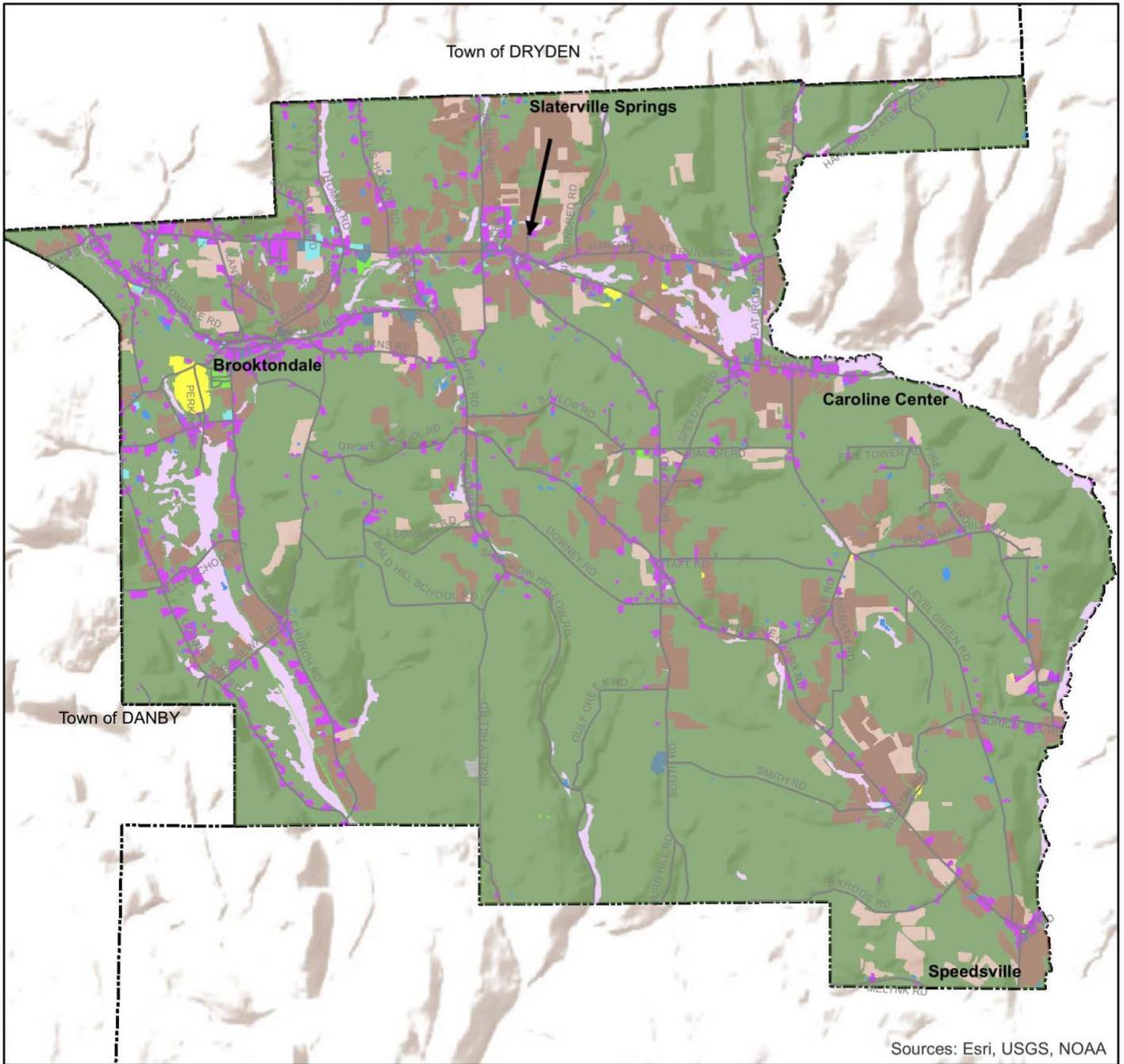
Sources: Esri, USGS, NOAA



- Prime Farmland
- Prime Farmland if Drained
- Caroline roads
- Water
- Tompkins Co. Municipal Borders

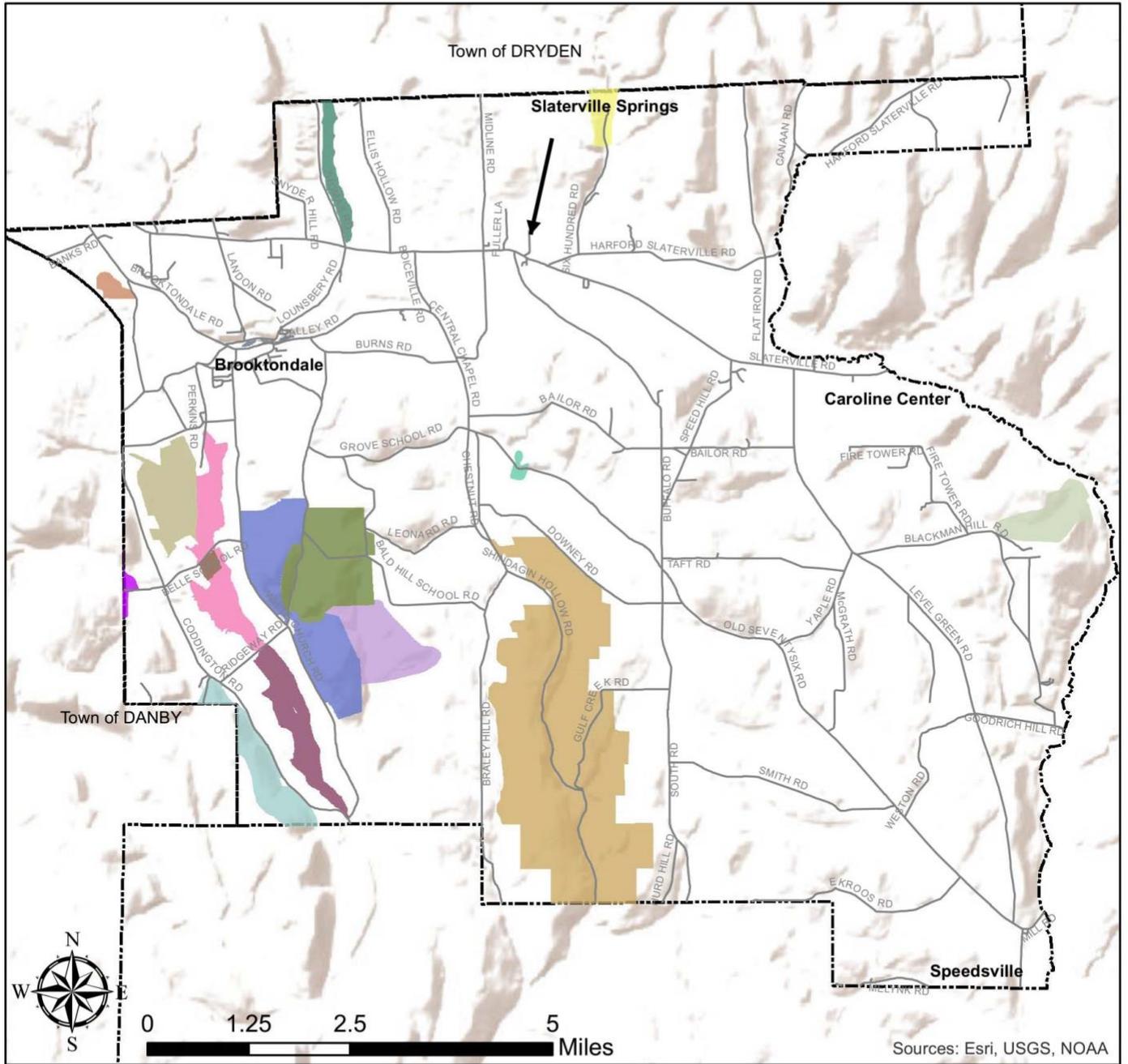
2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

Map 3-8 Caroline Land Use/ Land Cover



2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

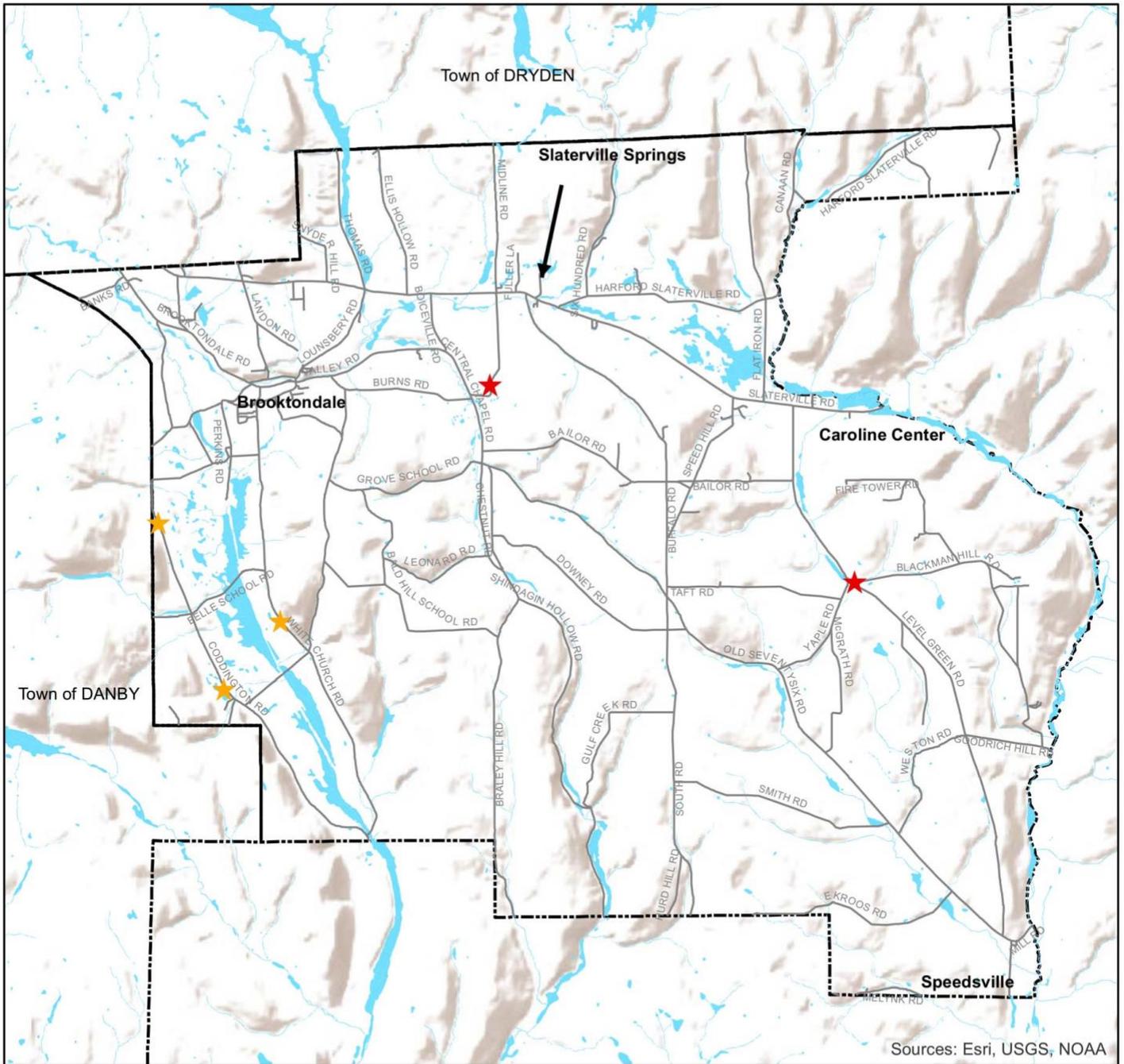
Map 3-9 Caroline Unique Natural Areas



- | | | |
|------------------------------------|---------------------------------|---|
| — Caroline roads | Caroline Pinnacles | Slaterville Wildflower Preserve (old 600) |
| --- Tompkins Co. Municipal Borders | Deputron Hollow | The Narrows |
| Bald Hill Woods | Eastman Hill | Thomas Road Wetlands |
| Bald Mountain Laurel Woods | Polson Preserve and Snyder Hill | White Church-Willseyville Swamp |
| Belle School Road Fen | Shindagin Hollow | White Rock Gorge |
| Brooktondale Gorge | Six Mile Creek Valley, Ithaca | Willseyville Beaver Ponds |
| Caroline Depot Woods | Six Mile Creek Woods, Caroline | |

2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

Map 3-10 Caroline Scenic Resources



- ★ Distinctive Views
- ★ Noteworthy Views
- Tompkins Co. Municipal Borders
- Caroline roads
- Water

2019 Caroline NRI
 Created By: CCE-Tompkins
 Date Created: 1/25/2019
 Data Source: CUGIR, USGS
 Projection: NAD83_New_York_Central_ftUS

Rural Character

Introduction & Purpose

Residents of the Town of Caroline consistently indicate that they value preservation of “rural character” in the town. There are many definitions for the term rural, but seldom are these rural definitions in agreement. “For some, rural is a subjective state of mind. For others, rural is an objective quantitative measure.”[1] Within the Town of Caroline, a wide array of definitions of “rural character” have been suggested, typically depending on the particular issue at hand. Cromartie & Bucholtz address rural definitions in their USDA Economic Research Service article, *Defining the "Rural" in Rural America*, [2] stating, “The use of multiple definitions reflects the reality that rural and urban are multidimensional concepts, making clear-cut distinctions between the two difficult.” Additionally, “The choice of a rural definition should be based on the purpose of the activity.”[2] The activity at hand is assuring that our town’s Comprehensive Plan is crafted in service to the vision and values which have been communicated by Caroline’s residents in regard to rural living. Elements of rural character in the Town of Caroline have typically fallen into the following categories:

- agricultural activity
- low population density
- open spaces, undeveloped land & view sheds
- judicious use of land for commercial purposes
- privacy
- community “small town” values and ethos

Policy issues related to all categories above are the subject of debate at all levels of governance, certainly beyond local efforts. Caroline is not alone in the pressures faced by small rural communities, but the Town is unique due to its absence of land use regulation. This has been identified as a “Critical Issue” for our region in the *Tompkins County Conservation Plan: A Strategic Approach to Agricultural Resource Stewardship*. [3]

The relationship between rural land stewardship and local governance highlights an important challenge which continues to be salient for the Town of Caroline. While some feel that “rural” means local government should stay out of the way of residents in all areas of their lives, it may be argued that intentional local policy becomes even *more* important for communities wishing to remain “rural”, given that rural towns are under pressure to become less-so.

Development & Residential Growth: Impact on Rural Character

The Town of Caroline is experiencing a critical moment for balancing development and preservation of rural character. The same qualities that make Caroline a desirable place to live create a draw for development. Without land regulation, this development risks disrupting the very nature of the town that makes it so appealing. One strategy for assuring that development is consistent with Town goals and vision is to support “nodal development” within the existing hamlets. Focusing development in the hamlets will help maintain Caroline’s rural character by reducing the pressure on the surrounding rural areas, open space and viewsheds. Encouraging housing density in hamlets and supporting locally-owned businesses and services will minimize sprawl, reduce the need for frequent car trips, and make our communities more human-scaled and walkable. Additionally, preferencing local business ownership protects against wealth

extraction from the local economy which often accompanies the arrival of large national corporate entities into rural areas. Another strategy to preserve rural character in the face of development is more traditional "zoning". This would provide additional guidance related to siting development projects in locations which would preserve open spaces and viewsheds, be strategic and proactive in regards to traffic patterns, and create buffers around commercial development in service to the vision of preserving a rural residential living experience. Finally, both the aesthetics as well as neighborly ethos of rural communities like the Town of Caroline may be preserved and prioritized by adoption of Formula Business Restrictions, which serve to align development with the vision and goals of the Town.

Changing Agricultural Landscape & Strategies for Addressing

Farming and forestry have historically contributed to the economic and aesthetic vibrancy of the town. The role of these industries is continuing to evolve as development pressure, demographic, and land use changes persist.

The Six Mile Creek Valley, within the Town of Caroline, has been designated one of six Agricultural Resource Focus Areas (ARFAs) in Tompkins County, recognized as being "strategic for protection for land intensive agricultural uses." [3] A detailed description of the Six Mile Creek Valley ARFA within the Town of Caroline is provided in the Tompkins County Conservation Plan; readers of this Town Comprehensive Plan are encouraged to review the ARFA profile there. ARFA characteristics of note include: 1) Highest rate of rental activity of any ARFA, at 45%, 2) Greatest number of farm parcels that fall outside the designated Agricultural District, 3) Significant loss of full-time farmers in the Town of Caroline — over 80% between 1980–2010, 4) Greatest percentage of agricultural land loss of all ARFAs since 1969, and 5) Highest percentage of increase in acreage of land considered forest, grass or brush from 1969–2007, suggesting poorer quality agricultural land which has been allowed to become fallow.

The Tompkins County Conservation Plan identifies Critical Issues and Proposed Actions for the Six Mile Creek Valley ARFA within the Town of Caroline. Readers are encouraged to reference the County Plan for additional detail; however, it is of note for this Comprehensive Plan that one Critical Issue is "Land Use Regulation", stating, "Presently the Town of Caroline does not have zoning controls to designate agricultural areas, regulate density in these areas, or to prohibit non-agricultural uses from spreading into agricultural areas." [3] A Proposed Action of "further codifying agricultural standards for subdivision regulations in the Town of Caroline" is noted. [3]

A variety of agricultural protection tools have been identified which may be implemented, as desired, to preserve rural character. These include: agricultural districts, agricultural assessment, agricultural zoning, right to farm laws, infrastructure planning, subdivision regulations, purchase of development rights, transfer of development rights, and land banking. Town residents are encouraged to determine which of these strategies may assist with stewardship of their land in ways most consistent with their values. This Comprehensive Plan is in support of Town leadership continuing to recognize the value of these agricultural protection tools and actively working to explore possible impacts of implementation.

Current Trends

While several indicators of agricultural decline have been seen in the Town of Caroline, interest in small-scale, part-time and hobby farming remains robust. The Brooktondale Farmers Market engages the public with local producers on a weekly basis. Caroline remains a "Right to Farm" community. Larger plots of land, both within and outside Caroline's Agricultural District continue to contribute to "rural character" aesthetically and environmentally, even if they are not

economically producing farms. How do we value homesteads and hobby farms in the Town of Caroline? What is the economic, social and ecological impact of these properties? There are no regulations that apply to them, and they receive no tax benefit (not being eligible for agricultural assessment), but they do preserve rural character and bolster farm infrastructure by supporting feed stores, hay producers and other businesses which are essential to daily operation of homesteads.[4] From a focus group of Caroline farmers, the Tompkins County Conservation Plan concluded, “Overall, farmers feel that agriculture is a defining characteristic of the Town of Caroline and the majority of local residents support the preservation of agriculture in the Town.”[3] This continues to be the case. Agricultural ventures such as homesteads, horse farms, hay and other crops, and direct sales from producer to consumer may yet provide even more opportunity for preservation of rural character in the Town. Of importance, is assuring that rural living is accessible and welcoming to all people. The Town recognizes the importance of equity, inclusion and diversity in regards to a rural lifestyle enjoyed by residents from all identity groups and is committed to initiatives which serve to promote these values.

Goals:

Incentivize housing that is concentrated within designated focus areas (see Vision Map in Appendix D)

Encourage locally-owned businesses that integrate with the rural residential and agricultural nature of the town, and discourage commercial development that would negatively affect the same

Preserve the Town’s most viable agricultural land

Preserve, enhance and expand healthy woodlands

Promote the Town as a vibrant and desirable community to enjoy a rural lifestyle, highlighting contemporary homesteading, hobby farming and small-scale agricultural activities consistent with what the economy and topography can reasonably support

Promote antiracist initiatives and policies which foster equity, diversity and inclusion in rural living

Actions:

- Install “Right to Farm” signage throughout the town
- Provide educational opportunities for residents to learn about options for preserving their land
- Utilize Route 79 to publicize local farms & Farmers Market
- Enact legislative land regulations which would preserve rural character in the face of development pressure, i.e. nodal development/development focus zones, traditional zoning, and/or formula business restrictions
- Empower the Review Board to utilize Design Guidelines to reach determinations regarding projects subject to Site Plan Review
- Encourage the Town Board to publish a statement of support for equity, diversity and inclusion in rural communities

References

[1] USDA National Agricultural Library, 2016; see also <https://www.nal.usda.gov/ric/what-is-rural>; <https://www.ruralhealthinfo.org/topics/what-is-rural> for further discussions about the nature of “rural.”

[2] <https://www.ers.usda.gov/amber-waves/2008/june/defining-the-rural-in-rural-america/>

[3] http://tompkinscountyny.gov/files2/planning/Natural_Agriculture/FINAL_Tompkins_Conservation_Plan_Part_II%2004-10.pdf

[4] Erica Frenay, personal communication, 2019.

Appendix A

Reflections and Assessments of Action Items in the 2006 Comprehensive Plan

Overview of 5-Year Actions

1. Propose Legislation to Guide Land Use and Commercial Development.

- Create a process of site plan review or a development guidance system. Our objective is to find a balance that acknowledges ownership freedom, yet is respectful of the rights of others. Both site plan review and a development guidance system are designed to provide protection to landowners about what type of activity or development occurs on neighboring parcels. The advantage of this process is that it treats each project on a case-by-case basis, building in opportunities for neighbors to provide input on specific projects and suggest ways to ensure compatibility with surrounding uses. This is unlike a zoning system, in which a uniform set of rules is developed for each portion of the Town. The vision and goals articulated in Part I serve as guiding principles that will be incorporated into the system.

A Site Plan Review Board has been established, with development guidance systems based on state and local laws as well as both the "Town of Caroline Subdivision Review Local Law Design Guidelines" and the "Town of Caroline Site Plan Review Local Law Design Guidelines." Projects are evaluated on a case-by-case basis.

Also, at least one farm has received an Agricultural Conservation easement. The Town should further discuss issues of Conservation Easement.

- Consider other legislation.

The Site Plan Review Board should be provided with additional tools in order to more adequately render decisions in compliance with their guidelines. For example, eye-level street views from public areas should be required in order to evaluate the preservation of "scenic views and vistas"; details of signage (lumens, color, "temperature," and type) should be required in order to evaluate dark sky compliance. These and all other application materials need to be made available to the public. Some of the guidelines should be legislated in order to ensure fair and equal compliance.

2. Establish the Natural Areas and Trails Group. This group will have parallel activities, united by their focus on land

- Develop pedestrian trails and bikeways between Slaterville, Brooktondale and Ithaca. The first priority of this group and a reasonable five year goal will be to secure an easement for the Coddington Trail that will connect Brooktondale, along the old railway bed, to the South Hill Recreation Way at Burns Road, locate funding and begin construction. During this initial five-year period, the group will also explore the feasibility of and possible approaches to establishing the Six Mile Creek Trail and the Besemer Trail.

- Work with existing groups such as the Finger Lakes Trails Club to sponsor activities such as trail maintenance and orienteering programs. Create and distribute maps of existing trails in the town, install signs at key open space access points and promote their appropriate use.
- Outreach to landowners of unique natural areas and high quality farmland to promote awareness and use of Land Trusts, conservation easements and other incentives for land preservation

There currently is no Natural Areas and Trails committee or board.

However, a Trails Committee was established by the Town, with a focus on the Coddington trail. Because of considerable opposition, that effort was eventually abandoned. But there is now a county-led effort to extend the South Hill Recreation way, which appears to be the only trail development possible at this time. The relevant towns are working together, with each needing to secure its own license agreement with NYSEG. NYSEG's license agreement has been unofficially acceptable to the various towns, and each needs to be ratified individually. The Besemer Trail, being a former railway bed may have similar property-right language as the South Hill Recreation way. Six Mile Creek access, in addition to trail construction, would require the purchase of easements.

CNY Hiking, Ithaca Trails, and Tompkins County all have trail maps that include Caroline's trails. The town has also supported the Finger Lakes Land Trust in securing easements on various properties to extend the Emerald Necklace trail.

In large part, thanks to the FLLT (Finger Lakes Land Trust) and Conservation Easements, there are many more acres in the Town that have been protected, with at least one additional proposal pending for a Town-owned conservation easement.

Neither the Town nor County can regulate Unique Natural Areas. While the Town currently has no Critical Environmental Area Designations, it is possible that it could develop these in the future.

3. Establish the Caroline Small Business Committee. The committee will:

- Assess current business community needs and issues.
- Develop a resource guide to help potential businesses be aware of what is available in the town.
- Develop ways to publicize products available from small businesses in town, such as a welcome packet for distribution to new residents.
- Develop ways to enhance viability of hamlets for both residents and businesses.

A Small Business Committee was established, and operated for a brief time. All of these items were on their agenda, and a pamphlet was produced with resource information. Currently, only the county Chamber of Commerce offers assistance to small businesses. A large part of the preservation and development of small businesses in Caroline involves restricting the presence of large-scale businesses and national and international formula businesses. Specifically, the Comprehensive Plan calls for, "Encouraging locally-owned businesses that integrate with the rural residential and agricultural nature of the town, and discouraging commercial development that would negatively affect local

agricultural, business, and residential communities." And "Encouraging businesses to protect air and water quality, reduce impact on traffic density and road quality, use clean and renewable sources of energy, and embrace sustainable business practices."

4. Establish the Caroline Clean-Up and Beautification Volunteer Corps. This working group will coordinate with the Planning Board and others to carry out the following activities:

- Coordinate a yearly clean-up day (or days) in Caroline.
- Recruit individuals and groups to gather and dispose of recyclable items and junk from public lands and private lands where property owners are unable to bring the items to the clean-up day site.
- Develop innovative programs to support, recognize and reward individuals and groups making particularly effective efforts to clean up and beautify Caroline.
- Pursue beautification grant opportunities.

Beginning in 2018, the Watershed Committee organized a roadside clean-up day, in conjunction with the Highway Department's Clean-Up Week. It is anticipated that this work will continue.

5. Research and develop local nuisance laws. The Planning Board will:

- Research current law concerning public nuisance – junk, noise, light, and odor – and educate the community.
- Identify methods of enforcement and make recommendations to the Town Board.
- Draft a local code that will set limits to public nuisance, define junk, and limit pollution.

New York State currently has laws regarding junk accumulation and noise restrictions (primarily under its Disturbing the Peace laws and motor vehicle noise ordinances). The town's code officer is regularly charged with enforcing the junk laws.

Additional Actions Suggested by the Comprehensive Plan

1. Provide easily accessible public transportation that is widely used.

While service has been interrupted by COVID-19, TCAT was piloting a First Mile/Last Mile concept in Dryden, funded by NYSEDA. Gadabout was to provide local pick-up and delivery of patrons to a TCAT bus depot. This was envisioned as a way to promote rural ridership.

2. Increase energy conservation and use of renewable energy sources.

There is an overall increase in renewable energy throughout the town and energy and water conservation design guidelines in the Site Plan and Subdivision Review documents were upgraded recently. Geothermal was installed in the Historic Town Hall last fall. LED streetlight conversion is in progress, with Brighten-Up LED bulb distribution to residents, as well as energy conservation information and resources. The new Town Office Building was constructed with solar power and geothermal heating. In addition to the Brighten-Up effort, since 2006 the Town has conducted Lighten-Up Caroline,

Solarize Tompkins, and HeatSmart (a program of Solar Tompkins).

Energy Independent Caroline, Solarize Tompkins South East and Solarize Tompkins have supported education efforts at educating citizens on the installation of energy conservation and renewable energy technologies.

The county produced two reports on wind power and a group in Mechanical & Aerospace Engineering produced a micro-hydropower report in 2017.

The New York Energy Improvement Corporation commissioned a report on wind opportunities in its early years of operation. As a part of that research, wind gauges were installed in various locations.

A renewable energy siting law is on the current agenda of the Planning Board.

3. Expand access to modern communications.

A Town Broadband Committee was established to work with the County Broadband committee on developing a county-wide broadband system. The project was designed with Clarity Connect, however, the State would not fund Caroline because they believed the cost per home was too high. Meanwhile, broadband was installed in the remainder of the County. Senator Seward was able to get a project funded with Haeefe through Rounds II and III of the New York State Broadband Program, with the Town contributing approximately \$30K; the town's contribution was largely procured from Park Foundation and the County when Caroline was omitted from the original NYS award. Since much of the issue has been resolved, the town's Broadband Committee has recently been inactive.

4. Extend public sewers and water into Brooktondale and expand natural gas lines.

A resolution was passed to the NYS Public Services Commission opposing the buildout of gas infrastructure. Because of current thinking regarding methane and issues of climate change, gas expansion is not seen as a responsible town policy for the future. Regarding water and sewer, there is a reexamination of land use policies in a neighboring town in order to address what has been called "rural sprawl"—the development of 5-10 acre parcels with no village centers. With current spatial requirements for septic and water mandating dispersed development, the need to address water and sewer becomes even more essential if we want to promote community centers. Water from Bolton Point is a prohibitive expense. However, it appears that wells into the Six Mile Creek and Willseyville aquifers might be able to support a large withdrawal. Some locations within the Town with excellent drainage can support a public sewer system.

Additionally, the 2007 Erosion and Sediment Control local law provides protection when these opportunities occur in development projects. Both Six Mile Creek and Buffalo Creek had these features as cornerstones to the project design. The Watershed Committee, Town Supervisors, and the Highway Superintendents, have been very engaged on this issue. The Watershed Committee is continually evaluating and submitting projects for funding. They are currently implementing a New York State Water Quality Improvement Project for culvert replacement and stream improvement at Ekroos Road. And a two-stage stream stabilization project on Buffalo Road has been undertaken, with partial funding from FEMA.

Appendix B

The Plan Review Process

In 2013, the Planning Board initiated an “extensive review and update process” as mandated by the 2006 Comprehensive Plan. While the Plan suggested a 5-year period, this was delayed for the purpose of completing a Site Plan Review law, an essential component of the original plan.

In preparation for the review, the Board met with the Town Supervisor, former Planning Board members, and members of the committee who were involved in drafting the original 2006 Plan.

The 2013 Board’s analysis of the plan and thoughts concerning the update centered on several points:

- The original Plan provided the legal framework for a number of subsequent actions by the Town Board. It had been used by citizens in many ways as a resource. It accomplished all the fundamental goals that having a Plan does for a Town.
- The Planning Board felt the original Plan reflected more of a “planning sensibility” than a community sensibility. They felt there were broad categories left out—more about life in the Town, for instance—and that, if identified and included, these categories might have more direct meaning for the townspeople and could possibly engage them more fully in the implementation of the Plan.
- The goal was not a complete reconstruction of the plan, but to work with the existing document, add or subtract categories as any new public input might suggest, and update the census and other relevant data.

The Board then met with professional planners from the area, specifically those from the towns of Dryden and Ulysses, and from Tompkins County. They also hired a former planner from the Town of Ithaca to provide them with formal planning guidance.

A series of three informal "Community Cafés" were organized throughout 2015, with the intention of learning what the residents felt have been and should be the primary goals, ambitions, and weaknesses of the plan. These "cafés" were hosted with the assistance of trained facilitators; the three of them drew approximately 130 townspeople. The two primary questions asked in these gatherings were:

- What do you value about living in Caroline? What opportunities do we have as a community?
- Over the life of this plan update, approximately 6-10 years, what specific opportunities and/or challenges should we as a community be addressing, or what longer-term goals should we at least recognize?

After the cafés, the Planning Board conducted a town-wide survey. The responses gleaned from the cafes informed the outline of the survey, as well as indicating priorities and techniques for framing the topics. At this time, the five primary sections of the Comprehensive Plan were expanded to eleven categories for the survey, in order to achieve more specificity. A number of individuals who attended the cafés volunteered to review the Resident Questionnaire before its distribution.

Members of the Cornell Survey Research Institute advised the Board on the design of the survey, with the intention of avoiding overly-specific questions, so that there would be less likelihood of targeted responses and greater validity to the information that is collected, with more opportunity for individual voices to have their say. After review and revision, a survey was produced in early

2016, which was distributed by mail in March to all 1400 taxpayer households as well as electronically via the Town website. The results were tallied in April of 2016; approximately 380 mail-in and on-line responses were received. This represented a response rate of more than 27%, much more than anticipated. The results were collected and tabulated, were shown on the Town's website and discussed at a public meeting, advertised in numerous venues, and held in October 2016. There were approximately 40 people in attendance. The results of this survey are summarized in Appendix C.

An additional public meeting was then organized, in the interest of determining potential means of moving ahead with the update based on the survey results. In this meeting, the 50 or so residents were divided into smaller focus-groups that were moderated by members of the Planning Board as well as by some members of the Town Board. The results of these groups were then shared with all in attendance, and an outline for moving ahead was determined.

As recommended at this meeting, the Planning Board acted to consolidate the eleven categories of survey to three fewer topics, in order to broaden future discussions. In 2017, the planning board reduced the topics to three over-arching categories. Three online "mini-surveys" were distributed to town residents, representing the three principal topics, for the purpose of focusing the agendas. Each survey solicited reactions to two or three questions.

"Making Caroline a More Livable Community" prompted:

- Some things that are important in making Caroline a more livable community are...
- What are some actions the Town Board, local businesses, organizations, or individuals could take to make Caroline more livable?

"Protecting Caroline's Environment and Natural Resources" asked:

- In your opinion, what are the most important environmental and natural resource issues facing Caroline?
- What specific approaches or strategies would you recommend to protect Caroline's environment and natural resources?

And "Preserving Caroline's Rural Character" asked:

- What does Caroline's rural character mean to you?
- In your opinion, what are the most important issues impacting Caroline's rural character?
- What specific approaches or strategies would you recommend to help preserve Caroline's rural character?

There were between 46 and 56 responses to each of these surveys.

Three public workshops were organized around each of these topics; the goal of each workshop was to generate ideas for actions in response to needs identified in the mini-surveys or at the workshop. The first workshop, on livability, was held on November 13, 2018 at the Brooktondale Community Center, with an attendance of approximately 30. The second, pertaining to the town's environment and natural resources, was held on December 13, 2018 at the Brooktondale Fire Hall, and drew 25 attendees. The third, on the town's rural character, was held on January 12, 2019 at the Speedsville Fire Hall, and had about 15 participants. The information extracted from these workshops was then posted on the town's website, and helped shape the information included in this update and provided some of the plan's actionable objectives.

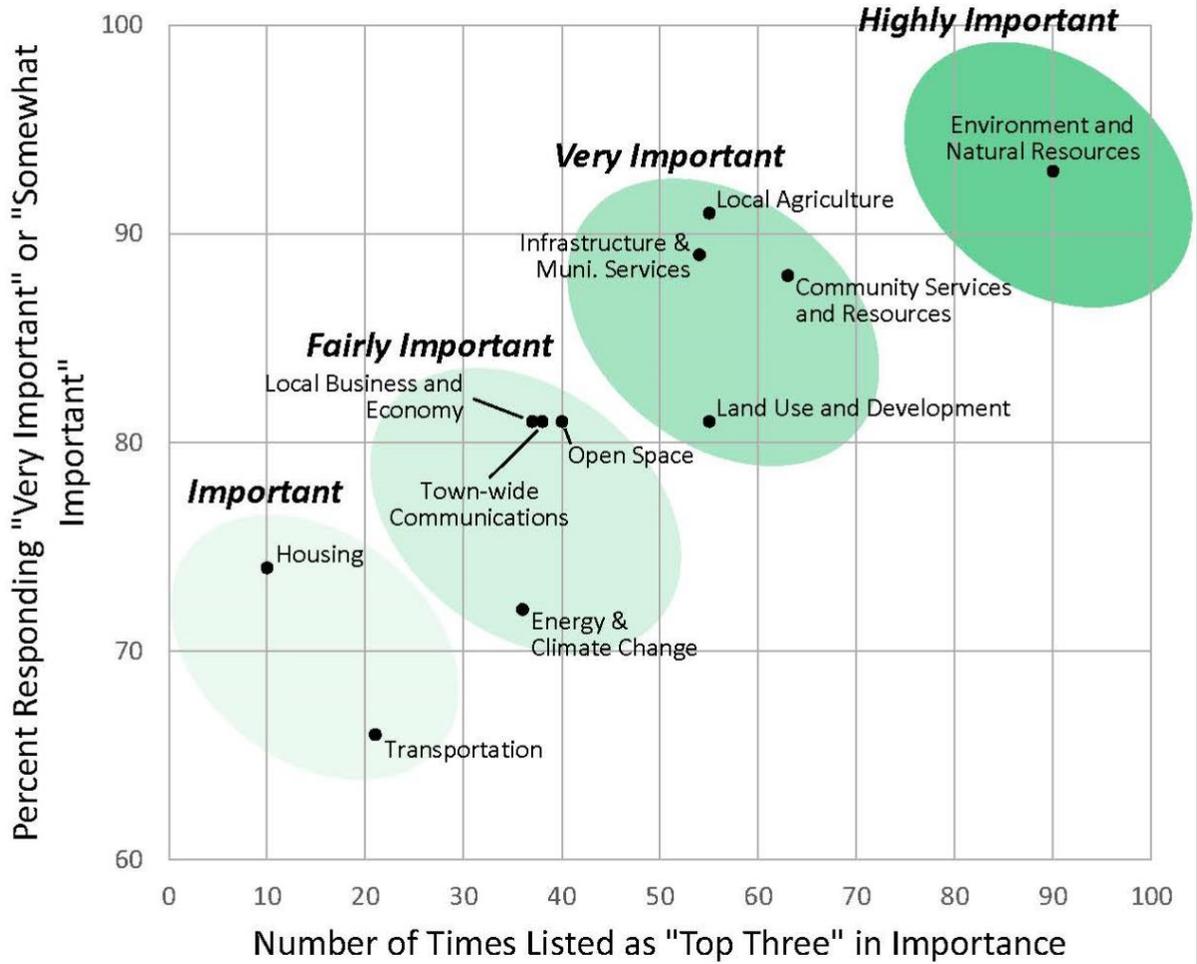
Appendix C

Community Survey Results

The 2016 Community Survey asked town residents about eleven topics: Local Agriculture; Environment and Natural Resources; Local Business and Economy; Community Services, Activities and Resources; Land Use and Development; Housing; Infrastructure and Municipal Services; Transportation; Open Space; Town-wide Communication; and Energy and Climate Change. These topics were drawn from the 2006 Comprehensive Plan or were identified as important in “Community Cafés” held in 2015. (See Appendix B for details about construction of the survey and for a description of the Community Cafés.) The survey consisted of two major sections; in the first section, examples were given of activities or goals that fell under a particular topic and residents were asked to rate the importance of that topic. In the second section, residents were asked to rate their top three important areas out of the eleven topics.

The figure on the next page summarizes the combined results of the two sections; detailed results for both sections and the examples provided for each topic follow after the figure. For the summary figure, the results for the two highest importance categories (“Very Important” and “Somewhat Important”) were added together to create an “importance” measure. Note that the minimum importance measure (66%, for Transportation) is still quite high and that the left-hand axis starts at 60, not 0, in order to highlight small differences in importance between the topics. The fact that all the topics were rated as important is not surprising, given that they were drawn from things already considered as important for the original Comprehensive Plan or were identified as important in the Community Cafés. Because they have been rated as important, all of these topics appear in one form or another in this revised Comprehensive Plan. The general correlation (the fact that the topics tend to fall along a line in the figure) between importance and the number of times a topic was listed as a “top three” is also not surprising: if a greater number of residents rated something as “very important” or “important”, the more likely it is that that topic would be listed in a residents “top three” list. The figure does show some groupings of importance for the topics, as indicated by the shaded areas. Environment and Natural Resources is the most important topic to town residents. The fact that Housing and Transportation are the least important may reflect in part that there is no easy or clear town role in tackling these issues.

Summary of Survey Responses



Details of Survey Responses

Section 1: Topic's Importance to Respondent

Local Agriculture

- Promote new ways to farm big and small
- Promote the growth of locally grown food and wood products
- Preserve high quality woodlands and agricultural lands
- Promote regeneration and sustainable forestry
- Promote agricultural practices that protect the quality of land, streams and wildlife
- Promote appropriate infrastructure for farming and logging enterprises to ensure adequate sources of supplies and strong markets for agricultural and lumber products

	Number of Responses	Percentage
Very Important	245	67%
Somewhat Important	89	24%
Less Important	17	5%
Least Important	10	3%
Don't Know or No Opinion	4	1%
Total	365	

Environment and Natural Resources

- Fields, meadows, wetlands, marshes, streams, ponds, forests
- Clean air and water; preservation of water quality and quantity
- Protect against environmental degradation
- State forest/nature preserves/hiking trails
- Open public spaces and recreational resources
- Healthy balance between develop-mental growth and preservation of natural resources

	Number of Responses	Percentage
Very Important	277	77%
Somewhat Important	57	16%
Less Important	15	4%
Least Important	10	3%
Don't Know or No Opinion	3	1%
Total	362	

Local Business and Economy

- Support local businesses, retail stores and home-based enterprises
- Increase local employment opportunities
- Support opportunities for new small and home-based businesses
- Promote economic development in the hamlets compatible with other long term goals
- Enhance infrastructure that supports small business enterprises

	Number of Responses	Percentage
Very Important	176	49%
Somewhat Important	116	32%
Less Important	49	14%
Least Important	19	5%
Don't Know or No Opinion	3	0%
Total	360	

Community Activities, Services and Resources

- Donations for those in need: food pantry, clothing and household goods
- Ambulance service
- Youth services
- Town historian, history room, historical sites
- Town library
- Seniors programs
- Farmer's market
- Recreation programs (youth and adult)
- Community Center activities, festivals, and other community-wide social activities

	Number of Responses	Percentage
Very Important	197	55%
Somewhat Important	120	33%
Less Important	32	9%
Least Important	12	3%
Don't Know or No Opinion	0	0%
Total	360	

Land Use and Development

- Develop strategies for dealing with growth, housing, business and recreation
- Concentrate development in hamlets and away from environmentally sensitive areas, such as Unique Natural Areas
- Provide recreational opportunities on protected open public space, consistent with designated uses

	Number of Responses	Percentage
Very Important	187	52%
Somewhat Important	104	29%
Less Important	29	8%
Least Important	29	8%
Don't Know or No Opinion	9	3%
Total	360	

Housing

- Support community programs for weatherization, repairs, energy and energy conservation
- Support energy-efficient building and renovation practices
- Preserve historic buildings

	Number of Responses	Percentage
Very Important	132	37%
Somewhat Important	133	37%
Less Important	67	19%
Least Important	25	7%
Don't Know or No Opinion	3	1%
Total	360	

Infrastructure and Municipal Services

- Roads (maintenance and snow removal)
- Stream stabilization and stormwater management
- Maintenance of Town buildings and equipment
- Large item trash and recycling pickup
- Local recycling facility

	Number of Responses	Percentage
Very Important	233	56%
Somewhat Important	86	24%
Less Important	33	9%
Least Important	5	1%
Don't Know or No Opinion	2	1%
Total	359	

Transportation

- Bus service
- Ride sharing
- Bike paths and lanes
- Secure bike and car parking at bus stops

	Number of Responses	Percentage
Very Important	126	34%
Somewhat Important	119	32%
Less Important	66	18%
Least Important	55	15%
Don't Know or No Opinion	5	1%
Total	371	

Open Space

- Maintain an abundance of open/undeveloped space: fields, woods, hills, wetlands, scenic views
- Promote opportunities to use outdoor spaces: trails, hiking, skiing, snowmobiling, biking, birding, hunting, fishing
- Protect important natural features such as Unique Natural Areas

	Number of Responses	Percentage
Very Important	190	53%
Somewhat Important	100	28%
Less Important	44	12%
Least Important	20	6%
Don't Know or No Opinion	4	1%
Total	358	

Town-wide Communication

- Broadband internet service
- Landline and DSL phone service
- Community newsletters and listservs
- Town website, government, and community news

	Number of Responses	Percentage
Very Important	168	47%
Somewhat Important	121	34%
Less Important	43	12%
Least Important	26	7%
Don't Know or No Opinion	3	1%
Total	361	

Energy and Climate Change

- Reduce greenhouse gas emissions
- Apply sustainability principles where possible
- Foster energy-efficient communities and lifestyles
- Direct efforts and investments toward efficiency and renewable energy
- Promote cost-effective measures to make our community resilient to expected climate change impacts

	Number of Responses	Percentage
Very Important	177	50%
Somewhat Important	78	22%
Less Important	39	11%
Least Important	55	15%
Don't Know or No Opinion	6	2%
Total	361	

Section 2: Respondent's "Top Three" Topics

Topic	Number of Times Listed as "Top Three" in Importance
Housing	10
Transportation	21
Energy and Climate Change	36
Local Business and Economy	37
Town-wide Communications	38
Open Space	40
Infrastructure and Municipal Services	54
Local Agriculture	55
Land Use and Development	55
Community Activities, Services and Resources	63
Environment and Natural Resources	90

Acknowledgements

The current Planning Board would like to thank all the previous Planning Board members who have worked on various stages of this Comprehensive Plan revision: Lois Lounsberry, Bruce Murray, Chad Novelli and Ed Wurtz. Joan Jurkowich and Sharon Heller of the Tompkins County Department of Planning and Sustainability have been invaluable resources: Joan tracked down demographic and other data and helped us navigate arcane U.S. census databases; Sharon created many of the maps and went beyond the call of duty to squeeze in final revisions as the county was being shut down due to Covid-19. Thank you to Cornell Cooperative Extension of Tompkins County for permission to reproduce maps from the Caroline Natural Resources Inventory. Karen Edelstein performed GIS analysis that gave important insight into land use trends in Caroline. Jim Houghton added text to many of the maps and used his graphics arts wizardry to add features to some that couldn't have been done otherwise. Thank you also to Don Barber and Mark Witmer, former and current Town Supervisors, for helpful discussions on process and support throughout this project. Finally, we thank the many town residents who took time to participate in the community survey and the various cafés and workshops and who have submitted written or verbal comments; without your input this revision would not have been possible.

Charles Eldermire
Katherine Goldberg
Bill Podulka
Val Warke