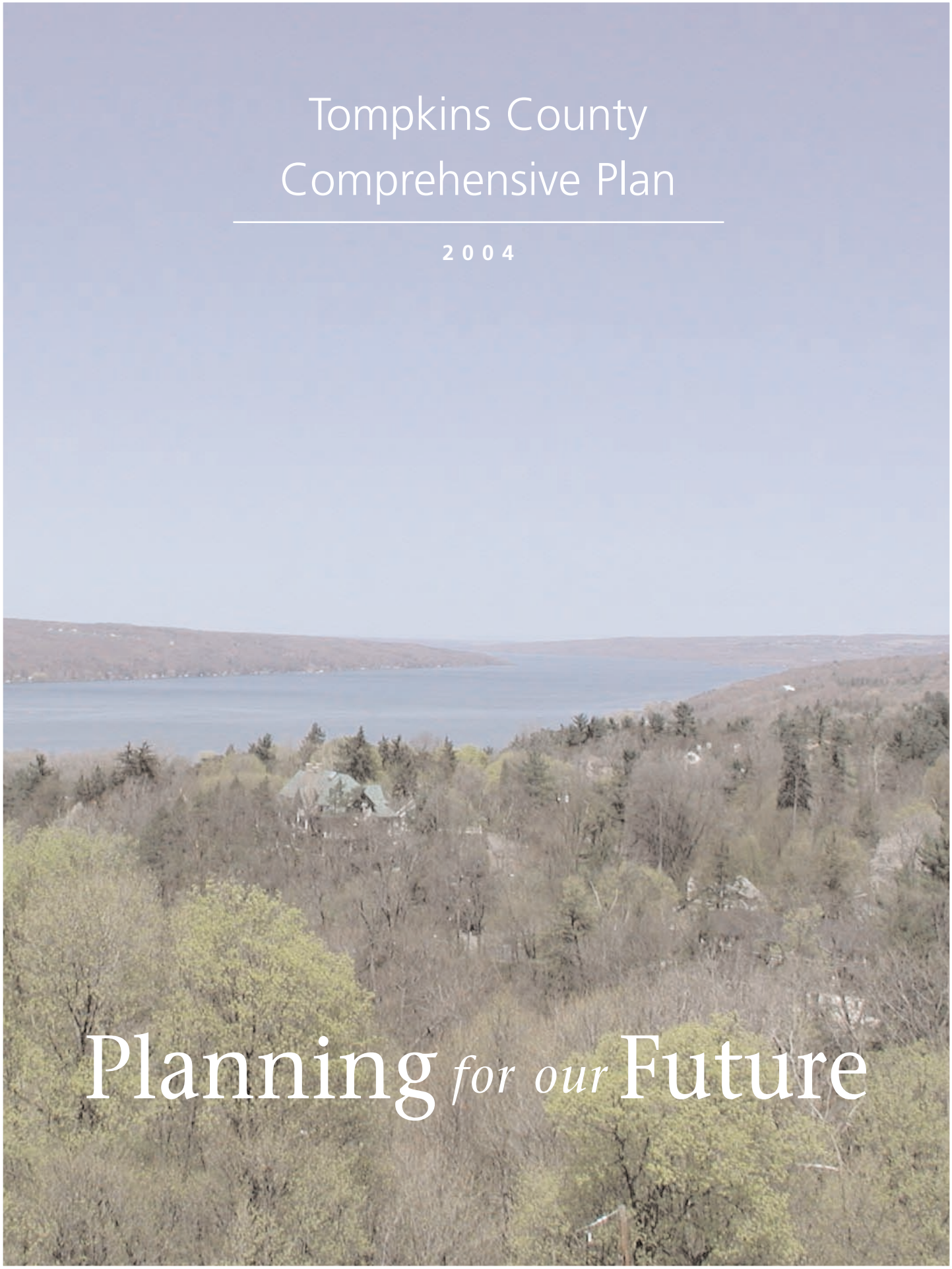
Tompkins County Comprehensive Plan

2004



Planning *for our* Future

Tompkins County Comprehensive Plan
Planning for Our Future

Adopted December 21, 2004 by the
Tompkins County Legislature
Ithaca, New York

Tim J. Joseph, *Chair*
Michael E. Lane, *Vice Chair*

Barbara Blanchard
Richard S. Booth
Dooley Kiefer
Michael Koplinka-Loehr
Katherine Luz Herrera
Leslyn McBean-Clairborne
Peter Penniman
Frank P. Proto
Martha Robertson
Nancy B. Schuler
Thomas L. Todd
George L. Totman
Daniel M. Winch

County Administrator
Stephen Whicher

Prepared by the
Tompkins County Planning Department

Edward C. Marx, AICP, *Commissioner of Planning*
Katherine Borgella, *Principal Planner*
Crystal Buck, *Planner*
Dariele Drake, *Principal Account Clerk/Typist*
Heather Filiberto, *Senior Planner*
Kate Hackett, *Senior Planner*
Sharon Heller, *Geographic Information System Analyst*
Joan Jurkowich, AICP, *Deputy Commissioner of Planning*
Tom Mank, *Planning Analyst*
Kathy Wilsea, *Secretary*
Carrie Havey, *Intern*
Margaret Klepack, *Intern*

The Tompkins County Comprehensive Plan was prepared with the on-going support and guidance of the Tompkins County Planning Advisory Board. Members of the Board who served while the Plan was being prepared were:

Becky Bilderback, *Housing*
Dick Coogan, *Local Planning (non-urban)*
Fernando de Aragón, *Transportation*
Herb Engman, *Natural Environment*
Betty Falcão, *Human Services*
Tom Gerow, *At-Large*
John Gutenberger, *Education*
Carl Haynes, *Education*
Dave Herrick, *Infrastructure/Utilities*
Linda Hirvonen, *At-Large*
Dooley Kiefer, *County Legislature Planning Committee*
Dan Krall, *Built Environment*
Sarah Newman, *Local Planning (non-urban)*
Gay Nicholson, *At-Large*
Don Rakow, *Land Preservation/Public Land Management*
Monika Roth, *Agriculture*
Bruno Schickel, *Business*
Michael Stamm, *Economic Development*
Scott Whitham, *Cultural/Historic Preservation*
Fred T. Wilcox, *Local Planning (urban)*
Andy Zepp, *Land Preservation/Public Land Management*

Foreword

The Tompkins County Comprehensive Plan contains Principles, Policies and Actions that can help lead our community to a bright future. The Plan is based on the overarching principle that we must work together, between different levels of government and among public and private sectors, if we are to be successful as a community. Working together within the framework of this plan, we can envision the Tompkins County of twenty years from now as a place where:

- An improved housing supply serves a modest increase in population. A greater diversity and variety of housing options helps meet the needs of a changing population and the increase in supply, along with efforts to serve the needs of special target populations, helps support greater affordability.
- Traffic congestion is mitigated by locating new housing closer to jobs and services. An enhanced public transit system, as well as pedestrian paths and bikeways, link population nodes and employment centers, making at least one viable alternative to the private automobile convenient to a majority of commuters. Transportation infrastructure and service improvements to our arterial road network and air service strengthen Tompkins County's economic links to the region, the nation, and the world.
- The local economy remains strong with increased opportunity for all. Community economic development partners provide support for entrepreneurs, particularly in emerging sectors of the economy, and provide education and training to allow all residents to find meaningful employment at a fair wage. Our institutions of higher education remain preeminent and underpin our economic and community vitality. Tompkins County continues to emerge as a regional cultural center, and tourism flourishes as Ithaca and Tompkins County become recognized as the most exciting gateway to the Finger Lakes region.
- Rural communities are thriving, in large part due to sustainable use of agricultural and forest resources. There is increased diversity in the agriculture sector, often serving local and regional markets, and an emerging clean energy component based on renewable resources. Forest lands are conserved and managed to provide multiple benefits to water resources, sustainable yields of forest products, wildlife habitat, and reduction of greenhouse gases.
- A clean Cayuga Lake is the centerpiece of the community, and is fed by clear-flowing, green-belted streams. Public access to the lake is enhanced with new and improved parks, and a vibrant urban waterfront has developed in the City of Ithaca. Plentiful clean surface and ground water provides for domestic, commercial, industrial, and recreational uses.

Water is recognized as an important community asset in a world where an abundant supply of clean water is an increasingly scarce commodity.

- The landscape of the county looks much the same as it is today but public access to our natural wonders has been improved. Protected forests and natural areas increase from 13 percent to about 20 percent of the land, and about one-third of the county is active farmland. Within this landscape, outstanding natural features, including gorges, stream corridors, lakeshores, forested hillsides, wetlands, and wildlife habitats are protected, defining the natural character of the community, maintaining its scenic beauty, and sustaining its biological diversity.
- Livable neighborhoods, vibrant commercial districts, and thriving employment centers have become more integrated and are increasingly linked by pedestrian paths and bikeways, supporting a more convenient, healthy, and less stressful way of life. A trail system links all four of the county's state parks. A more physically active and socially healthy community has developed. Efforts to accommodate growth in existing communities have allowed historic elements of the built environment to be used in ways that maintain their integrity and functionality.
- Growth in population is concentrated around existing population centers in accordance with local comprehensive plans. Most new development is built at increased density and designed to include attractive buildings, landscaping, and streetscapes that promote neighborly interaction and greatly enhance the quality of life. In accordance with local community plans, "new villages" are developing in places like South Lansing, Danby, and Jacksonville to complement modest growth in and around existing villages, hamlets, and the City of Ithaca.
- Finally, improved regional planning and increased intermunicipal cooperation results in greater fiscal efficiency. Combined with a strong local economy, this reduces and stabilizes the impact of the cost of public services on local homeowners, small businesses and major employers. Local residents view county, town, city, and village governments as a system that provides services in the most efficient manner possible while enhancing participatory democracy at the local government and neighborhood level.

It is within our reach to become this place, a place that reflects our community's values, builds on our many assets, and improves the quality of life for all our people. The Tompkins County Comprehensive Plan can serve as a guiding document to help define the steps we need to take to reach this future, monitor progress as we go, and provide a framework within which to adjust strategies along the way.

Edward C. Marx, AICP
Commissioner of Planning
December 2004

Tompkins County Comprehensive Plan

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Acknowledgements

Many agencies and individuals provided information for and guidance in the preparation of this plan.

First and foremost, we thank the members of the community who came and shared their thoughts and ideas on the future of Tompkins County. Without their advice, suggestions, and comments, we would not have been able to prepare this document.

While many individuals and agencies contributed time and expertise to this Comprehensive Plan, we'd like to specifically thank:

Fernando de Aragón, Victor Jorrin, and Teresa Linde, of the Ithaca-Tompkins County Transportation Council, for their help in coordinating the preparation of the Comprehensive Plan with the Long-Range Transportation Plan.

Martha Armstrong and Michael Stamm, of Tompkins County Area Development, for their help in coordinating the preparation of the Comprehensive Plan with the Economic Development Strategy.

Wendy Skinner, Tompkins County Public Information Officer, for her invaluable help in organizing and editing the text of the plan. Terry Marcus, of Terry Marcus Design, for the creative design and layout of the document. Together, Wendy and Terry are largely responsible for creating an interesting and easy-to-read document for the community. Individuals who graciously granted permission to use the photos throughout the Plan.

Introduction

The Value of a Comprehensive Plan

When we think of places we have visited or lived, some stand out as models of natural beauty and human comfort, supported by thriving local economies. The most satisfying places to live, work, and raise families are communities that meet the needs of commerce and individual expression while protecting and conserving the natural environment and non-renewable resources.

"Ideal" communities do not grow by accident or without public debate and agreed-upon guidelines. Collaborative planning processes and comprehensive plans are the building blocks of such great communities.

Planning helps maintain and promote livable, vital communities. Local municipalities play a key role by developing and implementing comprehensive plans that reflect their own goals. The County Comprehensive Plan provides an opportunity to coordinate these efforts and create a shared community vision.

The content of the Plan was developed from issues citizens identified as critical. It describes existing conditions, identifies strengths and weaknesses, and outlines strategies that can inform decision-makers at all levels of government, as well as individuals, businesses, educational institutions, and not-for-profit organizations as they plan for the future of Tompkins County.

Regional Cooperation

A key theme in this Comprehensive Plan is the interrelationship among the various aspects of our daily lives: housing, transportation, jobs, the environment, and neighborhoods and communities. These interrelationships often extend well beyond county lines and are regional in nature. Tompkins County is part of a broader geographic area and economic market that influences everything from where we choose to shop and live to what areas we visit to hike and swim. An over-arching principle of the Plan is that Tompkins County will work proactively with towns, villages, the City of Ithaca, adjoining counties, and state and federal agencies to cooperatively address regional issues, such as natural resources, public infrastructure, and consumer, employment, and housing markets.

The Plan outlines ways the community can address regional and intermunicipal issues that may or may not be included in local planning efforts. Often, local municipalities have a full workload simply addressing the important day-to-day issues of local concern. Regional planning can help municipal governments address key issues of concern, such as sprawl, economic development, housing affordability, and environmental protection. It can also help residents of rural and urban areas to recognize their inter-connectedness and issues of mutual interest.

New York State clearly places land use authority in the hands of its towns, villages, and cities. The State also specifically recognizes that intermunicipal planning is needed to cooperatively address regional issues. To this end, the State encourages the development of county comprehensive plans to address development and preservation issues that transcend local political boundaries.

Listening to Community Voices

The Tompkins County Charter calls for the preparation of a comprehensive plan for the development of the County. The groundwork for the Comprehensive Plan started in 2001 with the County Planning Department's Vital Communities Initiative, a two-year effort to fully involve the community in defining a broad vision of how, where, and what kind of development should occur in the future. The impetus for the Initiative came from concerns expressed by local organizations, national awareness of the need to combat sprawl and improve communities, and recognition of the need to improve the quality of life for the county's citizens.

The intent of the Vital Communities Initiative was to recognize the diversity of communities, lifestyles,

and interests in our county and beyond, and to provide citizens and community leaders with a planning process to articulate their vision for the future. Through participatory workshops and public presentations, a set of interim development and preservation principles was developed. These interim principles were adopted by the County Legislature in 2002.

The next step was to develop the purpose statement and determine the content of the Comprehensive Plan. In the winter of 2002-2003, Planning Department staff gave presentations and gathered input at five meetings for the general public and ten for community groups. Over 45 potential plan elements were identified. Rating criteria were then used by the Planning Advisory Board to set priorities among the issues to determine which to include in the Comprehensive Plan. Issues ranked highly if they were important to large numbers of county residents, impacted wide geographic areas of the county, and could be addressed in meaningful ways through a countywide approach. In addition, the Plan is intended to primarily address the physical development of the county, rather than all facets of life in Tompkins County. Several noteworthy issues were not included for study in the Plan, due in part, to time and staff constraints. Such issues include energy, air quality, local school districts, historic and archeological resources, scenic resources, outdoor recreation, public safety, and health and human services. In the summer and fall of 2003, staff reviewed existing documents and researched and analyzed the various issues included in the Plan. With input and assistance from the community representatives on the Planning Advisory Board, the Plan was drafted in early 2004.

> The Plan seeks to build on and coordinate a variety of existing plans.

In April 2004, the Draft Comprehensive Plan was printed, distributed, and posted on the County Planning Department's website in order to elicit public comment and feedback. Staff presented the key components and findings of the Plan at 17 community group and advisory board meetings, and 14 open houses and public meetings in all municipalities in the county. Informational displays were set-up at 19 locations, including libraries, banks, senior centers, and community halls. All comments were gathered and reviewed (see Appendix: Summary of Public Outreach and Public Comments Received), and key action items identified for inclusion in the final Plan.

During the summer and fall of 2004, staff revised the text, tables, and maps in the Plan based on public comment; developed future development scenarios to evaluate the impact of implementing the Plan; worked with professional consultants to prepare a fiscal impact analysis of the recommendations in the Plan; and created an implementation strategy for the key action items.

Coordinating with Other Efforts

Development of the Comprehensive Plan included review of more than 70 existing plans of local municipalities, adjoining counties, and State agencies, as well as meetings with representatives of relevant governments and public agencies to discuss regional planning issues. The County's Plan seeks to build on and coordinate recommendations from a variety of functional plans developed on the county and regional level to address economic, transportation, and natural resources issues. Two plans in particular, the Tompkins County Economic Development Strategy and the Ithaca-Tompkins County Transportation Council Long Range Transportation Plan, were being updated while this Plan was being drafted and whenever appropriate, the goals and actions identified in those plans were incorporated into this Comprehensive Plan. Among the other plans reviewed are the following:

- Tompkins County Agriculture and Farmland Protection Plan
- Better Housing for Tompkins County Strategic Plan
- Cayuga Lake Waterfront Plan
- Cayuga Lake Watershed Restoration and Protection Plan
- Tompkins County Agricultural Lands and Natural Areas Preservation Feasibility Study
- Building Greenways for Tompkins County

In addition to reviewing plans, Planning Department staff met with adjoining county planning directors and regional planners from the New York State Office of Parks, Recreation and Historic Preservation and the New York State Department of Environmental Conservation to discuss issues of mutual interest. The major issues raised were commuter transportation, development pressure in areas just beyond Tompkins County's borders, farmland protection, tourism development, and management of public park and recreation areas.

PRINCIPLES OF THE COMPREHENSIVE PLAN

The Comprehensive Plan is organized around ten basic interlocking principles. The principles incorporate elements of the Vital Communities Initiative, adhere to the values expressed in Tompkins County's mission and vision statements, and reflect the wisdom gathered from many community opinions.

Corresponding to these principles are various policies and action items. Policies are the long-term goals of the Plan and provide a framework to guide future decision-making. Action items are specific short-term activities to be undertaken to implement the policies. Policies and action items are shown in each section of the Plan.

The principles, which fall under four broad headings, are shown here:

REGIONAL COOPERATION

- Tompkins County will work proactively with towns, villages, the City of Ithaca, adjoining counties, and state and federal agencies to cooperatively address regional issues, such as natural resources, public infrastructure, and consumer, employment, and housing markets.

HOUSING, TRANSPORTATION, AND JOBS

- Housing in Tompkins County should be affordable and appealing to all residents, regardless of their income or whether they rent or own their homes.
- The efficiency of the highway system should be enhanced and use of public transit, walking, and bicycling should be increased.
- The local economy should be enhanced by building on important community assets, such as a highly educated workforce, an entrepreneurial spirit, dynamic academic institutions, and a high quality of life.
- A diversified rural economy centered around the working rural landscapes of farms and forests, and the livelihoods of those who depend upon them, should be preserved and enhanced.

THE ENVIRONMENT

- Water resources provide drinking water, recreational opportunities, and environmental benefits, and should be protected and used appropriately.
- Natural features that define our community, and form the foundation of our local and regional ecological systems, should be preserved and enhanced.

NEIGHBORHOODS AND COMMUNITIES

- Tompkins County residents should be safe, healthy, and comfortable with the aesthetics of their communities, and have daily opportunities to interact with neighbors and community members to build strong, cohesive communities.
- The development patterns reflected in the existing villages, hamlets, and the City of Ithaca's downtown area and neighborhoods should be promoted as key components of the built environment that greatly contribute to the vitality of the local economy and community life.
- The effectiveness of taxpayer dollars should be maximized by investing government funds in public infrastructure and facilities in the most efficient manner possible.

Tompkins County Overview

Located in the Finger Lakes Region of Upstate New York, Tompkins County contains an uncommon mixture of spectacular natural features, a vibrant urban center, internationally renowned academic institutions, and a productive and attractive working landscape. With its mixture of urban, suburban, and rural landscapes, Tompkins County offers a diverse living environment.

History of Settlement

While detailed records of our history began with the first settlers to arrive in the wake of the American Revolution, the generations of previous residents stretch back to the Stone Age. Archeological evidence suggests the first humans to set foot in Upstate New York were nomadic hunters who, thousands of years ago, roamed the forests in search of game.

More recently, this area was home to the Cayuga Indians, one of the five – and later six – tribes that made up the Iroquois Confederation. The Cayugas used the land lightly, placing semi-permanent settlements near the sources of fresh water, cultivating produce and orchards. In 1779 General George Washington, concerned that the Iroquois nations would ally with the British, sent troops to drive the Indians west and out of the conflict raging between the colonies and Britain. Two of Washington's generals took their forces down either side of Cayuga Lake and systematically destroyed the Native American villages. The devastation was complete, and in 1789, the Cayugas surrendered their land.[1]

Following the Revolutionary War, Simeon DeWitt, the State Surveyor General and later founder of Ithaca, placed the northern portion of what became Tompkins County in the "New Military Tract," lands to be given to veterans in payment for their military service. The southern portion of what became Tompkins County was owned by a private land development company.

Settlement began around 1792. Some new arrivals were squatters willing to take a chance on finding land; others came seeking their military allotments. Following the first settlers came ministers, lawyers, and merchants. By 1810, the village of Ithaca had a few houses, a sprinkling of stores and taverns, and several mills powered by the fast-moving streams. With the opening of the Ithaca-Owego Turnpike, Ithaca became a trans-shipment point for goods flowing south.

Tompkins County was officially formed by New York State in 1817 and named for Daniel D. Tompkins, a former New York governor and at that time vice president of the United States.

Early settlers were predominantly American-born farmers seeking new land. Some from the East and South brought slaves with them, although their numbers were small. Slavery was abolished in New York State in 1827. Many, but not all, of the people of the county supported emancipation and some helped fugitive slaves make their way to freedom.

The opening of the Erie and Seneca Canals in the early nineteenth century kept local goods flowing to the eastern markets. Railroad development linked Tompkins County with even more destinations beginning in 1832 with the Ithaca-Owego Railroad. By 1870, the County was served by four railroads.

The establishment of Cornell University in 1865 brought stability to the county's economy. The university attracted students, faculty, and many new residents to the county. Ithaca College opened in several downtown Ithaca buildings in 1892. The village of Ithaca had a steady increase in population while most of the towns in the County reached a peak population around 1850 and then dipped to half that level in the early years of the twentieth century. Population in Tompkins County rose gradually over the course of the nineteenth century and into the mid-twentieth.

From a collection of farms and mills, Tompkins County grew into an area of pleasant towns and villages connected by roads and turnpikes, ferries, and railroads. In 1900, with a population of just 33,830, the County entered the age of the automobile, electrification, industrialization, and world wars. For a decade, beginning in 1914, movies were made in Ithaca. Significant industries established in the next few decades included the Ithaca Gun Company, the Thomas-Morse airplane company, and the Groton Iron Bridge Company. By 1960, the population had doubled to 66,164, and the local economy was booming.[2]

TOMPKINS COUNTY POPULATION CHARACTERISTICS

	All residents	Excluding college students
	96,501	69,295
Sex		
Male	47,667 (49%)	not available
Female	48,834 (51%)	not available
Age		
Under 21	32,036 (33%)	19,975 (29%)
21 – 64	55,208 (57%)	40,140 (58%)
65 or older	9,257 (10%)	9,180 (13%)
Race (one race)		
White	82,507 (85%)	62,495 (90%)
Asian	6,943 (7%)	2,385 (3%)
Black	3,508 (4%)	2,305 (3%)
American Indian/Alaska Native	275 (<1%)	150 (<1%)
Hawaiian/Other Pacific Islander	36 (<1%)	20 (<1%)
Other	1052 (1%)	525 (1%)
Two or More Races	2,180 (2%)	1,420 (2%)
Hispanic/Latino (of any race)	2,968 (3%)	1,395 (2%)

Source: U.S. Census 2000

[1] Jane Marsh Dieckmann, *A Short History of Tompkins County*
[2] Highlights, Tompkins County Comprehensive Plan, 1975

From 1960 to today, the population of Tompkins County grew from 66,164 residents to 96,501 residents and the local economy began to move away from traditional manufacturing and industry to focus on education, high-tech, and service sectors.

Our Demographic Profile

County population growth in the twentieth century continued slowly, although Cornell University increased in size yearly, from 1885 on. In 1910 the county had 33,647 residents. Increases were slight through 1940 when the total population was 42,340. In the next ten years, however, the overall population jumped by more than 16,000 residents to 59,122, with the major gain occurring in Ithaca, reflecting the growth of Cornell University following World War II. An additional jump by 10,000 residents between 1960 and 1970 brought the county population to 77,064. That decade's figures reveal a shift in living patterns with a major increase in the Town of Ithaca, especially in the northeast portion and in the areas adjacent to Cornell.

According to the most recent U.S. Census, conducted in 2000, 96,501 people were living in Tompkins County. Approximately one in three residents were under 21 years of age. On the other end of the scale, one in ten residents were at least 65 years old. About half the adults had at least a bachelor's degree. The census also showed that residents of Tompkins County move their households frequently. In 2000, less than half of residents lived in the same house they inhabited in 1995. This reflects, in part, the nature of a university community as well as national trends. Population projections for Tompkins County indicate a very gradual

The Quintessential College Town

Tompkins County is home to three institutions of higher education: Cornell University, Ithaca College, and Tompkins Cortland Community College. Total enrollment at all three colleges is nearly 30,000 students. Students account for 28 percent of the county's total population and 58 percent of the City of Ithaca's total population.

The colleges are a major economic sector in Tompkins County. Employment at the three campuses represents approximately 32 percent of all jobs, including part-time jobs, in the county and roughly 41 percent of total payroll. The colleges play a particularly important role in maintaining our economy during hard times. During the 1980s, when much of the U.S. and virtually all of Upstate New York were struggling through a recession, Tompkins County was somewhat cushioned from these forces due to the continued employment and construction activities at all three campuses.

The presence of the educational institutions also provides challenges to the community. For example, Tompkins County has more untaxed property value than most other Upstate counties with the colleges accounting for a large portion of this. Also, much of the student population for each of the three colleges is housed off-campus, greatly influencing the private housing market throughout the county, particularly in the City and Town of Ithaca.

The colleges also provide many wonderful opportunities and benefits to the community. The rhythm and character of the county are highly influenced by their presence. Community festivals and activities are often scheduled around major campus events and breaks. Over half of the racial diversity in the county can be attributed to the student population. Students and faculty account for much of the community's diversity and influence the presence of cultural amenities. For a small county in rural Upstate New York, Tompkins is fortunate to have several art museums and galleries, multiple live theater companies, a variety of movie theaters, and a mix of high-quality restaurants.

CORNELL UNIVERSITY CRP GIS WORKSHOP FALL 2003

increase in population over the next thirty years. These projections take into account birth rates, mortality rates, in-migration, and out-migration and assume that current trends will continue into the future. While the total population is expected to increase to only 102,121 by 2030, the proportion by age will change more dramatically. The under-21 population is expected to increase from 33 percent (current) to 38 percent. The population 65 and older is expected to increase to one in every eight persons.

> A decline in the core labor force over the next 30 years will impact employment and economic development.

Correspondingly, the population between ages 21 and 64 is projected to decline to less than half of all residents. Because this group represents the portion of our population that forms the core of our labor force, this anticipated decline will impact employment and economic development in the future. If these trends continue, the impacts may include:

- A decrease in the number of jobs created;
- An increase in commuters from surrounding counties, or more "distance" jobs, where employees will telecommute from other communities;
- More in-migration to the county in response to increasing economic opportunities, with a resulting increase in population beyond that in the projection; and
- More employment of older and younger workers.

Geology and Natural Surroundings

Tompkins County is made up of approximately 305,000 acres of land. The southern area is dominated by rugged hills with the highest, Connecticut Hill, reaching over 2,000 feet. The northern portion has a more gentle terrain and generally more fertile soils. Approximately one-quarter of the land in Tompkins County is covered by high quality agricultural soils, concentrated in Ulysses, northwestern Enfield, and northern Lansing, although there are smaller pockets located throughout the county.

The most dominant natural feature in Tompkins County is Cayuga Lake. Cayuga Lake is the second-largest Finger Lake and the longest, widest, and one of the deepest of the eleven Finger Lakes. Tompkins County has approximately 26 miles of shoreline on Cayuga Lake. It is located in a glacial valley with steep slopes along the lakeshore punctuated by many picturesque gorges. Wall elevations in the gorges can reach 300 feet. The higher elevations of the lake's tributaries, combined with the steep gorges, produce numerous waterfalls.

The lake divides the northern portion of the county in two. Nearly four-fifths of the county's land area drains into Cayuga Lake before moving northward, ultimately to Lake Ontario. The southern fifth of the county drains southward into the Upper Susquehanna River.

Cayuga Lake has served an important economic role in Tompkins County. In the nineteenth century, the lake was an important link in the transportation route connecting central and southern New York to Buffalo and points west. Today, it serves as a supply for public drinking water, a major regional recreational and tourism resource, and an important link in the waterfowl flyway of the Atlantic Coast.

The topography of the watershed was formed as the land began uplifting approximately 200 million years ago. At that time, drainage flowed to the south, through the Susquehanna River system. During the Ice Age, two glacial events produced the deep gorges that became the Finger Lakes. The retreat of the second glacier resulted in the reversal of drainage in the watershed from the south to the north. This glacial action resulted in the creation of the relatively flat lands in the northern portion of the county (in Ulysses, Lansing, and Groton) and the steep hills and valleys of the south (in Newfield, Danby, and Caroline).

With its varied topography and landforms, the county contains a number of interesting ecological communities, including streams, lakes, ponds, marshes, meadows, fens, forests, swamps, and cliffs. Many important natural areas have been identified in the county with the help of Cornell University's strong natural resource programs, and a local community of outdoor enthusiasts. Nearly 200 such areas have been identified by the County's Environmental Management Council in the Unique Natural Areas Inventory of Tompkins County. Tompkins County is also home to a National Natural Landmark, McLean Bog, located in the Town of Dryden.

In addition, the County has one Recreational River (a portion of Fall Creek), one Critical Environmental Area (Coy Glen), four state parks, all or part of eight state forests, several Audubon-designated Important Bird Areas, and a variety of lands protected by the local Finger Lakes Land Trust, Cornell University, and The Nature Conservancy.

Cayuga Lake: Shaping Our Community

Natural Feature and Scenic Resource

One of the eleven Finger Lakes, Cayuga Lake is the longest and widest, and it takes approximately ten years for water to cycle through the lake. Over 300 species of birds make seasonal use of Cayuga Lake. Although water quality is generally high, a number of specific concerns have been identified. Chief among these is sedimentation, which is a significant impairment to water quality and wildlife habitat.

Glacial action and centuries of scouring and erosion have created dramatic landforms, including a variety of gorges, waterfalls, and steep escarpments that provide great scenic value around the lake. From many locations along the steep hillsides and roads bordering the lake, views of the water, the Ithaca urban area, and the opposite shore can be spectacular. In other places, views are fleeting or are obscured by dense tree growth. Regional efforts are underway to create and promote the Cayuga Lake Scenic Byway, encircling the lake, to enhance this tourism resource.

Influencing Development

Due to its strategic location along major transportation routes, Cayuga Lake was a major commercial center throughout much of the nineteenth century. Today you can still see evidence of the area's role as a passenger transportation center and trans-shipment point for goods in Ithaca's west end. The natural beauty of Cayuga Lake has also long attracted the development of cottages and year-round homes along its shores. Its abundant cool waters have attracted industries dependent on its chilling capacity: AES Cayuga on Milliken Point and Cornell's Lake Source Cooling heat exchange facility are both located on the east shore.

The lake is also one of the major sources of drinking water for the central part of the county. The Bolton Point Water System provides water to residents in the Towns of Dryden, Ithaca, Lansing, and Ulysses, and in the Villages of Cayuga Heights and Lansing. This water supply supported much of the residential growth in Tompkins County in the latter decades of the twentieth century.

Recreational Resource

In addition to local residents, Cayuga Lake attracts visitors from the Twin Tiers region of New York and Pennsylvania. Sail and motorboat operators are served by public and private marinas, boat launches, and public parks and facilities, many of which are in need of long-overdue maintenance. Despite the number of public access points around the lake, there is an ongoing call for more places to fish, launch a canoe or sailboat, dock a boat, swim, and sit and watch waterfront activities. Noise from watercraft has been identified as a concern, and communities along the lake have been working to adopt policies and regulations to reduce noise.

What Lies Ahead

In the past decade, the population of Tompkins County, as in many parts of the Northeast, has grown at a modest rate while the amount of land taken up by development has increased at a rate that has far outpaced population growth. This trend is also highlighted in the loss of households in traditional population centers of cities and villages and an increase in the number of households in suburban and rural areas.

Upstate New York saw the loss of 40,000 urban households in the 1990s, and an increase in rural and suburban households of 160,000. This type of growth puts at risk many of the characteristics of Tompkins County that we treasure. When trying to envision life in the future, one thing is a given: things will change.

If past growth patterns give us an indication of future growth, the types of changes we could see include:

- Loss of population in the city and villages, and related loss of businesses and tax base;
- More new commercial and residential development along roads in the rural and agricultural areas;
- Increased traffic along rural roads and in the urban areas;
- Increased taxes and fees to pay for additional public services such as water, sewer, schools, police, fire, public transportation, and road construction and maintenance;
- Loss of vitality in traditional community centers;
- Loss of agricultural lands, natural habitats, and open space;
- Increased amount of time people spend in their cars; and
- Degradation of the quality and quantity of drinking water supplies, streams, and lakes.

Decisions such as where to site a housing development, what land to protect, or where to encourage economic development all have land-use implications and impacts. As well, some resources, such as drinking water, prime agricultural soils, waterfront lands, and historical components of our built environment, are finite and irreplaceable. Protecting and enhancing these resources is critical. Their degradation can compromise the benefits they provide to our community and the future quality of life in Tompkins County. Planning for the future is the only way to preserve and enhance the characteristics and attributes of Tompkins County that we most cherish, and to ensure that our communities remain healthy, vibrant, and vital.[3]

[3] Vital Communities Initiative

Interlocking Pieces: Housing, Transportation, and Jobs

PRINCIPLE

Housing in Tompkins County should be affordable and appealing to all residents, regardless of their income or whether they rent or own their homes.

Existing Housing Stock

Tompkins County, similar to most upstate rural communities, has a high percentage of older homes, which require more maintenance and upkeep. According to the Tompkins County Assessment Department, 40 percent of the residential housing stock in the county was built before 1940 and another 15 percent was built between 1940 and 1959.

Based on an outdoor visual assessment of properties, which may underestimate the overall quality of housing, approximately 9 percent of the housing stock in the county showed definite signs of deferred maintenance. There is also some evidence that low-income homeowners are having a hard time affording needed repairs. Better Housing for Tompkins County reported that in the summer of 2002 there were over 330 low and very-low income homeowners on waiting lists for housing rehabilitation assistance in just four of the nine towns in the county. This need is anticipated to increase in the future as the housing stock continues to age.

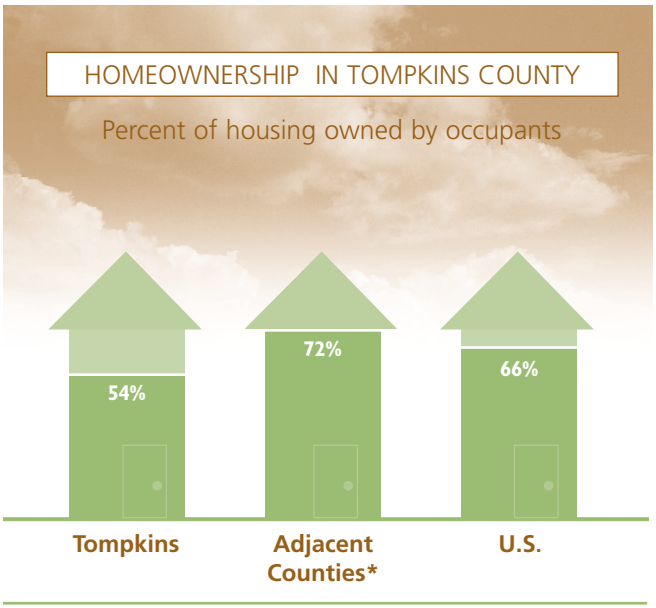
When costly maintenance projects are deferred and homes start to visibly decline, the desirability of a neighborhood and local character can be negatively impacted, leading to diminished property values. Severely dilapidated properties cause further blight in neighborhoods and demolition reduces the overall housing supply, increasing demand for new housing construction. Ensuring that the aging housing stock is maintained and reducing barriers to rehabilitation can revitalize neighborhoods, strengthen community character, and reduce the pressure on open space and farmland to be used for new housing construction.

The High Cost of Housing

Housing statistics in Tompkins County differ in many ways from state and national averages, and even from neighboring counties. Barely half the homes here are owner-occupied, as opposed to two-thirds nationwide; although the homeownership rate of non-student households (64 percent) is closer to the nationwide average. The average homeownership rates in the counties surrounding Tompkins range from 64 percent in Cortland County to 79 percent in Tioga County.

The sales price of a single-family home in Tompkins County has soared in the last few years, from a median of $100,000 in 2000 to $134,000 in 2003.[4] The median sales price here is 50 to 75 percent higher than it is across the county line, in any direction.

Many people in Tompkins County rent their living space, but this also comes at a premium. The median monthly



*Cayuga 72%
Chemung 69%
Cortland 64%
Schuyler 77%
Seneca 74%
Tioga 78%

Source: U.S. Census 2000

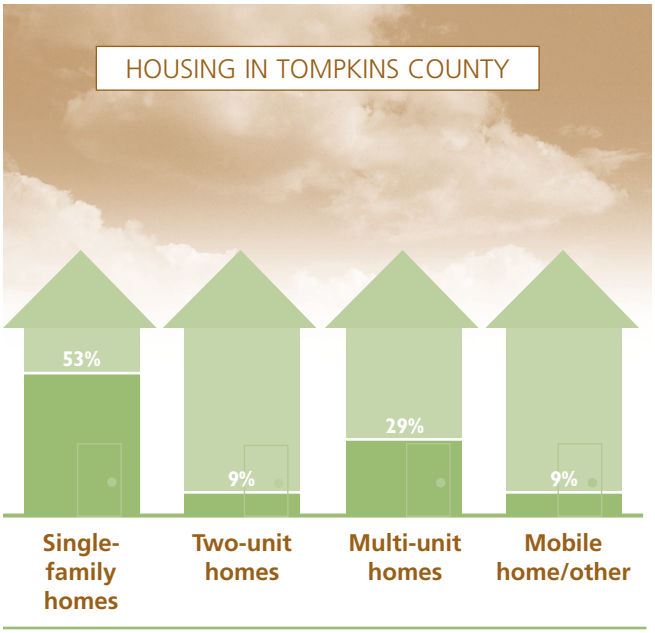
HOUSING COSTS

Median Rent[1]		Median Sales Price[2]
$611	Tompkins	$134,000
$468	Tioga	$90,000
$493	Chemung	$77,900
$521	Seneca	$76,900
$482	Cayuga	$76,500
$471	Cortland	$75,250
$466	Schuyler	$79,000

[1] Median monthly rent (2000)
[2] Median residential sales price (2003)

Sources: U.S. Census 2000; N.Y.S. Association of Realtors

[4] New York State Association of Realtors



Source: U.S. Census 2000

TOMPKINS COUNTY HOUSING FACTS

Occupied housing units in 2000	**36,420**
Housing units added since 1990	**3,287**
Rental units in 2000	**16,846**
Rental units added since 1990	**1,935**
Mobile homes in 2000	**3,671**
Mobile homes added since 1990	**68**
Increase in number of one-person households since 1990	**30%**
Homes in the county built before 1940	**40%**
Homes in City of Ithaca built before 1940	**82%**
Homes showing need for extensive or moderate repairs	**9%**
Households that spend more than 30 percent of income on housing	**40%** *
Households that spend more than half of income on housing	**20%** *

Source: U.S. Census 2000
* Based on sample data; not all households responding.

rental rate per household in 2000 was $611, the highest in the region. The median rent drops slightly for non-student renters, but it remains the highest in the region at $580.

A limited supply of housing stock has resulted in hot competition among buyers, which has pushed home prices up. New housing construction, at a median of $180,000, is generally not affordable to the average household, and there is little economic incentive for contractors to develop affordable housing.

Tompkins County's low vacancy rates for rental units – 4.6 percent countywide, about half that in adjacent counties, and 2.6 percent in the City of Ithaca – create competition for available units and help inflate prices. The large student population in the county impacts the rental market, particularly near the colleges. A group of four students, for instance, can pool their resources for more purchasing power than a family household.

> The median sales price and rental rate in Tompkins County are the highest in our seven-county region.

The number of households is increasing, adding to competition for homes. From 1990 to 2000, the number of separate – and especially one-person – households here went up by nearly 10 percent, while the population grew by a modest 2.6 percent. Senior citizens are living longer and showing a preference to stay in their homes, another factor that reduces turnover in the market.

Barriers to Affordability

Owning a home is widely recognized as one of the most effective ways for Americans to build wealth, but Tompkins County's high-priced housing market makes it difficult for moderate- and low-income families to take advantage of homeownership as a step toward economic security. The high cost of rental housing also prohibits many households from saving for a down payment.

The generally accepted definition of "affordable" is that a household should pay no more than 30 percent of its annual income on housing. At least one in three households in Tompkins County has housing affordability problems.

The median income in Tompkins County in 2000 was $37,272 per year, differing little from that of surrounding counties, with more than a quarter of all households in the county earning less than $20,000 a year. The non-student median household income increased to $43,730 in 2000,

which is 9 to 21 percent higher than surrounding counties. However, median housing sales prices that are 50 to 75 percent higher here than in surrounding counties impact lower-income residents. Over 10,000 households pay more than 30 percent of their income on housing; over 5,000 spend more than half their income on housing. This cost burden is most acute for low-income renters, many of whom are not students. Among non-student renters, nearly 40 percent – close to 4,000 households – pay more than the affordable level for housing.

About one in three households in Tompkins County has housing affordability problems.

Rapidly increasing housing costs may be pushing the lowest income households out of the market altogether. Homeless shelter rates in 2000 were the highest in over a decade, and more pressure is being placed on housing assistance providers and social service programs that assist low-income households.

Senior and Special Needs Housing

Affordable housing options will continue to be needed by low and low-moderate income seniors. In 2000, about one-tenth (9,257) of county residents were over age 65, an increase of 10 percent in the last decade. Because of better health care and increasing longevity rates, this group will continue to age and add to housing needs. In just a few years, the baby boom generation will start turning 65. In the years that follow, there will be increasing pressure on housing for seniors age 75 and over that will reach its peak by the 2020s.

Most seniors want to stay in their homes – or "age in place" – as long as they can. As the oldest group ages, its members are showing a strong preference for receiving personal care services in a residential environment rather than a health care setting. Assisted living is the fastest growing and fastest changing sector of senior housing. Private-pay assisted living units have been added to the market, but there is a lack of subsidized units for seniors needing high levels of personal care.

Affordability of assisted living facilities and services is a major issue for many seniors.

As people age, their incomes tend to decline. Affordability of assisted living facilities and services is a major issue for many seniors. Currently, all of the facilities in Tompkins County that provide high levels of care are high-end options.

Two other residential needs in Tompkins County are permanent housing for individuals needing ongoing, on-site services to be able to live in the community, and housing – such as a single-room occupancy (SRO) community residence – for the mentally ill.

In-Commuters

Tompkins County is a regional job center that attracts employees from throughout the region. The 2000 U.S. Census shows that 2,846 workers drive here from Tioga County; 2,605 from Cortland County; 1,814 from Cayuga County; and 1,603 from Schuyler County. The number of in-commuters from the six counties surrounding Tompkins in 2000 totaled 13,737.

The number of people commuting into Tompkins County for work has increased by 2,531 since 1990. Some of the increase may be due to declining job opportunities in surrounding counties, and/or workers may have family ties and other obligations that keep them from moving closer to their jobs. However, it is widely presumed that many who commute to Tompkins County would live here if they could afford to.

Unless we have housing that is affordable to workers who want to live closer to their places of employment, they will continue to seek housing outside the county and most will need to drive greater distances to reach their places of employment. This adds to traffic congestion, higher transportation costs, long commutes for local workers, wear and tear on our roads and bridges, and costs to maintain our roadways.

Assuring Housing Choice

Tompkins County lacks an adequate supply of affordable housing. Households are spending too much on housing, and both renters and homeowners are cost burdened. The increasing purchase prices and rental rates are pushing the lowest income households out of the market and leaving them to rely on subsidies, substandard or crowded housing, or other strategies such as living in adjacent counties.

Barriers to the creation of new affordable housing include the comparatively lower return on investment of affordable housing projects. Local zoning and building codes may also increase the costs of construction of affordable housing.

Another impediment is the perception that affordable housing will lower adjoining property values and bring with it a host of undesirable characteristics such as drug use and crime. Recent attempts to develop affordable, multi-family housing in Tompkins County have been met with considerable community opposition, based on this perception. However, there is no statistical link between affordable housing and diminishing property values or increasing crime rates. Residents of affordable housing are usually working people, known to the community.

> Tompkins County lacks an adequate supply of affordable housing.

Changes in household size and household make-up will necessitate a variety of housing options in the future. The increasing number of single-person households, the preference for young couples to wait to have children, and the increase in the over-65 population will all impact the types of housing our communities will need. In the meantime, the current widespread lack of affordable housing hampers the local economy by reducing expenditures on other items, narrowing choices for workers coming here from other areas, and preventing young families or householders from building wealth through homeownership.

Policies

By encouraging changes in how housing is provided, we can assure housing choices that are affordable and appealing to all residents.

It is the policy of Tompkins County to:

- Provide for a variety of quality living experiences, including rural, suburban, hamlet, village, and urban.
- Protect consumers' housing options throughout the county by providing a mix of choices of location, accessibility, housing types, and neighborhood character.
- Provide and encourage more quality rental and owner-occupied affordable housing options for very low-, low-, and moderate-income residents.
- Promote increased owner-occupied housing in the county.
- Maintain an adequate supply of affordable housing options for people with special needs, including seniors who wish to remain in their homes and persons requiring healthcare, custodial care, or supportive services.
- Promote housing opportunities for locally-employed persons who would prefer to live in Tompkins County.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Produce a three- to five-year affordable housing needs assessment to use as a basis to guide development of appropriate subsidized rental and ownership housing to meet local needs.
- Conduct a survey of in-commuters to determine the reasons they live outside of Tompkins County.
- Develop or identify model provisions for land development regulations that encourage affordable housing.
- Provide education and training programs for elected officials, board members, community leaders, developers and builders, and the general public on the need for and benefits of affordable housing development.
- Identify subsidized affordable housing units and determine when subsidies expire and if the units are likely to remain affordable. Establish a program to monitor the status of those units to anticipate impending deficiencies.
- Build a new Community Residence – Single Room Occupancy mental health facility.
- Develop plans to meet the housing needs of segments of the population that require supportive services, including seniors, independent (or at-risk) youth, and the homeless.

PRINCIPLE

The efficiency of the highway system should be enhanced and use of public transit, walking, and bicycling should be increased.

The Growing Stress on Our Transportation Systems

Transportation issues are ubiquitous, ranging from a neighborhood wanting a stop sign at a busy intersection to land-use policies that can reduce the use of automobiles. Whatever the scale, every individual in our community is affected by transportation choices.

Transportation infrastructure, including highways and public transit, represents a huge and ongoing public investment. New York State, Tompkins County, and local municipalities struggle to maintain the existing network of roads, bridges, and public transit. Annual transportation expenditures by all levels of government within Tompkins County total about $35 million.

At the same time, stresses on our transportation systems continue to grow. Low-density suburban and rural development patterns add to the length of trips and the number of vehicles on the road, resulting in increased traffic, congestion, and wear and tear on the infrastructure. This spread out pattern of development, leading residents to live further from daily destinations and conveniences, typically lacks pedestrian and bicycle facilities that encourage physical activity and healthier lifestyles.

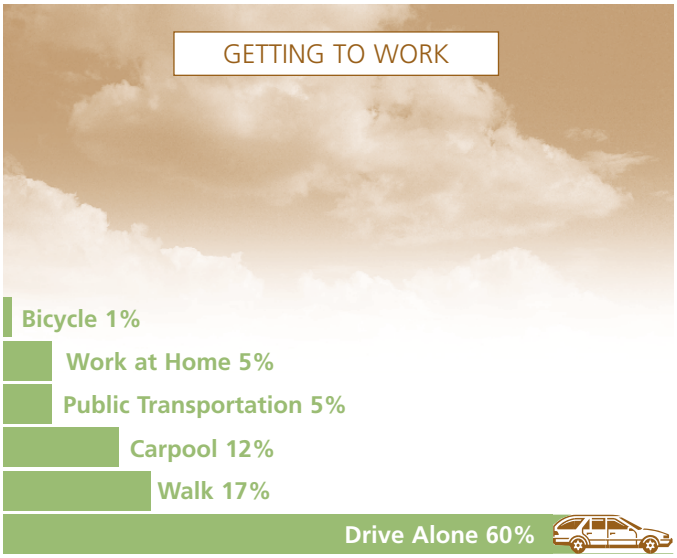
The geography of Tompkins County results in regional and intrastate traffic being funneled through the City of Ithaca. When this pass-through traffic is added to the already high volume of local traffic, it limits the effectiveness of strategies to channel vehicles away from urban neighborhoods in order to help maintain their livability.

Tompkins County is notable for its relatively high use of modes of transportation other than the single occupancy automobile, which may indicate that increased use of alternative modes of transportation is viable here.

How We Get Around

Studying the work trip is a good way to gauge how a community gets around. The 2000 Census reported that 60 percent of the total commuters (and 69 percent of non-students) in the county drove alone to work, as compared to 75 percent nationwide. Fully 40 percent of commuters used alternative modes of transportation, compared to only 25 percent nationwide. Tompkins County also has higher percentages of residents using public transportation, carpooling, walking, and working at home than in New York State as a whole. Non-automobile use is higher in the City of Ithaca and other areas where development is compact.

According to several indicators, bicycle use is increasing in Ithaca and its environs. One measure is the number of bicycles people put on the public transit bike racks located on every bus in the Tompkins Consolidated Area Transit bus fleet. In 2002, the bike racks were used for 16,000 individual trips. Additionally, census numbers for 2000 show that 18 percent of Tompkins County residents either walked or rode a bike to work. Public input on transportation issues often focuses on the desire for more and better opportunities to walk, bike, and take public transit. All this leads one to the conclusion that, locally, more emphasis should be placed on alternatives to cars.



Source: U.S. Census 2000

Our highway corridors are critical to the economy of Tompkins County. They are the routes used by in-commuters and by virtually all freight service bringing goods into and out of the community. Highway function is diminishing, however, as development extends along the major roadways. Much commercial development, in particular, has occurred as unrelated, dispersed establishments. As a result, each tends to have two or more driveway cuts with few facilities to promote driver or pedestrian access between establishments. This development pattern places a strain on the functionality of the regional highway system. The primary function of arterial highways, which is to move traffic on a regional level, becomes more and more tied up with local traffic access to individual establishments along the length of the highway.

If development patterns continue as they have – and as they are permitted by local zoning regulations – the functioning of our major highways will diminish. This will lead to more traffic congestion, longer commutes, and, in general, more time spent in vehicles. In addition, people with limited access to automotive transportation, such as teenagers, senior citizens, and the physically challenged, will be effectively excluded from these areas.

We can reduce automobile traffic and support alternative modes of transportation by encouraging compact development and by providing affordable housing near employment centers. Doing so will not only promote livable communities, but it will also keep overall transportation maintenance costs down. Even now, caring for our transportation network is a significant cost to taxpayers. If we continue to expand this infrastructure beyond existing population centers, these costs will continue to rise.

> We can reduce automobile traffic and support alternative modes of transportation by encouraging compact development.

Improving facilities for multiple modes of transportation, and focusing development in ways that reduce traffic generation and best utilize existing infrastructure networks, may be the only way we can hope to maintain a safe and functional system to provide mobility for access to jobs, goods, and services. Recognizing that most residents and travelers will continue to rely on the automobile, we need to maintain the functional capacity of our highway infrastructure by making investments in technology and design that increase the efficiency of the existing network. Additions or major modifications to the network should be made only selectively, and should be limited to those areas where transportation issues cannot adequately be addressed by other means. At the same time, we need to build the efficiency and participation rates for alternatives including transit, pedestrians, and bicycling in order to limit the stress on our existing highway network. Such improvements to transportation alternatives will also help to improve mobility for persons, including youth, elderly, low-income, and physically challenged, that do not have the option of relying on an automobile for transportation.

Policies

It is the policy of Tompkins County to:

- Enhance the design function and safety of the existing road network while making investments in technology and design that increase its operating efficiency.
- Make selective additions or modifications to the highway network to address capacity limitations that cannot otherwise be addressed.
- Coordinate land use and infrastructure planning to meet the needs of drivers, pedestrians, bicyclists, transit riders, and community residents.
- Enhance and promote the use of bicycles and walking as viable forms of transportation by supporting the provision of safe public facilities, including multi-use trails, bicycle routes, bicycle lanes, and sidewalks.
- Enhance transportation options and provide facilities that allow passengers to transfer easily and safely from one mode of transportation to another (e.g., biking to bus service).
- Provide affordable and accessible public transportation to important destinations, hamlets and villages, the Ithaca urban area, and points outside the county.
- Promote a transportation system that supports nodal, compact development patterns and reduces negative environmental impacts.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Develop a bicycle suitability map for Tompkins County.
- Identify infill opportunities at nodes along transit lines.
- Develop a countywide State Route 13 Corridor Management Plan.
- Complete a traffic signal upgrade and intersection evaluation program.
- Develop a centralized, uniform accident reporting system.
- Work with municipalities to assess transportation infrastructure needs, including roadways, transit, bicycles, and pedestrians, to support local planning efforts.
- Facilitate municipal review of local development regulations to address future performance of the transportation system.
- Implement recommendations in the Freight Transportation Study to minimize negative aspects of freight transportation, while increasing safety.
- Develop a countywide comprehensive park and ride plan.

PRINCIPLE

The local economy should be enhanced by building on important community assets, such as a highly educated workforce, an entrepreneurial spirit, dynamic academic institutions, and a high quality of life.

Our Education-Centered Economy

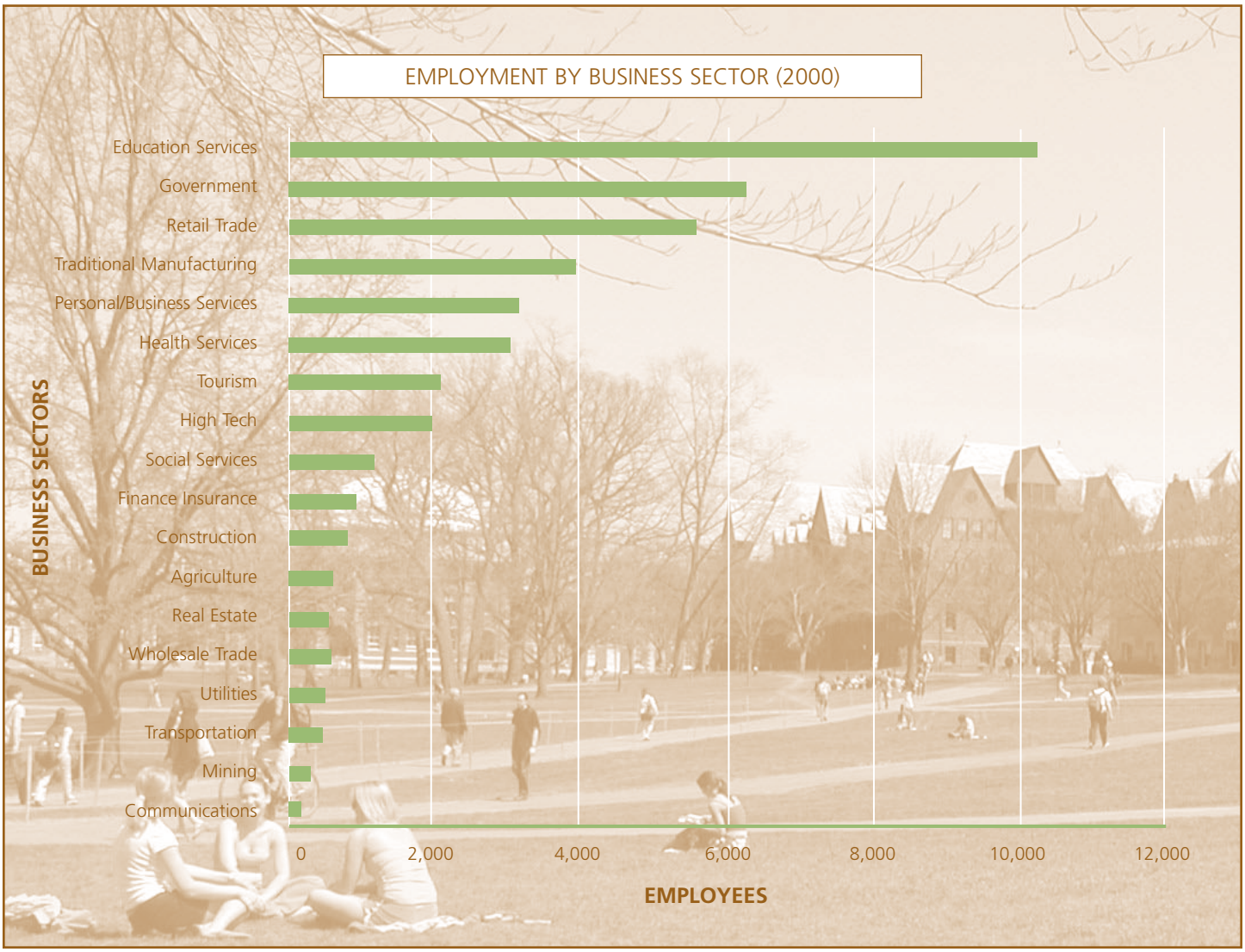
Tompkins County is a regional employment center anchored and stabilized by its largest employer, Cornell University. As host to a thriving higher education sector, the community is an attractive location for technological, creative, and information-related enterprises. The quality of life in the community is greatly enhanced by the human, cultural, and economic resources of higher education institutions and the students and staff they attract.

Our education-dominated economy has experienced job growth at a rate that exceeds most of the rest of Upstate New York, which has contributed to a high incidence of in-commuting. The educated workforce and high quality of life have contributed to job growth. However, the typically low unemployment rate in Tompkins County is in part a statistical anomaly related to the large student population. This characteristic often disguises chronic community problems, such as underemployment and poverty.

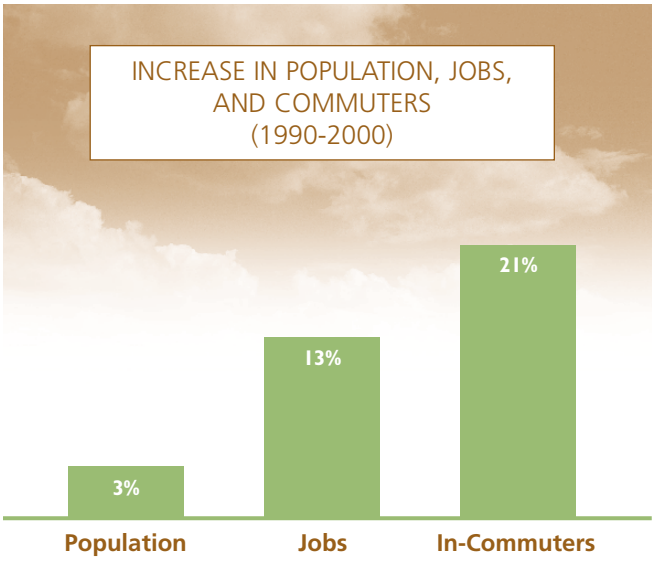
The Local Economic Picture

A picture of the local economy will help us know where we are going and how to get there. In recent years, the economy here has had ups and downs, similar to the rest of the nation. After a period of moderate and steady growth in the 1980s, Tompkins County's economy – like most others in Upstate – declined or was stagnant from 1991 to 1997. A spurt of robust growth from 1998 to 2000 was followed by relatively flat growth from 2001 to 2002 during the national recession. Tompkins County came out of that recession more quickly than much of the rest of the U.S. According to the New York State Department of Labor Statistics, from 1998 to 2003, job growth in Tompkins County outpaced job growth in New York State and the U.S. In addition, the county saw close to 2 percent growth in employment from 2002 to 2003, while the U.S. and New York State continued to lose jobs.

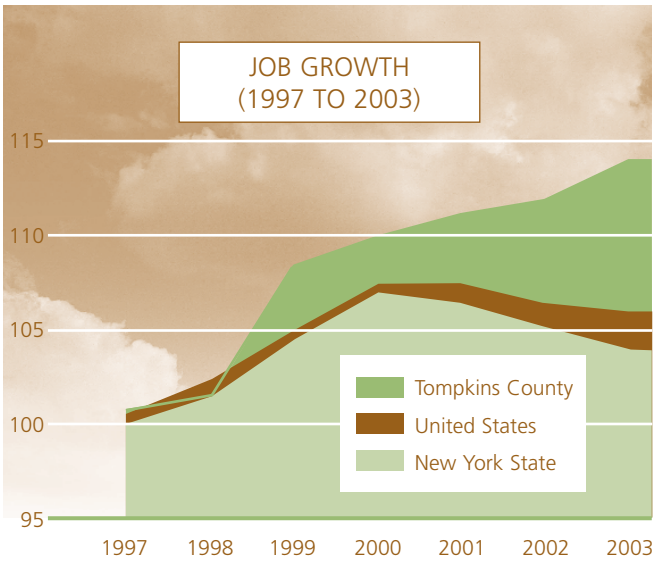
The economic growth or decline of a region depends on



Sources: N.Y.S. Department of Labor; Tompkins County Area Development (for tourism data)



Sources: N.Y.S. Department of Labor; U.S. Census 1990; U.S. Census 2000



Sources: N.Y.S. Bureau of Labor Statistics; N.Y.S. Department of Labor

the outside demand for its products. The economic engine of a region – its economic base – lies with the "export" sectors that sell products and services to others outside the region. Our exports include education, manufactured goods, high-tech products and services, and tourism.

Tompkins County is home to three colleges: Cornell University, Ithaca College, and Tompkins Cortland Community College. According to the New York State Department of Labor Current Employment Survey, for the 10-year period from 1994 to 2003, 74 percent (6,800) of all new jobs in Tompkins County occurred in areas of education, health, and social services. The higher education sector also accounts for 20 percent of the county's gross product and nearly 40 percent of its economic base. The size, stability, and resource value of education helps it maintain its central importance in the economy.

> Higher education is the largest industry in Tompkins County.

Traditional manufacturing follows in importance, generating about 15 percent of the county's gross product and almost 30 percent of the economic base. Although restructuring and closure of several large firms reduced employment during the 1980s, strong entrepreneurial activity and a turnaround in the motor vehicles and equipment industries revitalized this sector in the 1990s. Manufacturing, a critical sector, is vulnerable to shrinkage in the local economy. In the midst of a serious loss of manufacturing jobs in the U.S. as a whole, Tompkins County's loss has been much slower. The county's 7 percent dip in manufacturing employment from 1999 to 2003 is considerably lower than the nearly 19 percent loss of manufacturing jobs nationwide in the same time period.

Our other export sectors are high tech industries – for example, electronics, software, bio-technology, and research – as well as utilities, agriculture, and tourism. Of these, the technology sector has the strongest growth trend and the most potential to expand, having provided over 10 percent of the local economic base in 2000.

Although a relatively small sector of the local economy, agriculture contributes in many ways to our quality of life. Farmers maintain 30 percent of the county's land. After many years of decline, the dairy sector stabilized in the late 1990s, and small, innovative farm operations that fill niche markets are bringing new vitality to this sector. The value and importance of agriculture in Tompkins County – and its contributions to the character of the county – are discussed in greater detail in the Rural Resources and Natural Features Sections of this document.

Though also a relatively small sector of our local economy, tourism draws visitors to Tompkins County to such attractions as our state parks and waterfalls, Farmer's Market, Discovery Trail museums, and arts and entertainment venues. Tourism income supports cultural, historical, and commercial resources throughout the county. In addition to these direct contributions, tourism helps diversity and increases the stability of our economy and also attracts workers and businesses to the area.

The County's Economic Development Strategy

In 1999, Tompkins County Area Development (TCAD) released Tompkins County's first economic development strategy. The strategy, which combined comprehensive input from community leaders with extensive research and analysis, points the way to greater economic vitality, stability, diversity, and equity. The Economic Development Strategy is organized around three main goals:

- Build on the economic foundations of Tompkins County. This effort includes strengthening and enhancing our workforce, infrastructure, business resources, and other community resources such as housing, arts, and daycare.
- Create employment and business opportunities. The conventional core of economic development work includes retention, expansion, and start-up support of businesses, with a focus on export industries. It also includes targeted attraction of new businesses and industries to our area. Key sectors are education, manufacturing, high tech, agriculture, and tourism.
- Reflect community values in the economic development process. The importance of our collective community values was regularly expressed during the strategy planning process. Top concerns are: creating opportunity for all; working cooperatively with business, governments, and civic groups as appropriate; building on the county's existing assets; and evaluating economic development work to optimize investments.

Many of the Economic Development Strategy partners are updating their organizational plans. An update of the Strategy, planned for 2005, will be grounded in these efforts. The updated Strategy will emphasize workforce development to ensure that the needs of the unemployed, underemployed, and employers are met through job creation, training, and other employment programs. Cooperative efforts will be pursued with the education sector, which is central to our overall economic health. In the context of national and regional trends the updated Strategy will seek to improve the cost and convenience of air service – a critical aspect of the business climate.

Policies

Economic development efforts in Tompkins County have focused on creating jobs that offer good wages and benefits, supplying the labor force needs of local employers, enhancing the quality of life attributes that assist employers in outside recruitment and employee retention, and maintaining the community infrastructure necessary to retain our status as a regional employment center in Upstate New York.

It is the policy of Tompkins County to:

- Provide a setting where businesses, particularly locally owned ones, can flourish by enhancing the county's natural resources, arts and culture, lively urban core, and vital neighborhoods.
- Support economic development that provides quality employment opportunities to local residents, good wages and benefits, and affordable goods and services.
- Encourage the procurement of goods and services from local farms, businesses, and service providers.
- Support tourism in the area by encouraging local institutions, businesses, and facilities to better plan, coordinate, and expand tourism-related activities locally and regionally.
- Enhance transportation options, including freight and air service, to support business development, while preserving the integrity of existing communities.
- Work closely with the local institutions of higher learning to enhance those institutions' significant and integral contributions to the local economy and community life.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Complete and implement the workforce development plan, striving to meet the needs of the unemployed and underemployed through job creation activities, and the needs of employers through employment and training programs.
- Enhance the ability to analyze costs and benefits of projects as well as improve post-project job data collection to determine whether the public purpose of projects is realized.
- Continue to lobby for State Empire Zone status and explore regional partnerships to share under-utilized economic development resources.
- Continue to explore ways to improve the cost and convenience of air service for county employers, visitors, and local residents.
- Utilize Cornell University's resources to greater advantage, including: work with Cornell to improve technology transfer, and study feasibility of a business attraction initiative using specific Cornell research and development programs as the key element.
- Promote and assist in the development of the county's tourism attractions, including cultural, natural, and commercial attractions.
- Develop a strategy to promote local use and consumption of locally produced goods.
- Encourage the formation, retention, and expansion of manufacturing and high tech businesses.

PRINCIPLE

A diversified rural economy centered around the working rural landscapes of farms and forests, and the livelihoods of those who depend upon them, should be preserved and enhanced.

Rural Business Sectors

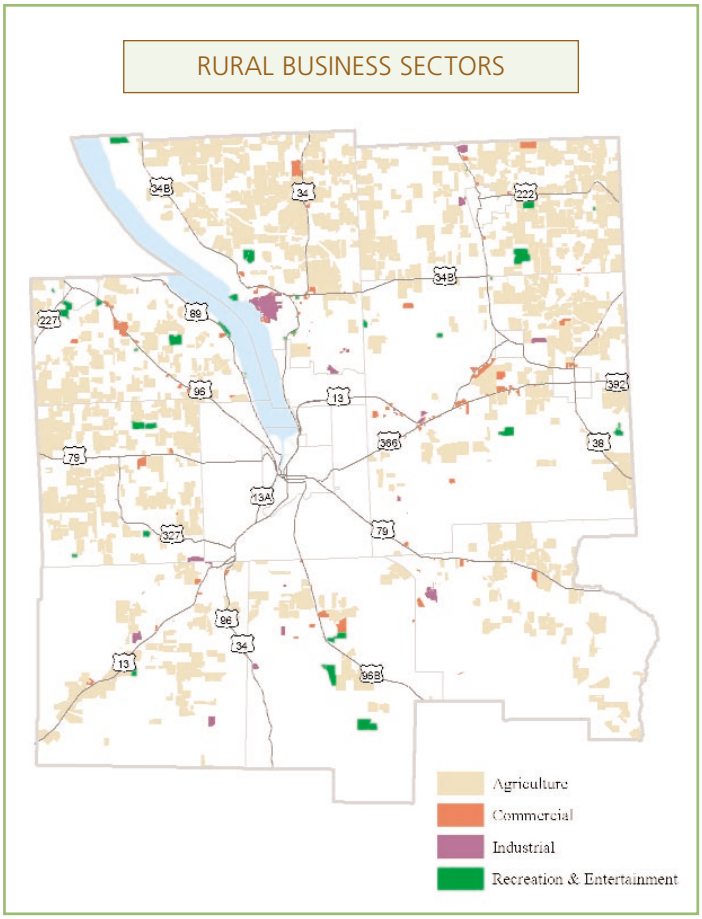
Many of the issues addressed in the Jobs and Business section of the Plan, and in the County's economic development strategy, are applicable to both urban and rural areas. Outside of the traditional farming and forestry sectors very little data are available about how much rural economic activity specifically contributes to the regional economy. It is largely untracked, but hardly invisible. Driving down rural roads, one can find a number of diverse services offered. This section of the Plan is devoted entirely to the rural resources that are an important component of the regional economy.

Many resource- and home-based businesses have added to the traditional economic pillars of agriculture and forestry. Self-employment and entrepreneurism have become staples of the rural economy. Although only 37 percent of the population lives there, over half of all self-employed workers in Tompkins County, as identified in the 2000 U.S. Census, live in the rural towns.

> Self-employment and small business entrepreneurship are staples of Tompkins County's rural economy.

Activities that make up Tompkins County's rural economy are found in municipalities with less than 150 people per square mile, in particular the Towns of Lansing, Groton, Dryden, Caroline, Danby, Newfield, Enfield, and Ulysses. This rural economy includes:

- Industries related to the production, processing, marketing, and sales of agricultural and natural resource-based products, such as timber harvesting, sawmills, maple syrup production, farmstands, fruit orchards, nurseries, wineries, fish farms, quarries, animal husbandry, dairy farms, food and herb processing, and feed, seed, and equipment dealers.
- Overnight lodging, restaurants, arts, entertainment, and recreation, such as cafes, taverns, B&Bs, retreat centers, artist studios, and golf courses.
- Small businesses, including retail, many home-based, and professional services such as construction, well drilling, computer technology, website design, consulting, cleaning services, snowplowing, landscaping, daycare, storage facilities, seamstresses, veterinarians, recording studios, fine woodworking and carpentry, and general stores.
- Manufacturing, including turbine blades, garments, and electronic components.



Source: Tompkins County Assessment Department (2000)

Rural Business Growth

Many of the rural areas of Tompkins County offer a high quality of life. They offer a beautiful natural environment with scenic views of natural and working landscapes, a strong sense of community built on neighbors helping neighbors, and are generally quiet, safe, comfortable places to live. Multi-generational families, community organizations, and school-based activities help to create close-knit communities. The quality of life in rural areas also attracts skilled workers employed at the more urban job centers, as well as professionals with home-based businesses and telecommuters where business location does not matter.

Businesses in these areas benefit from lower land and space costs, more room for operations, and easy expansion of facilities or ventures such as experimental cash crops. Rural towns provide easy access to local services and

community facilities, and local banks understand small business customer needs. A localized exchange of goods and services helps keep money in the community. This exchange includes a widespread use of neighborly barter.

Business trends in the rural municipalities include a growth in agriculture in response to a desire among Tompkins County residents to buy locally grown and organically grown food. Many municipal comprehensive plans mention the desire to support the viability of agricultural operations, as well as retaining and encouraging entrepreneurs and small business owners in their communities. Service sector employment is also growing. Currently there is a strong focus on enhancing the viability of small firms and start-up businesses. A common theme in many rural towns' comprehensive plans is a desire to enhance existing commercial areas and hamlet centers by promoting existing businesses, attracting new businesses, creating jobs, and improving personal incomes and skill levels.

> The County's rural areas are welcoming to small businesses and offer a high quality of life.

Challenges

The location of rural businesses comes up often in local comprehensive plans. Concerns are that commercial businesses in rural areas can create visual clutter and dangerous driveway cuts on busy roads, and that even cottage industries can have negative effects on the quality of life in residential neighborhoods. Development of commercial offices and retail establishments scattered outside downtown centers can have negative impacts on quality of life issues, such as noise, hours of operation, traffic, and light pollution.

Despite the welcoming, convenient, and lower-cost business environment in rural areas, challenges to the rural economy are many. They include:

- Lack of access to business support and assistance.
- Less federal and state financial support than in urban areas.
- Inadequate infrastructure, such as roads, water, sewer, high-speed Internet, and cable.
- Inadequate services, such as winter highway maintenance, road signage, and response time in power outages.
- Difficulty in attracting and retaining customers due to lower visibility, lower pedestrian and vehicular traffic, and travel time or conditions.
- Lack of available labor or adequate attractions for workers who might relocate.
- Higher property taxes in New York State than in other rural regions.
- Threats to prime agricultural land by water and sewer infrastructure expansion projects.
- Increases in deer population that negatively impact agriculture and landscaping operations.
- Sometimes confusing development regulations as a result of each county, town, and village having its own rules, codes, fees, and officials.
- Competition from big businesses and "superstores" that carry lower priced goods.
- Degradation of rural character due to more traffic, sprawl, and reduction in natural beauty.
- Regional population loss, especially the loss of young adults.

The nature of the Upstate rural population must also be taken into account. Rural poverty has proven difficult to eradicate. While the expansion of human services in recent decades has improved the lives of many low-income rural residents, poverty remains a very real and in some cases a very isolated plight in rural areas. Business growth can have a positive impact on the incomes of rural people. Business growth in poorer rural areas may be discouraged by the visual evidence of extreme poverty. In addition, some rural residents value, above all, their privacy, peace and quiet, and lack of outside interference. For these reasons, they may be reluctant to apply for government-funded business assistance programs.

Agriculture and the Economy

Farmland makes up nearly a third of Tompkins County's land area. Agriculture and agriculture-related enterprises represent a significant share of the rural economy, and contribute to the quality of life and the scenic countryside that attracts tourists and business to the area. Approximately 230 full-time farms contribute $50 million annually to the local economy.[5] Many more people are employed in farm-related jobs, such as transporting and processing farm products and supplying farmers with necessary supplies. The total value of farming in Tompkins County may exceed $100 million a year.

The diverse farm operations in Tompkins County include dairy, grain, livestock, hay, Christmas trees, vegetables, horticulture, aquaculture, poultry, vineyards, and orchards. Many farms are owned and operated by multi-generation families. Recent trends indicate large and small farms are increasing in numbers, while the traditional mid-sized farms are decreasing. The type of small farms is also changing. In particular, small, part-time farming operations raising livestock, horses, fruits, vegetables, and specialty agricultural and horticultural products have grown.

There is an emerging interest in the link between renewable energy and farming. Wind energy can be harvested and biomass energy can be generated to provide farmers with a long-term source of income. Renewable energy sources, such as solar, can be used on the farm to replace other fuels. Renewable energy can also help reduce pollution, global warming, and dependence on imported fuels.

The Loss of Farmland

Approximately 100,000 acres of land are in farm ownership in the county, with about 80,000 being actively farmed. Since 1982, Tompkins County has lost at least 20 percent of its farmland to both development and abandonment. A recent increase in land being farmed suggests a degree of stabilization in the farmland base locally, but the general trend indicates significant loss in agricultural land resources over time. This is consistent with the statewide trend in agricultural land conversions.

Farmland is being consumed by rural residential, commercial, and sometimes industrial development. Scattered development is common, primarily in the form of single-family homes along rural roads, or as commercial strip development along highways. These development trends threaten the economic viability of farming by fragmenting the land base and intensifying conflicts between farmers and non-farm neighbors over such issues as noise, dust, odors, and trespassing.

Historic farmland loss is not solely the result of encroaching development. Since the 1950s, over 30,000 acres of Tompkins County farmland has reverted to forest. Much of this loss is the result of abandonment of the more marginal farmland in the county. While the amount of actively farmed land is decreasing, much of this land continues to contribute to the rural economy by providing opportunities for forestry and timber harvesting operations.

The availability of productive land is essential to farm operations. The highest quality soils with greater potential to support agricultural activity and productivity in the county are concentrated in Ulysses, northwestern Enfield, and northern Lansing. The loss of these lands, and farms in general, is often permanent, highlighting the need to develop measures that can effectively protect important agricultural resources and local farms.

Existing Farmland Protection Efforts

Over the past 30 years, Tompkins County government has taken a non-regulatory, incentive-based approach to farmland protection, featuring voluntary participation by landowners in programs. Agricultural districts and the Agriculture and Farmland Protection Plan form the foundation of farmland protection efforts in the county.

There are two agricultural districts in Tompkins County, serving some 340 farms and covering 83,400 acres of farmland. This encompasses the majority of the farmland in the county and approximately 27 percent of the county's total land area. Participation in the agricultural districts program provides farmers with a number of benefits and protections, including protection from nuisance lawsuits, limitations on local regulation of farming structures and practices, tax incentives to keep land in production, and special considerations in local planning and land-use decision-making.

[5] 1997 Census of Agriculture

The Agriculture and Farmland Protection Plan emphasizes strategies that keep farms profitable as the most effective means of maintaining and protecting farm operations. Prepared in 1998, the plan recommends strategies in three major areas: agricultural economic development, education, and government policies.

In 2002, the County evaluated using a voluntary conservation easement program to protect agricultural lands. The study identified several areas of the county as strategic in terms of keeping agriculture viable and thriving. In 2004, Tompkins County was awarded state funds to purchase a farmland conservation easement for the long-term protection of a 433-acre farm in one of these strategic areas.

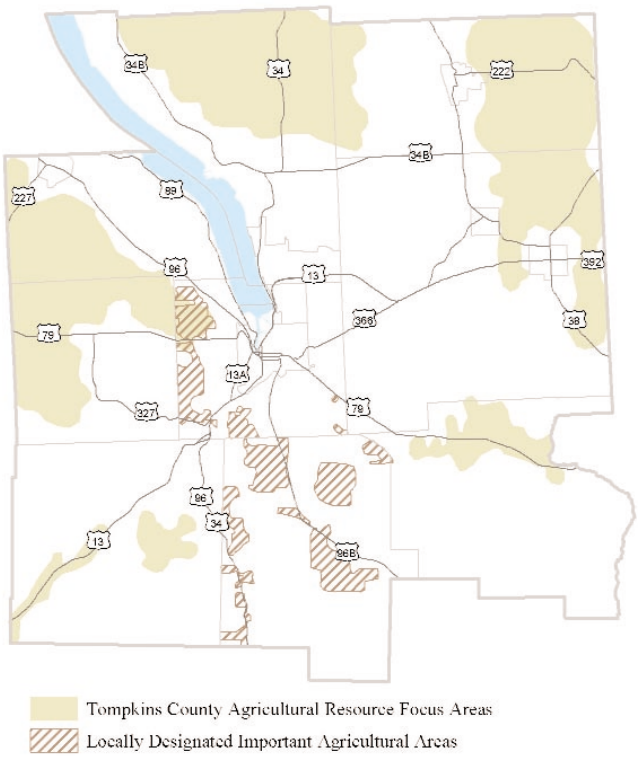
A Strategy for the Future

Agricultural viability in Tompkins County could benefit from a more strategic, coordinated and comprehensive approach to farmland protection. Currently, there is very little coordination between the various levels of government and private interests on issues of development and farmland protection. The existing farmland protection efforts can serve as the foundation to build a more strategic and comprehensive approach to conserving farmland resources.

Although agricultural operations exist throughout the county, several areas are considered to be strategic in terms of keeping agriculture thriving. The Agricultural Resources Focus Areas that were identified in a 2002 countywide study have the best soils and high concentrations of contiguous, actively farmed parcels of land. These areas provide the best opportunity to create a critical mass of protected agricultural land to ensure the long-term viability of agriculture in the area. Nearly all of the land in the Agricultural Resources Focus Areas is within an agricultural district or receives agricultural assessments. Unfortunately, many of the areas are losing farmland due to the creation of frontage lots and nonfarm residential construction or other forms of development pressure.

In addition to the Agricultural Resources Focus Areas, the Towns of Ithaca and Danby have identified locally important agricultural lands that are key to local protection efforts. The Town of Ithaca's Agricultural Land Preservation Program identifies areas of specific farmland resources for preservation through a purchase of development rights program.

AGRICULTURAL RESOURCES FOCUS AREAS



Sources: Tompkins County Planning Department, Town of Danby Comprehensive Plan (2003); Town of Ithaca Agricultural Land Preservation Program (1999)

The Town of Danby's Comprehensive Plan prioritizes clusters of historic farm resources according to their contribution to the rural character of the town and their need for preservation.

The Agricultural Resources Focus Areas, along with locally designated important agricultural areas, could form the basis of a countywide approach to foster a long-term commitment to the preservation of agricultural land.

Policies

When considering rural economic development strategies, income enhancement may be just as important as job creation. If we can better nurture the entrepreneurial spirit of rural business owners, there is a greater potential to enhance the incomes of rural residents and increase the standards of living in our rural areas. Filling the gaps in capital and technical expertise needed to support more successful rural businesses will strengthen rural communities. It is also important to preserve and manage the economic and ecological functions of the rural landscapes in ways that are sustainable for agriculture, forestry, recreation, tourism, and maintaining a rural way of life. By encouraging development patterns intended to preserve open space, agricultural land and forest areas, we can protect the beauty and natural environment that make rural living desirable.

It is the policy of Tompkins County to:

- Enhance the viability of existing farming operations and agricultural businesses, and encourage new ones to be formed.
- Support sustainable formal and informal resource-based economic development activities, such as forest management, timber harvesting, and agri-tourism, which support a rural way of life.
- Sustain and enhance the agricultural activities and working farms within the Agricultural Resources Focus Areas identified in the Plan, and within locally designated important agricultural areas.
- Encourage development that is designed to preserve open space and valuable agricultural and forest land.
- Protect prime agricultural land for agricultural use.
- Support community and economic development efforts that enhance the incomes of, or provide services primarily to, rural residents.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Determine the feasibility of a rural micro-enterprise program, including adding a component to the County's Economic Development Revolving Loan Fund.
- Update the Agriculture and Farmland Protection Plan with a particular focus on promoting the viability and profitability of agriculture within the county.
- Establish a program to protect and manage land for agricultural and forestry use in the focus areas identified in the Comprehensive Plan using tools appropriate to the functions of those resources.
- Develop or identify model performance standards to preserve agriculture and forest land.

Interlocking Pieces: The Environment

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PRINCIPLE

Water resources provide drinking water, recreational opportunities, and environmental benefits, and should be protected and used appropriately.

Water Resources

Not long ago water seemed like an inexhaustible resource, but sufficient water of a quality and quantity to serve human needs is becoming an increasingly scarce commodity worldwide. While some aquatic systems exhibit a remarkable resilience to disruption, others are vulnerable to small incremental changes that can undermine their benefits to our community.

Tompkins County is blessed with diverse water resources that provide for the domestic, commercial, and recreational needs of the community, and are necessary for the survival of many plants and animals locally and regionally. Tompkins County is a major contributor to the Cayuga Lake watershed, with about 80 percent of Tompkins County's water draining north into the Finger Lakes and eventually into Lake Ontario, and 20 percent draining south to the Susquehanna River and eventually into the Chesapeake Bay.

> Groundwater, surface water, and wetlands do not function as separate systems but are part of an interconnected whole.

The three major categories of water resources are surface water, groundwater, and wetlands. Surface water consists of streams, creeks, lakes, and ponds. Groundwater is water that is stored in the underground spaces between deposits of sand, gravel, and silt, and in the cracks in bedrock. Groundwater deposits that can be expected to yield significant quantities to wells are called aquifers. Areas where surface water infiltrates into these aquifers are called recharge areas and are particularly important to the protection of groundwater quantity and quality. Wetlands include land areas that are inundated with water year-round, as well as areas that are dry for part of the year but collect water seasonally. Wetlands and riparian areas (lands associated with streams and rivers) are important because they temporarily store floodwaters, filter pollutants from surface waters, control erosion and sediment, supply surface water flow and recharge groundwater supplies, and provide habitat for fish and wildlife. Tompkins County contains about 20,000 acres of identified wetlands.

These three major classifications of water resources are distinct parts of a larger interconnected water resources system and should be considered and managed as a system. The United States Geological Survey has recently determined that approximately 60 percent of the flow in surface water streams in central New York originates from groundwater resources.

Drinking Water Supplies

Surface water provides drinking water for approximately 55 percent of Tompkins County residents. Three water treatment facilities in the county rely on surface water. Bolton Point, operated by the Southern Cayuga Lake Intermunicipal Water Commission, draws its water from Cayuga Lake; the Cornell Water Filtration Plant draws from Fall Creek; and the City of Ithaca Water Treatment Plant uses water from Six Mile Creek.

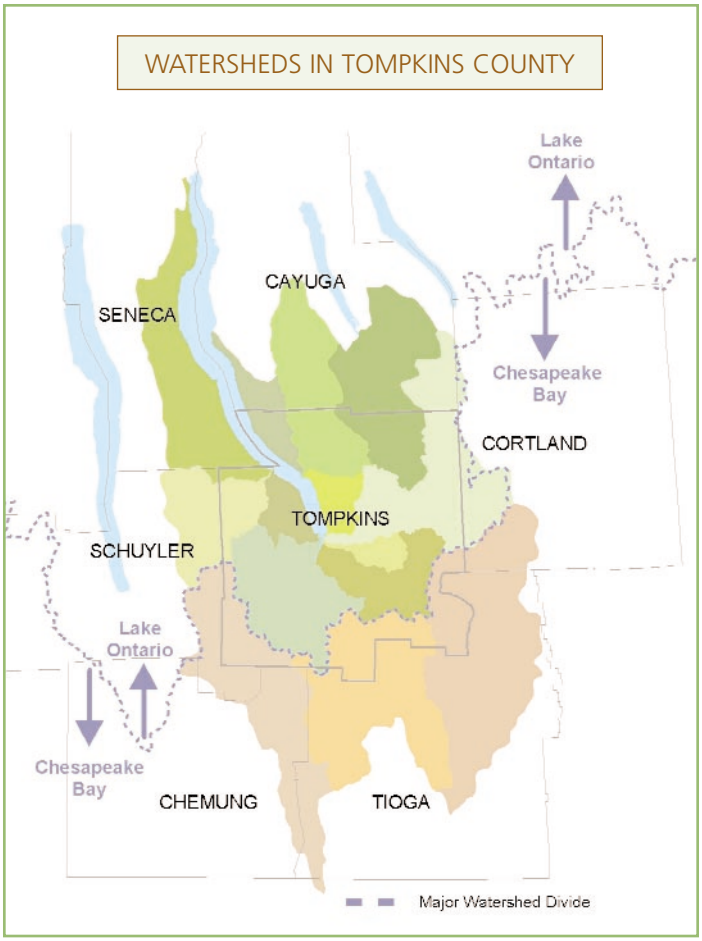
Groundwater is the source of drinking water for approximately 45 percent of county residents, including those with individual wells or on one of five municipal drinking water systems that rely on groundwater, and over 170 small private systems.

The amount of available drinking water is primarily an issue in rural areas of the county that obtain drinking water from groundwater. As more homes and businesses are built in these areas, they are supported by new wells withdrawing more water from the aquifers. In some parts of the county new wells can noticeably decrease the supply of water from wells in nearby areas.

Drinking water quality, however, is an issue countywide. Some of our water supplies are threatened by the potential contamination of an entire aquifer or water body that can result from a single accidental chemical spill or leaking fuel storage tank. Another potential threat to drinking water supplies is aging, inadequately sized, and improperly managed individually-owned septic systems. Currently, individually-owned septic systems serve approximately 40 percent of all households in Tompkins County.

> Studies to determine the extent of our aquifers and define their recharge areas are critical to the protection of these resources.

Land uses and facilities that pose the greatest threats should be located away from areas that contribute to drinking water supplies. Studies to determine the extent of our major surficial aquifers and define their recharge areas are critical to the protection of these resources and should be continued.



Sources: U.S. Geological Survey; Tompkins County Information Technology Services

Threats to Water Quality and Quantity

Many of the threats to water quality in Tompkins County come from more dispersed, "non-point" sources. Since 1969, low-density development in the county has increased by 10,000 acres and the amount of impervious surfaces has increased by nearly 1,000 acres. These changes, the associated increase in non-point source pollution, and the intensification of land use have led to increased erosion and sedimentation, loss of wetlands and riparian areas, greater amounts of stormwater runoff and pollutants carried by the runoff, as well as an increase in flooding. Other impacts of increased rates of stormwater runoff include accelerated channel erosion and alteration of streambed composition, which can dramatically degrade aquatic habitats. A New York State Department of Environmental Conservation water quality study found that from 1992 to 2002, water quality throughout New York State declined, attributable in large part to changes in land use and the intensity of land use.

Similar threats to water quality throughout the United States have prompted the Environmental Protection Agency (EPA) to promulgate the Phase II stormwater regulations. These regulations require all construction projects that disturb more than one acre to implement practices to minimize erosion and, in some cases, monitor runoff. The EPA regulations also require certain municipalities to develop regulations and management plans to help manage stormwater.

In Tompkins County, the impacts of land use change on water resources culminate primarily in Cayuga Lake. The shallow southern end of Cayuga Lake is inherently more vulnerable to pollution than other, deeper portions and suffers from a number of water quality problems including elevated sediment and phosphorous levels, algae blooms, odors, and elevated levels of coliform bacteria. Low levels of agricultural chemicals have also been detected in the lake.

The loss of wetlands that once acted as sediment traps, as well as streambed and streambank erosion, contribute to sedimentation in the southern end of Cayuga Lake. Though sedimentation is often related to changes in land use, construction, and land management practices, it can also result from natural geological processes. An assessment of the Six Mile Creek watershed, revealed that much erosion and sedimentation in that watershed could be directly attributed to natural processes.

> From 1992 to 2002, water quality throughout New York State declined.

Stormwater Runoff and Flooding

Increased stormwater runoff has a significant impact on floodplain management. As land area is converted to more urbanized uses, the amount of impervious surface associated with that land use generally increases, causing a reduction in groundwater replenishment and increased non-point source pollution and flooding. This increases both the frequency and magnitude of flood events. Flooding and stormwater runoff concerns are exacerbated in many parts of Tompkins County because of the steep slopes and glacially-dominated soils that do a poor job of absorbing runoff during heavy rains or snowmelt. Major storm events occur relatively frequently, and the capacity of our many streams can be quickly overwhelmed.

Population centers that are clustered in valleys and along the shores of creeks are particularly vulnerable to repetitive flooding. Many of Tompkins County's manufactured homes are located in designated floodplains, increasing the vulnerability of these residents to flood events.

Waterfront

We are fortunate in Tompkins County to have approximately 26 miles of shoreline along Cayuga Lake, a magnificent environmental, recreational, social, and economic resource. The shoreline of the lake is dominated by recreational and residential land uses. Several prominent parks are located along Cayuga's shores: Taughannock Falls State Park, Lansing Town Park at Myers Point, Stewart Park, and Cass Park. Much of the remainder of the shoreline outside the City of Ithaca is characterized by residential development.

In addition, the waterfront is home to businesses and utilities that depend upon or are related to the lake. Facilities such as marinas, boat rental services, boathouses, and the like, are absolutely dependent on a waterfront location. Many utilities are also dependent upon a location on or near a water body. Examples in Tompkins County include wastewater treatment facilities in the City of Ithaca and the Village of Cayuga Heights, Bolton Point Water Treatment Plant, AES Cayuga power plant, and the Cornell Lake Source Cooling heat exchange facility.

Some businesses, while not dependent on a waterfront location, are strongly linked to and benefit greatly from a location on the waterfront. Restaurants, hotels, and water-related attractions can help draw tourists to the waterfront.

> Waterfront lands should be reserved for water-dependent uses and complementary water-enhanced uses.

The City of Ithaca's waterfront, along Cayuga Inlet, offers a tremendous opportunity to develop an urban waterfront experience for both residents and tourists alike. Recent and ongoing efforts to enhance this waterfront include the Inlet Island Promenade; the Cayuga Waterfront Trail – which will eventually connect the Visitors Center to Cass Park – and relocation of the New York State Department of Transportation's Maintenance Facility.

Policies

It is the policy of Tompkins County to:

- Promote appropriate development of waterfront lands for water-dependent or water-enhanced uses, including enhancing public access to Cayuga Lake.
- Protect water quality and quantity in the county's streams, lakes, and groundwater.
- Protect drinking water supplies from contamination.
- Protect stream corridors, wetlands, and land areas that are seasonally inundated by water.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Complete watershed assessments for the Fall Creek and Six Mile Creek drinking water sources.
- Continue to conduct aquifer studies.
- Initiate inspection and maintenance requirements for individual on-site wastewater treatment systems.
- Update the county flood hazard mitigation program to incorporate watershed-based approaches to reducing the risk of flood damages.
- Update floodplain maps.
- Develop or identify model stream buffer ordinances.
- Develop a system to provide for regular maintenance of existing drainage systems and use of appropriate road ditching techniques on County-maintained roads, and encourage the use of such techniques on other roads in the county.
- Develop boat docking, boat service areas, and a waterfront commercial district on, and in the vicinity of, Inlet Island in the City of Ithaca.
- Redevelop the NYSDOT Maintenance Facility site with water-dependent and/or water-enhanced projects to provide economic benefits to the City and the County and provide public access to the water's edge.
- Dredge Cayuga Inlet and find an appropriate method for disposal of dredge spoil material, for example, using dredged material to create new, functioning wetlands at the south end of Cayuga Lake.
- Prepare a Cayuga Lake water quality and quantity monitoring plan.

PRINCIPLE

Natural features that define our community, and form the foundation of our local and regional ecological systems, should be preserved and enhanced.

The Need for Preservation

Tompkins County is known for its resplendent landscapes and natural havens. Both local residents and visitors enjoy and appreciate Cayuga Lake; the many gorges, streams, and waterfalls; and our rolling farmland, fields, and wooded hillsides. In fact, we are living in a landscape that became more diverse during the twentieth century with the return of forests in the southern parts of the county and the preservation of significant tracts of our most valued natural areas as parks, state forests, and preserves. In contrast, in the latter part of the twentieth century sprawling development started to adversely impact these natural features.

Increasing rates of land development threaten to fragment the landscapes we cherish, calling into question the consequences of land use policies that do not include a long-term goal of sustainability. For example: Will our existing natural areas be degraded by encroaching development? Will the return of native wildlife such as river otters, wild turkeys, beavers, and bald eagles continue? Will the scenic views we take for granted as part of our quality of life be marred by inappropriate development?

> Increasing rates of land development threaten to fragment the landscapes we cherish.

If we wish to continue to enjoy these features of our community, we need to take action to protect them. Conservation efforts should be determined through public education, development of protection plans, and public/private partnerships. Sustaining profitable and functioning landscapes will be key to protecting these areas over the long term.

Our Natural Bounty

A recent study of tourism in Tompkins County, conducted for the Convention and Visitor's Bureau, found that visitors ranked beautiful scenery and waterfalls, and outdoor activities among the features of Tompkins County they liked the most. In addition to a vast number of streams, gorges, waterfalls, lakes, forests, and wetlands, the county also has four state parks, nearly 39,000 acres of protected natural areas, and miles of hiking and multi-use trails.

Central to Tompkins County's beauty and character is Cayuga Lake. The Cayuga Lake valley's spectacular topography, with steep slopes to the east and west and a relatively flat drainage basin to the north, was carved by periods of glacial advance and recession.

Although Cayuga Lake provides a variety of recreational opportunities for Tompkins County residents and visitors, lake access is somewhat limited. Boating facilities at the southern end of the lake are available at Allan H. Treman State Marina and Taughannock Falls State Park on the west side, and at Noah's Marina and Myers Point Municipal Park on the east side. Swimming is limited to Taughannock Falls State Park and Myers Point, although prior to the 1960s there was also a swimming beach at Stewart Park in the City of Ithaca. Hiking and biking amenities along the lake have improved dramatically in recent years, in particular with the development of the Waterfront Trail in the City of Ithaca.

Wetlands provide flood protection and abatement, erosion and sedimentation control, water quality maintenance, groundwater recharging, surface flows maintenance, fish and wildlife habitats, nutrient production and cycling, recreation, open space, education and scientific research opportunities, and biological diversity. There are nearly 20,000 acres of wetlands in Tompkins County identified in the National Wetlands Inventory. The New York State Department of Environmental Conservation has regulatory authority for more than 5,000 of these acres.

Tompkins County is crisscrossed with creeks and streams, from major waterways to seasonal rivulets whose music fills our woods. Major creeks include Salmon Creek, Cayuga Inlet, Six Mile Creek, Cascadilla Creek, Fall Creek, Owasco Inlet, Owego Creek, Catatonk Creek, Cayuta Creek, and Taughannock Creek. There are also more than 40 additional named perennial streams, as well as numerous intermittent streams. These stream corridors provide important habitat benefits, promote biodiversity, and connect pockets of open space. Vegetated stream buffers also provide important water quality functions, such as filtration and erosion control.

> Central to Tompkins County's beauty and character is Cayuga Lake.

The Unique Natural Areas (UNAs) of Tompkins County are sites with outstanding environmental qualities deserving of special attention for preservation and protection. The 192 designated Unique Natural Areas are found in gorges, woods, swamps, fens, cliffs, and along streams. They are located throughout the county and range in size from less than an acre to more than 4,000 acres.

Greenways provide connecting links between large tracts of existing protected open space. They are intended to meet the needs of wildlife (both plants and animals) for habitat dispersal, breeding, and migration. The 90 square miles of greenways, identified by the Tompkins County Greenway Coalition in 1995, form the basic components of a biological corridor system.

The National Audubon Society, with the support of the American Bird Conservancy, initiated the New York Important Bird Areas (IBAs) program in the Spring of 1996. They identified areas based on the concentration of birds, the presence of endangered, threatened or special concern bird species, the type of habitat, and the use of the site for avian research. Four of the 127 identified Important Bird Areas in New York State are located in Tompkins County.

Tompkins County has nearly 200 miles of hiking and multi-use trails. This includes the Finger Lakes Trail, park trails, trails in state forests, Cornell trails, and trails on nature preserves. In addition, the 1995 Greenways Plan identifies a number of corridors in Tompkins County with potential for future trail development. The future trail corridors were identified based on the location of abandoned railroad beds, the location of population centers, and the potential for connecting existing trails and natural areas.

PROTECTED NATURAL AREAS

As of August 4, 2004

Owner	Acres
New York State	27,801
Cornell University	6,528
Finger Lakes Land Trust	2,609
City of Ithaca	1,071
Tompkins County	654
The Nature Conservancy	393
Private/other	75
Other local municipalities	30
TOTAL	**39,161**

Source: Tompkins County Planning Department

Existing Protected Open Space

Protected open space includes natural areas such as state lands, Finger Lakes Land Trust preserves and conservation easements, Nature Conservancy preserves, and county reforestry lands, as well as other types of open space such as municipal parks, county airport clear zones, and cemeteries. Many natural resources – such as wetlands, greenways, bird areas, and areas of unique plant and animal species – are located in these protected areas. In addition, many of these are open to the public and provide important recreation opportunities.

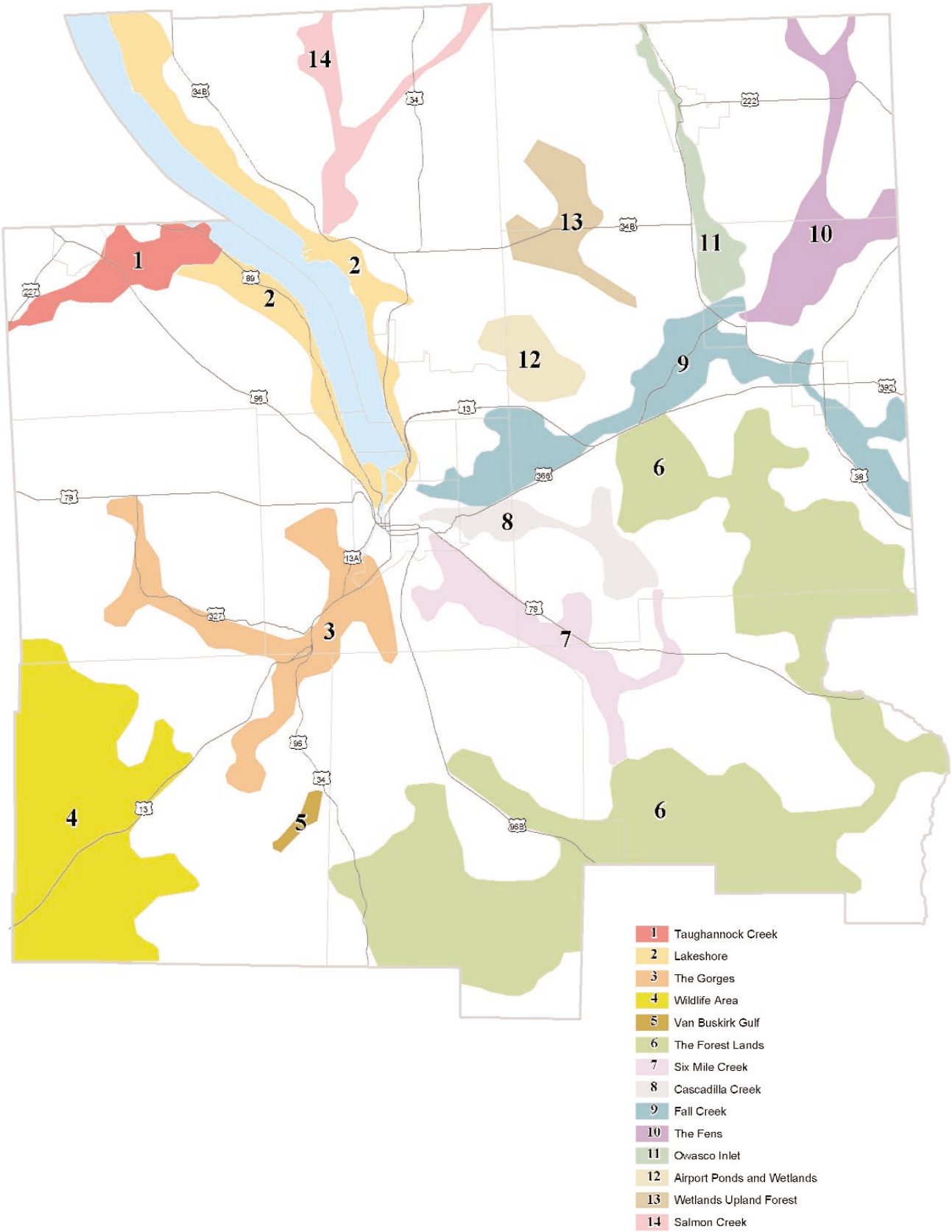
Four state parks serve as recreational focal points in the county, drawing visitors from throughout the region. The planned Black Diamond Trail, which will connect these four parks along an abandoned rail corridor, will greatly enhance the recreational opportunities associated with the parks. Unfortunately, state parks in the county are also increasingly affected by development. The swimming areas at Treman and Buttermilk Falls State Parks have periodically reported elevated levels of bacteria and turbidity, which may impair the long-term viability of swimming at these popular sites. In addition, noise, light pollution, and viewshed impacts associated with development threaten the outdoor experience that makes these parks so special. At risk is not only the enjoyment of these parks by members of the community, but also the appeal of these locations as tourist destinations.

Lands already protected by ownership provide an important framework for future protection efforts. Enhancing these areas through further protection of surrounding lands will help create a “critical mass” of interconnected open space that will promote habitat connections, sustain agriculture, protect water quality, ensure the health of wildlife populations, and provide outdoor recreation opportunities for generations to come.

Natural Features Focus Areas

Good land stewardship, and the strong connection between landowners and their lands, provides a foundation for long-term preservation of the natural resources we value. Individual efforts, however, cannot fully address the need for community-wide open space preservation. Successfully preserving open space and its various functions requires a coordinated effort that spans across property lines and municipal boundaries. Identifying areas in the county to focus our efforts will help achieve this goal.

NATURAL FEATURES FOCUS AREAS



Source: Tompkins County Planning Department

NATURAL FEATURES FOCUS AREAS

Taughannock Creek	3,000 acres	About 25 percent is located in Taughannock Falls State Park. Resources include Taughannock Creek, a biological corridor, small wetlands, UNAs, a portion of an IBA, a portion of the Black Diamond Trail, and waterfront access.
Lakeshore	9,000 acres	This area surrounds the most significant natural focal point of Tompkins County. Resources include a large biological corridor, an IBA, numerous stream corridors, and important wetland clusters, waterfront access, and trail corridors.
The Gorges	8,000 acres	Three spectacular gorges include hanging cliffs with substantial waterfalls. Almost 40 percent of the area is protected by ownership, largely by inclusion in Buttermilk Falls State Park and Treman State Park. Resources include UNAs, wetlands, a biological corridor, a municipal well, a portion of the Finger Lakes Trail, and trails in the state parks.
Wildlife Area	16,000 acres	There is very little development in this area, particularly outside the Route 13 corridor. The area is predominantly forested, with agricultural lands in the valley. About 60 percent is already protected as open space. Resources include a biological corridor, an IBA, UNAs, wetlands, perennial streams, significant sections of the Finger Lakes Trail, and two potential trail corridors. The area is home to a growing population of black bears.
Van Buskirk Gulf	400 acres	This area is small but significant for the natural features it possesses. Resources include a high-ranking UNA which accounts for more than half the focus area, Chaffee Creek, and a potential trail corridor.
The Forest Lands	40,000 acres	This crescent-shaped area includes four state forests. More than half the area is protected by ownership. Resources include UNAs, portions of several biological corridors, multiple creeks, wetlands, and an extensive trial network.
Six Mile Creek	5,000 acres	This area is defined by Six Mile Creek and its perennial tributaries. Almost 30 percent is protected by ownership, primarily as part of the City of Ithaca Six Mile Creek Natural Area and watershed protection area. Resources include an extensive biological corridor, UNAs, wetlands, and existing and potential trail corridors.
Cascadilla Creek	3,000 acres	Almost 50 percent of this area is protected open space. Resources include a biological corridor, wetlands, UNAs, East Hill Recreation Way, Ellis Hollow Nature Preserve trails, and the Cornell Plantations Cascadilla Creek trail. These trails provide recreation as well as transportation connections between downtown Ithaca, Cornell, and outlying population areas.
Fall Creek	9,000 acres	Almost 25 percent of this area is protected by ownership. Resources include an IBA, wetlands, UNAs, a biological corridor, potential trail corridors, and an existing trail network that includes Cornell Plantations trails, Dryden Trail, Freeville Trail, and the Dryden Lake Park Trail.
The Fens	5,000 acres	This area includes numerous and extensive fens, which are designated as a National Natural Landmark. The fens, many of which are part of UNAs, are scattered along the stream corridors. Additional resources include a biological corridor and the proposed Lime Hollow Trail.
Owasco Inlet	2,000 acres	This focus area currently has no land protected by ownership. Resources include a biological corridor, wetlands, and a UNA. A potential trail extends along an abandoned railroad grade from the Village of Freeville past the Village of Groton.
Airport Ponds and Wetlands	2,000 acres	More than a third of this focus area is protected by ownership by inclusion in the Cornell University Natural Areas. Resources include a number of large wetlands and UNAs.
Wetlands Upland Forest	3,000 acres	Fifteen percent is protected by ownership. Protected lands include a large upland farm that provides a connecting link between the clusters of low-lying wetlands that define this focus area. Other resources include a biological corridor along Mill Creek, and several UNAs.
Salmon Creek	3,000 acres	Only about 50 acres of this area are currently protected by ownership, mostly as a Finger Lakes Land Trust Nature Preserve. Resources include an IBA, a biological corridor, wetlands, and a UNA.

Tompkins County has been proactive in identifying and mapping many of the natural resources in the county. Based on the location and concentration of those resources, such as Unique Natural Areas, wetlands, stream corridors, public drinking water resources, Important Bird Areas, and hiking and multi-use trails and trail corridors, the County Planning Department has identified 14 distinct and significant Natural Features Focus Areas, ranging in size from 400 to 40,000 acres.

Benefits of Preserving Open Space

Open space provides a variety of important quality of life functions including the health benefits of outdoor recreation and general enjoyment of the natural beauty and scenic views. These amenities can contribute to the local economy by increasing property values and tax revenues, attracting tourists, and ensuring the continuance of agriculture and other unique working landscapes. A case study of town-houses in Tompkins County found that views of "ecological greenspace," defined as some type of protected natural area, increased the property value. This was also true for properties near Cayuga Lake, major creeks, and state parks.

Open space also supports valuable environmental processes such as protecting significant types of habitat and enhancing critical environmental processes such as water filtration, recharge of groundwater resources, and climate control.

Policies

Tompkins County has been proactive in identifying many of the natural features we value, through the Unique Natural Areas Inventory, Building Greenways for Tompkins County, and the Tompkins County Agricultural Lands and Natural Areas Feasibility Study. The identified Natural Features Focus Areas indicate where conservation efforts should be applied through public education, the development of protection plans, and public/private partnerships.

It is the policy of Tompkins County to:

- Preserve the natural features, ecosystems, and forest lands within the Natural Resources Focus Areas identified in the Comprehensive Plan.
- Preserve and protect scenic views, areas of natural beauty, and the rural character of Tompkins County.
- Protect the ecological, economic, and recreational functions and beauty of Cayuga Lake.
- Preserve and enhance existing parks, hiking trails, active and passive recreation facilities, and historic resources, and foster the creation of new recreational amenities.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Establish an open-space program to protect or preserve natural resources and recreational amenities in the focus areas identified in the Comprehensive Plan using tools appropriate to the functions of those resources.
- Define stream corridor buffers for the major tributaries to Cayuga Lake and encourage use of appropriate measures to preserve the designated stream corridors.
- Develop and disseminate educational information tailored to each Natural Features Focus Area and each Agricultural Resources Focus Area.
- Conduct a Scenic Resources Inventory and prepare a Scenic Resources Preservation Plan.
- Develop or identify model performance standards to preserve natural resources.
- Develop or obtain a system to track land use changes and preservation efforts.
- Complete the Cayuga Waterfront Trail and the Black Diamond Trail.

Interlocking Pieces: Neighborhoods and Communities

CORNELL UNIVERSITY CRP GIS WORKSHOP FALL 2003

Strong Communities

PRINCIPLE

Tompkins County residents should be safe, healthy, and comfortable with the aesthetics of their communities, and have daily opportunities to interact with neighbors and community members to build strong, cohesive communities.

What Makes a Strong Community?

Strong communities come in many different packages. Some can be found in clusters of houses in rural areas, others in busy urban neighborhoods, and still others in suburban subdivisions. Common characteristics of strong communities are friendly relationships between neighbors, satisfaction with the quality of the built environment, and a feeling that residents can live a safe and healthy life. There is a national trend for skilled workers and employers to move to locations – often smaller cities – that offer a variety of strong communities.

An indicator of a strong community is how frequently people walk in their neighborhoods. The presence of walkers indicates that elements of pedestrian infrastructure, security, convenience, and community destinations are present. Among the benefits for walkers are impromptu interactions with neighbors, which foster a sense of belonging. Walking is also a healthy, stress-relieving, and low-cost means of exercise.

> An indicator of a strong community is how frequently people walk in their neighborhoods.

Benefits of a Walkable Community

Surveys have shown that people who walk for recreation and exercise tend to walk near their homes, and people who live in neighborhoods with walkways that connect to multiple destinations walk three times as often as people who live on streets that do not connect to destinations.

Communities can be built or improved so that walking is a viable alternative. An inviting pedestrian infrastructure can reduce the need for people to drive cars to every destination. Among the many benefits of a walkable community are improved air quality, lower transportation costs, and improved personal health and fitness. Another significant benefit is improved access to services for the portion of the population that is too old, too young, or too poor to drive.

Walkability is defined as the degree to which people feel comfortable and safe walking to and from destinations. A good general rule of thumb is that people are willing to walk five to ten minutes to run an errand or walk to school, but for anything over that distance, the inclination shifts to driving a vehicle. A five- to ten-minute walk translates roughly into a quarter- to a half-mile in distance. Since low-density suburban developments are rarely located within ten-minute walks of destinations and are rarely designed to be

Where would you rather walk?

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Safety, aesthetics, social perception, and infrastructure all contribute to how inviting an area is for walking.

easily and invitingly accessible to pedestrians, these types of development patterns result in increased dependence on the automobile resulting in fewer pedestrian trips and increased traffic and congestion.

The Impact of Automobiles

With the widespread and affordable ownership of private cars, suburbanization of shopping areas, and the development of schools and other community destinations outside of existing population centers, the simple act of walking has fallen out of favor. Residential development outside of existing population centers, combined with a more sedentary lifestyle has led to fewer people walking or biking to work, school, and other destinations.

Estrangement from this basic, healthy, and enjoyable activity has had many negative consequences, among them poor human health, stress on our roadway infrastructure, degradation of the environment, and erosion of social interaction among neighbors. The overuse of automobiles has affected our well-being in numerous ways:

- Health: Americans in general are exercising less and eating more, with resulting dramatic increases in obesity, diabetes, heart disease, and other illnesses. Poor diet and lack of exercise is now second only to cigarette smoking as a leading cause of death in the United States.
- Highways: Heavy use of our streets, roads, and highways leads to deteriorating road conditions and the need for repairs that many governments are finding difficult to afford.
- Environment: According to the Environmental Protection Agency, 51 percent of the carbon monoxide in typical U.S. cities comes from vehicles, with vehicle emissions contributing significant amounts of the air pollutants that affect human health and the environment.
- Social Connections: Dependence on the automobile for even the shortest household trips limits social interaction among neighbors, adding to the increasing trend of social isolation.

The Wish to Walk

The 2000 U.S. Census showed that many Tompkins County residents are walkers, much more so than other Upstate residents. In 2000, an average of 4 percent of all people walked to work in New York State (omitting New York City). In Tompkins County, 17 percent walked to work, and 1 percent rode a bicycle. In the City of Ithaca, the percentage of walkers was 41 percent. Many of the walkers are students, but even with students removed from the calculation, the countywide average for walking is 7 percent.

Another item gleaned from the 2000 Census is that the number of walking commuters in New York State declined by 24 percent from 1990 to 2000. In Tompkins County, the number of walkers declined by just 2 percent. It appears that we are a community that relies on and values walking.

The Price of Suburbanization

Traffic impacts on neighborhoods, deterioration of community infrastructure, disinvestments in existing neighborhoods, and rural and suburban isolation are problems that are increasingly impacting Tompkins County communities. Pedestrian-scale development and enhanced walkability can contribute to more vital and sustainable places to live and work.

While traditional rural communities were linked together by the bonds of an agrarian economy and grassroots cooperative problem solving, such commonality of interests and interaction is often lacking in today's suburban and rural residential areas.

Low density sprawling development creates living environments that provide few opportunities for interaction with neighbors and often lack such amenities as sidewalks and neighborhood parks that contribute to a healthy lifestyle. Health officials have made the link between built environments that encourage walking and active, healthier lifestyles.

Planning trends nationwide are reacting to the proliferation of suburbs through movements such as New Urbanism, Neotraditional Planning, and Healthy Communities. In New York State an outgrowth of these movements is the Quality Communities Initiative. What these movements have in common is an attempt to create communities that derive strength and vitality from the greater interaction among neighbors and the health benefits that result from well-developed pedestrian networks and nearby availability of employment, shopping, community facilities, and other services.

A Return to Aesthetics and Community Identity

The built environment influences residents' sense of community identity and personal well-being. In developed settings, attractively lit paths and sidewalks, buildings set close to the street, and attractive plantings and design elements promote a feeling of safety and create an inviting environment for pedestrians. In rural areas, beauty is found in the natural environment and working landscapes, in historic farmhouses and barns, and in thoughtfully placed houses that settle back into the rural setting. Attention to these details can create development that improves, rather than detracts from, the aesthetics of our built environment. A visual distinction between rural areas and population centers also helps to promote a sense of place.

While developers need to respond to basic commercial or housing needs, developments can and should also help create communities that are distinctive, beautiful, and welcoming.

> Development should not only respond to basic commercial or housing needs, but should also help create communities that are distinctive and welcoming.

Fostering the types of physical environments that create a sense of civic pride also supports a more cohesive community fabric. As a result, economic benefits accrue as well; high-quality communities with architectural and natural elements that reflect the interests of all residents are more likely to retain their economic vitality and value over time.

Communities that have a strong sense of place represent the values of their residents and reflect the unique historical, cultural, economic, and geographical context of the area. They use natural and man-made boundaries and landmarks to create a sense of defined neighborhoods, urban communities, and rural hamlets. These communities encourage the construction and preservation of buildings that contribute to the look and feel of a community. Beyond the construction of buildings, these communities reflect their unique characteristics in myriad details – such as landscaping, signs, and awnings – that help to further distinguish the area for passers-by and visitors.

Guided by their own vision of how and where to grow, communities that have adopted these techniques can direct investment and development into areas that already reflect a strong sense of place. Moreover, these communities can encourage new development to create unique civic assets.

Policies

It is the policy of Tompkins County to:

- Facilitate the creation and maintenance of a safe, appealing, and efficient multi-purpose network for walking and enhance the pedestrian environment through appropriate design.
- Locate County government facilities and encourage other community facilities to be located within population centers, particularly those facilities that provide opportunities for social interaction, group activities, community events, and meeting spaces.
- Encourage the development of diverse communities that provide a mix of uses, a variety of employment options, social and recreational opportunities, and an assortment of amenities within walking distance of residential development.
- Enhance the quality of communities by improving the character of the built environment, including visually appealing architectural elements and streetscapes that encourage pedestrian travel, facilitate community interaction, and promote public safety.
- Preserve and enhance the distinct identities and historic character of existing neighborhoods and structures, and encourage the development of new neighborhoods that possess their own special sense of place, through attractive design of public places; proximity to schools, parks and other services; and community festivals and events.
- Improve transportation options for people who need access to employment, schools, shopping, health facilities, and community services.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

→ Advance implementation of a countywide multiuse trail network.

→ Conduct pedestrian level-of-service and walkability studies in neighborhoods, villages, and hamlets throughout the county.

→ Provide pedestrian connections between the waterfront and downtown through urban creek corridors.

PRINCIPLE

The development patterns reflected in the existing villages, hamlets, and the City of Ithaca's downtown area and neighborhoods should be promoted as key components of the built environment that greatly contribute to the vitality of the local economy and community life.

The Consequences of Sprawl

Traditional historic patterns of development are still very visible and prominent in much of Tompkins County. The pattern of a main street neatly lined with historic buildings sitting amid a grid of neighborhood streets can be seen in the City of Ithaca and its neighborhoods, and in most of the county's villages. Suburban development patterns, which were the dominant development trend of the second half of the twentieth century, can also be found throughout the county.

During the post-World War II era, many communities experienced rapid expansion at the edges of their population centers. Central neighborhoods within cities, town, and villages were emptied of wealth and workers in favor of newer, low density, dispersed developments on their fringes. This pattern of development has had a dramatic effect on the social and economic viability of existing communities, as well as significant impact on the natural environment and quality of community life. The development of formerly open lands has reduced plant and animal habitats, degraded water resources and quality, and influenced transportation choices that have contributed to degraded air quality and increased the threat of global climate change.

This pattern is evident in Tompkins County in the lower density subdivisions built in the suburbs and outlying areas, in the strip commercial development along roadways, and in the residential housing along rural roads throughout the county. Suburban sprawl and low-density, scattered rural development have provided additional housing and living options for residents of the county. However, if this type of land use continues to dominate development practices in the county, the downsides – which are many – will become more pronounced. Problems associated with low-density development and sprawl include:

- Disinvestments in traditional community centers;
- Fragmentation and destruction of farmland, forests, wildlife habitats, and other open space resources;
- Increased traffic from heavy reliance on the automobile;
- Degradation of urban neighborhoods;
- Higher costs of providing public services;
- Strain on volunteer fire departments and other emergency services to meet the needs of a dispersed community; and
- Isolation and lack of access to jobs and services.

> Land is being developed at a far greater rate than the rate of population growth.

A 2003 analysis of growth and development trends and population in Upstate New York found that suburban development patterns lead to great imbalances in land use compared to population growth. In the 15 years from 1982 to 1997, the amount of developed land increased by 30 percent. Meanwhile, population grew by just 2.6 percent, reducing the density of the built environment by 21 percent.[6] Clearly, land is being developed at a far greater rate than the rate of population growth. If we can focus growth into existing community centers we can reduce development pressure on the natural resources we cherish, and increase the vitality of our communities.

A Return to the Traditional Neighborhood

A key element in combating this sprawling land use pattern is a return to a pattern of development that resembles more closely the traditional neighborhood and village than the typical late twentieth century suburb. New concepts of urban design make such density compatible with many of the amenities that were sought by those moving to suburban areas, such as more green space, more parks and trails, and increased safety. A denser pattern of development also provides enhanced living options for our aging population including the opportunity to use public transit for health care visits and other services.

Conventional development patterns have helped to create a predominance of strip-mall shopping centers and large suburban tract home developments that are often, with the exception of small cosmetic variations, largely indistinguishable from one another. This does little to stimulate civic pride or contribute to a strong sense of place with which community residents can identify.

[6] Rolf Pendall, *Sprawl Without Growth: The Upstate Paradox*

Mixed Land Use

Mixing land uses – commercial, residential, recreational, educational, and others – in neighborhoods or places that are accessible by bicycle and on foot can create vibrant and diverse communities. A mix of uses attracts people to shop, meet friends, and live in neighborhoods like Fall Creek in the City of Ithaca or villages like Trumansburg, two areas that have seen rapid appreciation in the value of residential real estate.

Mixed land uses are critical to achieving great places to live, work, and play. When homes are located within short distances to grocery stores, schools, or key employment centers, residents can take advantage of alternatives to driving, such as walking or biking. A mix of land uses also supports a more varied population and a wider commercial base to support public transit. Mixed land uses can enhance the vitality and security of an area by increasing the number of people using sidewalks and walkways. A mix of land uses also helps to revitalize community life because streets, public spaces, and retail establishments again become places where people meet and talk.

Mixed land uses also bring substantial fiscal and economic benefits. Commercial parcels often have higher property values, and when located near residential areas can help raise local tax revenues. Businesses recognize the benefits of being able to attract customers and clients, as well as skilled workers, from nearby residential centers. Many of the nation's best commercial real estate markets are in cities and suburbs with vibrant, traditional downtowns centers.

Nodal Development

Nodal development – that is, development that is clustered in a population center – is a way to direct growth towards existing communities that are already served by viable infrastructure. Nodal development uses the resources that existing neighborhoods offer, and maintains the value of public and private investment. By encouraging development in existing areas, communities benefit from a stronger tax base, closer proximity of jobs and services, increased efficiency of already developed land and infrastructure, reduced development pressure in fringe areas, and preservation of farmland and open space.

In addition, the process of increasing development in existing communities can maximize the use of existing impervious surfaces, such as existing shared parking lots, thereby improving local and regional water quality. Denser development can also create opportunities for more transportation options, which lower vehicle miles traveled and ultimately improve regional air quality. Often existing neighborhoods can accommodate much of the growth that communities require through infill development, brownfields redevelopment, and the rehabilitation of existing buildings.

Infill development consists of building homes, businesses, and public facilities on unused and underutilized lands within existing communities. Taking advantage of infill development opportunities keeps resources where people already live, allows rebuilding to occur, and is key to accommodating growth that supports the quality of life for existing residents.

According to the Urban Land Institute, developing new neighborhoods on the outskirts of existing ones

> Short-term profits may result from developing outside of population centers, but the long-term costs are passed on to communities.

CENTERS OF DEVELOPMENT

Developing outside of community centers:

- Requires more linear feet of utility lines (water, sewer, electric, phone, etc.)
- Creates an ever-spiraling need for services while areas already served may be stagnating or in decline

Developing in existing community centers:

- Promotes stronger tax base
- Allows closer proximity of jobs, services, and housing
- Increases efficiency of already developed land and infrastructure
- Reduces development pressure in fringe areas
- Allows for preservation of farmland and open space

eventually costs a community from 40 to 400 percent more than infill development, when the costs of building and maintaining new roads, sewers, fire stations, and schools are taken into account. Other costs include the health and psychological toll of air pollution, traffic congestion, and loss of open space. Short-term profits may result from developing outside of population centers, but the long-term costs are passed on to communities in the form of higher taxes, deterioration of local roadways, distress of downtown businesses, and a declining quality of life.

Policies

A pattern of development that replicates traditional neighborhoods or that builds on the infrastructure and strengths of existing communities will combat sprawl and preserve open land, resources, and public and private funds.

It is the policy of Tompkins County to:

- Strengthen and enhance the City of Ithaca's downtown area as the urban center of the county.
- Strengthen and enhance the villages and hamlets of the county as vital service and community centers.
- Increase the amount and density of housing and business space in the central business districts throughout the county.
- Promote greater density by encouraging development of existing "gaps" left by abandoned buildings and vacant parcels.
- Concentrate appropriate commercial, industrial, and retail development onto relatively small amounts of land, in close proximity to housing and consumers, in existing areas of concentrated development.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Work with municipalities to identify and map areas appropriate for infill development.
- Develop or identify model development design standards that address how to maintain a distinct edge between the urban/village areas and the rural countryside.
- Evaluate and modify the following programs for consistency with and furtherance of the nodal development patterns: review of development proposals under General Municipal Law 239, Economic Development Revolving Loan Fund, Agricultural Districts, and advisory boards' work programs.
- Work with municipalities to develop land use scenarios consistent with the Comprehensive Plan and with local land use plans and policies.

PRINCIPLE

The effectiveness of taxpayer dollars should be maximized by investing government funds in public infrastructure and facilities in the most efficient manner possible.

Cost of Infrastructure

Investments in public infrastructure and facilities represent a significant portion of local taxpayer dollars. At the County level, capital construction and facility and infrastructure maintenance, including debt service, requires nearly $12 million annually. Total transportation expenditures by all levels of government in Tompkins County total over $35 million a year.

The cost and distribution of many public services can be directly linked to growth and development decisions. Development patterns that result in increased costs for public infrastructure may reduce funds available for public services such as education and health care.

Responsible Public Spending

Decisions about investments in public facilities and infrastructure (water, sewer, roads, and bridges) can complement other community goals – or be in conflict with them. Likewise, community decisions regarding land use and development patterns directly influence the cost of public infrastructure. Optimizing the use of current facilities and infrastructure, and promoting efficient patterns of development can help achieve a supportive relationship between community goals and public investments.

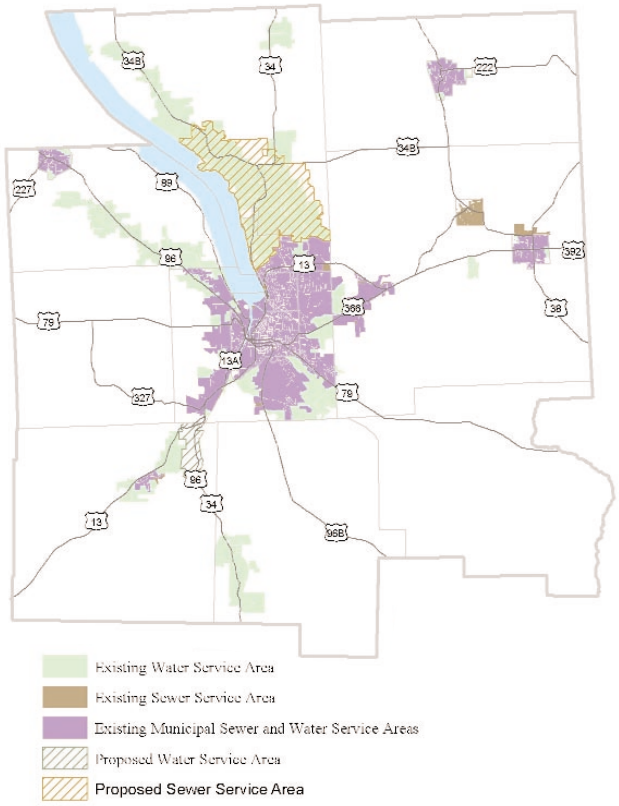
One way in which the County is currently working to promote efficient use of funds is by reducing energy costs for County facilities. The County is a member of the Cities for Climate Protection Campaign and has pledged to reduce greenhouse gas emissions generated by County operations by 20 percent by 2008. In addition to saving taxpayer dollars, energy efficiency improvements such as replacing HVAC systems, installing high efficiency lighting, and improving insulation play an important role in reducing the public sector's contribution to global climate change and can set an example for other municipalities and the private sector to undertake similar initiatives to protect our environment for future generations.

> Land use decisions, or the decision not to address land use issues, have direct financial consequences for current and future generations.

Compact, higher density development patterns can reduce the cost to taxpayers by limiting additional miles of road, feet of water and sewer lines, miles of transit travel, and number of public facilities. A public spending ethic that recognizes that it is generally more cost effective to utilize existing infrastructure, and to add to the capacity of existing systems before building new ones, can support and reinforce the quality of life in existing communities while lightening the burden on tax payers. The extensive system of existing and proposed infrastructure in Tompkins County provides ample opportunities for future development. Particularly in these days of constrained resources at all levels of government, we must recognize that land use decisions, or the decision not to address land use issues, have direct financial consequences for current and future generations.

Every new foot of road, sewer line, and water line is not only a current capital cost but is an ongoing maintenance expense and will one day need to be replaced. Unlike many expenditures for current services, capital investments represent a long term commitment of public resources. Dispersed development can also result in ongoing increased public service costs for public or special transportation to allow residents to gain access to needed medical and other services;

APPROXIMATED WATER AND SEWER SERVICE AREAS



Sources: Digitized by Tompkins County Planning Department from data provided by municipalities; Bolton Point Water Treatment Plant

busing of school children; public safety patrols; emergency response capability; and provision of other community services.

Planning Public Investments

While more compact development patterns can reduce the extent and cost of infrastructure investments, it will not entirely eliminate the need for infrastructure improvements to accommodate new population growth. Comprehensive planning helps ensure that investments are made in an efficient and thoughtful manner.

As an extension of comprehensive planning, New York State law provides that an official County map can be used to direct public investment at the County level. Such a map identifies existing and future rights-of-way for County highways, and can designate the location of future County government facilities, such as parks, drainage ways, and public buildings. By identifying the specific locations of future facilities, potential impacts of development on these facilities can be identified and mitigated. An official County map also ensures that municipalities are aware of the County's plans for future public facilities, so that they can plan their own facilities accordingly.

Inter-governmental cooperation reduces costs by ensuring that the infrastructure developed and maintained by the state, County, and local municipalities function as an interconnected system. Cooperative agreements between governmental units can also reduce costs by allowing for equipment sharing and joint infrastructure investments, and by reducing duplication of effort.

Quality of Community Life

Compact development, intermunicipal cooperation, comprehensive planning, and improved energy efficiency, may allow taxpayers to purchase a higher level of public services for the same tax dollar. Communities that can maintain higher levels of public facilities and services in a cost-effective manner are more attractive locations for private investment. Private investment in compact development, in turn, provides the tax base to support desired services and results in successful, sustainable communities.

Policies

It is the policy of Tompkins County to:

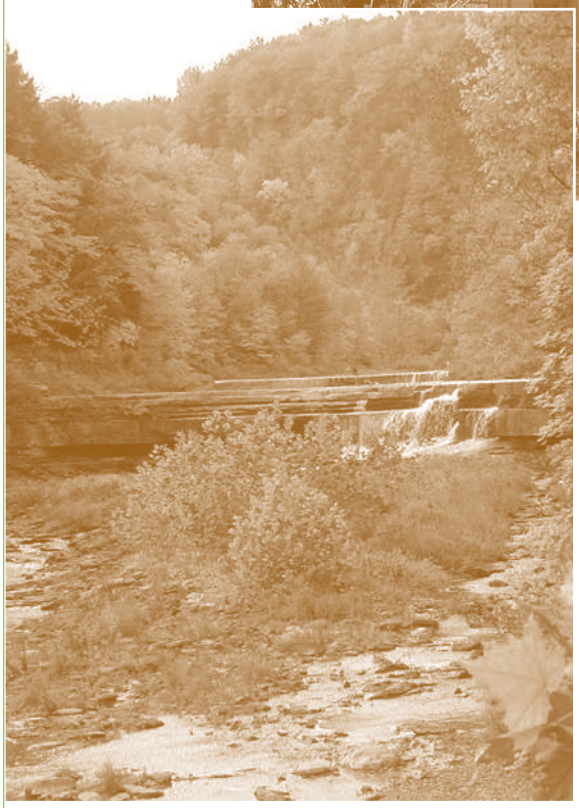
- Maintain County facilities to protect the public's investment, to effectively serve residents, and to provide an efficient working environment for employees now and in the future.
- Optimize the value of community investments in water treatment and distribution facilities and in sewer collection and treatment facilities by encouraging higher density in areas served by these facilities.
- Save public costs by encouraging new development to locate in places contiguous to existing development where sewer, water, roads, and other infrastructure already exist, or are planned as part of a comprehensive plan to accommodate projected growth.
- Consider intermunicipal alternatives when addressing issues related to water supply and wastewater disposal.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- Develop or identify model land development regulations and design standards that support denser development in areas with water and sewer services (including residential, infill, and mixed-use) and limited development in areas without such services.
- Review responsibility for highway management and maintenance based on the function of the highways.
- Evaluate a downtown office plan for future County facility needs.
- Determine the location of future County Health Department facility and the future use of the Biggs B Building.
- Implement the countywide Public Safety Communications System project.
- Evaluate the need to renovate or expand the County Public Safety Building to meet projected needs.
- Conduct regular meetings with officials from adjacent counties to focus on ways to reduce overall costs to taxpayers.
- Explore the feasibility of developing an Official County Map.

Implementation and Impact Analysis



Implementation of Priority Actions

The Comprehensive Plan identifies 61 priority actions to be initiated in the next five years. These action items are the short-term activities that Tompkins County government or community partners can undertake to advance the Plan's principles and policies and the County's vision and mission. Very few action items on this list can be undertaken and completed exclusively by one agency, and successful implementation will require public-private partnerships, intermunicipal efforts, or inter-agency coordination and cooperation. A number of agencies both from within County government and from the larger community have agreed to play leadership roles. For example, the Ithaca-Tompkins County Transportation Council will take on most of the responsibility for implementation in the area of transportation, and Tompkins County Area Development has agreed to be the leader in implementation in the area of jobs and business. We also anticipate, and have already had responses of interest from, a number of partners in local municipalities, the private sector, and among state and federal agencies and are confident that this will grow over the next five years. A cooperative, collaborative approach is essential for the Plan to be successful.

Principal Local Agencies

To assure accountability and commitment to timely implementation, several primary agencies have been identified and have agreed to serve in that role. In the attached table, these agencies are referred to as "Principal Local Agencies." The implementation plan does not identify every agency or organization that needs, or might want, to be involved in an action. In a few cases more than one principal local agency has been identified. When particularly disparate steps need to be undertaken to complete the action, more than one agency would need to take the lead. In some cases federal and/or state agencies will need to take on major responsibility for implementing an action, and the identified principal local agency needs to continue to work with these agencies.

Monitoring and Evaluation

Within five years following adoption of the Plan, an assessment will be undertaken to evaluate the success in implementing the actions and their effectiveness in moving the County toward realizing the Plan's policy objectives. It is expected that the evaluation will result in some actions being dropped as less effective or feasible and others being added. Any amendments to the Plan must undergo a formal review process and be adopted by the County Legislature in the same manner as the original Plan.

At ten-year intervals a more complete review of the Plan's principles, policies, and the underlying analysis will also be undertaken. The Plan's time horizon is intended to be twenty years, at which time a new or updated Plan should be developed.

The Planning Commissioner will report annually to the County Legislature on progress in implementing the Plan. This will include identification of action items that have been initiated and the results of those actions. The Commissioner's report will include measures of success by which to monitor the Plan's progress and any barriers to implementation that have been encountered. The appropriate measurement tools will be developed during the implementation process.

Resources

Resources for implementing the Plan will come from a number of sources. Initially, much of the effort will involve a redirection of existing resources. We are also confident that the Plan will draw interest and resources from state and federal funding agencies and private foundations that support the development of sustainable, healthy communities. For every area that the Plan addresses, there are established, though competitive, funding programs that can assist with implementation. Any additional Tompkins County resources that are needed will be subject to review and approval by the County Legislature through the County's budget process.

HOUSING CHOICES

	Action Item Description	Principal Local Agency(ies)
1	Produce a three- to five-year affordable housing needs assessment to use as a basis to guide development of appropriate subsidized rental and ownership housing to meet local needs.	Tompkins County Planning Department
2	Conduct a survey of in-commuters to determine the reasons they live outside of Tompkins County.	Ithaca-Tompkins County Transportation Council, Tompkins County Planning Department
3	Develop or identify model provisions for land development regulations that encourage affordable housing.	Tompkins County Planning Department
4	Provide education and training programs for elected officials, board members, community leaders, developers and builders, and the general public on the need for and benefits of affordable housing development.	Better Housing for Tompkins County, Tompkins County Planning Department
5	Identify subsidized affordable housing units and determine when subsidies expire and if the units are likely to remain affordable. Establish a program to monitor the status of those units to anticipate impending deficiencies.	Tompkins County Planning Department
6	Build a new Community Residence – Single Room Occupancy mental health facility.	Tompkins County Mental Health Department
7	Develop plans to meet the housing needs of segments of the population that require supportive services, including seniors, independent (or at-risk) youth, and the homeless.	Tompkins County Office for the Aging, Tompkins County Department of Youth Services, American Red Cross

TRANSPORTATION CHOICES

	Action Item Description	Principal Local Agency(ies)
8	Develop a bicycle suitability map for Tompkins County.	Ithaca-Tompkins County Transportation Council
9	Identify infill opportunities at nodes along transit lines.	Tompkins County Planning Department
10	Develop a countywide State Route 13 Corridor Management Plan.	Ithaca-Tompkins County Transportation Council, Tompkins County Planning Department
11	Complete a traffic signal upgrade and intersection evaluation program.	Ithaca-Tompkins County Transportation Council, City of Ithaca Department of Public Works
12	Develop a centralized, uniform accident reporting system.	Tompkins County Administration
13	Work with municipalities to assess transportation infrastructure needs, including roadways, transit, bicycles, and pedestrians, to support local planning efforts.	Ithaca-Tompkins County Transportation Council
14	Facilitate municipal review of local development regulations to address future performance of the transportation system.	Ithaca-Tompkins County Transportation Council
15	Implement recommendations in the Freight Transportation Study to minimize negative aspects of freight transportation, while increasing safety.	Ithaca-Tompkins County Transportation Council
16	Develop a countywide comprehensive park and ride plan.	Ithaca-Tompkins County Transportation Council

JOBS AND BUSINESS

	Action Item Description	Principal Local Agency(ies)
17	Complete and implement the workforce development plan, striving to meet the needs of the unemployed and underemployed through job creation activities, and the needs of employers through employment and training programs.	Tompkins Workforce NY
18	Enhance the ability to analyze costs and benefits of projects as well as improve post-project job data collection to determine whether the public purpose of projects is realized.	Tompkins County Area Development
19	Continue to lobby for State Empire Zone status and explore regional partnerships to share underutilized economic development resources.	Tompkins County Area Development
20	Continue to explore ways to improve the cost and convenience of air service for county employers, visitors, and local residents.	Ithaca-Tompkins Regional Airport
21	Utilize Cornell University's resources to greater advantage, including: work with Cornell to improve technology transfer, and study feasibility of a business attraction initiative using specific Cornell research and development programs as the key element.	Tompkins County Area Development
22	Promote and assist in the development of the county's tourism attractions, including cultural, natural, and commercial attractions.	Tompkins County Convention & Visitors Bureau
23	Develop a strategy to promote local use and consumption of locally produced goods.	Cornell Cooperative Extension of Tompkins County, Tompkins County Chamber of Commerce
24	Encourage the formation, retention, and expansion of manufacturing and high tech businesses.	Tompkins County Area Development

RURAL RESOURCES

	Action Item Description	Principal Local Agency(ies)
25	Determine the feasibility of a rural micro-enterprise program, including adding a component to the County's Economic Development Revolving Loan Fund.	Tompkins County Planning Department
26	Update the Agriculture and Farmland Protection Plan with a particular focus on promoting the viability and profitability of agriculture within the county.	Tompkins County Agriculture & Farmland Protection Board
27	Establish a program to protect and manage land for agricultural and forestry use in the focus areas identified in the Comprehensive Plan using tools appropriate to the functions of those resources.	Tompkins County Planning Department
28	Develop or identify model performance standards to preserve agriculture and forest land.	Tompkins County Planning Department

WATER RESOURCES

	Action Item Description	Principal Local Agency(ies)
29	Complete watershed assessments for the Fall Creek and Six Mile Creek drinking water sources.	Tompkins County Planning Department
30	Continue to conduct aquifer studies.	Tompkins County Planning Department
31	Initiate inspection and maintenance requirements for individual on-site wastewater treatment systems.	Tompkins County Health Department
32	Update the county flood hazard mitigation program to incorporate watershed-based approaches to reducing the risk of flood damages.	Tompkins County Planning Department
33	Update floodplain maps.	Tompkins County Planning Department
34	Develop or identify model stream buffer ordinances.	Tompkins County Planning Department
35	Develop a system to provide for regular maintenance of existing drainage systems and use of appropriate road ditching techniques on County-maintained roads, and encourage the use of such techniques on other roads in the county.	Tompkins County Highway Division
36	Develop boat docking, boat service areas, and a waterfront commercial district on, and in the vicinity of, Inlet Island in the City of Ithaca.	City of Ithaca Planning & Development
37	Redevelop the NYSDOT Maintenance Facility site with water-dependent and/or water-enhanced projects to provide economic benefits to the City and the County and provide public access to the water's edge.	Tompkins County Planning Department
38	Dredge Cayuga Inlet and find an appropriate method for disposal of dredge spoil material, for example, using dredged material to create new, functioning wetlands at the south end of Cayuga Lake.	City of Ithaca Planning & Development
39	Prepare a Cayuga Lake water quality and quantity monitoring plan.	Cayuga Lake Watershed Network

NATURAL FEATURES

	Action Item Description	Principal Local Agency(ies)
40	Establish an open-space program to protect or preserve natural resources and recreational amenities in the focus areas identified in the Comprehensive Plan using tools appropriate to the functions of those resources.	Tompkins County Planning Department
41	Define stream corridor buffers for the major tributaries to Cayuga Lake and encourage use of appropriate measures to preserve the designated stream corridors.	Tompkins County Planning Department
42	Develop and disseminate educational information tailored to each Natural Features Focus Area and each Agricultural Resources Focus Area.	Tompkins County Planning Department
43	Conduct a Scenic Resources Inventory and prepare a Scenic Resources Preservation Plan.	Tompkins County Planning Department
44	Develop or identify model performance standards to preserve natural resources.	Tompkins County Planning Department
45	Develop or obtain a system to track land use changes and preservation efforts.	Tompkins County Planning Department
46	Complete the Cayuga Waterfront Trail and the Black Diamond Trail.	Tompkins County Chamber of Commerce, Ithaca-Tompkins County Transportation Council, Tompkins County Planning Department

STRONG COMMUNITIES

	Action Item Description	Principal Local Agency(ies)
47	Advance implementation of a countywide multiuse trail network.	Ithaca-Tompkins County Transportation Council
48	Conduct pedestrian level-of-service and walkability studies in neighborhoods, villages, and hamlets throughout the county.	Ithaca-Tompkins County Transportation Council, Tompkins County Planning Department
49	Provide pedestrian connections between the waterfront and downtown through urban creek corridors.	City of Ithaca Planning & Development

CENTERS OF DEVELOPMENT

	Action Item Description	Principal Local Agency(ies)
50	Work with municipalities to identify and map areas appropriate for infill development.	Tompkins County Planning Department
51	Develop or identify model development design standards that address how to maintain a distinct edge between the urban/village areas and the rural countryside.	Tompkins County Planning Department
52	Evaluate and modify the following programs for consistency with and furtherance of the nodal development patterns: review of development proposals under General Municipal Law 239, Economic Development Revolving Loan Fund, Agricultural Districts, and advisory boards' work programs.	Tompkins County Planning Department
53	Work with municipalities to develop land use scenarios consistent with the Plan and with local land use plans and policies.	Tompkins County Planning Department

EFFICIENT USE OF PUBLIC FUNDS

	Action Item Description	Principal Local Agency(ies)
54	Develop or identify model land development regulations and design standards that support denser development in areas with water and sewer services (including residential, infill and mixed-use) and limited development in areas without such services.	Tompkins County Planning Department
55	Review responsibility for highway management and maintenance based on the function of the highways.	Tompkins County Highway Division, Intermunicipal Highway Group
56	Evaluate a downtown office plan for future County facility needs.	Tompkins County Facilities Division
57	Determine the location of future Health Department facility and the future use of the Biggs B Building.	Tompkins County Facilities Division
58	Implement the countywide Public Safety Communications System project.	Tompkins County Administration, Tompkins County Department of Emergency Response
59	Evaluate the need to renovate or expand the County Public Safety Building to meet projected needs.	Tompkins County Facilities Division
60	Conduct regular meetings with officials from adjacent counties to focus on ways to reduce overall costs to taxpayers.	Tompkins County Planning Department, Tompkins County Administration
61	Explore the feasibility of developing an Official County Map.	Tompkins County Planning Department

Future Development Scenarios

Introduction

The principles and policies of the Comprehensive Plan recommend future development that emphasizes a nodal pattern of development. Nodal development patterns support vital communities by encouraging both public and private investment and development in the city, villages, and hamlets. Focusing development into nodal areas helps ensure that the rural areas of farms and forests are preserved for generations to come.

The future development scenarios presented and analyzed in this section are two examples of what could happen based on different assumptions about the pattern of future development. Responsibility for regulating land development lies with the city, towns, and villages. These scenarios are not meant to prescribe a specific future land use pattern. They provide projections that can help inform decisions made by elected and appointed officials. The analysis here shows the range of impacts associated with two different development patterns on various systems in the county: transportation (commuting patterns, pedestrian access, and transit service), infrastructure, open space, and water resources.

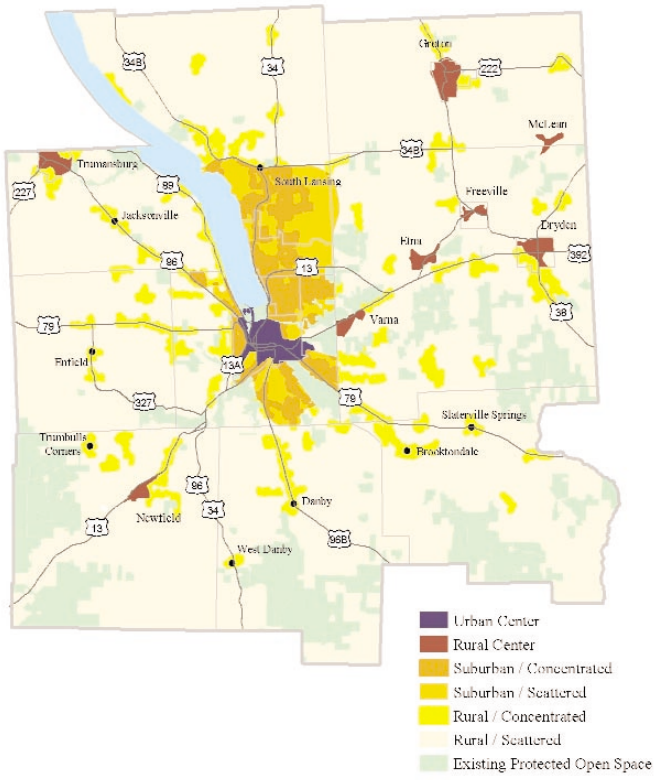
> The future development scenarios can help inform decisions made by elected and appointed officials.

Two different types of future development patterns are analyzed on the following pages. The first, the Trend Scenario, assumes that development patterns seen in the 1990s will continue over the next thirty years. The second, the Plan Scenario, assumes the recommendations in the Comprehensive Plan are implemented. Each of these scenarios accommodates about 5,000 new housing units and 7,000 to 8,000 new jobs estimated to meet the needs of the population increase projected by the New York Statistical Information System.

Existing Patterns of Development

Map A shows the existing pattern of development in Tompkins County at a very broad scale. The majority of the county is rural in nature. These rural areas include farms and forests; very low density residential development, primarily along roadways; and scattered commercial and industrial uses. Most of the state parks, forests, and other protected lands are located in rural areas. Villages and hamlets, referred to on the map as rural centers, are scattered throughout. These rural centers have a higher density of residential development than the surrounding areas, and all include

MAP A: EXISTING DEVELOPMENT



Source: Tompkins County Planning Department

community buildings and services such as post offices or fire stations. Many of the rural centers also have a distinct commercial center and are served by municipal water and sewer systems.

The county's urban center, located primarily in the City of Ithaca, has a downtown area with a high concentration of retail shopping, commercial services, and community buildings. This downtown is surrounded by relatively high-density residential areas that include a full range of housing types, from single-family homes to large apartment complexes. Other commercial areas and individual businesses are located throughout the urban center.

Suburban areas, which are mostly served by water and sewer, surround the urban center of the county. The highest concentration of suburban development is located in the Villages of Lansing and Cayuga Heights, and includes large-scale retail development, a number of apartment complexes, and moderate-density single-family residential development. The remaining developed portion of the suburban area consists primarily of single-family, low-density residential development, and includes some of the larger employment centers in the county, including Ithaca College, portions of Cornell University, and several business and industrial parks. Undeveloped suburban land is primarily located in the Northeast and South Hill areas, although the suburban pattern of development has been firmly established in these areas. There are also some smaller suburban areas located in the county adjacent to some of the rural centers.

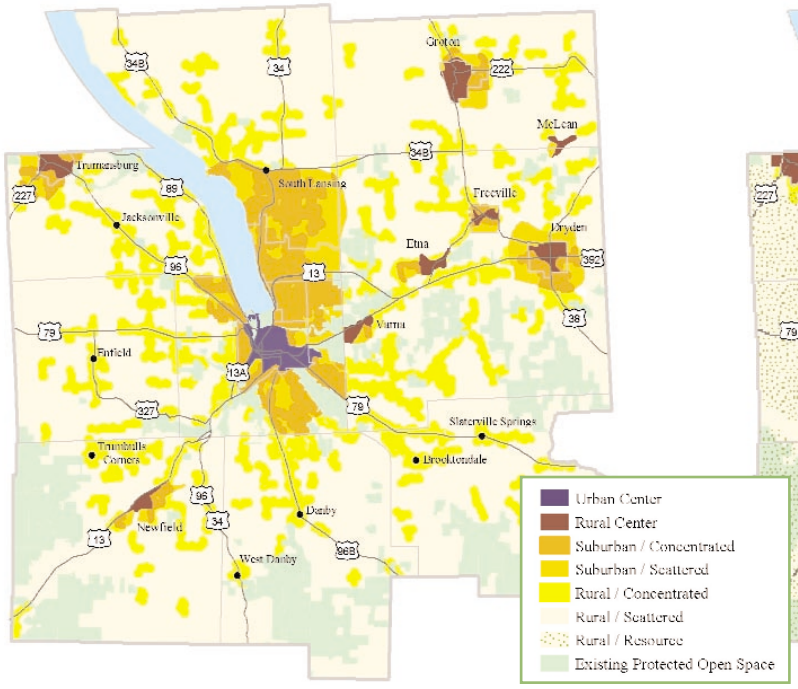
The Scenarios

Trend Scenario

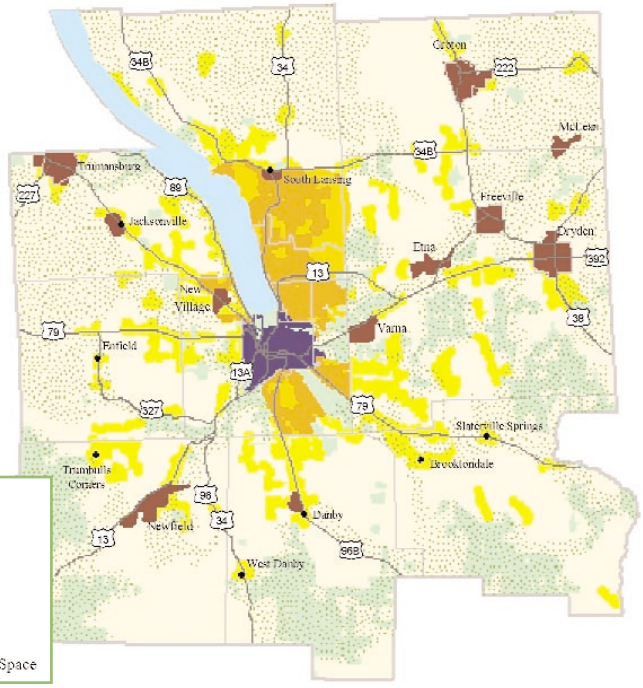
During the 1990s, housing development occurred primarily in the rural and suburban areas of the county. Rural areas accounted for 42 percent of new housing development and suburban areas accounted for 32 percent of new housing development. Commercial development also occurred primarily in suburban areas, particularly along major transportation corridors.

Map B shows one development pattern that could result from a continuation of these trends. This scenario anticipates continued suburban development, including

MAP B: TREND SCENARIO



MAP C: PLAN SCENARIO



Source: Tompkins County Planning Department

These future development scenarios are two examples of what could happen based on different assumptions about the pattern of future development. These maps are not intended to prescribe one specific future development pattern. The Suburban/Concentrated and Rural/Concentrated categories show areas where most development might be located. The Suburban/Scattered and Rural/Scattered categories show areas that would be developed at a much lower density.

residential, retail, and employment, within the vacant areas of the existing suburban portions of the county. A large amount of residential suburban development is also expected around most of the rural centers. There would also be considerable residential development in the rural areas, while the urban and rural centers would experience limited growth.

Plan Scenario

If the recommendations in the Comprehensive Plan are implemented, future development would shift away from suburban and rural areas, and into the city, villages, and hamlets. Map C shows one pattern of development that could result. This scenario anticipates both a physical expansion of and additional development within the urban and rural centers. Several existing rural settlements would grow larger and become rural centers. This scenario also includes a new center located near the hospital.

Growth in the suburban and rural areas of the county would continue, accounting for roughly one-third of new residential development, but there would be very little creation of new suburban areas. Instead, development of vacant lands within the already-established suburban areas, particularly where water and sewer services would be available, would account for most of the suburban development in the county. Rural areas would also see development, but in Natural Features Focus Areas and Agricultural Resource Focus Areas, referred to as Rural/Resource on the map, it would grow at a slower rate than other rural areas.

Analyzing the Impacts

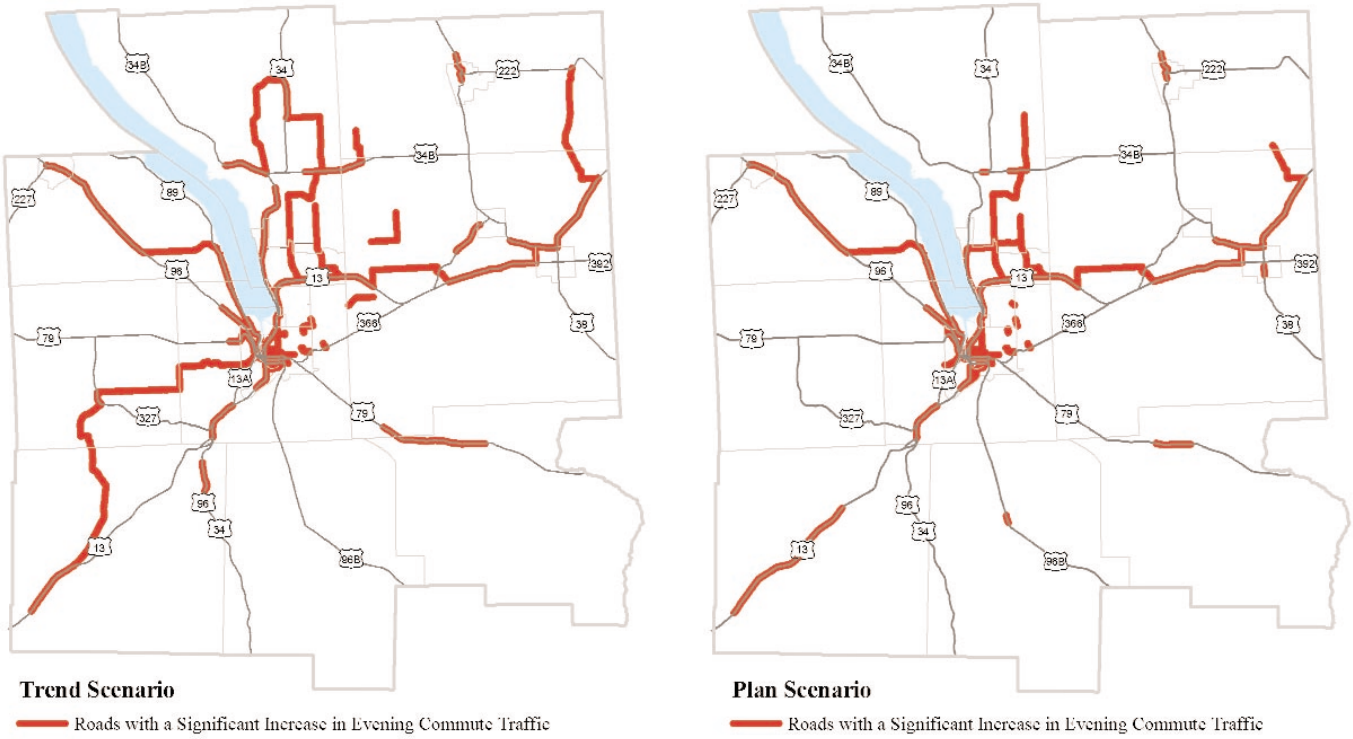
Future development of any kind will impact the natural and human-made systems in Tompkins County. The Plan Scenario helps limit these impacts by directing development into areas with infrastructure and away from areas with sensitive environmental features. Further mitigation of development impacts is possible through local and county-level initiatives, as outlined in other sections of the Plan.

Impact on Transportation

Walkability and access to transit improve in the Plan Scenario, as residents move into the more compact neighborhoods of the city, villages, and hamlets. As a result, fewer miles are traveled each day and traffic congestion is less than it would be if existing patterns continue.

In the Plan Scenario, there are noticeably fewer roads with a significant increase in evening commute traffic than

ROADS WITH SIGNIFICANT TRAFFIC INCREASES



Source: Ithaca-Tompkins County Transportation Council Travel Demand Model

IMPACT ON TRANSPORTATION

	Trend	Plan
Pedestrian		
New Households near Community Facility (1/2 mile)	**3,207**	**4,657**
Transit		
New Households near Bus Stop (1/4 mile)	**1,798**	**3,095**
New Jobs near Bus Stop (1/4 mile)	**5,524**	**7,317**
Automotive		
Total Miles Traveled (Evening Commute)	**263,714**	**258,942**

in the Trend Scenario. In particular, several local roads in Lansing, Enfield, and Newfield show less traffic in the Plan Scenario. The roads with a significant increase in evening commute traffic in the Plan Scenario, in general, would have a much larger increase in traffic than in the Trend Scenario.

These anticipated traffic impacts are based on existing travel patterns. However, it is possible that behavior patterns in the future will change in reaction to fuel prices, increased congestion, and other influences. The Plan Scenario is more conducive to accommodating these changes, because more people would live and work near a bus stop. This suggests that the Plan Scenario could result in an even further reduction of traffic impacts.

Impact on Infrastructure

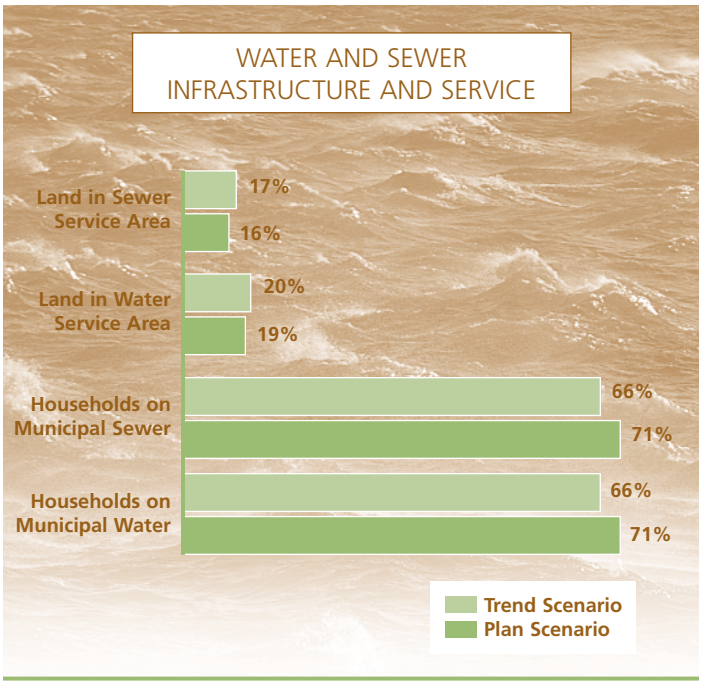
Directing development into the city and villages also reduces the need to extend water and sewer lines, since many of these areas already have adequate infrastructure to accommodate new development. At the same time, public water and sewer both serve more than a thousand additional households in the Plan Scenario than in the Trend Scenario because of the moderate increase in density in these service areas. This translates into a lower cost both overall and per family served by water and sewer infrastructure.

Impact on Natural Resources

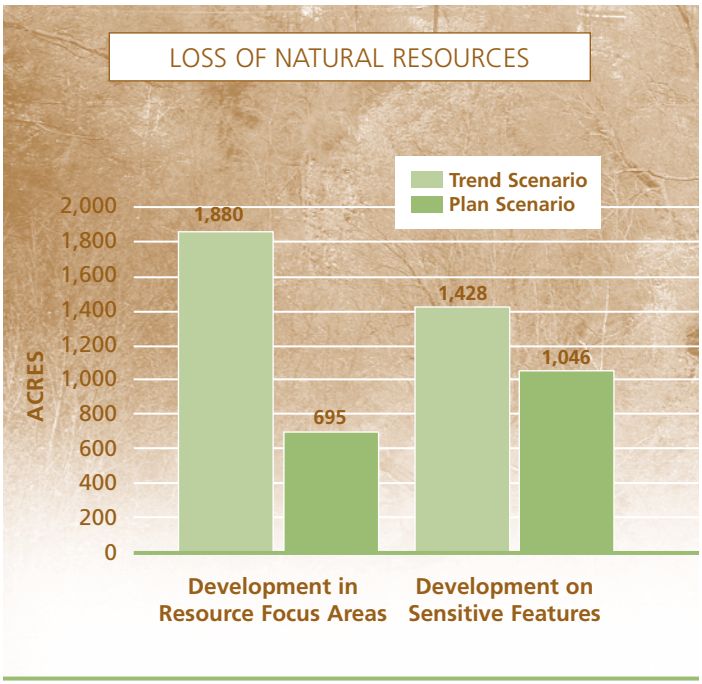
The more compact development patterns of the Plan Scenario reduce the total amount of land required to accommodate new residential development. The Trend Scenario consumes approximately 600 more acres of land for residential development than the Plan Scenario.

Even more significant is the degree to which the Plan Scenario helps preserve natural features and working rural landscapes. The Comprehensive Plan identifies Natural Features Focus Areas (see Natural Features section) and Agricultural Resources Focus Areas (see Rural Resources section). By directing development away from these areas, the loss of important open space is reduced by nearly two-thirds in the Plan Scenario.

Similarly, potential development on sensitive features such as wetlands, steep slopes, and flood plains decreases by more than a third in the Plan Scenario. Development in wetlands and on floodplains threatens the essential functions of water filtration, retention, and absorption of these features.



Source: Tompkins County Planning Department



Source: Tompkins County Planning Department

Development on steep slopes similarly affects water quality and quantity through increased erosion and runoff. Potential impacts on these sensitive features could be further mitigated through local regulatory measures.

Additional Growth

The scenarios were based on the population projections prepared by the New York Statistical Information Systems. The analysis of the scenarios provides a basis for understanding the potential impacts of future development on community and natural systems within the next 20 years. The Plan Scenario, and the principles of the Plan, present a strategy for accommodating projected growth with reduced impact on these systems. The Plan Scenario also establishes a pattern of development that is more sustainable over the longer run, ensuring that population growth beyond the projected 20-year growth can be accommodated.

To quantify the potential impacts of growth beyond the 20-year projection, higher-growth scenarios were prepared following the patterns established under the Trend Scenario and the Plan Scenario. These higher-growth projections accommodate a total of approximately 9,000 new housing units – 4,000 more than under 20-year projected growth scenarios – and 9,000 to 10,000 new jobs. This additional increase in housing is equivalent to what would be needed if half the workers who commute from outside the county moved here. The higher-growth scenarios also assume there would be additional job growth to provide services to these new households.

The analysis of the higher-growth scenarios indicates that the Plan Scenario continues to outperform the Trend Scenario in impacts on open space, water resources, transportation, and infrastructure. The additional growth under these scenarios and the corresponding increase in impacts makes the Plan Scenario's pattern of development even more essential. While the higher growth under the Trend Scenario threatens the health of these systems, the Plan Scenario provides a framework for accommodating that growth while still maintaining the environmental and community assets we value.

An Intermunicipal Approach

The Plan Scenario is built on one particular nodal development pattern, but this is not the only nodal development pattern that should or will be considered. It is important for each local community to develop more detailed future development maps. These efforts should involve local planning officials, in order to integrate local land use plans and policies, as well as County planners, in order to incorporate the principles of this Plan. In addition, while the analysis in this Plan focuses on total impacts in the county, the impacts would vary substantially from community to community. The development of more detailed future development maps and the analysis of their impacts should consider impacts on individual communities as well as impacts on the county as a whole.

A cooperative, intermunicipal approach to planning will help to achieve the type of development that reflects the goals of our community. Involvement at all levels of local government, particularly our towns, villages, and city, and the support of state and federal agencies will be crucial. Community groups, private landowners, the business community, the not-for-profit sector, and individual citizens can play an important role in shaping future development patterns. The process should encourage dialogue between decision makers and facilitate the integration of inter-municipal and local plans. This will ensure that individual municipal needs are met and that future development patterns are addressed in a coordinated and comprehensive way.

Through such an approach, our community can accommodate new growth, protect important open spaces, support vibrant commercial districts, improve our neighborhoods, and protect the special quality of life we cherish.

Fiscal Impact Analysis

Overview

A fiscal impact analysis of the future development scenarios was conducted to determine the impact on the future fiscal health of the county, its municipalities, and its school districts. Two of the more common methods of examining the fiscal effects of community plans are cost of community service studies and fiscal impact models.

Cost of Community Service Studies

Cost of community service studies assess the net fiscal contribution of current land uses to local governments. They provide a snapshot of net revenues or net costs based on existing land use patterns. These studies allocate revenues and costs according to land use categories.

Many cost of community service studies have been done, each showing a greater demand for services from residences than they pay in property taxes. In a survey of these studies from across the northeastern United States, the median cost for providing services to a residence was $1.15 for each $1.00 of revenue received. For New York towns alone, the ratio was $1.27 for each $1.00 received. In a similar study for the Tompkins County, conducted by the Tompkins County Agriculture and Farmland Protection Board, the average for towns was $1.22 for each $1.00 received.

Commercial land uses typically generate more in net revenue than they demand in services and the same is true for open lands like farms and forestlands. The ratio of costs to revenues for commercial land uses and open lands in these studies ranged from $0.25 to $0.33 for each $1.00 received. For the towns in Tompkins County, these numbers were $0.30 for agriculture and open space, and $0.23 for commercial and industrial land uses.

These cost of community service studies have been important in dispelling the popular misconception that residential development lowers property taxes by increasing the tax base.

Fiscal Impact Models

Fiscal impact models take a more dynamic view of costs and revenues and have been used to look at future land use compositions. Most fiscal impact models in New York have focused on modeling the costs to local government and an associated individual school district principally serving the area. While each municipality and school district has its own unique cost basis and revenue capacity, there are a number of findings from these studies that are applicable to Tompkins County.

Balancing the residential tax base with commercial, industrial, and open space land uses is a common land use policy to help reduce future tax burdens. In communities that are approaching full build out due to growth, some have found (Pittsford and Webster, NY, for example) that an investment in open space protection will actually help reduce future tax burdens by relieving the community of future costs of an ever expanding school system.

These fiscal impact models have shown that certain types of new residential development can have a net positive fiscal impact. Seasonal residences and higher-valued housing were found to be net positive contributors to the fiscal health of the rural Town of Martinsburg located in Lewis County, NY.

School costs are typically the most sensitive set of variables in fiscal impact models in terms of determining whether residential growth will be a fiscal boon or burden to the school district. While, in general, residential growth consumes more in services than gained in revenues, projects in the upper range of the market or those with few to no school-aged children can turn out to be fiscally positive.

A fiscal analysis was conducted as part of the environmental review for a new mixed use hamlet development (similar to the nodal development recommended in the Plan) on approximately 100 acres of land in the Town of Sand Lake in Rensselaer County, NY. The project had a mix of commercial (retail and office), townhouses, senior housing, apartments, and some detached single-family homes set within a formal and informal open space system. The fiscal analysis concluded that the construction of the project would be a net positive contributor to both the town and school district.

Communities often seek out new office and retail development for their contributions to the tax base as well as to create jobs for residents. Fiscal studies have shown that in communities that do not have a large tax base to begin with, increasing commercial development can reduce property tax rates. In communities with a large tax base, the relative size of such commercial development would have to be much larger to have a measurable effect on the property tax rate.

Analysis of the Plan: Expenditures

The Jobs-Housing Balance

The demand for public services from cities, towns, villages, and school districts comes from several sources. As noted above, cost of community services studies have found that residential development, in general, demands public services in excess of the amount of property taxes they pay. On the other hand, commercial and industrial development demand relatively few services compared to the property taxes they pay. Balancing the residential tax base with commercial, industrial, and open space land uses is a common land use policy to help reduce future tax burdens.

The analysis of the mix of housing growth and job growth in each of the scenarios presented in the Plan shows some differences between the two scenarios. Using the findings of the Tompkins County Cost of Community Services Study prepared by the Agriculture and Farmland Protection Board, in the Trend Scenario, new residential and commercial development in most communities show a net overall relative cost, including municipal services and schools, of between $1.13 and $1.22 for every dollar of property tax revenue generated. In the Plan Scenario, the relative cost of services varies significantly from community to community. Most communities see an improvement of the relative cost of services in the Plan Scenario. The net overall cost ranges from $0.89 to $1.22, with an average reduction of $0.07 per town.

The exception to these general findings is the City of Ithaca. In the Trend Scenario, the relative cost of new development is well under a dollar ($0.83) for each dollar of new revenue. The relative cost of new development actually increases in the Plan Scenario to $0.95. This is due to the increase in residential development in the City of Ithaca in the Plan Scenario. This relative cost is still well under the break-even figure of $1.00.

Municipal Water and Sewer User Fees

In terms of the cost of water and sewer services, there would be a potential small cost savings in the Plan Scenario due to economies of scale. In the Plan Scenario, the land area served by central water and sewer systems is smaller than the land area served by these systems in the Trend Scenario. In addition, the number of households being served by central water and sewer in the Plan Scenario is projected to be larger than the number in the Trend Scenario. As a result of these efficiencies, the cost savings to newly served individual users on public water or sewer systems would be approximately 10 percent.

Agricultural and Natural Resources Conservation

The capital costs to finance an agricultural and natural resources land conservation program would depend upon the number of acres desired for protection in any given fiscal year. In the Trend Scenario, there would be few to no capital expenditures by the county for these projects. Under the Plan Scenario, the county could establish a program and set funding commensurate with its conservation goals and ability to pay. Part of the analysis in establishing a budget for such a program could be tied to the rate of growth in the county for new development, the projected increase in tax base, and the opportunity to capture matching funding from other sources.

Analysis of the Plan: Revenues

Real Property Tax Base

The Plan incorporates two future development scenarios. The two scenarios are based on similar population and job growth in the county as a whole over a 20-year time horizon. The primary difference between the two scenarios is the pattern of that development. Since the amount of development is similar for each scenario, the overall demand for many services would be similar. The exception would be those services that are location-based, primarily infrastructure (water, sewer, roads) and transportation services. However, there is some variation between the scenarios in the property tax base.

The analysis of property tax values incorporates anticipated value of new residential, commercial, and industrial development, as well as increases in land value. In the Plan Scenario, the property tax analysis also incorporates the loss of taxable property value related to the proposed protection of natural features and agricultural resources.

The results of the analysis of the property tax base show that the two scenarios result in a similar overall increase in the tax base, 21 percent for the Trend Scenario and 22 percent for the Plan Scenario. There are, however, differences between the scenarios among municipalities and school districts, reflecting the differences in type and location of future growth. This is due largely to the shifting of some suburban and rural development in the Trend Scenario to the nodes in the Plan Scenario.

The impact on the tax base for land conservation efforts in Tompkins County was based on a long-term goal of protecting approximately 20,000 acres of working farmland and important natural areas in the county. There would be little to no effect on the tax base from farmland protection, because virtually all of the commercially productive farmland receives or is entitled to an agricultural-value assessment.

TAXABLE PROPERTY TAX BASE (PERCENT GROWTH)

Municipal Government	Trend Scenario	Plan Scenario
County	21%	22%
City	24%	51%
Towns (including villages)	20%	16%
Villages	22%	22%
School Districts (in Tompkins County)	20%	22%

For the natural areas, there will be a small impact on the property tax base. The analysis places this reduction well under 1 percent, or $7.7 million, of the total county tax base. Some property in the natural areas would be protected through outright purchase and others through conservation easements. Conservation easements are a method of protecting land by purchasing the development rights on a parcel while allowing some compatible uses. The fiscal analysis assumes that 70 percent of the acreage would be protected through conservation easements (and remain on the tax rolls) and 30 percent would be purchased outright with half of this acreage taxable and half removed from the tax rolls.

Sales Tax Revenues

Sales tax revenues in Tompkins County are distributed according to a formula that allocates funds to the municipalities based on their population, except for the City of Ithaca. The City of Ithaca's revenues from sales tax collections are based on the amount collected within the City of Ithaca.

The analysis of sales tax revenues shows an overall increase in sales tax revenues of 16 percent in either scenario. There is a fair amount of variation among municipalities under each scenario. Since much of the sales tax revenue is distributed according to population (except in the City of Ithaca), those municipalities with the greatest increase in housing would have the greatest increase in sales tax revenue.

SALES TAX REVENUE (PERCENT INCREASE)

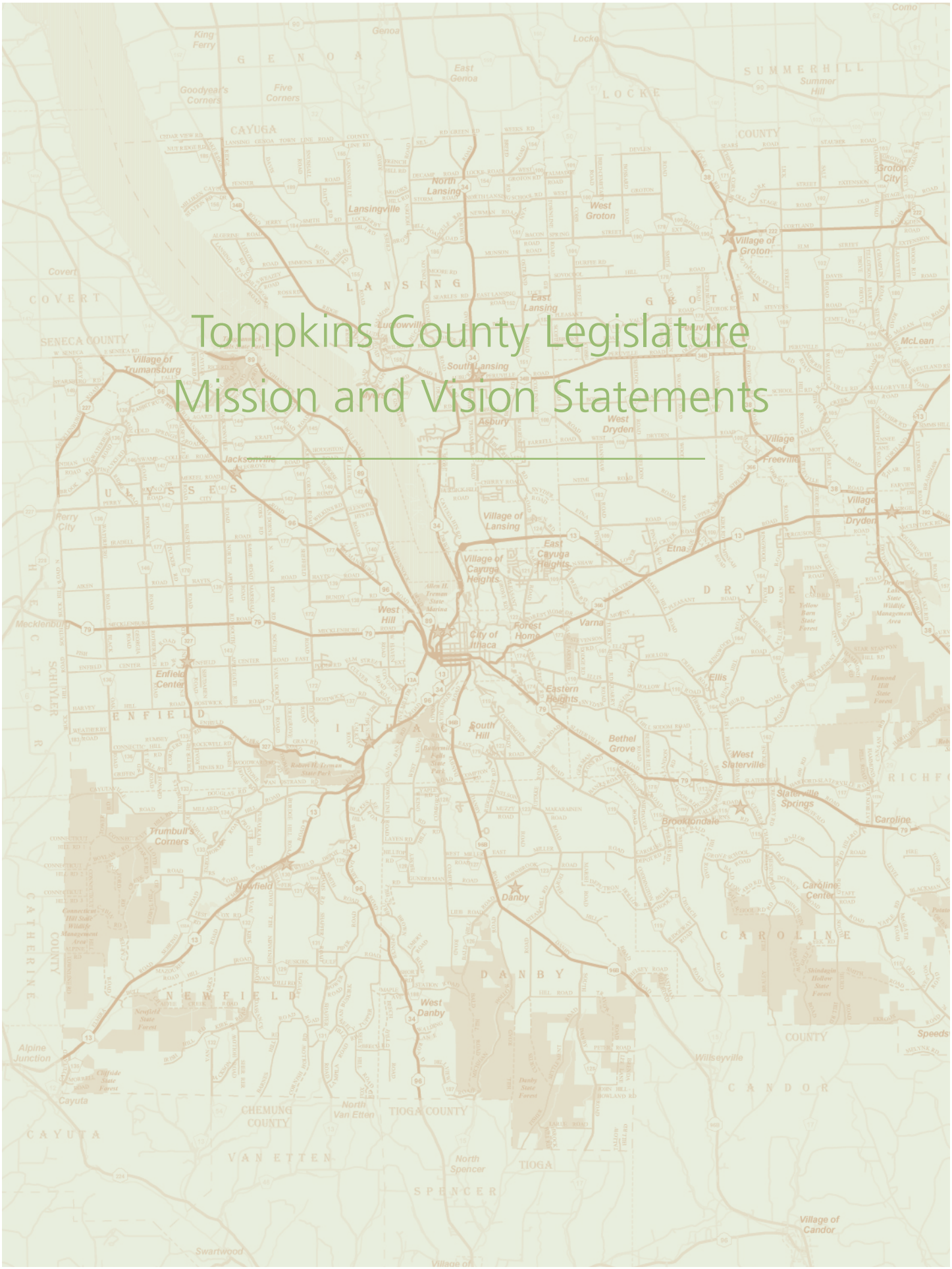
Municipal Government	Trend Scenario	Plan Scenario
County	16%	16%
City	24%	20%
Towns (excluding villages)	12%	14%
Villages	16%	16%

Conclusion

As each of the communities in Tompkins County grows and changes over the next several years, it will be important to provide a balanced land use pattern. A balance can be struck between development and land conservation, between residential and non-residential development, and between more compact nodal settlement patterns and scattered patterns. Communities that take the lead in planning new land uses appropriately can ensure that new development adds to the financial assets of the municipality. Municipal-level fiscal impact analyses will help local governments better assess the balance between types of development and land uses, and estimate the fiscal impacts of implementing local land use plans. Collaboration with school districts will be particularly important in determining the overall fiscal impact of land development policies.

The fiscal analysis of the scenarios developed for the Plan show the relative impact of the recommended nodal development pattern on the fiscal health of communities within the county and the county as a whole. The implementation of a nodal development pattern will have a net positive impact on the fiscal health of the county and its communities.

Tompkins County Legislature
Mission and Vision Statements



Tompkins County Mission Statement

January, 1997

The mission of the Tompkins County Board of Representatives [County Legislature] is to collectively meet the needs of our residents and communities and to realize the Boards' articulated vision. County government will perform those functions not provided as well by individuals, the private sector, other levels of government, or the not-for-profit sector. County activities will be designed to protect and enhance the lives of the county's diverse residents and communities in ways that are compassionate, ethical, and creative within the limits of what residents financially support.

To this end we will:

- **Allocate fiscal resources consistent with our vision, goals, policies, and community needs**
- **Foster open and honest communication among governments and county residents and employees, County government will initiate dialogue on the community needs, the appropriate role of County government, and satisfaction with the County's direction, initiatives, and services**
- **Create and implement policies that:**
  - enhance the economic opportunity and well-being of all county residents
  - safeguard the health, safety, and rights of our residents and employees
  - protect the natural environment for future generations and maintain the built environment
  - prevent the need for more costly future services
- **Encourage and support programs that:**
  - achieve the County's goals
  - deliver needed services
  - serve vulnerable populations
  - strengthen families and communities
  - enhance our quality of life
- **Operate a well-run organization by:**
  - using a well trained, diverse workforce of employees, qualified contractors, and volunteers
  - providing adequate personnel, financial, facility, and informational support to approved programs
  - producing a balanced budget that supports the County's vision, mission, and goals and has appropriate reserves for future uncertainties
  - carrying out the mandates of state and federal governments
  - acting as a resource and partner for other local governments
  - responding flexibly and responsibly to emerging needs and changing mandates

Tompkins County Vision Statement

January, 1997

The vision of the Tompkins County Board of Representatives [County Legislature] is a county where our residents' social and economic well-being flourishes in an environment that is physically safe and supportive.

We see a community where all people are physically safe, financially secure, and able to enjoy physical, social and mental well-being,

- where residents of all ages are valued and included and feel that way;
- where families of all kinds are considered important and strengthened;
- where those most vulnerable are cared for respectfully and fairly;
- where all people appreciate diverse cultures and opinions, take personal responsibility for their actions and treat each other with civility;
- where freedom of expression and privacy are respected and protected;
- where individual learning and growth opportunities abound and full participation in civic life is fostered;
- where arts and cultural resources are supported as important community assets.

We see a community where diverse economic enterprises prosper and are in harmony with the natural and built environment,

- where everyone can learn job skills and have employment opportunities;
- where all residents share equitably in the wealth of the community and support the community in accordance with their ability to pay;
- where all residents can support themselves, their families, and their community from generation to generation.

We see a community where all people respect the land, and historic and cultural sites, and act as wise stewards or our finite resources and the beauty of the landscape,

- where land-use decisions reflect this stewardship;
- where our historic and cultural heritages are respected and protected by all;
- where people, goods, and information travel easily and safely on networks that are well-integrated into the environment.

We see a community where local governments, educational institutions, places of worship, businesses, and community organizations work together to provide high-quality, cost-effective services easily available to all.

Tompkins County Comprehensive Plan

Energy and Greenhouse Gas Emissions Element

2008 Amendment

Planning *for our* Future

Tompkins County Comprehensive Plan
Planning for Our Future

The Energy and Greenhouse Gas Emissions Element amendment
was adopted on December 16, 2008 by the
Tompkins County Legislature.
Ithaca, New York

Michael Koplinka-Loehr, *Chair*
Leslyn McBean-Clairborne, *Vice Chair*

Will Burbank
Carol Chock
James P. Dennis
Michael R. Hattery
Dooley Kiefer
Katherine Luz Herrera
Pamela Mackesey
Frank P. Proto
Duane T. Randall, II
Martha Robertson
Nathan Shinagawa
Michael J. Sigler
Greg W. Stevenson

County Administrator
Joe Mareane

Prepared by the
Tompkins County Planning Department

Edward C. Marx, AICP, *Commissioner of Planning*
Katherine Borgella, AICP, *Principal Planner*
Scott Doyle, AICP, *Senior Planner*
Dariele Drake, *Principal Account Clerk/Typist*
Sharon Heller, *Geographic Information System Analyst*
Joan Jurkowich, AICP, *Deputy Commissioner of Planning*
Jeanne Leccese, *Planner*
Leslie Schill, *Senior Planner*
Kathy Wilsea, *Secretary*

This amendment to the Tompkins County Comprehensive Plan
was prepared with the on-going support and guidance of the
Tompkins County Planning Advisory Board. Members of the Board
who served while the amendment was being prepared were:

Martha Armstrong, *Economic Development*
Dick Coogan, *Local Planning (non-urban)*
Rick Couture, *Education*
Fernando de Aragón, *Transportation*
Betty Falcão, *Human Services*
John Gutenberger, *Education*
Dave Herrick, *Facilities / Infrastructure*
Dooley Kiefer, *Associate Member*
Gay Nicholson, At-Large
Peter Penniman, Business
Martha Robertson, Planning Committee
Monika Roth, Agriculture
John Spence, Housing
Scott Whitham, Cultural & Historic Preservation
Fred Wilcox, Local Planning (urban)
Andy Zepp, Land Preservation /Public Land Management

Energy and Greenhouse Gas Emissions

PRINCIPLE

The Tompkins County community should reduce energy demand, improve energy efficiency, transition to renewable sources of energy, and reduce greenhouse gas emissions.

Energy and Greenhouse Gas Emissions

The Tompkins County Comprehensive Plan was adopted by the Legislature in December 2004. This new Energy and Greenhouse Gas Emissions Comprehensive Plan element is being added to the section of the Plan entitled Interlocking Pieces: The Environment. It complements existing elements that address Water Resources and Natural Features and relates directly to many of the policies adopted in support of other plan elements. Some examples of such policies include promoting nodal development patterns; developing alternative transportation options; investing in local jobs and business opportunities; and protecting rural resources and natural features. These policies all contribute positively toward energy sustainability. This new element explores the broad range of issues related to energy and greenhouse gas emissions and presents specific policies and actions to address them.

The Global Context

The projected decline in world oil supply (peak oil) and increasing global energy demand are constraining energy availability while generating record energy prices that are impacting global, national, and local communities. Since the 1950s, access to cheap oil spurred explosive growth in the consumption of fossil fuels. This growth has been strongly linked to spiking greenhouse gas emissions and, in turn, global climate change that is producing extreme weather patterns and disrupting ecosystems. All of these forces work together to increase energy, food, and commodity prices worldwide.

While oil prices are notoriously difficult to predict, energy experts project the cost of gasoline will increase on the order of $1 per gallon per year and forecast that in twenty to forty years oil and gas will be priced out of range of most people. While this is sobering to consider, and the exact details of these predictions can be endlessly debated, most experts agree that the years of cheap oil are coming to an end, and now is the time to prepare for this coming transition.

The Local Energy Challenge

While these global energy problems cannot be solved exclusively at the local level, and leadership is needed from global, federal, and state organizations, locally we can identify, plan for, and take steps to address these issues. Acting now will prepare our community to respond nimbly to changing policy and program decisions at the global, federal, and state levels.

In Tompkins County, rising energy, food, and commodity prices are creating financial hardships for many community members. Unfortunately, those who are least able to afford these rising costs tend to be those without the financial resources to take the steps that would most help, such as installing energy efficiency upgrades in their homes and purchasing more fuel-efficient vehicles. While certain sectors of the population will bear a disproportionate share of the burden, all are feeling the pinch already. The cost of energy is becoming a more important factor in deciding whether to drive or take the bus to work; what food to put on the table; how to heat a building; where to live or locate a business; and what types of services a local government can offer its citizens. Community members are already making these decisions by opening their homes to renters to share costs, traveling less often, turning down the thermostat, telecommuting when possible, growing their own food, rediscovering locally based businesses and events, lobbying higher levels of government, and installing renewable energy systems. We can also anticipate that the changing energy picture will result in greater pressure on our natural resources – agricultural land, water resources, and local forests – to help meet the energy demands of the County.

Most experts agree that the years of cheap oil are coming to an end, and now is the time to prepare for this coming transition.

In response to this energy and greenhouse gas emissions challenge, a number of community initiatives, including those of local governments, institutions of higher education, local coalitions, the business community, and local nonprofits, are already underway. By combining efforts to reduce energy demand, improve efficiency, and transition to alternative energy sources, the Tompkins County community will also make great strides toward reducing greenhouse gas emissions.

Community Energy Picture

Based on a community-wide emissions inventory conducted by the County government for 2006, buildings consumed more than 50 percent of the community's energy and vehicles utilized another 42 percent. The

percentage of energy used was found to have a direct correlation with the amount of greenhouse gas emissions from the given sectors. According to New York State Electric and Gas (NYSEG) 2006 figures, the fuel sources used to generate our region's electricity came from natural gas (36%), hydroelectric, (23%), nuclear (23%), coal (12%), oil (4%) and other renewables (2%).

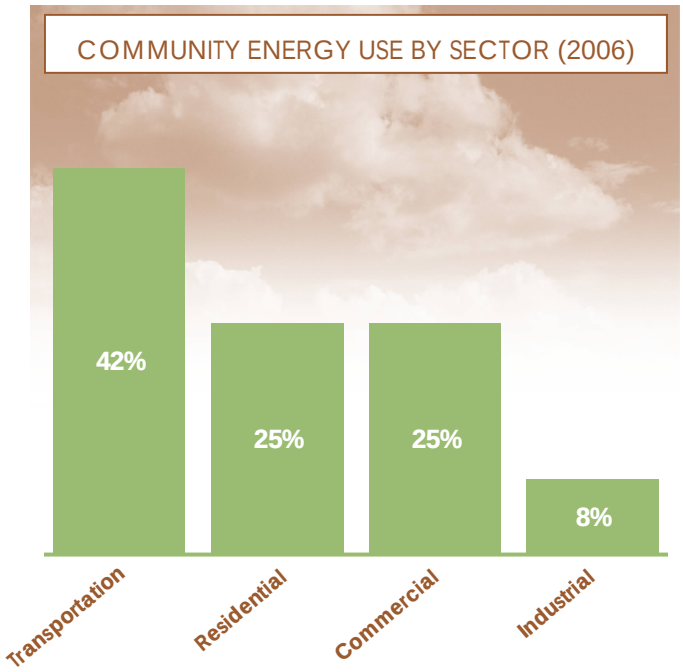
Between 1998 and 2006, community-wide greenhouse gas emissions increased by 5 percent as energy use increased by 23 percent. The main contributors to the increase in energy use were the industrial, residential, and commercial sectors, though vehicular transportation energy use also rose. The increase in greenhouse gas emissions might have been higher but was mitigated by improvements made in regional electricity transmission technology and the large numbers of homes and businesses that made the conversion from heating oil and propane to cleaner-burning natural gas during this time period.

A fairly recent development in the local energy picture is the tapping of the Marcellus Shale formation for natural gas. The formation extends deep underground beneath Ohio, West Virginia, Pennsylvania, and New York and includes Tompkins County in its mapped range. While this is an opportunity to boost national fuel production, with several companies actively drilling and leasing land in Tompkins County, questions have been raised about possible environmental and community impacts associated with the technique of hydraulic fracturing, which is used to increase production rates. These and other concerns are being studied locally, as well as by the NYS Department of Environmental Conservation and other agencies and organizations throughout the Marcellus region.

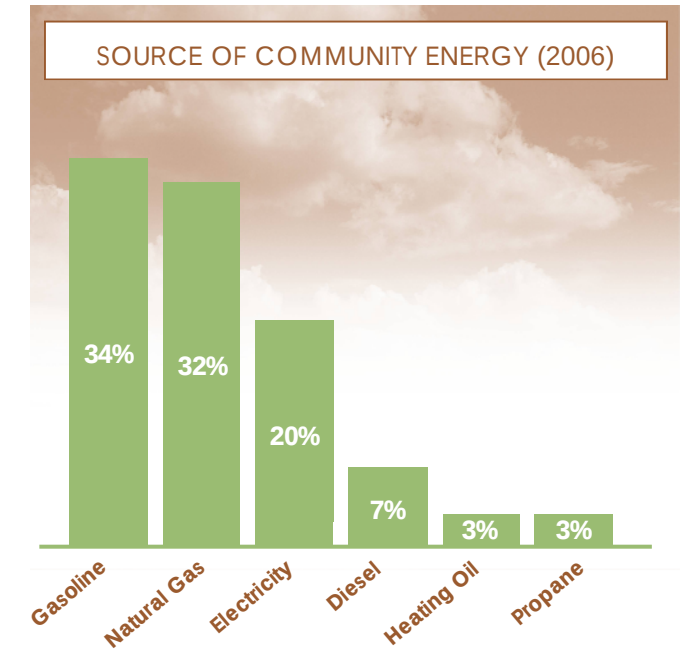
A Community Approach

There is no one single solution or single approach that will work to affect a major reduction in community energy usage and greenhouse gas emissions. Rather, a four-pronged approach is required:

- Reduce energy demand
- Improve energy efficiency
- Transition to renewable energy sources
- Enhance resources that naturally remove carbon from the atmosphere



Source: Tompkins County Emissions Inventory, August 2007



Source: Tompkins County Emissions Inventory, August 2007

Reduce Energy Demand

Reducing energy demand is the quickest and cheapest method to address the energy problem. However, it will be difficult as it means weaning ourselves from a very addictive habit – using energy freely and without thought. Simple, immediate steps can be taken to reduce energy use that will also reduce greenhouse gas emissions. Examples of actions that can be taken to reduce energy demand are: individuals can install programmable thermostats in their homes and choose to take the bus or carpool a few times a week; businesses can install building controls to focus heating and lighting in the high-use areas; and governments can evaluate routes and study the feasibility of building interconnected bike and pedestrian paths to make it easier for citizens to get around without vehicles.

Improve Energy Efficiency

Every segment of the community can take steps to increase energy efficiency. Energy suppliers can install technologies that reduce energy losses during transmission; individuals can hire professionals to conduct an energy audit of their homes and replace appliances that wear out with Energy Star-rated models; businesses can employ new processes and technologies to reduce energy waste; and government can improve local transit service, replace aging vehicle fleets with more efficient vehicles, and explore efficiency technologies such as combined heat and power or district heating.

Improving energy efficiency for transportation and buildings would greatly reduce total community energy use and associated emissions. Transportation, the sector that singularly uses the most energy and emits the most greenhouse gases, can achieve efficiency through a transition to more fuel-efficient vehicles and improved transit systems. Research is also underway to identify and produce sustainable fuel sources to replace fossil fuels that power vehicles.

As for local buildings, almost 40 percent of the homes in the County were built prior to 1940. A large percentage of these homes have little or no insulation, single-pane windows, and rely on aging heating systems. The energy loss that occurs in these homes is enormous and will, in many cases, become a financial burden on homeowners as energy prices rise. The chart below illustrates the financial impact of weatherization on a typical home in Tompkins County.

ANNUAL COST[1] TO HEAT AN 1,800 SF HOUSE IN TOMPKINS COUNTY, 2007

STATUS OF WEATHERIZATION			
Energy Heat Source	POOR (17 BTU/SF/HDD)	AVERAGE[2] (8 BTU/SF/HDD)	OPTIMAL[3] (1.5 BTU/SF/HDD)
Electricity	$5,554	$2,614	$490
Propane	$4,881	$2,297	$431
Oil	$4,039	$1,901	$356
Natural Gas	$3,029	$1,426	$267
Grass/Wood Pellets	$2,356	$1,109	$208
Wood	$2,356	$1,109	$208

[1] 2007 US average costs based on approximate efficiency for typical heating appliance used for each energy source.
[2] Based on annual 5,500 heating degree days (HDD) in Tompkins County. HDD is a unit of measure that relates daily temperature to expected demand for fuel. 79.2 million British thermal units (BTUs) are required to provide heating for a typical 1,800 square foot (sf) home in Tompkins County with average weatherization (8 BTUs/sf/HDD)
[3] Based on several reports, including a Rocky Mountain Institute study showing 80% efficiencies obtainable in home renovations.
Sources: U.S. Department of Energy and Cooperative Extension of Tompkins County

Improving energy efficiency in buildings also has great potential for stimulating the local economy; it offers opportunities for new industry and green job creation. These jobs might include performing energy audits, retrofitting buildings to tighten the building envelope, and designing and constructing new, energy efficient buildings.

Transition to Renewable Energy Sources

A long-term solution will be to transition to renewable sources of energy for heat and transportation. Developing a diverse energy portfolio that includes renewable energy sources will allow the Tompkins County community to meet our future energy needs in a responsible and sustainable manner. In addition to incentives at the Federal level, New York State offers an attractive package of rebates and tax incentives, as well

as net metering legislation, to help consumers more readily afford renewable energy systems. Locally, the Tompkins County Legislature has permanently exempted residential solar energy systems equipment and installation service from local sales and use taxes. In terms of renewable opportunities, Tompkins County can draw on local renewable energy sources that include solar, wind, biomass, water, methane and geothermal.

In a region known for its cloudy weather, Tompkins County is not immediately thought of for solar energy potential. However, even on cloudy days, solar radiation is available and is a viable energy source to provide both electricity and heat. According to the New York State Energy Research and Development Authority, as of July 2008, there were 93 grid-connected solar arrays in the County.

Another important energy source in Tompkins County is wind. Given the varied topography in the County, much land is located in high areas with annual average wind speeds of at least 11 miles per hour, the threshold required for household grid-connected applications, and some areas have wind speeds up to 17 mph. Wind energy that is sited in areas with strong wind resources near transmission lines can produce extremely affordable electricity.

Biomass, in the form of forests, brush, and crops, can be cut or pelletized and used for home heating. Biomass that is burned in efficient, clean-burning stoves could help residents make the transition away from nonrenewable energy. Currently, in the County there are 140,000 acres of privately and publicly owned forestland, 22,000 acres of marginal brushland, and 19,000 acres of inactive agricultural land. It may be feasible that half of this acreage could be used for biomass production. As it takes 5-6 acres of sustainably managed brushland or forestland to heat one typical home for one year, potentially 16,500 homes could be heated each year using existing forestland, marginal brushland, and inactive agricultural land.

The many streams in Tompkins County have historically provided power to the community, as is evidenced in the many old mill dams scattered throughout the region. Currently, water resources are being used to supply energy in Tompkins County, but chiefly by individuals and Cornell University. Cornell recently upgraded its hydroelectric facility below Beebe Lake, which is expected to increase that facility's annual production by 20 percent, and Cornell's Lake Source Cooling project uses the deep cold waters of Cayuga Lake to cool Cornell and Ithaca High School. There is potential for more hydropower to be harnessed at the individual level, as well as at the community level using the fast-moving waters in our streams.

Methane, a byproduct of decaying organic waste, can be harnessed in the County's agricultural areas and landfills to produce electricity. Harvesting methane also reduces the amount of this harmful greenhouse gas that is emitted into the atmosphere.

Geothermal energy takes advantage of the stable temperatures near the surface of the earth for use in heating and cooling buildings. Heat energy can be extracted from the earth in the winter, and added to the building. In the summer the process can be reversed, with unwanted heat extracted from the building and added to the earth.

Technologies that Can Help Fill the Gaps

Energy-efficient and renewable technologies that produce heat and electricity can be employed in Tompkins County to help achieve energy sustainability. A few examples of technologies that focus on efficient processes include: combined heat and power that utilizes waste heat generated from electricity production to warm buildings; distributed heat which circulates heat through a pipe network in densely developed areas; distributed electricity generated using solar or wind power; and anaerobic digestion that uses microorganisms to break down biodegradable material. Distributed heat, in particular, is often cited as having great potential in the City of Ithaca, Villages, and even smaller units of dense housing such as mobile home parks. Also, two innovative, renewable energy technologies currently being researched at Cornell University are deep rock geothermal and biochar using pyrolysis. Tompkins County is well positioned to benefit from any of these technologies through pilot projects and perhaps spin-off technology businesses.

Reduce Emissions

By reducing energy demand, improving energy efficiency, and transitioning to renewable energy sources, the Tompkins County community can reduce the amount of greenhouse gases it emits. Additionally, emissions can be reduced by enhancing resources that naturally remove carbon from the atmosphere. The natural process of carbon sequestration absorbs and stores atmospheric carbon in carbon sinks - local land, forests, wetlands, and waters. Protecting and sustainably managing these natural resources is vital to reducing greenhouse gas emissions.

Based on analysis done by the United Nations Intergovernmental Panel on Climate Change, many scientific, environmental and industrial organizations have determined that we must reduce greenhouse gas emissions by at least 80 percent by 2050 to avoid the worst impacts of global climate change. The Tompkins County community can do its part by setting the goal of reducing greenhouse gas emissions by two percent of 2008 base year emissions per year for the next 40 years to achieve that reduction. By implementing a combination of approaches over time, citizens, businesses, and institutions across the County could feasibly achieve this goal by using technology that largely exists today.

Many scientific, environmental and industrial organizations have determined that we must reduce greenhouse gas emissions by at least 80 percent by 2050 to avoid the worst impacts of global climate change.

Local Benefits of Energy Transition

Changing energy-use patterns is hard, but this energy challenge can provide local benefits. Through energy transition, Tompkins County can position itself as a regional leader in building a strong, local economy with the development of green jobs, local production facilities for new technologies, and sustainable agriculture and forestry.

Energy transition is also a strong impetus for building in a more nodal development pattern as people seek to reduce transportation costs. It can also help to preserve the natural areas and resources that hold energy potential for the region. More people living near employment, commerce, education, entertainment, parks, and recreation areas could very well result in improvements in our quality of life, as people are able to walk and bike more, interact with neighbors and participate in nearby community activities more readily, and benefit from efficiencies in the delivery of public services.

It is anticipated that any adverse fiscal impacts that might result from energy transition will likely be offset by the economic benefits associated with retaining dollars in the local economy that would normally flow out to pay for higher energy costs.

THE MULTIPLIER EFFECT

Imagine the impact the "Smith" family could have, over time, if they took advantage of choices currently available regarding their transportation, home electric, and heating.

Transportation

Suppose the Smith family typically drives 10,000 miles per year and three times a week they start to bike or take public transit to work instead of driving; that could result in their driving 5,700 miles per year, or a 43 percent reduction in vehicle miles traveled.

If the Smiths also trade in their current vehicles for more fuel-efficient cars, they could go from 25 mpg to 45 mpg, a 44 percent reduction in gasoline used per mile. Just these two choices alone would reduce the family's vehicle emissions by 68 percent.

Home Electric and Heating

If the Smiths reduce their demand for home energy by installing a programmable thermostat, switching to compact fluorescent light bulbs, adding insulation and making other low-cost, simple changes to reduce energy demand, and they also have an energy audit and make the recommended improvements to make their home more efficient, they could reduce their energy consumption and greenhouse gas emissions by 40 percent.

If the Smith family then installs a renewable energy system (or if the electric grid delivers energy from renewable sources), they might achieve a 60 percent reduction in greenhouse gas emissions from their energy source, so that overall, the family would achieve a 76 percent reduction by taking these multiple steps.

Policies

It is the policy of Tompkins County to:

- Reduce community greenhouse gas emissions by at least 2 percent of 2008 base year emissions per year to reach, at a minimum, an 80% reduction from 2008 levels by 2050.
- Foster coordination of energy and greenhouse gas emissions planning and project implementation activities in the community.
- Support energy reduction through countywide composting, recycling, reuse, and other waste stream management programs.
- Create financial mechanisms and incentives that foster investment in the systems and programs necessary to help the community achieve reductions in energy demand, improvements in energy efficiency, and transition to renewable energy sources.
- Encourage all new development and renovations to be energy efficient and to take advantage of renewable energy sources wherever possible.
- Encourage development of local renewable energy sources and technologies.
- Construct, renovate, and maintain Tompkins County government facilities and buildings to optimize energy efficiency, utilize renewable energy where possible, and enhance environmental sustainability.
- Consider energy usage and greenhouse gas emissions when making decisions about local laws and regulations, future development, transportation projects, and infrastructure.

Action Items

Action items are short-term activities that Tompkins County government or community partners can undertake to implement the long-term policies.

- ➔ Work with local municipalities, school districts, businesses, institutions of higher education, and non-profits to develop a 5-year strategy to reduce community greenhouse gas emissions by at least 10% of 2008 emissions levels, including a detailed plan for County government to achieve that same target.
- ➔ Incorporate into the *Tompkins County Comprehensive Plan Indicators of Success Report* metrics of change in energy use and greenhouse gas emissions, energy efficiency improvements, and renewable energy systems installations in the community.
- ➔ Prepare an adaptation plan to help prepare the community for impacts of global climate change and peak oil.
- ➔ Conduct an educational campaign on energy issues and energy choices that address topics such as home heating options, energy efficiency measures, transportation options, food production, and renewable energy systems.
- ➔ Identify and promote utilization of Best Management Practices in agricultural, forestland, and water management to enhance carbon sequestration.
- ➔ Develop a strategy to divert 75% of the community waste stream from landfills by 2015.
- ➔ Develop a plan to address the specific energy needs of low-income people, including recommendations for improvements to existing energy-related programs and identification of potential pilot projects to address energy needs.
- ➔ Investigate the feasibility of developing a low-interest revolving loan fund to improve the payback period for energy efficiency investments made by homeowners, landlords, and businesses.

- Promote green business development and create green job training opportunities for workers, high-school students, and college students.
- Adopt and expand local tax incentives, such as sales and property tax abatements, to encourage homeowners and businesses to invest in energy efficiency and renewable energy systems.
- Develop or identify a model building energy code that can be phased in, as well as incentives to assist with code compliance.
- Adopt a County administrative policy that requires major new County government buildings or renovations of County buildings to be certified Leadership in Energy and Environmental Design (LEED) Silver or higher.
- Determine the feasibility of developing a regional consortium of sustainable biomass growers and processors to supply biomass consumers in the region.
- Develop criteria and identify the sites most appropriate for locating community-scale wind power in Tompkins County.
- Establish a green fleet policy for County government, including participating in car share and bike share programs for County government employees, and determining needs for amenities to facilitate alternative transportation use.
- In the 2009 update of the Long Range Transportation Plan include provisions to reduce vehicle miles traveled and enhance transportation efficiency through physical and programmatic improvements, such as park and rides, express regional commuter service, vanpool, and interconnected bike/pedestrian ways.
- Identify and, if necessary, create a board or committee to advise the Tompkins County Legislature on proposed federal and state legislation and policy initiatives regarding energy and greenhouse gas emissions.