PLAN

of Conservation and Development

for the Central Connecticut region, 2013-2023

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Disclaimer and acknowledgements

The Central Connecticut Regional Planning Agency prepared this Plan. For information about the Agency, see *Appendix D: About CCRPA*. This plan (and all related documents) are subject to change. This version was released on October 7th, 2013 and adopted by CCRPA's Board on October 3rd, 2013.

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Introduction

For centuries, resources were treated as limitless. Years of growth, however, are resulting in extraordinary pressure on the environment that sustains all life. If the vitality of the environment *and* of the societies and economy that depend on it are to be guaranteed over the long term, natural resources must be used sustainably. This plan takes a step in that direction, by laying out a vision for the sustainable use of the most basic resource of all, land over the next ten years in central Connecticut.

About this plan

This plan is intended to fulfill in part CCRPA's obligations under the Sustainable Knowledge Corridor and to meet the requirements of Section 8.35a of the Connecticut General Statutes, which states:

"At least once every ten years, each regional planning agency shall make a plan of conservation and development for its area of operation, showing its recommendations for the general use of the area including land use…."

This Plan represents the culmination of over 45 years of land use planning by CCRPA. CCRPA adopted the region's first Plan of Conservation and Development (POCD) on May 1, 1969. This Plan supersedes all preceding plans, including the to-now current plan (adopted May 3, 2007). CCRPA developed this plan in consultation with a variety of stakeholders intended to reflect the region's diversity. Among others, these include its member municipalities, the cities of Bristol and New Britain, and the towns of Berlin, Burlington, Plainville, Plymouth, and Southington.

Founded in 1966, one of CCRPA's core responsibilities is to draw up regional plans such as this one. In addition to a regional POCD, CCRPA also develops and maintains several other regional plans. These include:

- Long-Range Transportation Plan (LRTP), which charts a course for and enables funding for the future of the region's transportation system
- Comprehensive Economic Development Strategy (CEDS), which prioritizes and provides access to funding for economic development projects
- Natural Hazard Mitigation Plan, which prepares the region for storm and disaster damage and provides access to funds for mitigation and reconstruction

CCRPA also conducts and coordinates a variety of studies and grants for its member municipalities.

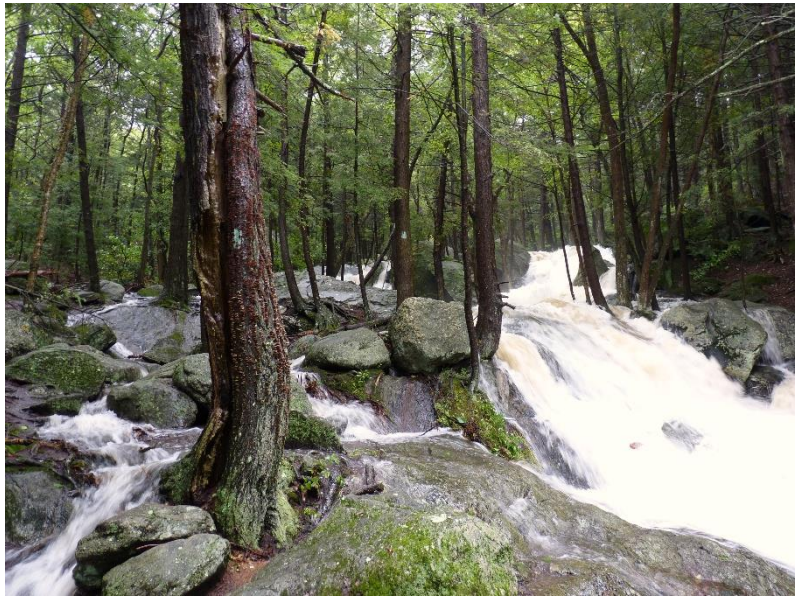
This Plan was not created in a vacuum. CCRPA received considerable assistance and support from local, regional, state, and federal partners. Funding for the Sustainable Knowledge Corridor, including development of this Plan, in part was provided by the Sustainable Communities Initiative, a program jointly run by the U.S. Department of Housing and Urban Development, Department of Transportation, and Environmental Protection Agency. As part of the Sustainable Knowledge Corridor (SKC) project, CCRPA, the Capitol Region Council of Governments (of

Hartford), and the Pioneer Valley Planning Commission (of Springfield) are updating regional plans to integrate sustainability principles.

Public engagement was key to the development of this plan. In addition to consultation with local governments, public input was sought to shape the content of this plan. Input gathered during other planning exercises was taken into consideration, and new input was sought through public meetings.

The function of the plan

This is the regional *land use* plan for central Connecticut. It is not a plan of transportation, economic development, or hazard mitigation; separate plans (developed by the same agency and using the same physical boundaries) cover those topics. This plan is designed to complement those existing documents, not to duplicate their content. It shares many of the same principles of sustainability, such as prioritizing maintenance of existing facilities over new development, that those plans embrace, but applies them to land use. For the purposes of the SKC, this plan should be read in concert with those plans (namely the regional LRTP, CEDS, and related subject area plans).



Mattatuck Trail and Buttermilk Falls in Plymouth

The primary purpose of the plan is to provide guidance to local decision makers when their land use actions may have regional impacts. Connecticut General Statutes (Sec. 8-3b) require municipalities to give 30-day advance written notice to a regional planning organization (RPO) prior to adopting a zone change or change to zoning regulations that will affect property within five hundred feet (500') of a municipality in that RPO's area. The RPO is directed to study the proposal and submit comments before a public hearing on the proposal. For proposed subdivisions that abut or include another municipality,

Hogans Cider Mill in Burlington

the statutes (Sec. 8-26b) likewise require the municipality to inform and give the RPO the opportunity to comment. By law (Sec. 8-23(f)4), municipalities must also submit proposed amendments or revisions to local POCDs, with a 65-day advance, to the RPO for review and comment. In all three cases, RPO comments are purely advisory.

Regional plans also serve as a bridge between local and State plans. Public Act 10-138 requires the Connecticut Office of Policy and Management (OPM) to implement a "cross-acceptance" policy for the Connecticut POCD. This policy is defined as "a process by which planning policies of different levels of government are compared and differences between policies are reconciled with the purpose of attaining compatibility between local, regional and state plans." As part of this process, this plan and the state plan will be compared and differences reconciled. As such, this plan may be able to influence state policies.

The mechanics of the plan

Being regional in nature, a broader approach to land use is required in this plan than would be in a municipal plan. CCRPA's mandate is to encourage regional cooperation and ensure that development in one municipality does not burden or disadvantage surrounding communities.

This plan is not concerned with the precise location or looks of corner stores, industrial facilities, schools, parks, and homes in a neighborhood. Local concerns such as these are the affair of individual communities; the requirements contained in this plan are not intended to supplant local zoning or serve as design guidelines. However, when an industrial facility threatens a water supply, a commercial center will cause traffic congestion, or housing development will fragment natural habitats,

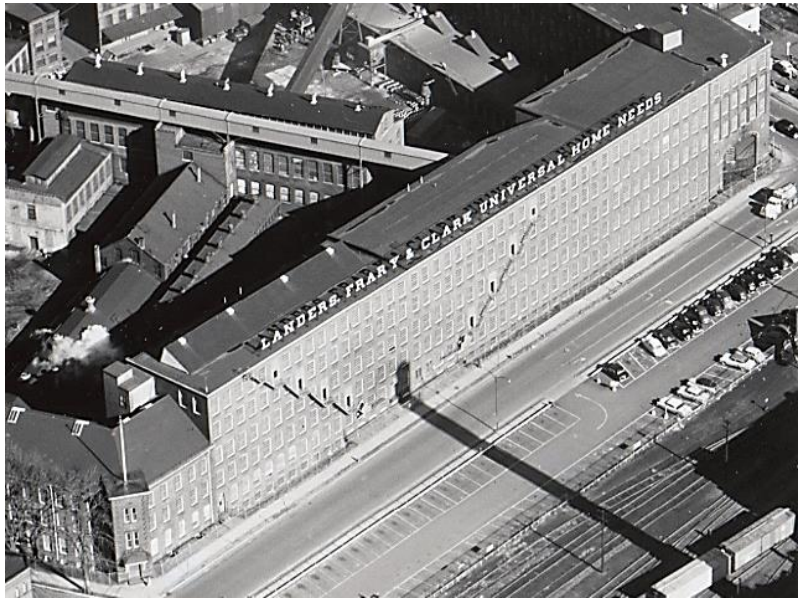
the entire region is affected. It is these impacts that this plan is designed to mitigate.

Referrals (proposed changes to land use plans, maps, and/or regulations) and (re)development proposals that come before CCRPA will be evaluated for consistency with this plan. Referrals and proposals that are determined to be in violation of one or more key ('must') components of this plan *or* that are inconsistent with preponderance of this plan's requirements, shall be found in conflict with this plan. Those that do not present such violations shall be found not in conflict. In addition to determining consistency or conflict with this plan (and the state plan, as needed), CCRPA may also provide written comments on referrals and (re)development proposals. These comments may include recommendations to improve consistency with this plan, the State plan, or with other plans, projects, or concerns. Lastly, where a referral or a proposal is found to be in conflict, but said conflict may be avoided through a reasonable modification, CCRPA may find the referral or proposal *conditionally* not in conflict, contingent on acceptance of the modification recommended by CCRPA. (Should the recommendation modification not be accepted, the referral or proposal will be deemed to be in conflict.)

Skiing at Mount Southington in Southington

Like the State Plan of Conservation and Development, Central Connecticut's POCD is divided into two parts. The first is the "general requirements." This is a text list of "should" and "must" statements. To conform to this plan, a referral or proposal may not violate any "must" statements.

The second part is a map that serves as a guide to where development should occur, and where it should not. While most POCDs mirror this structure, this plan takes an approach unique to Connecticut. All land in the region is placed in one of five categories based on the intensity



Former Landers, Frary, & Clark Factory (demolished) in New Britain

of development the land and surrounding infrastructure are appropriate for and can reasonably accommodate. The five categories ('plan areas') are: preservation/conservation, rural, low, medium, and high. Furthermore, in central places, such as downtowns, town centers, and villages, an overlay applies. The overlay is designed to focus development in traditional centers, encourage mixing of uses, stimulate reuse/rehabilitation of existing buildings, and protect and enhance the character of central Connecticut's central places.

As with traditional zoning, the specifications and limits given by the plan areas are not intended to be area-wide averages. They apply to each proposal that comes before CCRPA on its own. For example, a subdivision in a medium intensity plan area must meet the requirements of that plan area, regardless of the actual intensity of development currently realized in the rest of the plan area. Just because a neighboring property is less developed does not give one the right to develop a one's own property at a higher intensity. (However, where limits on development on the neighboring property is part of the proposal, CCRPA will include the size of this property in its calculations to determine the intensity of the proposal and its consistency with the plan area.) Should inconsistency exist between the map and the general requirements (for example, the map shows a critical habitat area as being in a high intensity plan area), the general requirements take precedence.

The importance of intensity

One starting point for many land use plans, including the last version of this plan, is a build-out analysis. This type of analysis quantifies how much more development can be absorbed before a place literally runs out of land.

While this technique may have served in the past, by yoking economic and population growth to land conversion, it not only promotes the fallacy that growth takes sprawl, but it explicitly promotes unsustainable development. As a sustainable land use plan, this plan does not ask "how much more can we build until we run out of land?" Instead, it asks whether we are using land sustainably and, if not, how we can begin to do so.

For central Connecticut, the answer is sobering. Between 1985 and 2010, the amount of 'developed' land in central Connecticut increased by 18.4%; the amount of 'turf and grass' (usually associated with lawns) increased by 24.2%. From 1985 to 2010, however, the population of the region increased by just 6.3%. In other words, in 1990 there was one acre of developed land per 8.07 residents; between 1985 and 2010 the region developed land at a rate of one acre per 2.77 new residents. During this period, employment growth was basically stagnant. These data show an unsustainable rate of land development.

The rate of land development is not only environmentally unsustainable, but economically unsustainable as well. Greater land development brings greater costs. As new homes and businesses are built, sewer, road, water, and electric infrastructure must also be built. Greater land

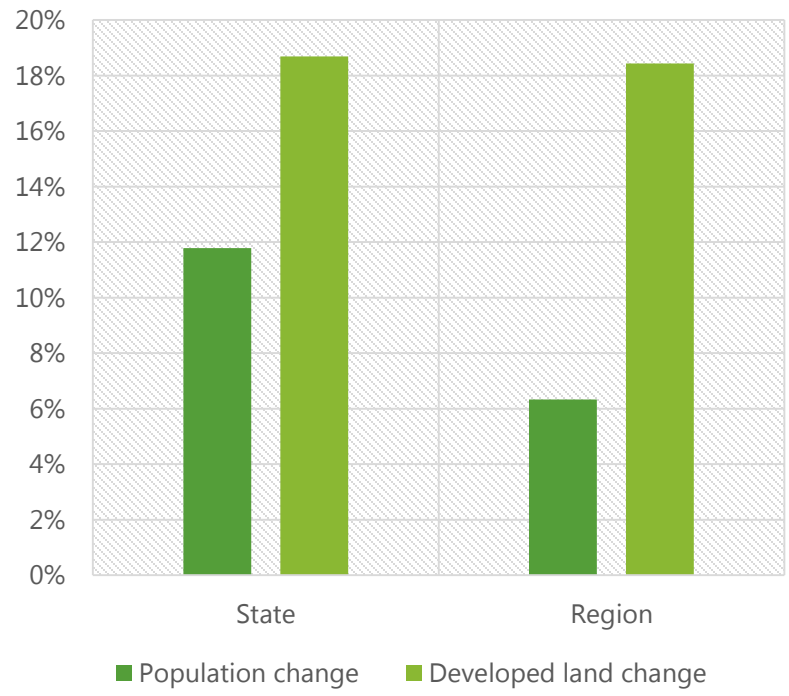


Figure 1. Growth in population versus in developed land (1985-2010)

consumption on a per capita basis also increases runoff (from greater impervious surface coverage), increasing demands on storm water systems.

The costs of land development

As development consumed land with increasing speed, municipal expenditures in Connecticut also rose. Municipal expenditures rose an inflation-adjusted 70.9% from 1985 to 2010 (100.6% if averaged among municipalities),

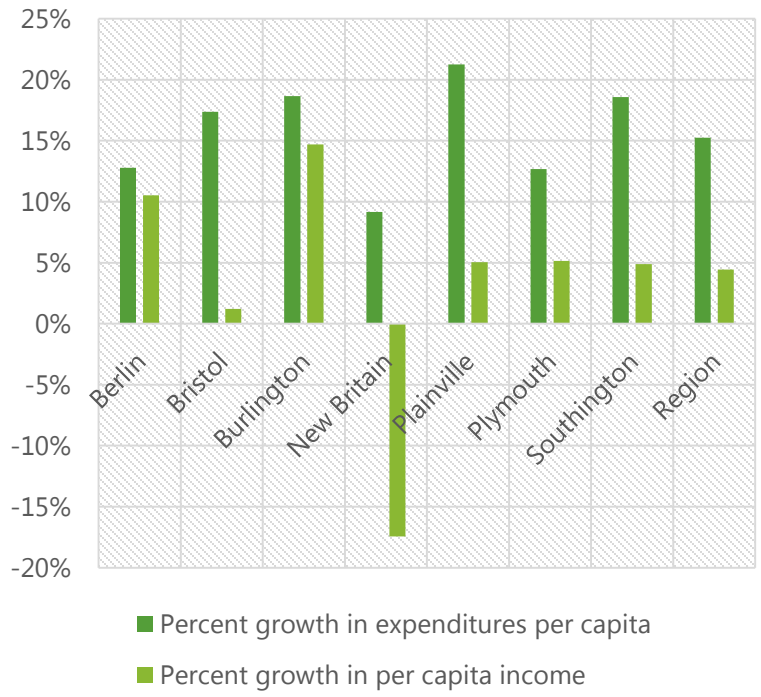


Figure 2. Growth in per capita expenditures and income (1995-2010)

far exceeding growth in population and developed land. This compares to an 11.8% increase in population and an 18.7% increase in developed land over the same period.

While an analysis of the interactions between land use, expenditures, population growth, and employment are beyond the scope of this plan, strong evidence suggests that the pattern of development influences expenditures. Studies have found that, holding other factors constant, low-density, "sprawl"-type development results in higher per capita municipal costs. One study found that, in a typical county, a 25% increase in density could result in annual savings of $1.18 million.

In an era of declining federal and state support, local residents and businesses must assume a greater share of municipal expenditures. If costs grow faster than population, the result will be higher per capita expenditures and thus a higher financial burden on local taxpayers. Adjusted for inflation, expenditures per capita increased by 15% region-wide between 1995 and 2010. Increases range from a low of 9% in New Britain to 21% in Plainville. (See Figure 2.)

Expenditure growth is not necessarily a problem as long as the ability to pay, i.e. per capita income, rises in parallel over the long term. (More affluent residents may desire, and be willing to pay for, more services). However, that has not been the case in central Connecticut. Region-wide, per capita income grew by 4% between 1990 and 2010, from a low of -17% in New Britain to a high of 15% in Burlington. In every municipality, per capita income growth has lagged expenditure growth. Even when accounting for income growth, the burden of municipal services has grown in central Connecticut. Regionwide,

residential property taxes consumed 0.9% more of personal income in 2010 than in 1995. The growth in this tax burden ranges from 0.2% in Berlin to 1.4% in Burlington.

While development is often billed as a means to lighten the property tax burden on residents and businesses, this analysis does not support such a conclusion. Instead, it finds that, in all municipalities:

- Land has been developed much faster than population growth,
- Municipal expenditures have grown much faster than incomes, and the
- Per capita burden of municipal expenditures on residents has grown substantially

This indicates that revenues from new development have been insufficient to cover increases in the cost of providing municipal services. The development experienced by the region over the last 25 years has not succeeded in stabilizing the tax burden.

Indirect costs of development patterns

Recent development has not only failed to stabilize taxes, it has also created new costs. While some of the latter stem from development-associated population changes (e.g., construction of family housing may attract families with children, driving up teaching costs), others result from the form or *pattern* of development (e.g., construction of subdivisions beyond walking distance from school, thus requiring additional busing).

More sustainable development in New Britain

Housing costs in the region exhibit a strong connection to development patterns; as houses and lots have grown in size, so, too, have housing costs. Large homes on large lots cost more up front, requiring larger mortgages. Due to their size, they also cost more over time—there simply is more to heat, cool, mow, and maintain. (Some of these

Less sustainable development in Berlin

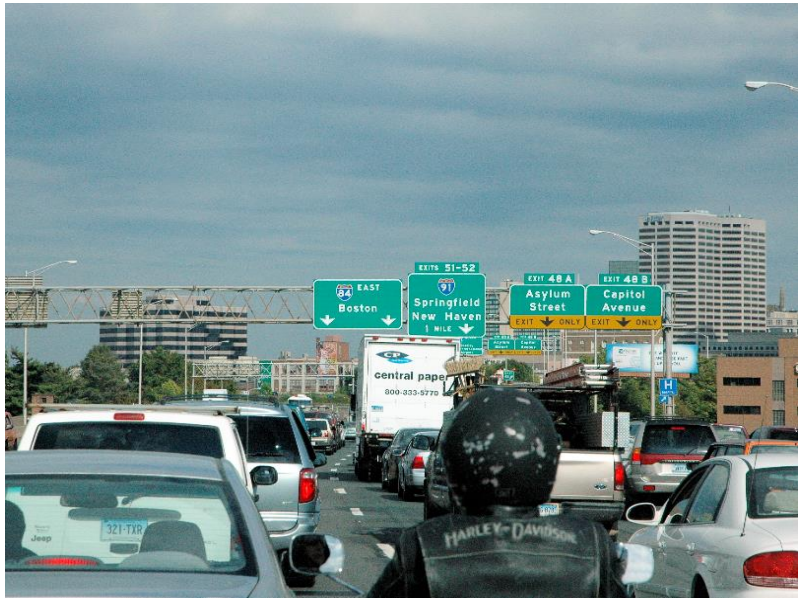
factors compound, e.g. the expansive lawns these homes often feature are devoid of mature trees, which can moderate cooling, heating, drainage, and lawn care needs.) The effect of the shift towards big houses on big lots—whether market- or zoning-driven—has been an increase in household indebtedness and corresponding decreases in disposable income and financial resilience.

While the trend of ever-larger homes had been building for some time, fueled and concealed by credit, its effects have become hard to ignore. The global financial crisis that began in 2007 and is still unwinding started as a housing bubble in the United States. People bought more house *and land* than they could pay for. When mortgage rates increased, and payments rose, stagnant (if not declining) incomes were unable to cover monthly payments. A wave of foreclosures followed, imperiling individual, corporate, and government finances.

The economic impacts of this crisis have reached far and wide. People have less disposable income; many homes are worth less than the mortgages that paid for them; and many homeowners have simply lost their homes. Furthermore, the drive to build bigger, more expensive homes has shut many would-be homeowners out of the market and, in many cases, out of the state. Facing a short supply of starter homes, and incomes that have remained stagnant, young professionals are forced to turn to a tight rental market. Similarly, many empty nesters who wish to downsize cannot find high-quality, well-located housing. Evidence that this is happening is plentiful. Connecticut is already losing a greater percentage of its young adults than any other state; it also loses a large proportion of its retirees. If this trend is not reversed, the result will be a shrinking workforce, shrinking revenues, and weaker economic competitiveness.

The pattern of recent land development, which has favored large buildings on even larger tracts of land located far from urban and town centers, also drives up transportation costs. While this phenomenon is by no means confined to the region—it has occurred all over the country—it has resulted in neighborhoods in which no resident can walk to a store or a job, and shops and workplaces to which nobody can walk. Moreover, it has not only made driving mandatory for an increasing share of trips in the region, but has also lengthened people's commutes, costing them time and money. For example, in 2002, 61.2% of central Connecticut workers commuted less than 10 miles to work. That percentage fell to 57.8% in 2009. During the same period, an extra 1,000 workers began commuting 50 miles or more (a 50% increase). At the same time, gas prices have been increasing, hitting 30-year highs in 2008 and 2012. The increasing number and length of trips made by car also exacerbates congestion, further increasing the duration and cost of travel.

Long commutes such as these negatively impact society. The more time people spend in their cars, the less time they have for other activities, from spending time with family and friends and volunteering in civic organizations to exercising, working, and patronizing local businesses. Together, the dispersal of housing out of town centers



Interstate 84 in Hartford

and downtowns, and the transformation of foot traffic into car traffic, has seriously undermined the commercial viability and vibrancy of these areas. In many places, once-thriving town and city centers have been reduced to government offices, vacant storefronts, and housing for the socioeconomically isolated (who, in many cases, are poor *because* they are too poor to afford a car and, consequently, have limited employment options).

By increasing the use of and exposure to automobiles, development patterns such as that experienced by the

Amtrak and future high-speed/commuter rail line in Berlin

region in recent years also negatively affect public health. When cars replace active transportation such as walking or biking, or when commutes deprive people of time for exercise, the prevalence of lifestyle-linked diseases, such as obesity, diabetes, heart disease, and certain cancers, rises. The air pollution produced by cars can also elevate the rates of cancer and cardiopulmonary disease. Of course, the most direct health impacts—and perhaps the costliest—of all are car accidents, which can damage property, maim, and kill, and whose frequency increases with miles driven.

Significant environmental consequences also accompany sprawl-style development. While this plan cannot discuss these in depth or quantify them, they include:

- Air pollution (emissions from vehicle, heating fuel combustion, and electricity generation)
- Soil and water contamination (accumulation of pollutants such as vehicle fluids, road chemicals, and lawn treatments)
- Reduced ecosystem services, including cleaning of air and water (loss of trees and vegetation that help to maintain air and water quality)
- Decreased recharge and potential depletion of rivers, surface reservoirs, and aquifers (reduced ground infiltration and higher use for watering)
- Flooding and erosion from surface runoff (through increases in impervious surface)
- Species extinction (through habitat disturbance and loss, chemical use, vehicle-caused mortality, and spread of invasive species)
- Climate change (through increased greenhouse gas emissions).

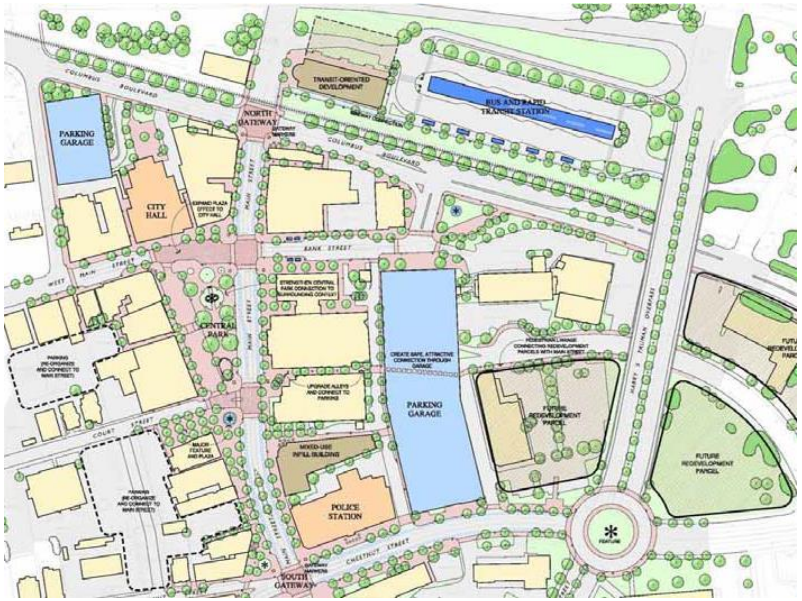
Opportunity costs

Finally, the direct and indirect costs associated with the types of development patterns experienced in central

Connecticut (and much of the rest of the county) reduce the ability of individuals and businesses to pursue other opportunities. Land taken for large lots could be used for more environmentally or economically productive purposes, such as open space, agriculture, and industry. When houses are only built on large lots, not only is the total number of lots limited, but land is developed faster, reducing supply. These supply limitations drive up land values and make it difficult for other land uses to survive.

The opportunity costs of sprawl-style development are not inconsiderable. It is not unusual for an acre lot to cost $100,000. Splitting this lot among four homes could lessen the cost of land—and thus the sale price of each of four homes—by $75,000. Building at greater density within a short distance of jobs, schools, shops, and transit could reduce household costs by reducing the length of commutes or obviating the need for a car altogether. When households in the United States spend nearly 4% of their income on gasoline, and the cost of owning a car is approximately $10,000 per year in Connecticut, being able to get by without a second car can save a family $100,000 over ten years.

Families are not the only ones who can benefit from more efficient land use. Singles, childless couples, and empty



Transit-oriented development plan for New Britain

nesters, as well as the elderly, disabled, and those who work from home or mobile offices may gain even more. The large house on a large lot in a remote subdivision is often a suboptimal fit for these groups. As these groups grow (which they are doing rapidly), the demand for other types of housing is expected to grow. These include high-quality smaller and starter homes, townhouses, apartments, and live-work and assisted living spaces, as well as homes in walkable neighborhoods and with good transit access. Yet while demand for other types of housing has grown, the supply has not kept pace. In the face

Farmland and preserved open space in Berlin

of this escalating demand, the focus of residential development over the last several years of large houses on large lots, has left many with few options to rent or buy.

With regards to rentals, the lack of newer construction means as that, while the size may be good, in many cases the condition is not. In addition, the limited supply of many rental units, combined with the economic crisis, which has forced many households to turn to renting, has made high-quality rentals hard to find and expensive. Conversely, while the supply of homes for sale is better, prices, while lower than the peak of the housing bubble, still are high by historical standards. As a consequence, homebuyers often find themselves forced to buy more house and land, and, provided they can get credit, carry more debt, than they need or want. In short, the result of this mismatch between housing supply and demand is twofold: homes that are a poor fit for many residents, and high costs for all residents.

In the past, cost was not as large of a concern. Low-cost credit enabled households to live beyond their resources. This is no longer the case. Despite improvement, credit remains hard to get; household debt loads are still high. Having to own more home than one needs or to rent in an artificially tight market can cost households dearly by making funds unavailable for and making people choose among other uses with potentially far larger payoffs. These include such as saving for college, a rainy day fund, and retirement as well as investing in small businesses.

Inefficient land use can also force municipalities to make painful decisions. Large-lot development permanently takes land that could be used for other purposes—whether housing, commerce, industry, agriculture, or open space—off the market, limiting future options and potential. The higher transportation costs that residents

of and visitors to such developments face are also shared by municipalities. Road maintenance, trash pickup, school transportation, and emergency services all cost more to provide in sprawling areas. Whether municipalities choose to cover these costs through increased taxes, or through service cuts, they are forced to make sacrifices and forego other opportunities.

The alternative

These costs—direct, indirect, and opportunity—cannot be sustained indefinitely and would not exist to the same extent with other development patterns. An alternative, that avoids many of these costs, is to integrate the concept of sustainable development into our land use plans. A more sustainable form of development would consider the total cost of development, to all parties, including society and the environment, during land-use decisions. It would seek to lessen impacts on the environment, conserve resources, and preserve future opportunities for both residents and governments.

Moving toward sustainability

This plan is being funded as part of a Sustainable Communities Initiative project. As such, it is written to encourage the region to pursue more sustainable forms of development. In crafting the policies of this plan, CCRPA performed an extensive literature review on sustainability, in particular with regards to land use, to determine what sustainable development would mean at the regional level. Before delving into the details of the plan, it is important to discuss what sustainable development means. How one proceeds in creating a sustainability focused plan depends on one's definition of sustainability. The EPA provides this definition:

"Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations."

In simpler terms, the World Commission on Environment and Development famously defined it thus: "Sustainable development is development that meets the needs of the

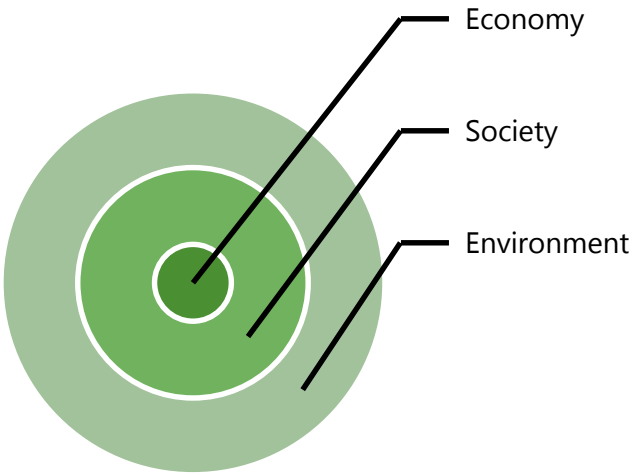


Figure 3. Three components of sustainable development

present without compromising the ability of future generations to meet their own needs."

The common thread is that for development to be sustainable, it must meet current needs without preventing future generations from meeting their needs. At a minimum, this means protection of the natural systems that support all life. However, for people to thrive as opposed to merely survive, sustainable development also must address social and economic needs. Since there may be tension or trade-offs among the environment, society, and the economy, for development to be truly sustainable, all three must be considered in concert.

Sustainable regional development

Striking a balance among these domains can be difficult. All people make demands on the economy, society, and the environment. Resource limitations, whether land, time, or money, make it impossible to meet all demands. This often results in unequal sharing of benefits and costs (e.g., economic growth through social or environmental exploitation), potentially undermining the conditions necessary for prosperity and producing conflict. The purpose of regional planning is to ensure that the benefits that accrue to one party do not unduly burden another, such as neighbors or posterity.

As a starting point, regional plans such as this recognize that development is essential. Even where population growth is nonexistent to slow, as in central Connecticut, development will happen. Facilities and infrastructure will deteriorate and need replacement. A plan cannot stop these forces, but it can help guide them.

A regional plan must also acknowledge that development comes with costs. As new development comes into a community, services and infrastructure will be required. For instance, roads must be paved, water and sewer must be connected, schools must be staffed, and services, e.g. trash pickup, must be provided. All of these cost money,

and regardless of whether a municipality, developer, or property owner initially foots the bill, in the end society (and the environment) ultimately bears the expense. These costs show up in a variety of forms, such as higher taxes, housing costs, and utility bills.

How land is developed influences the infrastructure and service needs of a community. For instance, low-density rural development may call for fewer municipal services, but often spell longer commutes and higher housing and transportation costs. Suburban development, in contrast, may shorten commutes but increase infrastructure costs (e.g., substituting sewers for septic tanks). Finally, while urban development generally entails the highest level of public investment, the higher density of urban areas allows infrastructure and services to be shared among many more people, improving utilization and reducing per capita costs.

Environmental impacts also vary with the form that development takes. For example, extensive road networks and large building and parking lot footprints make for high levels of impervious surface cover. Water pooling on these surfaces can flood. While storm water systems can mitigate these impacts, construction and maintenance of

Plymouth Reservoir in Plymouth

these can be costly. Moreover, the runoff created by impervious surfaces (and discharges from these systems) can cause erosion and transport contaminants into lakes, ponds, rivers, and streams. Additional investment may be necessary to adequately compensate for these impacts. In contrast, pervious landscapes permit water to infiltrate into the soil, preventing runoff and erosion, recharging groundwater, and allowing contaminants to be trapped and broken down.

Density limits can reduce the severity of environmental impacts such as these. However, limiting the density of development also has the effects of dispersing the latter, i.e. creating 'sprawl.' Because sprawling developments are generally squat, far, and challenging to impossible to reach other than by car, more road mileage and building and parking lot square footage are necessary to provide the same amount of usable space. As a consequence, the total impervious surface and, hence, environmental footprint of low-density areas can outstrip that of socioeconomically comparable high-density areas of similar population, even if the impacts of the latter are locally acuter. The sprawl of low-density development over large areas also means that, in addition to producing diffuser and cumulatively larger impacts, it can also generate entirely new impacts. Habitat fragmentation, which results from the punctuation of the landscape by development, limits animals' mobility and reduces their supplies of food. Compact development, such as has historically defined cities, town centers, and villages, on the other hand, has relatively limited impacts on habitat.

Density restrictions may also leave little room for growth and lead to poor socioeconomic outcomes. For instance, large lots may deplete available land reserves, driving up the cost of land uses from farming to housing to industry.

Questions to ask

Before a conservation or development proposal is approved, questions such as those listed below should be asked. (This is not an exhaustive list.)

What new services and infrastructure, if any, will new development demand in the present and the future?

How much will new services and infrastructure cost, who will pay for them, how will they funded, and how will they be maintained?

Will new services and infrastructure induce additional demand that will necessitate additional expansions?

Where will resources and raw materials come from?

Will new development cause adverse environmental, social, or economic impacts? Whom will they affect? How will these impacts be prevented or mitigated?

Conversely, a lack of adequate infrastructure may result in low costs for taxpayers, but may turn away employers.

Discussion of the interactions among the environment, society, and the economy, could go on for hundreds of pages. The key point for a land use plan such as this,

however, is that if a region is to develop sustainably, it must use consider the panoply of impacts that development will have. A sustainable land use plan must ensure that infrastructure required for new development can be provided without saddling future generations with debt. It must also ensure that adequate social opportunities can be created. Finally, it must ensure that development does not burden the natural environment.

A more sustainable Central Connecticut

Central Connecticut's modest population growth (3.6% over the past decade), and the financial pinch felt by governments at all levels, necessitates a thoughtful, measured approach to development. Development over the past few decades has consumed an ever increasing share of resources while population *and* economic growth have stagnated. The environmental consequences can be seen in the diminished quality of the region's water and air, as well as the loss of its open space. The budgetary impacts can be seen in higher tax rates and increased debt loads. This dynamic cannot be sustained indefinitely.

The purpose of this plan is to provide guidance so that future development in central Connecticut incorporates all three elements of sustainability. It does this through a series of general requirements and a locational map that fit development to the capacity of the region's environment and manmade infrastructure. Both the requirements and the map have been designed to leave future generations with a positive legacy by protecting the region's environment, building on its rich social and cultural heritage, and allowing for sustainable growth.

Main Street Diner in Plainville

General requirements

The plan requirements are intended to serve as basic conditions for the conservation and development of the region. They complement and were informed by the livability principles of the Partnership for Sustainable Communities, Connecticut's growth management principles, and Connecticut's responsible growth criteria (see *Appendix A: Principles*). The plan requirements are also intended to integrate with regional plans for the Capitol Region Council of Governments and the Pioneer Valley Planning Commission to advance a shared vision of a healthy and vibrant central Connecticut and beyond.

The general requirements fall into eight categories: natural resources, land use, transportation, infrastructure, agriculture, community character, housing, and legal. The categories are interconnected, with requirements within each category intended to support and promote each other. The requirements are to be used in the evaluation of referrals (proposed changes to land use plans, maps, and/or regulations) and in the review of (re)development proposals. Strict adherence is required for all "must" requirements. Referrals and proposals that do not adhere to the "must" requirements shall be considered in conflict with the Plan. Some of the requirements furthermore differentiate between development and *re*development. This plan defines development as any permanent new building (including structures and surfaces) on previously conserved or unused land; redevelopment refers to construction, rehabilitation, or reuse of an already developed facility. Land that has reverted or been restored to a state of or reasonably approximating wilderness is considered to be undeveloped.

The plan requirements are accompanied by a map. The map provides a comprehensive view of the region, showing appropriate levels of intensity of development and conservation across its entirety. Due to the potential for incompleteness or inaccuracy in the underlying data, the map is not intended to be used as the sole tool to evaluate the congruence of referrals and proposals with the plan. The map serves as a visual guide and an important first step in evaluating a referral or (re)development proposal. The *General requirements* in this section take precedence over the map and shall serve as the basis for determinations on consistency with the plan for all referrals and proposals. Additional information on the determination evaluations can be found under *The mechanics of the plan* (p. 5). The general requirements are as follows:

Corner of Center Street and Queen Street in Southington

Natural resources

1. Development **must** not occur in the following areas:
   1.1. Mountain and hilltops
   1.2. Ridgelines
   1.3. Perennial bodies of water and watercourses
   1.4. Floodways
   1.5. Slopes 25% and greater
   1.6. Highly erodible soils
   1.7. Critical habitat
2. Development **must** not occur in the following areas, *unless* mitigation sufficient to compensate for the adverse impacts of the development is included:
   2.1. Wetlands
   2.2. Intermittent bodies of water and watercourses
3. Development should not occur in the following areas:
   3.1. Ephemeral bodies of water and watercourses
   3.2. Prime or important farmland soils
   3.3. Slopes 15% and greater
4. Development **must** not cover more than 10% of the land in watersheds with impervious surfaces; if impervious surfaces already cover more than 10%, conservation and (re)development should decrease effective impervious surface cover
5. Development **must** not occur in the floodway or increase the amount of impervious surfaces in the 100-year floodplains
6. Development **must** provide a natural buffer of at least 100 feet surrounding wetlands, rivers, streams, and bodies of water
7. Development should avoid fragmentation of natural resources such as large tracts of relatively undeveloped land
8. Conservation and (re)development should promote habitat connectivity
9. Industrial uses should be limited in aquifer protection areas; (re)development in such areas **must** be of moderate or low to moderate intensity and must prohibit potential contaminant sources (e.g. underground fuel storage tanks, vehicle service facilities, and facilities that generate or handle hazardous waste) (Connecticut Department of Public Health 4).
10. (Re)development should not generate noise and light pollution

Land use

1. Development should use land efficiently (e.g. be compact) to minimize environmental impacts and preserve sufficient land for other uses
2. In central places:
   2.1. Mixed use development should be encouraged
   2.2. Vacant lots should be developed as infill projects (or conserved as public space)
3. Development should avoid undeveloped land
4. Brownfields, grayfields, and barren sites should be redeveloped when environmentally appropriate
5. Rehabilitation, including adaptive reuse, should take precedence over new construction where applicable and appropriate
6. (Re)development expected to generate significant freight traffic should concentrate along rail lines
7. (Re)development expected to generate significant passenger traffic should concentrate around major transportation corridors and nodes, especially transit, and/or be designed to prevent such traffic generation

Farmland in Burlington, CT

Agriculture

1. Existing agricultural lands and active farms should be preserved
2. Agricultural opportunities should be permitted in all areas, including livestock keeping; in areas of low or higher development intensity, adverse impacts to neighboring properties must be no greater than those of other allowed uses

Transportation

1. (Re)development and conservation:
   1.1. **Must** accommodate current trail corridors
   1.2. Should allow for future trail corridors
   1.3. Should preserve, and where applicable, enhance, regional greenways
2. Facilities (including roads, streets, intersections, sidewalks, and cyclist infrastructure) **must** be appropriate to the surrounding context
3. Improvements **must** be safe for all users and promote mode choice
4. (Re)development **must** accommodate all types of users, except as exempted under the State's Complete Streets Law (Public Act 09-154)
5. (Re)development **must** avoid or compensate for undesirable traffic impacts
6. (Re)development that is expected to generate significant traffic should employ access and/or demand management strategies
7. (Re)development should concentrate around transportation corridors and nodes
8. Existing and former transportation corridors and significant rights-of-way should be preserved for future use
9. (Re)development should not impede the extension of rail service to appropriate locations
10. (Re)development on designated scenic roads should not detract from the quality of the scenic road

Infrastructure

1. (Re)development should implement low impact development/green infrastructure strategies where applicable
2. (Re)development should be prioritized in areas served by existing infrastructure
3. (Re)development should minimize future infrastructure needs and maintenance costs

Community character

1. (Re)development or conservation should be context-sensitive
2. (Re)development in historic districts should preserve the quality of the historic district
3. Historic structures and sites of cultural significance should be preserved

Housing

1. A mix of housing types (including single family, two-family, and multi-family homes) and tenure options should be built where appropriate
2. Accessory units should be encouraged in under- or unused space (e.g., attics, basements, carriage houses, and garages)
3. Housing (particularly high intensity and mixed use) should concentrate around major transit nodes

Legal

1. (Re)development **must** conform to all applicable state and federal laws
2. Definitions used in regulations **must** be based on state and federal law or the best available science
3. (Re)development **must** abide by valid and legally enforceable covenants, deed restrictions, easements, and the like

Levels of development intensity

As the maps in *Plan area maps* (p. 38) show, all land in the region is classified into one of five intensity plan areas: preservation/conservation, rural, low, medium, and high. Each plan area, with the exception of preservation/conservation, also has an associated "central place overlay" to allow and foster mixed-use, closer-together development in neighborhood, village, town, and city centers. The following pages give details and sample illustrations for each of the plan areas, along with the associated central place overlays.

Criterion	Preservation Conservation	General Development (by intensity)			
		Rural	Low	Medium	High
Density (units per acre)	n/a	0 to ½ (1 unit per 2 acres)	½ to 6	6 to 12	At least 12
Land coverage	n/a	0% to 5%	5% to 25%	25% to 50%	25% to 90%
Building height (stories)	n/a	1 to 2	1 to 3	2 to 4	At least 2
Central Place Overlay (by intensity)					
Density (units per acre)	n/a	24 max	48 max	No max	No max
Land coverage	n/a	0% to 80% max	50% min to 100%	75% to 100%	75% to 100%
Typical building height (stories)	n/a	1 to 3	1 to 3	2 to 5	At least 3
Front setback	n/a	48' Max	18' Max	18' Max	12' Max

Definitions

Height: Number of stories above ground; excludes attics and basements.

Land Coverage: all impervious surface (building and parking); exceptions allowed for development that includes "green infrastructure."

Density: only affects residential construction; commercial and industrial are governed by land coverage requirements.

Setbacks: the maximum distance a building can be placed from the road.

Central Place: A central place is any area within a town where a mix of uses is found. They function as the center of a village, town, neighborhood, or city.

Preservation/conservation

Land categorized as preservation/conservation should not be developed. The only development appropriate for these areas is passive recreation such as hiking, mountain biking, hunting, and fishing. Insofar as possible, conservation efforts should concentrate on these areas. Agriculture, silviculture, and low-impact uses (e.g. seasonal camping, fish and game reserves) are also a permissible form of development in these areas, so long as the general requirements of this plan are followed.

A bird's-eye view of Sessions Woods in Burlington, CT.

A nature trail in Sessions Woods, Burlington, CT.

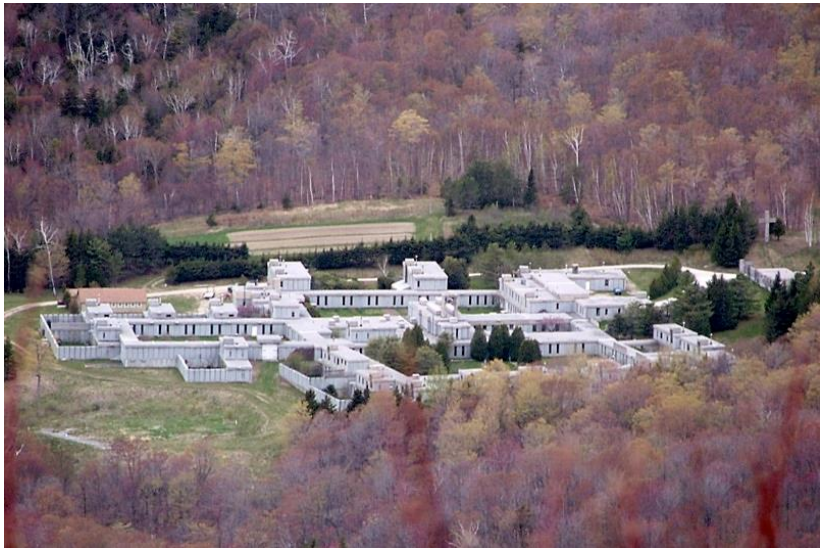
The Metacomet Trail in Plainville, CT.

Rural

Land categorized as rural is suited for very low intensity development. Appropriate development includes farming, passive and active recreation, and residences such as farmhouses and lodges on large lots in agricultural or natural surroundings, and commercial amenities serving a local market. In some cases, industrial or institutional development may be appropriate, such as processing plants or retreats. Development should not detract from the character of or heavily modify the landscape, nor should it require urban services such as water, sewer, or high-capacity roads.

A bird's-eye view of a rural section of South Windsor, CT.

Horsebarn Hill in Storrs, CT.



Monastery on Mount Equinox, VT.

Rural — Central Place Overlay

Even rural areas need central places from which to obtain daily goods and services. While a rural central place should not resemble an urban one, it will share many of the same characteristics. In a central place, development should be compact, and buildings should be in walking distance. Small amounts of mixed use and/or multi-family housing may be appropriate to provide residences for those who wish to remain in the community without having to drive.

A bird's-eye view of Vichel, Germany.

Bellows Falls, VT.

The town center of New Hartford, CT.

Low

Areas categorized as low intensity are intended for predominantly residential neighborhoods. With densities of up to six units per acre, small clusters of multi-family housing may be appropriate. Traffic generation should be minimal due to the low unit per acre densities. Urban runoff is also kept low by land coverage maximums.

A residential neighborhood near Unionville, CT.

A quiet residential neighborhood in Litchfield, CT.

A residential neighborhood in Yonkers, NY.

Low — Central Place Overlay

Central places in low intensity areas will be village or neighborhood centers. Multi-use structures are preferred as ways of combining residential and commercial activity. Multi-family residences may be more plentiful due to higher allowable densities. Buildings will be located close together and may cover their entire lot.

A bird's-eye view of Guilford, CT.

The historic center of Collinsville, CT.

Main Street in Concord, MA.

Medium

Areas delineated for medium intensity development are found in the region's larger municipalities. Allowable residential densities double (over low intensity areas), as do land coverage maximums. These areas transition from suburban to more urban development. Road infrastructure requirements will be greater, to handle increased traffic, and urban services such as sewer and water will be necessary.

Brattleboro, VT from above.

Federal Hill in Bristol, CT.

Residential neighborhoods in Halifax, NS.

Medium — Central Place Overlay

Central places in medium intensity areas will be town centers or urban neighborhoods. No limit is placed on allowable densities, and land coverage should fall between 75% and 100%. Setbacks are to be kept at a minimum to preserve the walkability of the area. These areas are intended to be pedestrian and cyclist friendly. Mixed-use buildings will dominate, though some dedicated multi-family residential structures or dedicated office buildings will be present.

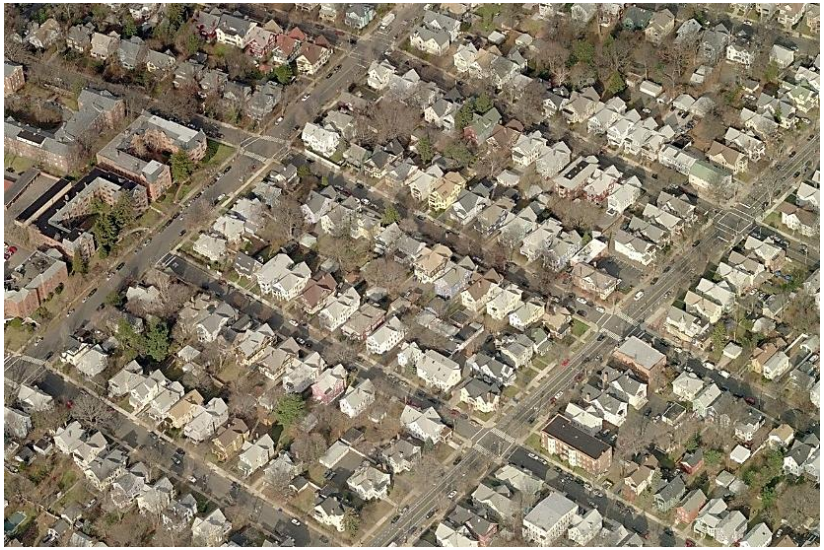
Blue Back Square in West Hartford, CT.

Frederick, Maryland

Nassau Street in Princeton, NJ.

High

Areas delineated for high intensity development are found in the region's largest cities. These are places where significant investments in urban infrastructure have already been made. They should have easy highway access, good sidewalks, and transit service to permit easy transportation. These areas contain the most valuable land (for development) and should be developed at a high density, at least 12 units per acre. Land coverage should be high as well to maximize efficiency.



A bird's-eye view of a neighborhood in New Haven, CT.

Biotech research facility in Seattle, WA.

Natural gas cogeneration and apartments in Berlin, Germany.

High — Central Place Overlay

Central places in high intensity areas are the region's major urban cores. They contain high concentrations of urban services, such as stores, civic institutions, housing, and transportation options. Sewer, water, and road infrastructure should already be present and of sufficient capacity. The existing level of services allows for high value-added development.

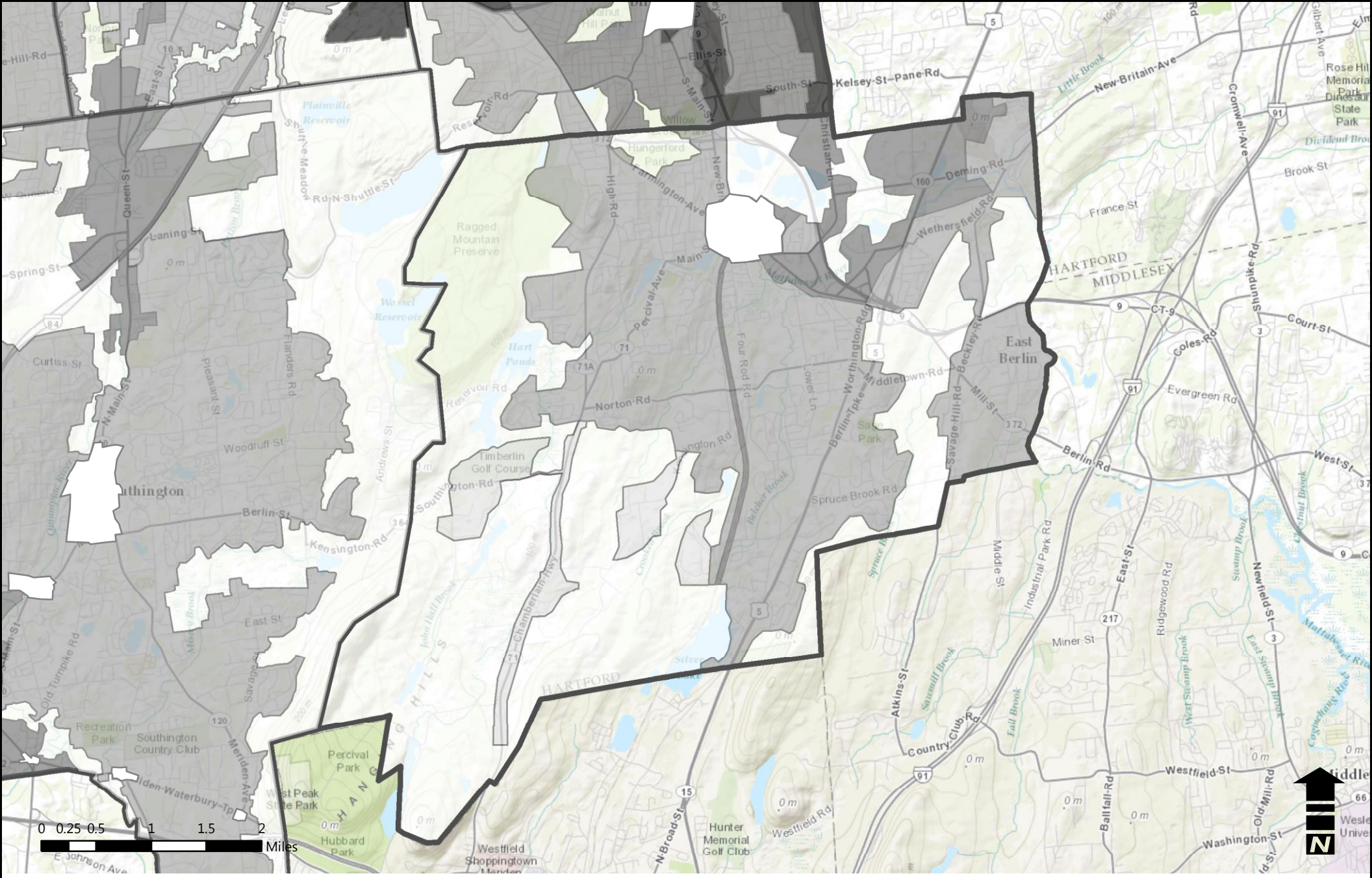
A bird's-eye view of the New Haven green.

A tree-lined mixed-use street in New Haven, CT.

Königstraße in Stuttgart, Germany.

Plan area maps

The following pages reproduce maps for every municipality in the region. Due to printing constraints, maps are size-reduced. Larger scale maps are available in PDF format as well as in GIS formats upon request. These maps are intended to provide an overview of sustainable development intensities; for the purposes of referrals, they are adjunct to and do not replace the *General requirements* (p. 21).

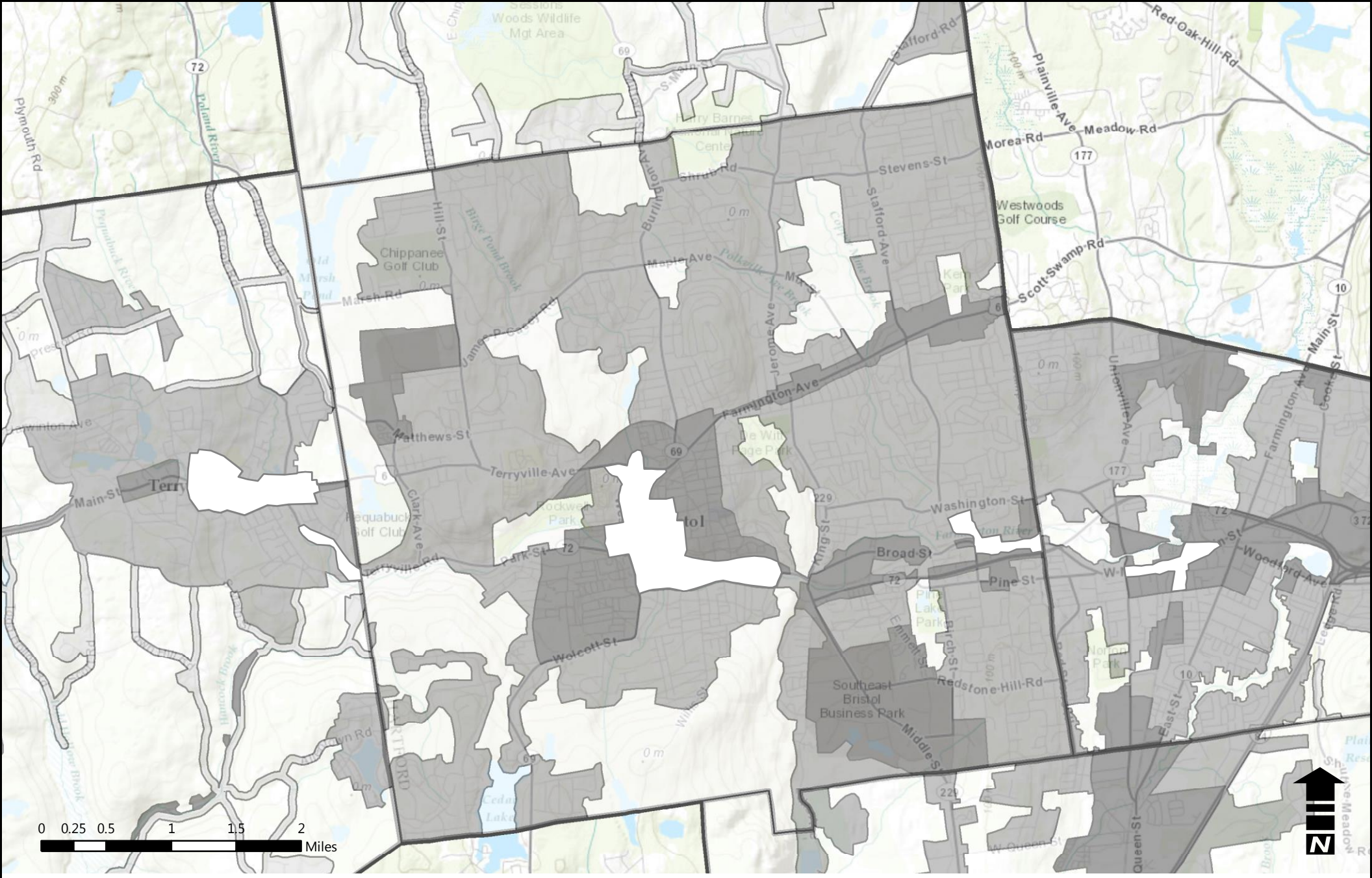


Plan area map

Berlin

Intensity

Conservation	Rural	Low	Medium	High

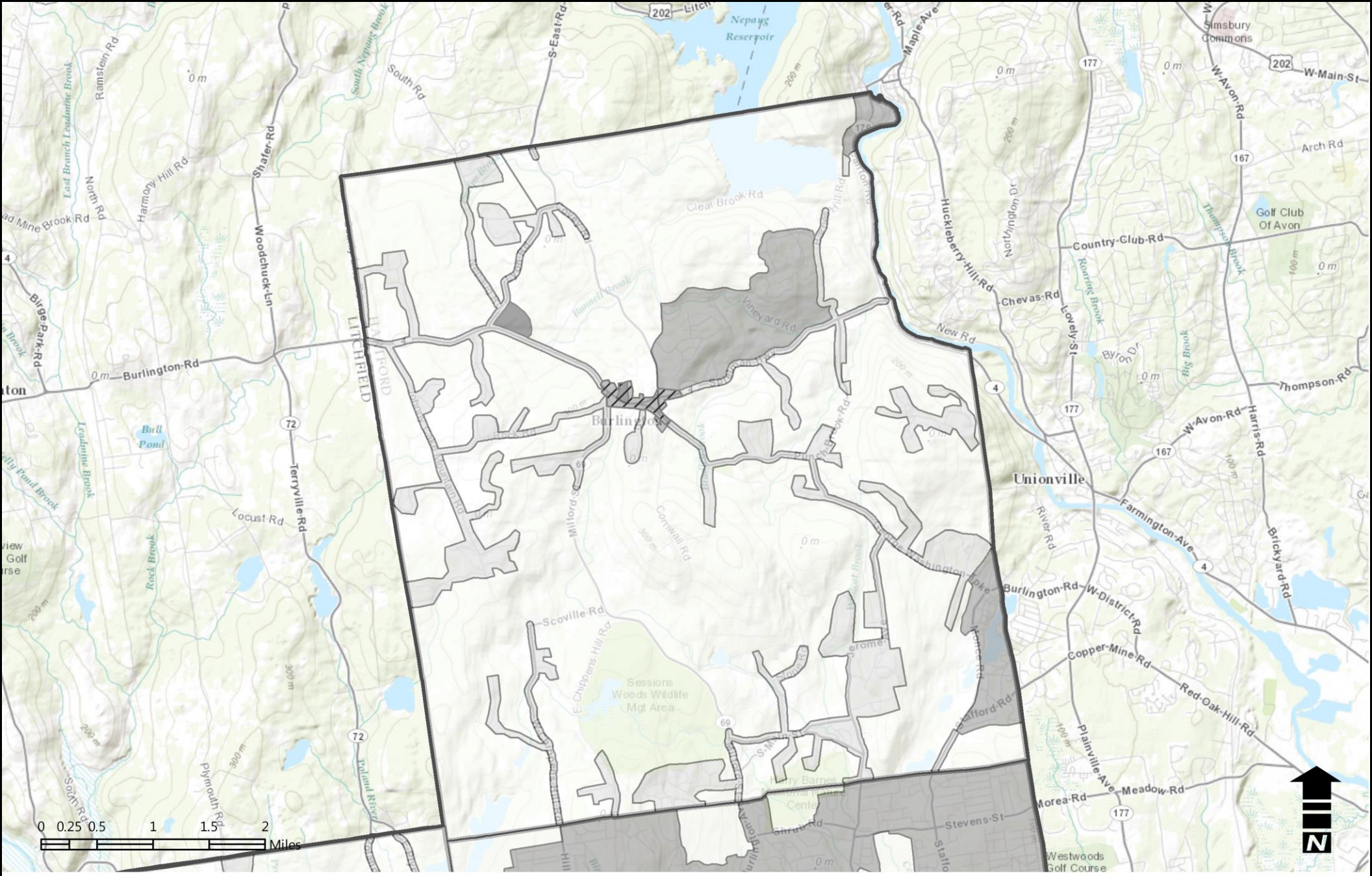


Plan area map

Bristol

Intensity

Conservation	Rural	Low	Medium	High

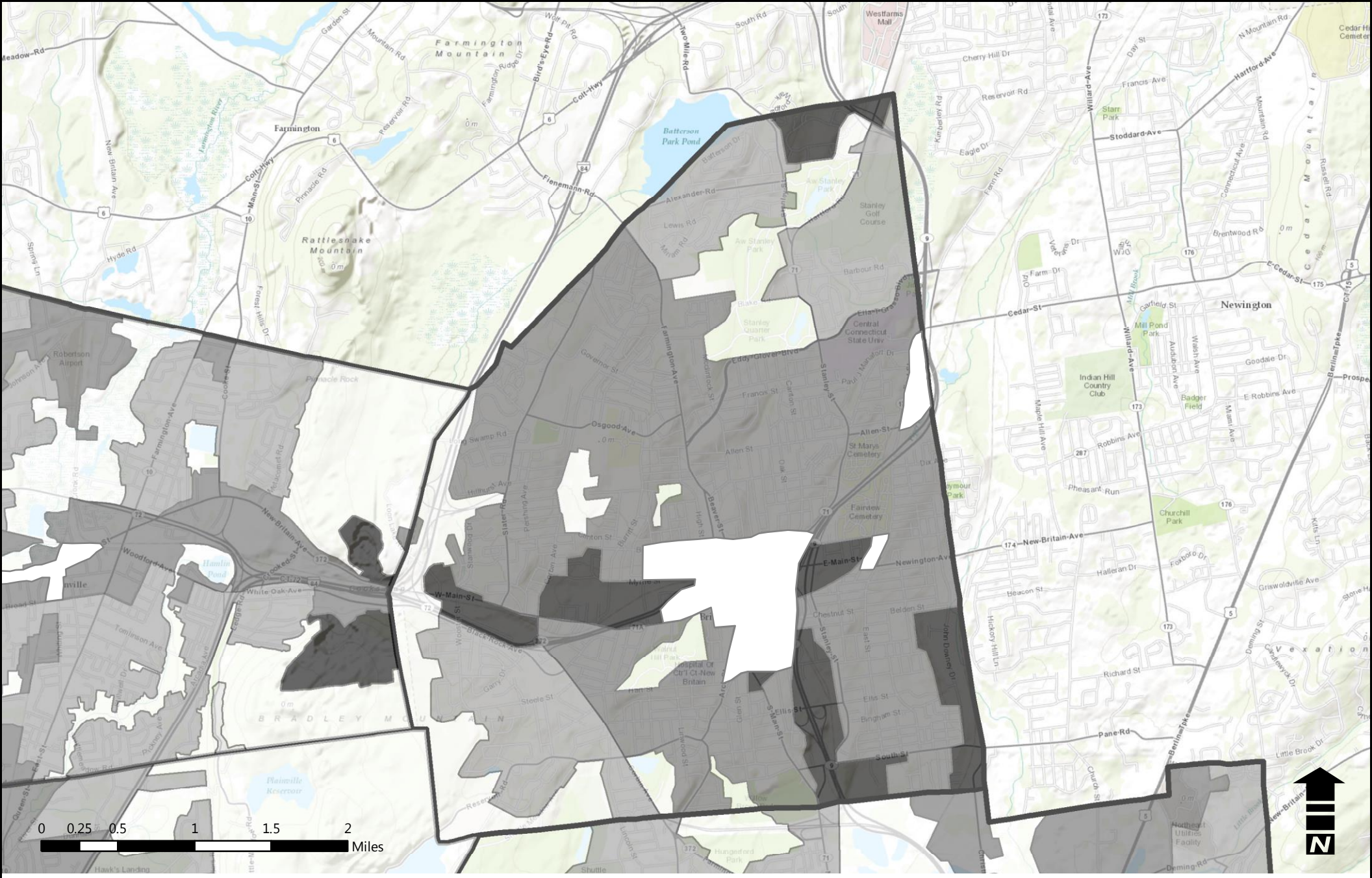


Plan area map

Burlington

Intensity

		Central place overlay		
Conservation	Rural	Low	Medium	High

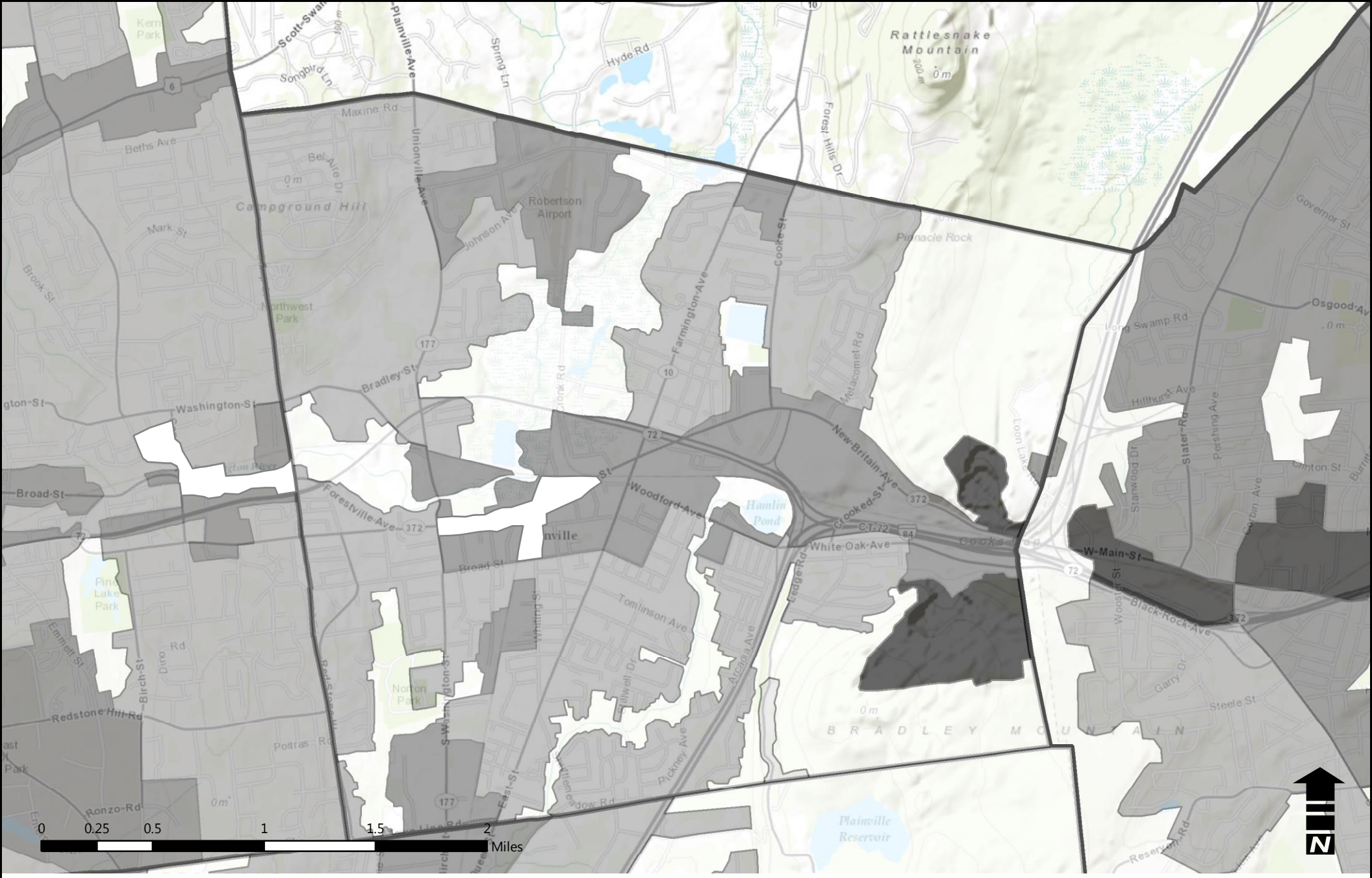


Plan area map

New Britain

Intensity

Conservation	Rural	Low	Medium	High

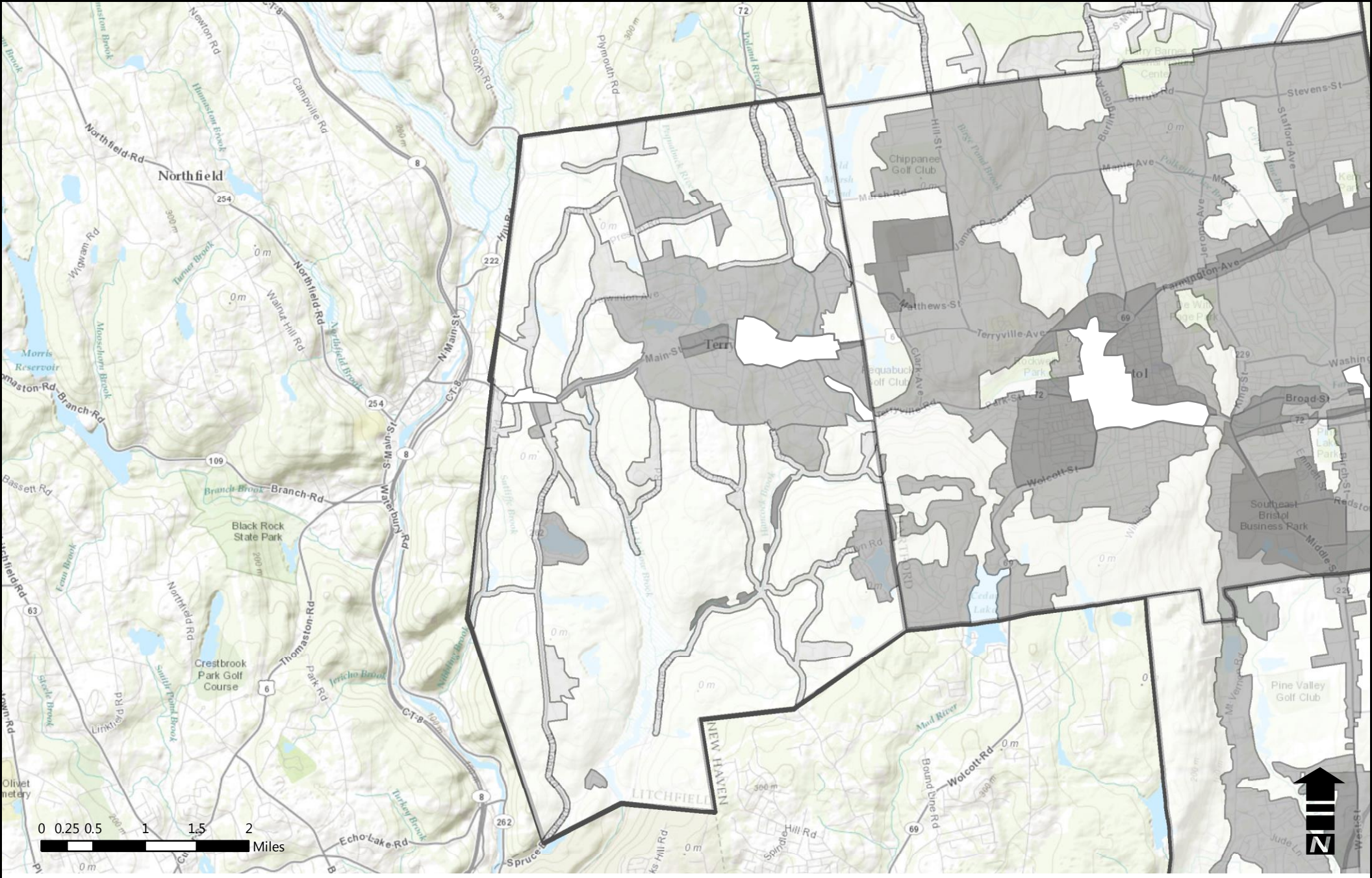


Plan area map

Plainville

Intensity

Conservation	Rural	Low	Medium	High

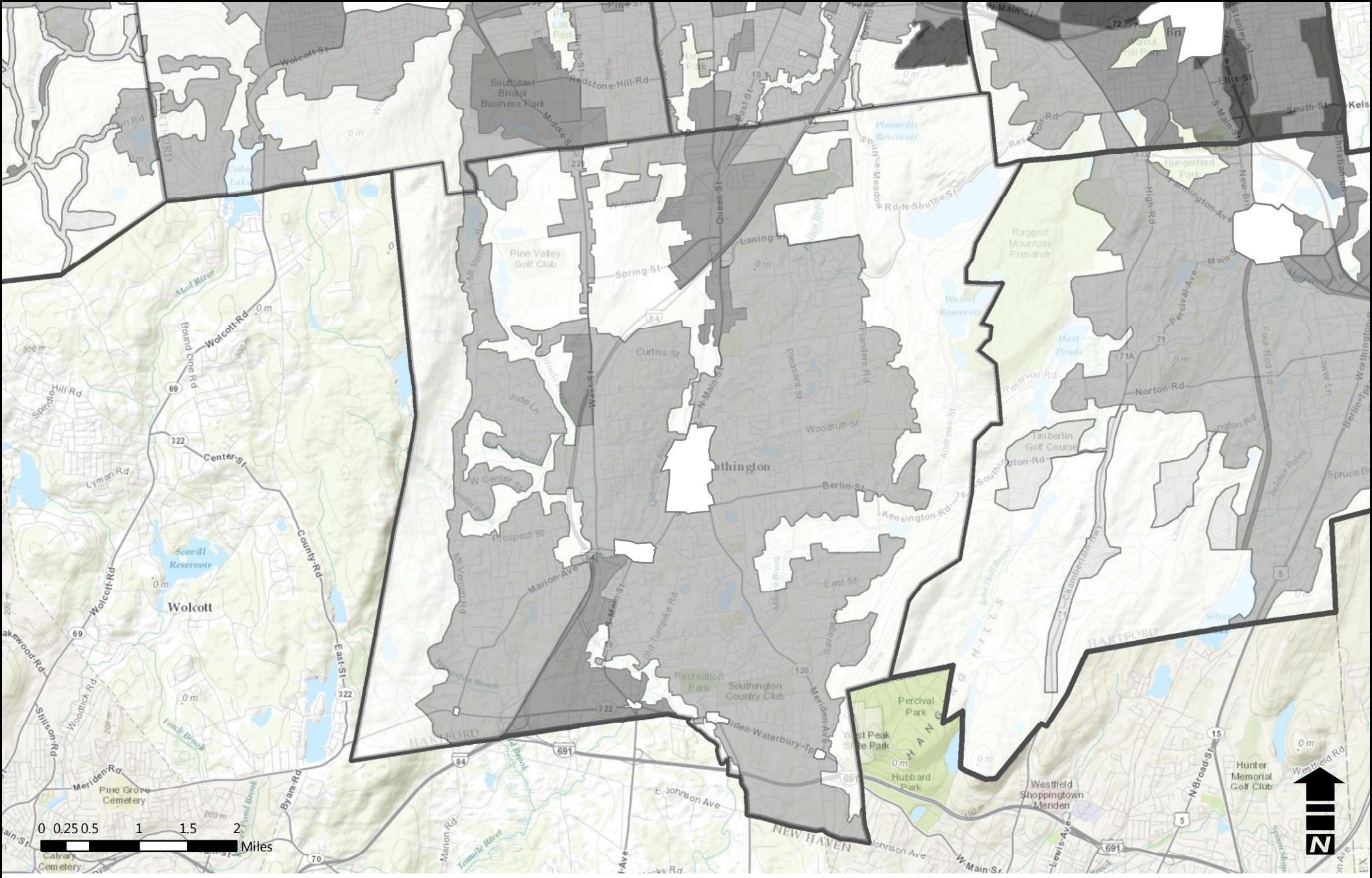


Plan area map

Plymouth

Intensity

Conservation	Rural	Low	Medium	High



Plan area map

Southington

Intensity

Conservation	Rural	Low	Medium	High

Appendixes

Principles, sources, and credits.

Appendix A: Principles

Livability Principles

1. Provide more transportation choices.
2. Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.
3. Promote equitable, affordable housing.
4. Expand location- and energy-efficient housing choices for all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
5. Enhance economic competitiveness.
6. Improve economic competitiveness through reliable and timely access to employment centers, education opportunities, service and other basic needs by workers, as well as expanded business access to markets.
7. Support existing communities. Target federal funding toward existing communities—through strategies like transit oriented, mixed-use development, and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
8. Coordinate and leverage federal policies and investment.
9. Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.
10. Value communities and neighborhoods.
11. Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.

Source: U.S. Department of Housing and Urban Development. "Six Livability Principles." Web. 27 November 2012.

Growth Management Principles

1. Redevelop and revitalize regional centers and areas with existing or currently planned physical infrastructure
2. Expand housing opportunities and design choices to accommodate a variety of household types and needs

3. Concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options.
4. Conserve and restore the natural environment, cultural and historical resources, and traditional rural lands
5. Protect and ensure the integrity of environmental assets critical to public health and safety
6. Promote integrated planning across all levels of government to address issues on a statewide, regional, and local basis

Source: Office of Policy and Management. "Draft: Conservation and Development Policies, a Plan for Connecticut." 2013-2018. Web. 27 November 2012.

Responsible Growth Guidelines

1. Project activities should be in conformance with the Conservation and Development Policies Plan for Connecticut.
2. Locate Projects within existing developed areas and promote infill development.
3. Locate projects within existing public utilities service areas (water, sewer, etc.).
4. Projects outside of public utility services areas should be scaled to use on-site systems, where practicable, to manage unplanned development of adjacent land.
5. Promote transit-oriented development.
6. Promote energy/water conservation, energy efficiency and "green" building design.
7. Avoid impacts to natural and cultural resources and open space.
8. Promote mixed-use development and compatible land uses (pedestrian-friendly with access to multiple destinations within close proximity of each other).

Source: Department of Economic and Community Development. "Responsible Growth Guidelines." 2012. Web. 27 November 2012.

Appendix B: Sources

Code of Federal Regulations. Title 44—Emergency Management and Assistance, Part 9—Floodplain Management and Protection of Wetlands, Section 9.4—Definitions. 2010. Web. 5 December 2012.

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Appendix C: Photo credits

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Appendix D: About CCRPA

This plan is a product of the Central Connecticut Regional Planning Agency. CCRPA may be reached as follows.

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