It’s a new game

Moving beyond one driver, one car
Even without record gas prices, the days of heavy dependence on “one driver, one car” are numbered.

Many can no longer afford the luxury. Across much of the state, there are simply too many people, with too many vehicles, attempting to go too many places at the same time. The resulting congestion is only one of the problems that result — there are also air-quality issues and safety concerns that must be addressed. And traffic demand is growing every day.

Fortunately, there are alternatives to the one driver, one car scenario.

As you will discover in this issue, TTI researchers are exploring innovative ways to help reduce congestion, improve safety and expand our transportation options.

In Dallas, corridor management is being integrated into a comprehensive system designed to provide travelers with better, more immediate traffic information, encourage alternative modes of transportation, and actively manage traffic flow to keep lanes open and vehicles moving.

In Houston and Dallas, the role of preferential treatment for carpools is being examined, particularly as it relates to managed lane facilities. The managed lane concept itself is being further refined. Researchers, for example, are exploring practical ways of using variable tolls to assure predictable travel times — giving travelers a choice when time is of the essence.

TTI is assessing the feasibility of converting landfill gas to liquefied natural gas for use in trucks and buses in India — a promising alternative to the current over-reliance on petroleum-based fuels.

The social and economic impacts of light and commuter rail in metropolitan areas are the subject of intense interest and study, as is bicycle and pedestrian safety in areas where roadwork is underway.

Safety is also the focus of several studies related to areas surrounding schools. One such study focuses on traffic control in school zones; another seeks ways to reduce the number of motorists who pass school buses while students are boarding.

As diverse as these efforts are, they share a common goal — to find safer and more effective ways of meeting our transportation needs.

Practicality is central to all of these efforts. As gas prices increase and vehicles become more fuel efficient, traditional transportation funding mechanisms are proving inadequate to meet current and future needs. This problem is further compounded by spiraling construction costs affecting the transportation industry. That makes it more important than ever for research to focus on practical solutions that are also cost effective.

It’s a big challenge, but with help from research, we can meet it.
One person, one vote, one car?
Commuters give their two cents about carpooling

Over the years — with more affordable gas prices and roadways that seemed infinite in their capacity for handling traffic — drivers got in the habit of hopping in their cars and going places. But these days, with higher gas prices and more congested roadways, it’s getting increasingly expensive and time consuming — not to mention irritating — as we sit in bumper-to-bumper traffic.

As transportation agencies determine how to best serve the traveling public, more efficient use of our freeway lanes (rather than merely building more roads) is at the top of their to-do lists. Making trips for commuters both safer and timelier by offering alternatives to the one driver, one car scenario furthers that goal, and managed lanes are one way to meet it.

So, what are “managed lanes”? They’re roadways, like high-occupancy vehicle (HOV) lanes or toll roads, where different strategies are applied to achieve a high level of service. Properly planned, designed and operated, managed lanes can offer viable travel choices, shorten trip time for commuters and generate revenue for their operation.

With these issues in mind, the Texas Department of Transportation (TxDOT) and Texas Transportation Institute (TTI) are looking at how giving preferential treatment to carpools in priced managed lane facilities can impact the performance of these facilities.

“We surveyed commuters in Houston and Dallas to determine why people carpool and what might motivate them either positively or negatively about using managed lanes,” explains TTI Research Engineer Ginger Goodin. “We want to determine how drivers make choices to pay for a trip or use an alternative mode of travel.”

From the 4,600 or so responses they received, the TTI team discovered some interesting facts about drivers’ attitudes toward carpools and managed lanes. “We found that access to the HOV lanes, and the time savings associated with them, were very important in why drivers choose to carpool,” explains Goodin.

The research team examined specific carpool scenarios — for example, whether or not carpoolers should pay to use managed lanes — and made recommendations to TxDOT regarding how each scenario might play out. Alternative scenarios that allow for variations on free or paid use of the managed lanes by carpoolers were evaluated in terms of broad goals, such as the movement of people (as opposed to vehicles), performance of the lanes, revenue generation, emissions reduction, enforcement and operational simplicity, and public perception and support.

Not surprisingly, allowing toll-free carpools resulted in higher person throughput in the corridor, while conversely producing lower revenue. The researchers also concluded that developing a clear understanding of the goals for a managed lanes project is the first step in selecting the best carpool policy for that project, since different policies meet different needs. Armed with these findings, TxDOT can help areas tailor managed lanes solutions to local commuters’ needs.

“This research is showing us that we need true performance-based measures to guide the implementation of pricing policies,” explains Matt MacGregor, TxDOT’s tollway director in the Dallas District. “And more effective measures will result in a more efficient application of pricing.”

For more information, please contact Ginger Goodin at (512) 467-0946 or g-goodin@tamu.edu or Mark Burris at (979) 845-9875 or mburris@civil.tamu.edu.
Saving your breath
The Drive Clean Across Texas campaign

A reality of the one driver, one car scenario is the pollution created by so many commuters. Much of our time on the road is often spent idling or driving slowly in traffic, which pollutes the air and is a primary contributor to ground-level ozone production, especially in the summertime. By educating yourself about how your driving habits impact air quality, you can learn some easy ways to save a buck . . . and a breath.

That’s the message promoted by the Drive Clean Across Texas (DCAT) public outreach and education campaign, the nation’s first statewide air quality campaign. Launched in 2002, DCAT supports local air quality programs in Texas’ nonattainment areas by raising awareness of vehicle emissions and helping to change attitudes about air pollution. The campaign is co-sponsored by the Texas Department of Transportation (TxDOT) and the Texas Commission on Environmental Quality (TCEQ). TTI researchers and staff from TTI Communications — in cooperation with a public relations firm, developed the successful program.

“The project involved a very productive partnership with Sherry Matthews Advocacy Marketing, Texas A&M University’s Bush School of Government and Public Service, TxDOT and TCEQ,” says Brian Bochner, senior research engineer and TTI’s project supervisor for DCAT. “Surveys conducted over the last six years show a 57 percent increase in public awareness of the campaign and the message.”

During the past year, TTI staff have helped spread the word about how to make better travel decisions and help clean our air at events that ranged from the 50,000 attendees of the Houston HEB Children’s Festival to the Environmental Protection Agency (EPA) EarthFest in Dallas, which drew 10,000 people. The EPA recently recognized the campaign’s effectiveness with its 2007 Clean Air Excellence Award for Education/Outreach.

In 2002, a Texas Education Agency-approved air quality curriculum for K-12 classrooms in Texas was produced through DCAT. The curriculum materials have been distributed to thousands of teachers and continue to be popular at the annual Conference for the Association of Science Teachers. Activity books, posters, brochures, calendars, book covers, a cartoon DVD and an adult education video were also developed and are available free of charge to any teacher or citizen requesting them. Most materials are available in Spanish.

DCAT is also reaching out to the general public through popular venues, including a campaign partnering with the Dallas Cowboys. Through a cooperative agreement with Blue Star Media and Sam Pack Ford in Dallas, Texas, residents 18 years and older could enter a drawing to win a free Ford Escape Hybrid. Escapes were given away to winners in the fall of 2007 and the summer of 2008. Materials requests and sweepstakes entries were accepted at www.drivecleanacrosstexas.org.

Driving a hybrid vehicle isn’t the only way to make a difference. “Most people don’t know that simply keeping your tires properly inflated and the air and oil filters changed regularly not only saves you money on gas, but will also help you become a ‘cleaner’ driver,” says Richard Goldsmith, public information officer with TxDOT’s Environmental Affairs Division. “It can also be as simple as doing all your errands in one trip or not idling in the drive-through.”
Have you ever abandoned your SOV in order to use a vanpool and then taken a GRH provided by a TMA? If you don’t know these terms, then you’re probably not one of the many travelers that have decided to share a ride with others. However, you may have been targeted by a transportation demand management (TDM) program to do just that. And the success rates of those kinds of programs can be tricky to evaluate.

TDM programs manage congestion by reducing the number of vehicles on area highways, while maintaining mobility for residents, employees, students and visitors. TDM programs encourage travelers to use options other than the one driver, one car scenario. The biggest advantages to these other modes of transportation are less congestion and thus less air quality problems.

“Most agencies don’t have information on how well their programs are doing,” explains David Ungemah, an associate research scientist with the Texas Transportation Institute (TTI). “To get good data, they need to survey SOV [single-occupant vehicle] use before and after the implementation of the program to measure its impact: how did participants utilize modes after the campaign?”

TTI is currently evaluating TDM programs for a number of sponsors. A project for the Arizona Department of Transportation (ADOT) is benchmarking its region’s TDM efforts against those of peer cities to evaluate how they’re working and what else the agency could be doing. TTI is modeling
packages of TDM strategies for the Texas Department of Transportation Austin District and determining how those strategies could be applied to the Austin area’s Commute Solutions program. A project for the Houston-Galveston Area Council is just getting started; TTI will be conducting a thorough review of its TDM program and evaluating program performance.

TTI researchers are also conducting a comprehensive, nationwide survey of all regional or subregional TDM programs. Transportation management associations (TMAs) are generally the organizations responsible for TDM efforts, and researchers are looking at most large and medium urban area TMAs, along with those in some rural areas. They’ve found that projects funded from the Congestion Mitigation and Air Quality (CMAQ) Improvement Program tend to do a better job of monitoring and reporting their performance because of the competitive process of distributing funds. CMAQ usually requires estimates of what the program will do and the results of the program’s impact.

“Even in CMAQ, the methodologies are not always consistent or robust,” says Ungemah. “Some areas, such as Atlanta, Georgia, and Washington, D.C., have set a higher bar for methodology.”

TTI researchers are hoping to show sponsors how to improve their TDM programs and quantify that improvement. It may ultimately come down to resource allocation. “If they want to designate services for TDM, they need to quantify the benefits,” says Ungemah. “The only way to determine that is to have estimates and historical information on the return on investment.”

By adopting methodologies that are sound and robust, it may be easier to ask decision makers to invest in TDM strategies, rather than more concrete investments like further infrastructure.

“What we want to uncover is which programs have been objectively evaluated,” says Dianne Kresich, ADOT’s manager on the TDM project. “What areas have programs that we can say with confidence have quantifiable results and are cost effective? We need this information so we can direct scarce funds to those programs that have an actual impact on reducing SOV use.”

Case studies of TDM programs in five urban areas

TDM strategies encourage using alternatives to SOVs. TTI researchers conducted case studies of three large-sized urban and two medium-sized urban areas. Here are some examples of the strategies used in these areas.

ATLANTA, GEORGIA, provides programs for employers and employees to promote non-SOV commute trips, matches riders together for carpools and vanpools, provides bus and rail transit, has a guaranteed ride home (GRH) program (providing emergency transportation to commuters using alternative modes), offers benefits for commuters who use alternatives to SOVs, and has multiple HOV lanes.

HOUSTON, TEXAS, promotes alternative modes, has a public education program focusing on the health hazards of emissions, provides carpool and vanpool matching, promotes telework, provides bus and rail transit, has a GHR program, offers commuter benefits for carpools and vanpools, and has multiple HOV and managed lanes.

SEATTLE, WASHINGTON, provides carpool and vanpool matching, offers bus and rail transit, has a GRH program, offers benefits for commuters who use alternatives to SOVs, and promotes telework.

AUSTIN, TEXAS, promotes the advantages of alternative modes to employees and employers, provides carpool and vanpool matching, provides training to employers to help them promote carpooling, vanpooling and telecommuting, offers bus and vanpool transit, will soon provide rail transit, and has a GRH program.

RALEIGH-DURHAM, NORTH CAROLINA, promotes alternative modes, provides rideshare matching, offers bus and vanpool transit, and offers benefits for commuters who purchase homes close to work or near a useable transit stop.

For more information, please contact David Ungemah at (512) 467-0946 or d-ungemah@ttimail.tamu.edu.
Putting the “ICM” in team
Interagency cooperation through integrated corridor management

Transportation agencies do an outstanding job of operating their transportation networks with limited staff and fiscal constraints, but we still have congestion. Ideally, every agency in a region would have tools to allow collaboration in operating the entire transportation system for the greater good.

With the help of the U.S. Department of Transportation (U.S. DOT), three U.S. cites are trying to improve the way we manage congestion. Working together locally, these cities want to give their agencies information on how improved operating strategies will benefit the traveling public and empower travelers through better information and more choices.

Dallas, Texas; San Diego, California; and Minneapolis, Minnesota, are partnering with the U.S. DOT for stage two of its integrated corridor management program (ICM). The multi-year project promises to reduce travel times, delays, fuel consumption and emissions, as well as increase the reliability and predictability of travel.

The Texas Transportation Institute (TTI) is a team member on the Dallas project leading the analysis, modeling and simulation stage of the project. Joined by Southern Methodist University (SMU), Telvent Farradyne and the University of Texas at Arlington (UTA), the evaluation team will support the U.S. DOT in assessing the benefits that can be achieved by a more collaborative approach to corridor management.

The Dallas project will focus on the US 75 corridor from Dallas to Plano, Texas. ICM is a comprehensive team approach to battling congestion by coordinating within a corridor. It’s designed to synchronize various operations programs to help maximize the capacity of all facilities and modes. More specifically, the project focuses on tying together various congestion-fighting tools, such as traffic incident management, traffic signal timing, managed high-occupancy vehicle (HOV)
lanes, real-time traveler information and mode shift to light-rail transit.

The U.S. DOT has recognized that congestion is made worse by not having the tools and strategies to foster institutional collaboration and coordination. The resulting lack of integrated operational strategies and procedures can result in reduced mobility.

Stage one of ICM included eight cities that developed individual operational plans. Now, in stage two, those plans will be analyzed to create a corridor model to analyze and simulate various strategies. This effort will measure the anticipated benefits of deploying ICM strategies in a corridor. The cities with the greatest potential to demonstrate the ICM concept will be invited to the final stage. In stage three, the U.S. DOT will select up to three demonstration sites to deploy the most beneficial strategies and to serve as model corridors to the rest of the nation.

Once ICM demonstrations are completed in 2010, a region of the country will be able to match congestion solutions and tools developed during the ICM program to its individual circumstance.

“We are pleased to be picked for ICM’s stage two. The goal of our team is to develop a mesoscopic transportation model that can be used both to evaluate the benefits of ICM and as an operation tool designed to help predict future conditions with and without ICM strategies based on the current traffic situation. It’s never been done on this scale before.”

Christopher Poe, TTI Assistant Agency Director

The DOT is also developing the necessary tools for knowledge and technology transfer to other cities around the country interested in implementing the ICM program. Webinars with more information about each stage will be available throughout the ICM program.

The DalTrans facility is a state-of-the-art traffic operations center.

For more information, please contact Christopher Poe at (972) 994-0433 or cpoe@tamu.edu.

Visit http://www.its.dot.gov/icms/index.htm
The thriving province of Maharashtra is one of the most populous and prolific industrial centers in India. With a population of over 96 million residents, it is particularly vulnerable to energy demands and pollutant emissions. The Texas Transportation Institute (TTI) is currently leading an effort to evaluate the feasibility of using the gases generated by Maharashtra landfills as a fuel source for its refuse trucks and municipal buses. This research is being performed for the U.S. Environmental Protection Agency (EPA) in partnership with the National Environmental Engineering Research Institute (NEERI), Mack Trucks Inc. and the Texas State Energy Conservation Office (SECO).
“Energy scarcity in all forms is a big issue in India,” says Deputy Director and Head of NEERI Rakesh Kumar. “Any attempt to get energy sources, particularly from unconventional sources, is most welcome. Landfill methane and its use for buses or refuse trucks provide an example of closing the loop of energy generation and its use.”

The world’s primary sources of energy are conventional fuels such as oil, natural gas and coal. The most apparent negative impacts of these conventional fuels are global warming, poor air quality and adverse health effects. Considering the impacts of conventional fuels, and their finite availability, nonconventional sources of energy are under development throughout the world.

One such nonconventional alternative is using landfill gas as a liquefied natural gas (LNG) fuel source for heavy-duty refuse trucks. The process involves converting methane gas, which is naturally produced by landfills, into LNG using a sophisticated chemical process. This process has been used with success in a pilot application in Burlington, New Jersey. The research team is seeking a solution to the problem of how to trap the escaping methane from Indian landfills.

“Landfills in India are very different from the sanitary landfills in the United States in that they are open pits without any gas collection systems,” says Joe Zietsman, TTI associate research engineer and director of the Center for Air Quality Studies. “In the sanitary landfills here in the United States, we cover them and are able to recover the trapped landfill gas using underground piping systems.”

The researchers are working on a design to capture the escaping methane by first gathering the refuse into a large pile, covering it with a thin membrane layer and finally collecting the gas using pipes inserted from above, as opposed to the conventional underground systems used in the United States. The captured landfill gas will then be “cleaned” through a sophisticated chemical process to produce the LNG that can be used as vehicle fuel. In addition to powering refuse trucks operating at the landfill, the LNG can also be used to power local bus fleets.

If implemented, this approach will provide the citizens of Maharashtra a cost-effective fuel source and cleaner skies. “Methane is a greenhouse gas that remains in the atmosphere for more than 10 years. It is also 20 times more effective as a greenhouse gas than carbon dioxide,” says Zietsman. “To be able to recycle this harmful gas into a clean-burning fuel is a win-win proposition for everyone.”

“The EPA’s Methane to Markets Partnership is an international initiative that advances cost-effective, near-term methane recovery and use as a clean energy source. The project initiated by TTI and its partners fits perfectly with the overall program, and we are very excited to see the results and hopefully move closer to implementation,” says Rachel Goldstein, EPA’s Methane to Markets contract manager.
Navigating Work Zones: The Pedestrian Perspective

It’s a nice day for a stroll. You head out the door and hit the sidewalk. But wait — someone’s doing construction and has torn up the sidewalk. How do you safely navigate around the work zone? Do you walk in the street? Do you cross the road to use the other sidewalk, if there is one? Do you take a detour? Now imagine you’re in a wheelchair or your vision’s impaired. Imagine you have no vehicle and that walking is your only means of getting to the grocery store or office. Navigating that work zone safely isn’t optional, and it isn’t easy.

“The most important factor we found was that pedestrians should be part of the traffic control plan from the very beginning. We need to make it easy for pedestrians to navigate around work zones, and planning helps do that.”

Brooke Ullman, TTI Assistant Research Engineer
When we talk about alternative modes of travel, it’s important that we not forget the most basic mode — pedestrian traffic. The Texas Department of Transportation (TxDOT) has a mandate to accommodate pedestrians, including those with special needs, in temporary work zones. Work zones can be dangerous places, and not just for workers. Of the fatalities occurring at work zones, 14 percent are pedestrians.

In order to help TxDOT meet this mandate, the Texas Transportation Institute (TTI) conducted a two-year research project to first compile information on the current state of the practice. This task entailed gathering information from a variety of sources, including the Manual on Uniform Traffic Control Devices (MUTCD) and Americans with Disabilities Act (ADA) guidelines.

The second task was conducting several human factors studies to examine how pedestrians, especially the impaired, navigate work zones. Since work zones are constantly changing, no single set of traffic control devices can satisfy all conditions. Researchers tested a variety of devices using focus groups and offered recommendations on the devices’ use. For example, they tested various guidance signs and determined that the use of an orange background increased the compliance of pedestrians; however, the shape of the sign had little or no impact.

“ADA guidelines were important to our research,” says Brooke Ullman, TTI assistant research engineer and the research supervisor on the project. “Work zones present a special challenge for the disabled person.”

The MUTCD suggests the use of audio speech messages to assist visually impaired pedestrians. However, no guidelines exist on exactly what the messages should say.

“The most important factor we found was that pedestrians should be part of the traffic control plan from the very beginning,” states Ullman. “We need to make it easy for pedestrians to navigate around work zones, and planning helps do that.”

So the next time you take that stroll, think of the transportation agency that created your pathway . . . because they’re thinking of you.

For more information, please contact Brooke Ullman at (979) 862-6636 or b-ullman@tamu.edu.
Passenger rail was the best way to travel long distances 100 years ago. In the 20th and early 21st centuries, rail has been the exception rather than the rule. But in the wake of rising gas prices and reduced mobility, transportation planners are now looking at this venerable travel mode in a completely new light.

After the development of the highway system, automobile travel exploded while rail and other transit ridership fell. Texas congestion problems were solved by building new roads or expanding the ones we had. But since at least the mid-1990s, many Texas cities are running out of real estate for highway expansion, and funding for new road construction is limited. Combine that with an ever-increasing population, and you get an estimated 350,000 additional passenger vehicles on Texas roads each year. That’s a recipe for a crisis — imagine what the traffic will be like after we double our population over the next 30 to 40 years.

To be fair, the recent high cost of gasoline has relieved some of the pressure as a small percentage of motorists have turned to other options such as public transit, telecommuting, carpooling and high-occupancy vehicle (HOV) lanes. However, experts agree that any congestion relief will be short lived because population increases will more than fill in the gaps. Most believe that the solution lies in providing alternatives, including passenger rail.

“There has been a greater interest nationally in commuter and intercity rail. It’s an alternative that should be considered. Not because it will mean automatic congestion relief, but because we have to accommodate travel demand using as many options as possible... buses, carpools, HOV lanes, managed lanes, rail, even alternative work weeks and telecommuting, along with the traditional solution of expanding and building new roads.”

Jeff Arndt, TTI Research Scientist

Two definitions are crucial in understanding the main types of passenger rail. “Commuter rail” is considered medium-haul rail passenger service operating in and between metropolitan and suburban areas, running mostly during morning and evening peak periods. “Intercity rail” is express train passenger services that cover longer distances than commuter trains. The Trinity Railway Express is an example of commuter rail, while Amtrak service between Dallas/Fort Worth and San Antonio is an example of intercity rail.

Arndt recently completed a light/commuter rail project for the Texas Department of Transportation (TxDOT), the results of which will be published this year. The research effort examines two areas: rail projects around the country focusing on the roles played by departments of transportation (DOTs) and how rail projects achieve the five strategic goals of TxDOT.

“TxDOT has traditionally played a catalyst role in the consideration of commuter rail projects for Texas by funding feasibility studies,” Arndt says. “This project looks at additional roles that TxDOT may wish to undertake.”
In an August speech at the Texas Transportation Summit in Irving, Texas, TxDOT Executive Director Amadeo Saenz told attendees that the state has partnered with Amtrak to study the feasibility of providing additional intercity passenger rail service between Austin and San Antonio.

“Amtrak already operates one train in the corridor — the Texas Eagle — which travels between San Antonio and Chicago,” Saenz said. “TxDOT wants to provide more reliable service in the corridor while allowing passenger and freight trains to operate on the same route.”

Saenz announced that TxDOT recently applied for $3.5 million in federal funding for an Amtrak rerouting project in Fort Worth. “The federal government is looking for states to play a larger role in improving intercity passenger rail systems and networks. And they’ve provided some — but not all — of the funding needed toward that end,” he said.

So . . . how do we create an intercity passenger rail system? How much will it cost and how do we pay for it? Can passenger rail and freight rail interact? In an earlier 2005 project, TTI sought to answer these and other questions. That effort analyzed four states: California, North Carolina, Pennsylvania and Virginia. It also looked at one multi-state corridor, the Pacific Northwest Rail Corridor of Washington and Oregon.

“Some of the rail programs were completely state owned; others were partnerships with Amtrak,” says Curtis Morgan, assistant research scientist and program manager of TTI’s Multimodal Freight Transportation Program. “Some had multiple routes of higher speed corridors connecting the major urban areas of the state, while others were partnerships between freight railroads and state DOTs.”

Researchers examined the numerous funding methods of those rail projects, including state bond and general funds, local and federal funds, and a combination of monies from Amtrak and private freight railroad company sources. Researchers offered numerous recommendations for TxDOT to consider when making the decisions regarding investment in intercity passenger rail.

TxDOT has also funded an ongoing research project, led by Morgan, that is evaluating future intercity transit needs throughout Texas where passenger rail or express bus services may one day be realized.

“Implementing intercity passenger rail is obviously a huge undertaking,” Morgan says. “Funding is perhaps the biggest concern, but developing the system without impacting freight rail lines, we think, is an important element. It will take a lot of planning and cooperation, but in my view, it’s essential and worth pursuing.”

For more information, please contact Jeff Arndt at (713) 686-2971 or j-arndt@tamu.edu, or Curtis Morgan at (979) 458-1883 or curtis-m@tamu.edu.
SCHOOL’S IN, but are commuters paying attention?

Stop-arm violations put school bus drivers on alert

Riding the bus to school. For many of us, it’s a pleasant memory full of children’s laughter, a bumpy (but fun) ride and the reassuring hiss of airbrakes.

While some commuters only have to decide if they’ll drive their car to work or not, parents have other factors to consider. Their number one concern is getting their children to school safely.

Many school bus drivers began their routes this year dreading the hazards associated with their job. They witness motorists illegally zipping by them as they pick up or drop off children along their routes. Pick-ups and drop-offs are the most dangerous times of the day for the estimated 1.4 million Texas children who ride a bus to school.

Yet, very few motorists are ticketed for the offense, known as a “stop-arm violation.” In most cases, a law-enforcement officer must witness the violation in order to write a citation.

Researchers with the Texas Transportation Institute (TTI) are determining just how widespread the problem is. In 2006, the Texas Department of Public Safety conducted a one-day survey asking bus drivers to record the number of stop-arm violations. About 60 percent of the Texas school districts participated, recording 12,850 incidents in that one day.

“The problem is serious and seems to be getting worse,” says Patricia Turner, associate research scientist with TTI’s Center for Transportation Safety. “The figures indicate that the potential for death and injury is extremely high.”

Even so, there were only 831 stop-arm violation convictions in Texas in 2006 (the last figure available), a 42 percent decrease in convictions from 2001.

As part of the Texas Department of Transportation (TxDOT)-funded project, Turner and other researchers will evaluate the effectiveness of video cameras on board school buses to monitor the magnitude of the problem and possibly identify stop-arm violators. TTI is working with the College Station Independent School District to test a video system.

“This pilot project is using digital camera technology to capture greater detail about the violations,” explains Sam Sinclair, program manager with TxDOT’s Traffic Safety Section. “Our expectation is that the lessons learned will allow state and local officials to implement effective public education and law enforcement campaigns, reducing the severity of the problem.”

Several states, including Texas, have or will consider legislation allowing the use of stop-arm cameras on buses. In 2007, legislation was introduced in Texas that would have permitted school districts to install digital or video monitoring systems, but the bill did not receive a public hearing.

Turner and her team will continue their efforts in a follow-up project aimed at raising awareness of the problem. Brochures and other materials are being developed for bus drivers and motorists to better inform them of the issue and, hopefully, reduce stop-arm violations through education.
The Texas Transportation Institute is proud to announce the 2008 inductees into the Texas Transportation Hall of Honor. They will be formally inducted in a ceremony in the fall of 2008.

The Hall of Honor is located in the main conference room in the Texas Transportation Institute’s Gibb Gilchrist Building in the Texas A&M Research Park in College Station. The hall is overseen by a five-member board comprised of senior transportation professionals with knowledge of the historical development of the transportation system in the state. Each individual inducted into the Hall of Honor is recognized by a plaque on permanent display.

For more information, please visit http://tti.tamu.edu/hall_of_honor.

## HALL OF HONOR INDUCTEES

### 2008

#### MARQUIS G. GOODE, JR.

During his 40 years with the Texas Highway Department, Mark Goode’s career paralleled the building of the interstate highway system. He joined the Department in 1947 and served as engineer-director from 1980 until his retirement in 1986.

Mr. Goode managed the fastest period of growth in road construction in the Department’s history. He initiated a recruiting and training program that opened doors for women and minorities and led the Department into the age of automation. The highly successful “Don’t Mess With Texas” antilitter campaign and the “Adopt a Highway” program were initiated under his leadership.

Mark Goode served on the executive and policy committees of the American Association of State Highway and Transportation Officials and received the organization’s highest award in 1984, the MacDonald Award. He served as president of the Western Association of State Highway and Transportation Officials and on the executive committee of the Transportation Research Board. During his college career at Texas A&M University, Goode was commissioned and called into active duty in the U.S. Army and served as an officer in the European theatre before returning to Texas A&M to finish his civil engineering degree in 1947.

#### LOUIS L. HEIL

Louis L. Heil devoted 32 years to promoting excellence in public transportation. He joined McDonald Transit Associates, Inc., as vice president with its founding in Fort Worth in 1972, and became CEO in 1979, serving in that capacity for 23 years. In 2002, he retired from daily operations and was appointed chairman of the board.

Under Larry Heil’s leadership, McDonald Transit’s clients grew from five public transit management contracts to more than 20 from coast to coast. He was instrumental in bringing public transportation to Fort Worth and supervised the initiation of new public transit systems throughout the United States.

Recognized as a mentor for many of the nation’s leading transportation professionals, Heil served as founding director and president of the Southwest Transit Association and vice president of the American Public Transportation Association. He was chair of the Texas Transportation Institute Council from 1994 to 2002. He received the Friend of Texas Award in 1981 and was named to the American Public Transportation Association Hall of Fame in 2006. A graduate of the University of Kansas, Heil taught on the visiting faculty at both Texas A&M University and Northwestern University and served in the U.S. Navy, retiring as captain.

#### CHARLES J. “JACK” KEESE

Charles J. “Jack” Keese was instrumental in establishing the Texas Transportation Institute as one of the top transportation research organizations in the country. With a 32-year career at TTI and Texas A&M University, he served as the first full-time director of TTI from 1962-1976.

After stepping down as director, he accepted the MacDonald Chair in Transportation Engineering and remained active in TTI until his death in 2000.

Under Keese, TTI became a recognized center of excellence. When he retired as director, TTI employed 200 staff, 120 students and had an annual budget of $3.9 million. The basic organizational structure and culture established by Keese continues at TTI to this day. Jack Keese is generally credited with starting Texas A&M’s graduate program in traffic engineering.

Keese was a founding member of the Texas Section of the Institute of Transportation Engineers (ITE) and served as its president. He received numerous awards, including the Luther DeBerry Award, and was named as the 61st Honorary Member of ITE. Keese received his B.S. and M.S. degrees in civil engineering from Texas A&M. He was a captain in the U.S. Army during World War II and received a Purple Heart.
ITE honors TTI with awards, positions

After 18 years as a member of the Institute of Transportation Engineers (ITE), Gary Thomas, director of the Center for Professional Development and Fellow of ITE, has been elected to the ITE Board of Directors, representing the Texas District (TexITE). Thomas joins 15 other board members who will help set policy and “chart a path for ITE and its many programs and activities.”

Thomas’ three-year term begins January 1, 2009. He began his affiliation with ITE as a student chapter president while attending Arizona State University. He’s held numerous positions with the organization, including chair of the Education Council, officer of the Arizona and Missouri Valley Sections, faculty advisor at Iowa State University, and student chapter liaison and webmaster for the Texas District.

During TexITE’s summer meeting in San Antonio, Assistant Research Engineer Marcus Brewer was named the TexITE Younger Member of the Year. The award recognizes an individual member (35 years old or younger) for leadership, commitment to excellence, and activism within TexITE and other professional groups.

Also during the summer meeting, Graduate Student Jon Re received the Outstanding Student Paper Award in the Texas District and was named the Outstanding Student by the Texas A&M University student chapter. In addition, the ITE student chapter at Texas A&M was named the Outstanding Chapter of the Year in the Texas District.

Drive Clean Across Texas campaign recognized by EPA

A partnership between the Texas Department of Transportation and Texas Commission on Environmental Quality, the Drive Clean Across Texas (DCAT) campaign has been honored with an Environmental Protection Agency (EPA) Clean Air Excellence Award in the education/outreach category. The public education aspect of the campaign is managed by TTI.

DCAT is the nation’s first state-wide public outreach and education campaign designed to motivate drivers to take steps to reduce their personal vehicle emissions.

The EPA’s Clean Air Excellence Awards Program, established at the recommendation of the Clean Air Act Advisory Committee, annually recognizes and honors outstanding, innovative efforts that help to make progress in achieving cleaner air.

Employees responsible for TTI’s role in the DCAT campaign are Brian Bochner, Kelly West, Michelle Hoelscher and Laura Higgins.

High Five Video, TDS earn Tellys for TTI Communications

The High Five construction project video and the Teens in the Driver Seat (TDS) public service announcement (PSA) campaign have been awarded prestigious Telly Awards. Tellys are the most coveted recognition in video production. TTI Communications’ video group, headed by Coordinator of Electronic Media David Dennis, produced the segments.

“The Dallas High Five — Engineering Marvel/Transportation Masterpiece” is a 16-minute video chronicling the five-year Dallas High Five construction project from groundbreaking to completion. The Texas Department of Transportation (TxDOT) uses the video to show how a major road project can be completed ahead of schedule and on budget.

The TDS PSA campaign consists of two 30-second videos describing the dangers associated with teen driving. The PSAs were produced in both English and Spanish and are aired on Texas Association of Broadcasters–affiliated stations across the state. You can view the PSAs by visiting t-driver.com, clicking on the TV screen icon on the top right of the page and browsing through the videos.

“The High Five construction project and Teens in the Driver Seat are both TxDOT-sponsored initiatives,” says Communications Director Richard Cole. “Both of these projects were very much cooperative efforts on the part of Texas Transportation Institute and TxDOT. We couldn’t ask for a better sponsor than the department.”
Texas landscape highlighted in Schutt retirement party

Crediting him with making Texas roadways look good, friends and colleagues within TTI and the Texas Department of Transportation (TxDOT) honored Assistant Research Scientist Jim Schutt after 20 years with the Institute. During the reception, a slide show demonstrated the importance of Schutt’s work over the years.

“The roadsides of Texas would not look the same if it weren’t for Jim Schutt,” said Beverly Storey, TTI Environmental Management Program manager and a coworker of Jim’s. “You’ve made us all look good, and we appreciate that.”

Schutt’s retirement party included humorous stories from the people who worked with him for two decades. Agency Director Dennis Christiansen presented Schutt with a clock, saying, “The contributions from Jim Schutt have been significant. This is a bittersweet occasion for us.”

“All of a sudden, you turn around and 20 years have gone by,” Schutt told the crowd. “I wouldn’t have traded a day of it. I worked with a great group of people. Thanks for everything.” Schutt officially retired from TTI in June.

Successful interactive certification program runs its course

TTI Communications’ most successful interactive course has been retired by its sponsor, the International Right of Way Association (IRWA), as it adapts its curriculum to a changing workforce.

Since the course’s delivery in October 2000, IRWA has distributed more than 800 sets to right-of-way agents worldwide. The course taught right-of-way agents the nuts and bolts of right-of-way acquisition, with a focus on effective research strategies and successful negotiations with property owners.

“In many ways this has been the flagship interactive educational product for TTI Communications,” says Communications Director Richard Cole, who co-designed the architecture and programmed much of the course’s interactivity.

The CD-ROM course featured video-based property negotiations, QuickTime virtual reality property walkabouts, land-plotting and description-testing mechanisms, and a web-based certification procedure. Original course materials were adapted to create the interactive manual contained on a second CD-ROM.

“When this course was completed and for the next several years, it was a key education initiative that allowed students the opportunity to obtain right-of-way education at their own pace,” explains David W. Sinclair, vice president for Wilbanks Resources Corporation. Sinclair served as IRWA’s technical expert during project development. “I’ll always appreciate the creativity and professionalism exhibited by the TTI team when the course was created.”

Childers becomes assistant agency director

The former deputy city manager for the City of College Station, Terry L. Childers, accepted the position of assistant agency director for Texas Transportation Institute (TTI) effective May 19. Terry Childers joins the Institute with a distinguished career in municipal government and private-sector management.

“Terry brings a unique set of skills and experiences that will provide TTI with strategic, objective insight into many of the challenges faced by all levels of government,” says Associate Agency Director Bill Stockton. “Furthermore, Terry has a long history of innovative organizational development that will benefit our professional development and research development goals.”

Childers received a bachelor’s degree in political science from Abilene Christian University and a master’s degree in public administration from the University of North Texas. He held city management positions in Austin, Tyler and Oklahoma City before starting his own business and serving as its president for seven years. He accepted the position of deputy city manager of College Station in 2006.

According to Agency Director Dennis Christiansen, “TTI needs to be devoting more time and effort to strategic initiatives — sorting out where we want to be in three to five years and how we are going to get there. Terry brings an outstanding set of skills to help move us forward.”

Childers is a long-term board member for Abilene Christian University and is currently serving on the board of directors for the Brazos Food Bank and Bryan College Station Family Promise.
TECHNICAL REPORTS


“Construction Details and Initial Performance of Two High-Performance Base Sections,” by Tom Scullion, 5-4358-01-1, May 2, 2008.


“Integration and Consolidation of Border Freight Transportation Data for Planning Applications and Characterization of NAFTA Truck Loads for Aiding in Transportation Infrastructure Management: Second Year,” by Juan Villa, 0-5339-2, August 27, 2008.


“Rolling of Two High-Performance Base Sections,” by Ed Hard, 0-5606-1, August 7, 2008.


PROJECT SUMMARY REPORTS


TTI PUBLICATIONS

A full catalog of TTI publications and other products is online at http://tti.tamu.edu/publications. You can find the publications by searching for either the title or publication number listed here. Most of these publications are available as free downloads in portable document format (PDF).

Printed, bound versions of these reports are also available through the URL above. Publication prices vary depending on length. The Texas Transportation Institute accepts checks, money orders and credit cards.