The “Texas Model” for Public – Private Partnerships

Governor’s Industry Cluster Initiative
March, 2007
The Texas Industry Cluster Initiative is all about “collaboration, cooperation, and being market driven”

This model for partnering defines expectations for all partners, and drives “just in time” stakeholder collaboration
The Texas Model brings together five key partners to define and implement successful collaboration:

- Education and Training
- Industry
- Public Workforce System
- Government
- Economic Development
Industry Needs

- Community infrastructure for innovation
- Access to intellectual property
- Access to talent - students, graduates, full spectrum workforce
- Research
- Customized training & career development for employees
- Responsive partnership to meet changing needs
- High “quality of life” community
  - Good schools
  - Network of resources for innovation
Stakeholders

• Employers
• Labor
• Trade Associations
• Industry Foundations

Expectations

• Well-defined requirements for skills and competencies
• Quantified timelines for needs
• Must meet prevailing wage and benefit requirements
• Must be able to sponsor marketing, outreach, and educational efforts with partners
• Must act as the partnership “sponsor”
• Must be willing to intervene and “sell” industry careers to students and incumbent / entry level workers
• Must be able to articulate the business and social values of the partnership to the community
• Must provide management talent and resources to the partnership
• Must support the search for seed capital for outreach and incubation efforts
Workforce & Education Needs

- Resources for advanced planning responsive to changing industry trends
- Identification and definition of talent needs
- Support for initiatives that update policy and programs in response to skill definitions
- Commitment to view talent as an asset not a commodity
- Commitment to manage workforce transitions due to cyclical downturns
## Public Workforce System

### Stakeholders

- Local Workforce Boards and Contractors
- Oversight and Regulatory Agencies
- State Workforce Investment Council
- Governor’s Office and State Leadership

### Expectations

- Act as the “convener” of potential partners
- Recommend / implement enabling policies to promote public-private partnerships
- Be positioned to act as a liaison between state and federal programs
- Provide expertise and accuracy in determining current and emerging workforce needs
- Provide seed funding aligned specifically with the aims of public-private partnerships
- Provide policies and competencies that promote alignment through a workforce pipeline management program
### Education System

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Region/Community Needs

- Presence of employers and universities
- Leadership
- Quality of life improvements
- Partnership with university and community college systems
- Tax contributions to develop infrastructure
## Economic Development

### Stakeholders
- Texas Economic Development Council
- Local EDC’s
- Local and regional Chambers of Commerce
- Investor Community, including angel investors, banks, ETF, RCIC’s, TEF, etc.
- Incubators and accelerators
- Foundations
- Corporate economic development

### Expectations
- Branding and marketing of the Texas Model
- Regional partnerships
- Asset mapping competencies
- Local strategies and incentives
- Defined regional targets based on community capabilities and programs
- Intra-company mentoring
- “Best practice” based regional growth models
- Seed and growth capital
- Outreach capabilities
- Business development efforts
Government Needs

- Job growth for citizens
- Higher incomes
- New companies
- Expansion of existing companies
- High quality of life to support continued growth
Government

Stakeholders
- Federal, state, regional, and local governmental agencies
- Federal and state legislative bodies
- Local extra-governmental bodies

Expectations
- Consistent standards for and regulation of target industries
- Marketing strategies and activities that set a context for regional diversity
- Alignment of resources to consistent priorities and targets
- Seed funding to engage regional partners for retention and growth in target sectors
- Short-term sponsorship of demonstration programs
Knowing what partners can expect from each other will lead to faster and more effective partnerships

- Collaborative efforts lead to identifying the needs of **all** parties more quickly
- Virtual partnerships can gain the advantage of “timeliness“
- Partnerships can last as long as the need exists
- Collaboration can bring all the partners to the table earlier in the process

- Partnerships can evolve to sustain themselves and meet changing industry needs
Impact of the Health Care Industry

- Temple is home to three hospitals and the Texas A&M University College of Medicine Clinical Campus
- Health Care provides over 15,000 jobs
- Returns $750M to the annual economy
Rapidly Accelerating Commitment to Medical Research

While we were studying the little things we discovered a big future.

The CVRI is an outstanding example of Scott & White, the College of Medicine and the Veterans Administration hospital partnering together to create a whole that is greater than the sum of its parts.

Dr. Ronald J. DiPette, Director, Division of Vascular Medicine, Cardiovascular Research Institute
Thoughtful Planning: Health & Bioscience District / Scott & White Research Campus
Key Components

• Scott & White Hospital and Clinics
• Central Texas Veterans Health Care System
• Texas A&M HSC College of Medicine
• Cancer Research Institute
• Cardiovascular Research Institute
• Temple Health and Bioscience District
• Temple College
• Area School Districts
Compounding the Challenge

- National concern over declining postsecondary participation; a parallel concern exists in Texas
- State and national concern over the declining postsecondary enrollment in science and math
- Texas mandates 4 years of science at the secondary level; however, many school districts cannot deliver the curriculum - T-STEM initiatives are introduced
- As medical research expands in Temple, the availability of laboratory technicians to support research remains problematic
- Traditional programs such as Medical Laboratory Technology lose viability; Biotechnology emerges as a targeted industry for the State
Responding to the Need for a Trained Workforce in the Biosciences

With support from the healthcare community and a successful Department of Labor grant, Temple College initiated its transition into the Biotechnology arena, simultaneously laying the foundation for the new Texas Bioscience Institute.

Creating the future of medicine together.

Dr. Arthur Neufeld, Dr. Wally Deck, Dr. Leonel Vazquez, Dr. John McCallum, and Dr. Mary Nihabat

Working together to create an Advanced Technology Center is the new vision for the Scott & White Cancer Research Institute and Temple College. This will establish a hands-on training facility for students to become bioscience research workers and give them the opportunity to train with some of the world’s most prominent physician-scientists.

Located at the Scott & White West Campus in Temple’s Honeyman Tower, the Advanced Technology Center will allow students to experience the latest in laboratory science technology while helping to create breakthroughs in biotechnology research.

Scott & White and Temple College partnering for success, focusing on the future.
A Foundation of Exceptional Partners

- Scott & White Memorial Hospital and Clinics
- Central Texas Veterans Health Care System
- TAMU System Health Science Center College of Medicine, Temple Campus
- Temple Health and Bioscience District
- Temple Economic Development Corporation
- Region 12 Education Service Center
- US Department of Labor
- University of Mary Hardin Baylor

- Temple College
- Central Texas Tech Prep Consortium
- City of Temple - Reinvestment Zone 1 Board
- Tarleton-Central Texas
- Central Texas Workforce Board and Centers
- Belton, Temple, Killeen, Salado, Academy, Bartlett, Rogers, Troy and Holland ISDs; Private Schools, including Home Schools
Recognitions and Awards

- T-STEM “Early Innovator” grant and recognition
- Bayer Foundation STEM K-12 “Best Practices”
- Central Texas Workforce Board “2006 Exemplary Training Award”
- Texas Workforce Commission “Future Workforce” award to Scott & White
- Bellwether Award Winner in “Workforce Development” category for 2007
- Invited to become a member of the National Center for Biotechnology Workforce
- Selected by Carnegie Institute of Science to send a team to serve on a national Think Tank on Biotechnology Education
- Numerous Presentations: local, state, national
The TBI Umbrella of Programs

- Baccalaureate and Beyond
- B.S. Clinical Laboratory Science
- Apprenticeships (Animal Handling)
- A.A., A.A.S., Advanced Certificates
- Middle College (HS Dual Credit)
Flexible Curriculum Options

Degree and Certificate Options in Biotechnology
- A.A.S. in Biotechnology
- Advanced Technical Certificate (ATC)
- Enhanced Skills Certificate (ESC)
- Apprenticeships
A.A.S. Biotechnology

- Associate in Applied Science Degree in Biotechnology (Total of 71-72 hours)
  - 1st year courses provide foundation in math and the basic sciences
  - 2nd year courses focus on applied biotechnology
    - Internship provides specialized hands-on experience in a laboratory (e.g., medical research)

- Students prepare for work as technicians in medical research laboratories or other biotechnology industries
• Minimum AAS degree or junior level standing in related science field
• Biotechnology program courses from Year 2
• Internship in a research/ biotechnology laboratory
Biotechnology Internships

- Capstone or on-the-job internship in medical research or other biotechnology laboratory
- Cooperative effort between college, local medical research investigators, and biotechnology industries
Enhanced Skills Certificate

- Enhanced Skills Certificate (ESC) in Genomics/Proteomics
- Completion of AAS degree in Biotechnology
- Courses in Genetics, Genomics and Proteomics
Apprenticeship Programs

- One of the first apprenticeships in biotechnology!
- Prepares workers for employment in skilled and specialized biotechnology related occupations
- Supervised by an employer-mentor
- OJT combined with current, related technical instruction
- Our first apprentice working in animal facility!
Biotechnology Apprenticeships

• Laboratory Animal Technician I
• Laboratory Animal Technician II
• Research Technician
Industry Education Program

• The Scott & White Program in Clinical Laboratory Science (CLS)
  - One-year internship for students who have a bachelor’s degree in the sciences, or
  - Currently enrolled in an affiliated clinical laboratory science degree program

• 3+1 → will receive a bachelor’s degree in Medical Technology upon completion of this program
• 4+1 → has a bachelor’s degree prior to enrollment in this program
University Partnerships

- University On-Site Degree Programs (in progress)
  - Tarleton Central Texas
  - University of Mary Hardin-Baylor
- Articulation Agreements (in progress)
  - Texas A& M University - BI MS 2+2
  - Texas State University
  - University of Houston
  - Scott & White CLS University Affiliations
Student Benefits

- Senior Project
- Job Shadowing
- Community Service
- Graduation Cord
- Friday Tutorials
- Friday Lecture Series
- State-of-the-Art Technology
- Summer Preparatory Institute
- Leave high school with an Associates Degree
- Little or no cost to students or parents
- Letter of Recommendation attached to transcripts for college
Impact and Findings

- Under-represented population: 86% female; 56% minority
- 88% of students completed courses
- Students earned - 390 College Credits this semester out of approximately 445 taken, an average of approximately 10 credits per student while still full time high school students
- The largest amount earned was 18 college credits and the smallest was 3 college credits
- Students taking the full 14 credits were more successful than those taking only one or two courses
- Juniors were more successful than seniors
- Minority students did slightly better than non-minority students
- Small school districts and private schools had 100% completion of courses
Guiding Principles for the Future

- Improve Science, Technology, Engineering and Math education at all levels
- Enable area high schools to offer higher level science and math dual credit courses through the Middle College
- Provide multiple pathways into the biosciences through apprenticeships, specialized certificates, A.A.S. in Biotechnology, and baccalaureate programs offered by university partners
- Enhance community commitment to the bioscience industry as a critical component of economic development
- Promote emerging technology in the biosciences, including the commercialization of research
- Prepare a bioscience workforce for the future
Information Technology Industry Crisis

Employers:
- Nationwide employment for engineers and computer scientists will grow ~36% through 2010.
- 1/3 of their US workforce will be >50 years old by 2010; Class of 2010 are Freshman now!
- ~1/3 Texas high-tech companies cited insufficient supply of skilled workers as their main obstacle to expansion.

Universities:
- Nationally, enrollment in computer science declined by > 60% between 2000 and 2004.

High Schools:
- <5% of the 1.1 million high school students taking the ACT in 2002 planned to pursue engineering degrees.

CIO’s Environment

- 59% IT executives say they are inadequately staffed
- Average training required for a new hire tops 2 years
- IT workers cite demanding workload as a reason to leave

“You’re going to be in trouble if you’re not working to interest kids in IT, recruit them out of university, to develop your own employees and retrain them.”

Ralph Szygenda, CIO & VP
General Motors

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Sources: CIO 2006 Mid-Year Staffing Update, Computing Research Association, and CompTIA Survey
What Does This Mean for Texas?

• Today, the Texas high-tech industry¹:
  – Employs 446,000 Texans
  – Provides a $30.4 billion payroll
  – Represents 30% of the state’s total exports
  – Ranks 2nd in nation in high-tech employees & exports

• Texas ranked third in the nation for undergraduate engineering and computer science degrees awarded in 2004²

• A prosperous Texas depends on a well-educated work force
  – A single year’s high school dropouts will cost Texas economy $30B over their lifetime in lost wages, taxes³

Sources: (1) Cyberstates 2005, American Electronics Association; (2) 2004 Engineering Workforce Commission report, American Association of Engineering Societies, Inc.; (3) National Alliance for Excellent Education
Texas Leads the Systems Integration Market

- **EDS**
  - #2 Global market share
  - HQ: Plano, Texas
  - $21.3B
  - 117,000 Employees

- **ACS**
  - HQ: Dallas, Texas
  - $5.5B Revenue
  - 58,000 Employees

- **Perot Systems**
  - HQ: Plano, Texas
  - $2.3B

2006 IT Services Revenues

Note: All values are for calendar year 2006
(1) IBM and HP include Maintenance revenues
(2) EDS values are adjusted for the sale of AT Kearney
(3) Accenture values are based on gross revenues for comparison purposes
Sources: Gartner, First Call, EDS CMI estimates; Gartner, Nov 2006,
Actions:

**IT Cluster System Integrator Initiative**
- Industry partnering with Universities
- Curriculum changes, internships, faculty interns, industry lectures

**Texas Engineering & Technical Consortium (TETC)**
- Industry-academic-government increase engineering and computer science grads
- $16.8M funding from industry, federal and state
- Initiatives: LABS, Internships...

**Texas High School Project**
- $261M public/private initiative
- T-stem Academics, centers, best practices

*Theme:* Business, Education and Government all working together to increase the pipeline.
Texas Economic Growth: Summary

- Texas is well positioned to capture growth in the IT Services Market
- Public, private partnerships are needed to:
  - Build a strong pipeline
  - Change as the IT market changes
  - Establish Texas as a premier state for IT work
Texas High School Project
Texas Science Technology Engineering and Math Initiative

$71M in public/private funding to pilot innovative ways to increase the number of students prepared for STEM college and career success

- Increase math/science assessment results & college readiness
- Improve math/science instruction state-wide
- Increase college graduates in STEM fields
- Align high school exit & college entrance standards with STEM subjects
IT Cluster System Integrator Initiative

• Cluster team is comprised of 25 executive leaders from eight organizations from Industry, Workforce Development and Education

• Previous work: Emerging develop fund, technology commercialization at universities

• System Integration - Objective:
  – Texas companies retain the lead in System Integration market, and capture growth

• Actions: Texas A&M University partnership
  – Industry-provided lectures
  – Industry-led support for women in engineering & computer science
  – Developing Student Internship & Faculty Internship Programs