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21st Century Jobs Initiative

**Building the Foundations for a 21st
Century Economy**

Executive Summary



November 1995

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Executive Summary
21st Century Jobs Initiative
Building the Foundations for a 21st Century Economy

This document summarizes the principal findings, conclusions and recommendations of the first year of the 21st Century Jobs Initiative. Launched by leaders of the 15-county "Resource Valley," the Jobs Initiative is an action-oriented strategic plan that responds to the region's most pressing economic challenges. Department of Energy funds have supported the initiative and Tennessee's Resource Valley, the region's premier marketing and promotion organization, has spearheaded the project. Consulting assistance has been provided by a team led by DRI/McGraw-Hill's Economic Competitiveness Group and IC², Dr. George Kozmetsky's organization affiliated with the University of Texas at Austin. The consultants have developed several reports and other materials that may be of interest to the reader.

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I. East Tennessee's Economic Challenge

New Economic Realities

After 50 years of economic growth and prosperity driven in large part by Federal government spending, East Tennessee finds itself today in a new economic environment. No longer will government spending be the driving force for economic growth and job creation as was the case in the past. Policy initiatives and budget cutbacks in Washington have rippled down to all regions in the country highly dependent on government spending and East Tennessee has not escaped the impacts. Whether at TVA, or at the DOE facilities in Oak Ridge or within the research programs of the University of Tennessee, the region finds itself today faced with a potentially troublesome economic situation.

The good news is that the downturns in Federal spending come at a time when the East Tennessee economy is robust. Unemployment is at near record lows in urban counties and no less than average in rural areas where unemployment is historically high. Strong growth in sectors such as auto parts and accessories, environmental services, tourism and in several other sectors have, for the most part, offset recent job losses in the Federal sector at TVA and the Oak Ridge complex.

However, job growth in several sectors of the region's traditional manufacturing economy is likely to slow over the next ten years and capacities at key institutions could weaken under the pressure of budget cuts and shifts in the mission of key Federal agencies. As a result, the region's ability to create new jobs to offset the job losses likely yet to come will be weaker in the near future than it was not so many years ago.

The bottom line: After many years of economic growth and prosperity East Tennessee faces a new economic reality. This report finds that cutbacks in Federal spending, structural changes in the economy and the impact of other factors will make it far more difficult to achieve job growth in the future than it was in the past. With this report, East Tennessee is getting a wake-up call.

Fortunately, the forecasts suggest only a slow down in the rate of job creation, and in no way a precipitous collapse of the economy. Nevertheless, it is clear that the old economic drivers of the economy (Federal programs and traditional manufacturing) are weakening. In this context, it can be argued that the economic logic that shaped East Tennessee's economy in the past is no longer as strong as it was and must be replaced by a new economic logic that better reflects today's realities.

This means that the old economy which was made strong by massive Federal spending must be transformed into a different kind of economy. A new economic vision is needed, one that explicitly takes into account the changing economic environment and the inherent assets in the region, particularly the unique science and technology capacity developed with government investment. Dividends from these assets were once realized during a period of cold war. Today, in a period of cold peace, new dividends are possible in the form of a much more technologically-

intensive regional economy built around core competencies in the institutions that serve as the foundations for the economy. Movement toward this vision can be achieved by focusing private and public sector leaders on the potential for a more technologically advanced economy. And guided by this vision leaders, can begin to implement new strategies and new tactics for economic development. The primary goal must be to guide actions aimed at building a competitive economy, one strong enough to ensure that industries are prosperous and that jobs will be available for residents well into the future.

The 21st Century Jobs Initiative

In the face of low unemployment and a general sense of economic prosperity, it would be easy for leaders to ignore the threats on the horizon. But just as they did more than a decade ago when a national recession threatened the economy and opportunities for new infrastructure beckoned (the Pellissippi Parkway extension to the airport was launched, among other major initiatives), leaders have stepped forward today to face the economic challenges head-on. The 21st Century Jobs Initiative has been launched as a response to today's economic realities.

Unlike other regions whose leaders were lulled into complacency by a once strong but slowly eroding economy (e.g., Detroit in the 1960s, Southern California more recently), East Tennessee's leaders are using the 21st Century Jobs Initiative as a way to intervene in the region's economic destiny. In effect, they have said that East Tennessee can choose its economic future and not get caught in a negative cycle of economic decline like those that have caught other government-dependent regions by surprise (e.g., Los Angeles).

Based on economic research and input from local leaders knowledgeable about the economy, the 21st Century Jobs Initiative has set forth a strategic economic development plan for the region. The plan is designed to help guide policy makers and private sector leaders in their decisions about how and where to invest time and financial resources over the next several years in order to build an economy less dependent on the Federal government and more competitive in the global marketplace.

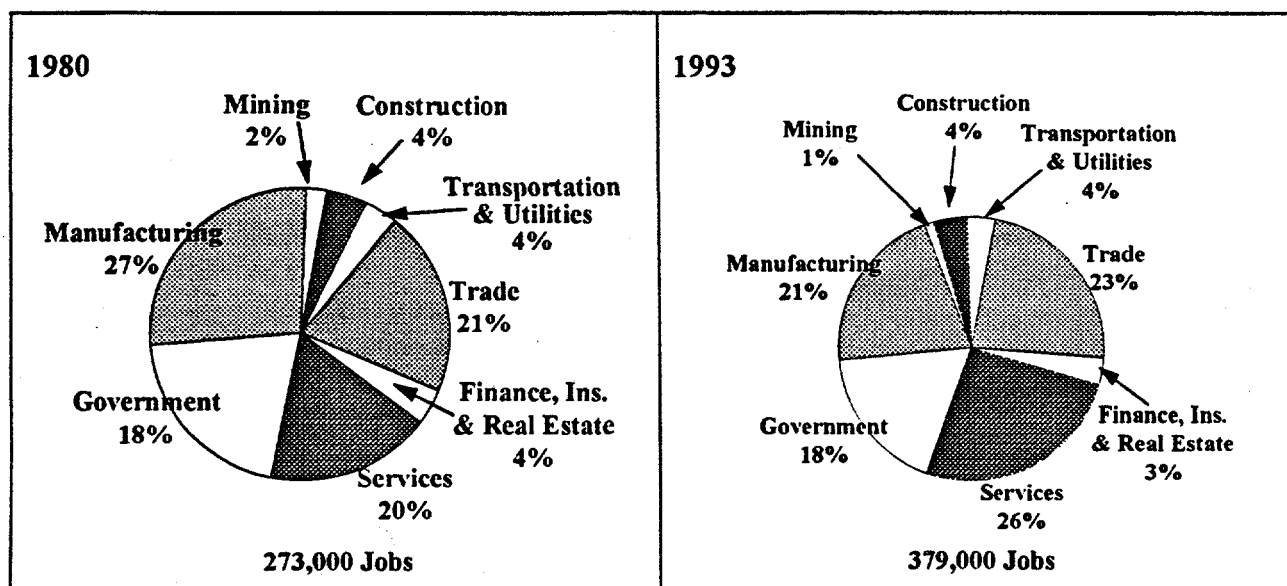
But the Jobs Initiative is more than simply a plan. With the early consultant reports serving as a wake-up call, more than 1,000 leaders have been involved in an array of forums over the past 10 months reacting to the project team's research findings and contributing directly to its recommendations. By drawing into the process local leaders from the private and public sectors, the Jobs Initiative has begun to forge a new level of economic leadership in the region. And as a result, there is now a "constituency for action" as well as early momentum for implementing concrete initiatives to enhance the economy.

II. East Tennessee's Economy Today: An Overview

Highlight of a Changing Economy

Over the last decade, the 15-county Resource Valley region has seen significant changes in the type of economic activity present. For example, as the figure below shows, the economy is shifting quickly from manufacturing to services, like the rest of the country. Note too, that the economy has been growing—from 273,000 jobs in 1980 to 379,000 in 1993.

Changing Structure of the East Tennessee Economy



Except for the large Federal presence in Oak Ridge and with TVA, East Tennessee's economy looks like most other economies in the Southeast and other parts of the US as well. For example, the shift from manufacturing to services is happening fast, in East Tennessee as it is across the country. And yet, past experience has shown that even structurally similar, neighboring economies can develop in radically different directions due to the differences in the basic economic capacity of different regions (e.g., Nashville and Memphis are developing in different ways because of differences in the underlying competitive advantages of each). Looking at the broad make up of the economy and the economic statistics of the place are not enough. Analysts need a tool for understanding the forces driving regional structural change.

Cluster Analysis: A New Way of Looking at the Economy

Understanding what is happening in the economy is not easy. For example, knowing that unemployment varies a lot from one county to another is not particularly helpful. Knowing that the economic structure is shifting from manufacturing to services is helpful, but unless more is known about where and how those shifts are occurring little is really known about the

implications of the shifts. What is needed is a way of looking at which sectors of the economy are really driving the region and what is happening to those sectors.

With others, DRI is pioneering new ways of examining regional economies. This approach is referred to as *cluster-based economic development*, or cluster analysis. Cluster-based economic development helps analysts understand how the economy operates and what parts of the economy are strong as well as the parts that need fortification.

Cluster analysis, used in this project, stresses four major points which are useful to economic development in East Tennessee:

- Clusters are not defined by political boundaries, but rather by economic demands.
- Clusters, the inter-industry dynamic, is a better focus for understanding the health and evolution of the economy than independent sectors.
- Clusters generate wealth in the economy through exporting. In that sense, they are the drivers of the economy.
- Cluster competitiveness in terms of regional development lies in sustaining quality economic infrastructure or foundations (human resources, technology, capital, physical infrastructure, competitive business climate) responsive to each regional cluster's needs.

Clusters in East Tennessee: Drivers of the Economy

DRI's analysis has pointed to the presence of 8 potential clusters of economic activity in East Tennessee (see Table below). Some of these clusters have traditionally been a major portion of the manufacturing base of the region, such as the Forest and Wood Products, Mining and Materials, Textile and Apparel, and Food Products sectors. Others, namely the service clusters of Tourism and Business and Financial Services, have been present in the region for some time but have seen dramatic growth and increased economic importance in the past decade due to an array of macro factors (e.g., higher disposable income is driving tourism, industry changes and economic restructuring are driving the growth of services). Automotive and Transportation Equipment has also grown fast and is evolving into a major economic force in the region. Lastly, with the presence of technical talent in the area and growth in a few key sectors, East Tennessee may be witnessing the birth of several Technology Intensive Products and Services industries. There is strong evidence that East Tennessee is building concentrations of employment in "seed" clusters within this group in areas including environmental services and devices, information services and products, instruments and electronic components of a wide variety.

Although the term "cluster" is used to describe these drivers of the region's economy, there are many indicators suggesting that the industry agglomerations in East Tennessee are not full-fledged clusters (e.g., significant "supply gaps" have been identified, industry experts report weak horizontal and vertical linkages). Unlike Silicon Valley or other regions where the economy is driven by extensive exporting and is deeply endowed with suppliers and strong linkages between buyers and suppliers and where public institutions that provide factor inputs (e.g., uniquely skilled workers, appropriate technology, specialized physical infrastructure), this report finds that East Tennessee has the *potential for economic clustering in the eight areas highlighted identified*.

Summary Data for East Tennessee's Potential Clusters

Emerging Clusters	Employment Level		Share of Economy		Relative Concentration		% Growth 1989-1994		% Growth 1994-2004	
	1984	1994	1984	1994	1984	1994	Region	Nation	Region	Nation
Auto/Transportation	9,241	17,492	3.1	4.6	136.1	220.9	2.5	-0.7	-0.6	-0.8
Metals & Materials	23,282	18,635	7.9	4.9	357.6	270.4	-0.9	-1.1	-1.4	-1.2
Forest Products	7,200	9,298	2.5	2.4	264.7	312.8	1.2	-1.3	-1.2	-1.4
Apparel & Textiles	19,500	18,026	6.6	4.7	348.1	343.0	-0.8	-1.7	-2.3	-2.5
Technology Intensive Products & Svcs.	4,985	8,785	1.7	2.3	79.5	105.3	5.8	0.4	2.1	2.1
Business & Financial Services	11,987	18,133	4.1	4.7	62.4	60.3	3.4	1.9	2.6	2.6
Agriculture & Food Products	2,313	3,233	0.8	0.8	183.1	268.0	1.5	-0.9	-1.1	-1.1
Tourism	13,254	22,309	4.5	5.8	101.3	104.6	6.3	2.9	2.6	2.8
Cluster Total in 15-County TRV Region	91,012	114,982	31.0	30.0	-	-	2.2	1.1	0.4	1.6
Rest of 15-County TRV Region Economy	202,574	268,687	69.0	70.0	-	-	2.6	0.9	1.6	1.4
15-County %TRV Region	293,585	383,669	100.0	100.0	-	-	2.5	0.9	1.3	1.4

Sources: DRI/McGraw-Hill; U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis

What does the full economic analysis say about East Tennessee's economy? Simply said, the economy is changing. The analysis suggests that East Tennessee will be a manufacturing and services based economy well into the future. However, the balance between manufacturing and services will continue to shift, with an increasing share of the economy based on tourism and business services. Tourism, by itself, will clearly make up a very large part of East Tennessee's 21st Century economy. Manufacturing will shift from traditional sectors such as textiles and apparel, agriculture and food and metals to less traditional (more advanced) sectors including auto/transportation and technology-intensive products. Finally, it appears likely that environmental services (and devices), information technology products, medical products and others like instruments and sensors will make up a significantly larger part of the economy.

However, there are many external economic factors that could come into play to shape the region's economic evolution. For example, a significant slowdown in the US economy would reduce the disposable income of people that drives the tourism industry. New technology not adopted in the region could help other regions capture markets in technology-intensive sectors that East Tennessee could otherwise claim. Foreign competition, such as Mexico emerging as a world center for the production of auto parts and accessories, could significantly impact that sector.

Why Does East Tennessee Need a Strategic Plan?

Based on the DRI forecasts, it is possible that East Tennessee's rate of employment increase seen in the period 1985-1995 could slip significantly over the next decade. During the last 10 year period, the 15-county region created approximately 93,600 new jobs. The forecast suggests that over the next 10 years, only 44,500 new jobs will be created, about half of the job creation rate during the past 10 years (see Figure II-A). Moreover, because of the shift from generally higher paying manufacturing jobs to generally lower paying services jobs (see Figure II-B), the forecasts suggest that per capita income for the region could fall from slightly more than 12% in the early 1980s to about 8% over the next several years (see Figure II-C). The forecast does suggest an

upturn in per capita income in the period 1998-2004, based on assumptions about job growth in higher paying jobs in growing technology and services areas.

Figure II-A
Forecast Job Growth

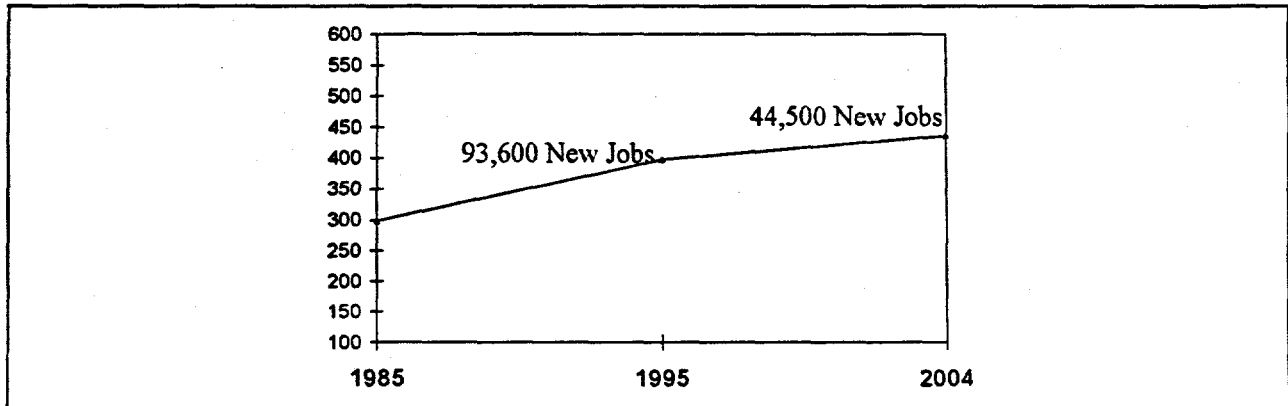


Figure II-B
Forecast Shift from Manufacturing to Services

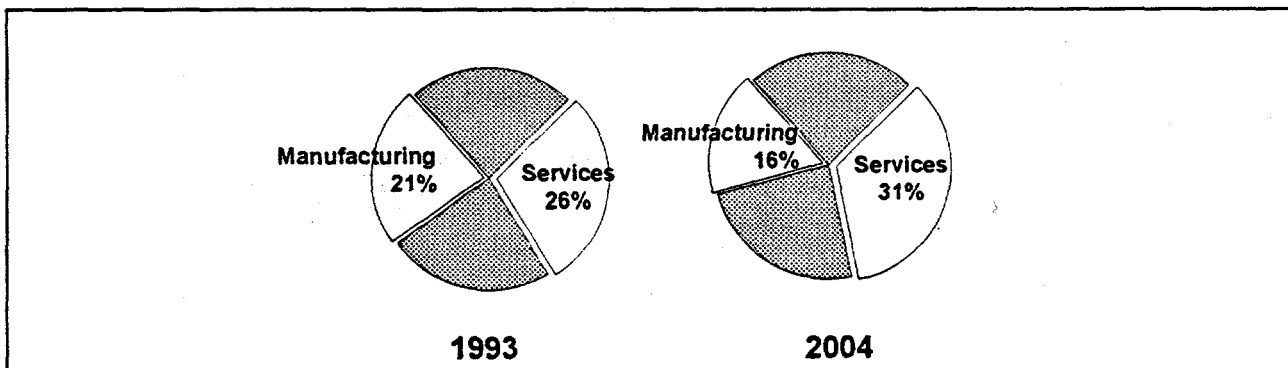
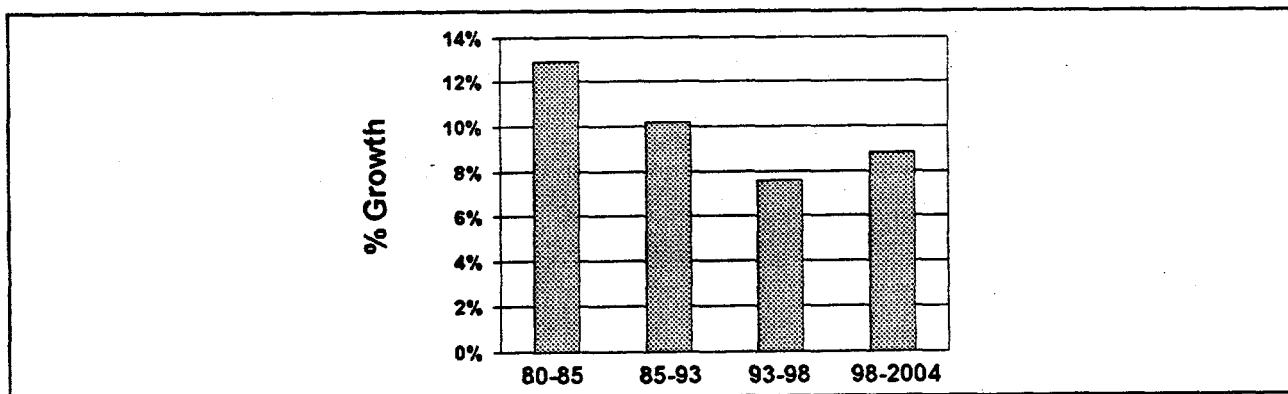


Figure II-C
Per Capita Income



It is important to point out that these forecasts are based on macro factors subject to change. Furthermore, they do not take into account local interventions in the economy that could be expected to have impact on the region's ability to create jobs. Nevertheless, the best available information suggests that unless the region takes steps to enhance its ability to create jobs, the future could be one of a employment shortfall. In such a situation, local job seekers would find limited employment opportunities and could be forced to seek employment outside the region.

III. A New Economic Vision

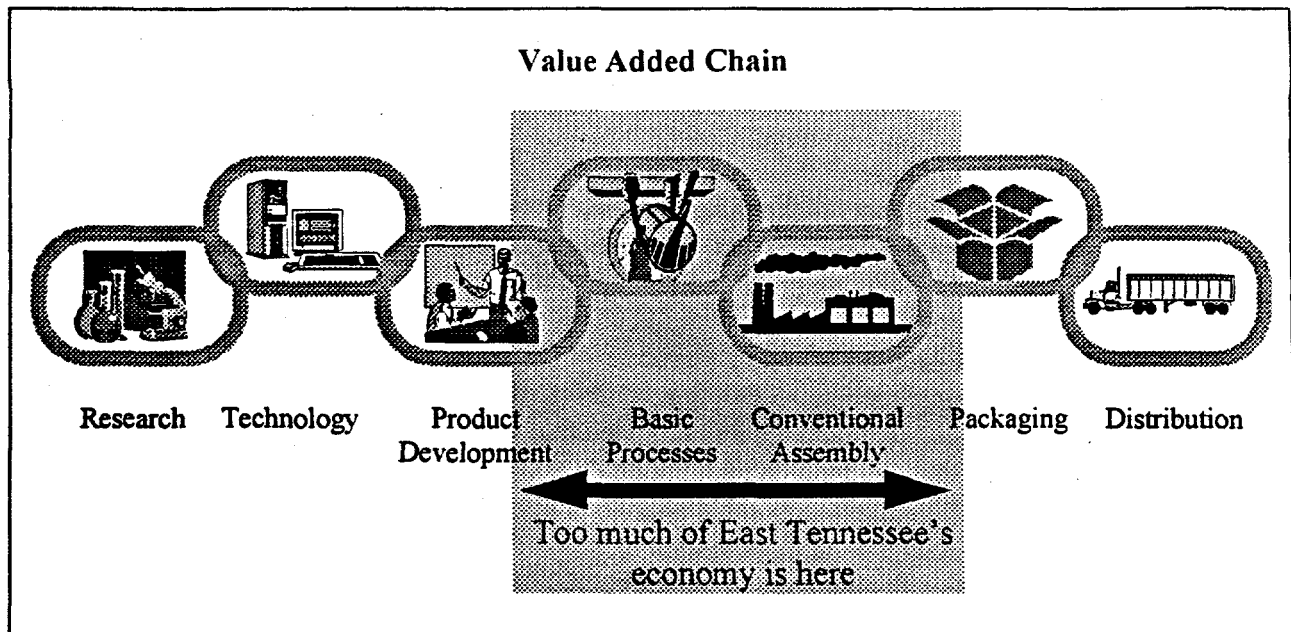
This report concludes that East Tennessee has the essential ingredients for building an advanced, technologically-intensive economy. It has an existing economy with growth potential. It has a strong institutional base in science, technology and information. It has a lifestyle attractive to residents, as it will be to talented people that could be attracted from other regions. And finally, it has energized leadership to make the most of these advantages.

What is needed now is an exciting vision of a economy "on the move"—one that is evolving from traditional kinds of economic activity to one that is better integrated, and better supported with technology. East Tennessee needs an economic vision that can further galvanize leaders and the general public alike, one that can help forge a regionwide consensus for moving the economy forward with coordinated, strategic action taken in both the public and private sectors.

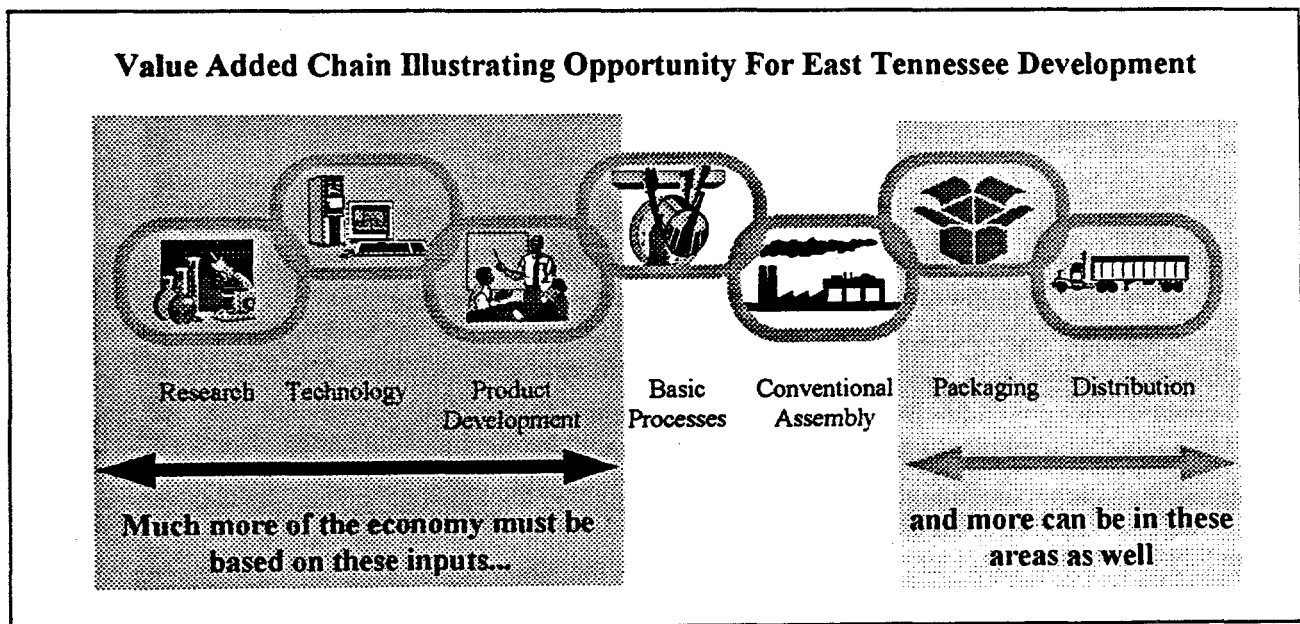
What is an achievable vision for the region? This report finds that East Tennessee can become an advanced 21st Century economy, one made distinctive by its ability to adapt quickly to global opportunities, by its manufacturing and services cluster structure, by its specialized economic foundations (especially its science and technological base) and by the ability of its leaders to work together to solve problems and take advantage of opportunities.

For any region the key to sustaining economic growth lies in the ability to continuously add value to goods and services produced (or shipped through) the region. In a simple formulation, this means having the capacity to add innovation or information (e.g., technology) to a product or service making it more valuable in the marketplace. The figure below illustrates a value-added chain having basic science and technology at one end and finished products, distributed to end users at the other end. While it is unlikely that a regional economy will be strong across the entire value added spectrum, the challenge for any economy is to add as much value as possible along the chain and, as a result, reap the economic rewards stemming from wide-ranging economic activity.

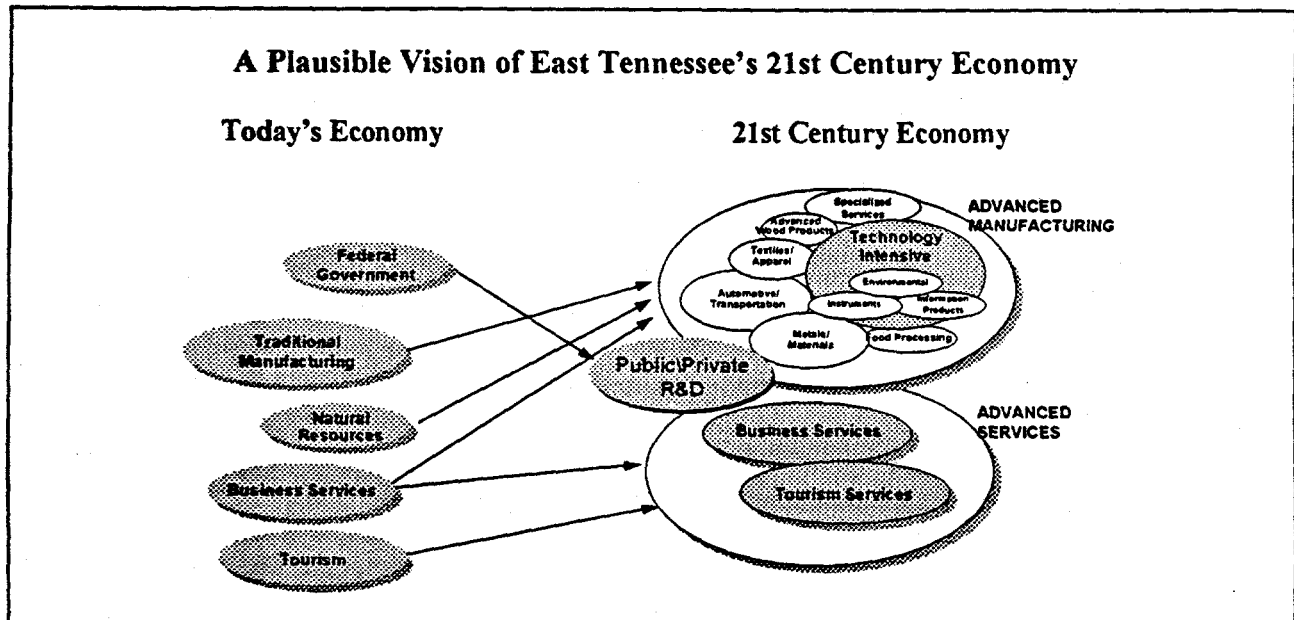
The shading in the figure illustrates the area of the value added chain that much of East Tennessee's economy commands. For the most part, the region's traditional manufacturing economy produces at the middle. Some new product development occurs, in the technology-intensive cluster and others as well, and plenty of basic processing (e.g., textiles, metals, food) and assembly (e.g., auto parts) occurs throughout the economy in other clusters. Overall, however, this report finds that too little of the region's economy is built on, or linked to the significant scientific and technological resources illustrated in the value added chain, even though the region is richly endowed with 20,000 scientists, engineers and technicians employed at the Oak Ridge complex, within the University and at TVA and other sources of R&D.



The next figure below shows the area of the value added chain that, if built on and linked to the East Tennessee economy, would pay huge dividends in the form of more technologically advanced processing and assembly. Certainly, East Tennessee's 21st Century economy will need to capture more value added at both ends of the chain, but especially by diffusing science and technology throughout the economy. With the changes now affecting Oak Ridge, TVA and the University's research agenda, now is the time for leaders to take the steps possible to capture more value added by linking sources of science and technology to the region's clusters.



The next figure illustrates the concept of building a more technology-intensive economy by leveraging the Federal government research base in ways that can change the structure of East Tennessee's economy. This report argues that for the economy to become more competitive and more technologically advanced, Federal scientific and technological "enterprises" represented mostly by the Oak Ridge complex (but also TVA and government supported research at the University) must evolve from its historic mostly *independent role* and become more diffused throughout the region's economy.



The time is ripe to build public-private R&D linkage mechanisms to speed the diffusion of technology into the local economy. Already there are signs of change, especially with the establishment of user groups such as the Centers for Manufacturing Technologies (and its Skills Campus). Of course, there are also the activities of the LMES Office of Technology Transfer that are focused, in part, on diffusing technologies into the region's economy. DOE has also recently made a large tract of land available in Oak Ridge for an industrial park. And the University has several mechanisms for diffusing technology into the region.

But these efforts are all on *the supply side of the supply-demand equation*. To date, most technology transfer efforts in the region have been designed to "push" technology into the economy (e.g., both the University and Oak Ridge have attempted to communicate technology availability to local firms). In the context of today's challenges, instead of continuing to try to push technology into the economy where there may be little capacity to take advantage of it, a better approach is to enhance both "technology push" (where most efforts have been focused to date) and especially "technology pull." Among East Tennessee's challenges for the future is to significantly strengthen the demand side (e.g., technology pull) of the equation.

For technology transfer to be successful, a market-based approach is required. By strengthening the marketplace for technology in East Tennessee, enhancing the capacity of clusters and entrepreneurs to use technology, the pull of the marketplace would accelerate the process of

technology transfer and commercialization and strengthen the economy overall. Doing so will require more entrepreneurship, more risk capital, and more information about technology-intensive business opportunities throughout the economy,

The figure above illustrates how today's economy, comprised of five largely independent kinds of economic activity, can transform into a more technology-intensive economy, comprised of more complete clusters than exist today and new clusters that can grow from the technology base of the region. Leverage for this transformation can come from market forces, especially if the sources of technology supply (e.g., public R&D centers) and sources of technology demand (e.g., existing and future clusters) are linked through new public-private R&D mechanisms designed for more effective technology commercialization.

Although the structure of the region's future economy cannot be predicted with great accuracy it is reasonable to assume that, with strategic actions, more cluster integration and more technology diffusion into the economy is possible. Efforts to integrate the economy through clustering and linking of clusters (e.g., textile/apparel producers making seat belts and airbags for the autos/transportation cluster) can be achieved by strategic industrial recruiting, business expansions/spin-offs, and new business formation. More diffusion of technology into the economy can be achieved through efforts to help the Federal government part of the economy both provide and help apply technology and know-how to clusters. Potentially, spin-off user groups or parts of user groups from the Federal sector could also be done in ways that could add value to existing and fledgling clusters (e.g., spinning off ORCMT resources and linking them to clusters as intermediaries, between the public and private sectors). Spin-offs could also include individuals from the laboratory environment who, with proper support, could establish entrepreneurial start-up companies based on technologies developed in the region (or brought into the region from outside sources).

IV. Moving to Action: Flagship Initiatives to Achieve an Advanced 21st Century Economy

Flagship Initiatives

Building on the findings and conclusions before, this section of the report sets forth several "Flagship Initiatives." Based on the analysis, it is felt that these Initiatives, when implemented, could have profound mid- and long-term impacts on the region's economy and ability to generate jobs.

The Flagship Initiatives have emerged over the past several months, shaped by the economic analysis, by input from 8 Cluster Working Groups as well as by "best practices" and program models from other communities. Information and ideas gathered in interviews, small group meetings and working sessions of the Tennessee's Resource Valley Board of Directors have also contributed to the process that has culminated in the formation and shaping of the Flagship Initiatives.

The Flagship Initiatives recommended for immediate action leading to implementation are as follows (additional detail, sources of leadership and implementation plans are contained in the main report):

Flagship Initiative #1. 21st Century Workforce Initiative: Make East Tennessee's Job Skills World Class

Key Components:

- Enhance School-to-Work Transition
- Establish Education/Employment Standards
- Develop "Rapid Response" Training Mechanisms
- Explore the Establishment of "Teaching Factories" at Underutilized Federal Facilities
- Create Cluster Consortia for Workforce Development

Flagship Initiative #2. Entrepreneurial Valley Initiative: Steps to Enhance the Climate for Entrepreneurship

Key Components:

- Enhance entrepreneurial education and training
- Provide mechanisms for mentoring and counseling
- Establish a forum for exchange of ideas, concerns and to provide peer support

Flagship Initiative #3. Technology Startups Initiative: An Initiative to Establish the East Tennessee Capital Network

Key Components:

- Establish a mechanism for teaching potential entrepreneurs how to write business and financial plans
- Establish a set of community investment criteria and communicate them widely throughout the region
- Establish a process of periodic forums to enhance the due diligence process
- Provide an efficient process of matching entrepreneurial opportunities with investor interests

Flagship Initiative #4. Market-driven Technology Development: Steps to Accelerate the Commercialization of Resource Valley Technologies**Key Components**

- Establish a Resource Valley Technology Commercialization "Action Alliance"
- Establish a process of quarterly "Regional Roundtables on Innovation and Technology Partnerships"
- Establish a process for market analyses of existing technologies
- Establish a Knoxville Riverfront "Resource Valley Technologies Pavilion"
- Establish a region-wide "virtual" Innovation Center

Flagship Initiative #5. Resource Valley Connections: Actions to Move People, Goods and Information in the Valley and Beyond**Key Components**

- State-of-the-Art Communications Systems Linking the Region
- Comprehensive transportation planning and a regional "Ring Highway" system
- Airport Development Linked Explicitly to Economic Development Objectives
- A Regional Transportation Research Center

Flagship Initiative #6. Market the Region: Promote the Next Generation East Tennessee Economy**Key Components**

- Develop New Marketing Themes
- Develop Approaches to Fund the Campaign
- Implement Cluster-Based Approach to Economic Development Regionwide

Cluster Initiatives

The Flagship Initiatives recommended above are only one set of two sets of recommendations. In order to draw into the project the insights and experiences of leaders whose firms or organizations are a part of the eight clusters, the project implemented a working group process that ultimately involved 20-50 individuals from each cluster. In all, more than 300 leaders from the public and private sectors were involved in the process. Meeting three times for a half-day working sessions, these leaders accomplished several tasks that contributed directly to the project.

Thirty additional recommendations have been developed through this process. Each Working Group Initiative is supported by an implementation plan and many have "champions" poised to move the recommendations forward. The recommendations from the Working Groups are listed in the Table that follows. (All Working Group Business Plans are contained in a separate report—Appendix A to the main report.)

It is envisioned that most of the initiatives developed during this process will move toward implementation through the efforts of the working groups themselves, each one led by a "champion." In some cases the initiative will move forward as a part of larger "Flagship Initiatives" discussed above. In other cases, the plans will move toward implementation through the efforts of specific groups who have been named in the business plans.

Cluster Working Group Business Plans

Automotive/Transportation Cluster

- A-1 - Skills Needs Assessment
- A-2 - Automotive Curriculum Development
- A-3 - "Just In Time" Training Availability
- A-4 - Industrial Outreach To Primary And Secondary Education
- A-5 - Automotive Industry QS9000 Registration Program
- A-6 - Database Of Funding Sources For Early-Stage Business
- A-7 - Maintaining The Energy Advantage
- A-8 - Automotive Industry Information Clearinghouse
- A-9 - East Tennessee Automotive Suppliers Association

Business And Financial Services Cluster

- BS-1 - Business Services Skills Training
- BS-2 - East Tennessee Risk Capital Network
- BS-3 - Downtown Knoxville Business Promotion

Forest Products Cluster

- F-1 - East Tennessee Forest Products Development Network
- F-2 - Forest Products Action Plan For Sustainable Forest Use
- F-3 - Forest Product Industry Technology Consortia

Textile And Apparel Cluster

- TA-1 - Resource Valley Textile And Apparel Association

Technology Intensive Products And Services Cluster

- T-1 - Information Technology Industry Association
- T-2 - Information Technology: Implement A Regional Broadband Infrastructure
- T-3 - Information Technology: Shared Benefits Program For Small Business
- T-4 - Information Technology: Education Partnerships
- T-5 - Manufacturing Technology: 6-12 Education Outreach
- T-6 - Manufacturing Technology: Regional Manufacturing Association
- T-7 - Environmental Technology: Environmental Technology Web Site And Information System
- T-8 - Environmental Technology: Public Relations Mechanism For Environmental Industries
- T-9 - Health Technology: Health Technology Network

Agriculture And Food Products Cluster

- AF-1 - Industry To Education Outreach
- AF-2 - Freezer Warehouse Infrastructure

Metals And Materials Cluster

- M-1 - Metals And Materials Financing Organization
- M-2 - East Tennessee Composite Materials Association

Tourism Cluster

- TO-1 - Comprehensive Tourism Development Plan

V. Implementation Strategy: Moving from Plans to Action

East Tennessee has numerous economic development organizations, many of which could be tapped for specific implementation roles. East Tennessee needs to put these organizations (e.g., chambers of commerce, cities, counties) to work on the implementation of the Flagship Initiatives, in ways that match their missions and capacities. And while there may be several ways to mobilize these resources for implementing the recommendations of the 21st Century Jobs Initiative, the best way is to assign an appropriate implementation role to existing organizations according to how well an initiative fits the mission of the organization and rely on each assigned organization to move the initiative forward.

However, without some kind of central mechanism to coordinate and monitor implementation, there will be a risk of responsibilities falling through "the cracks." To ensure that the implementation process moves ahead, East Tennessee's leaders should begin the process of establishing the Resource Valley Network (RVN) as soon as possible. RVN should be a "virtual organization," meaning that it should be a collaborative effort of existing organizations in the region whose mission is economic development and job creation. RVN should not have cumbersome bureaucratic baggage like its own Board of Directors, budget and offices. Instead, RVN should rely on members of the network to commit to carry the implementation work of the 21st Century Jobs Initiative forward. Members of RVN should include each organizations that has agreed to participate in some way in the implementation of the project's initiatives (each Flagship Initiative section in the report mentions the possible sources of leadership for implementation). Moreover, RVN should also include as members the cluster consortia recommended in the area of workforce development and technology commercialization.

At the outset, Tennessee's Resource Valley will need to serve as the *secretariat* of RVN, at least through the second year of the DOE grant that supports the 21st Century Jobs Initiative. Functions during this period will include overall leadership of the project, coordination of Flagship implementation, provision of clearinghouse activities for the cluster initiatives, monitoring of implementation progress and serving as a continuing source of information about the project.

During the second, implementation year of the grant, further thought can be given to the best mechanism to continue the project. At this point, however, it seems that TRV is best suited to play a continuing catalytic role in the region for wide-ranging economic development initiatives, in particular, the 21st Century Jobs Initiative.

VI. Conclusion

Although East Tennessee enjoys a strong economy today, with especially low unemployment in much of the 15-county area, the region faces an uncertain future. This report has argued that new economic realities in Washington, DC and economic restructuring in the US and in the region itself suggest that job creation in the future will be harder to come by than was the case in the past. In order for the region to be well-positioned for new job creation, new approaches to economic development are required.

With this strategic plan, East Tennessee has a "road map" to guide decisions in the public and private sector over the next several years. By pursuing the vision of a technology-intensive economy, and following the 3-part strategy set forth in this report, East Tennessee will be taking important steps to intervene in the trends and start the process of building the foundations for a competitive 21st Century economy. The Flagship Initiatives, as well as the Cluster Working Group initiatives, comprise a set of actions that can be taken over the next several months to kick-start the process of change. Over the next 10 years, this plan and approach to economic development is one that should ensure that the region makes the most of its economic opportunities.

A NEW VISION FOR EAST TENNESSEE:

*Build a 21st century economy
that is driven by our advanced technologies
and unique lifestyle.*

FIVE BIG IDEAS TO HELP ENSURE EAST TENNESSEE'S FUTURE SUCCESS

1. Educate and train a world-class workforce

Strengthen business/education partnerships to build the most effective school-to-work program in the nation.

2. Grow the jobs of the 21st Century

Improve access to capital, markets and business resources to create a valley of entrepreneurs.

3. Make Oak Ridge's technology more accessible

Use our region's advanced technologies to help our existing and new businesses compete in the global marketplace.

4. Connect the Valley to the world

Provide highways, air routes and communications networks to move workers, visitors, freight and information into, out of and around East Tennessee

5. Market East Tennessee as the place to be

Promote our natural and man-made resources to businesses and visitors, marketing our technology and tourism.

