

DEVELOPMENTS *New England*

New England Developments

Policy Issues Shaping the Regional Economy

August 2003

Student Migration Patterns Are Mixed Blessing for Region

By Michael K. Thomas

As with commerce, New England has a “balance of trade” with students flowing in and out of the region. This balance of trade has implications beyond the enrollment management concerns of New England’s colleges and universities. Every in-migrating student brings a significant amount of money in tuition and expenses along with him or her; every out-migrating student takes money out of state and often out of the region. Moreover studies suggest that students who attend college in the same state where they graduated from high school are far more likely to stay and work in that state after college than those who left the state for college are to come back. So, the extent of migration also has implications for the return on a home state’s investment in primary and secondary education.

The New England Board of Higher Education recently analyzed statistics on New England’s student migration. As a region, New England enjoys a notable “positive” net migration of first-year college students. That is, far more freshmen travel to New England for college each year than leave the region. The net inflow grew by 14 percent between 1992 and 2000. There are, however, notable differences among the six states, differences that have persisted over time. For example, four New England states—Massachusetts, Rhode Island, Vermont and New Hampshire—have positive net inflows. Maine and Connecticut, in contrast, have negative net migration flows.

Out-migration

The six New England states rank among the top 12 nationally in terms of the percentage of first-time, first-year freshmen leaving their home state for college. Nationally, on average, 24 percent of first-time freshmen leave their state of residence.

Vermont ranks second in the nation, with 60 percent of freshmen leaving, up notably from 47 percent in 1992. New Hampshire ranks third in the nation, with 53 percent leaving, up from 44 percent in 1992. Connecticut ranks fifth, with 48 percent leaving. This represents a slight improvement over 1994, when 53 percent of freshmen left the state. Maine ranked 6th, with 43 percent of freshmen leaving. Rhode Island ranked 9th, with 37 percent leaving and Massachusetts ranked 12th with 31 percent leaving.

These findings are troublesome for some New England states. The number of Vermont residents, for example, who report they intend to pursue a college education outside Vermont has increased by 15 percent over the past 10 years from 44 percent to nearly 60 percent. A recent survey of Vermont high school seniors by the Vermont Student Assistance Corp. finds the most important reason for leaving was to “experience a different environment.” Anecdotal evidence suggests a similar wanderlust among young people in the relatively rural states of Maine and New Hampshire.

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Rural-Urban Trade Routes Are a Key to Economic Development

By Delore Zimmerman

Trade routes such as the Silk Road and the Spice Route conjure up thoughts of history, romance and adventure. Ancient trade routes served principally to transfer raw materials, foodstuffs, and luxury goods from areas with surpluses to others where they were in short supply. Trade routes also served as the communications highways of the old world as new inventions, religious beliefs, artistic styles, languages and social customs were transmitted by people moving from one place to another to conduct business.

In today’s electronically networked world little thought is given to those recurring patterns of economic and social exchange that occur between places. Dromography (Gr. ‘dromos’ [way, street, route, corridor] + Gr. ‘graphos’ [to write]), or the scholarly study of communication and trade routes, focuses mostly on traditional or pre-industrial patterns of exchange. Today’s government and university data centers keep track of exports to foreign nations but overlook those domestic, recurrent exchanges that probably mean the most to the prosperity of local economies.

Concepts used in characterizing old world trade routes such as nodes, networks and corridors, however, are strikingly similar to those used in describing the highly connected economy that we live in today.

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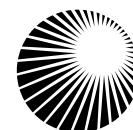
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**Northeast
Utilities System**

Student Migration Patterns, cont'd. from page 1

Reasons for Connecticut's significant out-migration may include its proximity to New York and other northeastern states (notably Pennsylvania), where reputable higher education institutions abound, as well as its relatively high number of high school graduates from well-educated, high-income families.

NEBHE found that 52 percent of the freshmen leaving their states of residence end up in one of the five other New England states, while 48 percent leave the region entirely. Of the nearly 19,000 students who cross into another New England state for college, 13,511 or 71 percent attend private colleges. This holds true regardless of which New England states one considers: the vast majority leave their home state to attend private institutions.

The story is the same for freshmen who leave New England entirely. Nearly half of the 17,500 students leaving New England for college go to either New York (6,191) or Pennsylvania (2,233), followed by Virginia, the District of Columbia, Florida, North Carolina, Maryland and Ohio. About 13,000 or 73 percent of them enter private institutions. The most popular are Rochester Institute of Technology, Syracuse University, George Washington University, Ithaca College, Rensselaer Polytechnic Institute, New York University and Cornell University.

In-migration

Outflow is only half the freshman migration equation. New England remains a popular destination for freshmen from around the United States (and the globe), and posts a net gain in migration of college freshmen.

But levels of in-migration vary from state to state. For example, three of the six New England states rank among the top 15 in the nation in attracting migrating freshmen. Massachusetts ranks

third in the nation, with over 21,400 traveling there for college in 2000. Connecticut ranks 12th, receiving 7,800 freshmen, while Rhode Island ranks 13th, receiving 7,700.

In fact, New England depends heavily on this inflow of students. All six states rank in the top 10 nationally in terms of in-migrating students as a percentage of all first-year freshmen. The extent to which the New England states compensate for out-migration with in-migration is illustrated by the ratio of freshmen coming to freshmen going. Nationally, the average state attracts 1.4 U.S. freshmen for every freshman who leaves. Rhode Island has the 3rd highest ratio in the nation, with 3.21 students migrating in for every one that leaves. Vermont ranks 13th by this measure, with 1.71 students migrating in for every one that leaves. Massachusetts ranks 18th with a 1.58 ratio. In contrast, New Hampshire's ratio is 1.13, just slightly below the national average. Maine's and Connecticut's are well below the national average, with only 0.71 freshmen coming in for every one that leaves. This underscores the reality faced by both states: significant negative net migration flows.

Just as private institutions draw freshmen away from New England states, private institutions draw freshmen in. Of the approximately 26,400 freshman students traveling to New England in 2000, about 22,600 or 85 percent of them entered private institutions. New England's top private destinations include: Boston University, Boston College, Harvard, Johnson & Wales, Northeastern, Yale, Brown, Dartmouth and the Massachusetts Institute of Technology.

There are several reasons for the lopsided attraction to private institutions. First, New England has a relatively large number of private institutions—lots of capacity, if you will, to be filled by stu-

dents from all over the region and the nation. Second, many New England private colleges and universities are in high demand simply because they are among the most prestigious in the country. Third, public institutions have limits on the number of out-of state students they accept. Fourth, in some instances, the cost of attending a public institution out of state is somewhat comparable to attending a private institution.

Implications

Though the vast majority of New England freshmen who remain in their home states attend public colleges and universities, there appears to be a disturbing similarity between where New England states rank nationally in public college tuition and where they rank nationally in the percentage of freshmen who leave the state. In short, public colleges and universities in New England, while less expensive than their private counterparts, may not seem like a good enough deal to keep many state residents home.

But for the luring capacity of private higher education institutions, some New England states might be at a severe economic and social disadvantage due to the large number of students who leave to attend college elsewhere.

The freshmen who leave their home states or the region are often among the best and brightest, as evidenced by the list of institutions they attend. This raises tough questions, particularly for states like Connecticut and Maine, about "brain drain" and those states' apparent inability to keep their own brightest students at home. ■

Michael K. Thomas is director of policy and research at the New England Board of Higher Education. This story appeared originally in the Summer 2003 issue of Connection: The Journal of the New England Board of Higher Education. For more information on Connection visit www.nebhe.org/connection.

New Collaboration with NEBHE and NEC

With this issue of *New England Developments* we begin a new arrangement with the New England Board of Higher Education and the New England Council to include periodic articles by them in the newsletter and to share publication mailing lists. NEBHE and NEC are two of the most respected entities in the region and their collaboration with Northeast Utilities will give readers exposure to their expertise in educational trends and developments in Washington that will enhance both the content of the newsletter and its impact on public policy in the region. We welcome their involvement!

Guest COLUMN

Vermont Wants Your Business



**By Kevin Dorn,
Secretary**

**Vermont Agency
of Commerce
and Community
Development**

The National Conference of State Legislatures reports that the fiscal year ending June 30 had some 41 states with budget deficits totaling \$74 billion.

Not Vermont.

Vermont is one of the few states that finished the year with a balanced budget. In fact, a federal windfall is allowing Vermont to put some \$30 million into its “rainy day” fund. General fund revenues are up 10.1% overall from one year ago in Vermont.

So what’s going on in the northwestern corner of New England?

Vermont, like every state in the nation, experienced declining revenues for fiscal 2003. Unlike many other states, however, Vermont was able to weather the storm with cuts in programs and by using its “rainy day” fund to make up the shortfalls. The legislature adjourned in May having worked with newly elected Governor Jim Douglas to pass a balanced budget that addressed the new administration’s top priority of growing jobs.

That might surprise many, since it’s no secret that Vermont is perceived as a state that is “anti-growth.” With our rigorous permitting process and regulations that affect a number of other issues relating to doing business in Vermont, it’s easy to get that impression. But that view is misplaced.

Vermont wants to make sure that businesses in the Green Mountain state will be successful in the long term—win-win is the way we look at it. One of the ways we do that is through our policies and regulations. We do see the need for reform in some areas and are working to

streamline our permit process while providing more incentives to doing business in our state.

But if a business is likely to run afoul of Vermonters’ concern for our quality of life and the environment, it will have a tough go of it. If a business seeking tax credits is not willing to make a long term investment in providing quality jobs, our tax incentive program will be difficult to navigate.

But let this message be clear: Vermont is open for business, and we’ll be an active partner to do anything we can for any business that makes a commitment to Vermont.

To that end, Governor Douglas signed a \$105 million jobs bill into law in June creating various incentives, tax credits, workforce development funds and low interest loans to grow Vermont’s workforce. The bill includes:

- Doubling incentives for employers to increase workforce training and development;
- Increasing the minimum wage by 75-cents;
- Creating an “angel investor” tax incentive to attract new venture capital;
- Providing \$4 million for the Vermont Small Business Development Corporation, a non-profit partnership of government, education, and business;
- Providing \$25 million for a new mezzanine level investment partnership called the Vermont Opportunity Fund to help existing businesses create jobs and fund new business startups; and
- Increasing lending and tax incentives for environmentally-friendly, sustainable technologies.

Another bill signed into law makes it easier for Vermont agricultural credit programs to obtain federal guarantees and gives \$30 million in increased agricultural lending capacity to the Vermont Economic Development Authority.

Additionally, \$150,000 is included in the budget to fund a new Telecommunications Coordinator position in the Agency of Commerce to facilitate rapid deployment of broadband throughout Vermont, and \$400,000 more was added to the Vermont Training Program to pro-

vide customized workforce training to manufacturers.

If we do not support businesses in producing market-driven, high value-added products and services that support quality jobs, we put our environment at risk by jeopardizing critical revenue needed not just for environmental objectives, but to help fund our schools, infrastructure and a host of human services programs.

You know about Vermont being a great place to raise a family. Publications from *Parenting Magazine* to *National Geographic* praise Vermont’s lifestyle and quality of life year after year. But here’s something that we’re seeing as an emerging trend.

Our peaceful and beautiful state is becoming a place that nurtures innovation and creativity. World-class research and development is taking place in our tiny state. Our best example is IBM. Although our state’s largest employer, like semi-conductor companies throughout the world, has weathered manufacturing cutbacks due to the downturn in the global marketplace, their R&D, headquartered here, is going strong.

The Progressive Policy Institute says Vermont is in the top five states for patent activity. Suffolk University’s Beacon Hill Institute ranked Vermont the 5th most competitive state in the nation. Vermont’s success in the Small Business Innovation Research arena where federal agencies provide grants to companies for R&D has exploded in the last few years.

Norwich University has been selected as one of seven sites in the nation for research on Counter Terrorism and Cyber Security. The University of Vermont is developing a new center for emerging technologies. UVM has also lured the Gund Institute with its mission to transcend traditional disciplinary boundaries in order to address the interrelationships between ecological and economic systems in a broad and comprehensive way.

These are exciting times here in Vermont. If your company is interested in learning more, contact me directly at kevin@thinkvermont.com or call 802-828-5204. I’d love to learn more about your needs and show you some more reasons why Vermont wants your business. ■

EPA Brownfields Job Training Grants Help Reclaim Sites

By Trenton Wright

In an ongoing effort to promote economic revitalization and safeguard the environment and public health, the EPA recently awarded Middlesex Community College in Middletown, Connecticut (MxCC) one of the first Brownfields Job Training Grants under the new Small Business Liability Relief and Brownfields Revitalization Act of 2002. EPA awarded ten communities in seven states \$200,000 each to provide environmental job training at brownfields sites. In New England, JFY Networks of Boston, the Coalition for a Better Acre in Lowell, Massachusetts, and the WorkPlace Inc. of southwestern Connecticut also received awards.

The job training grants are used to teach environmental-cleanup job skills to individuals living in low-income areas near brownfields sites. The majority of participants who successfully complete the training program go on to pursue careers with environmental firms and organizations. Since the job training program started in 1998, EPA has awarded 56 job training pilots totaling \$10.7 million; 1,366 participants have completed training and 903 participants have obtained employment in the environmental field with an average hourly wage of \$12.55. Applicants for the job training program must be located in or near a community that currently receives, or has received, financial assistance from EPA for brownfields-related activities.

Brownfields are abandoned, idled or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. Since its inception in 1995, the EPA's brownfields program has awarded 645 grants to assess contaminated sites and to make loans to conduct cleanups. To date, EPA's brownfields assistance has leveraged more than \$4.6 billion in private investment, helped create more than 20,000 jobs and has resulted in the assessment of more than 4,000 properties. Every acre of reclaimed brownfields saves 4.5 acres of green space

such as park and recreation areas, according to recent EPA estimates.

The MxCC Project, called the Mid-Connecticut Brownfields Job Training Pilot, plans to train 100 students over two years, achieve an 82 percent placement rate, and track graduates for 18 months after job placement. The target participants will be underemployed or unemployed residents of nine central Connecticut communities. Placement in environmental jobs will be accomplished through the community college's existing relationships with the many technical employers in the area.

Focus on Partnerships and Environmental Justice

The project focuses on partnerships with the nine communities, environmental industry employers, and community-based organizations. The project area serves a population of 312,252 individuals covering 265 square miles. The project will receive direction through an Advisory Committee including representatives from the towns, three area NAACP chapters, the Middlesex County Soil and Water Conservation District, several environmental consulting firms and nonprofit workforce development agencies, Northeast Utilities System, and the Connecticut Department of Labor.

The EPA Brownfields Job Training Program has a strong environmental justice component. Many of the contaminated sites nationally are located in minority and low income neighborhoods. This initiative utilizes the three NAACP chapters to assist in recruiting minority individuals who may not be reached by traditional marketing methods.

The City of Meriden, the second largest participating community with a population of 58,409, was included because it recently applied for EPA assessment grant funding and the college has a satellite center in the city. Meriden economic development officials are excited about the job training program because it will give residents the opportunity to enter a highly

technical and in-demand field, while helping the city reclaim brownfields sites and eliminate blight in the neighborhoods. Because land is in short supply in older industrial centers like Meriden, brownfields reclamation is critical to the creation of new development sites.

New Funding

In January 2002, President Bush signed into law the Small Business Liability Relief and Brownfields Revitalization Act, which authorizes up to \$250 million per year for brownfields grants, including up to \$50 million for the assessment and cleanup of low-risk petroleum contaminated sites. The new legislation allows EPA to provide training to expedite assessment, remediation and preparation of brownfields sites. (Under different funding authorization MxCC had previously received a two-year EPA grant for brownfields training in 2000.)

For the 2003 grant submission, MxCC concluded that a low-tech approach would be the most successful. The program administration was transferred out of academics to the business and industry department, the training module length was cut in half, the number of trainees was doubled, another off-site location added, and the service area was more than doubled.

The grant will be administered through the college's Center for Business and Industry Services (CBIS), one of the original centers in the statewide Business & Industry Services Network (BISN). CBIS provides companies throughout Middlesex County and the Meriden-Wallingford area with a full range of customized training, instruction and consultation services. The list of CBIS clients includes Hamilton Standard, Sikorsky Aircraft, Pratt & Whitney, Wesleyan University, the Connecticut State's Attorney's Office, and the City of Middletown. ■

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Power POINTS

Region Holding Its Own (Barely) in NIH Funding

The smaller New England states experienced rapid growth in funding from the National Institutes of Health during 1998-2002 according to data released by the Institute this year. Grant awards from NIH, vital to the knowledge-based economy of this region, increased between 108-123 percent for Maine, Rhode Island, Vermont and New Hampshire during this period (U.S. average growth was 70 percent). NIH grants to Massachusetts and Connecticut grew only 59 percent and 54 percent, respectively, although both states maintained their national rankings. Massachusetts is second only to California in the amount of NIH grants and contracts and Connecticut's total is 13th largest in the country.

Personal income in Rhode Island, Maine and Vermont grew faster than the U.S. in 2002, while personal income growth in New Hampshire, Connecticut and Massachusetts lagged the national pace.

No Shrinking Violets

Maybe there is something to this new urbanism. The Census Bureau recently reported that the population of Stamford, CT, increased 2.4 percent between April 2000 and July 2002, fastest growth in the region among places over 100,000, followed by Worcester, MA, Providence, and Manchester, NH, all of which grew 1.3 percent. Four stressed Connecticut cities, Waterbury, Bridgeport, New Haven and Hartford, increased at least 0.4 percent, a change from the population losses of the 1990s. The region's largest city, Boston, had no change in population between 2000-2002, as did Springfield, MA. Population growth in Northeastern cities is still dwarfed by the growth rates of populous suburbs in Nevada, California and Arizona, several of which have increased more than 10 percent since 2000.

Personal Income Growth Mixed in Region

Personal income in Rhode Island, Maine and Vermont grew faster than the U.S. in 2002 (latest available data from the Bureau of Economic Analysis), while personal income growth in New Hampshire, Connecticut and Massachusetts lagged the national pace. At 4.5 percent, Rhode Island's increase was the biggest in New England (and 38 percent more than the U.S.) followed by Maine (4.1 percent) and Vermont (3.4 percent). Massachusetts' 1.4 percent growth was only half of U.S. growth, reflecting the severity of the slowdown in the Bay State. Personal income includes net earnings, transfer payments, and dividends, interest and rent.

Land of the Slim

New England has at least one edge on its competitors regarding the health and vitality of its workforce. There are fewer obese adults in the region than in most other parts of the nation. All six New England states had levels of adult obesity well below the U.S. average in 2001 according to data from the Centers for

Disease Control and Prevention. Massachusetts led the way with 16.6 percent of adults classified as obese compared to the national median of 21.0 percent, and ranked 49th lowest among the states. Vermont had a 17.6% adult obesity rate (48th ranking), Rhode Island, 17.7 percent (47th), Connecticut, 17.9 percent (45th), New Hampshire, 19.4 percent (39th), and Maine, 19.5 percent (37th).

MA and VT Surprise in Business Tax Rankings

A state business tax climate index produced by the Tax Foundation in May ranked New Hampshire's business tax climate as second best (to Wyoming's) in the nation. The index consists of five sub-indexes measuring the corporate income tax, individual income tax, sales and gross receipts tax, the state's fiscal balance, and the administrative complexity of the tax system. Belying common perceptions, Massachusetts and Vermont had the 12th and 20th (respectively) best tax systems for business. Rhode Island ranked 30th, Connecticut 37th and Maine 43rd in this index. Maine was dead last in fiscal balance because tax revenues have typically increased faster than its citizens' income.

Educator to the Nation

New England continues to educate the nation, at least in private schools. Employment concentrations in the region for private educational services are twice the national average according to 2001 NAICS data examined by New Hampshire Employment Security. All New England states except Maine are specialists in private colleges and universities (led by Massachusetts and Rhode Island) and prep schools (led by Vermont and Connecticut). In addition to educational services, other regional employment specialties include finance and insurance, management of companies and enterprises, and health care and social assistance. Manufacturing employment is holding its own, particularly in New Hampshire and Vermont. ■

Regional Economic TRENDS

Vitality of the Region's Health Care Industry Threatened

By Wendy Everett

As employers depart for, or send jobs to regions of the U.S. that offer more economic incentives, New England has seen the erosion of its stronghold in major industries such as textiles, defense and high-tech. Until recently, health care had been immune to that out-migration of jobs. However, in the past five years, job growth in the health care industry has declined more in New England than in any other U.S. region. While this decline may in part be explained by the region's overall slow population growth, it is not the only reason. Each of the six New England states must work together to find innovative regional approaches for preserving and fostering health care industry growth. The states must collaborate to find policy solutions to the problems that severely hinder innovation, production, and service delivery in the health care sector.

According to our recent research conducted by the Milken Institute, approximately 11.4 percent of New England's workforce is directly employed in the health care industry, accounting for more than 800,000 jobs. The health care industry includes 13 sectors of the economy: pharmaceuticals, medical instruments and supplies, research and testing services (biotechnology), medical service and health insurance, offices of medical doctors, dentists, osteopathic physicians, other health care professionals, nursing and personal care facilities, hospitals, medical and dental labs, home health care services and health and allied services.

New England ranks first in the nation in concentration of health care employ-

ment but last in employment growth. Five of the six New England states rank among the top 10 states with Massachusetts and Rhode Island tied for second in the nation and Connecticut at fifth in the nation in health care employment concentration. Specifically, New England has a very high concentration of workers in the pharmaceutical, biotechnology and medical device sectors in addition to the hospital sector. That's the good news.

Now for the not so good news. Our research shows that New England is losing ground when it comes to health care job growth and in retaining related manufacturing operations. New England health care employment from 1996 to 2001 grew only six percent while the fastest growing region in the country—the Mountain states—grew 16 percent. This is of serious concern given how vital jobs in this sector are to the region's economy. On average, each job in the health care industry creates an additional 1.2 jobs in other sectors of the economy. In certain sectors, such as pharmaceuticals, medical devices and biotechnology, each job creates an additional two to three jobs in other sectors. These are high value jobs.

portation network, highly skilled workforce and commitment from venture capital firms make the region ripe for innovation.

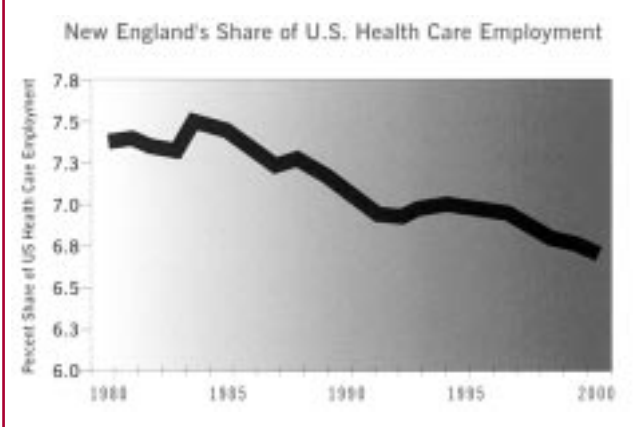
Collaborate: The six states that comprise the New England region can be more powerful than the sum of all their individual parts. Rather than losing jobs to other regions and other nations, the six states need to work together to retain jobs, companies and skilled workers.

Legislate: The region is losing labor-intensive health care enterprises to other states and/or nations. Large scale manufacturing is moving out of New England to lower-cost regions of the U.S. or to companies based offshore. States such as North Carolina and Michigan are creating tax incentive packages and waging aggressive marketing campaigns to woo major health care employers to their areas. To stay competitive, we need to educate decision makers about lower-cost, viable opportunities within New England. MassDevelopment, for example, is currently pursuing such an initiative to keep bioscience manufacturing in Massachusetts.

New England states must pay increased attention to the reality of declining job growth in the region and in each individual state. In 2001, New England received \$2.3 billion in NIH funding which makes it number one in NIH funding per capita, and four states (Massachusetts, Connecticut, Vermont and Rhode Island) rank among the top ten states in the nation. As measured by NIH funding, industrial R&D, and venture capital funding in biotechnology and medical device companies, New England is a world leader. Clearly, the region is failing to earn a good return on investment—as measured by jobs generated—on its rich innovation infrastructure. We won't continue to be first in the nation in health care employment if we're last in the nation in health care job growth. ■

Wendy Everett, ScD, is President of the New England Healthcare Institute (NEHI). She can be reached at (617) 225-0857.

New England is losing out on health care jobs



There are several things New England businesses—large and small—can do to help the region maintain a leadership position in health care.

Innovate: New England has a rich infrastructure that allows health care businesses to flourish. The region's trans-

Rural-Urban Trade Routes, cont'd. from page 1

Words such as trader or merchant traveler may have given way to concepts like logistics and routers but trading relationships remain as important today as ever. Equally important, the consequences of remaining off the beaten path, outside the space of trade and technology flows, remain as hazardous to a local economy's health as ever.

The Internet and new communication technologies connect people from all over the world in a global network society. Information technology has become a driver of economic growth, globalization, and the creation of higher-skilled, higher-wage jobs. Businesses are using information technology to increase productivity, forge closer relationships with suppliers, and reduce the time required to develop customized products and services. As the bandwidth of such networks grows to achieve full multimedia capabilities the opportunities for such new structures will grow dramatically.

New Research Project

Can building trade routes—or some comparable exchange network—between rural and urban areas help to strengthen the economies of communities and regions outside the metropolitan areas of the United States? This is the primary

question that is being addressed with regard to urbanized rural areas and more remote rural communities by a research project recently awarded to CEO Praxis, Inc. by USDA's Small Business Innovation Research program.

The SBIR project, titled "Facilitating Rural-Urban Trade and Technology Flows," is looking at how firms, organizations in technology, research and education, and industry networks/clusters around the world are forging new and innovative ways to create effective rural-urban linkages that span extended geographies. The project's aim is to develop action strategies for places located outside large urban centers to develop more effective trade and technology connections with metropolitan economies.

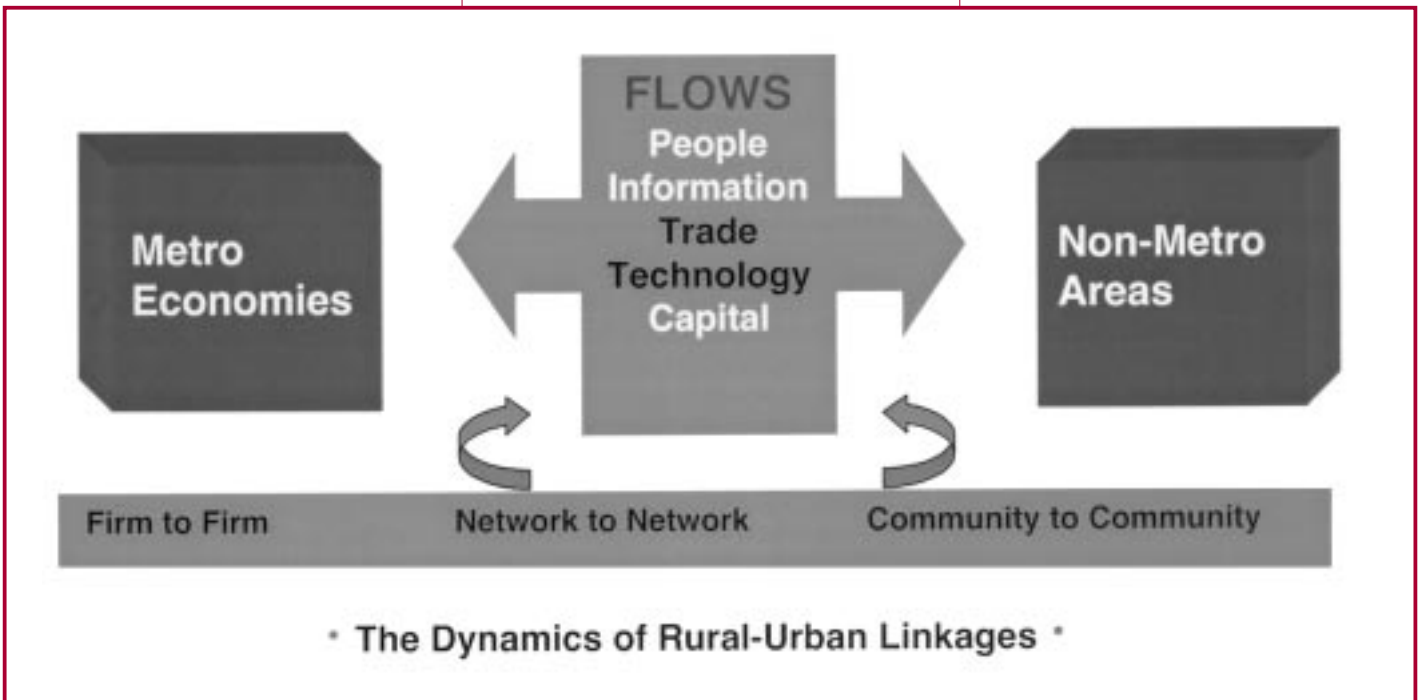
Western Massachusetts' Hidden Tech group is comprised of hundreds of individual entrepreneurs and small companies and is certainly one example of how trade and technology linkages may be established and cultivated to benefit a local economy. As the old saying goes, the total is greater than the sum of the parts as these multiple connections result in both economic and social ties that contribute positively to the area's overall vitality. A preliminary study of the Hidden Tech group by Amy Zuckerman, for

example, shows that they are very highly connected regionally, nationally and globally. While maintaining clients in 13 foreign countries on four continents the group spends millions of dollars on local goods and services and contributes significantly to the tax base.

Over the course of the next few months the Hidden Tech group will be one of several case studies conducted by CEO Praxis, Inc. across the country. Others include the Washington Technology Alliance, which holds exchanges between the Seattle group and several other regional technology groups in Washington State. The study is also looking at several European innovations in rural-urban linkages. While the jury is out yet on the total impact of these rural-urban connections, prevailing thinking is that the prosperity of a place will increasingly be defined by the power of its connections elsewhere.

Connectivity via technology networks and relationships via people networks rein supreme in the network society. Networks, rather than individual people or organizations, are becoming the predominant form of economic organization. The reality is that places, people, firms and almost all organizations will

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Rural-Urban Trade Routes, cont'd. from page 7

increasingly be differentiated as those that participate in rich networks and those that do not. To borrow a phrase from Kevin Kelly, editor of WIRED magazine, networks are *possibility factories*.

A growing number of economists and policymakers now contend that finding new ways to connect to the markets and technological innovation of metropolitan areas will be a critical challenge for rural companies and communities who now face relatively thin local markets and thin networks of firms and support institutions from the private and public sectors.

In the "New Geography: How the Digital Revolution is Reshaping the American Landscape," Joel Kotkin asserts that thriving in the digital era will require equipping your community and region as a crossroads for creativity, trade and culture.

Similarly, in Rosabeth Moss Kanter's book "World Class Communities," following the trade routes is a strategy that communities and regions can use effectively to build on existing competitive advantages, capitalize on existing momentum and generate new opportunities.

The challenge for hundreds of regions around the world is to become equipped as a crossroads and to follow the trade routes to future prosperity. The internet-worked organization of today is a tech-enabled business model that requires new skills and new tools and relies on the internet's anytime, anywhere capabilities. Likewise, places develop competitive advantage based on their ability to quickly mobilize the best people, resources and capabilities, and this is most effectively accomplished through local and external networks. ■

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Policy Issues Shaping the Regional Economy