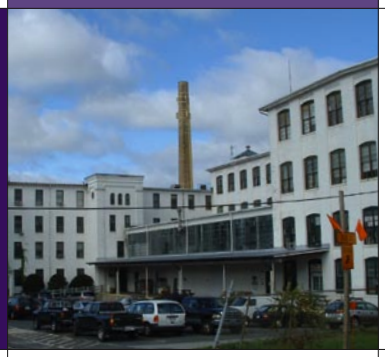
Northampton SDAT

Building Economic and Land Use Sustainability



A Report by the Sustainable
Design Assessment Team

Northampton, Massachusetts
October 17–19, 2005

AIA Center for Communities by Design

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EXECUTIVE SUMMARY

This report looks at six topical issues and presents within each:

- An *assessment* of current conditions
- A *vision* for a sustainable future
- *Recommended strategies* on how to get from the current condition to the future vision.

Assessment of Current Conditions of Sustainability

Overall, the SDAT observed that Northampton has many positive assets to be proud of and to build upon. There are certainly challenges and weaknesses to overcome, but it appears the will and enthusiasm exists to pursue a proactive approach to shaping the future.

Strengths of Land Use and Smart Growth

- Northampton residents and municipal government have a strong commitment to sustainable development
- Many sustainable development practices are already in place
- Northampton scored the highest in the Commonwealth of Massachusetts in the Commonwealth Capital Program in 2004 (129 points out of a possible 140)
- Northampton was one of the first cities in Massachusetts to become a member of the International Council of Local Environmental Initiatives
- Much of the information needed for an updated comprehensive plan is already in place as individual studies and planning reports

Weaknesses or Challenges of Land Use and Smart Growth

- There is not yet an updated comprehensive plan for the city
- Northampton is not yet actively creating the future it really wants
- Zoning regulations have actually established the steady progress of low-density residential development that is incompatible with the city's desire to preserve environmentally sensitive land
- There is not yet a unified vision among residents, which creates mixed expectations among residents as to what the city should be

Strengths of Green Infrastructure and Open Space

- Natural landscapes provide beauty, wildlife habitat, opportunities for recreation, and natural flood protection control
- Agricultural landscapes provide a local food source and add to above ground flood control strategies
- The Connecticut River, Mill River, and Meadow District provide strong geographic elements and natural amenities with strong potential for human and wildlife use
- Parks and recreational opportunities augment natural areas
- There is a spirit of experimentation and valuing of environmental quality, as well as a history of working toward smart growth models

Weaknesses or Challenges of Green Infrastructure and Open Space

- Conflicts exist between the need to enhance, protect, and maintain natural areas and the need for new development, especially in terms of funding priorities because new development creates new revenue
- Zoning models that indicate percentages of required open space do not indicate the quality desired within these open spaces, which generates an open space requirement model that may not meet critical needs or multiple uses
- Barriers exist that limit access to the Connecticut and Mill rivers

Strengths of Transportation and Land Use

- Citizens have the passion for creating a sustainable community
- The downtown core is walkable and bikeable
- The bike path system is growing
- Sustainable transportation has been a priority in the 2005 transportation plan
- Current transit system offers a good starting place

Weaknesses or Challenges of Transportation and Land Use

- There is congestion in the downtown core
- Everyday retail services are spread out along King Street
- Interstate, regional, and local transit are limited
- Bicycle lane network and connections to bike trails are incomplete
- Many sidewalks do not fully comply with the Americans with Disabilities Act
- Outreach and education to help residents understand the options and benefits of active transportation—walking, biking, transit—are limited

Strengths of Economic Development

- A high quality of life is attracting new residents
- Community wealth is increasing as new residents come into the area
- Creativity is abundant
- Colleges are strong in the area

Weaknesses or Challenges of Economic Development

- There is a need to foster a positive business climate
- There is limited commercial/industrial site inventory
- The cost of doing business in Northampton is a challenge
- Employee conditions are suppressed
- There is a need for a critical mass of employers to recruit new businesses and to recruit and retain employees and college graduates

Strengths of Housing Affordability

- Northampton is considered a good place to live for its small town, semi-rural character and its location within a beautiful natural setting
- People are moving to Northampton from larger communities, either to raise children or to retire
- People who already live in Northampton want to stay there and they want their children to stay there

Weaknesses or Challenges of Housing Affordability

- The housing stock is rising in price in disproportion to people's incomes
- People often move away from Northampton to access affordable housing
- The speculative housing market, in general, and the conversion of apartments to condominiums, in particular, has created a dearth of affordable rental housing as well as fewer affordable home ownership opportunities
- There are few housing choices between affordable rental housing and home ownership

Strengths of Energy Conservation and Sources

- Northampton is a sensitive, enlightened, and creative community and its citizens have an increased awareness for, and concern about, energy and environmental issues
- In 2001 Northampton joined the Cities for Climate Protection Campaign and has since become a member of the International Council for Local Environmental Initiatives
- The community is concerned about its energy future and has a growing commitment to exploring opportunities for both energy conservation and increased energy efficiency

Weaknesses or Challenges of Energy Conservation and Sources

- In 2000, Northampton spent more than $1.3 million on gas, heating oil, and electricity for its municipal activities, with almost $740,000 tied to building energy consumption and more than $135,000 in costs to fuel the city's vehicle fleet
- It is estimated that nearly $18 million per year is spent on energy for the residential sector alone—dollars that continue to increase, leave the community, and weaken the community's economic base
- Electricity is shown to be the major generator of greenhouse gas emissions (more than 50 percent), and accounts for nearly two-thirds of the municipal energy costs
- There remains little structured support, clear guidelines, or principles for sustainable growth and development

Visions of Future Sustainability

Overall, a vision emerged of Northampton becoming a truly integrated place where all aspects of the city are sustainable. In the full realization of this vision, choices will no longer be about "either or" (e.g., choosing either development or open space) but about how to integrate sustainability into everything that occurs in the city (e.g., creating sustainable development that is also integrated with open space and transportation options). In this way, all aspects of the city work together for the greater good of its residents and visitors for many generations to come.

Land Use and Smart Growth

Northampton has a growth management strategy that will protect the integrity of the entire community, economy, and environment. This strategy guides development throughout the city to ensure the efficient and socially responsible use of land resources, making the city one of the best places in the country to live and work.

Green Infrastructure and Open Space

The "sustainable web of Northampton" has been created. Community pride and community identity highlight a conservation ethic with integrated solutions that balance development needs with the protection of natural resources and the preservation and enhancement of local farms. Green infrastructure becomes a dominant land use balanced with developed areas primarily concentrated in compact, smart growth models.

Transportation and Land Use

Northampton is a vibrant community where youth, the elderly, able adults, and fragile citizens are not dependent on car travel for every trip. All citizens have pleasant, safe, and plentiful transportation choices for work, errands, and recreation.

Economic Development

Northampton is a vibrant community of artists, entrepreneurs, and locally owned businesses that feed the local economy, drawing on the abundant local innovation and brain power within the community. Businesses are an integral part of the community with business centers integrated with neighborhoods and the environment that allow everyone to grow and prosper. The Northampton economy is balanced and sustainable with a mix of local, state, and regional customer bases making it an integral part of

the larger economy and a leader in cooperation and collaborations. At the same time, Northampton is a community where a diversity of residents and businesses can afford to live and work.

An economy as envisioned above would likely spawn a spirit of philanthropy and support of the arts, culture, and other civic organizations to create a truly thriving environment. Hence, Northampton could become known as a "community that lives to give."

Housing Affordability

Northampton is a place with a broader definition of affordability. Instead of just creating affordable housing, affordable lifestyles exist. This includes the efficient use of space where the existing fabric is built out and there is a focus on infill development with a range of housing types that are all ecologically friendly and energy efficient. In particular, vibrant housing nodes exist at the King Street/Pleasant Street corridor, Florence Village Center, and Hospital Hill Eco-Industrial Park and Sustainable Development Demonstration Project.

Energy Conservation and Sources

The full implementation of a vision is, in fact, to be dramatically less dependent on nonrenewable fuel sources and to notably reduce greenhouse gas emissions at the same time. Northampton has initiated a leadership role through both "talking the talk" and "walking the walk" when it comes to sustainable energy practices.

Recommended Strategies for Improved Sustainability

Recommended strategies were developed that addressed each of the six individual issues. However, three general recommendation statements were offered that span all areas:

- Promote a diversity of choices within all issues. It is recognized that there is no one single solution to achieve sustainability, rather, diversity is required to assure the greatest chances of success as well as needed interactions.
- Consider the context of Northampton as part of a larger region. This report focuses on issues within the boundaries of the city, but clearly Northampton influences and is influenced by the rest of the Pioneer Valley and western Massachusetts.
- Remember to cherish and build upon the history and historical resources that are part of Northampton. Nothing in this report should be construed as "throwing out the old to bring in the new." Rather, it is intended to use the historical base as the starting point to a greater future.

Land Use and Smart Growth

- Update the municipal master/comprehensive plan
- Recognize the infrastructure capacity
- Implement a transfer of development rights program
- Recognize energy efficiency and conservation in local land use planning

Green Infrastructure and Open Space

- Create a green overlay district
- Enhance connections between open spaces
- Concentrate growth in selected areas to preserve open space
- Encourage multiple funding mechanisms for open space preservation
- Serve multiple goals and develop integrated strategies

Transportation and Land Use

- Create new, or strengthen existing, citizen oversight committees to monitor implementation of the Northampton transportation plan, construction of projects, and maintenance of bike and walking facilities
- Improve zoning and incentives to encourage businesses of similar types to group into "character districts" along King Street
- Improve local transit by creating a circulating shuttle that connects regional transit and park-and-ride lots
- Prioritize a cross-town network of bike lanes, trails, wide shoulders, and sidewalks to connect neighborhoods to retail centers, schools, recreation centers, and downtown
- Promote other creative ideas for reducing car trips
- Develop and implement education and encouragement plans aimed at youth, adults, and fragile citizens
- Re-examine parking strategy

Economic Development

- Rethink the Pleasant Street/King Street corridor to be more integrated and sustainable
- Accelerate the embracing of meaningful sustainable practices
- Create and manage sustainable economic development zones for Route 10 Sustainable Business Park, Hospital Hill, and downtown

Housing Affordability

- Create zoning amendments to allow for mixed-use, divided lots, secondary units on one lot, and cluster developments
- Promote creative design that uses increased density to improve the character of selected areas
- Encourage the University of Massachusetts to create more housing on campus or in Amherst to take pressure off Northampton
- Implement development trade-offs that allow developers to build higher densities in return for improved amenities
- Improve transportation options and green infrastructure for housing
- Look beyond the traditional marketplace to create affordable housing options
- Capitalize on green and sustainable design funding opportunities for affordable housing
- Continue the conversation by creating or strengthening existing, ongoing working groups to strategize, share ideas, develop proposals, and enact change

Energy Conservation and Sources

- Promote educational activities to increase awareness of energy efficiency opportunities
- Reduce energy demand as a first line of defense in exploring a sustainable energy strategy, making energy conservation the most valuable "resource"
- Explore, evaluate, and use several renewable energy strategies at several scales
- Illustrate and validate the value of successful experiments and showcase to the community how best practices are possible

INTRODUCTION

In March 2005, the city of Northampton, Mass., submitted a proposal to the American Institute of Architects (AIA) for a Sustainable Design Assessment Team (SDAT) to assist Northampton and its citizens in addressing sustainability as part of its process to create a new comprehensive plan. The relevant issues identified in the proposal ranged from the broad question of the community's future economic and job base to specific questions about land use planning and energy efficiency.

The AIA accepted the proposal and, after an initial scoping visit by a small group in August, the SDAT members arrived in Northampton on October 16. During the ensuing three-day charrette, the team members, working closely with local officials, community leaders, technical experts, and citizens, studied the community and its concerns. As a result, the team came to understand the issues and used its expertise to frame an assessment, vision, and wide range of recommendations which were presented to the community in a public meeting on October 19. This report is a more detailed version of the findings and recommendations that were presented to the community at that time.

Six topical sustainability issues were the focus of the SDAT charrette and are discussed in detail in this report:

- Land use and smart growth
- Green infrastructure and open space
- Transportation and land use
- Economic development
- Housing affordability
- Energy conservation and sources.

What is the SDAT Program?

The SDAT program is an interdisciplinary community assistance program that focuses on the three principles of sustainability. Launched in 2005, the program represents an exciting new chapter in the AIA's history of supporting communities with volunteer design expertise. The Northampton SDAT is the fourth completed project under the new program.

The SDAT program is modeled after the AIA's R/UDAT (Regional and Urban Design Assistance Team) program. While the R/UDAT program provides communities with specific design solutions, the SDAT program provides broad assessments to help frame

future policies or design solutions in the context of sustainability and helps communities plan the first steps of implementation. The SDAT program is based on an understanding of design as a process that:

- Is integrative, holistic, and visual
- Is central to achieving a sustainable relationship between humans, the natural environment, and the place
- Gives three-dimensional form to a culture and a place
- Achieves balance between social, environmental, and economic systems.

The SDAT program is grounded in the AIA design assistance team values, which call for a multidisciplinary approach, objectivity of the participating team members, and broad public participation.

Why is the SDAT Program Valuable?

Many communities are immobilized by conflicting agendas, politics, personalities, or even the overabundance of opportunity. Many communities have not yet taken stock of their current practices and policies within a sustainability framework, while others have identified issues of concern but desire assistance in developing a plan of action to increase sustainability. The SDAT process ensures that alternative solutions are given a fair hearing and that options are weighed impartially. The SDAT process:

- Informs the community of opportunities and encourages them to take action to protect local and regional resources
- Helps the community understand the structure of the place at various scales and contexts—from regional resources to the neighborhood scale
- Explores and articulates the larger contexts and interactions of ecological, sociological, economic, and physical systems
- Visualizes potential futures
- Recognizes and describes the qualities of a place by preserving the best elements of the past, addressing the needs of the present, and planning for the needs of future generations
- Identifies and describes choices and consequences
- Connects plans and actions

- Advances the principles of quality sustainable communities
- Helps the community define the roles of various stakeholders
- Develops a roadmap for the implementation of more sustainable policies and practices.

The key to SDAT success is diversity and participation; the process involves multiple disciplines and multiple stakeholders. The SDAT process includes not only the expert team but also government agencies and officials, private businesses, schools and students, community members, and other parties as appropriate.

Who are the Key Participants in the SDAT Process?

SDATs bring a team of respected professionals, selected on the basis of their experience with the specific issues facing the community, to work with community decision-makers to help them develop a vision and framework for a sustainable future. Team members volunteer their time to be a member of the SDAT and agree to refrain from taking work for three years from the date of completion of the SDAT project. A distinct team is assembled for each project based on the project's unique features. The team consists of a leader, five to seven members, and a staff person from the AIA Center for Communities by Design.

The professional stature of the SDAT team members, their independence, and the pro bono nature of their work generate community respect and enthusiasm for the SDAT process which, in turn, encourages the participation of community stakeholders. The passion and creativity that are unleashed by a top-notch multidisciplinary team of professionals working collaboratively can produce extraordinary results.

Local Steering Committee

The steering committee is the key organizing group for an SDAT project. It is responsible for assembling local and regional information, organizing the preliminary meeting and SDAT visit, and generating local media coverage during the entire project. After the SDAT visits, the steering committee typically evolves into a group that is dedicated to implementing the SDAT recommendations.

Local Technical Committee

The local technical committee is the technical support group for the SDAT project, including locally based design professionals, environmental professionals, economists, and others whose skills and experience parallel those of the SDAT members and who bring with them detailed knowledge of local conditions, issues, and information resources. Their presence magnifies the effectiveness of the team.

Citizens

In the end, the citizens of the community are the critical players, both for their insights and observations during the team visit and for their support for the new directions that emerge from the SDAT process.

On behalf of the Northampton SDAT members and the American Institute of Architects, it is hoped this report will be a useful guide to the Northampton community as it charts its future for the coming years and for coming generations.

NORTHAMPTON: AN OVERVIEW

The town of Northampton, originally known as Nonotuck, was chartered in 1654. The city of Northampton was incorporated in 1884. Northampton currently has a population of 28,978. Known as Paradise City, Mayor Mary Clare Higgins points out: "As residents of the Pioneer Valley, we enjoy the great natural beauty that surrounds us, from the winding Connecticut River that defines our eastern border to the gentle mountains of the nearby Mount Holyoke and Mount Tom ranges. Northampton offers a lifestyle rich in cultural, artistic, academic, and business resources. Our downtown center is one of the most vibrant in New England. The superb quality of life in Northampton contributes to a strong and diversified economic base. Northampton is unique in the number of independently owned businesses that make up our business community.

"Northampton's blend of traditional neighborhoods, forged by the great care of generations of good neighbors, and a lively and sophisticated cultural community would make any great city proud. The city has been recognized in recent years by numerous publications as a top-rated town for the arts, families, historic preservation, and outdoor activities. Located in the heart of the five-college area, and home to prestigious Smith College for women, education has always been a priority here. You will find not only a great public school district but also a plethora of opportunities for lifelong learning in Northampton."

Definition of Sustainability

A sustainable community takes a long-term view rather than seek short-term gain. Specifically, it seeks to evolve through a balance of integrated principles of:

- Social equity
- Environmental respect
- Economic strength.

In doing so, it ensures a high quality of life, not just for today but for future generations of citizens.

Northampton is the home of several independent retail shops, eclectic restaurants, cafes, art galleries, museums, clubs, and theaters, earning its name as "Number One Best Small Arts Town in America" by author John Villani. And it is listed as one of the top 25 arts destinations in the nation by *American Style* magazine. It is a social and cultural focal point in the region.

Northampton has successfully retained much of its historic character in downtown Northampton, its residential neighborhoods, and the smaller commercial village centers of Florence and Leeds. There are several opportunities to use existing institutional and industrial sites for future development.

With all of the above as a backdrop, Northampton is currently undertaking a process to create a new comprehensive plan to build on the existing strengths of the community while charting efforts to protect and preserve local assets and resources. The SDAT program is a starting point to focus the comprehensive plan on principles of sustainability in conjunction with the mayor's initiative for a "sustainable Northampton." It was agreed at the outset that the intent of sustainable design is to take an integrated approach that balances three aspects of sustainability, namely social, economic, and environmental implications. It was noted that a great advancement in one of these three areas to the detriment of one or two of the others will not be sustainable overall. Applying this concept of balance and integration to the issues studied in the Northampton SDAT has been the basis for the information presented in this report.

LAND USE AND SMART GROWTH

Smart growth is an important part of achieving the goals of sustainable growth management activities, and represents development that serves the economy, the community, and the environment. Simply stated, smart growth seeks the adoption of new policies and practices that, as a package, provide better housing, transportation, economic expansion, and environmental outcomes than do traditional approaches to development.

Perhaps most critical to successfully achieving smart growth is realizing that no one policy or approach will transform a community. A first step toward smart growth is for members of a community to evaluate and determine how they want to grow and to recognize the importance and value of modifying (if necessary) the way they grow.

Strengths

Northampton has many notable strengths and a history of efforts in the area of planning and smart growth sensitivity. Some are listed below while others are noted in other parts of this report.

- Northampton residents and municipal government have an extremely strong commitment to sustainable development.
- Many sustainable development practices are already in place.
- Northampton scored the highest in the Commonwealth of Massachusetts in the Commonwealth Capital Program in 2004 (129 points out of a possible 140).
- Northampton was one of the first cities in Massachusetts to become a member of the International Council of Local Environmental Initiatives.
- Much of the information needed for an updated comprehensive plan is already in place as individual studies and planning reports.

Weaknesses or Challenges

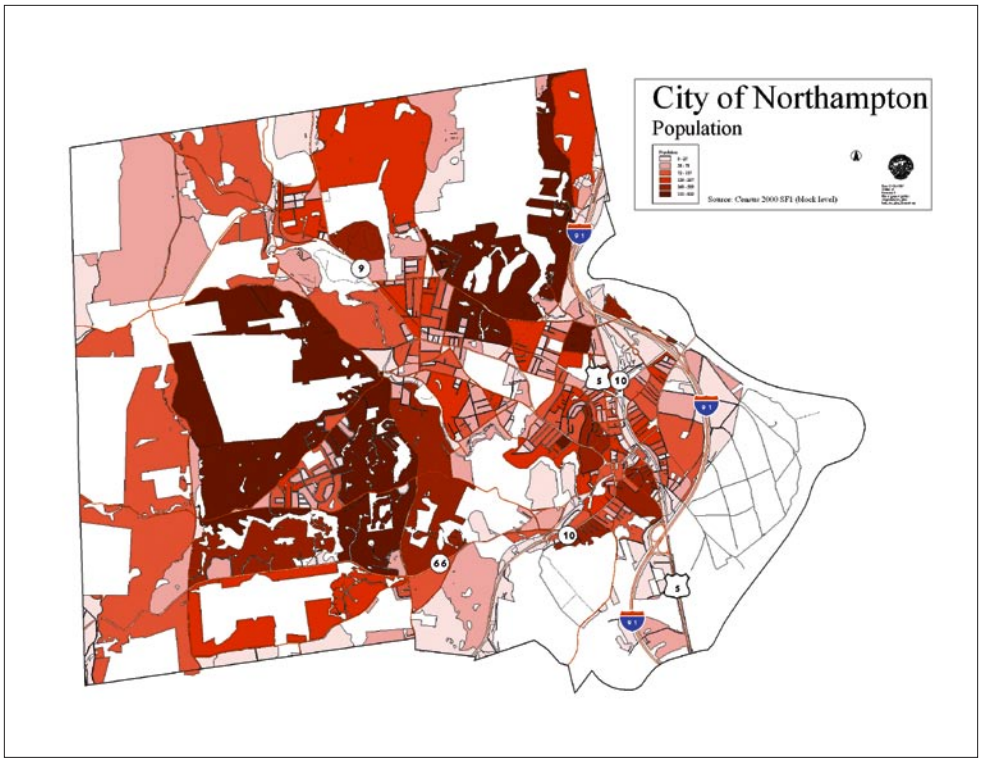
Northampton is not actively creating the future it wants. There are land use conflicts that are evident in the environs west of the downtown. Over the past 45 years, the predominant development patterns within the city indicate a northerly and westerly migration of residential development along and/or adjacent to the major road arteries (see Northampton Land Use, Open Space, and Population Density maps, pages 21, 28, and 35, respectively.). This development pattern has continued to encroach into some of the more pristine areas of the city, where agricultural uses, environmentally sensitive areas,

and infrastructure challenges exist. An expansive overlay of one-acre zoning beyond the urbanized core, and two-acre zoning in the most westerly areas of the city where agricultural land uses predominate, have contributed to this pattern of low-density sprawl development. This zoning has actually established the steady progress of low-density residential development that is incompatible with the city's desire to preserve environmentally sensitive lands.

Furthermore, due to budget constraints, Northampton's desire to acquire land or conservation easements for preservation purposes has typically been made possible by the use of private donations made to nonprofit organizations. Given the modest flow of funds, however, this protocol does not provide a predictable basis for land acquisition or provide a comprehensive strategy for controlling sprawl in areas where preservation goals have been established. (Editorial note: Since the SDAT visit in October 2005, voters in Northampton approved a Conservation Preservation Act in November which makes more funding available for these purposes. The act will contribute to, but not completely address, a conservation approach to preventing sprawl.)

Specific Challenges

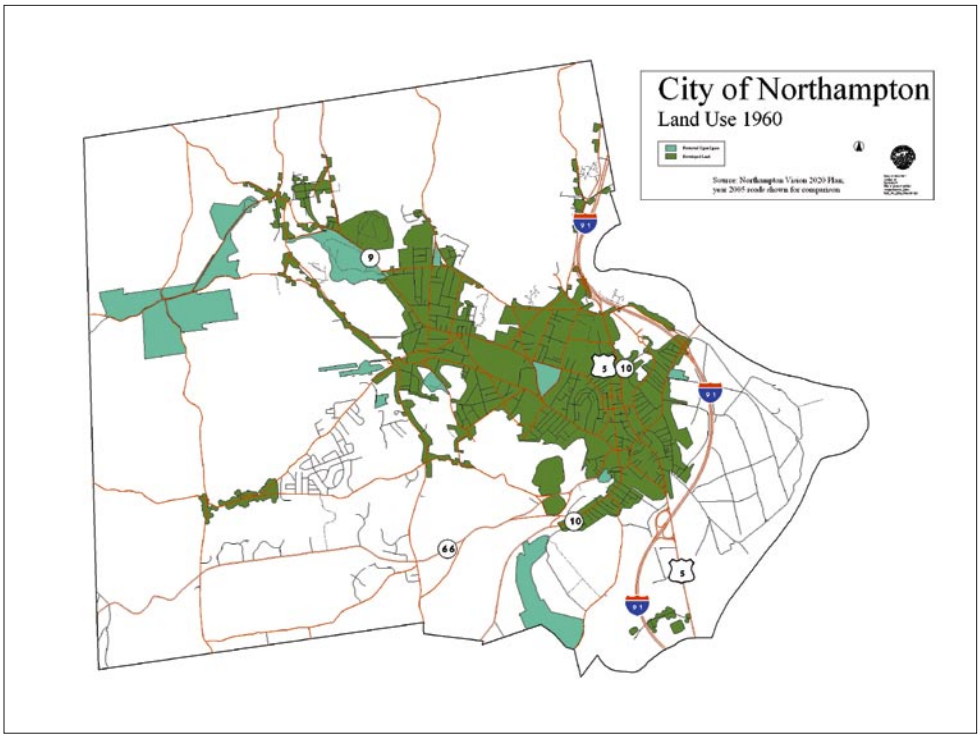
- There is not yet an updated comprehensive plan for the city.
- There is no unified vision among residents, which causes mixed expectations among residents as to what the city will become.
- The current development review process requires more predictability for applicants, e.g., applicants occasionally attempt to satisfy the demands of the Environmental Commission during the application review phase, whose recommendations may or may not be regarded by the Planning Board. This can lead to inconsistencies with recommendations and actions between various boards and commissions.
- There is a lack of housing choice throughout the city.
- There is a lack of transportation options to provide for linkages and alternative modes of mobility throughout the city.
- The land use plan and zoning are not compatible with the city's desire to expand its energy-efficient economies, i.e., the zone plan does not adequately address locations for the development of larger scale biodiesel production and distribution centers.
- Absent a clear vision and comprehensive plan, market forces appear to have established the trend of development patterns throughout the city.



- The city has experienced the loss of larger institutional employers and better paying jobs.
- Flooding along the flood plain adjacent to the Connecticut River remains a constant challenge.
- Expanding public access to the Connecticut River is a challenge for the city government and landowners adjacent to the river. The establishment of new public trails or access along the river should only be considered with the complete support of riverfront landowners. A history of public vandalism, trespassing, and a fear of liability are major challenges. Any consideration of trail construction along the river will require major construction cost related to the need for bridges over the many ravines and tributaries.

Vision of Future Land Use and Smart Growth Sustainability

The sentiments of the Smart Growth working group clearly suggested Northampton residents want to participate in developing a growth management strategy that will protect the integrity of the entire community, economy, and environment. A most distinct and plausible goal articulated was a need to guide development in Northampton


City of Northampton
Land Use 1960
Source: Northampton Vision 2020 Plan,
year 2005 roads shown for comparison
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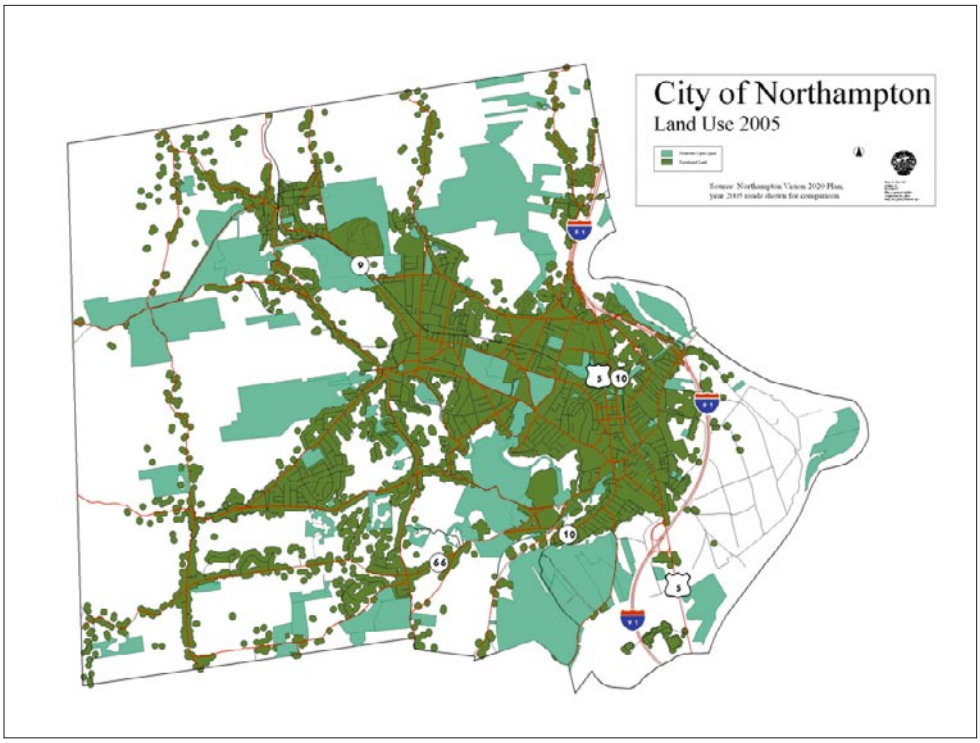
City of Northampton
Land Use 2005
Source: Northampton Vision 2020 Plan,
year 2005 roads shown for comparison
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to ensure the efficient and socially responsible use of land resources, making the city one of the best places in the country to live and work. This goal would recognize the following strategies:

- Prioritizing specific areas for growth and others for preservation. Northampton's controlling land use plans and ordinances should recognize the adoption of "center-based development" and protection of the environs (to include all lands surrounding growth centers, especially downtown, Florence, Leeds, Baystate, State Hospital campus, Veterans Affairs nursing home site, and King Street transition areas).
- Planning more comprehensively for growth and conservation on its urban fringe (growth areas), and adopting regulations that support the planning. Currently, the zoning pattern that requires a minimum lot size of one and two acres in the environs (areas outside the identified prospective growth areas) contributes to a dispersed and inefficient pattern of growth and promotes the degradation of the environment. Rather than merely adopting large-lot zoning in response to preserving the already fragmented system of open space, Northampton should plan more comprehensively for growth and conservation. Doing so will help achieve a mix of land uses and densities that can have many advantages over unplanned growth and establish distinct communities of place.
- Reusing the obsolete strip retail centers along King Street for mixed-use development. These "grayfields," once developed, can stimulate tax revenue and create a vibrant sense of place.
- Facilitating community education workshops with visual imaging to illustrate the benefits of high-quality compact development patterns.
- Developing more transportation options for linkages throughout the community and mobility alternatives.
- Providing a wider range of housing choices (e.g., fee simple and apartments).
- Developing a comprehensive network of open spaces linked by greenways.
- Retaining and expanding "live-work" spaces for artists.
- Retaining existing businesses and attracting stable, better paying jobs.
- Increasing ratable income by expanding commercial and retail businesses.
- Recognizing the city's broader energy-efficiency and conservation goals (i.e., creating a "low carbon economy") by drafting and instituting physical planning, zoning, and development regulations that promote and are consistent with said goals.

Recommended Strategies for Land Use and Smart Growth Sustainability

Update the Municipal Master/Comprehensive Plan

It is acknowledged that this process is already underway with the following points offered to be part of that process:

- Include all elements and development regulations that are internally consistent.
- Base the land use plan element on build-out analysis or other techniques.
- Include in the capital improvement program capital projects proposed in the city by municipal agencies, school districts, authorities, and regional agencies; link the capital improvement program to the circulation plan element.
- Recognize the need to provide increased housing choices (e.g., fee simple and rental). The Housing working group was receptive to increased development of multifamily rental housing within (or proximate to) downtown. The critical component here would be design. This housing type would assist in reducing development pressure on the undeveloped lands in the environs. The primary caveat, though, may be the need to subsidize the construction cost in order to provide for affordability/profitability with mixed-income units. Any discussion of densification of land uses within the growth areas should also include a discussion about design and safety guidelines. Well-designed multifamily housing can be an attractive and compatible addition.
- Require comparison for consistency and integration with the master plans of the adjoining municipalities

  1. Ensure that the development regulations are consistent and integrated with relevant state and/or regional agency functional plans and regulations
  2. Ensure the city has adequate staff and administrative support systems to perform the regulatory functions effectively and efficiently
  3. Comprehensive plan should be more strategic to include a planning and implementation agenda with:

     - Goals
     - Indicators
     - Targets
     - Identification of responsible entity
     - Prospective funding source(s)
     - Time frame

Recognize the Infrastructure Capacity

Infrastructure not only supports growth, it affects and establishes the shape and patterns of growth and the potential for growth and redevelopment in any area.

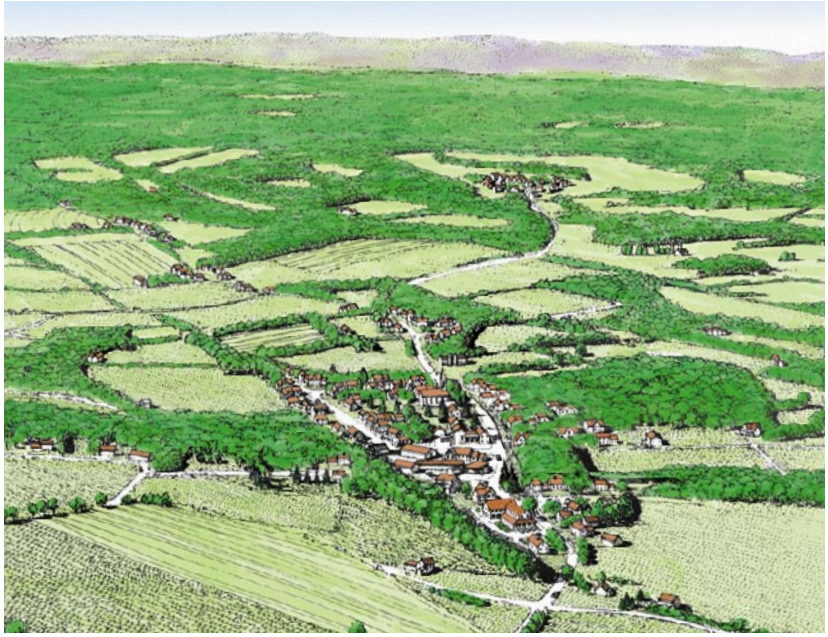
- Adopt a "fix-it-first" policy to direct resources to support the maintenance and upgrading of existing structures and facilities
- Focus any new development to areas where a sufficiency of infrastructure capacity already exists
- Amend zone plan where necessary to reflect sufficiency of existing capacity
- Establish clear priorities for a municipal capital improvement program and tie them to the planning implementation agenda (within a revised master/comprehensive plan) and any infrastructure investment decision-making
- Link development with availability of infrastructure
- Impose a short-term development moratorium to allow for planning and zoning instruments to be put in place to control pace and scale of future development
- Tie all city departments into a centralized Geographic Information System (GIS)

Implement a Transfer of Development Rights Program

Transfer of Development Rights (TDR) is an implementation tool that encourages the voluntary shift of development from places that communities want to preserve to places that communities have identified for growth. Most typically, the owners of land in environmentally sensitive areas and farmland can receive compensation by selling their transferable development rights in return for voluntarily restricting the future development of their properties. These areas are called "sending areas." The development rights are typically purchased by owners of land (developers) who are located in places that are desirable for development. These areas are called "receiving areas." In 1993, Northampton adopted provisions within its zoning code to allow for transfer of development rights.

The Smart Growth working group was strongly in favor of using TDR in Northampton to effectively manage growth. The group identified prospective sending areas to include privately owned lands in and proximate to:

- Mineral Hills
- Saw Mills
- Fitzgerald Lake



- Arcadia (east of Route 10)
- Additional areas as determined by fuller study.

The group identified prospective receiving areas to include privately owned lands in and proximate to:

- State Hospital site
- King Street (infill housing opportunities in the "transitional area")
- Downtown
- Additional areas as determined by a fuller study.

Recognize Energy Efficiency and Conservation in Local Land Use Planning

- Amend zoning regulations to provide for alternative energy-based economies (i.e., biodiesel production and distribution centers); possibly to target the Route 10 Business Park for renewable energy industries.
- Encourage development that helps create a low carbon economy by reversing damage caused by energy generation and consumption, transportation, and resource use.

- Prepare and implement a year-round energy conservation plan for the city as a means of providing a resource guide that will result in simple energy-saving measures that can be followed to reduce the city's energy consumption and associated costs. This will help instill energy-saving habits that can be used both at work and home. All policies and actions described in the energy conservation action plan, that are related to municipal facilities and programs, are mandatory unless an exception is granted by an appointed energy officer. An action plan will fulfill one of the requirements for the Cities for Climate Protection Campaign.
- Proactively examine alternative energy and renewable and sustainable sources of energy options that include solar power, the use of vegetable oil and biodiesel options, as well as methane digester power. With regard to the latter, this option should be prioritized; the basic framework for operation already exists at the municipal landfill where gas has been steadily burned off for several years.
- Consider hydropower. The excellent flow, fall, and renewable source of water provided by the Connecticut and Mill rivers may provide Northampton with a wonderful opportunity for hydropower free of the polluting emissions. Beyond its renewable nature, hydropower offers key features that cannot be duplicated by nuclear, fossil fuel, or other types of power producers.
- Continue to develop a more cohesive network of bike paths throughout Northampton. Both locally and nationally, bicycle and pedestrian facilities have proven to be a cost-effective use of public funds. The construction of multi-use trails would allow more residents and visitors to replace automobile trips with non-motorized trips. Additionally, greenways and other off-road trails also provide environmental benefits by linking existing parks, open spaces, and undeveloped lands while preserving the natural landscape.

GREEN INFRASTRUCTURE AND OPEN SPACE

Northampton draws much scenic value and civic pride from its unique natural and human landscapes. The city is in the valley between the Connecticut River that forms its eastern boundary and a gentle mountain plain that lies to its west. The alluvial floodplains of the Connecticut River give rise to a rich agricultural history that contributes to the local economy while its watershed components store stormwater and function as important wildlife areas. Nearly one-half of Northampton is covered in a mixed deciduous forest that provides habitat for deer, bear, game birds, fox, and other wildlife. Scenic viewsheds extend up valley corridors and conservation and recreation areas are permanently protected in the city's open space and recreation plan. This plan includes conservation lands, wildlife sanctuaries, parks, trails, recreation areas, wetlands, and community gardens.

Assessment of Current Green Infrastructure and Open Space

Although Northampton has placed almost one-fifth of its 35.7 square miles of territory into permanently protected open space, there is a wide perception among citizens that much open space is being lost to development pressures and that newly protected open space and recreational lands are needed more than ever in order to protect natural resources from future growth and development. While Northampton's open spaces are less threatened than many other urban communities, there are critical resources that need to be protected, including large natural habitat areas, rare species habitat, wildlife corridors, agricultural lands, important viewsheds, riparian habitats, wetlands, floodplains and other water bodies, as well as the city's drinking water supply and aquifer lands. However, the demand for new open spaces and recreation outstrips the city's limited resources. With limited resources, even the maintenance of existing open spaces is a difficult task. Therefore, the challenge in developing sustainable strategies for green infrastructure and open space is one that balances the protection of open areas and natural resources with appropriate growth patterns that limit sprawl and preserve the unique landscapes of Northampton while seeking new funding and implementation strategies. The following are strengths and weaknesses identified in this regard:

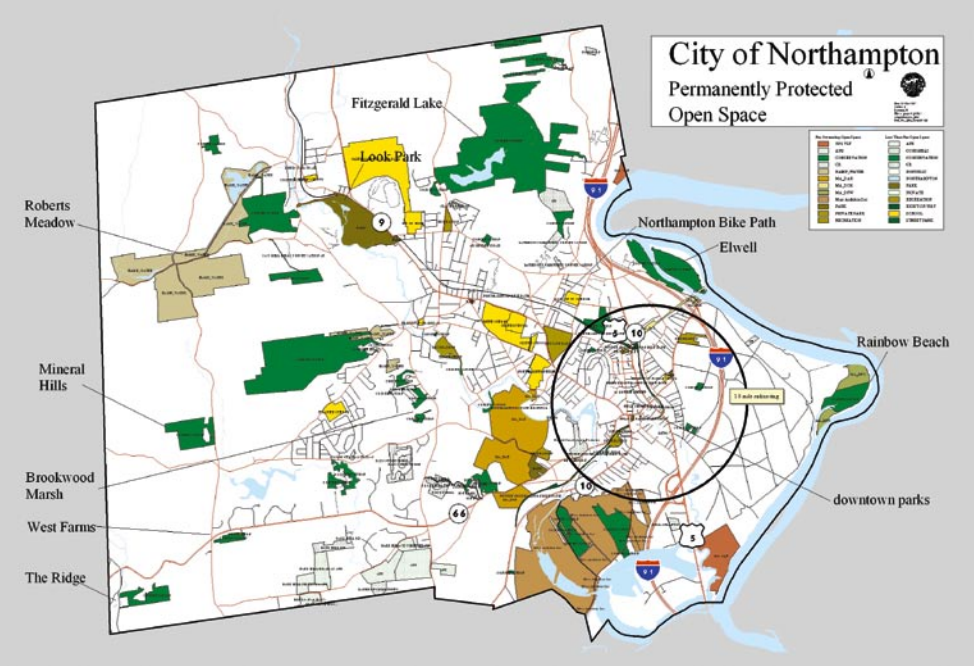
Strengths

- Natural landscapes provide beauty, wildlife habitat, opportunities for recreation, and natural flood protection control
- Agricultural landscapes provide a local food source and add to above ground flood control strategies

- The Connecticut River, Mill River, and Meadow District provide strong geographic elements and natural amenities with strong potential for human and wildlife use
- Parks and recreational opportunities augment natural areas
- There is a spirit of experimentation and valuing of environmental quality and a history of working toward smart growth models

Weaknesses or Challenges

- Conflicts exist between the need to enhance, protect, and maintain natural areas and the need for new development, especially in terms of funding priorities because new development creates new revenue
- Zoning models that indicate percentages of required open space do not indicate the quality desired within these open spaces (this generates an open space requirement model that may not meet critical needs or multiple uses)
- Barriers exist that limit access to the Connecticut and Mill rivers

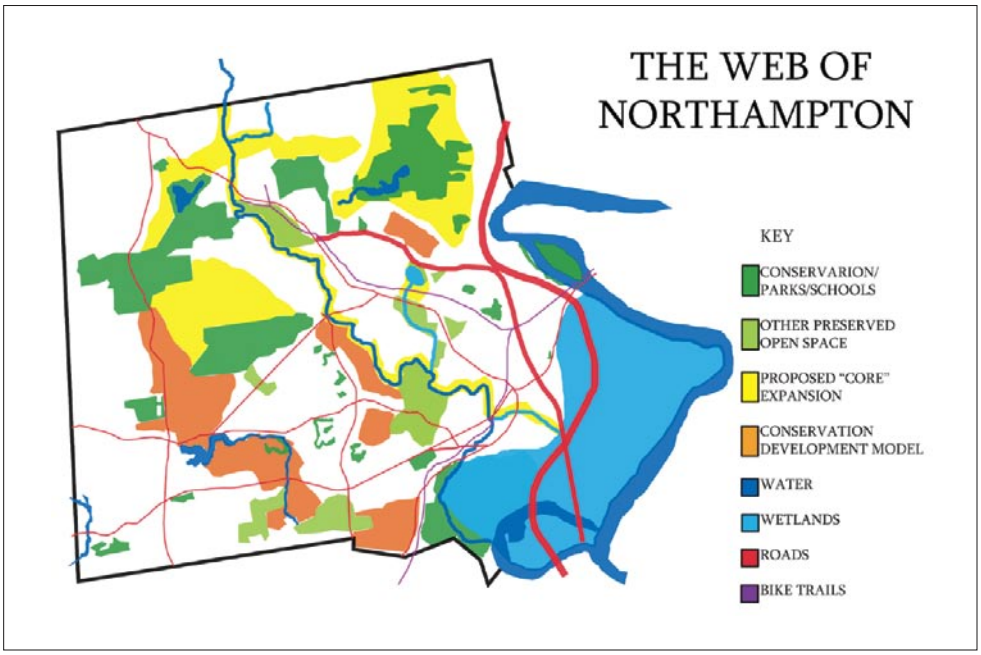


Vision of Future Green Infrastructure and Open Space Sustainability

The "Sustainable Web of Northampton"

Northampton has already demonstrated its leadership capacity for protecting its green infrastructure. Its residents shared with the SDAT their long-term vision of Northampton as a city that is guided by an environmental ethic that protects the "web of life" that is critical for survival and that lives in balance with the natural environment. This web provides residents with opportunities for recreation and preserves local food production and scenic beauty. Their vision is characterized by:

- Community pride and community identity that highlight a conservation ethic that balances development needs with the protection of natural resources and local farms
- Integrated solutions that reflect the integrative nature of issues (connections between air quality, storing floodwaters, filtering pollutants from runoff, wildlife habitat protection, local food production, recreation needs, alternative transportation, renewable energy, affordable housing, strong economy and jobs, educational opportunities, and celebration of the arts)
- Green infrastructure as dominant land use with developed areas primarily concentrated in compact, smart growth models—the reverse of the 20 percent open space model which implies that 80 percent of the land is developed.



Recommended Strategies for Green Infrastructure and Open Space Sustainability

The following recommendations are provided for Northampton to balance the protection of its green infrastructure and open spaces with sustainable growth patterns that expand conservation and recreation areas. This balance promotes land use patterns that limit sprawl and preserve natural and cultural resources.

Create a Green Overlay District

- Expand core habitat areas
- Create and enhance corridors that connect habitat areas
- Enhance above ground strategies for stormwater treatment that use wetlands, floodplains, daylighted streams, and vegetative buffers, and reduce impervious surface
- Preserve and enhance agricultural lands and promote new models to expand urban agriculture (e.g., community gardens, youth agricultural programs tied to Smith Vocational High School, expand organic gardens)
- Develop new development models that minimize fragmentation of habitat and forest by implementing open space goals that encourage connected greenbelt systems

Enhance Connections Between Open Spaces

- Improve access from the city to the Connecticut River (connections to Connecticut River)
- Enhance open space opportunities, provide bike/pedestrian trails, provide riparian buffer, enhance rain infiltration, implement daylighting projects, and explore power generation options (connections to Mill River)
- Create quality open spaces that can be used for multiple uses, e.g., narrow lane widths on streets to allow additional space for pedestrians, bicyclists, trees, and natural drainage (connections to housing, business, and industry)

Concentrate Growth to Preserve Open Space

- In new developments, use "conservation subdivision design" strategies to balance new development with green infrastructure goals
- Create quality open spaces within new developments that can be used for multiple uses (i.e., recreation, conservation, and open space)
- In urban areas identify opportunities to create new pocket parks, plazas, habitat gardens, playgrounds, and other open space typologies
- Create models for replacing open space loss, e.g., within King Street redevelopment provide significant pockets of tree coverage, vegetative swales to absorb runoff, and roof gardens.

Encourage Multiple Funding Mechanisms

- Implement transfer of development rights (TDR) model or conservation easements as mechanisms to protect natural areas
- Implement fee structure incentives in project costs to conserve land for multiple uses (e.g., wildlife, recreation, trails, creative stormwater management); balance with offsetting costs for affordable housing or infrastructure costs.
- Generate options to create an endowment in the city to protect and enhance green infrastructure
- Factor externalities into cost modeling—long-range cost inherent in loss of habitat, agricultural lands, and disturbance of watersheds

Serve Multiple Goals and Develop Integrated Strategies

- Create trails and bike paths along greenways; these alternative transportation strategies provide areas of scenic beauty, improve air quality, provide habitat protection and passive recreation, and are accessible for people with disabilities
- Implement sustainable models for stormwater drainage; these models provide for public health and safety, preserve and enhance wetlands, and provide habitat, recreation, and opportunities for education
- Link increased wildlife habitat preservation to protection or enhancement of agricultural areas, wetland enhancements, and provision of recreation; and integrate this preservation with more desirable housing models
- Implement integrated approaches to provide many educational opportunities and celebrate the arts

TRANSPORTATION AND LAND USE

More people in Northampton will walk or ride a bus or bike if the transportation system provides safe and convenient opportunities to do so. Focusing new jobs and housing close to restaurants, stores, and services makes walking, bicycling, and riding public transportation convenient. These travel options allow people who cannot drive, or who choose not to drive, to get where they need to go. And, of course, a person who doesn't have to spend money to own and maintain a car—or a second car—will have income available for other things.

The Northampton transportation system plays a critical role in the continued economic health and sustainability of the Pioneer Valley. When planning for how and where development should occur in the region, consideration must be given to existing and future transportation needs for all users—pedestrians, bicyclists, transit riders, and auto and freight drivers. Experience has shown that economic vitality occurs in those areas with the best access. Though downtown is a delightful and walkable center with many restaurants, galleries, and cultural events, everyday services and retail shopping are located along King Street, which is accessed primarily by automobile. The revitalization of King Street, a stated priority for city planning, will be a great asset to the community if accommodations are made for people to get there without driving or reduce driving by offering access to many stores from one parking lot.

Our auto-dependent culture affects children's health. Children traveling to school want to walk and bike but frequently must be driven or ride the bus because of safety issues. Safe routes to school should be a priority to get Northampton kids active and independent.

Assessment of Current Transportation and Land Use Conditions

Strengths

- Citizens have the passion for creating a sustainable community
- Downtown core is walkable and bikeable
- Bike path system is growing
- Sustainable transportation has been a priority in the 2005 transportation plan
- Current transit system offers a good starting place

Weaknesses or Challenges

- There is congestion in the downtown core
- Everyday retail services are spread out along King Street
- Interstate, regional, and local transit are limited
- Bicycle lane network and connections to bike trails are incomplete
- Many sidewalks do not comply with the Americans with Disabilities Act
- Outreach and education to help residents understand the options and benefits of active transportation—walking, biking, riding transit—are limited

Vision of Future Transportation and Land Use Sustainability

Northampton is a vibrant community where youth, the elderly, able adults, and fragile citizens are not dependent on car travel for every trip. All citizens have pleasant, safe, and plentiful transportation choices for work, errands, and recreation. Providing travel choices contributes to community livability by allowing people to provide for their own needs and aspirations. Independence can be nurtured and relished, contributing to a higher quality of life for the individual who chooses not to drive and, particularly for those who can't drive, such as seniors, children, low-income, or persons with disabilities.

There is a policy in transportation/land use planning and infrastructure to prioritize pedestrian, bicycle, and transit travel rather than accommodate driving for every personal trip. Widening car lanes promotes speeding and increases car trips, so therefore is not a preferred choice.

Walking and biking networks and transit systems are integrated so that convenient links can be made from residential areas to downtown, commercial centers, and regional connections.

Mixed-use density accommodating all income levels is located in downtown and near commercial centers. Compact design encourages short walking, biking, and transit trips and reduces drive-alone car trips.

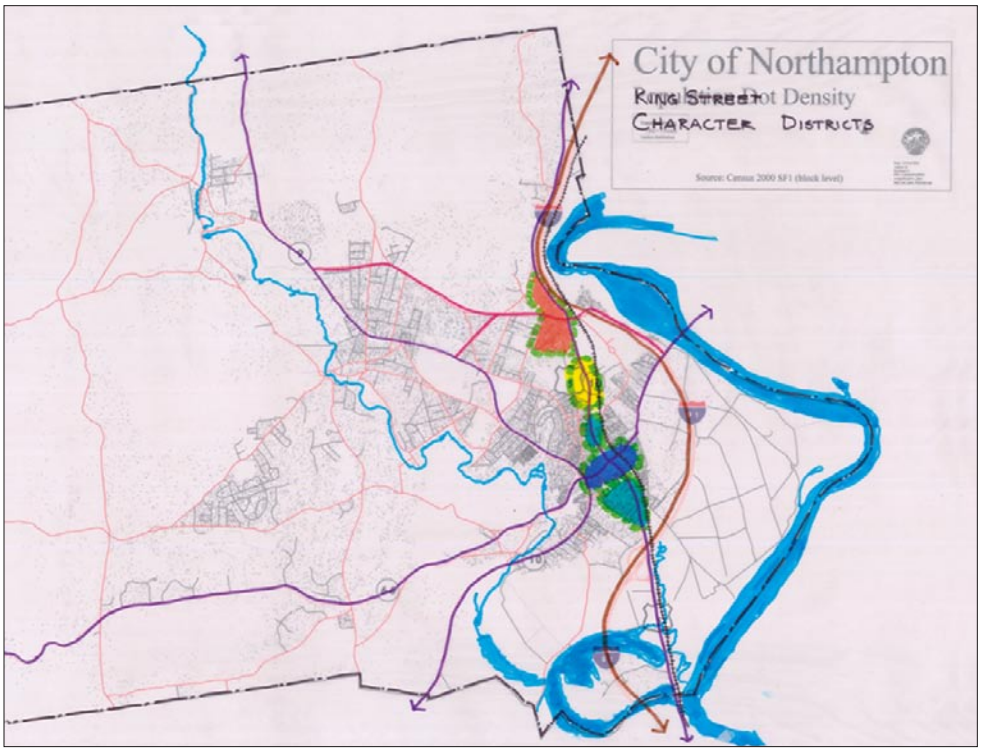
Recommended Strategies for Transportation and Land Use Sustainability

Create New, or Strengthen Existing, Citizen Oversight Committees

The purpose here is to monitor the full implementation of the Northampton Transportation Plan, construction of projects, and maintenance of bike and walking facilities.

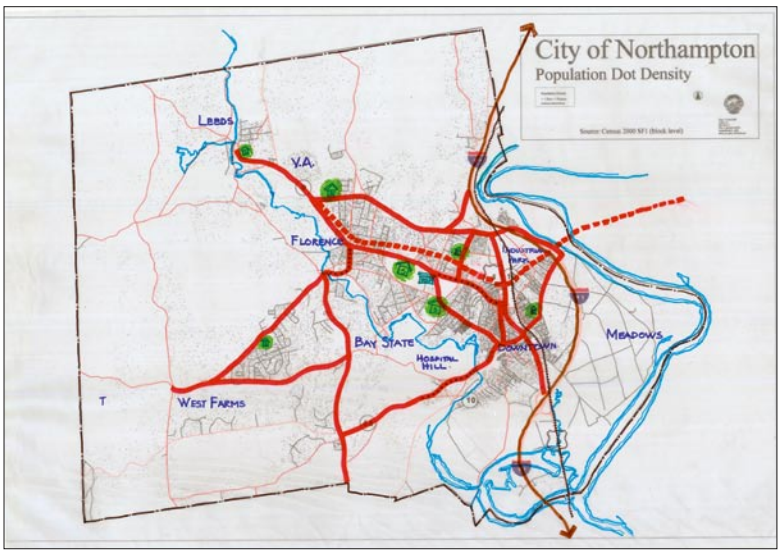
Improve Zoning and Incentives to Encourage Businesses of Similar Types to Group into "Character Districts" along King Street

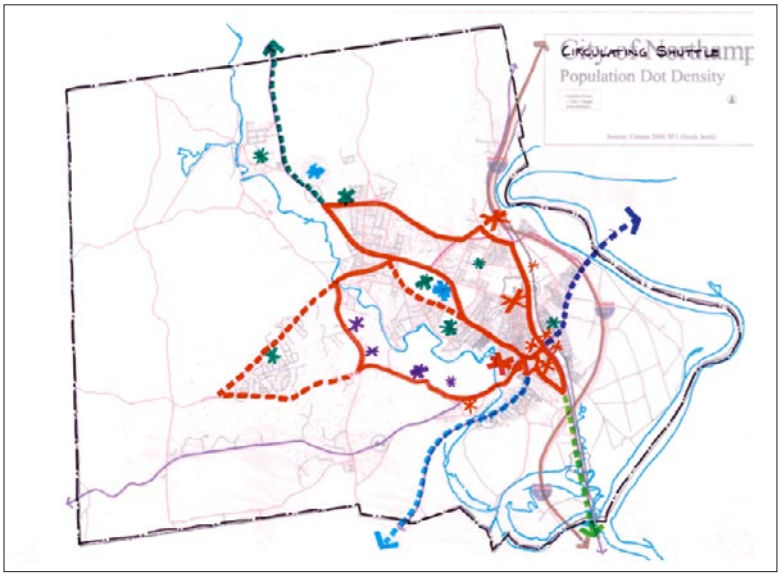
The King Street corridor is in transition with some vacant properties and low-density business use stretched along the corridor. Opportunities to revitalize the corridor, as identified in the King Street Corridor Study, can be expanded to create denser retail activity at intersections and close to neighborhoods. Invest in high-quality pedestrian facilities in these areas and provide good access to transit. The intersections should feature a high-quality pedestrian environment and convenient access to transit. Curb extensions leading to pedestrian medians can offer safe crossing at signalized and mid-block crossings. Pedestrian and bike facilities will be a catalyst to attract desirable businesses to targeted districts. Auto stores are a valuable regional attraction and can be located together.



Improve Local Transit by Creating a Circulating Shuttle Connecting to Regional Transit and Park-and-Ride Lots

Circulating shuttle buses serving Northampton would pick up and drop off passengers at regional transit centers on the perimeter of town. Car drivers would make transit connections as well. Major transit stops should include schedule information, lighting, bike lockers and racks, benches, shelters, and trash cans. Congestion and parking in the downtown were identified as problems. As many of the trips into downtown are by tourists, connecting service from transit centers can provide an alternative to driving into downtown.





Prioritize a Cross-Town Network of Bike Lanes, Trails, Wide Shoulders, and Sidewalks

Create direct bicycle and pedestrian linkages to the suburbs in the west, Leeds in the north, Florence, the industrial area, and downtown. Centers of interest are schools, the Veterans Administration Hospital, Cooley Dickinson Hospital, regional shopping along King Street, future development at Hospital Hill, and downtown amenities. The network should include connections to current and planned bike trails.

Streets indicated on the map are:

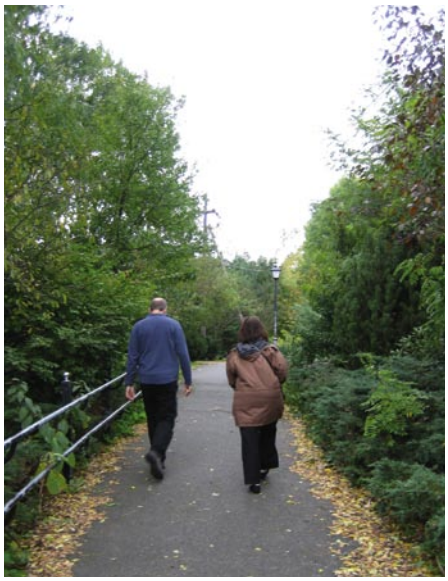
- Route 5—King Street and Pleasant Street
- Hatfield Street
- State Street
- Bridge Street
- Route 9—Florence to Leeds
- Florence Road to Easthampton
- Route 66—West Street, Hospital Hill to Florence Road
- Main Street—Elm Street to Florence Center
- Damon Road (access to bike path)
- Bridge Road
- Jackson Street (improve access to the bike path)
- Ryan Road
- Burt's Pit Road

A network of off-road multi-use paths, on-road bike lanes, and bike boulevards on low-volume residential streets would provide access and mobility for people at all ages and levels of expertise. Multi-use paths are great walking and equestrian paths.

- Separated from car traffic, the off-road multi-use path offers families and beginning bicyclists and walkers a calm stretch for recreation and commuting.
- Bike lanes offer the best and most plentiful access to services along city streets and are the most economical to install. When there is inadequate right-of-way to meet the recommended four-foot bike lane, consideration should be given to narrowing the vehicle lane. When further narrowing is unacceptable, special pavement markings and signage would warn car drivers to slow down for bikes.
- A bicycle boulevard is a residential street that provides a direct connection through a neighborhood to specific destinations or bike lanes and paths. It can be signed by pavement markings or street signs and marked on a bicycle map. Stop signs along the way are removed, cross traffic is stopped, and traffic calming devices are placed along the bicycle boulevard to prevent cars from speeding.

Promote Other Creative Ideas for Reducing Car Trips

- Proceed with study on interstate train service. Regional train service to Springfield and Boston should be a transportation option.
- Set up carpooling opportunities. Web sites can be set up to match riders traveling to the same destination. Universities and large employers would provide such resources, as well as the Gazette Online and Craig's List.



- Investigate car-sharing services. Companies such as Zip Car and Flexcar offer innovative car-sharing programs that provide individuals with access to a network of vehicles parked throughout a city, although Northampton may not have the optimum population identified for the success of car-sharing. However, Northampton residents are highly motivated by an interest in sustainability and the environment so they may exceed potential usage for a city comparable in size. It's worth investigating.

- Consider setting up a legal hitchhiking organization. To access areas not served by transit, a hitchhiking registration program can be developed. Drivers and hitchhikers would register and receive placards to identify them as being part of the network. Personal information would be on file to report any undesirable behavior of individuals. Registration would be online.

Develop and Implement Education and Encouragement Plans Aimed at Youth, Adults, and Fragile Citizens

Education and encouragement are major elements in changing behavior from driving for every trip to trying walking, biking, and riding transit. The city of Northampton, the Pioneer Valley Planning Commission, advocacy organizations such as Mass Bike Pioneer Valley, and local schools would work together to fund, produce, and distribute printed and electronic media that advertise health benefits and environmental awareness and promote safety. Public events with prize incentives have proven successful in motivating people to drive less.

Integrating physical activity into the common routine of getting to work, shopping, and play will increase the health and well-being of Northampton residents. The U.S. Surgeon General advises that 30 minutes of moderate activity most every day of the week will maintain health and reduce the likelihood of chronic disease.

For all to benefit, a good network of sidewalks, bikeways, and transit must be promoted, along with the pleasures of using such a system.

A Voice from Northampton

Newcomers and long-time residents alike value the unique qualities of their town with extraordinary cultural, historic, and natural resources. Though there are differing opinions about how to protect the natural environment, encourage growth and economic development, and ensure the health and well-being for all citizens, one thing is clear: a continuing dialogue among all citizens will bring about the most inclusive vision and strategies to retain and improve quality of life and sustainability for future generations.

A voice from Mary Cowhey's second grade class at a SDAT public meeting:

My name is Pearl Silverman. Gas is really getting expensive. Some people can't afford to drive, and other people choose not to drive. When I grow up, I might get a car but I wouldn't use it a lot, just for car trips to other cities. Mostly I would use the bus and my bike and walking. I want more bike paths and sidewalks in Northampton.

In the fall and winter it gets dark earlier, when people are still coming home from work. I think we should have some small street lamps on the bike path. I know that takes a lot of electricity, but maybe they could just be lit for a few hours in the evening.

Re-Examine Parking Strategy

Parking is a problem in downtown Northampton, but providing easy, cheap, and plentiful parking will only make it easier for people to drive into town. Storage of cars anywhere is a poor use of valuable land with huge environmental impact on water quality. A good strategy being implemented in Northampton is building mixed-use development, putting residents close to services, and downtown employment, thereby reducing trips and public parking needs. Demand management strategies for downtown and other destinations could include charging higher parking rates, adding bike parking, offering bus passes to customers or packs for carrying goods on a bike, and instituting a transit shuttle as described earlier. Students could pay a fee to bring a car to college and high school campuses. Employees could offer free transit passes and bike facilities such as showers and lockers. Employers could pay employees the value of car parking as an incentive not to drive.

ECONOMIC DEVELOPMENT

In the past, and still true today, Northampton's educated citizenry provides an economic advantage and base of creative expertise that will structure its future success and sustainability. The combination of strengths below should remind all Northampton residents that "you are better off than you may think."

Strengths

- A high quality of life is attracting new residents. Northampton is appealing to many persons because it is relatively affordable. From Boston to Washington, D.C., these newly arrived citizens bring time, talent, and treasure. Housing is cheaper than in other large urban metro areas; they find an attractive environment of creative thinkers and acceptance of diversity, opinions, and lifestyles. Long-time Northampton residents would do well to embrace and identify strategies to capitalize on their talents.
- Community wealth is increasing as new residents come into the area. These newcomers bring more than money. They bring brain power and a wealth of experience about which the economic community interest is quite ignorant. Organizations like the Chamber of Commerce do not have good profile information about these newcomers. Detailed answers to questions about why they are coming, what their interests are, and how they might engage in the community are unrecorded and unmanaged. This base of human resources along with their financial resources might be tapped for many things, including venture capital to continue or even start new business enterprises. Although the population of Northampton is relatively unchanged over the last 40 years, its composition is changing.
- Creativity is abundant. Especially in downtown Northampton, a relatively high wage earner base of residents and visitors propels a rich arts and cultural environment different than most towns of 30,000 will ever experience. Private art galleries, unique coffee shops, and bakeries cater to these creative classes who generally have higher disposable incomes to support this eclectic mix of enterprises. The restoration and use of historic and architecturally significant buildings, too, is clearly linked to the economic health and relative prosperity of these residents and visitors.
- Colleges are strong in the area, with graduates involved in research, engineering, computer science, environmental science, research and development, agriculture, biosciences, nanotechnology, and other fields. Perhaps the most visible manifestation of Northampton's status as an enlightened society is the prestigious Smith

College for women, a primary economic engine for the city. Situated prominently on a hill within the downtown, this 134-year-old institution is the largest liberal arts college for women in the country. Some 2,500 undergraduate students can access almost 1,000 different course offerings in 50 different study areas. Also, Smith is a member of a five-college consortium in the Pioneer Valley of western Massachusetts that includes Amherst, Hampshire, Mount Holyoke, and the University of Massachusetts. Together, these higher education institutions represent the largest employment sector in the region and influence everything about Northampton. When the national and state economies experience a downturn, the pain and suffering experienced by Northampton residents are less severe. A local and regional economy based upon education provides long-term stability and less economic trauma when other sectors, especially manufacturing, are declining. These conditions offer residents a chance to "count your blessings" and plan a sustainable economy based largely on the merits of this creative class.

Other notable strengths mentioned in the working group include

- Access to metropolitan markets
- Knowledgeable, educated workforce
- Entrepreneurial spirit
- Diversity—economic, cultural, and socio-political thought
- History of manufacturing and education.

Weaknesses or Challenges

- There is a need to foster a positive business climate. There is a not yet a perception of "business friendly" policies and community support for business development. Rather, the perception of a complex, cumbersome, and uncertain permitting process can be stifling. Similarly, there is a need for consistency and balance among city policies and goals (e.g., land use, economic development, and land preservation).
- There is limited commercial/industrial site inventory. Limited land is suitable for commercial/industrial development. Further, infrastructure improvements are needed to support business development such as water distribution lines, sewer extension, stormwater drainage repairs, transportation, public transit, parking garage, downtown maintenance, and telecommunications.

- The cost of doing business in Northampton is a challenge. Real estate and lease values are unaffordable for many businesses. Regionally, there are higher costs of doing business in energy costs, land costs, fees, and regulatory requirements. Hence, sustaining the success of a creative economy and downtown can be impaired under increasing pressures of gentrification and real estate values.
- Employee conditions are suppressed. A shortage of affordable live/work space and housing for employees exists. Living wages in all sectors are below typical for Massachusetts; the city median household income is $42,000 compared to $50,000 statewide. And there is a need for literacy training and English as a Second Language course within a growing immigrant population.
- There is a need for a critical mass of employers to recruit new businesses and to recruit and retain employees and college graduates. The loss of traditional manufacturing in the city and region means there is a need to identify business sectors to support, e.g., cultural, innovation/design/science/technology/new media, technology manufacturing, health, and publishing.

Vision of Future Economic Development Sustainability

Successful economic development is about the creation and attraction of human and financial wealth sustaining it for generations to come. An economic development vision should be an outcome of the community strategic plan development process. It will help the residents of Northampton define who they are, their values, and what kind of community they can become. Summarizing some of the visioning concepts developed in the work groups might yield the following vision of an economically sustainable Northampton:

Northampton is a vibrant community of artists, entrepreneurs, and locally owned businesses that feed the local economy, drawing on the abundant local innovation and brain power within the community. Businesses are an integral part of the community with business centers integrated with neighborhoods and the environment that allow everyone to grow and prosper. The Northampton economy is balanced and sustainable with a mix of local, state, and regional customer bases making it an integral part of the larger economy and a leader in cooperation and collaborations. At the same time, Northampton is a community where a diversity of residents and businesses can afford to live and work.

An economy as envisioned above would likely spawn a spirit of philanthropy and support of the arts, culture, and other civic organizations to create a truly thriving environment. Hence Northampton could become known as a “community that lives to give.”

Recommended Strategies for Economic Development Sustainability

Rethink the Pleasant Street/King Street Corridor

Today and well into the future, this main transportation artery will be the primary entry gateway to the town. With its two-vehicle interchange connections to Interstate 91, its economic value and land use composition will continue to change over time. It is also a commerce corridor that is very different than the downtown. Auto dependent and lined by large lot configurations, it is a stark contrast to the small lot and building arrangement and pedestrian friendly environment downtown. The Pleasant Street/King Street corridor is topographically relatively flat and lineal in development patterns. This economic zone, its future, and even its highway zoning have been a subject of much debate among community interests.

There might be merit to recognizing that this entire zone has different character traits with identifiable boundaries. The zones nearest the core downtown might be redeveloped in a form and fashion that is more reflective of the character found in the downtown—small lot development, more intense land and building density, and more pedestrian amenities and connections to adjoining residential neighborhoods. Zones closer to the interchanges might be redeveloped with larger lots, less density of buildings, and generally more highway-transient vehicle oriented. Thus, the character of the corridor is not uniform and different strategies and actions might be employed along different portions of this main transportation corridor. Its abundance of underused acreage (Hill and Dale and Honda properties) will provide considerable land for multiple economic activities for the foreseeable future.

Accelerate the Embrace of Meaningful Sustainable Practices

Local agriculture and business preservation and enhancement can succeed with a stronger commitment and creation of strategies that promote "buy local" techniques. Direct outlets like the State Street store connect local agriculture to local commerce. The marketplace feasibility for other food processing and business opportunities should also be considered and perhaps suitably "grown" or incubated on parts of the fairgrounds property.

Northampton is fortunate to have so many examples of historic and architecturally significant structures throughout the town. Mixed-use conversions and use introductions, while not compromising their unique character traits, should be better cultivated, providing economic and aesthetic community value long into the future. Historic preservation is a form a sustainability that links past practices and persons with those yet to come. Support for and expanded preservation efforts like those architectural regulations in place downtown should be considered for application elsewhere in town.

Niche business opportunities might exist or can be created using bio-based materials. Furniture making, adhesives, and even biodiesel production might provide new diversity to the regional economy that could be fostered in Northampton. Members of the local creative class in collaboration with the colleges and the University of Massachusetts might be better enlisted to lead bio-based engineering research and development activities, resulting in the commercialization of new sustainable products and services.

Creating, monitoring, and displaying indicators of a successful transition to a sustainable economy need to be undertaken. The identification and measurement of the sustainable community indicators can be a meaningful role fulfilled by a citizen-led organization and as a part of the town's strategic planning process.

Create and Manage Sustainable Economic Development Zones

Both short-term and long-term focus areas of economic activity exist. Previously, the Pleasant Street/King Street corridor was addressed separately because of its size and unique set of assets and opportunities. Other specific areas within the city are also identifiable that warrant particular focus and attention:

- Route 10 Sustainable Business Park. The Route 10 Business Park is a long-term economic zone and perhaps community needs and market conditions favor its development some years from now. However, the community today needs to start its planning and design as a total and complete model of sustainability. Roads and parking surface that produce zero run-off and energy needs for business operations should be generated completely on-site. There could be no wires stringing buildings to an electricity grid system. All structures should be LEED certifiable at least to a gold standard if not platinum standard. The immediate opportunity is to paint the vision of a model development that is fully sustainable and consistent with environmental priorities while holding off on other short-term development opportunities that can be built elsewhere.
- Hospital Hill. The Hospital Hill Master Plan implementation will provide considerable economic activity for years forward. This state-owned property offers acres of buildings and land for a compact, livable, mixed-use community to be constructed. The master plan is the starting point, not the end point. The vision of implementing an almost stand-alone community in which to live, work, and play is laudable but care must be exercised in its development to reflect Northampton's values of sustainability—it mixes the preservation of historic structures with new construction in acceptable forms and fashions that are connected in pedestrian friendly ways to the rest of the town. The community challenge is

finding an acceptable balance of preservation and density that can accommodate the likes of bioscience initiatives, an affordable mix of housing types and value ranges, and perhaps future growth pads for public and private bioscience research and development type facilities.

- The Downtown. The build-out of the downtown is not complete and numerous infill options exist that could result in the construction of new, lease-able, mixed use, live-work spaces, along with additional green space and, overall, more creative uses of existing buildings and spaces. Conversion of surface parking lots into row-type buildings similar in character to what already exists presents itself south of Main Street at the bottom of the hill (affectionately called "Brewery Park" by SDAT members). North of Main Street, recent infill construction techniques beautifully blend into the dominant architectural character and dense and compact form have surgically re-used once stagnant surface parking areas. Rethinking the value of all surface parking lots on a site-by-site approach and even parts of parcels can result in new sites for construction. In addition, many upper-story storefronts appear empty and represent black eyes on the success and prosperity of Northampton. Creative financial and even ownership options should be explored in the short term. Options can include the feasibility of community development and corporation ownership, development, and management of even portions of buildings in condominium fashion.

The establishment of a Business Improvement District in a multi-phased (block by block) manner might provide capital for needed public infrastructure, landscaping, and public art display and placement. The downtown is the major image maker for the region and many greening improvement choices were easily identified by the assessment team members. Trees that block visual connections to sterling facades should be removed and replaced with lower profile plants and vegetation providing colorful and seasonal displays of community pride. Main Street sidewalk widening and the introduction of expanded planting areas should be designed and eventually constructed into the existing rights-of-way, especially near the downtown gateway intersection with Pleasant Street. Perhaps the introduction of a traffic circle near the intersections of South, West, and Main streets could achieve multiple enhancement objectives. This confusing, auto-congested area is mostly a gray blob, threatening to pedestrian movements (especially because of the high concentration of Smith traffic), and frustrating to those trying to traverse by auto or by foot through its maze of confusion. An expanded year-round marketplace display featuring products and produce created by local artists and agriculturalists would add nicely to the activity mix.

The overriding message is that the downtown will be an important regional economic catalyst for years to come. However, it is in need of extensive and continuous public and private management that will require sustained financial support.

HOUSING AFFORDABILITY

While there is a very real desire to maintain the existing character of Northampton, there appears to be, at the same time, a common complaint about the lack of housing opportunities. In particular, people in less dense areas are uneasy about any increase in density and any change in the character of their own neighborhoods. For those living in low-income housing projects, however, there is a clear desire to move away from their current isolated, ghettoized, and poorly maintained conditions.

Strengths

- Northampton is considered a good place to live for its small town, semi-rural character and its location within a beautiful natural setting
- People are moving to Northampton from larger communities, either to raise children or to retire
- People who already live in Northampton want to stay there, and they want their children to stay there

Weaknesses or Challenges

- The housing stock is rising in price in disproportion to people's incomes
- People often move away from Northampton to access affordable housing; the affordability gap applies to both lower-income populations—those folks who work primarily in the service sector—and to the more traditional middle class—nurses, teachers, and artists (the problem applies likewise to both rental and ownership opportunities)
- The speculative housing market, in general, and the conversion of apartments to condominiums, in particular, has created a dearth of affordable rental housing and fewer affordable home ownership opportunities (at one end are low-income housing projects, such as those in Florence and Hampshire Heights which are isolated and located with limited access to shopping, jobs, and services; at the other end are the high-cost condos located in the downtown core)
- What is missing are housing choices in the middle, specifically:
    1. Market rate affordable housing, such as smaller rental apartments. Many of the affordable apartments that do exist, such as those above retail in downtown, are occupied by University of Massachusetts students, leaving even fewer opportunities for locals.

2. Opportunities to move out of low-income housing projects, due to both the lack of housing stock and the subsidy requirements.
3. Options for first-time homebuyers from both the lower- and middle classes.

Vision of Future Housing Affordability Sustainability

Northampton can be a place with a broader definition of affordability. Instead of just creating affordable housing, affordable lifestyles can exist. This includes the efficient use of space where the existing fabric is built out and there is a focus on infill development with a range of housing types that are all ecologically friendly and energy efficient. In particular, vibrant housing nodes exist at the King Street/Pleasant Street Corridor, Florence Village Center, and Hospital Hill, which can become an eco-industrial park and sustainable development demonstration project.

What is Needed for This Vision?

- A broader definition of affordability. The goal to create affordable housing should be replaced with a goal to create affordable lifestyles. An affordable lifestyle covers access to housing, work, and services. Proximity between housing and one's job and services, and/or adequate public transportation, reduces the percentage a household's budget that is often dedicated to the automobile.
- Efficient use of space. The greater number of households in Northampton, and the desire for more housing choices, will require that the existing fabric is built out and that there is a focus on infill development. While there is negative perception of density in the community, there is also tangible evidence of its acceptance—at least the central core with the condo developments being built there.
- Range of housing types. A greater mix of housing types should be created to provide housing appropriate to a variety of households and to help create a greater range of costs. Opportunities for both rental and ownership are needed. Particular types might include:
    1. Mixed use
    2. Apartments for families, primarily with one or two bedrooms, but also three to four bedrooms
    3. Enhanced single-room occupancy (SRO) and efficiency apartments
    4. Duplexes and triplexes
    5. Accessory dwelling units, both what is allowed by right as well as separate units on single lots

6. Cluster housing and townhouse developments, with clustered parking
7. Cottage-style or courtyard housing
8. Cohousing within already built-out areas
9. Live-work, including artists studios
10. Special needs housing (e.g., seniors, disabled, homeless shelters, drug and alcohol treatment facilities)

- Ecologically friendly and energy-efficient developments and individual housing units that will reduce long-term infrastructure costs and home operating costs.

Opportunities for Housing Development Nodes

There are key areas within Northampton that provide good accessibility to jobs, services, and bikeways and can easily support the creation of additional housing. Three primary development nodes were identified during the working sessions. Additional nodes and potential options are identified on the housing overview map.

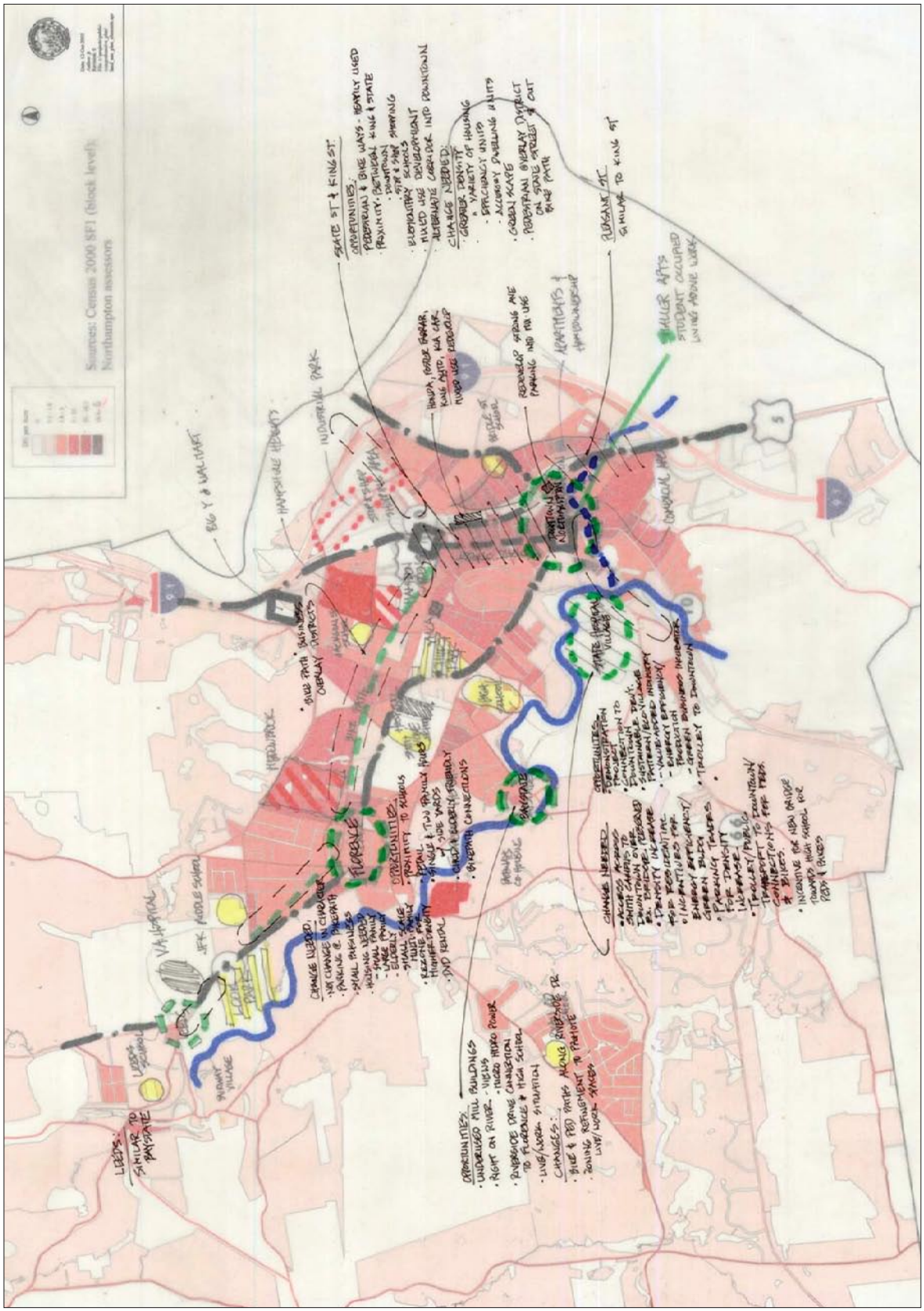
King Street/Pleasant Street Corridor

Existing Amenities

- Is proximate to downtown and more affordable retail on King Street
- State Street links to an existing bike path and is already used by pedestrians and bicyclists
- Is proximate to elementary schools
- Already contains mixed-use development
- Provides an alternate corridor into downtown

Proposed Changes

- Create mixed-use zoning from Stop & Shop south through Pleasant Street (leave area to north as is); begin by developing dead mall as mixed use
- Prohibit auto dealerships south of Stop & Shop
- Improve pedestrian and bike access along and across the corridor
- Develop State Street as a primary bike/pedestrian route into downtown
- Develop parking lots south of Main Street for housing


Sources: Census 2000 SF1 (block level)
Northampton assessors
BIG Y & WALMART
HAMPSHIRE HEIGHTS
INDUSTRIAL PARK
STATE ST & KING ST
OPPORTUNITIES:
PEDESTRIAN & BIKE WAYS - HEAVILY USED
PROXIMITY: BETWEEN KING & STATE
DOWNTOWN SHOPPING
SIX & MAIN
ECONOMICALLY SUNDER
MIXED USE DEVELOPMENT
ALTERNATE CORRIDOR INTO DOWNTOWN
CHANGE NEEDED:
GREATER DENSITY
VARIETY OF HOUSING
SPECIALTY UNITS
ACCESSORY DWELLING UNITS
GREEN SPACE
PEDESTRIAN OVERLAY DISTRICT ON STATE STREET & CUT BIKE PATH
HAMPTONS
HOUSE, PARK BARN, KING AUTO, KIA CAR-MIXED USE REDEVELOP
REDEVELOP SPRING AVE PARKING AND MIX USE
PLEASANT ST
SINGLE TO KING ST
MILLER ARTS
STUDENT OCCUPIED UNITS ABOVE WORK
BIKE PATH OVERLAY DISTRICTS
HOSPITAL
FLORENCE
OPPORTUNITIES:
PROXIMITY TO AMENITIES
SINGLE & TWO FAMILY HOMES
& SIDE YARDS
GREAT & BEAUTIFUL NEIGHBORHOOD
BEAUTIFUL CONNECTIONS
CHANGE NEEDED:
MIX CHANGE IN CHARACTER
PARKING & PEDESTRIAN
SMALL PARKLETS
HOUSING DENSITY
SMALL FAMILY
LARGE FAMILY
FAMILY SCALE
SMALL SCALE
MULTI FAMILY
RESIDENTIAL PROPERTY
HOMEOWNERSHIP
AND RENTAL
STATE HOSPITAL VILLAGE
BANDAIS DE PHONIC
BANDAIS
CHANGE NEEDED:
ACCESS AUTO
SMITH CAMPUS TO DOWNTOWN
DOWNTOWN DEV. PROPERTY INCREASE
TRANSPORTATION FOR ECONOMIC DEVELOPMENT
ENERGY BLOCK
GREEN BLOCK
PARKING FOR INCOME
TRANSPORTATION
CONNECTIONS FOR PEDS.
& BIKES.
INCENTIVE FOR NEW BRIDGE
TRAVEL HIGH SCHOOL FOR PEDS & BIKES
OPPORTUNITIES:
UNDERUSED MILL BUILDINGS
RIGHT ON RIVER
HYDRO POWER
PEDESTRIAN DRIVE CONNECTION TO FLORENCE & HIGH SCHOOL
LIVE/WORK SITUATION
CHANGES:
BIKE & PED PATHS ALONG RIVERFRONT FOR
ZONING REFINEMENT TO PROMOTE
LIVE/WORK SPACES
LEEDS:
SIMILAR TO BANDAIS
VA HOSPITAL
JFK MIDDLE SCHOOL
LOCKE SCHOOL
PARKER VILLAGE

Florence Village Center

Existing Amenities

- Has a traditional village center, with grocery market, retail, and the Great Wall
- Is proximate to schools
- Has existing bike paths toward downtown and Look Park
- Has recently renovated SRO units
- Is child and elderly friendly

Proposed Changes

- Create additional housing options within the "family housing" vein, e.g., cottage-style housing, cohousing, small-scale multifamily (two to three family homes)
- Change zoning to allow smaller lots and divide lots with 75-foot street frontage in half
- Change zoning to allow secondary dwelling unit on property
- Encourage additional retail development
- Create bike linkage to high school and extend bike linkage to Leeds
- Improve public transit options to downtown and King Street corridor

Village at Hospital Hill

There is an opportunity to transform this development into a full ecological-industrial park and sustainable development demonstration project.

Existing Amenities

- Is proximate to downtown
- Redevelopment is already planned for area, but still in design development stage

Proposed Changes

- Create an "eco-industrial park" that acts as an incubator for innovative and green businesses and industry such as value-added agricultural products, renewable energy and energy-efficiency products, green building materials and products, and a sustainability research and education center; assistance could be sought from the Massachusetts Technology Collaborative
- Develop as another village center with adequate retail

- Create a model of ecologically friendly development for the eco-industrial park, housing, and retail
- Use development as a model for Northampton and the region
- Prioritize bike and pedestrian friendly development, green infrastructure, and clustered parking
- Ensure linkages through Smith College to downtown
- Densify housing beyond the current proposal and use development trade-offs to encourage density and reduce parking requirements
- Create a range of housing types from efficiency to artist live-work to townhouses
- Ensure mixed income levels in development and housing are affordable to low-income populations
- Incorporate healthy and energy-efficient design and construction

Recommended Strategies for Housing Affordability Sustainability

Alter Zoning Amendments

Alter zoning in selected areas to allow for mixed-use, divided lots, secondary units on one lot, and cluster developments.

Promote Creative Design

Use increased density to improve the character of selected areas. The condominium developments, while doing little to provide affordable housing, provide a good example of the use of density to create a more vibrant area. Other examples include cottage-style housing developments or mixed-use developments.

Coordinate Housing with the University of Massachusetts

Encourage the University of Massachusetts to provide more housing on campus or in Amherst, which will allow the market rate affordable rental units in Northampton to become available to the local working class.

Implement Development Trade-Offs

Allow developers to build higher densities in return for improved amenities such as bikeways and green space. Allow reduced parking in return for contributions to improved public transit. Allow greater densities in receiving zones for transfer of development rights.

Improve Transportation Options and Green Infrastructure

Improved public transit, bikeways, and pedestrian access will make more areas viable for a greater range of housing options. Green infrastructure can improve livability and allow for the redirection of resources toward housing.

Look Beyond the Market

Affordable housing options won't be created without the active involvement of the city and local nonprofit developers. Existing nonprofits will need to expand and new nonprofit development organizations be created in order to address the need. In addition, the work of the existing land trust should be expanded. The Kulshan Community Land Trust (visit www.kclt.org) in Bellingham, Wash., might provide a good example and resource as they have been successful in a similarly overpriced housing market.

Capitalize on Green

With the increased attention to sustainable design, and sustainable design for affordable housing in particular, funding exists specifically for green design. For instance, the Enterprise Foundation and the Kresge Foundation both provide funding for green design and construction. Other funding sources may be more likely to provide general resources if there is a focus on green. The Massachusetts Technology Collaborative provides funding for green building projects and is working in conjunction with the Enterprise Foundation on a Green Affordable Housing Initiative. Green Homes North East, a new initiative, will be conducting community outreach and implementing pilot programs in Massachusetts. (Contact Barbra Batshalom at the Green Roundtable for more information, bb@greenroundtable.org.)

Continue the Conversation

The group that convened during the SDAT housing working sessions represents a good cross-section of people and organizations working toward creating affordable and sustainable housing in Northampton. They have the energy and the knowledge to continue to work on the issue. Create a new, or strengthen existing, ongoing working groups to strategize, share ideas, develop proposals, and enact change by enlisting the involvement of these people.

ENERGY CONSERVATION AND SOURCES

Northampton, like many communities, is at a crossroads. Is its consumption of energy in balance or imbalanced? As energy costs and availability remain both volatile and unpredictable for the immediate and long term, dependence on imported and nonrenewable sources of fuel is tenuous at best.

The October 17, 2005, cover story of *USA Today* suggested that oil production had peaked and gas and oil shortages are to become a permanent way of life. The United States leads all oil-consuming nations with nearly 21 million barrels of oil per day, while it has very few reserves. Oil well exploration and drilling have been substantially reduced over the last 25 years, and new wells being drilled are significantly deeper.

Inextricably linked to nonrenewable based fuel consumption are excessive greenhouse gas emissions, particularly carbon dioxide and methane. There is general scientific consensus that global climate change is occurring, and even slight changes can have significant effects on weather patterns, ecosystems, sea level rises, and agricultural productivity. During the summer of 2005, many regions around the country posted record-setting high temperatures, and several cities cited their warmest season ever of weather record keeping.

As the stability of our energy is clouded in uncertainty, the opportunity and necessity for Northampton to redirect its course relative to consumption vs. production patterns is vital.

Strengths

- Northampton is a sensitive, enlightened, and creative community, and its citizens have an increased awareness for, and concern about, energy and environmental issues.
- In 2001 Northampton joined the Cities for Climate Protection Campaign and has since become a member of the International Council for Local Environmental Initiatives (ICLEI), an international association of local governments and national and regional local government organizations that have made a commitment to sustainable development. This partnering is a vital first step in laying the groundwork for a more energy independent future.
- Given a comprehensive inventory of energy consumption and greenhouse emissions, it is clear the community is concerned about its energy future and has a growing commitment to explore opportunities for both energy conservation and increased energy efficiency.

Weaknesses or Challenges

- In 2000, Northampton spent more than $1.3 million on gas, heating oil, and electricity for its municipal activities, with almost $740,000 tied to building energy consumption and more than $135,000 in costs to fuel the city's vehicle fleet. It is estimated that nearly $18 million per year is spent on energy for the residential sector alone, dollars that continue to increase, leave the community, and weaken the community's economic base.
- Electricity is shown to be the major generator of greenhouse gas emissions (more than 50 percent), and accounts for nearly two-thirds of the municipal energy costs. At a community scale, commercial, industrial, municipal, and nonprofit groups generate nearly 46 percent of Northampton's greenhouse gas emissions; followed by residential at nearly 28 percent, and transportation at more than 26 percent.
- At the same time there remains little structured support or clear guidelines or principles for sustainable growth and development. As the community continues to grow, a succinct vision and structure to review energy demands, energy consumption patterns, and energy savings opportunities would assist the city and its development along a path toward a wiser and more sustainable model.

Vision of Future Energy Conservation and Sources Sustainability

Northampton has clearly established a solid foundation for gaining an understanding of its energy consumption patterns and has begun to investigate ways to become less dependent upon nonrenewable fuel sources. The full implementation of a vision is, in fact, to be dramatically less dependent on nonrenewable fuel sources and to notably reduce greenhouse gas emissions at the same time. Its overall regional weather and climatological patterns offer substantial individual and community based energy opportunities with few obstacles. The city has begun an exploration from which to initiate a leadership role through both "talking the talk" and "walking the walk" when it comes to sustainable energy practices. Several goals for energy and sustainability would suggest that Northampton:

- Lead by showcasing its best practices of energy consumption and wise energy use within its municipal inventory
- Promote conservation both locally and regionally
- Collaborate with its neighbors from the region

- Make the transition from a petroleum-based energy economy toward a renewable base, striving for an achievable goal of at least 3 percent conversion per year which would result in a carbon neutral energy base within two generations of its seven generation outlook
- Optimize energy opportunities with its community of citizens and developers, and within the business sector
- Generate energy opportunities to develop new eco-enterprises and augment the existing base for the artistic community
- Live to give; share the energy savings and celebrate the energy successes.

Recommended Strategies for Energy Conservation and Sources Sustainability

In order for Northampton to become more energy independent, improve its quality of life, raise public awareness, reduce atmospheric emissions which contribute to global warming, and become a model citizen of energy use for the region and state, a strategic plan can be organized into four fundamental and important categories. These categories include the need to educate the city administration and staff, along with the community; conserve energy where possible and practical; explore alternative sources of fuel and energy; and demonstrate the viability of energy and sustainability.

Promote Educational Opportunities

Knowledge is fundamental to the success of any initiative, and it is a valuable resource for the community. Education will assist in raising the bar of energy opportunities. To achieve this strategy, it is suggested that Northampton:

- Reconstitute NERC. The Northampton Energy Resource Commission (NERC) was initiated in the 1990s. Its purpose was to recommend energy policy and provide simple, realistic, and verifiable energy guidelines to optimize energy usage. NERC could once again become a catalyst for, and basis of, all of Northampton's sustainable energy efforts.
- Grow green. Following the reconstitution of NERC, and concurrent with it, Northampton should appoint an energy officer. Once established, this position could grow into the creation of a director of sustainable practices, which could ultimately develop into an Office of Sustainability. Money saved through the efforts of NERC could fuel this green growing opportunity, and the Office of Sustainability would become a clearinghouse of information dissemination and educational programs for both the public and professional communities.

- Offer energy programs. Provide and support monthly workshops, lectures, tours, artists' exhibitions, and other various energy offerings which would assist in educating the community. Perhaps begin with a seasonal energy effort, tailored to spring, summer, fall, and winter events appropriate to the region.
- Implement "Energy 101." The children of today are the leaders of tomorrow. Instilling to the public school system the morals and ethics of sustainable energy practices will assist in making tomorrow's energy policies and decision-making more straightforward, responsible, and appropriate.
- Collaborate with Smith College and Smith Voc. Two existing educational entities that offer tremendous potential for assisting with learning opportunities are Smith Vocational High School and Smith College. Students, programs, and learning events could be shared.

Focus on Conservation

The savings of energy by reducing demand is clearly a first line of defense in exploring a sustainable energy strategy, making energy conservation Northampton's most valuable resource. It is suggested Northampton should:

- Develop HAMPseg. This guidebook, the *Northampton Sustainable Energy Guide* (HAMPseg) would be used as a sourcebook for all new and major renovation work throughout the city. It would contain information on, and strategies for, a variety of design and building efforts, including but not limited to conservation potential, embodied energy, site planning and design strategies, transportation alternatives, green building products and materials, water and waste strategies, indoor environmental quality, energy efficient mechanical and lighting systems, and alternative power production.
- Emphasize restoration and preservation. An important sustainable conservation effort, while often underappreciated, is to reuse the existing building stock. Restoring and renovating existing buildings while incorporating up-to-date energy standards helps to achieve this goal.
- Offer energy audits. Commercial and residential buildings provide a valuable arena for saving energy and the city could provide a service to the community by making energy audits available to both homeowners and business owners.
- Provide energy incentives. As audits are offered and conducted, financial incentives, in the way of low interest loans, tax credits, or rebates or other possibilities, should be created to reward various conservation efforts.

- Inventory municipal energy flows. As part of the present and ongoing audit efforts by Northampton's Central Services, regular, routine, and organized inventory efforts to profile energy consumption patterns of municipal energy use should become an institutionalized agenda. Trends and patterns should be identified and evaluated to make users aware of consumption and to provide attractive alternatives where excessive consumption is identified.
- Implement conservation opportunities. At the municipal level, all viable conservation measures should be incorporated and adopted as a demonstration of Northampton's commitment to energy conservation and sustainable energy practices.

Explore Renewable Energy Strategies

Following all realistic conservation opportunities, several areas of renewable energy strategies, at several scales, could be explored, evaluated, and used. It is suggested Northampton should:

- Use methane. The Landfill Gas Utilization Project offers a unique and beneficial alternative energy opportunity. Given current reports, it is estimated there is enough landfill gas to operate an 800kW internal combustion engine. In addition to this alternative fuel resource, the Northampton Landfill could become an energy park, investigating a variety of renewable energy opportunities such as bioreactors and greenhouse/food producing stations. Should the landfill exhaust its methane capacity in the future, the energy park could become a renewing entity. Something to be immediately implemented at the landfill, which could result in immediate savings, is to add "No Idling" to the "No Smoking" sign, resulting in a reduction of greenhouse gas emissions while simultaneously saving energy.

- Consider LRRT. A major source of greenhouse gases and energy consumption is our reliance on the automobile. It is estimated that at least one-half of all energy consumed is related to automobile usage. Consideration of a regionally based light rail rapid transit (LRRT) could alleviate major transportation impediments, not the least of which is excessive energy use.
- Convert to biodiesel. All municipal transportation fleets should be converted to a more efficient vehicle line and to alternative fuel vehicles, particularly biodiesel, which is a locally available renewable resource.
- Use local biofuels. Wood is an available and abundant local resource. If properly managed, it can become a valuable back up to other alternatives. Several biofuel stations are already under way within the region.
- Implement GO SUN strategies. Solar energy is abundant and democratic. The region has good sunshine availability for a variety of potential solar applications. When and where possible, solar energy should be harvested at all levels. A substantial investment in solar use could result in an overall energy reduction of petroleum based fuels exceeding 50 percent. Given a large amount of electrical power consumption by the city, all municipal buildings should incorporate photovoltaic (PV) for power generation to some degree. PV should also be included for such things as street lighting, bike path lighting, and bus shelter locations, as it is already used in part for downtown parking meters (although some collector tilts remain suspect). New and existing buildings, especially school and commercial buildings, should be designed to use day lighting strategies. Residential buildings, both single and multifamily, should incorporate passive solar strategies for space heating. Passive solar energy, which incorporates collection, storage, distribution, and control of the sun's energy as part of the building design and layout, is a very cost-effective and sustainable energy measure. Solar water heating, both active and passive, is another way to use the sun for renewable energy potential.
- Explore other renewables. While wind energy and hydropower show some promise for the region, insufficient data were available to adequately suggest these alternatives for implementation. However, continued investigation into these renewable sources of power as viable alternatives should be undertaken. In addition, other interesting local renewables should also be investigated, such as the "grease car" initiative and generating power from food waste. These are unique and appropriate options in support of the local energy economy.

- Consider water and waste alternatives. Both traditional waste treatment facilities and water conservation warrant consideration from an energy and sustainability perspective. Fresh water continues to diminish as a natural resource and is fast becoming our next energy crisis. Exploration should be undertaken to investigate community scale bioretention and bioremediation, as well as how water use and re-use can be optimized.
- Investigate local agri-economy. As food costs continue to increase, particularly due to rising fuel costs and transportation requirements, Northampton could explore a more sustainably based agri-economy, where the fertile farmland in the area could be re-energized, resulting in less imported food and more local harvesting of regional food crops.
- Maintain energy diversification. Above all, maintain a diversified energy portfolio. Explore and invest in several alternative, renewable, and non petroleum based energy strategies. Use both individual (building based) and collective (community based) renewable energy options.

Demonstrate Best Practices

The fourth area of Energy and Sustainability focuses on illustrating and validating the value of successful experiments and showcasing to the community how best practices are possible. In this category it is suggested Northampton:

- Emphasize energy alternatives. Hospital Hill is identified as the single most significant development for Northampton, perhaps for the next 15 to 25 years. Hospital Hill should incorporate conservation and alternative energy strategies, and should showcase the viability of energy and sustainability. In addition to implementing various green design strategies, it should optimize solar energy for power, lighting, and heating; consider co-generation (the combined output of both heat and electricity) and implement "eco-enterprises" (the manufacturing and selling of green products and materials), as a means of commercial opportunities, adding to the economy of the area. Hospital Hill should be designed to evolve, leaving open the option for new sustainable products and approaches to be implemented as they develop.
- Incorporate sustainable options. Another important city project includes the Northampton Senior Center. This project should be LEED certified and recognize the "senior value," exploring ways in which the elderly lifestyle could be enhanced, and in which the senior citizens could participate in energy-conserving efforts as a public demonstration of achieved results.

- Partner with neighbors. Both Smith College, with its co-generation, conservation, and sustainable design efforts, and Pioneer Valley, with its renewable energy project efforts, offer opportunities which, when worked on collectively, can share resources and complement successes. Collaborative efforts can magnify the results.
- Use HAMPseg. The *Northampton Sustainable Energy Guide* should be a mandatory document for use with all new and major renovation projects. This requirement would move development efforts from the ordinary (good) to the extraordinary (exemplary).
- Tap the MTC. The Massachusetts Technology Collaborative can and should continue to be sought out as a financial resource for seed grants and funding for demonstration efforts.
- Demonstrate the opportunities, allowing Northampton to educate itself and the community. Through demonstration and education, Northampton can celebrate its sustainable achievements.

MOVING FORWARD

This SDAT process is a beginning step, not a completion. Use these suggestions and recommendations for your analysis, review, and comprehensive planning. This report has outlined an extensive road map for the future of Northampton, designed to enable its citizens to build greater diversity and opportunity into the economy while continuing to improve environmental and social conditions. Although no one can predict the future, the goal in outlining this road map is to try, to the extent possible, to suggest the directions that will provide for the community's long-term sustainability and vitality, rather than offer "quick-fix" solutions for tomorrow.

Creating and implementing a long-term vision for a community is difficult and requires the on-going commitment from the local government, the business and civic leadership, and the community as a whole. Four themes are suggested to help focus that commitment as Northampton moves forward in the years to come.

- Continue the public discussion. A sustainable comprehensive plan for Northampton will be most readily accepted and implemented successfully only if all citizens have continued dialogue and access to its formation and development.
- Be accurate. Many perceived "facts" were put forward by people during the SDAT visit that sounded reasonable on the surface, but could not be readily verified. Therefore, be sure to verify all information and sources that are portrayed as factual so that truly sustainable decision-making can take place.
- Be visionary. All participants should look beyond "what is" and realize that just because it is that way now doesn't mean it has to stay that way. Use the Vision portions of this report to embrace and imagine what could be.
- Be sustainable. Remember the way to leave a legacy for our grandchildren and their grandchildren is to acknowledge the interconnections between the environment, the economy, and social equity. A plan is truly sustainable only if it appropriately addresses all three.

Both the entire SDAT and the AIA Center for Communities by Design look forward to following up with the people of Northampton to see the realization of a sustainable comprehensive plan and its steady implementation.

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