

TEXAS TRANSPORTATION Researcher

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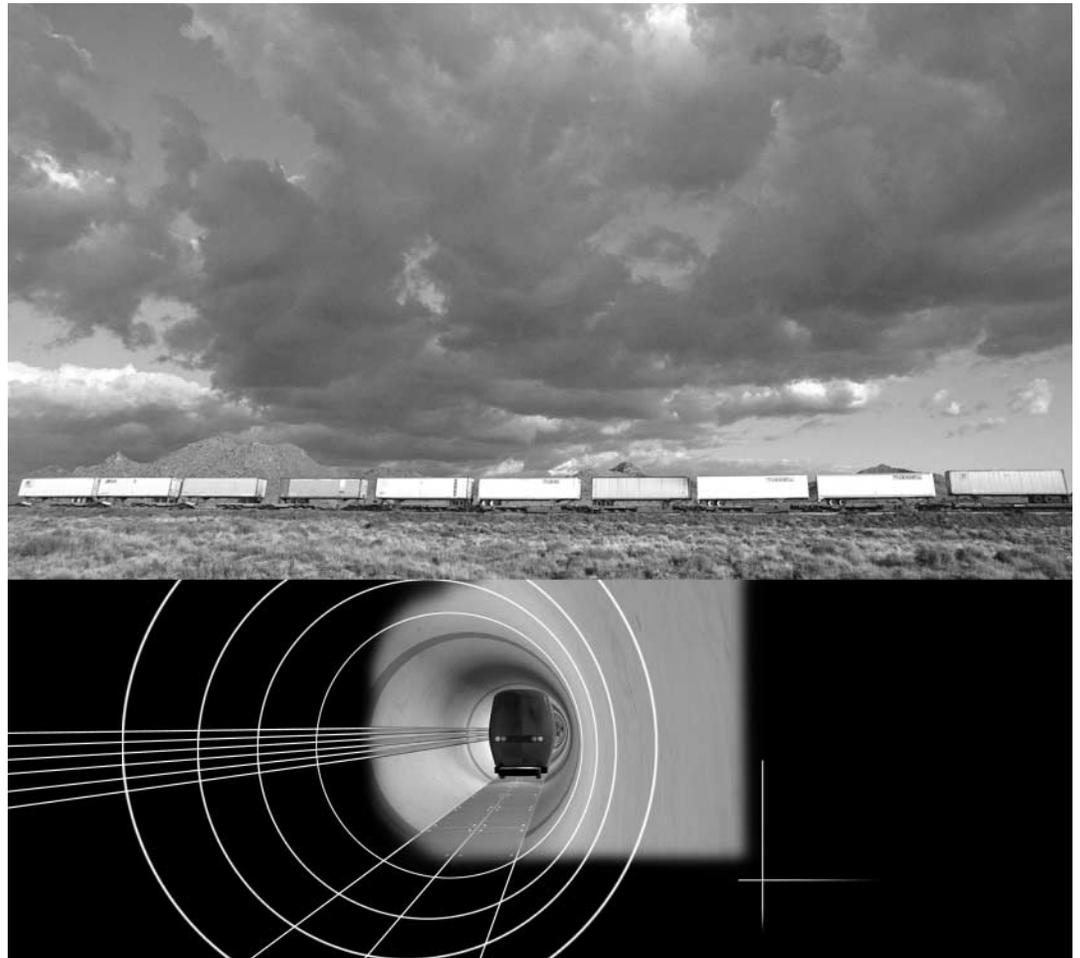
Charles J. "Jack" Keese

Remembering Jack Keese

Charles J. "Jack" Keese, director emeritus of the Texas Transportation Institute (TTI) and a proven leader in the transportation industry, passed away April 3, leaving behind years of hard work, uncountable contributions to his profession, and a legacy for those who follow in his footsteps.

Keese graduated in 1941 from Texas A&M University with a degree in highway engineering and received his master's degree in highway and traffic engineering from Texas A&M in 1952. After serving in World War II, Keese took a job as a field engineer with the Texas Highway Department in Cleburne from 1945 to 1948 and as the traffic engineer for the city of Midland from 1953 to 1955. During this time, Keese researched different forms of pavement marking materials and experimented with "zebra crossings," which fueled their success in school crossings and later in pedestrian crossings.

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The Future of Freight

Research Explores underground pipeline system

Oil and water. Passenger traffic and freight trucks. Transportation involves two important but very different concerns: moving people and moving freight. Keeping people safe and freight on time sometimes comes at a high price, and the difficulties continue to grow. The problem? Cars and large trucks don't mix. One

possible solution? Find another way to move freight.

"Vertical segregation" is Steve Roop's answer. Roop is the director of the Rail Research Center at the Texas Transportation Institute (TTI), and his group, along with researchers throughout Texas A&M University's College of Engineering, will spend

the next several years studying the feasibility of a subterranean freight pipeline system. Also known as tube freight, this system, which TTI will analyze through a series of simulations and other evaluations, would consist of two-meter reinforced concrete pipes capable of holding

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During Keese's tenure as director, research at TTI focused on highway materials, highway safety and traffic engineering.

Jack Keese

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In 1955, Keese returned to Texas A&M as a professor of civil engineering and began his career with TTI as a research engineer, helping to establish TTI as a university-based transportation research center. Keese's early contributions to the institute included establishing an outstanding recruitment and training program. His efforts paid off with an exceptional staff, which initially yielded such people as Don Capelle, Dick McCasland, Neil Rowan and Don Woods. He served as head of the institute's Highway Design and Traffic Engineering Program from 1958 to 1962.

Keese is also credited with starting the traffic-engineering graduate program at Texas A&M. In 1956, under Keese's leadership, Texas A&M developed the state's first Annual School in Traffic Engineering. He also worked with other transportation officials to get traffic engineering experience recognized as meeting requirements for professional registration in Texas.

In 1962, Keese became director of TTI and served in that capacity until his retirement in 1976. Under Keese's leadership, TTI became one of the top research centers in the U. S., with a \$3.9 million budget by 1976. TTI employed 200 people, as well as 120 students for whom it financed their education and prepared them for the traffic-engineering profession. Despite this rapid growth, Keese remained proud of the fact that TTI maintained a spirit of cooperation and a family-type atmosphere throughout his leadership. "The leadership Jack provided

Jack's vision encouraged others to look beyond traditional solutions to safety and transportation-system problems.

to TTI as director from 1962 to 1976 has been a key to the success of the institute for decades," said Dennis Christiansen, deputy director of TTI. "His guidance and friendship will be greatly missed."

During Keese's tenure as director, research at TTI focused on highway materials, highway safety and traffic engineering. Some of the innovations developed in this period were breakaway sign supports, guard-rail end treatments, railroad grade-crossing inventories, crash cushions, median barriers and culvert grates. These innovations became an even more integral part of the highway landscape under Keese's leadership.

Keese's management style also helped inspire TTI employees to pursue the goal of finding answers to the problems of contemporary mobility while building a foundation for future research. "Jack's vision encouraged others to look beyond traditional solutions to safety and transportation-system problems," TTI Director Herbert Richardson said. "He has made many great contributions that are notable and certain to last beyond his lifetime."

In addition to being a tremendous leading force in the transportation industry, Keese was also an accomplished researcher. Keese co-authored papers that won the Highway

Research Board's Award for Outstanding Merit in 1960 and 1967. He also received the National Safety Council's Award of Merit in 1962 and was recognized as one of the 39 Outstanding Construction Men in 1966 by *Engineering News-Record*.

Keese joined the Institute of Transportation Engineers (ITE) in 1954 as one of the founding members of the Texas Section. Over the next 20 years, he served on many TexITE committees and served as TexITE secretary-treasurer, vice president and president from 1961 to 1963. He was honored as TexITE's Traffic Engineer of the Year in 1975. He remained a member of ITE for more than 40 years.

In 1976, due to problems with his heart, Keese resigned as director. He remained on the TTI staff and was soon named to the MacDonald Chair in Transportation Engineering. In October 1999, ITE elected Keese to be its 61st Honorary Member, the highest recognition of notable and outstanding professional achievement.

Keese oversaw TTI's rise to become a highly respected and successful organization. His strong leadership, a clear mission of purpose, implementable research and cooperation with sponsors, along with the acceleration of highway construction and emphasis on safety, all helped TTI establish itself to serve Texas and the nation. As TTI continues to grow and succeed, many of the transportation professionals who worked under Keese are continuing to train others. His personal contributions to the transportation profession are numerous, notable and certain to last well into the 21st century.

HIGH-occupancy lanes shift into HIGH gear

Texas Transportation Institute (TTI) researchers are working with Texas Department of Transportation (TxDOT) officials in a new approach to planning high-occupancy vehicle (HOV) projects. The approach involves integrating HOV research with Austin-area planning efforts and developing special communication tools to merge the two.

For nearly two decades TxDOT has performed ongoing evaluation and monitoring of HOV lanes in operation in Dallas and Houston. A new TTI report called *The ABCs of HOVs: The Texas Experience* pulls together findings gathered from experience with the state's HOV lanes and puts them in an easy-to-read publication intended for use in any community planning HOV facilities.

In the Austin area, where an extensive planning effort is underway to develop a regional HOV system, a public education team is using *The ABC's of HOVs* report in combination with a brochure and computer presentation designed to convey information specific to the Austin region. The public awareness tools were developed through TxDOT's Research Implementation Program.

"Commitment to be part of the planning process is critical for HOV lanes to be a success," says Ginger Daniels, associate research engineer at TTI. "We're educating policy-making organizations and citizen groups so they can come to the table and participate in planning future HOV lane development." Multi-agency commitment is encouraged

through an interlocal agreement sponsored by TxDOT that brings together communities across a region to participate in the early planning stages of HOV projects.

The public education team, made up of TxDOT staff from the Austin District and TTI personnel, has provided information to a citizen's task force, the metropolitan planning organization, transit authorities, city and county officials, and other organizations vital to transportation planning. The team makes as many as five presentations a month to interested groups to give them a basis for making informed decisions about HOV lane development in the Austin metropolitan area.

"We're using these educational tools to communicate the characteristics of HOV lanes — what HOV lanes can do, what they can't do, and under what conditions they work best," explains Daniels. She points out that incorporation of the research findings gives credibility to the presentations, and the practical format of the materials communicates the information clearly.

Daniels has been selected to make a presentation at the 10th TRB International HOV Conference in August regarding the development of public awareness tools from ongoing HOV lane monitoring in Texas. At the same conference, TxDOT personnel from the Austin District will make a presentation describing the institutional framework of the Austin HOV Task Force and the strategies this multi-agency planning group is using to address issues related to the development of HOV facilities.

"This approach to getting formal, regional buy-in early in the planning process, as I understand it, is unique nationwide," notes Daniels. "It started out with a few agencies and keeps growing. We're working together to figure out how to manage the growth spurred by the enthusiastic responses we're getting."



Extensive planning to develop a regional HOV System is underway in Austin, while Houston HOV users (shown here) have already cut several minutes from their daily commute.

For more information, contact **Ginger Daniels**, P.E., Associate Research Engineer, TTI – Austin at g-daniels@tamu.edu or (512) 467-0946; or **Bernie Fette**, Assistant Head, Information & Technology Exchange Center (ITEC) at b-fette@tamu.edu or (979) 845-2623.

Related materials: 1) *The ABC's of HOVs: The Texas Experience* (28-page report), Report 1353-1 – paper copies available for purchase – accessible online at <http://tti.tamu.edu/product/catalog/reports/1353-1.pdf>. 2) *The ABCs of HOVs* (brochure), ITEC.TXDOT.0.29.00. 3) *An Evaluation of High-Occupancy Vehicle Lanes in Texas*, 1997, Report 1353-6.

F R E E W A Y F U R Y F A C T O R S



In Los Angeles, actor Jack Nicholson, enraged at being cut off by a Mercedes Benz, jumped out of his car and smashed the driver's windshield with a golf club.

Many American drivers believe that road rage runs rampant in our urban areas. Whether or not this is true, driver frustration in congested conditions may add to aggressive driving, a more unintentional, common variety of road rage than smashing windshields.

A new Texas Transportation Institute study will characterize aggressive driving behaviors, identify possible measures to alleviate road stress and test those measures in the field or driving simulator. According to Carol Walters, research supervisor for the project, a key goal is to look for causes of roadway stress related to the driving environment itself.

"I hope the study will identify two or three big road stressers that TxDOT

[Texas Department of Transportation] could actually do something about," she said. "Maybe if we can quantify what leads to aggressive driving, we can find ways to alter signing or

striping that will help alleviate the situations that cause this kind of frustration."

Focus groups will provide opinions on urban driving, as well as current behavioral responses to the stresses involved. Walters hopes then to identify potential measures that might improve the driving environment. Some of the most promising measures will be tested in a proposed second year of the study.

Study results of the first phase will be available in late 2000; if continued, the second phase results will be available in late 2001.

For more information, contact **Carol Walters** at (817) 462-0523 or c-walters2@tamu.edu.

QUEWZ-98 available for planning lane closures

Computer models can be a big help with work zone road closures. Texas Transportation Institute (TTI), in cooperation with the Texas Department of Transportation (TxDOT), has developed a microcomputer analysis tool, QUEWZ-98, that estimates traffic impacts, emissions and additional road user costs resulting from short-term lane closures in work zones. The program and manual provide critical information to personnel responsible for planning and scheduling freeway work zone activities.

QUEWZ-98 is the latest version of QUEWZ (Queue and User Cost Evaluation of Work Zones), a mainframe program developed for TxDOT to simulate traffic flows through freeway segments (both with and without a work zone lane closure) and estimate changes in traffic flow characteristics and added costs due to closures.

The model can be applied to freeway facilities or multilane divided highways with as many as six lanes in each direction and can analyze 24 consecutive hours of operation. Output comes in two different forms: (1) road user cost output and (2) lane closure schedule output.

The road user cost output is the estimate of traffic conditions (volumes, capacities, speeds, queue length, etc.) and the additional road user costs for each hour that traffic conditions are affected by the lane closure. Estimates of excess emissions due to the closure are also available as part of the road user cost output. The lane closure schedule output summarizes the hours of the day during which a given number of lanes can be closed without causing excessive congestion. With these projections, transportation personnel can create more efficient, cost-effective plans for lane closures on roadway work zones.

Related publication: *User's Manual for QUEWZ-98*

Adding up motorist costs

Simple look-up tables will help reduce construction delays

We've all been there, sitting in our cars waiting for traffic to thin or making long detours because of road construction. Motorists often call it frustrating — transportation officials have a more formal name for it. They call it *road user cost*, and the Texas Department of Transportation (TxDOT) is taking steps to incorporate it into overall costs for construction activities.

Construction delays are not only frustrating, they can be costly to motorists in terms of lost time and wasted fuel. To minimize motorist inconvenience and road user cost, TxDOT offers contractors bonuses for early completion and charges them liquidated damages for late completion. That makes calculating road user cost as an incentive or disincentive amount an important factor in TxDOT contracting activities. In the past, road user costs were used on a limited number of construction jobs and were estimated using specialized computer programs. A new Texas Transportation Institute (TTI) project recently developed simplified tables for manual calculations that apply road user cost to most construction contracts.

Bob Hundley of TxDOT comments, "Designers in rural districts and small urban districts can use these tables to help incorporate another category of liquidated damages into their contract construction costs."

In the recent project, TTI and TxDOT researchers investigated various estimation techniques and cost components and, focusing on motorist time costs, developed a simplified approach to calculating road user cost values. TxDOT guidelines suggest that all construction activity that adds capacity be considered for the application of road user cost as contractor incentives and disincentives. TTI researchers recommend a four-step process:

1. Determine if the proposed construction meets the criteria for using road user cost.
2. Determine the project type and analysis technique.
3. Calculate travel time costs using the selected method.
4. Determine the appropriate adjustment to road user cost value for contracting purposes.

"There was a need for a simple method to determine user cost for a variety of basic construction projects, and that's what we've provided," says TTI researcher Ginger Daniels. "Our main accomplishment was to develop a user-friendly tool for applying road user costs in construction contracts where they have typically not been used."

The new approach uses a series of look-up tables that gives road user cost values based on project type and limited attributes. The tables were developed using the MicroBENCOST computer model, a comprehensive program that uses standard procedures for highway economic analysis. The tables are designed to be used apart from the computer program, however, giving them a distinct advantage for straightforward applications in settings where using computerized programming is difficult.

"TxDOT gets an immediate benefit from this study — a set of tables to help calculate road user cost — and the public benefits in the long run, since incorporating road user costs into construction contracts can potentially reduce construction time," notes Daniels.

Daniels points out that more research needs to be done in using road user cost as a factor in developing project phasing and construction staging. Once the process is in widespread use, motorists should benefit through reduced construction time — and therefore less frustration spurred by construction delays.

For more information, contact **Ginger Daniels, P.E.**, Associate Research Engineer, TTI - Austin at g-daniels@tamu.edu or (512) 467-0946.

Related publication: *A Simplified Method for Estimating Road User Costs Associated with Highway Construction Projects*

<http://tti.tamu.edu/product/catalog/reports/407730.pdf>



Construction delays are not only frustrating, they can be costly to motorists in terms of lost time and wasted fuel. To minimize motorist inconvenience and road user cost, TxDOT offers contractors bonuses for early completion and charges them liquidated damages for late completion.

Freight pipeline system

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pallet-carrying vehicles. The self-propelled vehicles ideally could carry almost any palletized freight currently on Texas highways, reducing the need for long-haul trucks.

“We are aiming specifically to alleviate the impact — pollution, road damage, accidents, congestion — of increased NAFTA [North American Free Trade Agreement] truck traffic on Texas highways, as well as lessen the need for highway expansion,” says Roop. In fact, TTI researchers chose their study site, a 400-mile corridor roughly from Dallas to Laredo, specifically because the Texas Department of Transportation (TxDOT) is considering expanding I-35 in that area. Roop says, “We thought, given the volume of traffic and the expense of increasing the highway infrastructure, that it would be a very good point-counterpoint location for evaluating the economics of the system we’re envisioning.”

So how does the tube freight system potentially measure up to the capabilities of the trucking industry? Roop says, “We’re looking at speeds of 45 to 55 mph and use of containers large enough to hold three or four standard 48 inch by 40 inch pallets weighing no more than about 4,000 pounds. We expect a very low failure rate, almost none, with a design life of 50 to 100 years.” Because the vehicles are unmanned, there is no driver to fall asleep or be away from family for extended periods of time. And of course, an underground system would be unaffected by surface traffic, accidents and weather.

For Roop, four benefits stand out very clearly: saving lives on Texas highways and reducing congestion, pollution and road wear. According to figures published by TubeFreight, LLC, trucks accounted for 24 percent of U.S. oil use in 1993. Further, more than 200,000 police-reported accidents in 1996 involved medium- and heavy-duty trucks. From these accidents, 5,400 people died, most

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— Steve Roop

of whom were occupants of vehicles other than the trucks. Roop notes, “We’ve built multipurpose transportation facilities that have people and freight moving in the same corridors. This is problematic for motorists because trucks are large and potentially dangerous. This is problematic for truckers because motorists get in their way.”

Even with the obvious benefits, however, any major innovation in the transportation industry can also be a political hotspot. “Our initial thinking is that this system is an extension and a benefit to the transportation industry,” comments Roop. “Our idea is to build a facility around Dallas that NAFTA traffic can employ as a last leg of their shipments to Mexico. If

it’s truly economically feasible, it’ll be a lower cost, higher performance alternative than physically driving the freight.” Richard Mueller, a partner at TubeFreight, LLC, adds, “What I see long term is an evolution, not a revolution, in the transportation process. Remember, it took 25 years to get the interstate highway system in place, so a large, integrated freight system would certainly take decades.”

While the concept of an automated subterranean freight transport system is admittedly futuristic sounding, Roop warns against skepticism: “We’ve got to think a little bit outside traditional transportation boundaries,” says Roop. “Practical implementation has been slow in coming, but there are technologies, there are pressures, both physical and economic, that are making this system more and more plausible. I don’t think it’s a matter of if these systems will emerge as it is so much a matter of ‘when’ and ‘how.’”

In terms of prototype technology, the “when” has already been answered. Prototypes exist in Japan, the Netherlands, and here in the U.S. In fact, the concept of moving items through tubes has been around since the 19th century, although the system TTI is studying is on a much larger scale. Roop considers the history behind tube freight an advantage. “One of the driving tenants of our effort is to not invent technology,” he says. “We want to use technology that’s been proven functional in its intended environment and that provides cost figures for us.”

Successfully developing a large, integrated tube freight system will certainly be a major undertaking. But saving lives, reducing pollution, cutting transportation expenses and providing a more efficient freight transport mode to the public are goals worth pursuing.

For information, contact **Steve Roop**, Director, Rail Research Initiative s-roop@tamu.edu or 979-845-5817.



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Prototype tube freight systems already exist in Japan, the Netherlands and the U.S. TTI is analyzing the feasibility of a system in Texas.

NCHRP Guidelines detail innovative contracting methods

Highway construction and repair projects don't always run smoothly. Researchers at the Texas Transportation Institute (TTI) and the University of Wisconsin - Madison (UWM), however, have reevaluated one facet of highway construction — contracting methods — that may smooth the way for savings in time and money.

State highway agencies (SHAs) have traditionally awarded highway projects to the lowest bidders. However, focusing on low bids sometimes leaves too little emphasis on product quality and time factors that affect long-term performance. In light of this problem, the National Cooperative Highway Research Program (NCHRP) commissioned TTI and UWM to explore innovative alternatives to traditional contracting methods and to produce comprehensive implementation guidelines for their use.

Stuart Anderson, a TTI associate research engineer and the principal investigator for the guidelines project, says most state agencies, saddled with fewer resources and more projects, are looking for alternate ways to construct highway facilities. "The traveling public is putting a high demand on agencies to finish projects faster," says Anderson. "And the agencies want to have facilities last longer and shift more project risks to private contractors. The public and SHAs would like to stretch their dollars as far as they can, so the idea was to look at contract methods that would help achieve that goal."

The guidelines researchers produced address these issues by detailing three innovative contracting methods selected by an NCHRP panel: warranty, multiparameter and best value contracting. Each method focuses on a different aspect of cost-effective contract management, but all are intended to fulfill the same goals. Warranty contracting, for example, includes an extended warranty that places responsibility for product performance on the contractor, generating a longer lasting product and lower overall maintenance costs. In multiparameter contracting, agencies determine contract winners based on the lowest combination of cost, time and other parameters. Best value contracting focuses on such factors as technical excellence, management capability, past performance and personnel qualifications.

To assist SHAs in selecting the appropriate method, Anderson and his colleagues first had to conduct a great deal of research.

Before developing the guidelines, the researchers studied various nontraditional methods extensively, including a look at contracting practices in other industries. Armed with the resulting knowledge, they could effectively compile the ideas that best applied to transportation and teach others how to implement them. The guidelines offer agency personnel descriptions of each method, discussions of advantages and disadvantages, implementation flowcharts, critical success factors and two case studies involving agencies using the methods under study.

The research team knew its audience would be quite diverse. Anderson notes the team focused a lot of effort on designing a very user-friendly document that would be useful to people

whether or not they have had experience with nontraditional contracting. "Agencies already using these methods should find that the guidelines help them test their processes and make sure they're covering all the bases," says Anderson. "They may discover how to do things a little differently. On the other hand, agencies entirely new to these innovations can use the guidelines to start at the beginning and learn in detail. We tried to design the flowcharts so users could enter at any number of places based on their levels of experience."

This attention to detail is evident throughout the document and shows the hard work invested in the project. Says Anderson, "A large amount of energy went into making this product, and we think agencies will find the information very valuable."



"The traveling public is putting a high demand on agencies to finish projects faster"

— Stuart Anderson

For more information, contact **Dr. Stuart Anderson** at (979) 845-2407 or s-anderson5@tamu.edu.

2000 TRB Papers

To obtain papers published for the Transportation Research Board meeting last January, please access the web site at:

http://tti.tamu.edu/researcher/v36n2/trb_papers.stm

TEXAS TRANSPORTATION HALL OF HONOR

Call for Nominations

Texas is recognized as having one of the finest multi-modal transportation systems in the world. The existence of this system has been key in supporting the economic development of the state and in providing Texans a high quality of life. As we enter a new century, it is appropriate to honor the individuals whose vision and leadership brought about this system. The Texas Transportation Hall of Honor will recognize the small group of individuals who have made truly exceptional contributions to developing and sustaining the outstanding multi-modal transportation system that exists in Texas.

The Hall of Honor is located in the Gibb Gilchrist Building on the campus of Texas A&M University in College Station, Texas.

Eligibility

With the exceptions noted below, any individual, living or deceased, is eligible for induction into the Hall. The Hall covers the period of Texas statehood, 1845 to present. The individual's contribution can be in any mode or aspect of transportation. The Hall is intended to recognize that relatively small group of individuals whose exceptional leadership and vision helped to create and sustain the Texas transportation system.

Not eligible for consideration for induction into the Hall are:

- 1) individuals currently holding an elected office; and
- 2) individuals currently holding an appointed position to a policy board or entity overseeing transportation-related activities (e.g., TxDOT commissioner, transit board member, etc.).

How to Nominate an Individual

Anyone is eligible to submit a written nomination, which should include the following information:

- Nominee identification (name, positions held and dates, etc.)
- A description of why this individual deserves this recognition

This description should include a brief (less than three pages) discussion of the nominee's lifelong contribution to the development and sustenance of the Texas transportation system. Additional supporting material (i.e., press clippings, biographical data sheets, reference letters) can be provided as appropriate (less than seven pages total).

Selections to the Hall of Honor are made by a five-person board that is comprised of senior leaders in the state who possess a broad understanding of the transportation system in Texas and its historical background.

Deadline for Nominations

Nominations may be submitted at any time, as individuals will be inducted on an annual basis. Nominations must be received by **October 15** to be considered in the current calendar year.

Submit Nominations to:

**Deputy Director
Texas Transportation Institute
The Texas A&M University System
3135 TAMU
College Station, TX 77843-3135**

TTI Celebrates 50th Anniversary

Sponsors, current and former staff members and special guests helped the Texas Transportation Institute (TTI) celebrate its 50th anniversary on May 23 and 24. The TTI 2000 Conference started with a look at the institute's accomplishments over the past 50 years and ended with a discus-

sion of the future transportation system. The Honorable Robert C. Lanier was recognized with the Friend of TTI Award for his contributions to transportation in Texas and his ongoing support of transportation research.

Dr. Charley V. Wootan, director emeritus, and Dr. Katherine F. Turnbull, associate director, provided a trip down memory lane at the 50th anniversary dinner. The contributions of the institute's staff were recognized, along with the leadership provided by TTI's directors.

Mr. Howard D. Graves, chancellor of the Texas A&M University System, offered his congratulations to the institute for 50 years of research excellence and national leadership. The Hon-

orable David M. Laney, commissioner, Texas Transportation Commission, highlighted the importance of the research partnership and the contributions TTI has made to improving the safety and operation of the transportation system in the state. "I sleep better knowing my children are driving on roads made safer from the results of TTI research," commented Laney.

Sponsors highlighted benefits

from recent research projects during the second day of the conference. Mr. Gary Trietsch, TxDOT; Mr. Jeff Arndt, Houston METRO; Mr. Neil Pedersen, Maryland State Highway Association, and Mr. Mark Towe, Oldcastle Materials Group, described recent intelligent transportation system, paratransit, travel demand modeling and aggregate research projects. Mr. Paul Krugler, TxDOT, highlighted the department's new Research Implementation Program, and Mr. Robert Skinner, Transportation Research Board, summarized the status of national research efforts.

Dr. Herbert H. Richardson, director of TTI, presented the Friend of TTI Award to the Honorable Robert C. Lanier at the luncheon. Mr. Mark Goode, Dr. Naomi Lede, Mr. Robert MacLennan and Mr. Billy Burge recognized the lasting contributions Mr. Lanier made as chairman and commissioner of the Texas Highway Department, chairman of Houston METRO and mayor of Houston. "TTI is a first class transportation research institute," said Lanier in his acceptance speech.

The conference concluded with a discussion of the future transportation system. Panelists Mr. Wes Heald, TxDOT; Mr. William Millar, American Public Transportation Association; Mr. Dan Reagan, Federal Highway Administration, and David Willis, American Automobile Association Foundation for Traffic Safety, shared their ideas on key issues and research needs. Mr. Heald noted that "the department is very pleased with the research program and the partnership TxDOT has with TTI and the other universities. The strength of the partnership will be critical to helping the department address future challenges."



TTI Director Herb Richardson (above, right) presented the Friend of TTI Award to Robert C. Lanier.

Wes Heald (right) spoke on the future of transportation and the importance of research.



Gordon Shunk (left) and Montie Wade joined other listeners at the celebration.



The family of former TTI Director Fred Benson attended the dinner honoring former directors and institute accomplishments.

WORK ZONE CLEARINGHOUSE IN WINNER'S CIRCLE AGAIN

In March, the American Road & Transportation Builders Association (ARTBA) was selected as a winner in the 2000 "Associations Advance America" awards, a national competition sponsored by the American Society of Association Executives (ASAE).

ARTBA received the recognition for its efforts to promote safety in roadway construction zones through the National Work Zone Safety Information Clearinghouse. The clearinghouse, based at the Texas Transportation Institute's (TTI) Information & Technology Exchange Center, is a joint partnership of the Federal Highway Administration and ARTBA aimed at reducing the more than 700 deaths and 37,000 injuries that occur each year in these sites.

Now in its 10th year, the prestigious "Associations Advance America" awards program recognizes associations that propel America forward — with innovative projects in education, skills training, standards setting, business and social innovation, knowledge creation, citizenship and community service.

This marks the second national award ARTBA has received for the clearinghouse project at TTI.

DAN FAMBRO RECEIVES POSTHUMOUS HONORS

The late Daniel B. Fambro, a 1973 graduate of Texas A&M University and long-time Texas A&M faculty member and researcher who died last September, has been honorifically promoted to full professor. The posthumous recognition for Fambro came at the Dwight Look College of Engineering Outstanding Alumni Honor Award Banquet April 6. As associate civil engineering professor, associate department head for undergraduate studies and associate research engineer at the Texas Transportation Institute (TTI), his teaching and research experience spanned more than 20 years, most spent in service to Texas A&M and TTI.

Fambro also received two other awards this summer. He was named the 2000 Transportation Engineer of the Year for distinguished service in traffic and transportation engineering at the Texas Section of the Institute of Transportation Engineers (ITE) Summer Meeting. ITE has also awarded him the Wilbur S. Smith Distinguished Transportation Educator Award for outstanding contributions to the transportation profession through relation of academic studies to actual practice of transportation.



TTI BRINGS HOME NATIONAL AWARDS

At the 2000 National Summer Transportation Institute (NSTI) Workshop held in Atlanta in April, the Texas Transportation Institute (TTI) received partnering and meritorious achievement awards from the Federal Highway Administration (FHWA).

TTI earned NSTI's Partnering Award for its 1999 Summer Transportation Institute for a successful alliance with Texas Southern University, Paul Quinn College, Texas Department of Transportation, the Federal Transit Authority, the Federal Aviation Administration, the United States Coast Guard, Research and Special Programs Administration, FHWA and numerous other federal, state and local transportation agencies, elected officials, academia and private entities to enhance transportation career opportunities for youths. In all, TTI joined with 43 partners to leverage in-kind and financial resources in excess of \$60,000.

The Meritorious Achievement Award also received for last year's program was made in recognition of TTI's demonstrated commitment to a qualified, diverse pool of talent for the 21st century transportation workforce. TTI employed innovative methods to further NSTI goals by using a radio talk show to recruit students and market challenging transportation careers.

NSTI is one of several educational initiatives supporting a U.S. Department of Transportation goal to reach students and challenge them to prepare to become part of the nation's transportation workforce. Texas A&M University, through TTI, is an NSTI host site.

TTI STAFFERS WIN TRANSIT HALL OF FAME SCHOLARSHIP



Bill Eisele

Bill Eisele and Sias Zietsman are the 2000-2001 winners of the American Public Transportation Foundation (APTF) Transit Hall of Fame Scholarship. The \$2,500 scholarships were awarded to Eisele and Zietsman last year and have been renewed by APTF. The Transit Hall of Fame Scholarships are established to recognize academic excellence, research, and professional development.



Sias Zietsman

Bill and Sias are in the Civil Engineering Ph. D. program at Texas A&M University. Sias is a graduate assistant and will be joining TTI's full time research staff this fall. Bill has been a full time TTI staff member since 1995.

PUBLICATIONS ORDER FORM

_____ 1431-S, *Specifications for Backfill of Reinforced-Earth Retaining Walls*, D. Morris, J. Delphia, 204 pp., \$36.00.

_____ 1718-S, *Assessment of the Role of TxDOT Projects in Promoting Economic Diversification*, W. Stockton, J. Weatherby, T. Collier, C. Gilliland, 24 pp., \$5.00.

_____ 3903-S, *In-Place Engineering Properties of Recycled and Stabilized Pavement Layers*, I. Syed, T. Scullion, 122 pp., \$20.00.

_____ 1794-2, *Driver Behavior Characteristics of Teenage Drivers and Older Drivers*, A. Parham, G. Ford, 68 pp., \$ 12.00.

_____ 3904-3, *A Methodology for Determining Economic Impacts of Raised Medians: Data Analysis on Additional Case Studies*, W. Eisele, W. Frawley, 136 pp., \$ 20.00.

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THE BACK ROAD



This issue of *Researcher* focuses on the Texas Transportation Institute's (TTI) past and its future. In May, the institute celebrated fifty years of service to the people of Texas. Dr. Katie Turnbull chaired an outstanding technical symposium — *TTI 2000* — which was attended by

industry leaders, academicians and colleagues from across the nation. The conference was preceded by a gala dinner where Director Emeritus Charley Wootan provided a TTI retrospective and recognized TTI retirees as well as the many current and former employees who are responsible for the institute's success over the years. If you weren't able to be with us, you'll find a full report on the events in this issue. Sadly, one of TTI's former directors was missing from the celebration: Jack Keese, TTI's director from 1962 to 1976 passed away April 3. Jack was a truly great leader, and an important figure in Texas transportation. We will miss his good humor and sound guidance.

Looking to the future, this issue covers an innovative freight pipeline project currently underway, as well as several financing/contracting issues. During this legislative interim, transportation has emerged as one of the major state concerns, and elected officials at all levels want to be sure transportation funds are spent wisely and efficiently. TTI researchers are studying innovative approaches to contracting and ensuring user fees are understood well by all those who make the difficult decisions on resource allocation.

I hope you'll find these and other stories to be of interest and use, and please travel safely during this summer vacation season.

Researcher

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