REMARKS BY GEORGIA TECH PRESIDENT G. WAYNE CLOUGH
GTRI Strategic Planning Offsite Lunch, September 13, 2007

• Pleased to join you, make a few comments about how GTRI fits into Georgia Tech’s vision and strategy – hopefully provide a little context for your work on strategic planning.

• 3 snapshots: Early history, 60s (my student days), today.

• #1: GTRI created as Engineering Experiment Station (EES) by state law in 1919, but did not actually get started until 1934 when Board of Regents provided $5,000. Right from start – dichotomy between the academic side of the Institute and EES:
  o Conceived of as independent entity, funded at the Bd of Regents level, whose focus was “to study engineering problems of commercial, economic, and social interest to Georgia and the South.”
  o However, did not initially have any staff, so consisted of GT faculty working part-time.

• #2: By the 1960s, most of Georgia Tech’s research was concentrated in the EES; controversy with the Institute:
  o Academic side developing graduate programs; needed a research enterprise. Chancellor and Regents wanted to incorporate EES more closely with academic programs.
  o But at the same time, Bd of Regents also wanted EES to be more financially self-supporting from R&D contracts (so Regents did not have to provide so much funding). They also recognized the need to continue the original mandate to assist Georgia industries. (Conflicting missions)
  o Internal conflict as well: Tech VP with oversight responsibility for EES wanted to integrate it into the College of Engineering. Director of EES defended independence, state mission as original legislative intent.
  o Resolution driven by external finances in early 70s:
      • End of Vietnam War = defense funding declined.
      • Demands on state = state funding for EES cut in half.
  o Result – developed client-oriented research center that concentrated on soliciting revenue-generating contracts.
      • Many of those contracts military = classified research, limiting collaboration with academic side of the Institute.
      • Primary point of interaction – hired GT students.
Personal experience when working on M.S. Clear to me even as master’s student that EES “got” research. But GT administration did not see EES as any different than any other administrative function.

- **GTRI Today:** $130 million in research performed by 1,400 employees for 200 clients. Seven labs:
  - Aerospace, transportation and advanced systems
  - Electronics systems
  - Electro-optical systems
  - Information Technology and Telecom
  - Sensors and electro-magnetic applications
  - Signature technology (computer modeling, simulation for weapon systems, aircraft)
  - Huntsville Research Lab (primarily air defense and missiles)

- **National field offices** (in addition to Huntsville):
  - Dayton, Ohio
  - Shalimar, Florida (Elgin)
  - Orlando, Florida
  - Albuquerque, New Mexico
  - Washington, D.C. (Arlington)

- **Research comes from**:
  - Military – 60% (Air Force – 26%; Army – 18%; Navy – 4%; other DoD – 12%)
  - Other federal – 6%
  - Industry/federal subcontract – 19%
  - Industry – 4%
  - State and local – 11%

- **Continues to**:
  - Conduct significant research related to national security.
  - Hire GT students – is largest co-op employer, about 200 students a year.
  - Assist Georgia industries – e.g. food processing technology. New building. In fact, food processing is an field in which GTRI has moved to forefront in “owning” research and innovation.

- **Expanding relationship with academic side**:
  - 20-plus GTRI research faculty teaching courses in College of Engineering, Ivan Allen College.
- Participating in CoE’s development of a professional master’s degree in systems engineering.
- Partner in distance learning, professional education – providing courses in defense technology, OSHA workplace safety, hazardous materials training, etc.
- As Academic units expand contract work, opportunities for collaboration with GTRI:
  - Sting Racing: CoE, CoC, GTRI, SAIC collaborate to field autonomous ground vehicle (in GT’s case, a fully automated Porsche Cayenne) in the 2007 DARPA Urban Challenge. June 18 – became one of 36 cars chosen to compete in final round Nov 3.
  - Energy research: hydrogen-fueled plane; 3-D solar cells
  - World’s fastest chip – GT and IBM. On GT side: ECE, GEDC and GTRI.
  - Collaborating with IAC, CoC to leverage expertise in foreign cultures and technology development to improve the cultural competence of military and law enforcement personnel.
  - Collaborating with Emory’s Global Safe Water Center on solar latrine for Bolivia.

- Newest venture with potential opportunities for closer collaboration: GT Ireland.
  - Complements GT’s international strategy
  - Ireland’s small size, agility, deliberate focus on building a high-end economy makes it something of a “start-up” among the world’s nations. Ideal as a testbed for developing new technologies on a national scale, which can then be ramped up for larger nations.

- Broader GT vision and strategy offers opportunities for further collaboration and fuller participation of GTRI:
  - 21st century – new challenges for universities
  - Innovation, flexibility, agility
  - Global presence
  - Collaboration on research, education; corporate partnerships, international alliances.
  - GT’s vision: define the technological research university of 21st century; be one of world’s few truly global universities.

- As you go through strategic planning, invite you to keep three broader perspectives, questions in mind:
o **Question 1:** Sponsored research is growing in the academic units, which opens the door for collaboration with GTRI while enabling you to maintain your bottom line. How can GTRI collaborate more fully in the Institute’s broad, interdisciplinary research thrusts? Some natural places for collaboration might be:

- Expanded collaboration in energy (fuel cells, solar cells).
- Expanded collaboration in water (numerous opportunities for collaboration: CE’s Environmental Fluid Mechanics and Water Resources Program, EAS, City Planning, School of Public Policy, or Georgia Water Resources Institute, which is based at Georgia Tech).
- Photonics (Aligning work of Gary Gimmestad, Glen Robinson Chair in Electro-Optics – GTRI’s first endowed chair – with photonics work by COPE).
- Disaster mitigation, recovery (e.g., GTRI collaborated with NEETRAC on studying chlorine gas leak in SC – guidelines for responders and clean-up crews).
- Networking (e.g., GTRI’s work on wireless captioning system for hearing disabled aligns with computing, Center for Assistive Technology and Environmental Access in COA).
- High-performance computing (an entry point into the bio-medical arena).
- Management (GTRI to help COM with providing leadership training for NASA scientists, engineers, technicians in the Vision for Space Exploration programs).

o **Question #2:** Universities are increasingly called upon to be drivers of innovation and to promote economic development through technology transfer and commercialization – lab to market. GT is already a recognized leader in this area, and we want to continue to be out on the leading edge. How can GTRI, as the applied arm of GT, expand its participation in the applications stage of this process?

o **Question #3:** One of GT’s goals is to become a genuinely global university. We can already see the early expression of a role for GTRI to play in this endeavor (GT Ireland, Global Safe Water, etc.) How can we continue to define and expand GTRI’s role in GT’s vision of the global university it wants to become?

• Look forward to your input on GTRI’s participation.