

**STRATEGIC PLAN**  
**Texas Transportation Institute**  
**The Texas A&M University System**

Last Update 8-28-07

The Texas Transportation Institute (TTI) is an agency of the State of Texas and a member of The Texas A&M University System.

This document sets forth TTI's strategic plan. It will guide Institute priorities and decisions, and it establishes metrics that will be used to assess how well strategic objectives are being accomplished. This document is intended to provide guidance over a 3- to 5-year timeframe and will be updated on a regular basis.

**Our Vision**

*Our vision is to be a premier higher-education-affiliated transportation research institute sought out by organizations from all over the world to solve transportation problems.*

**Our Mission**

Consistent with the land grant mission of Texas A&M University and the TTI vision, our mission is to:

1. Identify and solve transportation problems through research.
2. Transfer technology and knowledge.
3. Develop diverse human resources to meet the transportation challenges of tomorrow.

**Our Philosophy and Values**

As a state agency since 1950 and a member of The Texas A&M University System, TTI serves Texas and the nation as a focal point for transportation research. In our almost 60-year history, TTI has made fundamental research breakthroughs in transportation safety, materials, structures, urban systems, planning, and many other vital transportation areas.

TTI's main functions are to: 1) identify and solve transportation problems; 2) conduct basic and applied research into all modes of transportation; 3) enhance education by providing research facilities and funded research opportunities for students and faculty within The Texas A&M University System and other universities in Texas; 4) support the diversification of the transportation workforce in Texas; 5) assist and speed

implementation of research results into use by the transportation industry; and 6) disseminate research information to transportation professionals and the general public.

The Texas Transportation Institute is guided by a fundamental philosophy that values integrity, service to our sponsors, innovation in our research endeavors, responsible stewardship of public resources, and a strong respect for the rights and values of individuals.

## **Our Environment**

The quality of life provided to our citizens, as well as the economic competitiveness of the state and nation, depend on how well transportation issues are addressed. Surveys of citizens from numerous Texas cities show definitively that the problems associated with mobility, congestion, and traffic are among their top concerns.

An effective transportation system supports critical societal functions, such as economic development, manufacturing, delivery of goods and services, commuting to and from work, rapid response to emergencies, and tourism. However, also associated with transportation are a number of negative aspects, such as environmental effects, injuries and fatalities, and the costs and delays of traffic congestion.

As the transportation system has become increasingly multimodal, TTI has provided research expertise in all modes: surface, air, pipeline, water, and rail, as well as the interaction between and among modes. Multimodal and intermodal transportation is gaining increasing importance in Texas and the nation as government and the private sector seek ever more efficient and cost-effective means of moving people and goods. More effectively managing the immense assets that comprise the transportation system is gaining greater interest. With its broad range of capabilities and expertise, TTI is well positioned to respond quickly and effectively to help provide solutions to critical transportation problems and issues as they emerge.

While the Institute's research agenda primarily responds to specific sponsor requirements, transportation consumers throughout Texas and the nation are the ultimate beneficiaries of the work conducted by TTI. As recognized leaders in many fields of transportation research, TTI researchers remain active in developing the national transportation research agenda. The Institute considers the following topics as representing the "mega" issues associated with transportation today:

- Safety
- Mobility/Congestion
- Environmental Quality
- Funding and Project Development
- Infrastructure Rehabilitation and Maintenance
- Security
- Freight movement/Intermodalism/Globalization of trade

- Workforce Development

Consistent with our mission, TTI's research program strives to make meaningful contributions toward solving the problems associated with all of these issues.

## **Our Strategic Plan**

The strategic plan for the Texas Transportation Institute is set forth in this document. The plan is designed to provide clear guidance in Institute decisions, primarily in a three-to five-year timeframe. The plan will be reviewed and updated on a regular basis.

Implementation of this strategic plan will lead to: 1) a robust, growing program of research that addresses critical issues and is undertaken by a highly-qualified and professional staff; 2) a reduction in the risks, both internal and external, to which the agency is exposed; 3) a more informed, qualified and diverse staff; and 4) enhanced communications, both internal and external to the agency.

The TTI strategic plan consists of six imperatives. These are broad statements of our intent. Their implementation will be closely coordinated with the TTI risk management plan and the agency marketing plan, and will require a coordinated effort across the organization. Each is discussed below.

### **Imperative 1**

*Sustain a quality research program that provides opportunities for program growth and offers a work environment that will attract and retain quality people.*

*Note: Goals 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 and 2.7 are also relevant to this Imperative.*

#### **Goal 1.1—Sustain the high quality of the TTI research program.**

*Rationale. The relevance and quality of the TTI program are extremely important. Our reputation and capability to prosper over the long-run depends on the high-quality and unquestioned objectivity of the work we conduct. Quality is much more important to the Institute than is the size of the program.*

#### **Strategy 1.1.1—Benchmark the quality of the TTI research program.**

*Numerous measures, such as proposal success rate (i.e., within a given program, such as percent of NCHRP proposals won), participation in prestigious research programs such as NCHRP, sponsor satisfaction (including repeat contracts), size of competitive programs, number of centers of excellence, number of patents, number of journal papers, etc., can be used as proxies to measure the quality of the TTI research program. During late FY '08, an internal TTI team will be established to*

*recommend to the leadership team how we benchmark our organization as well as how we install an ongoing process for assessing our quality.*

**Goal 1.2—Increase contract research expenditures by at least 4-5 percent per year.**

*Rationale. TTI needs to grow research expenditures at about 4% per year to support our existing staff. Increasing expenditures at the Goal 1.2 rate allows us to attract and retain quality employees while offering opportunities for growth in the research program. TTI is fortunate to have an approach for developing research (an environment where highly skilled researchers have incentives to pursue innovative research initiatives) that functions very effectively due to the high quality of our staff. Many, perhaps most, of our staff knows how to identify and pursue numerous research opportunities, allowing TTI contract expenditures to increase at an average of just over four percent per year for the past decade.*

*Note: attainment of this goal assumes that sufficient research funding is available, which is beyond the control of TTI.*

**Strategy 1.2.1—Support TxDOT’s needs by sustaining research at expenditures at levels at least equal to FY ’06 expenditures.**

*We need to continue to be responsive to TxDOT and strive to meet its needs. We are committed to TxDOT as our #1 research sponsor and recognize that our relationship with TxDOT is critically important to our overall program. The intent of diversifying TTI’s funding base is to reduce the percentage of total TTI contract expenditures originating from TxDOT; the importance of TxDOT to TTI remains unchanged. To reduce our overall risk and expand our opportunities, we will diversify the program through growth while continuing our full support of TxDOT.*

**Strategy 1.2.2—Grow the total research program in a manner that will assure that no more than 50% of total contract expenditures come from any single sponsor.**

*This implies that non TxDOT research expenditures will need to increase by \$8 - \$10 million per year in FY ’10 (FY ’07 expenditures of approximately \$40 million increase to about \$50 million in FY ’10). Where this growth comes from will be largely dependent on which sponsors have funding available, but increased opportunities now exist with many of our traditional sponsors as well as with new sponsors. TTI staff, with proper training and incentives, have the expertise to identify and develop new/expanded research opportunities. These research opportunities are likely to come from both an expansion of work with traditional sponsors as well as developing new work with non traditional sponsors (Note: also see Strategy 2.2.1).*

**Goal 1.3—Sustain the highly credible leadership role of TTI staff at both the state and national levels.**

*Rationale. Our expert staff has continuously earned credibility for themselves and TTI by being active in state, national, and international transportation activities and professional organizations. Because our staff is the face of TTI research, involvement in professional transportation leadership roles is extremely important to the quality and credibility of the agency, as well as the ongoing development of our research program. This goal ties closely to strategy 1.1.1.*

**Strategy 1.3.1—Benchmark the TTI leadership role in the research community.**

*Selected measures, such as participation in key state, national and international committees, boards and task forces, can be used as proxies to measure the leadership role being played by TTI staff. During late FY '08, an internal TTI team will be established to develop these measures, develop a means of collecting the information and an ongoing process for regularly updating the information and assessing performance. The team will recommend to the leadership team actions and processes that can be taken to encourage the TTI leadership role. Being actively involved is essential to effectively developing the research program.*

**Strategy 1.3.2—As feasible, provide increased support, such as funding and better information, to encourage more TTI involvement in key leadership activities.**

**Goal 1.4—Provide high-quality support services to assist staff in developing and performing project work.**

*Rationale. TTI provides a diverse range of support services for researchers. In our competitive environment, these need to be both high quality and efficient.*

**Strategy 1.4.1—Benchmark the quality and effectiveness of the support services provided by TTI and develop improvement plans as needed.**

*By the end of calendar year 2007, TTI will develop and complete an internal survey that will indicate how TTI staff view the effectiveness and efficiency of the various support services provided. To provide ongoing input, these surveys will be conducted on a regular basis. Based on survey results, internal TTI teams will be established in calendar year 2008 to develop plans for improving or enhancing these services as necessary.*

**Goal 1.5—Provide the space, equipment, and other resources needed to support a growing, high-quality research program.**

*Rationale. Quality space and equipment are essential to perform cutting edge, first-class research. Some additional resources for purposes such as travel may also be required.*

**Strategy 1.5.1**—Assuming we get an acceptable construction bid, begin construction of the new TTI state headquarters research building in calendar year 2008.

**Strategy 1.5.2**—Develop a list of critical TTI capital equipment and facility needs for conducting both ongoing work as well as developing new research initiatives, and identify potential funding sources. (To be completed by the end of CY '08)

**Strategy 1.5.3**—On a continuing basis, TTI will assess the needs for other resources which can be effectively applied to help support a growing, diversified program of research.

**Goal 1.6**—Develop a strategic marketing plan to identify how best to leverage TTI strengths in developing contract research

*Rationale. In FY '08 and FY '09, this plan will be developed by an internal TTI team and will help to identify how TTI may better leverage its strengths to pursue new research opportunities in key areas. The marketing plan will be coordinated with both the strategic plan and the risk management plan and will be intended to help accomplish the goals and processes set forth in those plans. Strategy 6.2.1 will be coordinated with this goal.*

**Strategy 1.6.1**—Develop TTI marketing goals and strategies to effectively focus and utilize the agency's communications assets.

## **Imperative 2**

*Reduce agency risk by managing circumstances that could adversely impact the viability of the agency and its research program.*

*Note: Goals 1.2, 1.3, 1.4, 1.5 and 1.6 are also relevant to this Imperative, as is the risk management plan.*

**Goal 2.1**—Develop an agency risk management plan.

*Rationale. This plan will identify a comprehensive list of both internal and external risks facing the agency, identify their significance and likelihood of occurrence, and establish a plan to minimize risk. A draft of this document will be completed in FY '07.*

**Strategy 2.1.1**—Identify and evaluate key risks to TTI.

**Strategy 2.1.2**—Plan mitigation strategies and actions to lessen or eliminate the impact of risks on the agency.

**Goal 2.2—Diversify the research portfolio so that, by the end of FY '10, not more than 50 percent of TTI total contract expenditures originate from any single sponsor.**

*Rationale. Similar to an investment portfolio, agency risk will be decreased through diversification of our research portfolio, and the likelihood for long-term sustained growth will be increased.*

*Note: Strategy 1.2.2 and Goals 2.3, 2.4, 2.5, 2.6 and 2.7 are also relevant to this Goal.*

**Strategy 2.2.1—Outline an overall plan for diversifying the research program**

*Based on TTI knowledge of the research market and opportunities, the leadership team during FY '08 will develop a concept plan for how the growth in the research program can be achieved. Strategies 2.2.3 and 2.2.4 will also be elements of that concept plan.*

**Strategy 2.2.2—Establish compacts with the TTI director.**

*By the end of FY '07, each TTI associate/assistant director with line-management responsibility will sign a compact with the TTI director specifying how each respective part of the organization will diversify funding between now and FY '10, leading to accomplishment of the overall TTI goal.*

**Strategy 2.2.3—Pursue the development of an international research program.**

*The viability of a meaningful international program of research will be pursued during FY '07 and FY'08, with an objective of sustaining a program of at least \$1 million per year by FY '10. An internal committee has been established in FY '07 to develop by the end of calendar year 2007 a strategic plan for this effort.*

**Strategy 2.2.4—Work with the Texas legislature in an effort to identify areas where TTI can provide further support to the legislature.**

*During FY '08, meet with legislative leaders to determine whether there are initiatives for TTI to pursue that might enhance the services we provide to the legislature.*

**Goal 2.3—Develop and implement training seminars to increase the awareness of TTI staff of available research opportunities.**

*Rationale. TTI employees should have the knowledge and skills needed to effectively compete for new research opportunities.*

**Strategy 2.3.1—Develop and implement on an annual basis, beginning in FY '07, a series of seminars designed to acquaint TTI researchers**

**with available research opportunities and to provide the researchers with guidance on how to effectively compete for projects and be more effective managers.**

*This work has been initiated in FY '07, and a number of seminars have taken place. The effectiveness of these will be assessed, and plans developed for how this program should be modified in the future.*

**Goal 2.4—Provide financial incentives for TTI staff to pursue new work that will result in a diversification of the research portfolio.**

*Rationale. This provides a positive incentive for TTI researchers to make the extra effort required to compete for new research opportunities. It also recognizes that there is a greater effort required and a higher likelihood of not winning some of these proposals.*

**Strategy 2.4.1—Develop and implement during FY '07 a financial incentive program to encourage research staff to compete for work that will help in meeting the diversification goal (Goal 2.2).**

*This program is now in place and will be monitored and adjusted as needed.*

**Goal 2.5—Incorporate accomplishments in research program diversification into annual employee performance evaluations, as appropriate for an employee's position within the Institute.**

*Rationale. TTI will modify our annual performance evaluations so they focus on attaining the actions set forth in the strategic plan.*

**Strategy 2.5.1—Modify performance evaluation forms as appropriate to incorporate research diversification into annual performance evaluations. (new forms to be developed in FY '08)**

**Goal 2.6—Maintain a vibrant and engaged TTI Advisory Council**

*Rationale. This group is of considerable value to TTI in identifying and developing new research areas and in resolving problems. This group will contain 20-30 members, representing the various modes of transportation and the public and private sectors.*

**Strategy 2.6.1—Continue to actively engage this Council in Institute activities and rotate membership as needed.**

**Goal 2.7—Modify TTI procedures/practices as appropriate to foster diversification of the research program.**

*Rationale. As we work to develop more work with new sponsors, we need to be sure we minimize contracting impediments and adjust our procedures to support staff in developing work. While we will adhere to state law and requirements, we need to do all we can administratively to be supportive of the researchers.*

**Strategy 2.7.1—Work with the Research Foundation and relevant TTI groups to identify and mitigate contracting constraints.**

*This work relates to contracts administered by both TTI and RF and was initiated in FY '07. This process will be continuous.*

### **Imperative 3**

***Enhance TTI's relationships with the academic community and expand our research partnerships with academia.***

**Goal 3.1—Document TTI goals related to increased involvement with the academic sector.**

*Rationale. Training and educating transportation professionals is a key part of what we do.*

**Strategy 3.1.1—Develop a white paper setting forth TTI goals.**

*In a resource constrained world with multiple goals, TTI needs to develop a statement of what we are trying to attain through working with the academic sector and why. Multiple goals, such as expansion of research funding and diversification of staff can be advanced as part of this initiative. That document will be prepared under the direction of the leadership team in FY '08.*

**Goal 3.2—Develop sustainable initiatives with the academic sector that significantly enhance transportation education.**

*Rationale. A major role for TTI is to help train and educate the next generation of transportation professionals. The new University Transportation Center for Mobility is working with multiple colleges on the A&M campus and the Bush School to identify these initiatives and a schedule for implementation. As that work is completed, it will be incorporated into this goal.*

**Strategy 3.2.1—Develop a transportation certificate program involving multiple colleges at Texas A&M University.**

*During FY '08, this program will be defined with TTI's University Transportation Center for Mobility being the focal point. The college of engineering, the college of architecture, the Bush School, and the college of agriculture, as a minimum, will provide input.*

**Strategy 3.2.2-- Develop an incentive package to encourage TTI staff to teach.**

*This is an important aspect of training and educating the next generation of transportation professionals, and TTI should encourage staff to be involved in the classroom. There is clear benefit to TTI of having our staff teaching in non-tenured positions. TTI professionals currently teach at multiple colleges on the A&M campus and also at other universities across the state. An incentive package will be finalized in FY 09.*

**Goal 3.3—Develop a method of identifying qualified students with an interest in transportation and attracting them to Texas A&M University.**

*Rationale. Workforce and diversity issues suggest that significant increases are needed in the number of trained transportation professionals. This will be done in conjunction with Goal 4.2 and will be supported by the University Transportation Center for Mobility. This action can help TTI meet employment diversity goals.*

**Strategy 3.3.1—During FY '08, define a representative program with Prairie View A&M University, and implement that program.**

**Strategy 3.3.2—Based on what is learned from Strategy 3.3.1, implement a similar program at Texas A&M University - Kingsville.**

**Strategy 3.3.3—Participate to the extent reasonable in advancing the 3/2 program with Texas A&M International University.**

*The proposed 3/2 program is a collaboration between Texas A&M International and TAMU. Prospective engineering students may spend their first 3 years at A&M International, then transfer to TAMU to complete the degree in 2 years. In cooperation with the College of Engineering, TTI is prepared to offer positions to all students transferring to Texas A&M under this program who have an interest in transportation.*

**Goal 3.4—Work with multiple departments at Texas A&M, such as the Department of Civil Engineering and the Department of Landscape Architecture and Urban Planning, to continue enhancing their transportation-related programs.**

*Rationale. TTI programs and funding can be instrumental in advancing and enhancing transportation education.*

**Strategy 3.4.1—Continue to work with department heads and deans to help recruit faculty and students to transportation programs at Texas A&M University, and continue to provide research opportunities and make TTI equipment available to faculty and students in departments with transportation-related programs.**

**Goal 3.5—Work with Texas A&M Galveston to advance opportunities for developing research related to ports and waterways.**

*Rationale. A&M Galveston has a strong program in maritime administration and marine transportation and is already involved in our Center for Ports and Waterways.*

**Strategy 3.5.1—During FY '08, work with A&M Galveston to identify a program to pursue joint initiatives and interests.**

## **Imperative 4**

*Enhance the TTI culture of excellence by expanding the diversity of the TTI work force.*

**Goal 4.1**—In terms of minority employment, TTI will be in the upper half of those TAMU System members with headquarters in College Station.

*Rationale. TTI research will be more relevant and we will have greater opportunities for expanding our research portfolio if our work force more closely resembles the population of Texas.*

**Strategy 4.1.1**—Create a TTI Diversity Council and recommend a diversity plan.

*This group will be created and provided a charge by the end of CY '07. This group will be requested to develop a diversity plan in FY '08 designed to attain goal 4.1. The group will also define a realistic timeframe for attaining this goal. The group will develop and implement a climate assessment survey to determine the supportiveness of the current environment at TTI as it pertains to diversity. The recommendations will be made to the leadership team for follow up action.*

**Goal 4.2**—Use the TTI Regional Divisions and local Hispanic and African-American organizations more effectively.

*Rationale. Formal contact will be made with selected Historically Black Colleges and Universities (HBCUs) and Hispanic Serving Universities (HSIs) and local professional and student organizations where TTI has established Regional Divisions. Techniques will be implemented to encourage students from these universities to become involved in transportation and to consider TTI as a possible employer.*

**Strategy 4.2.1**—During FY '07, define and implement initiatives with Prairie View A&M University to create a better minority candidate field for employment at TTI.

**Strategy 4.2.2**—Based on what is learned from Strategy 4.2.1 and the diversity plan, implement initiatives at Texas A&M University - Kingsville and Texas A&M International University beginning in FY '08 and '09.

## **Imperative 5**

*Assure that TTI employees have needed opportunities to grow professionally, and enhance the recognition we give to our employees.*

**Goal 5.1**—Establish a program for leadership development and employee training and recognition.

*Rationale. Future leaders of the Institute need to be identified and extra effort should be devoted to developing these leaders. We need to provide all of our employees the necessary training to do their jobs.*

**Strategy 5.1.1—Implement a leadership development program.**

*A group was established in FY '07 to develop recommendations relating to a leadership development program. These recommendations will be drafted by the end of the calendar. At that time, the TTI leadership team will determine which elements from the recommendations will be implemented in FY '08 and beyond.*

**Strategy 5.1.2—Implement a program of ongoing employee training.**

*A group was established in FY '07 to develop recommendations relating to an employee training program. These recommendations will be drafted by the end of this calendar year. At that time, the TTI leadership team will determine which elements from the recommendations will be implemented in FY '08 and beyond.*

**Strategy 5.1.3—Enhance the recognition we give to our employees**

*We have outstanding people working for TTI, and we should be sure they receive the recognition they deserve. In FY '07, an internal TTI group will make recommendations in regard to how we might better recognize years of service with TTI. Those recommendations will be implemented in FY '08.*

## **Imperative 6**

*Enhance both internal and external agency communication.*

**Goal 6.1—Enhance TTI internal communication.**

*Rationale. Internal surveys have suggested that TTI can do a better job of communicating internally.*

**Strategy 6.1.1—Implement improved procedures and tools for internal communication.**

*By the end of calendar year '07, an internal TTI group will make recommendations to the leadership team as to how TTI can better communicate within the organization. At that time, the TTI leadership team will determine which elements from the recommendations will be implemented in FY '08 and beyond.*

**Goal 6.2—Enhance TTI external communication.**

*Rationale. The message we provide to our sponsors, potential sponsors, friends and the public is important in how we are perceived and how well we accomplish our mission.*

**Strategy 6.2.1—Develop and implement improved procedures and tools for external communication.**

*These procedures and aids will be developed in FY '08 and FY '09 in conjunction with Goal 1.6.*