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*Charting a Course
to Tennessee's Future*

Staff Report to Members of the
Tennessee Advisory Commission on Intergovernmental Relations

www.tn.gov/tacir



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Reports approved by vote of the Tennessee Advisory Commission on Intergovernmental Relations are labeled such on their covers with the following banner at the top: *Report of the Tennessee Advisory Commission on Intergovernmental Relations*. All other reports by Commission staff are prepared to inform members of the Commission and the public and do not necessarily reflect the views of the Commission. They are labeled *Staff Report to Members of the Tennessee Advisory Commission on Intergovernmental Relations* on their covers. *TACIR Fast Facts* are short publications prepared by Commission staff to inform members and the public.

On the cover, Prentice Cooper State Forest. Photo provided by Tennessee Photo Services.

Charting a Course to Tennessee's Future

Ethel Detch, M.P.A.
Senior Research Consultant
Principal Author



Lynnisse Roehrich Patrick, J.D.
Executive Director



Teresa Gibson
Web Development & Publications Manager

**Staff Report to Members of the
Tennessee Advisory Commission on Intergovernmental Relations**

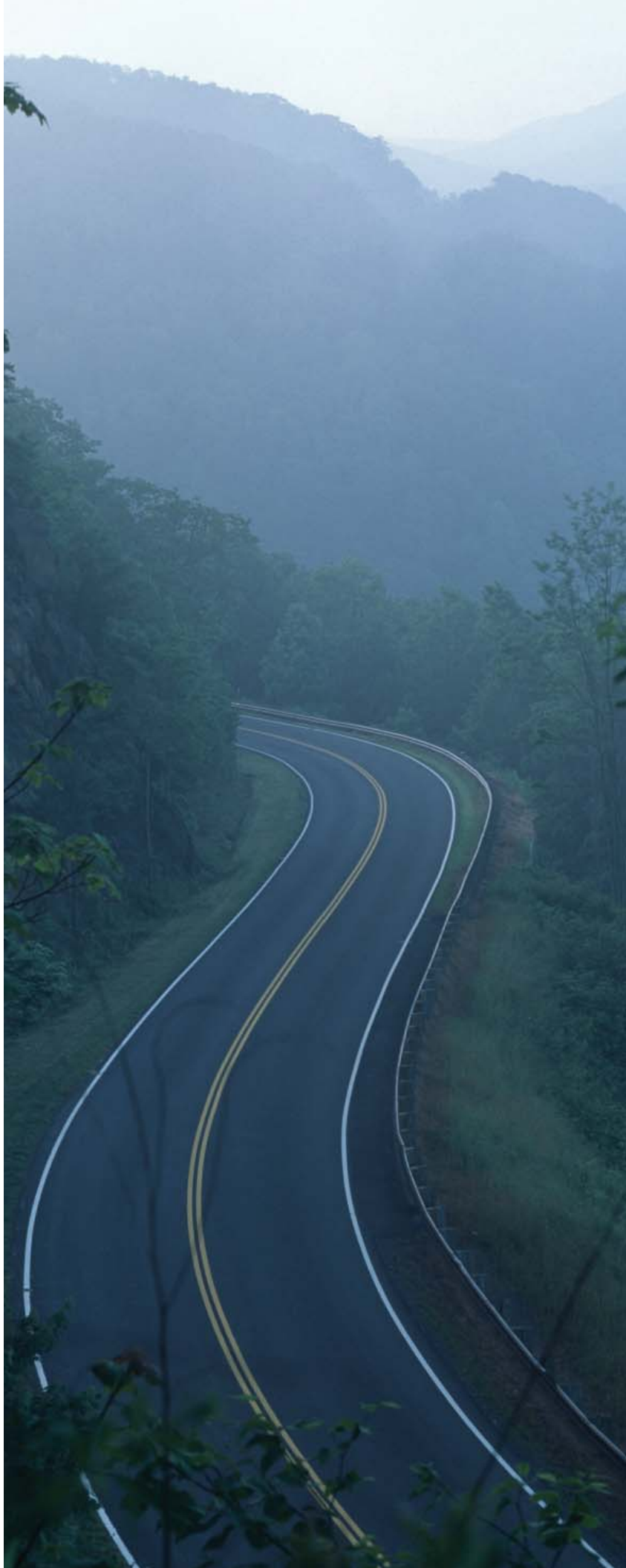
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Foreword

This report, *Charting a Course to Tennessee's Future*, varies a bit from the typical TACIR publication. In addition to informing, it seeks to stir the imagination of our state's leaders, to lift their eyes to the horizon, to glimpse the Tennessee of tomorrow. We hope it sparks discussion about ways today's leaders can help the leaders and citizens of the future.

Just as a vision of the future becomes clearer as time advances, so has this report as it developed, growing from a simple idea to a comprehensive state snapshot. The report provides an overview of many of the state's challenges, each of which is worthy of its own report. The information provided here, however, is purposefully general and illustrates the interconnections among issues and the need to consider them together.

While work on this report was progressing, Governor Haslam unveiled a set of legislative initiatives designed to move Tennessee forward by making Tennessee the number one location in the Southeast for high quality jobs. To support that goal, the Governor created a "dashboard" with indicators in five key areas:

- Jobs and Economic Development
- Education and Workforce Development
- Fiscal Strength
- Public Safety
- Health and Welfare

These areas parallel issues raised by this report.

So how do we move forward? What opportunities can we seize to address Governor Haslam's key concerns and those raised by this report, and who should our partners be? Several states have established groups of people to talk about the future including Virginia, Utah, Michigan, and Colorado. With varied combinations of private and public partners, all of them focus on the future to guide better decision-making in the present.

I'm part of the "Baby Boom" generation. The Census Bureau includes persons born between 1946 and 1964 in this group, a large population bubble created by those who started their families after the end of World War II. As children, we prompted a need for more classrooms as we moved through America's public school systems. As adults, we filled the ranks of the nation's public universities and its businesses. And we caused our own "baby boomlet" as we had children ourselves. In our golden years, we will cause changes in health care, transportation, and housing to accommodate a larger elderly population. But what then? What's next? And what should we think about now to help future generations as they assume responsibility for this great country?

We don't know the answer, but together we can figure it out.

Lynnise Roehrich-Patrick

Acknowledgments

Many people contributed to this report. TACIR staff would especially like to thank all who shared their time and insights through interviews, listed in appendix A. In addition, several state and not-for-profit agencies provided data and staff assistance including the Tennessee Departments of Economic and Community Development, Human Resources, Labor and Workforce Development, Health, Transportation, the Office of the Comptroller of the Treasury, the Tennessee Consolidated Retirement System, the Tennessee State Library and Archives, and the former Office of Children’s Care Coordination. In addition, the University of Tennessee Center for Business and Economic Research, the Southern Regional Education Board, and Connected Tennessee provided data and/or interpretation.

Purpose

This is a staff-generated TACIR report exploring ways that Tennessee might better prepare for the future. A follow-up to TACIR’s Forum on Tennessee’s Future, it addresses several areas of research in the work program approved by the TACIR Commission in June 2011, including inter-agency coordination, growth policy, transportation, infrastructure, and education.



Charting a Course to *Tennessee's Future*

Tennessee has many

strengths. Its location makes it a natural transportation hub. Its beautiful landscapes and varied topography make it a natural tourist destination. Tennesseans, with their “Volunteer spirit,” have built top-ranked universities and research facilities, have created and fostered industry leading businesses, and enjoy a quality of life that continues to attract new businesses and residents. And yet we face many challenges:

- Our educational attainment levels and overall health, though improving, lag behind those of other states.
- We have sharp contrasts of wealth and poverty.
- Our aging population is putting new pressures on services, ranging from health care to transportation, and shrinking our workforce.
- Our business and industry have become increasingly intertwined with those of other nations, causing changes in the ways we work.
- As in most other states, our roads, bridges, water pipes, and sewer lines are deteriorating at a time when government at all levels is strapped for resources.

What does Tennessee's future hold?

Interviews with more than 40 Tennesseans—public officials, private sector leaders, and members of academia—revealed surprisingly similar opinions about Tennessee’s strengths, challenges, and opportunities as we move into the future. What we need, however, is a common vision for the future to serve as a foundation to develop and work toward common goals and solve shared problems.

Tennessee Photo Services

How can we do that?

- **Collaborate**—draw on the expertise of various individuals and groups to facilitate meaningful discussion of public problems.
- ✓ **Engage leadership groups**—build on the strength of existing regional and local leadership groups that are already focusing on the future of their local areas. Compile and share information from these groups and use their energy.
- ✓ **Tap higher education institutions**—partner with the state’s public and private colleges, universities, and technology centers to identify trends, assess problems and solutions, and strengthen students’ understanding of public problems, governmental processes, and civic responsibilities.
- ✓ **Involve not-for-profit agencies**—encourage Tennessee’s not-for-profits to collaborate more, both among themselves and with government agencies, to achieve economies of scale and extend their reach.

- **Exploit data**—take better advantage of the vast array of data already collected and maintained by state agencies. Find out who has what and figure out how to use it to support efforts to create a better future. Develop a clearinghouse for commonly used data, expand the use of geographic information systems to analyze that data, transform data into to knowledge, and make it widely available.
- **Emphasize outcomes**—consider ways to shift thinking toward efficient and effective results. Greater awareness of the “big picture” may lead to streamlined processes and better service delivery.
- **Create incentives**—use grants, awards, recognitions, or other incentives to improve coordination among disparate interests focused on a shared vision for Tennessee’s future.

And who should lead this effort?

Governor Bill Haslam has taken initial steps to coordinate the efforts of state agencies through his Tennessee Forward initiative. This gives other leaders something to build on. Members of the General Assembly and organizations of local government officials, chambers of commerce and local leadership groups, regional visioning groups and neighborhood alliances—all have something to contribute. What we lack is a vision to rally around. The Governor’s Office and the legislature are places to start. Either could call representatives of these organizations together to begin the effort. Other states have done it. The report that follows explores why and how Tennessee should join them.



Dr. Richard Chesteen (deceased)
Professor of Political Science
University of Tennessee Martin

“Now, more than ever, Tennessee’s citizens must demand that the state’s leaders step forth resolutely and confidently recognize that the road to the future is for us to build. Realistically, we will be limited and shaped by our own capabilities and capacities, but to achieve our state motto—the best America has to offer—we must all be willing to participate and contribute.”



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Imagine a Future where . . .

- Tennessee is recognized as a world-class place to live, learn, work, and play
- Diverse people combine their talents and knowledge to help Tennessee compete in the global economy
- Tennessee’s education system ranks high relative to other states
- Tennesseans stay physically and mentally healthy, and
- Tennesseans maintain and protect their state’s natural beauty and use its resources wisely.

No one would likely challenge this image, but what does Tennessee’s future *really* hold? Is anyone actively thinking about the future? And working on it? Although no one can predict the future absolutely, we can identify likely trends and scenarios and prepare accordingly. This report suggests that Tennessee—its governments and its

people—should better prepare for the coming years to provide needed services, encourage job development, protect the state’s natural and cultural resources, and participate in the knowledge economy. Developing a common statewide vision could establish a foundation for both private and public sector leaders to work toward common goals and solve common problems. And it could

“The future ain’t what it used to be.”

Yogi Berra

help our governments deliver public services more efficiently and effectively by setting priorities and targeting duplication.

We know with certainty that our population is aging and becoming increasingly urban. Our economy intertwines with countries on the other side of the earth. We know that we depend too much on foreign oil. And we know that all of our governments are fiscally stressed. How will such issues shape our thoughts and actions?



"We should be moved to action to ensure that our state addresses the issues that will provide a better quality of life for our children and grandchildren. A broad-based planning process would be a good start, but if change is to occur, we must be participants in the process, not mere spectators."

—Nick Dunagan, Chancellor Emeritus, University of Tennessee Martin

This report draws on the thinking of several past and present Tennessee leaders (see appendix A). People from state government, local government, business, higher education, and the not-for-profit sector shared their thoughts about their state's future. They expressed pride in Tennessee and a conviction that it has many strengths—its location, its beauty, and its people. But many also think that Tennessee, as a state, lacks a long-term vision for its future. To compete in the world's economy, Tennessee needs to quickly develop such a vision and begin working toward it.

This report was started as the nation's economy took its most drastic downturn since the Great Depression. This fundamental change required a recalibration of the initial work on this project, so staff added input from current officials and updated many of the earlier interviews. The report also draws on the discussions and writings of the Forum on Tennessee's Future, a group of ten public and private sector leaders convened by the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) in October 2008 to discuss the challenges Tennessee faces

(see appendix B). That group arrived at a list of Tennessee's ten greatest challenges, encompassing

- education,
- cultural diversity,
- affordable health care,
- justice,
- business environment,
- energy,
- land use,
- governmental efficiency,
- fiscal sustainability, and
- political environment.

Strategies to address such challenges must be multi-faceted, and they must inspire people to reach across lines—county, city, and state lines, racial lines, and political lines. It is imperative that we improve cooperation between public and private entities and use scarce resources more effectively. Many of today's challenges will continue into the future as new challenges continue to develop. How we as a government and a people choose to confront them, though, will determine our state's destiny.

Where Are We? Where Do We Want to Go?

In some ways, Tennessee is a state of stark contrasts—a land of prosperity and poverty, mountains and flat farmland, inner cities and remote Appalachian hollows. The state is home to some of our nation’s best medical research facilities, yet our population is relatively unhealthy. While some areas of the state are very wealthy, one in four of our children lives in poverty.

Some of our nation’s finest scientists work at the Oak Ridge National Laboratory, yet Tennessee’s students lag behind those of other states academically. In *The Nation’s Report Card*, the US Department of Education indicates that, despite showing marked improvement in science and math performance during the last two decades, 36% of Tennessee’s eighth graders scored below “Basic” on the National Assessment of Educational Progress (NAEP) in each of these subjects in 2011.

Because of such contrasts, developing statewide policy will be daunting. Perhaps, too, because of our state’s history, geography, and topography, people tend to identify themselves as East, Middle, or West Tennesseans, rather than as Tennesseans. People from the state’s opposite ends often appear to feel that they have little in common.

Other characteristics of our part of the planet may change as well. A recent report by the United States Climate Change Science Program notes that

*ecosystems and their services (land and water resources, agriculture, biodiversity) experience a wide range of stresses, including pests and pathogens, invasive species, air pollution, extreme events, wildfires, and floods. Climate change can cause or exacerbate direct stress through high temperatures, reduced water availability, and altered frequency of extreme events and severe storms. . . . Climate change can also modify the frequency and severity of stresses. For example, increased minimum temperatures and warmer springs extend the range and lifetime of many pests that stress trees and crops.*¹

Some futurists predict that climate change will cause the nation’s population to shift inward from the coasts as people flee storms and flooding. Because Tennessee has a more temperate climate than many other parts of the country, displaced people may come here.

¹Backlund, Janetos, Schimel 2008.

Dave Gabbard, TWRA



Nashville Convention & Visitors Bureau



Tennessee Photo Services



“ . . . comprehensive and profound justice cannot be accomplished in the absence of reforms in other areas including taxation, education, and health care.”

—Lyle Reid, former Tennessee Supreme Court Justice



Tennessee Photo Services

A recent report by the University of Maryland’s Center for Integrative Environmental Research predicts that Tennessee will experience temperature increases greater than the global average. Although temperature change is more difficult to predict, the rise in temperature may prompt changes in annual precipitation. Estimates range from a decrease of 3% to an increase of 15%, averaging a 7% increase, as well as extremes in weather such as droughts and flooding. The increased precipitation would likely occur during the winter months rather than the summer growing season. The center predicts that the state’s already strained water and wastewater resources may suffer, as may infrastructure, hunting, agriculture, and people’s health. Heat-related diseases such as asthma may increase.

Climate change also may affect a wide range of economic sectors, including agriculture, manufacturing, and tourism. According to Mathias Ruth—the center’s director and principal investigator—“State and local communities would do well to prepare for a cascade of impacts on many of their most basic systems and services.”

Most people interviewed for this report were asked, *“What do you think Tennessee’s biggest challenges will be over the next 20 years?”* They responded with a wide range of issues, but with surprising commonality. These are summarized in the pages that follow under the broad topics of challenges of people, infrastructure, natural resources, and governance.

The Challenges of People: Enhancing Human Capital

Education/Competitive Workforce

A well-educated citizenry correlates to higher incomes, more labor force participation, less poverty, better health, and greater civic participation. Tennessee has struggled to improve its educational standing for several decades, and with some success. The state has strengthened standards, aligned curricula, and raised graduation rates. *Education Week's* annual national report card, *Quality Counts*, ranked Tennessee 23rd overall in 2011. The state ranks 31st in achievement but 46th in education spending.

In 2010, Tennessee was awarded \$501 million in federal Race to the Top funds. (Race to the Top is a Department of Education sponsored competition designed to promote innovation in K-12 curriculum.) In exchange, Tennessee committed to a dramatic set of school reforms aimed at improving student achievement. These include improving young students' academic readiness, improving high school graduates' readiness for colleges and careers, and attaining higher rates of graduates enrolling and succeeding in post-secondary education. In February 2012, the federal government granted Tennessee a waiver from the federal No Child Left Behind law, a major driver of school reform since 2001. State officials believe that Tennessee's new state standards are a better benchmark for school improvement.²

For Tennessee to compete in the global marketplace, its workforce will need to adapt to change. Workers will need to be more highly skilled and better educated. Just improving skills, however, may not be adequate, as countries such as China and India also produce more educated and highly skilled workers—workers who are willing to work for lower wages. Some believe that innovation

will be a deciding characteristic of tomorrow's workforce. Regardless of how the world of work evolves, the educational system will need to better align with the demands of business and industry. According to education commissioner, Kevin Huffman, *"More people need to understand that what will be needed in 20 years is not what is needed now."*

Over the last few decades, Tennessee has experienced many changes in its economic base. Manufacturing, once a mainstay, has declined each year since 1990. Many of the jobs lost have been relatively low-skilled, low-wage jobs. Employers can more easily shift these to other countries or eliminate them with investments in improved equipment and technology. Some of Tennessee's rural counties have relied heavily on manufacturing and, thus, have suffered disproportionately as that economic sector has declined.



Tennessee Board of Regents

"The economy's transformation has meant the rise of new products and services, as well as new occupations and businesses. Tennessee's strategies and policies focused on economic development must be adapted to reflect the realities of this new economy."

—Matt Murray
Associate Director, University of Tennessee Center
for Business and Economic Research

²Duncan 2012.



“For Tennessee to continue to develop and prosper, we must recognize and address our diversity for what it is—an untapped resource. If we are to make the most of our foreign-born population, we need to welcome and assist them in becoming a valuable part of our society.”

—Martha L. Perine Beard, Vice President, Memphis Branch of Federal Reserve Bank of St. Louis

The Tennessee Department of Labor and Workforce Development projects an increase of 173,000 jobs in Tennessee through 2018, with the greatest gains in the industry groups of ambulatory healthcare services, educational services, and professional and technical services. These occupations often require postsecondary education and skills such as social perceptiveness, time management, and critical thinking. Although several major corporations are headquartered in Tennessee—including FedEx, AutoZone, and Nissan—employers indicate that our state lacks the highly skilled administrative personnel needed to work with the high-level management of these corporations. In 2007, when Governor Phil Bredesen conducted a cross-state tour of Tennessee to listen to employers, he heard repeatedly that our state lacks sufficient workers with appropriate skills and an appropriate work ethic.

In addition to lagging in elementary, secondary, and postsecondary education,

“... for tomorrow belongs to the people who prepare for it today.”

African Proverb

Tennessee’s adult education programs are less developed than those of other states. A 2009 policy audit by the National Center for Higher Education Management Systems makes this observation about Tennessee’s adult education:

Higher education policy in Tennessee has been developed primarily with recent high school graduates—not adults—in mind. There is no cohesive body of higher education policy oriented specifically to adults. The net effect is a policy environment that impedes access and success for adult students. . . .³

Adult education services targeted at students with less than a high school diploma may also warrant increased focus. Although Tennessee has improved its high school graduation rates in recent years, the American Community Survey for 2008-2010 estimates

³National Center for Higher Education Management Systems 2009.

that about 553,000 adults ages 18-64 have less than a high school diploma or its equivalent. Although Tennessee receives high marks from the federal government for meeting its adult education goals, the state ranks near the bottom in spending per participant. While most other states supplement their federal allocation with state dollars above the required match of 25%, Tennessee provides only the minimum.⁴ The US Department of Education, cited by the Southern Regional Education Board, indicates that from 2005 to 2008, while the number of adults participating in adult education programs in many southern states increased, the number of Tennesseans in all types of adult education programs decreased (see table 1).⁵

The aging of Tennessee’s population will make adult education even more crucial. A 2005 Southern Regional Education Board report noted that, by 2020, the percentage of working-age adults with a high school education would decline by four percentage points if US high school completion rates remain constant.

Population Changes

Like the rest of the United States, Tennessee’s population is becoming older and more racially and ethnically diverse. The Tennessee Data Center projects that the state’s population will increase approximately 25% between 2010 and 2040—from 6,346,105 to 7,936,430. The population aged 85 and older, however, will slightly more than double from about 100,000 to 203,500. At the same time,

⁴Potts 2010, 1, 26-27.

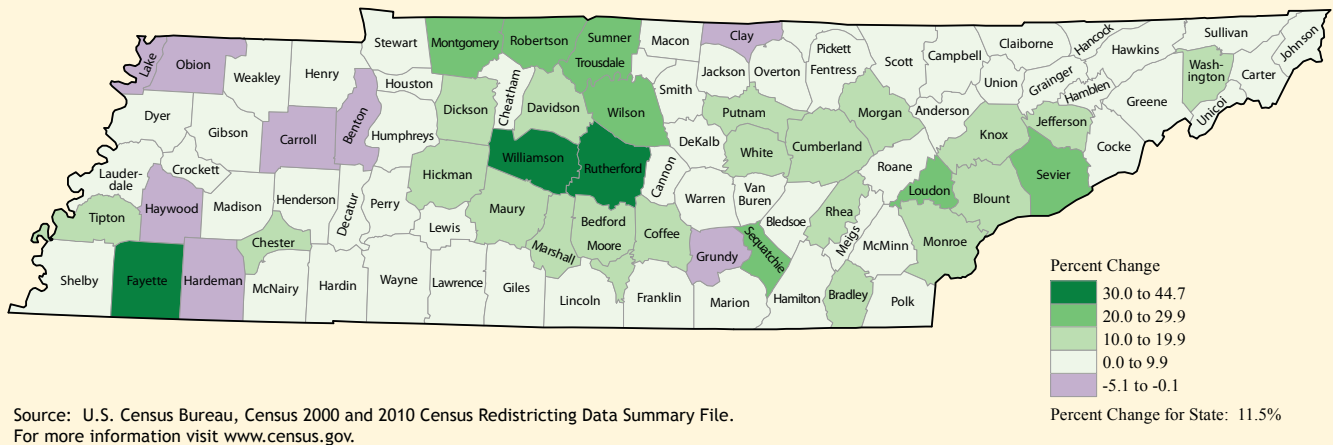
⁵Southern Regional Education Board 2010, 7.

Table 1. Enrollment for Adults 25 to 59 in Southern Regional Education Board States, 2005 and 2008

	Adult Basic Education			Adult Secondary Education			English as a 2nd Language		
	Percent Change			Percent Change			Percent Change		
	2005	2008	2005 to 2008	2005	2008	2005 to 2008	2005	2008	2005 to 2008
SREB States	233,121	232,828	0	45,432	42,697	-6	207,011	210,237	2
Alabama	4,904	7,475	52	1,720	1,967	14	1,204	1,568	30
Arkansas	11,193	11,559	3	3,454	2,941	-15	4,064	4,021	-1
Delaware	1,297	1,548	19	415	254	-39	1,215	1,016	-16
Florida	51,061	49,530	-3	8,145	6,756	-17	77,952	86,702	11
Georgia	20,597	20,519	0	3,568	2,176	-39	17,985	16,512	-8
Kentucky	12,393	15,304	23	2,717	4,655	71	2,209	3,069	39
Louisiana	6,356	8,657	36	1,169	1,114	-4	1,074	1,451	35
Maryland	6,378	7,395	16	2,934	2,378	-19	8,435	10,625	26
Mississippi	7,827	7,974	2	1,143	950	-17	361	282	-22
North Carolina	25,598	33,485	13	6,746	7,830	16	20,476	23,731	16
Oklahoma	6,569	6,436	-2	1,134	719	-37	3,112	2,716	-13
South Carolina	24,907	21,244	-15	4,759	4,338	-9	5,078	4,474	-12
Tennessee	18,070	14,096	-22	2,320	1,871	-19	4,643	3,675	-21
Texas	21,220	16,444	-23	1,911	1,307	-32	47,529	39,158	-18
Virginia	7,152	7,382	3	2,228	2,361	6	11,504	11,073	-4
West Virginia	3,599	3,780	5	1,078	1,080	0	170	164	-4

Source: U.S. Department of Education. Cited in *A Smart Move in Tough Times: How SREB States Can Strengthen Adult Learning and the Work Force*, © 2010, Southern Regional Education Board.

Map 1. Percent Population Change by County: 2000 to 2010



the percentage of children will decrease. The increase in average life span means more healthy years for most adults, but it also has implications for Medicare, Medicaid, and Social Security. Tennessee’s leaders will need to consider how these changes will affect demand for services such as health care, housing, transportation, and education.

The aging baby boomer generation will also affect Tennessee’s workforce for many more years. The University of Tennessee Center for Business and Economic Research estimates that by 2020 about one of every six Tennesseans will be 65 years of age or older. Even though the recent recession has caused some older workers to delay retirement, they will ultimately leave the workforce.⁶ Scott Reeves, writing in *Forbes* magazine says, “Boomers make up about one-third of the US workforce, and there aren’t enough younger workers to replace them. Labor shortages in key industries will force a radical rethinking of recruitment, retention, flexible work schedules, and retirement.” According to the US Census Bureau, the percentage of the population in the “working ages” of 18 to 64 is projected to decline from 63% in 2008 to

57% in 2050.⁷ The Bureau of Labor Statistics projects that the portion of the labor force that is 55 or older will grow by between 18% and 24% from 2008 to 2018.⁸

In addition to aging, Tennessee’s population is also becoming more urban. Map 1 illustrates that, between 2000 and 2010, the counties surrounding urban centers grew, while many of the more rural counties stayed the same or lost population. Middle Tennessee experienced the greatest population gains.

Health

A few years ago, Tennessee had some of the worst health rankings in the country: in 2008, the United Health Foundation ranked Tennessee 47th in the nation in overall health. By 2011, however, Tennessee had risen to 39th. Although still in the bottom half of states, the improvement may indicate that an increased focus on health issues is having a positive effect.

⁶Murray 2011.

⁷US Bureau of Census 2008.

⁸US Bureau of Labor Statistics 2009.



Tennessee Photo Services

“The cost of medical care could soon throw Tennessee’s healthcare system into a financial crisis. If the state does not establish some preventive measures for catastrophic illness, then all of us could end up with financial problems that far outweigh the current economic crisis. Those of us who are employed, who have good health insurance, who eat right, who exercise and regularly visit a physician have little concern about this crisis because we feel that we are not directly affected.”

—Ruth E. Johnson, Associate Vice-President for Advancement, Meharry Medical College

In spite of these improvements, though, the health of Tennessee’s citizens continues to be a challenge. *The 2011 Tennessee Women’s Health Report Card*, compiled by the Vanderbilt Institute for Medicine and Public Health, gives Tennessee Fs in several health categories including heart disease, stroke, sexually transmitted infections, and low birth weight and infant mortality—particularly among African Americans. Vanderbilt’s 2012 Men’s Report Card gives Tennessee Fs for cancer, liver disease, motor vehicle fatalities, suicides and homicides. Scores for heart disease, however, had improved. The United Health Foundation’s *America’s Health Rankings 2011* places Tennessee among the worst 10 states for obesity, diabetes, violent crime, infant mortality, and cancer deaths. Perhaps more than any condition, health is affected by choices made in many seemingly unrelated spheres. For example, many of our towns and cities—with their suburban stores, lack of sidewalks, and lack of public transportation—make it practically impossible to walk. And walking, we know, is one of the most convenient forms of exercise.

Former Health Commissioner Susan Cooper put it this way:

What we need to understand is that all these things are related. Plans written in isolation do not work. For people to get exercise, they need safe places to walk and play. Health is not just an outcome, but also a driver. Health, education, and jobs creation are intimately linked. . . . As we move forward, we must utilize a “health in all policies” approach at the local, state, and federal levels of government. Health, transportation, urban planning, education, and agriculture policies should tie together to create healthy environments. The healthful choice becomes the easy or default choice. We have spent years investing in healthcare; now is the time to invest in health and prevention. Returns on our investments in health will take time, however, and we cannot delay. Doing nothing is not an option.

Several reports consistently rank Tennessee as one of the most obese states, citing epidemic proportions of heart disease, childhood obesity, and childhood type II diabetes. For 2012, the Trust for America’s Health ranks Tennessee 4th in the nation for adult obesity and 6th for childhood obesity. Obesity rates are especially high among Blacks and Latinos.

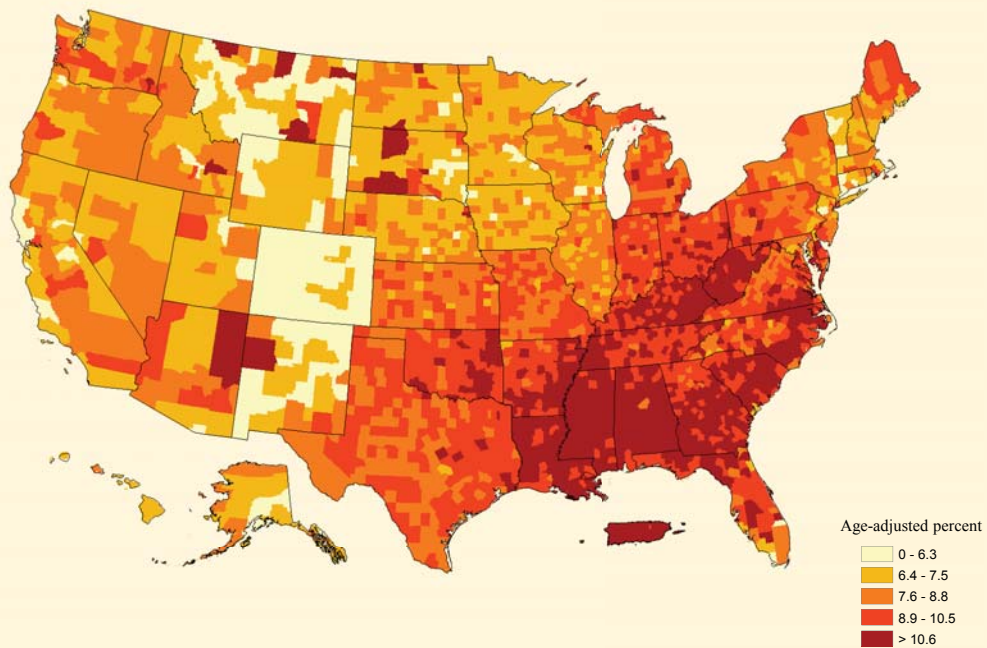
Tennessee’s high rate of obesity incurs a high cost. Although state specific estimates are not available, a 2009 study by Eric A. Finkelstein for the Centers for Disease Control and Prevention found that, nationally, the direct and indirect cost of obesity reaches \$147 billion annually. Medical costs paid by third-parties on behalf of obese people averaged \$1,429 more than for people of normal weight. The significant fiscal costs of obesity stem from its close association with several serious chronic diseases and numerous health conditions, including certain cancers, heart

disease, stroke, diabetes, and degenerative osteoarthritis.

The southern states, including Tennessee, have the highest rates of diabetes of all the states. Map 2, prepared by the Centers for Disease Control and Prevention, illustrates the severity of diabetes among adults aged 20 years or greater.

Fortunately, these troubling statistics prompted the creation of the Tennessee Obesity Taskforce, a broad-based, statewide coalition representing state agencies, scientists, city planners, transportation experts, parents, and nutritionists—people from a diverse set of disciplines who otherwise would rarely talk to each other. The Taskforce produced “Eat Well, Play More Tennessee: the Tennessee Statewide Nutrition and Physical Activity Plan.” Although the ultimate effects of this effort are not

Map 2. County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years: United States 2009



Source: Center for Disease Control, www.cdc.gov/diabetes.



Tennessee Photo Services

yet clear, this group’s work illustrates the common vision that can develop when people consciously focus on the future and what it could look like. If efforts to reduce obesity succeed, related health care costs might be reduced.

High rates of infant mortality and other poor birth outcomes are also too prevalent in Tennessee. In 2011, *America’s Health Rankings* rated Tennessee 45th worst of the 50 states for deaths per 1000 live births, and 41st for low birth weights.⁹ The *Tennessee Women’s Health Report Card* notes that the death rate for black infants is more than twice that of white infants. That report gives Tennessee an F for the percentage of women who smoked during pregnancy, a preventable, cultural habit that unnecessarily affects the unborn. Pregnant white women in Tennessee, in particular, are nearly twice as likely to smoke as their counterparts nationally.¹⁰

In addition to Tennessee babies who die before their first birthday, a great number of low birth weight babies survive, but with health challenges. The Tennessee Department of Health indicates that 9 of every 100 Tennessee babies born in 2009 were

underweight; for black babies the number reached nearly 14%. In addition to requiring expensive neonatal medical interventions, such babies are disproportionately prone to developmental delays and lifelong health problems. These conditions increase medical expenses. The National Conference of State Legislatures estimates that preterm births cost society at least \$26 billion per year. Medicaid programs pay for 40% of preterm births. The former Tennessee Office of Children’s Care Coordination estimated that Tennessee spends \$610 million annually on health care costs associated with poor birth outcomes. These conditions also increase special education spending because children born prematurely or with low birth weight are more likely than their peers to have mild learning disabilities, attention disorders, and developmental impairments.



⁹United Health Foundation 2011.

¹⁰Vanderbilt Institute for Medicine and Public Health, et al. 2011.



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In short, Tennessee has opportunities to improve its health. Many of the costly health problems that plague our population are rooted in poor eating habits, lack of exercise, and dangerous personal choices such as smoking, substance abuse, and refusing to wear seatbelts. Changing these behaviors could lessen healthcare costs and improve economic productivity. On June 10, 2011, Governor Bill Haslam announced the formation of a task force charged with improving Tennesseans' health. He cited the high cost of unhealthy personal choices. The governor hopes to increase the amount of money available for other functions of state government, such as education, by decreasing the amount spent on health.¹¹ If Tennessee is to enhance its human capital, it needs to continue to improve the overall education and health of its citizens.

¹¹Hirst 2011.

The Challenges of Infrastructure: The Systems that Support Us

Like most states, Tennessee expanded its transportation, energy, and water systems when federal money was plentiful. In the years since, however, much of that infrastructure has deteriorated and needs repair or replacement. The infrastructure that supports broadband and information technology is newer but will need to be expanded and maintained in years to come. The Tennessee Advisory Commission on Intergovernmental Relations (TACIR) is charged with developing and maintaining a public infrastructure needs inventory. The June 2012 report estimates that Tennessee needs \$38 billion in public infrastructure improvements for the period 2010 through 2015. Of this, transportation and utilities needs comprise \$19.1 billion.

Transportation Infrastructure

To meet transportation infrastructure challenges, Tennesseans will need to think beyond their borders—and beyond traditional reliance on cars and highways. States, including Tennessee, are heavily dependent on the federal government for transportation funding, and our nation's economy demands that goods, and sometimes people, travel long distances.

According to the Brookings Institution's *A Bridge to Somewhere*, transportation is now the second largest expense for American households, consuming on average 20 cents of every dollar. The report concludes that the condition of US roads, bridges, and rail is declining, especially in urban areas. Tennessee's transportation requirements, as reported in TACIR's infrastructure needs inventory, reflect this trend. The estimated cost to meet these needs nearly doubled, from \$9.6 billion



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in 2002 to \$18.8 billion in 2010. Brookings asserts that the US transportation network is obsolete, no longer reflecting today's travel patterns or embracing technological advancements. Brookings also cites growing concern about a "perfect storm" of environmental and energy sustainability and transportation's role. The report calls for the federal government to develop an overarching national transportation vision.

The condition of our nation's transportation infrastructure is further aggravated by the lessening reliability of gas taxes. As vehicle fuel efficiency increases and hybrid and electric cars become more popular, the revenue derived from federal and state gas taxes declines. John Schroer, who became Tennessee's Commissioner of Transportation in 2011, notes that the only way to maintain our transportation infrastructure is with money derived from what has become "an archaic system based on gallons of gas burned."

Although states are considering highway tax systems based on miles driven rather than gallons of fuel consumed, making the switch



will not be simple. These systems are not in place, and citizens seem somewhat resistant to devices that would measure their miles traveled.¹²

In 2003, the Comptroller's Office of Research found that a "lack of integrated planning prevents Tennessee from fulfilling the federal law's intent that overall transportation planning lead to an integrated, intermodal transportation system that facilitates the efficient movement of people and goods, while minimizing transportation-related fuel consumption and air pollution."¹³ Partially as a result of that report, the Tennessee Department of Transportation undertook a broad-based planning process, resulting in a comprehensive long-range plan, called *PLANGo*. The plan has three parts: a 25-year Vision Plan, a 10-year Strategic Investments Program, and a 3-year Project Evaluation System. It sets forth seven principles:

- Preserve and Manage the Existing Transportation System
- Move a Growing, Diverse and Active Population
- Support the State's Economy

¹²Nichols and Holeywell 2011.

¹³Spradley 2003, 21.

- Maximize Safety and Security
- Build Partnerships for Livable Communities
- Promote Stewardship of the Environment
- Emphasize Financial Responsibility

The plan's preamble says, "The plan places the highest priority on the preservation of existing infrastructure, transportation services, and public safety. It also calls for investing more in all transportation modes and developing a long-term sustainable funding structure for transportation in Tennessee."

A recent report by the non-profit organization Smart Growth America ranks states' transportation policies to encourage road and street projects that support all users and increase likelihood that citizens will walk and use public transportation. Tennessee ranks 27th overall and received points for complete streets initiatives—efforts that require planners and engineers to incorporate sidewalks, bike lanes, wheelchair ramps and bus pull-offs as appropriate. Tennessee scored zeroes, however, for categories such as safe routes to schools and quality growth

policies.¹⁴ (On January 20, 2012, Governor Haslam announced that 10 Tennessee cities would receive Safe Routes to School grants, which may improve this ranking.) Another report finds that, because of urban sprawl, Nashville has the longest commute times of the 51 most urban cities in America; Memphis ranks 6th.¹⁵ Improving such conditions will require greater cooperation among disparate functions such as education, transportation, and housing.

Gerald Nicely, Tennessee's former transportation commissioner, rated Tennessee's transportation infrastructure as somewhat better than other states but says we need to think more strategically. He noted that long-term funding has become a serious issue and that building four-lane highways in some parts of Tennessee is simply unrealistic.¹⁶ He believes that Tennessee needs to link land-use planning and transportation and better utilize our waterways. TDOT's 25-Year Long-Range Transportation Plan identified a funding gap of \$16 billion between forecasted revenue and the cost to implement the plan, an amount that has likely increased since that estimate was developed.

Meeting future transportation needs will require some shifts in emphasis. The increased number of people aged 85 and older, for example, may necessitate more public transportation options. Greater intra-state, interstate, and international cooperation may also be needed. The Enterprise Center Inc. of Chattanooga, for example, is working to bring high speed ground transportation linking Atlanta, Chattanooga, and Nashville.

¹⁴Bhatt, Peppard, Potts 2010, 14-15.

¹⁵Cortright 2010, 7.

¹⁶For many years Tennessee pursued a plan to connect all county-seats to interstate highways with four-lane highways. TDOT officials indicate that approximately 60 of these were completed. Because of limited funding, an additional 14 remain under review. See Tennessee Code Annotated § 54-5-102.

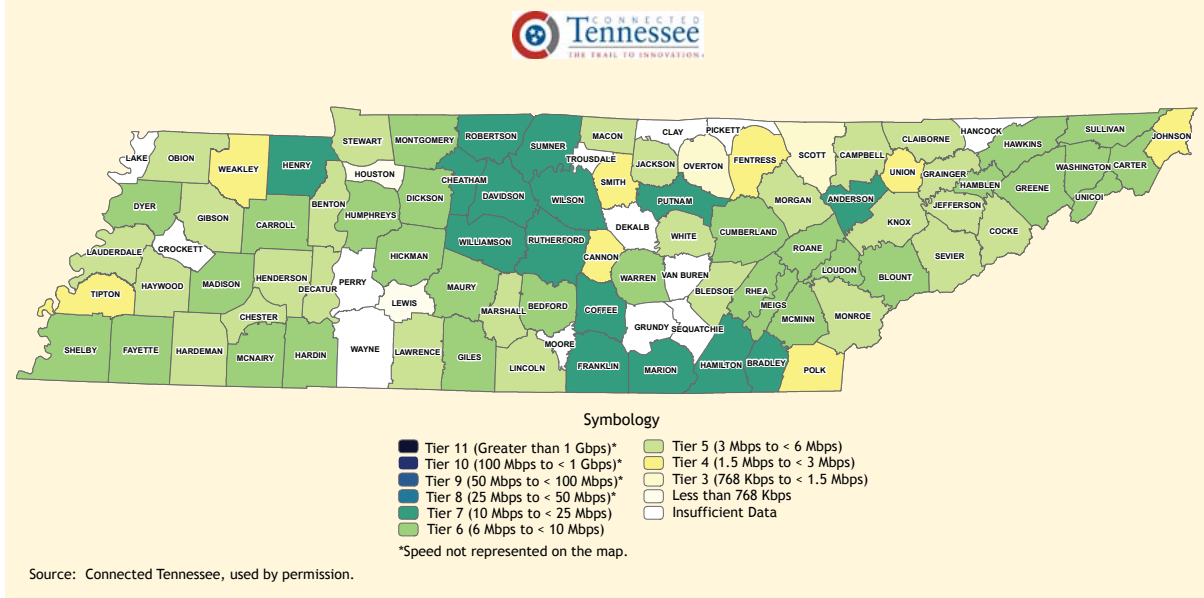
In addition, states will need to improve multi-modal transportation within their borders—the interconnectedness of various types of transportation—including water, high-speed rail, air, and roads. Changes outside the boundaries of the United States will also affect transportation in Tennessee. For example, expansion of the Panama Canal will cause more ships to come to the eastern US, bringing more traffic to the Mississippi River and the Port of Memphis.

Information Technology Infrastructure

Some officials suggest that information technology is Tennessee's best hope for the future, particularly in its rural areas. Meeting the technology and data needs of businesses and governments will continue to be a challenge. Connected Tennessee, a non-profit agency focused on improving Internet connectivity across the state, indicates that 79% of Tennessee residents reported having a home computer in 2011. Rates of ownership were the highest, however, in urban and suburban areas and lowest in rural areas. Rates of ownership also varied by income and were highest in the 18-44 age group and lowest among those 65 or older.

Using 2010 Census household data, Connected Tennessee indicates that 95.2% of Tennesseans now have access to fixed broadband service, although approximately 55,000 households cannot access fixed broadband service at speeds now considered necessary for many Internet applications (see map 3). Sixty-four percent of Tennessee's residents reported having a broadband connection at home in 2011, up from 43% in 2007. Nearly one-third of Tennessee households, however, choose not to subscribe to broadband service in their homes, although it is available. County-level data also reflect wide variations

Map 3. Average Residential Download Speed in Tennessee, 2012



in infrastructure and adoption across the state.

TACIR’s public infrastructure needs inventory reports that telecommunications needs dropped from \$24.3 million in 2009 to \$16.4 million in 2010. Tennessee’s broadband infrastructure and related services benefited greatly from the American Recovery and Reinvestment Act. Connected Tennessee, in its May 2012 *Progress Report*, indicates that Tennessee public and private entities received about \$235 million in broadband grants and loans.

Expansion of broadband and Internet access will continue to be vital for economic development as well as for student success. The need for such targeted investment in Tennessee’s technology infrastructure will likely continue to support global communication and commerce.

Water and Sewer Infrastructure

Many of Tennessee’s water and sewer lines, as well as its treatment plants, were installed

in the growth period after World War II and now approach the end of their useful life. In addition, some areas have seen rapid expansion to keep pace with population growth, and the water systems’ capacities simply are not big enough. Many of Tennessee’s cities and utility districts have not actively addressed the maintenance of these systems.¹⁷ TACIR’s 2012 Public Infrastructure Needs Inventory estimates the total amount of needed water and wastewater projects in all counties at \$4.4 billion.

University of Maryland researchers believe that climate change will worsen water quality. According to their 2008 report, *Economic Impacts of Climate Change on Tennessee*,

policy makers should investigate the degree to which changes in water quality will increase water treat-



First Tennessee Development District

¹⁷Terry 2008, 1.



ment and management costs and what steps can be taken to integrate possible scenarios into planning and budgeting.

According to the 2009 American Housing Survey for the United States, about 21% of households lack access to a public sewer system.¹⁸ Specific data on septic tank use in Tennessee is not available; however, the Comptroller's Division of Property Assessments maintains property characteristic data for 88 of Tennessee's 95 counties. As of July 2011, of the 1,748,118 buildings in those 88 counties, 880,063 (50%) had septic tanks. Because that database excludes the four most urban counties, the statewide percentage is likely lower. Even so, this information indicates a large potential need for sewer infrastructure. Ultimately, providing sewer systems for everyone clearly is not cost-effective, but the widespread use of septic tanks may adversely affect water quality. As Tennessee's population increases and becomes more urban, the underlying wastewater infrastructure will need improvements.

¹⁸US Department of Housing and Urban Development and US Census Bureau 2011, Table 1.4.

Energy Infrastructure

Tennesseans' thirst for energy to power vehicles, heat and cool homes, and run an ever-increasing number of electronic devices, seems insatiable. Although the average person probably takes energy for granted, Tennessee has a widespread infrastructure to support that demand. Giant pipelines flow underground to deliver petroleum and natural gas products. A dense network of power plants and lines transmit electricity statewide. More recently, solar "farms" and wind turbines have become more common. Vehicles powered by nontraditional fuels such as natural gas, propane, biofuels, and hydrogen signal changes to come in the infrastructure that supplies our cars and trucks. What kinds of energy will future Tennesseans use, and where will we get it?

Electricity

Nearly half of Tennessee's electricity is produced by coal-fired power plants; nuclear, natural gas, hydroelectric, and renewable power sources provide the remainder. The US Energy Information Administration (EIA) projects that, despite rapid growth in electricity generation from natural gas and non-hydropower renewable energy sources,

TVA, Watts Bar Nuclear Plant



“The public and business sectors understand the magnitude of the energy problem much better today than they did before. They understand that long-term energy planning for the state of Tennessee is not a one-solution problem. Effective energy planning is a pie made up of many pieces.”

—William B. Sansom, President & CEO, The H.T. Hackney Company

coal will continue to play a larger role in electricity generation. EIA projects few new coal-fired power plants, however, and coal’s share of the total generation mix will fall slightly from 45% to 43%.

The Tennessee Valley Authority (TVA) recently agreed to shut down 18 of its oldest power-producing units and add emission controls to others to comply with federal clean air standards. To compensate for the removal of these units, TVA is expanding its nuclear facilities. Nuclear plants are better for air quality, but may have negative environmental impact because of problems associated with the disposal of nuclear waste.

So how will the electrical infrastructure of the future differ from the infrastructure of the present? Researchers at the Massachusetts Institute of Technology believe that the national power grid will be supplemented by systems that provide electricity locally, even to individual buildings. More electricity will be generated from renewable sources, and storage capabilities will improve. And the

need to provide electricity more cleanly and efficiently will not diminish.

Petroleum

Under Tennessee’s surface lies a network of pipelines that transport both crude and refined petroleum products. Tennessee’s three grand divisions (East, Middle, and West Tennessee) are fed from various sources. Middle Tennessee primarily relies on a single pipeline, the Colonial Pipeline. This pipeline runs from southeastern Texas through southern Louisiana and Mississippi, central Alabama and on through Georgia and South Carolina to the Mid-Atlantic States, branching into Tennessee from Georgia. The Colonial Pipeline also supplies East Tennessee, along with a spur of the Plantation Pipeline (see map 4). Because these are the only sources for refined fuel products to Middle and East Tennessee, the eastern two-thirds of the state are somewhat vulnerable to disruption because of the distance from other sources.

Memphis is supplied by the Valero Refinery, giving West Tennessee a more local source than the other grand divisions. According

Map 4. Pipelines Supplying the Eastern United States-2011



Source: Heat USA

to its website, crude oil is supplied to the refinery through the Capline Pipeline and also can be supplied by barge. Its products are then distributed by truck, barge, and a pipeline that delivers directly to the Memphis airport. The rest of Tennessee also receives refined fuels by barge and truck. According to the executive director of the Tennessee Petroleum Council, the state's present pipeline system is working at maximum capacity and cannot handle much more demand.

In September of 2008, successive hurricanes Gustav and Ike severely diminished southeastern US petroleum supplies. As Hurricane Gustav approached the Gulf Coast, 32 of the region's 33 refineries shut down operations. After Gustav had passed, operable refineries began to get back online, a process that takes seven to ten days. Just as they were recovering, however, Hurricane Ike made landfall in Texas and pounded the Houston area, causing refineries that were nearing full capacity after the first storm to shut down again. A week after Hurricane Ike, Gulf Coast output was about 50% lower than normal: as of September 19, 2008, Gulf refineries produced 1.8 million barrels of

gasoline per day, down from 3 million per day a few weeks earlier.¹⁹

Tennessee's former energy policy director, Ryan Gooch, indicated that the situation was further complicated because it occurred during the transition from summer to winter gasoline, and providers had sold down their inventories. Supplies operated at 5% to 15% capacity for several days. During those few weeks of high gasoline prices and long lines at the pump, people

were forced to focus on their fuel dependence and consider alternative forms of transportation and fuel conservation. Tennesseans got a glimpse of life with gasoline shortages—difficulty getting to school and to jobs, difficulty obtaining goods, and skyrocketing prices at the pump. The shortage highlighted a lack of alternative energy technologies, as well as dependence on a single source of fuel for transportation. In addition, Tennessee may be more dependent on fossil fuels than other states because, as noted earlier, commuting distances are longer here and mass transit is less prevalent.

Natural Gas

EIA categorizes Tennessee as a state that is at least 85% dependent on interstate pipelines for its natural gas supply. The US Department of Transportation Pipeline and Hazardous Materials Safety Administration indicates that Tennessee has 4,901 miles of interstate natural gas pipelines connected to 36,998 miles of gas distribution pipelines that deliver gas to homes and businesses.

¹⁹Heat USA 2008.



Most natural gas consumed in the United States is produced here or in Canada. Natural gas can be found deep below the surface of many states—in contrast to oil, which is concentrated in a few regions of the country or must be imported. The EIA notes strong growth in shale gas production, as well as increased use of natural gas in electric power generation. Shale gas production in the US grew at an average annual rate of 48% between 2006 and 2010, largely because of horizontal drilling and hydraulic fracturing. EIA’s 2011 *Annual Energy Outlook* projects that shale gas production will make up 47% of total US production by 2035, up from 16% in 2009. In addition, despite being a mainstay in the heating and cooling of buildings, natural gas in its liquid form is gaining new attention as a potential transportation fuel source.

Emerging Energy Infrastructure

In recent years state officials have sought new businesses engaged in emerging energy technologies. According to the Department of Economic and Community Development’s Office of Energy Policy’s website, Tennessee is home to “a diverse portfolio of companies in the solar, wind, biofuels, and electric vehicle sectors, including Hemlock Semiconductor Corp., Wacker Chemie, Nissan North America, SIAG-Aerysin, Alstom Power and DuPont Danisco Cellulosic Ethanol.” Nissan

North America is investing \$1.4 billion to retool its Smyrna manufacturing plant to produce zero-emissions vehicles and state-of-the-art lithium-ion battery packs to power them. John Huotari, writing for the *Oak Ridger*, notes that through the efforts of TVA, the Electric Power Research Institute, and Oak Ridge National Laboratory, Tennessee is one of five states participating in a large-scale installation of solar-assisted electric vehicle charging infrastructure and the deployment of up to 5,000 Nissan battery electric vehicles.

Tennessee has also been experimenting with biofuels. The state is home to one of the nation’s first cellulosic ethanol demonstration plants—and the only one dedicated to converting both agricultural residue and bioenergy crops to fuel ethanol. The 74,000-square-foot facility in Vonore has the capacity to produce 250,000 gallons of ethanol annually from corncobs and switchgrass and is a partnership of DuPont Danisco Cellulosic Ethanol and the University of Tennessee/Genera Energy.

Tennessee’s vehicles of the future will run on energy sources that are different from those we have known for the past century. These in turn will prompt a need for a different kind of energy infrastructure.

The Challenges of Natural Resources: Using Tennessee's Assets Wisely

Tomorrow's Tennesseans will need adequate supplies of clean water and air, good land, and clean, affordable energy. Supporting transportation, industry, and food production will bring new challenges. For some resources, such as water, we have depended largely on our own supplies. For others, such as fossil fuels, we have some availability but must import large quantities. We need to reduce our dependence on these outside sources. The way we choose to use each type of resource will affect its availability, quality, and effect on the environment.

Tennessee is blessed with a rich and varied natural environment, but competing economic endeavors can affect that environment, leading to contaminants in air, water, and soil that can ultimately harm health. In addition, Tennessee attracts many visitors because of its beautiful land, waterways, and historic sites, all of which can easily suffer from activities associated with economic activity, such as construction, mining, and excess cultivation.

As Tennessee's population continues to grow, people will consume more and more resources while adding more pollutants to their water and air. A recent TACIR research brief highlights problematic land-use trends and issues such as sprawl, land fragmentation, loss of farmland, location of industrial megasites, and local land use conflicts. New construction is widely considered positive for the economy, but continued building and sprawl have been linked to storm water run-off and decreases in available potable water. As noted previously, longer commuting distances to work centers, as well as more traffic congestion, lead to increased fuel consumption and air pollution. Each type of resource is discussed below; all are inextricably intertwined.

Water

Access to clean, plentiful water for commercial, residential, and recreational use is vital to Tennessee's future. Tennessee has abun-



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abundant water resources—more than 60,000 miles of rivers and streams and over 570,000 acres in lakes and reservoirs nourish its people and beautify its landscape. Yet water is not plentiful everywhere, nor available at all times. Some of Tennessee’s cities and towns experience periodic shortages of drinking water, especially during times of drought. Others are prone to flooding in times of excess. As of November 2010, the Department of Environment and Conservation had posted 62 streams, rivers, and reservoirs as public health threats.

As Tennessee’s population grows, the state’s water resources will face unprecedented demands from competing interests. Mary English of the University of Tennessee’s Institute for Secure and Sustainable Environment in April 2010 wrote that, “Tennessee is well positioned to begin statewide water resources planning. With its water withdrawal registration program, its regulation of inter-basin transfers, and its strengths in water quality monitoring and regulation (particularly its Aquatic Resource Alteration Permit program), Tennessee has some of the essential underpinnings for integrated, statewide water resources planning.”

Dr. English points out, however, that Tennessee, like other states in the South-

east, is experiencing water shortages from the pressures of growth, as well as from droughts. She notes that land use is a complicating factor, particularly affecting rural water needs and rural sprawl, which has been encouraged by the availability of on-site wastewater treatment systems that reduce the need for individual septic systems. English writes, “In-situ package treatment plants enable pockets of residential density in areas that are sparsely populated, leading to scattered development that does not necessarily have ready access to public services (schools; police and fire protection; paved, well-graded roads; etc.) or adequate water supplies. Because these areas typically have limited land-use controls and planning resources, these scattered developments often are able to proceed with little oversight.”

Tennessee’s water supplies will experience ever-increasing pressures in the coming years. Because local officials often fail to consider the effects of development on water supply, particularly in years when water is plentiful, long-range thinking about Tennessee’s water resources now might help ensure the availability of sufficient clean water in the years to come.

Land

The ways that people use land ultimately affect agriculture, commerce, air and water quality, and scenic beauty. Statewide land-use data show a slow but steady increase in developed land, corresponding to Tennessee's growing population. As land is developed, it reduces the amount available for growing food and diminishes vegetation that helps filter air and water and prevent erosion. The National Resources Conservation Service indicates that, in 1982, 6.6% of Tennessee's land had been developed. By 2007, the percentage of developed land had grown to 12.2%. This represents an 85% increase in developed acres, coinciding with a decrease in cropland. From 1982 to 2007, 25% of cropland acres in Tennessee were converted to other uses. For that same period, Tennessee ranked 7th nationwide for loss of agricultural land. In addition to general loss of cropland, the increased use of remaining cropland to supply energy may affect the availability of food for people and livestock.

As the state's population grows, Tennessee will continue to lose open land to purposes such as homebuilding, surface mining, road construction, and industrial development. Policy makers will need to balance the demand for more land with the need to grow food, prevent flooding, and provide green spaces.

Air

Obviously, air is vital to all life. The advent of industry and the proliferation of automobiles in the US brought increased emissions of pollutants into the air, many of which

are harmful for people to breathe. In 1970, Congress passed the Clean Air Act. That legislation and its subsequent revisions prompted a significant reduction of contaminants released into the air, from both industrial sites and cars. The Clean Air Act requires the Environmental Protection Agency to set standards for six common pollutants: ground-level ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.

Compared with a few decades ago, Tennessee's air is significantly cleaner. Because of increased federal attention to air quality, our industries have made significant progress in reducing harmful emissions. Cars have been modified to reduce air contaminants and some local governments have implemented emissions testing programs. Tennessee, however,

is still heavily dependent on fossil fuels for energy, and producing energy from fossil fuels tends to release

more contaminants into the air than energy produced from other sources. In 2012, the EPA listed eight Tennessee counties for nonattainment of EPA standards, most for particulate matter or ozone. In its *State of the Air* reports, the American Lung Association gives Fs to several Tennessee counties for ozone pollution.

As Tennessee moves into the future, policy makers will need to consider air quality as they make other decisions. Recent increased attention paid to natural gas as a fuel source, for example, has been prompted in part by its low carbon dioxide emissions.

Fossil Fuels

In 2010, the US Energy Information Administration ranked Tennessee 19th among states

"We do not inherit the earth from our ancestors; we borrow it from our children."

Native American Proverb



Hawkins County School Solar Project

in total energy consumption per person. Because of widespread use of electricity, rather than natural gas or oil for heating, Tennessee ranks 13th in electricity consumption and 14th in coal consumption. More than one-half of Tennessee households use electricity as their primary source of energy for home heating. In addition, Tennessee's hot summers contribute to high consumption of electricity for cooling. Nearly half of the state's electricity is still produced by coal-fired power plants; nuclear, natural gas, and hydroelectric sources provide the remainder.²⁰ The burning of coal affects Tennessee's air, while its extraction affects the state's water and landscape.

Maintaining adequate fuel supplies for automobiles and trucks also presents challenges for the United States generally and for Tennessee specifically. Our country's dependence on foreign fuel sources makes us vulnerable to political decisions and unrest in oil-producing countries. In early 2011, fuel prices spiked because of events in the Middle East. Even so, proposed efforts to increase access to US fuel sources have sparked opposition from environmental advocates.

Tennessee cannot address its energy policy without the involvement of many other players, including the federal government and other states. Nevertheless, Tennessee has made lessening dependence on fossil fuel a priority. In May 2008, former Governor Phil

²⁰US Energy Information Administration 2009, 1-2.

Bredesen convened an energy task force that met several times. The task force's goal was to develop a state energy plan that included

- opportunities for state government to lead by example;
- prospective policies, legislation, regulations and/or incentives to encourage public and private sector energy conservation;
- possible public-private partnerships and collaborations to encourage research and development of clean-energy technologies; and
- strategies for expanding the use of alternative fuels and renewable energy sources.²¹

The task force's efforts culminated in the Tennessee Clean Energy Future Act, Public Chapter 529, Acts of 2009. The law promotes energy cost-saving measures in state buildings, the purchase of energy-efficient state motor vehicles, an emerging industry tax credit for industries promoting clean energy technology, and increased emphasis on residential weatherization.

The ways in which Tennessee pursues continued development and mineral and gas extraction—and other potential intrusions on the natural landscape—will certainly affect our quality of life, which in turn affects our economic viability. As tourist development commissioner Susan Whitaker noted, *"Many people come to Tennessee because it is a beautiful state. If it becomes ugly, they won't come. We must have both economic development and environmental protection."* Getting the most effective and efficient use of Tennessee's resources, while minimizing damage, will continue to challenge our state's leaders.

²¹Executive Summary can be found at <http://raabassociates.org/main/projects.asp?proj=68&state=Current>.

The Challenges of Governance: The Entities That Lead Us

Local Government Challenges

Tennesseans cherish the concept of local governance. The state has 95 counties, 347 municipalities, and myriad other local and multi-government entities such as utility districts, special school districts, and development districts. Some people interviewed believe Tennessee has too many small governments and that some need to consolidate or at least find ways to work together better.

In the recession's aftermath, many local governments are experiencing unprecedented fiscal challenges. Although sales tax collections are rising once again, many of Tennessee's counties are collecting less than they did four to five years ago. Local property tax bases will also be subject to declines as reappraisals begin to reflect declining property values. Providing basic government services such as animal shelters and trash collection has become increasingly challenging. Peggy Bevels, Lincoln County Mayor and former

President of the Tennessee County Mayors Association, believes that local governments will increasingly be forced to work together just to provide basic services.

The global economy has affected both local businesses and local leadership. The Southern Growth Policies Board notes in *Seeing the Future: Leadership and Social Capital* that traditional sources of community leadership are changing. The local bank president and newspaper publisher are often no longer autonomous but affiliates of large conglomerates. Global philanthropies are more likely to have a greater influence on local policies, and technology has changed the way that people communicate, work, and play. In addition, many key issues, such as transportation planning, economic development, and environmental protection require action beyond any town's boundaries.

Two officials interviewed for this report cited examples in which utility districts were clashing, either with each other or with neighboring cities. In one community, two utility



Giles County Courthouse. Tennessee Historical Commission



Tennessee Photo Services

districts were building water treatment plants adjacent to each other rather than merging their efforts. In another, a city official said that annexation of areas served by utility districts can be difficult when utility district water lines are too small to meet city fire protection requirements.

Until July 2011, local land-use planning had continued state focus and support through the Department of Economic and Community Development's Division of Local Planning. Even so, one interviewee, noting that the state's policies in this area were developed in the 1970s and 1980s, said that they were geared toward urban sprawl, not quality growth. In the spring of 2011, Governor Bill Haslam announced that he would abolish the Division of Local Planning and shift resources to new regional economic development initiatives. Technical assistance for local communities may be partially absorbed elsewhere, but eliminating shared state-level planning expertise may also diminish local governments' ability to promote quality growth.

State Government Challenges

Finding the Funds—In 2013, Tennessee finds itself beginning to recover from the Great Recession, but the impacts of that economic downturn will be felt well into the future. Moreover, Governor Bill Haslam has noted that many government programs are simply unsustainable. He has particularly cited health care cost increases and their consequent effect on everything else that the

government funds, from higher education to programs for the aging.

Tennessee has long prided itself on being a “low-tax” state. In 2009, the non-profit Tax Foundation ranked Tennessee 47th in the nation in state and local tax burden; Tennessee was lowest in the Southeast. In 2010, the US Bureau of Economic Analysis ranked Tennessee 37th in income per capita, however, indicating that its ability to pay taxes is higher than its actual tax burden. Although many individuals and businesses find low taxes desirable, the lack of resultant public funds means that Tennessee constantly struggles to maintain public services and infrastructure—much less actively improve them—for its growing population. Consequently, other states that have income taxes may have an advantage for recruiting new business. In an interview with the *Tennessee County News*, Deputy Governor Claude Ramsey says, *“One of the great things about Tennessee is that we don't have an income tax. But we found that other states will use their state income tax as a source to give money back to a new industry or an existing industry that is doing expansion.”*

Several people interviewed noted that the increasing demand for public services, coupled with the decreasing ability to raise public revenue, will be a long-term state challenge. Tennesseans seem to want a high quality of life but a low tax rate. The state's high dependence on sales tax for revenue will continue to challenge state government. Although some believe that Tennessee's tax structure attracts business and industry, others think it stymies our ability to develop economically by reducing potential incentives and limiting our ability to improve education for youth and adults.

Table 2. State Government Retirement Trends—June 2000 through 2011

Fiscal Year	Full-time Executive Retirements			Full-time Legislative/Judicial Retirements			All Full-time Employees Retirements		
	Total	Number	Percent	Total	Number	Percent	Total	Number	Percent
2000	38,307	959	2.50%	2,569	41	1.60%	40,876	1,000	2.45%
2001	39,363	865	2.20%	3,487	35	1.00%	42,850	900	2.10%
2002	40,169	966	2.40%	3,431	27	0.79%	43,600	993	2.28%
2003	40,804	1,033	2.53%	3,456	34	0.98%	44,260	1,067	2.41%
2004	41,153	1,026	2.49%	3,502	43	1.23%	44,655	1,069	2.39%
2005	42,250	987	2.34%	3,658	49	1.34%	45,908	1,036	2.26%
2006	43,473	1,025	2.36%	3,707	55	1.48%	47,180	1,080	2.29%
2007	43,347	959	2.21%	3,756	97	2.58%	47,103	1,056	2.24%
2008*	43,826	2,588	5.91%	3,881	65	1.67%	47,707	2,653	5.56%
2009	41,038	969	2.36%	3,867	76	1.97%	44,905	1,045	2.33%
2010	40,784	1,143	2.80%	3,824	71	1.86%	44,608	1,214	2.72%
2011	38,827	1,096	2.82%	3,782	109	2.88%	42,609	1,205	2.83%

*Note: In 2008 Executive Branch employees were offered a buy-out incentive that Legislative/Judicial employees were not. The 2008 figure includes 1,576 retirements that resulted from that incentive.

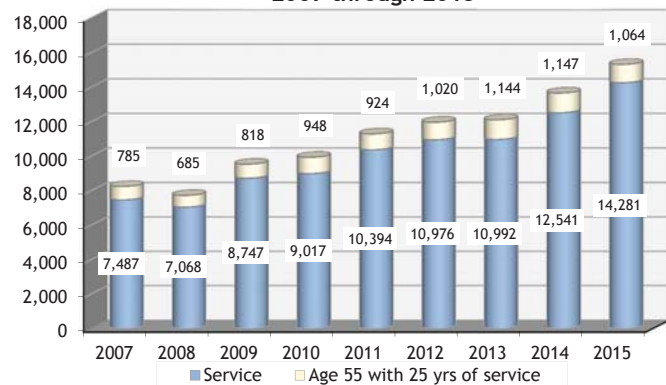
Source: Tennessee Department of Human Resources Information Systems Section.

Workforce—Some people interviewed for this report are worried about the state government workforce. State managers born during the post-war baby boom are retiring now. In addition to an overall intentional downsizing of the state’s workforce, this trend is chipping away at the state government’s institutional knowledge base. Some of these changes also reflect shifts toward and away from privatization of state government.

Table 2 illustrates the expansion and contraction of the state government workforce since 2000. In that year, state government had 40,876 full-time employees. By 2008, that number had grown to a high of 47,707. Eligible executive branch employees were offered a buy-out incentive that contributed to a decline in the total to 44,905 in 2009. By June of 2011, the number dropped to 42,609—a decline of nearly 11% in just 3 years. A three-year freeze on state employee salary increases further exacerbated the situation. These changes will help the state government spend less for personnel and benefits but may affect its ability to provide needed public services.

Even as the state government workforce has been reduced, more people are expected to retire. Figure 1 illustrates the increasing number of state employees who are, or will be, eligible to retire in the coming years. By 2015, about 14,281 state employees will be eligible to retire. Assuming the 2011 level of 42,609 total employees, this is about 33% of the state’s workforce.

Figure 1. State Employees’ Eligibility for Retirement 2007 through 2015



Note: “Service” refers to members who are 60 years old and vested or members who have 30 years of service, regardless of age. These members are eligible for full benefits. Employees who are at least 55 years old with 25 years of service are eligible with a reduced benefit. See <http://treasury.tn.gov/tcrs/RetireEligibility.html>.

Source: Tennessee State Treasurer, Retirement Division.

The state’s inability to offer competitive salaries for some professionals may also make it difficult to hire people with needed expertise. The former commissioner of transportation, for example, spoke of the difficulty his administration had hiring a multi-modal transportation expert.

Government Information Technology—State and local governments also face a need to continually improve their computer and data capabilities. Several state officials bemoaned the state government’s information technology and data inadequacies, citing antiquated systems and a lack of compatibility among the computer systems of their various departments. One former commissioner wished he had real-time data upon which to make decisions. Another wished for an integrated geographic information system that showed everything his department was responsible for.

Some of Tennessee’s local governments also lack needed technology—and some resist using technology altogether. According to Mike Ramage, former Executive Director of Connected Tennessee, several cities don’t have websites. Some local officials still will not use e-mail.

Perhaps the March 2008 *Governing* magazine Report Card summed it up best: “When all is said and done, a state’s skill with information is found at the intersection of three distinct operations: the willingness to share data, the capacity to generate good information, and the

ability to get those who should use the data to do so.”

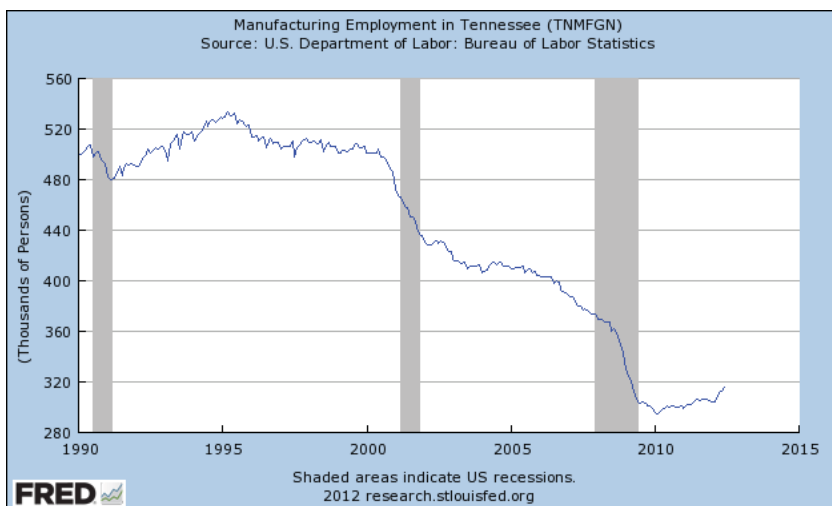
Addressing the Contrasts

A generation ago employment opportunities available to Tennesseans, regardless of where they lived, were likely more similar than today. Manufacturing and farming jobs were more plentiful. Education was less vital to earning a living wage. But in 2013, Tennessee has fewer farms, and manufacturing jobs have declined (see figure 2).

The contrasts between Tennessee’s rural counties and their urban and suburban counterparts have grown wider. Yet even though our cities are the traditional engines of economic activity, they too have pockets of concentrated poverty. Disparities in wealth manifest themselves both within and across counties in differences in schools, the ability to attract business, and the ability to invest in communities.

In the past two decades, many of the counties around Tennessee’s largest cities have grown and developed into economic centers them-

Figure 2. Manufacturing Employment in Tennessee, 1990-2015





Tennessee Photo Services

selves, more prosperous generally than either the urban or the rural areas on their borders. How will this affect the state’s economic development? Will the suburban communities become hubs for the nearby rural areas? Will they complement or detract from the urban counties?

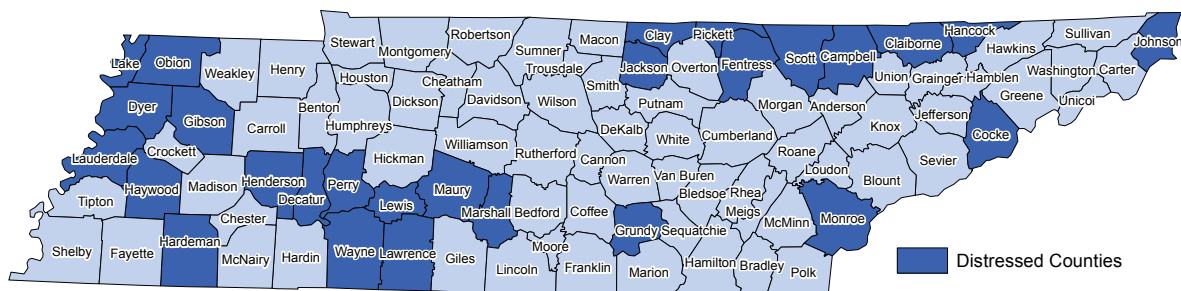
In 2010, Tennessee’s median household income was \$41,461 but ranged from a high of \$82,273 in Williamson County to a low of \$24,891 in Hancock County. Arguably, Williamson County’s income levels are so high as to make it an outlier, but the difference between Hancock and the second highest county, Wilson, is still significant. (Wilson County had a median household income of \$56,270.)²²

²² US Department of Agriculture 2011.

Although Tennessee’s rural areas provide some of our state’s most scenic landscapes and richest agricultural resources, they are confounded by geographic isolation, poor tax bases, poorly funded schools, undereducated people, lack of technological resources, and lack of adequate transportation. Each year, the Department of Economic and Community Development identifies “economically distressed counties.” As of July 1, 2011, 27 of Tennessee’s 95 counties fit the criteria for that designation—high average unemployment, low per capita market income, and high poverty rates (see map 5).

Of those 27 counties, 19 had been designated “economically distressed” for each of the four previous years as well, indicating chronic

Map 5. Economically Distressed Counties-2011



Source: Tennessee Department of Economic & Community Development



conditions of poverty.²³ Traditional farming, as well as manufacturing, has declined in the rural areas, while the costs of providing basic government services and educating children have become prohibitively expensive.

To survive in the future, Tennessee's rural, urban, and suburban places will all need to find new strengths. Our rural areas have natural amenities that could be attractive as people consider quality of life when choosing jobs and places to live. And the development of technology may make rural living more feasible. But if rural towns are to survive, they need jobs and they have to become places where young and educated people want to live.

The state's urban areas will face challenges as well. The cities are experiencing population increases as people move away from the rural counties. Larger concentrations of people increase the demand for government services, such as drinking water and wastewater treatment, solid waste disposal, transportation, and police and fire protection.

²³Counties listed as "Economically Distressed" for four or more years include Campbell, Claiborne, Clay, Cocke, Fentress, Gibson, Grundy, Hancock, Hardeman, Haywood, Johnson, Lake, Lauderdale, Lawrence, Lewis, Perry, Pickett, Scott, and Wayne counties.

The suburban counties have been experiencing challenges of rapid growth. Although their economic activity is the envy of less prosperous counties, they too face such challenges as a constant need for school construction and pressure to expand public infrastructure and services. Their growing population continues to put more and more traffic on arterial highways, as well as the Interstates along which they tend to develop.

In short, future Tennesseans will need to balance the strengths and challenges of their localities with the strengths and challenges of the state as a whole.

Conclusions and Recommendations

Tennessee, as a state, lacks long-term vision.

Although specialized pockets of focused thinking about the future can be found within some state agencies, regional organizations, and volunteer multi-county groups, conversations with many state leaders confirmed that there is no broad, representative group charged with thinking broadly about the state's future. Consequently, state agencies sometimes work at cross-purposes, as do local governments—not to mention the private and not-for-profit sectors.

Approximately half of the people interviewed for this report thought that education was Tennessee's biggest challenge. They cited its effect on the state's ability to provide a skilled workforce and promote economic development. They also cited the effect of an educated citizenry on health and civic engagement. Consequently, it behooves everyone to focus on improving educational outcomes for all children.

Similarly, if state leaders were to determine that improved health of our citizens should be a broad state goal, then transportation officials and local governments may think more about building and design guidelines that accommodate pedestrians and bicycles. Building designers might make stairwells more inviting. Employers might consider ways to help employees get more exercise on the job. In addition, to reduce commute times and fuel consumption, local land use planners and state transportation planners could work more closely together to place schools, businesses, and residences in closer proximity to existing roads and to each other.

Although Tennessee presently lacks an established planning and visioning process, that has not always been the case. From 1935

to 1995, Tennessee had statutorily established entities to encourage coordinated thinking about the state's future to varying degrees. (A history can be found in appendix C.)

The Tennessee Planning Commission, established in 1935 at the urging of the Tennessee Valley Authority, included the Governor and eight citizens representing the state's three grand divisions and both political parties. The commission's earliest work emphasized physical planning. Its staff prepared state and regional plans, collected data, conducted research, edited reports and publications for the governor, and assisted communities with local planning. The enabling legislation, Public Chapter 43, Acts of 1935, states

... that the state plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, efficient and economic development of the state, which will, in accordance with present and future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and welfare of the people of the State of Tennessee, as well as efficiency and economy in the process of development; including, amongst other things, such distribution of population and of the uses of land within the state for urbanization, trade, industry, habitation, recreation, agriculture, forestry and other uses as will tend to create conditions favorable to transportation, health, safety, prosperity, and civic, recreational, educational and cultural opportunities, tend to reduce the wastes of physical, financial or human resources which result from either excessive congestion or excessive scattering of population and tend toward an efficient and economic conservation,



production and distribution of food, water and minerals and of sanitary and other facilities.

Early staff undertook surveys and studies of water resources, land use problems, and recreation facilities. One report led to the formation of the Tennessee State Park System.²⁴

In the ensuing decades, the state's planning and research functions experienced cycles of decentralization and centralization and varying degrees of direct gubernatorial control. In general, Democratic governors tended to centralize such functions, while Republicans tended to decentralize planning functions into the various departments. Governors of both parties sometimes convened broad-based task forces, however, to focus on specific state problems such as education, corrections, or obesity. Most recently, Governor Haslam has convened task forces on health and wellness, methamphetamine prevention, and school vouchers.

²⁴ Wagner, Jr., 2-5.

Greater interaction and coordination are needed within and among levels of government, as well as with the private and non-profit sectors.

Many of the officials interviewed recognized the “functional silos” in which they operate and said they would welcome more cooperation across agency lines. Several cited state challenges that affect more than one agency, or even level of government.

Increased cooperation between state and local governments could also improve service delivery. Former transportation commissioner Gerald Nicely cited a situation in which his department planned a whole road project, only to discover that a local government had approved construction of a medical center in the middle of it. One city official cited homelessness as an unfunded mandate imposed by the state on local governments. He noted that state departments, such as Mental Health and Correction, discharge residents into cities without providing adequate support, creating a burden for the local governments. He wishes the state agencies would work with the local governments to improve the situation.



Tennessee Photo Services

The Governmental Accountability Act of 2002,²⁵ also requires state departments and agencies to strategically plan. Although this causes the various agencies to analyze their own areas of responsibility to some extent, no one coordinates efforts across agency lines or requires coordination among levels of government. As a result, important issues such as the multiple effects of aging on health care, transportation, and housing may not be addressed. And unlike states with successful performance measurement systems, the goals expressed in these plans do not drive the budget.

Focusing on Tennessee's future will require continuity of thought and leadership.

Tennessee's governor plays an important role in initiating programs and determining funding priorities. The governor also sets the tone for the various state agencies. But the governor's influence necessarily is limited to one or two terms, a maximum of eight years. Addressing some of the state's big problems may require a much longer timeframe. The Commission on Practical Government, an ad hoc entity created in 1995, stated that, "Today

we make progress erratically — focusing on education this term, economic development the next, crime next. Because we lack any larger context in which to place these efforts, we fail to sustain sufficient progress on multiple fronts while we are focusing on just a few" Governors and their cabinets must necessarily respond to the state's immediate problems and disasters, causing longer-term issues to fall by the wayside.

The book, *Government and Politics in Tennessee*, identifies another challenge of gubernatorial transitions:

"Too often key positions in the governor's office are awarded to top campaign staff, sometimes ignoring the fact that the jobs require entirely different skills. . . . Such an attitude on more than one occasion has led to the abandonment of good programs for no other reason than the program was identified with a previous administration."

(Lyons, Scheb, Stair, p.111.)

The General Assembly's ability to establish a long-range state vision is even more limited. State senators are elected to four-year terms while the House members serve just two. In addition, because they represent their

²⁵ Public Chapter 875, Acts of 2002, codified as Tennessee Code Annotated § 9-4-5601 et seq.



particular districts, they may find it more difficult to consider the wellbeing of the state as a whole. To meet its challenges, Tennessee needs to find ways to work on long-term initiatives that transcend changes in administrations and intrastate rivalries.

Successful local and regional efforts may provide ideas for a state visioning process.

Although Tennessee abolished its earlier entities charged with preparing for the future, some of the state's local and regional agencies may provide ideas for the state as a whole. Though they may emphasize different issues, all represent efforts by more than one entity to come together for common purpose and benefit.

Regional and Local Entities

Tennessee has several regional planning and visioning efforts that appear to be working. Cumberland Region Tomorrow, for example, is "a private, non-profit, citizen-based regional organization working with public and private partners, dedicated to planning for the future livability and economic vitality of our ten-county region." According to its website, the organization was spawned by a one-day forum in 1999 sponsored by the

Greater Nashville Regional Council and Vanderbilt University's Institute for Public Policy Studies. Although Cumberland Region Tomorrow's focus does not encompass all policy areas, the organization has established a vision for growth of the Middle Tennessee Region and developed quality growth guiding principles. For example, it makes a comprehensive "Quality Growth Toolbox" available to local government officials and in May 2009, rolled out "The Power of Ten," an ongoing effort to promote regional collaboration in Middle Tennessee.

Cumberland Region Tomorrow has identified six regional issues:

- Transportation/Transit
- Land Use/Quality Growth and Sustainable Development
- Infrastructure
- Open Space Conservation
- Air and Water Quantity and Quality
- Economic Competitiveness

In 2011, Cumberland Region Tomorrow led a successful effort to develop the Tennessee Regions' Sustainable Communities Roundtable, a network of regional organizations, state agencies, and philanthropic organizations from across Tennessee. The round-

table's purpose is to provide a statewide forum for resource sharing, communication, and collaboration.

The Clarksville-Montgomery County Economic Development Council is another agency involved in regional planning. According to its website, it is "a private, non-profit economic development umbrella organization that provides staffing, management, and a unified direction for the Clarksville Area Chamber of Commerce, the Industrial Development Board of Montgomery County, and the Clarksville-Montgomery County Convention and Visitors Bureau." Its efforts are supported through the Aspire Foundation, a privately funded economic and community development initiative for Clarksville and Montgomery County, but its members include city and county officials, a university president, and representatives of the local business community.

Another regional effort, "Nine Counties. One Vision.," was a citizen-driven effort of nine East Tennessee Counties to develop a regional vision. Beginning in 2000, the organization developed recommendations for such diverse issues as downtowns, social services, transportation, education, and the environment. According to its website,

The comprehensive scope of the Nine Counties. One Vision. agenda and its regional thrust resulted from participants embracing the idea that all parts of the region are important to the well-being of the whole. Vision participants were able to set aside local issues and focus on regional solutions.

By design, the organization abolished itself after five years but left a roadmap for other entities to follow.

In 2011, PlanET, a five-county East Tennessee effort, began soliciting ideas from citizens about challenges facing their region and possible solutions. The group hopes to adopt a regional vision and implementation strategies that can be used by individual jurisdictions.²⁶

Innovation Valley Inc. is a regional economic development initiative in the Knoxville-Oak Ridge area. According to its website, it focuses on science, technology, and business in a 25-mile corridor. The Innovation Valley Strategic Blueprint is a five-year plan to create economic success for the region with a specific focus on education and workforce development, as well as on technology and entrepreneurship.

The Blueprint focuses on six strategic program areas:

- Education and workforce development
- Technology and entrepreneurship
- Global marketing
- Business retention and expansion
- Public policy
- Resources for living²⁷

West Tennessee has not been without its own planning and visioning efforts. Memphis Fast Forward²⁸ was convened by the Mayor of Shelby County, the Mayor of the City of Memphis, and Memphis Tomorrow, an association of chief executive officers of Memphis' largest enterprises. According to its website, the organization is focused on jobs, a better-educated workforce, a safer community, a healthier citizenry, and more efficient government in Memphis and Shelby County.

²⁶For more information see <http://www.planeasttn.org>.

²⁷For more information see <http://www.innovationvalleyinc.org>.

²⁸For more information see <http://memphisfastforward.com/>.



Leadership Groups

In addition to regional organizations, several Tennessee cities and counties have established local “leadership groups.” These groups bring together local leaders to encourage collaborative thinking and understanding about their communities. Although they have a state association, the Association of Community Leadership, apparently no one has ever attempted to pull together their recommendations. WestStar, based at the University of Tennessee at Martin, seeks to foster collaborative thinking among community leaders from West Tennessee. According to its website, WestStar’s mission is “to identify, encourage and equip community-minded people who want to become more involved, want to help West Tennessee become a better place, and are willing to accept assertive and dynamic leadership roles.”²⁹ A similar non-profit organization, Leadership Middle Tennessee, serves a 10-county area in the central part of the state. These groups of local leaders participate in brainstorming sessions about their communities and might contribute to an overall state visioning process.³⁰

²⁹For more information see <http://www.utm.edu/departments/weststar/>.

³⁰For more information see Leadership Middle Tennessee, <http://leadmt.org/about.html>.

Cabinet Councils and Other Interdepartmental Groups

Several former state officials cited the Governor’s Jobs Cabinet, established by former Tennessee governor Phil Bredesen (2003-2011) in Executive Order 6 as an example of a successful cross-governmental working model. The Council had 12 members, including representatives of the Departments of Economic and Community Development, Labor and Workforce Development, Revenue, and Tourism. The departmental representatives worked and travelled together to recruit business to Tennessee. The participating commissioners lauded the cooperation among their departments and the ability to provide a united voice to prospective industry.

The Governor’s Energy Task Force was another interdepartmental effort cited by some as a successful cooperative visioning effort. The task force met eight times during 2008 and emerged with several energy recommendations that resulted in Public Chapter 529, Acts of 2009, the Tennessee Clean Energy Futures Act.

The administration of Tennessee governor Donald Sundquist (1995-2003) provides another example of an interagency working



group that crossed traditional “silos” and emerged with a vision for education that focused Tennessee’s efforts for several succeeding years. A member of the governor’s staff facilitated several meetings of the group, which included staff of the Department of Education, the State Board of Education, TACIR, and the Comptroller’s Office. They emerged with three priorities: pre-kindergarten, reading initiatives, and teacher training and mentoring.

Tennessee governor Lamar Alexander (1979-1987) created a Safe Growth Cabinet which ran for 4 years. The interdepartmental group addressed many emerging environmental issues including clean water, hazardous waste management, and protection of natural and cultural areas.³¹

Current Tennessee governor Bill Haslam has indicated plans for four cabinet councils.

Other states’ planning and visioning processes could provide models for Tennessee.

A number of other states provide possible models, including one of Tennessee’s neighbors. Some are strictly governmental; others are private or a combination of public and private representation. All, however, have articulated a common vision that can be used by policymakers in all levels and sectors. Four of these are highlighted below:

Council on Virginia’s Future³²

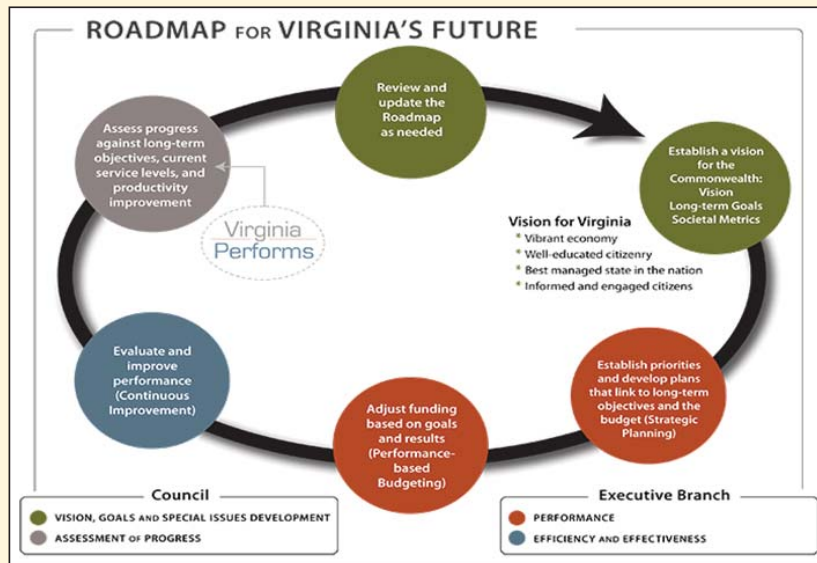
Virginia’s General Assembly created the Council on Virginia’s Future in 2003. According to the council’s website its purpose is to

- provide a long-term focus on high-priority issues,
- create an environment for improved policy and budget decision-making,
- increase government accountability and transparency,
- improve government performance, and

³¹Smith 1986.

³² For more information see <http://www.future.Virginia.gov/>.

Figure 3. Roadmap for Virginia's Future



Source: Council on Virginia's Future website.

“The Council provides a forum where legislative, executive branch, and citizen leaders can come together for work that transcends election cycles, partisanship, limited organizational boundaries, and short-term thinking.”

- engage citizens in dialogue about Virginia's future.³³

The council has 8 legislative members and 10 non-legislative members, and the governor serves as the chair. It supports the development and implementation of a “roadmap” for Virginia's future, a process for establishing a state vision (see figure 3). The council then measures and reports the state's progress toward long-term goals. The council regularly reviews the roadmap process and updates it as needed. Virginia was recently recognized by the Pew Center on the States for its use of the council's “Virginia Performs” data system, which enables officials to “systematically tackle the state's budget crisis and increase agency productivity.”

The council's director is employed by the University of Virginia. She believes that the academic affiliation helps maintain an appearance of impartiality, though it is Virginia's business community that has been the driving force behind the council from its inception.

³³ See also Code of Virginia §2.2-2683 et seq.

Michigan People and Land³⁴

People and Land (PAL) was a Michigan organization focused on growth and change that operated from 2000 to 2010. Funded by the W.K. Kellogg Foundation, PAL brought together various interests—chambers of commerce, environmental groups, suburbs, realtors, farmers, and the NAACP. Through research, strategic planning and smart policies, the leadership of PAL determined that Michigan must focus on six key sectors in order to become a successful participant in the global economy. The organization's website lists “Six Pillars of Prosperity,” an agenda to reinvent Michigan as a global economic player:

Pillar 1: Attractive Cities and Neighborhoods

From major cities to small towns, we need vibrant neighborhoods where people want to live and raise families.

³⁴For more information see www.peopleandland.org.

Pillar 2: Highly Competitive Schools and Lifelong Learning Opportunities

Education creates the skilled workers we need to compete in a global marketplace.

Pillar 3: Knowledge-Based Technologies and Michigan's Future

Job growth in Michigan will come from new and creative businesses.

Pillar 4: Thriving Agriculture to Grow Michigan's Economy

Michigan's second-largest industry can provide food, fuel, and innovation while preserving beautiful rural landscapes.

Pillar 5: Natural Resources for Recreation and Job Creation

Michigan is blessed with natural resources that enrich our quality of life and enhance our economy.

Pillar 6: Inclusive and Entrepreneurial Culture

Innovation, new ideas, new people, new businesses: this is the currency of the new economy.

PAL encouraged regional partnerships through Regional Prosperity Initiative Grants—competitive grants awarded to entities demonstrating multi-sector and multi-jurisdictional collaboration at the regional level. The PAL Leadership Council selected nine regional efforts to receive these grants. The parent organization has now ended, but several of these regional initiatives continue. In addition, parts of the vision developed by PAL have been adopted by the state government.

Envision Utah³⁵

Since 1997, Envision Utah has served as a neutral facilitator to bring together that state's leaders to help shape a state vision. According to its website, Envision Utah brings together residents, elected officials, developers, conservationists, business leaders, and other interested parties to make informed decisions about how Utah should grow. Utah's governor serves as its honorary co-chair, and the organization's governing board and executive committee have both public and private sector members. The group also strives to get input from the public and then develop scenarios for Utah's future. It receives funding from both public and private sources. In the January 2012 issue of *Governing* magazine, managing editor Elizabeth Daigneau, touted the organization:

What makes Envision Utah a pioneer, according to a US Department of Housing and Urban Development (HUD) case study, is that it establishes "broad buy-in and significant public engagement." Envision does this by conducting significant research into what the region will look like in 40 or 50 years, presenting that data to citizens, surveying their satisfaction with that data and using what has typically been dissatisfaction with future scenarios to get stakeholders to put aside politics and focus on real solutions.

myregion.org

Although a regional rather than statewide organization, the Orlando, Florida-based myregion.org also provides a model for cooperative visioning.³⁶ The organization has created a collective vision to help Central

³⁵For more information see <http://envisionutah.org/index.html>.

³⁶ For more information see <http://myregion.org>.

Florida compete in the global economy and improve the quality of life for its people. Led by a group of public, private, and civic leaders, its four key themes are

- conservation,
- countryside,
- centers, and
- corridors.

Here is what myregion.org's website says:

Quite simply, myregion.org is a tool. It's a tool that Central Florida will use to break down the barriers that divide us. We will take everything we know about our region, bring it here, mix it all together and watch what happens. We will learn what it takes to turn Central Florida into one region with one goal: to be the best and most prosperous community in the world.

Center for Colorado's Economic Future³⁷

The Center for Colorado's Economic Future is another group working on creative visioning. The center was founded in 2007 based on a key recommendation of its predecessor group, the Colorado Economic Futures Panel. The initial panel was created by the University of Denver, and worked from fall 2004 to January 2006. Its mission was to examine the fiscal health of Colorado's state and local governments and their ability to sustain fundamental public investments appropriate to Colorado's long-term economic vitality.

Recommendations of the Colorado Economic Futures Panel addressed specific constitutional proposals, as well as the need to better inform voters about ballot proposals and

citizens about state and local government. Specifically, the panel recommended

that an independent, nonpartisan, non-governmental organization be established to conduct ongoing research and provide regular updates to the public on matters related to Colorado's fiscal health, other significant trends affecting the state's economy and on proposed initiatives and major legislation relating to taxation and public spending.

³⁷ For more information see <http://www.du.edu/economic-future/>.

Where Do We Go From Here?

Like Virginia, Utah, Michigan, and Colorado, Tennessee might benefit from a statewide vision and long-term goals. Although research and policy functions are often the first to be eliminated in times of fiscal austerity, most of the people interviewed for this report affirmed that Tennessee needs to improve its ability to prepare for the future. Developing and promulgating such a vision could help the state and local governments reach better solutions and use limited resources more effectively.

The governor and the legislature may wish to consider establishing a consortium of people charged with focusing on Tennessee's long-term future. Such a group should represent both public and private interests. Although the entity obviously needs each governor's participation and blessing, Tennessee's experience would suggest that a long-term perspective must transcend any one governor's term in office. The structure of the State Board of Education, established in Tennessee Code Annotated § 49-1-301, is an example of such a board. Its members are appointed to nine-year terms by the governor, subject to confirmation by the Senate and House of Representatives.

Putting matters of structure aside, what actions could help Tennessee's leaders from the public, non-profit, and private sectors focus more on Tennessee's future?

Collaborate

Tennessee needs to be able to draw on the expertise of various groups and people to facilitate meaningful discussion of various public problems.

Engage Leadership Groups

If the state establishes some sort of visioning body, that entity should draw on the strength of the various regional and local leadership groups already in place across the state. These programs help local citizens and officials focus on the future of their particular areas. No one, however, presently compiles information from these groups to both help share information and tap the energy they generate for the greater good.

Tap Higher Education Institutions

State policymakers need to consider ways to better partner with the state's public and private colleges, universities, and technology centers so as to provide comprehensive state-wide assessments of benefits and costs, as well as innovative economic, environmental, and social solutions to public problems. The state's colleges and universities also have the expertise needed to identify future demographic trends. Greater interaction between governments and higher education could also



Oak Ridge National Laboratory



give students an improved understanding of public problems and solutions.

Involve Not-for-Profit Agencies

State policymakers may wish to consider ways to encourage Tennessee's not-for-profit organizations to work together more. The state has many such agencies that overlap in their service constituencies and might be able to achieve economies of scale with greater coordination.

Exploit State Data

State departments collect and maintain a vast array of data. It would be helpful to determine what they are and how access, use, and storage might be improved. A state clearinghouse for commonly used data might be beneficial. In addition, continued improvements in the use of geographic information systems could provide policymakers with enhanced information.

Emphasize Outcomes

State and local policymakers should increase their emphasis on outcomes and performance. Along those lines, they may want to consider incentives for state agencies and local governments to focus on long-term solutions and increased collaboration among local governments.

Use Incentives

State and local policymakers could use grants, awards, and recognitions to encourage better overall planning and visioning. One person suggested, for example, that the governor's "Three-Star Community" program, awarded by the Department of Economic and Community Development to cities for implementing community development best practices, could encourage good environmental practices as well. Perhaps one of the "stars" could be green. One state official suggested that the state might use existing grants to encourage local governments to embrace quality growth practices. Such thinking across existing "silos" could improve results as well as improve efficient use of resources.

Whatever means and methods are chosen, developing a common vision will help people make more thoughtful decisions, whether they work in the public, private, or not-for-profit sectors. The signs of the future can be found in the present. We must search for them to find the best path forward.

Appendix A

Persons Interviewed

(Note: Interviews for this project overlapped the administrations of Governors Phil Bredesen and William Haslam. Listings for state commissioners interviewed indicate which governor they served.)

Peggy G. Bevels, County Mayor
Lincoln County and President, Tennessee
Association of County Mayors

Terry Bobrowski, Director
East Tennessee Development District and
Secretary/Treasurer, Tennessee Development
District Association

William Bradley, Director
Division of Budget
Department of Finance and Administration

Charles Brown, Budget Administration
Coordinator
Department of Finance and Administration
(former Planning Analyst, State Planning Office)

Sujit CanagaRetna, Senior Fiscal Analyst
Southern Legislative Conference
Council of State Governments

Michael Childress, Executive Director
Kentucky Long-Term Policy Research Center

Susan Cooper, Commissioner
Department of Health
(Bredesen and Haslam Administrations until
9/2011)

Tilden Curry, Dean
College of Business
Tennessee State University
(former Director, State Planning Office)

Paul Davis, Director
Division of Water Pollution Control
Department of Environment and Conservation

James Fyke, Commissioner
Department of Environment and Conservation
(Bredesen Administration)

David Goetz, Commissioner
Department of Finance and Administration
(Bredesen Administration)

Ryan Gooch, Energy Policy Director
Division of Community Development
Department of Economic and Community
Development

William Gregoricus, Senior Policy Analyst
Advisor
Office of the Governor
(Bredesen Administration)

William Hagerty, Commissioner
Department of Economic and Community
Development
(Haslam Administration)

James Hall, CEO
Hall Associates
(former Director, State Planning Office)

Michael Hann, Executive Director
Commission on Aging and Disability

Eric Harkness, Planning and Research Coordinator
Division of Health Planning
Department of Finance and Administration

Douglas Henry, State Senator
Davidson County

Kevin Huffman, Commissioner
Department of Education
(Haslam Administration)

Bridget Jones, Executive Director
Cumberland Region Tomorrow

Drew Kim, Partner
P3 Consulting
(former Director, Governor's Office of State
Planning and Policy – Bredesen Administration)

Matthew Kisber, Commissioner
Department of Economic and Community
Development
(Bredesen Administration)

Jane Kusiak, Executive Director
Council on Virginia's Future

Lewis Lavine, President
Center for Non-Profit Management
(former Chief of Staff, Governor Lamar Alexander
and Director, State Planning Office)

Dr. William Lyons, Senior Director
Policy and Communications
City of Knoxville

Robert Martineau, Commissioner
Department of Environment and Conservation
(Haslam Administration)

Harlan Mathews, Attorney at Law
(former US Senator, State Treasurer, and Director,
State Planning Office)

A. Keith McDonald, Mayor
City of Bartlett

John Morgan, Chancellor
Tennessee Board of Regents
(former Comptroller of the Treasury and Deputy
Governor—Bredesen Administration)

Dexter Muller, Sr. Vice President
Community Development
Memphis Chamber of Commerce

Dr. Matthew Murray, Deputy Director
Center for Business and Economic Research
University of Tennessee

James Neeley, Commissioner
Department of Labor and Workforce Development
(Bredesen Administration)

Gerald Nicely, Commissioner
Department of Transportation
(Bredesen Administration)

Mark Norris, State Senator
Shelby County
Chair, TACIR

Stephen Norris, Deputy Commissioner
Division of Intellectual Disabilities Services
Department of Finance and Administration
(former Director, State Planning Office;
Commissioner, Department of Correction; and
Commissioner, Employment Security)

Jeff Ockerman, Director
Division of Health Planning
Department of Finance and Administration

Jayne Place, Policy Analyst
Office of the Governor
(Haslam Administration)

Mike Ramage, Executive Director
Connected Tennessee

Tim Roach, Director of Local Planning
Department of Economic and Community
Development

John Schroer, Commissioner
Department of Transportation
(Haslam Administration)

Chuck Shoopman, Assistant Vice President
Institute for Public Service
University of Tennessee

Patrick Smith, Director
Governor's Office of State Policy and Planning
(Bredesen Administration)

Dan Speer, Mayor
City of Pulaski and Executive Director, Giles
County Economic Commission

Quincy Styke, Deputy Director
Air Pollution Control Division
Department of Environment and Conservation

Dr. Bruce Tonn, Professor
Department of Political Science and Program
Leader, Institute for a Secure and Sustainable
Environment
University of Tennessee

Susan Whitaker, Commissioner
Department of Tourist Development
(Bredesen and Haslam Administrations)

Carol White, Executive Director
Shared Services Solutions
Department of Finance and Administration
(former Director, State Planning Office)

Appendix B

TACIR's Forum on the Future, October 2008

Tennessee's Ten Greatest Challenges

- bring Tennesseans together to plan for a future that both reflects and makes the most of the richness and diversity of our state, its people and its places;
- provide all students equal access to adequate education and evaluation so that they may succeed in their professional, personal, civic, and community lives;
- manage an increasingly diverse society—tapping its productive and creative potential while minimizing its negative effects;
- ensure access to affordable health care for all Tennesseans, reduce costs, eliminate health care disparities, and foster healthy lifestyles;
- reform the administration of justice, including the prison system, so that it is more affordable and effective;
- create a business environment that is both conducive to economic growth and development and consistent with our cultural and environmental values—to make our state the preferred choice for business that Tennesseans want;
- use energy wisely and efficiently, leveraging the research assets of our universities and industry to develop new, clean, and renewable sources that will support, improve and sustain our economy and quality of life;
- use land and other natural resources wisely, consistent with environmental and quality of life standards and with economic development goals, to promote and sustain a sense of community and a relationship to the great outdoors;
- improve the delivery and efficiency of government services at the state and local levels and provide for their long-term fiscal sustainability; and
- foster a political environment and process that will support the broad public debate and accommodate the longer view necessary to design a better future for our state.



Martha L. Perine Beard



Richard Chesteen



Nick Dunagan



Ruth E. Johnson



Boyce C. Magli



John G. Morgan



Matthew N. Murray



Lyle Reid



William B. Sansom



Greer Tidwell, Jr.

Appendix C

A History of State Planning in Tennessee 1935-1995

To varying degrees, Tennessee had entities designed to encourage coordinated thinking about the state's future from 1935 to 1995. Public Chapter 43, Acts of 1935, created the Tennessee Planning Commission. The state formed the commission at the Tennessee Valley Authority's urging, which was expanding electrical service throughout the state. The authority helped fund the commission, as did the National Planning Board, which had been charged with producing a comprehensive plan for the nation. The initial commission consisted of the governor and eight citizens appointed by the governor. Members represented the states' three grand divisions; no more than six could be of the same political affiliation.

The commission's earliest work emphasized physical planning. Its staff prepared state and regional plans, collected data, conducted research, edited reports and publications for the governor, and assisted communities with local planning. Enabling legislation stated

that the state plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, efficient and economic development of the state, which will, in accordance with present and future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and welfare of the people of the State of Tennessee, as well as efficiency and economy in the process of development; including, amongst other things, such distribution of population and of the uses of land within the state for urbanization, trade, industry, habitation, recreation, agriculture, forestry and other uses as

will tend to create conditions favorable to transportation, health, safety, prosperity, and civic, recreational, educational and cultural opportunities, tend to reduce the wastes of physical, financial or human resources which result from either excessive congestion or excessive scattering of population and tend toward an efficient and economic conservation, production and distribution of food, water and minerals and of sanitary and other facilities.

Early staff undertook surveys and studies of water resources, land use problems, and recreation facilities. One report led to the formation of the Tennessee State Park System.³⁸

For the next two decades the state had an active planning office and staff. By 1947, the office had 26 employees. Governors Browning, Cooper, McCord, Clement, and Ellington relied heavily on their work. In 1959, the state underwent a massive reorganization, aimed at centralizing and streamlining operations. The planning commission and its staff became part of the then new staff division of Finance and Administration. That same year, an amendment to the Federal Housing Act of 1954 gave state planning agencies greater responsibility for helping their cities meet requirements for urban renewal funds. As a result, the division increased its functions and prepared a series of reports on the state's characteristics, problems, and opportunities.

In 1972, the General Assembly passed Public Chapter 542, which created the State Planning Office (TSPO) within the Office of the Governor. Its staff director was to be

³⁸ James B. Wagner, Jr., *The State Planning Agency of Tennessee: 1935-1974*; pp. 2-5.

appointed by and serve at the pleasure of the Governor. The law further specified, "It shall be the function and duty of the state planning office to prepare a general state plan for the physical, social and economic development of the state." The law created a Local Government Planning Advisory Committee to advise the governor on local government conditions and needs, as well as employing professionally qualified personnel to provide planning services to local governments. In the next few years, however, the planning functions were decentralized and the TSPO assumed more of a coordinating and oversight role.

In the ensuing years, the state planning office lost its broader statewide focus almost entirely and became an operating arm of the governor's office. The office's operations changed with each new administration, depending on the initiatives of each chief executive. Governor Lamar Alexander sought to move the research and planning functions into the various state departments. He used the planning office more for special projects, particularly to launch "Homecoming '86," an initiative designed to bring native Tennesseans home. Alexander also split the state and local planning functions and transferred the Division of Local Planning to the Department of Economic and Community Development.

Governor Ned McWherter re-established a more central state planning function, but also used it to coordinate various interdepartmental policy initiatives and special projects. The office facilitated two major statewide fact-finding trips by the governor and cabinet to observe state service provision first-hand and recommend improvements. The office also developed a comprehensive initiative to fight alcohol and drug abuse, the Governor's Alliance for a Drug Free Tennessee. The

office led policy initiatives in criminal justice, environment, solid waste, and clean water.

In 1995, during Governor Don Sundquist's first term, the General Assembly passed Public Chapter 501, repealing the State Planning Act and abolishing the State Planning Office. Its library moved to the State Library and Archives. The State Data Center was sent to the University of Tennessee-Knoxville. Governor Sundquist created a strategic planning function, but its focus was coordinating the state government agencies' functions rather than establishing a vision for the state as a whole. He also established the Commission on Practical Government, a 37-member advisory commission that produced a report in 1995. In the report's transmittal letter, Chairman Ronald Terry stated, "We are encouraged by your desire to work with the General Assembly to establish a vision of Tennessee's future that not only transcends terms of office and political parties, but produces goals toward an ever-better Tennessee." It's not clear, however, whether the report was used to promote any changes in the state government.

In 2007, Governor Phil Bredesen established an Office of Policy and Planning. Interviews with its staff indicate that it mainly worked on specific initiatives such as the American Diploma Project and a Criminal Justice project, and did not consider long-range issues.

In 2011, Governor Bill Haslam directed all state departments to conduct a "top to bottom review," which resulted in 332 recommendations. His administration also developed a "dashboard," a set of five policy areas designated as priorities.

Table 3. A History of State Planning in Tennessee

1921	The General Assembly established the Memphis Planning Commission with power to adopt zoning regulations.
1922 to 1931	The General Assembly established planning commissions in Knoxville, Chattanooga, Nashville, Johnson City, and Shelby County.
1933	State created Tennessee Valley Commission, which later became the Tennessee State Planning Board. It provided coordination of state agencies with TVA.
1935	Public Chapter 43, the State and Regional Planning Act, established the State Planning Commission which included the Governor and eight citizen members. Also established the structure for local planning in Tennessee.
1943	First permanent field office of Local Planning Division established in Johnson City.
1944 to 1957	Commission established additional field offices across the state.
1945	The commission designated six staff divisions: Administration, State Planning, Community Services, Industrial Development, Local Planning Assistance, and Research. Commission designated as agency to receive and review all applications for federal funds.
1959	The Government Reorganization Act (Public Chapter 9) transferred State Planning Commission and its staff to new staff division of Finance and Administration, but it remained the legal and official planning agency for the State of Tennessee. Amendment to Federal Housing Act of 1954 designated state planning agencies to conduct comprehensive state planning, prompting a series of reports about the state's population and economy.
1965	The Appalachian Regional Development Act of 1965 required that all projects initiated in the states be submitted by the states' members. The State Planning Commission was designated Tennessee's representative agency.
1972	State Planning Commission was abolished. Public Chapter 542 created the Tennessee State Planning Office (TSPO) within the Office of the Governor and moved all administrative powers, duties, and functions to the new office. The new planning office had a staff director appointed by and serving at the pleasure of the Governor. A Local Planning Advisory Committee was created, made up of local elected officials and department heads.
1974 to 75	State planning staff attempted integration into the state's annual budget process. Prepared The Future of the Tennessee State Budget 1976-1980, "the first formal attempt to put Tennessee's annual budget in perspective by analyzing past trends in State outlays and anticipated future directions in state progress." State took on federal A-95 grant review process and coordination of many development district activities.
1983 to 1986	During Alexander's administration, many planning functions transferred to applicable state departments, including the Local Planning Office to the Department of Economic and Community Development. TSPO became headquarters for "Homecoming '86." Executive Order 58 of 1983 made the State Planning Office the state clearinghouse for federal assistance.
1987 to 1995	Under McWherter's administration, the Planning Office received new responsibilities for program areas and special projects including Listening to Tennessee, Drug Free Tennessee, 1996 Bicentennial.
1989	The General Assembly passed the Solid Waste Planning and Recovery Act requiring the State Planning Office to establish a comprehensive solid waste management plan. Development districts were directed to prepare and adopt regional solid waste plans, consistent with the priorities and criteria of the state plan.
1995	At the urging of Governor Don Sundquist, the General Assembly passed Public Chapter 501 repealing statutes pertaining to the Tennessee State Planning Office.
2007	Governor Phil Bredesen established the Office of Policy and Planning, budgeted through the Department of Finance and Administration but reporting to him through the Deputy Governor. The staff worked on education and criminal justice initiatives.
2011 to 2012	Governor Bill Haslam abolished the Division of Local Planning in the Department of Economic and Community Development. He initiated "TNFORWARD" which included a "top to bottom" review of all state agencies of their operations to become more efficient and effective. In addition, it includes a "dashboard," a set of performance indicators in five policy areas.

Sources: Tennessee Public Acts, Miller (1987), Wagner (undated), State of Tennessee website, various records of the Tennessee State Planning Commission and Tennessee State Planning Office, and interviews.

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Tom Rowland, Mayor of Cleveland
Kay Senter, Mayor Pro Tem/Councilmember of Morristown

County

Ernest Burgess, Rutherford County Mayor
Jeff Huffman, Tipton County Executive
Kenny McBride, Carroll County Mayor
Larry Waters, Sevier County Mayor

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Charlie Cardwell, County Officials Association of Tennessee

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Tommy Schumpert, Knoxville