

**Building Bridges to Excellence:
Education and Business in Chattanooga**

Chamber Speech Text

Thank you, Tom Edd, Trevor, Diane, Jed, Lori, and all of the Chamber staff. It's a great honor for me to be invited to give the Annual Meeting address. Tom Edd Wilson was the first person from the community that Carolyn and I met when we arrived in Chattanooga on June 15. We were immediately impressed with the quality of leadership in the business community in Chattanooga. The Chamber staff are outstanding, and when we learned that Tom Edd and Barbie are great dog lovers - like we are - it was an instant friendship. Today, there are so many distinguished leaders here from business, industry, foundations, education, healthcare, nonprofits and government that I will not attempt to name all of you. I am honored to see all of the elected officials from the region, Mayor Littlefield, Mayor Ramsey, Congressman Wamp and his staff, Senators Frist and Alexander's staffs, the corporate leaders, our colleagues in the colleges and schools, and of course my friends from UT Chattanooga, the University of Chattanooga Foundation, and the University of Tennessee system. Please let me thank you all for being here and for your warm welcome to this wonderful city. I am convinced that I have one of the best jobs in the country, and I have the world's best partner, my wife Carolyn ---even if she is vertically challenged. We both are grateful for your friendship.

Now,...I do not intend to be pessimistic nor negative in my remarks today, but I do have to confess that sometimes the world is a scary place. For example, who knew that they play football in WEST Tennessee?? When they said that UTC would be playing in Memphis, I assumed that we would be playing the blues, or playing at a convention for Elvis impersonators. It turns out that they have a pretty fair country football team down there, too.

And speaking of scary topics, we all hear about urban crime, urban poverty, ...and now we have to start worrying about Urban Meyer. It just doesn't seem fair!

The theme that I have chosen for today's talk is "Bridges to Excellence," and it is of course a recognition of the importance of the structures that span the rivers and creeks around the Scenic City. You have been viewing images of the bridges of Chattanooga taken by photographer Sean Loftin of UTC's

Office of Public Relations. And, I was extremely pleased that the Mayor Littlefield, Mayor Ramsey, and the citizens of North Shore decided to hold a parade across the Market St. Bridge this weekend just to promote my speech today!

Bridges have become deeply ingrained in our everyday speech. “We will cross that bridge when we come to it,” “That guy will try to sell you the Brooklyn Bridge!” Bernard Baruch said, “We can't cross that bridge until we come to it, but I always like to lay down a pontoon ahead of time.” Nikita Krushchev once said, “Politicians are the same the world over. They promise to build a bridge where there is no river.” Well, Nikita should know...he was one of the worst offenders!...

Bridges also can tell us some essential truths about the challenges and opportunities that are before us here in Chattanooga and, indeed, in the United States today. This is a wonderful city with natural beauty, a spirit of forward movement, and a strong sense of place and tradition. But we will also face strong challenges here that will sometimes rival even the historic episodes that have shaped the city for the past two centuries. Chattanooga is poised for an incredible future. But the world is full of people and cities who have left great opportunities unfulfilled. It will not happen automatically, and we are the ones who must step up to seize these chances for greatness.

Our famous bridges are a good metaphor for the steps that we will all need to take together to meet these emerging challenges. I have learned that the first bridge spanning the Tennessee River in Chattanooga was built by Union soldiers during their occupation of the city in 1863. Those crude bridges from Brown’s Ferry to Moccasin Bend and to the town of Chattanooga allowed for transport of military supplies, but also opened up land for development that had sat vacant since the Cherokee removal along the Trail of Tears. Apparently, even Mother Nature didn’t want a Yankee bridge in Chattanooga, however, and the span was washed away in 1867 by the worst flood in Chattanooga history. Population in 1865 was 5,776, more than doubled in the five years during the war.

Walnut Street Bridge was erected in 1890, connecting Chattanooga on the south with Hill City (in Hamilton County) on the north. This ended the ferry’s monopoly and ushered in the automobile age. It also expanded business opportunities, widened scope of churches, schools, and healthcare.

By 1909, there were 250 automobiles in Chattanooga. Population in 1900 totalled 30,154.

More and more Chattanooga residents demanded greater access to both shores, and in 1917, the Market Street Bridge was opened.

With the opening of the two bridges, another opportunity introduced itself—automobile dealers. One even accepted a bicycle as a downpayment. Horse traffic was legislated off main streets downtown.

In 1940, Chattanooga again was transformed by a bridge, this time Thrasher Bridge atop the Chickamauga Dam. The Tennessee Valley Authority, called by some “America’s greatest peacetime achievement,” brought economic vitality to the region through low cost hydroelectricity and recreational and commercial development along a newly created waterfront.

In 1951, Mayor P.R. Olgiati became a pioneer for urban renewal and planned development in Chattanooga, and he insisted that part of that plan include another bridge across the river. And again, progress was not far behind. He pushed for completion of interstate highways, the removal of downtown rail yards, and a plan to give the city a new face of steel and concrete. Mayor Olgiati planted the seeds that took root and continue to guide our community today in urban planning, particularly the notion that the city’s social and physical problems are shared by all, and the solutions benefit all.

Veteran’s Bridge has allowed the development of the North Shore as a thriving commercial and residential district.

So, the story of Chattanooga’s economy is tied inseparably to the development of our bridges.

But we must not forget that bridges also can *bring* all that is on the other side to us...both the good and the terrible! In the first decade of the 21st Century, we already have witnessed marvels and wonders unimagined a few short years ago. And, we have witnessed horrors and tragedies that came into our formerly safe world to shock and stun us into grieving silence. Some of the bridges that we have crossed can never be re-crossed in the other direction. Knowledge of the evils of world terrorism and the destructive power of natural disaster and war cannot be erased from our collective consciousness. But neither can the wonders of medical breakthroughs and our new

understanding of the essential nature of our universe. We are in a type of “Brave New World,” and now that we have crossed these bridges, we are left with the obligation, duty, and opportunity to explore and improve the world we have for those who will cross after us.

At a meeting of university presidents in Montreal this summer, Carolyn and I heard a brilliant policy analyst by the name of Erik Peterson from the Center for Strategic and International Studies describe what he calls the “Revolutions” that will shape our world from now to 2025. Each one of them represents a threat to the stability of our world and also challenges us to prepare to turn the threats into opportunities. A few of Peterson’s “Revolutions” are: world population and resource management; technology and information flows; global economics; and conflict. Let me briefly share some of Peterson’s thoughts and predictions. I will also bring them closer to home using some facts about our region gathered by our own brilliant policy analyst, David Eichenthal of the Community Research Council. Then I will suggest ways that UT Chattanooga and our other higher education partners are -- and will continue to -- build bridges to an even better future:

Revolution: World Population and Resources

Currently at 6.30 billion, the total world population will grow by almost two billion by 2025. Eighty percent of the world's population will be in countries least capable of supporting further population growth.

However, overall, population growth will begin to slow. According to the latest estimates from the United Nations, the global population could stabilize in the year 2100 at about 11 billion people.

The population of the developed world is contracting. At least 33 countries across the world are expected to be substantially smaller and older than they are today, including Russia, Germany and Japan.

For example, due to the combination of a high mortality rate and low birthrate, Russia is depopulating at the rate of 2225 people a day...

Eight countries--Bangladesh, China, India, Nigeria, Pakistan, the United States, Ethiopia, and the Democratic Republic of Congo --will account for one-half of all world population growth through 2050...

The combined effects of population growth and income growth are expected to double global food consumption in the next 30 years...but the biggest problem will not be availability but distribution and allocation. All we have to do to understand this problem is think of New Orleans after Katrina...there were tons of supplies and medicines, they just weren't getting to the people who needed them to survive...

Despite dire predictions, starvation has declined drastically since the end of the Second World War. The issue now is whether increases in productivity can keep up with rises in population. This issue involves not just global food production, but also the availability and distribution to specific food-deficient regions throughout the world. In light of diminishing land resources, new advances in biotechnology--and shifts in public attitudes--may be necessary to avert severe dislocations.

The most serious resource challenge in 2025, many believe, might be the scarcity of water. In a number of geographical areas, populations are growing as freshwater availability is declining, including in the American Southwest. The effects of this widening imbalance include poor sanitation and public health, inadequate irrigation, and profound geopolitical implications.

In Chattanooga, we have about 156,000 people in the city and 309,000 in the county. Fifteen percent of those city residents are aged 65 and over. That percentage will increase. Total population growth from 1990 to 2000 in the city was only 1.8 % and in the county only _ % between 2000 and 2003.

In Chattanooga in the last Census, 18% of our citizens lived below the federal poverty level.

42.6% of students in Hamilton County Schools in 2002-2003 qualified for free or reduced price lunches.

Health impacts are related: In 2002, the age-adjusted rate of deaths from heart disease per 100,000 population in Tennessee was 284.7. According to the American Heart Association, Tennessee had the third worst age-adjusted heart disease death rate in the nation in 2000.

The county rate is decreasing despite the growing 65 year and older population. But still heart disease is the number one cause of death in Hamilton County as well as in Tennessee and in the United States.

Bridge to a Healthier Community

Some of the partnerships we are proud of at UTC:

Chattanooga Health and Performance Institute—partnership between UTC and a coalition of local healthcare providers to support research in healthcare provision and wellness.

Athletic Training—operates with a partnership between UTC and a series of local health care providers and other sports users, such as Hamilton Sports Medicine, Memorial Hospital, McCallie School, Baylor School, Center for Sports Medicine, and Hamilton County Schools. UTC students gain experience performing athletic training functions and the providers extend their staff and services with the partnership

Several faculty members offer CPR and first aid workshops for local school teachers, church groups, and day care center staffs

UTC has a campus liaison for the Susan B. Koemen Race for the Cure, a showcase event for our community

Gene Ezell receives state funding to provide HIV/AIDS education to health care workers and educators across the state.

With support from the Centers for Disease Control, UTC has entered into a partnership with U.S. Express to provide health assessments for their employees, with particular emphasis on obesity and overall wellness. In support of the notion that a healthier workforce is a more productive workforce. It is in the interest of businesses to be concerned about the health of their workers.

New Occupational Therapy Program in partnership with Siskin Rehabilitation Hospital and UTHSC, and others

Bridge between the generations

UTC faculty and staff know that Chattanooga and Tennesseans will have:

Longer working lives

Greater age diversity in the workforce

Necessity of understanding each other as valued colleagues

We already provide lifelong learning opportunities through Elder Scholars, and other programs that are accessible, relevant, and grounded in our community. We will continue to build such programs to serve the needs of all members of the community – the young and older alike.

Revolution: Technology and Information Flow

Computation: We should expect continued remarkable increases in processing speeds, especially as advances in molecular and quantum computing find practical applications. In addition to achieving new speeds, computers will become ubiquitous--throughout our workplaces and our homes (if those are not the same thing), on our bodies, and even in our bodies.

Genomics: In genomics, the first wave of advances will change the face of medicine by generating new levels of genetic diagnosis, new methods of genetic therapy, and, by 2025, germ-line therapy--which, in effect, will give us control over our own heredity. In addition, advances in the area of proteomics, the study of the body's proteins, will widen the pool of new medicines and cures.

Nanotechnology: The world is on the threshold of a period in which products will be far lighter, far stronger, and far more efficient. Current applications of micro-electro-mechanical machines are already extensive, ranging from controlling operations in cars to use in a variety of medical procedures. There is expected to be a movement from this technology to the molecular and even atomic levels. This will revolutionize materials science, chemistry, and physics. If you have children or grandchildren under the age of ten, the introduction of genetic medicines and therapies could help many of them live to be 120 years old, maybe older...

According to Dr. Ralph Merkle, a leading nanotechnologist, "Nanotechnology will replace our entire manufacturing base with a new, radically more precise, radically less expensive, and radically more flexible way of making products"...

IBM has just produced, with organic molecules, a computer circuit so small that 200 billion of them could fit on a thumbnail...

Here in Chattanooga, these technology issues must translate directly into jobs.

Hamilton County experienced negative job growth in 2001 and 2002. Percentage net job growth for 2002 in Tennessee was -0.9%.

In 2001, the number of jobs in Tennessee decreased from by 41,549 to 2,602,082. In Hamilton County, the number of jobs decreased by 1,980 to 185,774.

Bridge between the old economy and the new Knowledge Economy

- **Focus on agility and innovation – in higher education, as well as in business**
- **New jobs/ careers will occur at an ever faster rate – and UTC will anticipate them and be ready to prepare our students for them**
- **Examples of emerging projects in Chattanooga that are collaborations of industry, government, and educational institutions like UTC**
- **Recent meeting with TVA Chairman Bill Baxter and key UTC staff that might in the near future result in UTC's use of the TVA test track/ATTI; hydrogen fuel cells; transportation efficiencies.**
- **healthcare efficiencies – President Vickie Gregg and I have had some exciting conversations about ways that we can join forces in a BC/BS partnership with UTC to find cost reductions in insurance claims processing through advanced information and data management techniques.**
- **Links between UTC and Oak Ridge National Labs over super-high-speed internet connections (SimCenter and College of Engineering will lead, but the sciences, math, nursing, and education will also develop these critical resources)**
- **Partnering with the Enterprise South, the Enterprise Center and other economic development agencies to deliver new industries and high-paying jobs to the Valley**
- **Lifelong education and intercollegiate partnerships will be essential (UTC partnerships with pre-K – 12 schools, Chattanooga State, Cleveland State, UT – Memphis; Governor's pre-K initiative)**
- **UTC \$3.6 mil grant for Early Childhood Education**

- **Distance education programs; professional certificate programs, taking the education to our students where they are, at home, at work, on the road, or in Iraq**
- **List of 50 companies, gov. agencies, and non-profits who are hosting UTC interns right now. To name just a few --:**

Tennessee Valley Authority
Dow Chemical
Alco Chemical
DuPont- Chattanooga and Dalton
Dow Chemical- Dalton
Fuji Hunt- Dayton, TN
Electric Power Board
Alstom Power, Inc.
Trane Company
Olin Chemical
Island Inkjet
Buzzi Unicem USA (formerly
Signal Mountain Cement)
Coptix, Inc.
Decosimo and Company, CPA
Tecumseh Products
Shaw Industries
Chattanooga Nature Center
McKee Foods
Microsoft (Washington State)
Sofix Corporation
CTI
Advanced Technology Ceramics
Roper Corporation
Senator Bill Frist's Office
Evergreen Management
Komatsu
eSpin Technologies
Heil Environmental Industries
Internal Revenue Service
Hazlett, Lewis & Bieter
Fast Design Technologies

Parkridge Medical Center
Erlanger Health System
Memorial Hospital System
Siskin Rehabilitation Hospital
Ondeo Nalco
Bunge Foods
NA Industries
First Cumberland Childhood
Development
Hamilton County G.I.S.
Department
Hamilton County Planning Agency
Local YMCAs
St. Jude Children's Research
Hospital (Chattanooga clinic/office)
Student Conservation Association
(locations throughout country)
Walt Disney World (Orlando, FL)
(F.E.A.T.) Families for Early
Autism Treatment
First Cumberland Childhood
Development Center
Northside Neighborhood House
Tennessee Aquarium
The Washington Center (internship
placement sites- Canadian
Embassy, Congressman Harold
Ford's Office, UN High
Commission on Human Rights,
Environmental Protection Agency,
First Book)

Bridge to “technology literacy”

“World is Flat” realities

Thomas Friedman in an “Amazon.com interview” states: “What I mean when I say that the world is flat is that sometime in the late 1990s a whole set of technologies and political events converged—including the fall of the Berlin Wall, the rise of the Internet, the diffusion of the Windows operating system, the creation of a global fiber-optic network, and the creation of interoperable software applications, which made it very easy for people all over the world to work together—that leveled the playing field.”

To illustrate Friedman’s point, when Carolyn and I traveled in China over the past few years, we were stunned to see the pace of economic development and the work ethic that the 1.2 billion Chinese can bring to global competition. Buicks that cruise the streets of Beijing and Shanghai are being built by General Motors in China!

We must take steps to see that the new 3 “R’s”: Math, science, critical thinking, are mastered by all American students

Therefore, there is an urgent need for UTC to be engaged in corporate/ industrial, foundation, and government linkages as well as with pre-K through 16 educational institutions to train and retrain the next generation of Edisons, Fords, Gates, Guerrys, DeCosimos, Probascos, Johnstons, and Luptons

Pre-K – 16 education in America must be our new “space race” – In 1957, Sputnik electrified and energized this nation into a program of educational activity in mathematics and the sciences. What will be our response to the seven revolutions I described? Can it be any less?

In Chattanooga, the percentage of persons with a B.A. degree or higher was 21.5 % in 2000. In Hamilton County, 24% had a college degree. This compares to a total of 28% of all Americans who hold at least a bachelor’s degree. The attainment of a college degree now accounts for nearly doubling the income potential over those with a high school diploma according to recent U.S. Census Bureau data. Workers 18 and over with a bachelor’s degree earn an average of \$51,206 a year, while those with a high school diploma earn \$27,915.

Revolution: Global Economics

We all love to make fun of economists, ...and I am no exception!

My favorite quotes about economics:

Sign on an Economists Wall – “Practice economy at any cost.”

Definition: Economics is the painful elaboration of the obvious.

Talk is cheap. Supply exceeds Demand.

Advances in technology have not only increased the scope, speed, and efficiency of business operations worldwide, but they have also brought down the costs of distance by gradually eliminating the burdens of communication, geography, transportation, language, and even time. The result has been a staggering increase in the cross-border flow of goods and services.

Benefits of Globalization: The aggregate output growth rate has steadily increased an average of more than 3.6 percent annually in the last 25 years, and we expect the trend to continue through 2050. The benefits of this level of integration apply to developed and developing country alike. In fact, the United Nations Development Program maintains that developing countries have achieved in 30 years what the industrialized nations took 100 years to accomplish.

However,

Global Inequities: The obstacles to continued economic development are tremendous. A staggering 2.8 billion live on less that \$2 a day. In fact, 1.2 billion live on less than \$1 a day. The evidence suggests that these income gaps are widening, not closing.

The global economy has skyrocketed to \$47 trillion, over four times the level in 1975, and is expected to continue to grow at the average annual rate of 3.6% or higher...

The accumulated wealth of the 225 richest individuals in the world is equivalent to the combined annual revenue of 2.7 billion people at the bottom of the global income ladder...

Revenues of the Wal-Mart Corporation in 2002 totaled \$246 billion, placing it significantly ahead of the entire GNI of Sweden (\$229 billion) and making it the 19th largest economic entity in the world...

Thomas Friedman, author of the “World is Flat,” said in an Amazon.com interview: “You can see from the acknowledgments [in my book]: my primary tutors were the heads of the IBM and Microsoft of India: Nandan Nilekani of Infosys and Vivek Paul of Wipro. I didn't go to the policy planning staff at the State Department. I went to the policy planning staff at IBM!”

Bridge to Global Competitiveness

We believe that students must have opportunities to study, learn, and live with persons from different backgrounds, cultures, and countries. Our International Programs are taking UTC students abroad and bringing international students to Chattanooga. We will do more to promote these opportunities. It will be essential for the business, education, government, and cultural arts careers our students will pursue over their lives. But it also will provide opportunities for international understanding and empathy that are so needed if our children are to address international hostilities, hatred, and terrorism. We cannot become a fortress behind a wall. On the positive side, these same international friendships will become the foundation for business and investment opportunities that will drive the global economy in the coming decades.

Bridge away from Conflict

- Ethnic, gender, and international diversity as characteristics of strength not conflict. I want UT Chattanooga to be a vital partner with the cultural organizations, the arts, government, and faith-based service providers to promote understanding and conflict management strategies**
- Understanding national security and preparedness without breeding hatred and resentment of other cultures, religions, and philosophies. New partnership between UTC and the National Council on Readiness**

and Preparedness. Conference here last week was the first in a national series to train state and local officials and related institutions about Emergency Preparedness and to promote security through strength.

In Conclusion: The world toward which we are speeding is filled with peril as well as promise. I believe that we need to build bridges both to respond to the potential threats outlined here and to turn those threats into opportunities for Chattanooga citizens and businesses. I pledge to you today to continue the work of my distinguished predecessors, most recently Chancellor Obear and Chancellor Stacy, in making sure that UT Chattanooga is engaged with its metropolitan community and beyond.

Promise to Chamber members -- I and my colleagues at the University of Tennessee at Chattanooga intend to be Builders of Bridges. We want to partner with all of you to meet the challenges and to chart the course forward.

Thank you very much.