

Texas Transportation Partnerships...

...connecting you
to the **World.**

a report for the citizens of Texas

August 2001



125 East 11th Street • Austin, Texas 78701-2483

Texas Transportation Partnership

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August 30, 2001

To Fellow Texans and Transportation Users:

During the past century, Texas has invested in transportation infrastructure, from international bridges to county roads to urban light rail systems. This has sustained great economic vitality as the state's population shifted from highly rural and agricultural dependence to concentration in urban communities, filled with diverse industries. The state highway system has more than fulfilled its initial mission of "Getting the Farmer Out of the Mud." But, as the state launches into the 21st century, the challenge has shifted to "Overcoming Near-Stifling Congestion" within and between major urban centers.

A recent report by the Texas Transportation Institute found that congestion is increasing across the country, adding more hours - and expense - to our daily commutes. But congestion doesn't just add up to more time in traffic or money. As evidenced by a cover story in US News and World Report (May 28, 2001), congestion also affects where and how we live, even where we work. For example, downtown areas are seeing a resurgence in growth as more people move there to be closer to jobs. Medical professionals are seeing instances of commuter-related stress among their patients and businesses are now making decisions about where to locate based on transportation.

Efficient and effective transportation is critical to Texas. Our population is increasing and we are driving more miles. Those factors add up to a strain on the system. But Texans are not alone. A 2001 evaluation of the nation's infrastructure by the American Society of Civil Engineers (ASCE) gave roads a "D+," bridges a "C," transit a "C-," aviation a "D," and navigable waters a "D+." The ASCE estimates that a five-year investment of \$1.3 trillion is necessary to bring the U.S. infrastructure up to acceptable standards. Unless positive actions are taken soon, the growing deficiencies of the Texas transportation system will become critical and the state will no longer be well served.

As Chairman of the Texas Transportation Commission, earlier this year I established a Transportation Working Group made up of elected and appointed officials, business leaders and transportation professionals from across the state. I charged this group with looking at Texas' transportation challenges and developing solutions to help the Commission build a new vision for Texas, with clear goals and supporting actions.

The Working Group members met almost monthly, conducted a detailed survey of metropolitan planning organizations, county judges and legislative officials, and deliberated a wide array of views. This report is the result of their efforts. I believe it serves two purposes. First, it is a future transportation blueprint for the Governor, elected and public officials at all levels, business leaders and drivers throughout our great state. Second, it is also a major component of a forthcoming Texas Transportation Plan that will build on these recommendations and provide projected costs for the future of transportation in Texas.

The report contains five goals reflecting the Working Group's vision of Texas transportation over the next decade. The report is organized to provide (1) background on the vision and goals; (2) strategies to accomplish the goals; (3) recommended actions by all transportation partners for accountability; and (4) specific actions for TxDOT's contribution to statewide transportation. The goals, strategies and actions presented in this report are ambitious and many will only be achieved with additional financial resources, statutory authority and continued cooperation with our transportation partners.

I want to personally thank each of the Working Group participants for their dedication to this process and the resulting product that will benefit all of Texas.

*John W. Johnson
Chairman, Texas Transportation Commission*

Transportation Working Group Members

John W. Johnson

*Chairman
Texas Transportation Commission*

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*Mayor, City of Lubbock
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Member, Transportation Excellence for the 21st Century*

“Today in Texas, drive-time delays in our cities and suburbs are 200 percent longer than they were 18 years ago. Texans drive 570 million miles a day...the equivalent of 1,200 trips to the moon and back. And that figure is expected to rise 56 percent by 2025.”

-Governor Rick Perry

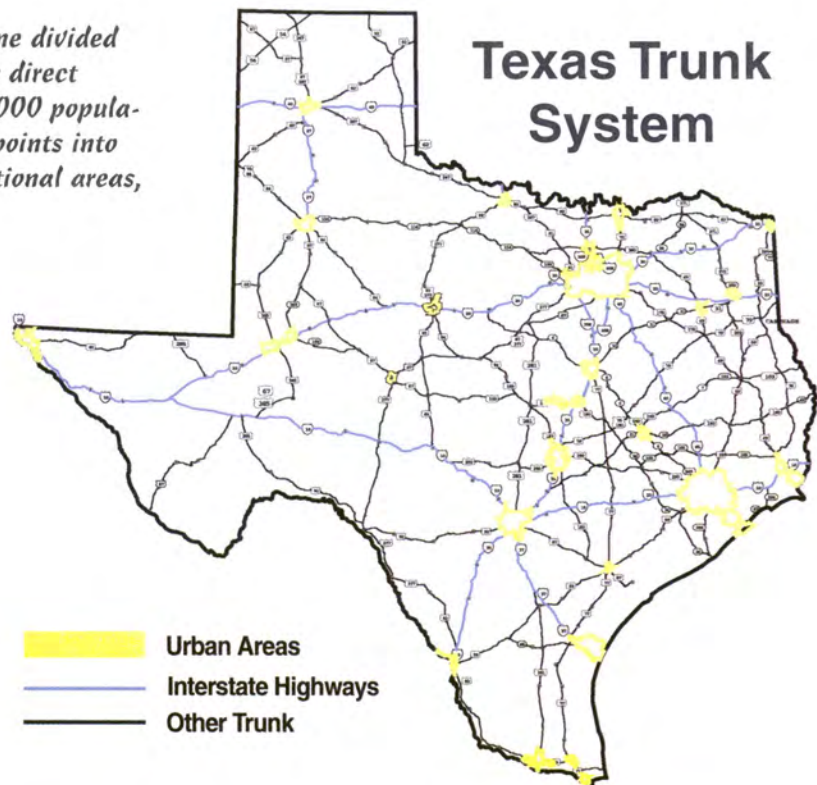
“When routes or segments are added to the Trunk System, there is an expectation that something is going to happen immediately. And that is not the case, because we have a funding crisis...”

We have, in the last few years, doubled the amount of funds spent yearly on our Trunk System -- increasing from \$75 million to \$150 million a year. We have between 60 and 65 years' worth of projects required to build out the Trunk System. This is an enormous challenge. So this level of expectation needs to be put into proper reference: that some of these things are going to occur a lot later than we wish, but we're hopeful that with prudent planning and spending, as well as with increased funding, they can be done in a timely manner.”

-John W. Johnson

Chairman, Texas Transportation Commission

This Trunk System is a planned 4-lane divided rural highway system that provides direct access to every Texas city over 20,000 population, as well as major ports, entry points into Mexico and adjacent states, recreational areas, and military installations.



A Report to Governor Rick Perry, Members of the Texas Legislature and All Texans

From the Texas Transportation Commission's
Transportation Working Group
August 2001

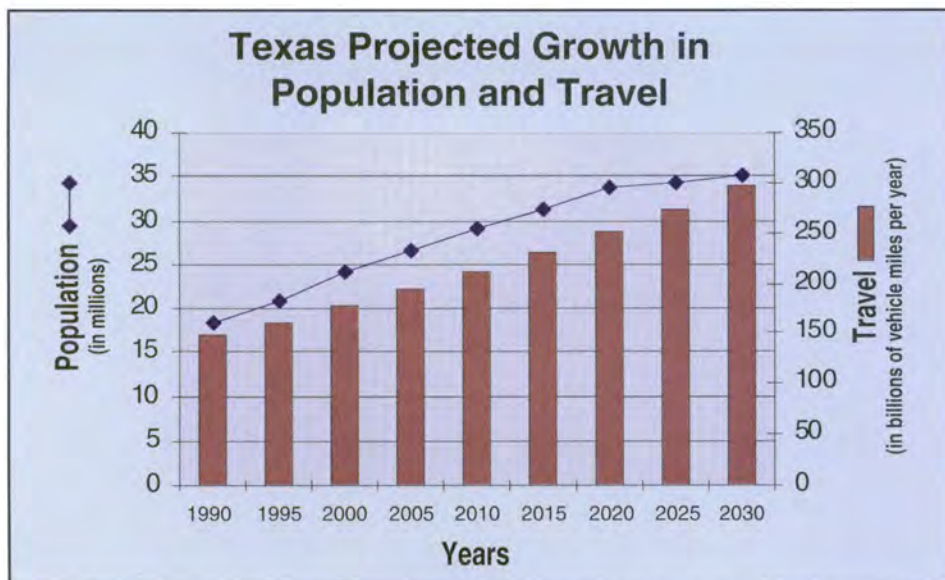
The economic competitiveness of the state and our quality of life are inextricably tied to the value and convenience of our transportation systems and transportation alternatives. Just-in-time delivery, economic competition with other states and foreign countries, the delivery of emergency services, and access to jobs, recreation, shopping and medical care – these are all key elements of modern life that are highly dependent on transportation.

Historically, the Texas transportation system has served the state well. Significant growth in population and the economy over the past several decades has been encouraged and supported by the presence of a first-class transportation system. However, the situation is changing. Our population continues to increase while new trade agreements and changing patterns of doing business increase demands on the transportation system. The Texas transportation infrastructure, much of it built many decades ago,

is now badly in need of rehabilitation and reconstruction. Other components of the transportation systems such as transit buses and road maintenance equipment are aging and in need of replacement.

Traffic congestion in the state is serious and is getting worse. Infrastructure, whether improvements to the existing system or new alternatives, is needed to address congestion issues and to help promote and sustain job growth throughout Texas. However, resources presently allocated to meet these needs are only a fraction of what is needed.

Texas must have safe, efficient intermodal transportation systems that economically move people and goods throughout all areas of the state. This is essential to support economic vitality, quality of life, the natural environment, U.S. military preparedness, and to minimize dependency on foreign energy.



Source of Data: Population estimates and projections produced by Texas State Data Center, Texas Agricultural Experiment Station, Texas A&M University System (Scenario 1.0). Vehicle miles traveled annually on state highway system, city streets and county roads produced by Texas Department of Transportation, Transportation Planning and Programming Division.

“The transportation challenges of this great state need to focus on solutions that have multimodal aspects to them.”

-John W. Johnson
Chairman
Texas Transportation Commission

" We do not have the resources to both maintain the existing system at a reasonable level and expand it to meet the growing needs of the traveling public."

-Robert L. Nichols
Texas Transportation Commission

“In my 49 years on this earth, I have learned three good lessons.
First—Always ask: ‘Why not?’ Do not be preoccupied by the negative question: ‘Why?’
Second—Do not be afraid to fail. Risk is an automatic, ever-present factor of success.
Third—Focus on Results. Process is the graveyard of those who wish to only exist ..

My message is simply this:
Let us think big, plan large and execute huge - together.
We can make a difference. We do not have to just exist.”

-Ric Williamson
Texas Transportation Commission

A Vision for Texas Transportation

Working together we will create a transportation system that goes beyond connecting people to places, materials to manufacturers and businesses to buyers. It will connect Texans to a world of opportunities!

As Texas changes, its transportation needs change. This report is a blueprint for addressing the enormous transportation challenges facing Texas. It contains a vision of Texas' transportation future, goals critical to attaining this vision and recommended actions for meeting these goals. There is increasing demand for connecting people and products to the high speed, high tech world we live in today.

This new world demands transportation systems that are safer, smoother and swifter.

Working together we can provide...

Reliable Mobility

Goal: Enhance Texas urban and metropolitan area mobility and ensure that congestion is less than in comparable peer U.S. cities.

Improved Safety

Goal: Reduce the fatality rate on Texas roadways by five percent within ten years.

Responsible Systems Preservation

Goal: Ensure that 90 percent of Texas' roads and 80 percent of bridges will be in good or better condition within 10 years.

Streamlined Project Delivery

Goal: Improve project delivery from project conception to ribbon cutting, on average, by 15 percent within 5 years.

Economic Vitality

Goal: Attract and retain businesses and industry with adequate transportation systems and services.

Need for Stronger and New Partnerships

The Texas Department of Transportation (TxDOT) is a key entity in achieving statewide transportation goals. However, TxDOT will be one of many partners who must work together to attain these goals. **Transportation is a partnership that includes businesses, state, federal and local governments, as well as the citizens who use and pay for the system.** Work is accomplished in a dynamic environment, guided by public policy, citizen input, engineering principles and technological changes. Through strategic partnerships, resources can be leveraged, and more can be accomplished.

Existing partnerships need to be strengthened and new partnerships need to be created. Future alliances should include non-traditional initiatives from all partners. For example, TxDOT and school districts work together to provide safe and efficient access from the public roadways into school properties. A future alliance might be that TxDOT, Metropolitan Planning Organizations (MPOs), port authorities, rail companies and other joint venture to solve freight delay or queuing problems in ports and at our border with Mexico.

“Establishing new relationships requires listening, creating a climate of respect and trust, and coming to understand the mutual benefits that will ensue if partnership relationships are firmly established.”

-Tom Peters
Thriving on Chaos, p.278

Partners are Essential



Current Examples of Partnership Successes

1. *TransVision* – in Fort Worth, TransStar in Houston, and TransGuide in San Antonio –Joint governmental facilities using Intelligent Transportation Systems (ITS) to monitor vehicular traffic and weather information to help Texans get and keep moving.
2. *Camino Colombia* – The state’s first private toll road – 22 miles of limited access highway providing direct connection from the international Solidarity Bridge near Laredo to IH-35.
3. *The “T”* – TxDOT assisted the “T,” Fort Worth’s mass transit authority in renovating an Amtrak terminal into a modern bus/rail terminal using TxDOT funds and reconfiguring IH-30 to accommodate bus transfers.
4. *Alliance Airport* –The developer and TxDOT jointly funded an overpass and roadway to expedite access to the private freight airport north of Fort Worth.
5. *Amtrak Eagle* – TxDOT loaned Amtrak \$5.7 million for operating expenses to continue service through Texas. Amtrak repaid the loan early and increased profitability by increasing ridership and adding express and package mail.
6. *Toll Credits* – Allow eligible toll facility expenditures to be used as “credits” to help fund transportation projects.
7. *Precious Cargo* – A cooperative planning effort between TxDOT and school districts to develop safe access onto school properties from adjacent public roadways.
8. *“No trucks in the left lane”* – City of Houston and TxDOT are testing the efficiency and safety impacts of separating 18-wheelers from passenger traffic.
9. *“No Zone” Campaign* – Texas Motor Transportation Association and TxDOT provide information to drivers about side and rear “blind spots” on trucks. Also, truckers are given materials to post on the backs of their trailers showing the blind spots to drivers.
10. *Road to Recycling* – Using discarded glass collected by the City of Abilene and area businesses, TxDOT worked with Dyess Air Force Base and Texas Tech University to study the possibility of using finely crushed glass as a road material. The study determined that the substitute road base aggregate has high quality, durability, and crumble-resistance, and can be installed with traditional equipment.
11. *Gulf Intracoastal Waterway* – A joint federal and state effort keeps Texas’ 423-mile intracoastal waterway open for recreational and commercial uses.
12. *Pierce Elevated Freeway (IH-45) in Houston* - TxDOT coordinated with industry and universities to use prefabricated sections of bridge structures to cut down on construction time (70% faster than anticipated).

Respect for the Environment

The environment is a key element in both the quality of life Texans enjoy and the economic competitiveness of the state. Strategies, plans and projects to help achieve transportation goals must be advanced in an environmentally responsible manner.

“Context Sensitive Design” is a term being used today to characterize such projects. The American Society of Civil Engineers has defined Context Sensitive Design as “a collaborative, interdisciplinary approach, involving all stakeholders to ensure that transportation projects are in harmony with communities and preserve environmental, scenic, aesthetic and historic resources while maintaining safety and mobility.” This is the huge challenge of every transportation professional. And, there are many examples of such projects in Texas. Transportation is a part of our human environment and all aspects must be balanced for success. Transportation professionals and community leaders must make the decisions on what is context sensitive for the long term in their communities.

Environmental factors (natural resources, social, aesthetic, and cultural values) strongly influence the delivery and cost of transportation projects. Protecting the environment is an intrinsic part of

planning, building, maintaining and managing transportation projects.

Air quality in Texas is generally better than it was ten years ago. According to the Texas Natural Resources Conservation Commission (TNRCC), toxic air emissions declined by 54 percent between 1988 and 1997; at the same time manufacturing activity increased by 28 percent and the state economy was booming. Even though cars run cleaner, increasing car travel will likely offset improvements in metropolitan areas unless transportation alternatives are expanded and used. As driving increases, various regions of the state are finding it a challenge to meet federal air quality standards, putting federal transportation funding for these areas in jeopardy. Important tools for addressing these urban problems are Intelligent Transportation Systems (ITS) and traffic light synchronization.

Transportation improvements can affect storm water, drainage, and the proper functioning of wetlands. The federal Clean Water Act provides standards and safeguards to which construction projects must adhere. TxDOT and the Texas Parks and Wildlife Department (TPWD) have been instrumental in protecting, restoring and creating wetlands.



TxDOT and TNRCC team up to provide travel information and natural resource education at Orange Travel Center on the edge of the Blue Elbow Swamp.

TxDOT Efficiency

TxDOT should continue to look for ways to become more efficient in planning, designing, building, operating and maintaining its extensive transportation systems. Through technology, good management and appropriate levels of privatization, the department will serve the public with improved transportation services and facilities.

In addition, the very nature of the transportation systems should be under scrutiny, not just the processes through which we build and maintain roads

It is increasingly apparent that Texas cannot realistically expect to simply build its way out of the congestion that already exists in many key areas of the state. Nor can the state expect to accommodate projected increases in traffic volumes in those same areas through construction alone. Other innovative long term solutions must involve more than just expansion of Texas' vast network of highways (although cost beneficial system expansion is certainly a critical part). Texas must find ways to ensure that the highways it has or the ones it can reasonably expect to build actually work better.

The important thing is not how many vehicles a given segment of roadway may accommodate at a given time but rather how quickly and reliably the people and goods in those vehicles get to their destination.

Actions to increase efficiencies include:

- Maximizing the amount of business conducted on-line (e.g., bidding)
- Improving processes for working with transportation partners and providers that are clear, concise and simple
- Streamlining internal processes to focus on rapid delivery of benefits to travelers, partners and stakeholders
- Coordinating transportation system improvements among the various levels of governments
- Identifying those factors that affect functional efficiency of transportation systems and incorporating them into the planning and design of future systems.

An Ongoing Process

While this report sets forth a series of goals for a comprehensive statewide system (including county and state roads and bridges, freight rails, water ports and airports), an ongoing process is needed to ensure that these goals are properly measured and that accountability is properly assigned. Progress should be reported to the State Legislature in a biennial **"State of the Texas Transportation System"** document prepared by TxDOT in conjunction with its partners, and delivered to the governor and the legislature at the beginning of each session.

The goals recommended in this report for our state's transportation system should be viewed as a blueprint. Other work, such as the long-range plans developed by Metropolitan Planning Organizations (MPOs) and TxDOT's *Texas Transportation Plan*, is needed to develop additional strategies and detailed implementation plans.

The partners can then take action to achieve the goals. This will not be a simple task; it will not be accomplished overnight, but now is the time to begin.



Reliable Mobility

Goal: Enhance Texas urban and metropolitan area mobility and ensure that congestion is less than in comparable peer U.S. cities.

Success will be measured by comparing mobility statistics for Texas cities to their peers nationwide.

(Source: Texas Transportation Institute's Urban Mobility Report.)

Why improve mobility and reliability:

- Decrease travel time and costs
- Increase reliability of travel times
- Increase transportation alternatives
- Increase economic opportunities
- Enhance Texans' quality of life and the natural environment

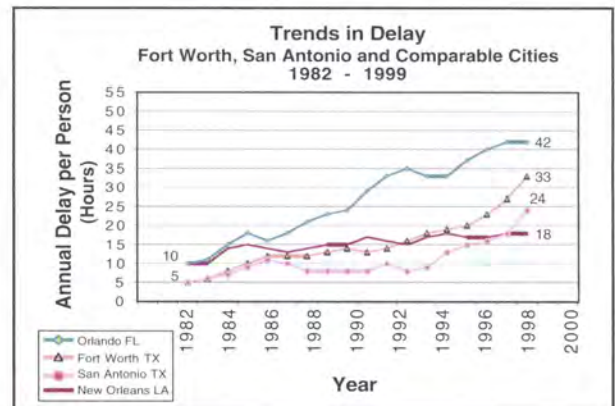
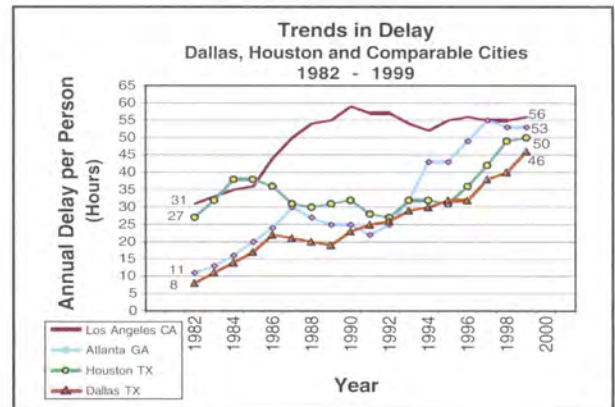
Background:

Current:

Congestion causes unpredictable travel times, longer commute times, increased fuel consumption and pollution, lost productivity of people and freight-moving vehicles, and frustration for drivers. On the average, Texas urban drivers spend 35 hours stuck in traffic each year (the same as watching ten NFL football games).

The amount of travel delay experienced per person can be expressed as an annual amount to "illustrate the congestion time penalty." This "annual time" of delay is due to both heavy traffic congestion and roadway incidents.

The following charts show that annual delay per person in Houston was 50 hours in 1999. In San Antonio, the annual delay per person was 14 hours.

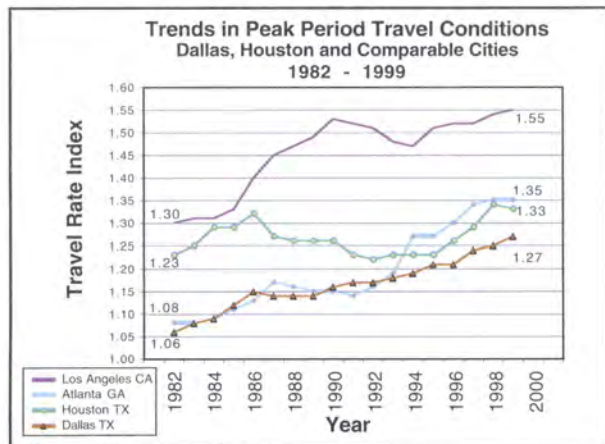


“With all of the resources and modes of transportation available to us in this state, it is unacceptable to lose economic opportunities due to the lack of supporting infrastructure. How do we keep businesses in Texas? How do we ensure that our citizens have the means to safely travel to and from work and on vacation? ANSWER: By providing the seamless movement of goods through multiple transportation modes so our businesses can be confident that their products will be delivered quickly, on time and without unnecessary cost; by providing a seamless movement of people through multiple transportation modes, so our citizens will be free to move about the state, without having to worry about their safety or unnecessary delays.”

—Robert L. Nichols
Texas Transportation Commission

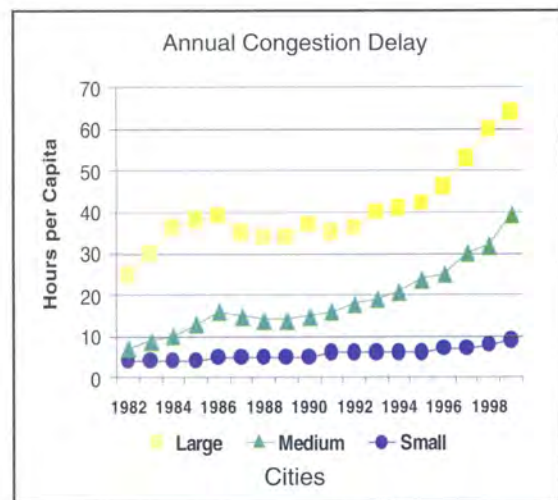
The Travel Rate Index measures the amount of additional time needed to make a trip in the “normally congested” peak period rather than at other times of the day. A number such as 1.30 would show that it takes 30 percent more time to make a trip in the peak period than if the motorist could travel at freeflow speeds. This gives an idea of how much of the change in traffic congestion is due solely to more cars using the roadways and/or not enough travelers choosing one of the other travel modes or travel options.

The following charts show that, on average in 1999, it took 27% more time in Dallas and 21% more time in Fort Worth to travel during the peak periods than in off-peak times.

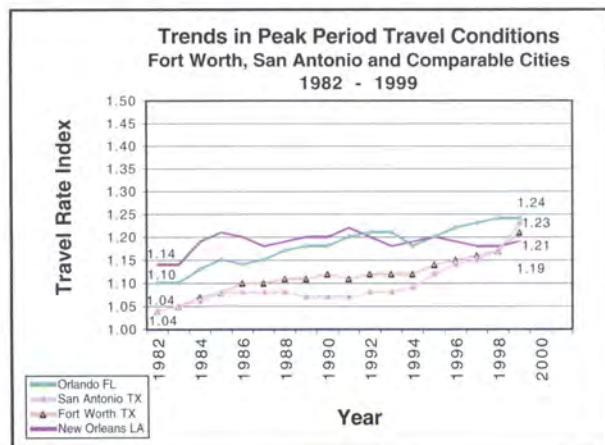


Facts:

- Austin has the highest annual congestion costs for a medium-sized city in the U.S. at \$880 per driver
- Delays cost Texas urban drivers about \$5.5 billion per year
- 20 major U.S. airports experience a total of over 20,000 hours of delay per year
- 40 percent of U.S. ports reported delays caused by inadequate roads
- Transportation accounts for two-thirds of all U.S. petroleum consumed and is responsible for one-third of all carbon dioxide emitted
- Traffic volume is growing 16 times faster than lane miles are added.



Source: 1999 Annual Urban Mobility Report (TTI)



“We either build for now and the future or we don't. And that requires us exercising good wisdom and the staff exercising good judgment. But none of that's possible without the elected body exercising partnership. And this is the way it is.”

—Ric Williamson
Texas Transportation Commission

The Future:

Texas' population increased to almost 21 million people over the last decade (23% increase) and is forecast to be approximately 24 million by 2010. Texans currently drive over 210 billion miles each year. This traffic volume is expected to increase faster than continued population growth. Improving mobility will be a challenge as the population continues to increase. Mobility can be improved by such joint ventures and innovations as: lanes dedicated to carpools, buses and high-efficiency vehicles, convenient transit, synchronized traffic signals, rapid clearance of crashes or vehicle breakdowns, variable work hours, telecommuting, and well managed access and careful land use planning, rapid bridge construction, as well as new or widened roadways.

Strategies to achieve goal:

- Consider the range of transportation alternatives as a part of all capacity improvement studies
- Increase transit availability in rural, urban and metropolitan areas
- Increase the number of transit trips in rural, urban and metropolitan areas

"Public transportation must be a key component in addressing the mobility challenges of our state. Transit is also an integral part of our strategy to improve air quality throughout Texas."

—Ric Williamson

Texas Transportation Commission

Recommended partnership actions to support reliable mobility:

- Implement Intelligent Transportation System (ITS) technologies to monitor and improve traffic flow (for congested corridors, customs facilities, and truck inspection stations)
- Synchronize traffic signals
- Clear traffic incidents quickly (establish state-of-the-art, multi-agency incident response teams and procedures in all major urban areas)
- Provide alternative modes (pedestrian, bike, bus and rail choices)
- Expand fixed-route transit service and deploy smaller buses to increase flexibility and cost-effectiveness

- Encourage ride-sharing
- Encourage travel to occur outside of rush hour (telecommuting, compressed workweeks, staggered business hours and congestion pricing to eliminate peak period trips and spread trips over a longer time frame)
- Improve arterial streets in urban areas to carry higher volumes of traffic
- Increase lane mileage
- Coordinate the work of regional planners and developers to provide sustainable economies and communities that provide alternative forms of transportation
- Research the relationships between transportation and land use decisions
- Increase the availability of alternative fuels
- Design metropolitan transportation plans to attain mobility goals and stress the need for efficiently operating systems to agencies responsible for infrastructure development, maintenance and operation.

"In my opinion, there is not one single element that has greater opportunity for bringing new money into our system for roads than tolling. The areas of the state that are choking down the most with congestion, without much hope of improvement for the future due to funding constraints, are ripe with the greatest opportunity... We will never get ahead of the curve unless we use these methods to leverage our money and expand capacity at a faster rate."

—Robert L. Nichols

Texas Transportation Commission

TxDOT actions to provide reliable mobility:

- Assist local governments in funding non-highway modes through use of innovative financing [within four years]
- Complete traffic information systems (to help drivers select routes and predict travel times) on all major urban freeways [within ten years]
- Work with all cities and counties to improve traffic signal synchronization [within ten years]
- Use non-traditional or "innovative" financing (e.g., inter-local agreements, local matching credits and fund transfers) to assist local governments in funding non-highway modes [within four years]:

- Improve incident response times in metropolitan areas through the following [within four years]
 - Courtesy patrols
 - Traveler information (e.g., “Move it” policy advertised in public service announcements and driver literature)
 - Additional training of local law enforcement
 - Real time incident information
 - “511” or other incident reporting telephone numbers
- Improve the average commute time on urban and metropolitan portions of interstate corridors through [within ten years]:
 - Limiting access ramps
 - Dedicating truck lanes
 - Adding separate carpool, bus and high efficiency vehicle lanes
 - Providing toll roads
 - Increasing transit use

Reliable Mobility Subgroup Members:

Katie Nees, Chair
 Charlie Ball
 Michael Morris
 Carol Rawson
 Amadeo Saenz

Resource People:

Tim Lomax (TTI)
 Gary Trietsch (TxDOT)

The “Solution” is really a diverse set of options that require funding commitments, as well as a variety of changes in the ways that transportation systems are used. The chosen options will vary from area to area, but the growth in congestion over the past 18 years suggests that more needs to be done.

- More roads and more transit are part of the equation. Some older system elements need to be expanded.
- More efficient operations can derive benefits from existing systems. Some of these can be accelerated by information technology and intelligent transportation systems, some are the result of educating travelers about their options, and providing a more diverse set of options than are currently available.
- The way that travelers use the transportation network can be modified to accommodate more demand. There are ways to give incentives and improve conditions for working, shopping and a variety of other activities as well as improving the travel situation.
- There are a variety of techniques that are being tested in urban areas to change the way that developments occur. Most are just familiar methods of arranging land use patterns to reduce the use of private vehicles and sustain or improve the “quality of life” in urban areas. Make transit, walking and bicycling more acceptable for some trips. (The 2001 Urban Mobility Report, p. iv)



Commuters use a Capital Metro bus to get around Austin

Improved Safety

Goal: Reduce the fatality rate on Texas roadways by five percent within ten years.

Success will be measured by a decrease in recorded fatalities per 100 million miles traveled.

(Source: Department of Public Safety's Accident Records Bureau)

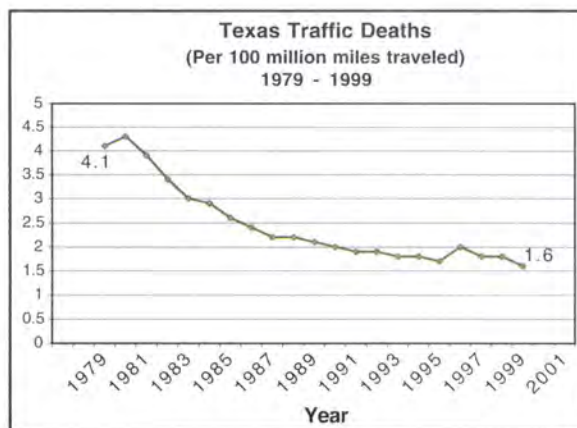
Why improve safety:

- Minimize loss of life
- Minimize injuries
- Minimize loss of property
- Minimize crash-related travel delays

Background:



On average, more than 9 people are killed in traffic crashes each day in Texas.



Despite an 82 percent increase in vehicle miles traveled in the last 20 years, the death rate has fallen 60 percent to 1.6 deaths per one hundred million vehicle miles traveled in 1999.

Current:

Despite an 82 percent increase in vehicle miles traveled in the last twenty years, the death rate has fallen to 1.6 deaths per one hundred million vehicle-miles traveled (the national target is 1.4). However, Texas experiences 3,500 deaths per year. Every 2.5 hours there are 75 vehicular crashes in Texas and someone dies and two people are injured. The economic loss linked to this devastation is about 9 billion dollars annually. Vehicle crashes are the leading cause of death of our children and account for about 35 percent of all deaths in Texas. About one-half of traffic deaths occur on U.S. and state highways, with the remaining crashes evenly split among Interstate, farm-to-market, county and city roads.

The Future:

Vehicle miles traveled are projected to increase by about two percent per year, meaning the number of deaths will increase unless something is done. Changes can be made to the way systems are designed, constructed and operated. Better driver safety awareness is also essential.

Strategies to achieve goal:

- Increase the number of safety improvements completed
- Decrease the time required to install traffic signals
- Increase the number of highway/railroad crossings that are improved

Recommended partnership actions to improve safety:

- Determine unsafe conditions and aggressively correct them (gates at highway/railroad intersections; grade separations; highway signing and pavement markings; traffic control devices; median barriers; shoulder texturing; left-turn bays)
- Perform joint governmental safety reviews on planning, design, construction and operations projects
- Review TxDOT Traffic Operations Division programs to maximize program productivity
- Promote initiatives with positive safety impacts, such as Intelligent Transportation Systems and bottleneck removals
- Work with the Department of Public Safety (DPS) to improve quality and timeliness of crash data
- Develop and fully implement a crash reporting and information system and use the information to evaluate roadway safety
- Refine MPO and TxDOT project selection criteria to allow safety conditions to influence project, policy or program selection
- Conduct “before” and “after” evaluations of safety projects to more accurately determine the value added by the project
- Develop safety education programs for drivers, bicyclists and pedestrians.
- Report biennially to the legislature on safety issues, action on all “unsafe” facilities, and the performance and quality of the crash reporting information system

TxDOT actions to improve safety on the state highway system:

- Support DPS completion of a statewide crash reporting information system (database and data collection equipment) [within five years]
- Work with DPS and the Department of Information Resources (DIR) to provide crash reporting information system data on-line on the State of Texas website (for use by cities, counties, MPOs and state agencies) [within four years]
- Use the crash reporting information system to identify and analyze high risk locations and prioritize safety improvements [within five years]
- Double safety funding to reduce roadway hazards (e.g., providing gates at highway/railroad intersections, grade separations, highway lane separations, highway signing and pavement markings, and shoulder texturing and widening) [within five years]
- Continue driver education program to reduce high-risk behaviors (in areas such as seat belt usage, drunk driving, and “red light running”)
- Streamline traffic signal installation to an average time of six months.

Safety Subgroup Members:

Michael Morris, Chair
Betty Armstrong
Joe Krier
Carol Rawson

Resource Person:

Lindsay Griffin (TTI)



Intelligent Transportation Systems make travel safer in Texas by monitoring travel, managing traffic and providing real-time information to motorists.

Responsible Systems Preservation

Goal: *Ensure that 90 percent of Texas' roads and 80 percent of bridges will be in good or better condition within 10 years.*

Success will be measured by improvements in pavement condition and bridge inspection scores.

(Sources: TxDOT's Pavement Management Information System and Bridge Inspection Database.)

Why preserve transportation systems:

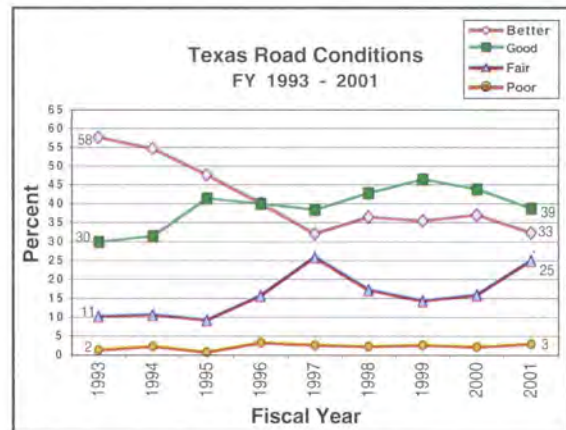
- Provide a higher level of service at a lower overall cost
- Minimize repair costs to vehicle owners
- Increase safety

Background

Current:

Texas has about 300,000 centerline miles of roads (state as well as locally maintained), 49,000 bridges, 12,000 miles of rail lines, 35 urban transit systems, 41 rural transit systems, 16 inter-city bus lines and Amtrak, 27 commercial service airports, 21 executive or freight only airports, 250 county airports, 27 water ports, 423 miles of Gulf Intracoastal Waterways, and 31 international motor vehicle and rail border crossings.

The condition of Texas highways has deteriorated substantially over the past ten years. Although TxDOT has attempted to minimize deterioration through an aggressive preventive maintenance program, the impact of aging roads and increasing traffic (especially commercial trucks) are accelerating road deterioration. Currently about 24,600 lane miles (13% of the total state-maintained system) need rehabilitation and over 12,000 bridges are classified as structurally deficient or functionally obsolete. Currently only 70 percent (35,000 bridges) are in good condition. Commercial trucks impose even greater wear on local roads than on state highways because local roads and bridges are less likely to be designed for heavy loads. Almost 40 percent of the state's transit fleet is beyond the recommended date for replacement.



"Better" condition roads are in very good shape. "Good" condition indicates no work is needed although signs of deterioration are becoming evident. A "Fair" road would have work that needs to be done, but is not a safety problem. "Poor" condition roads need substantial work to be done, including some to correct potential safety problems.

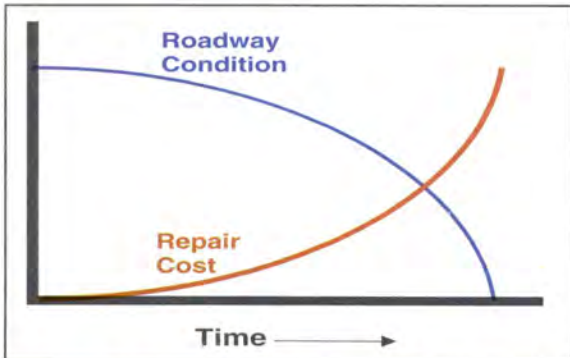
Facts:

- AASHTO road test findings show that an 80,000-lb. 18-wheeler does the same damage as approximately 9,600 passenger cars.
- One barge is equivalent to 15 jumbo train hoppers or 58 trucks
- One tow of 15 barges is the same as 225 train cars or 870 trucks

Future:

The quality of maintenance on the Texas transportation system has a major impact on travelers. For example, rough roads in Texas are increasing annual vehicle operating costs by \$163 per motorist. Unless roadway maintenance increases, this dollar amount will continue to rise.

Without an increase in the maintenance budget, the trend of system deterioration will accelerate and the cost to repair it later will increase exponentially. Also, it will be impossible to achieve other objectives, such as rehabilitation or replacement of all deficient bridges.



If allowed to deteriorate for too long, the facilities cannot be maintained and must be replaced or rebuilt at a much higher cost.

Strategies to achieve goal:

- Explore transportation modes and material alternatives that will reduce total life cycle preservation costs
- Preserve and upgrade general aviation facilities
- Resurface and rehabilitate roadways to preserve investment
- Replace or improve bridges in a timely fashion
- Replace aged transit vehicles to minimize maintenance and operation costs



TxDOT patches approximately 1 million potholes per year. Improved materials make patches last longer but roads continue to deteriorate.

Recommended partnership actions to preserve the systems:

- Increase the percentage of local pavements in good condition
- Increase data available for use in evaluation and assessment of roadway conditions
- Coordinate transportation project improvements among state, counties, MPOs, and cities
- Replace aged transit vehicles in urban and metropolitan areas
- Use designs and materials that are appropriate for the long-term use of the facility
- Preserve local roads
- Patch all potholes quickly to minimize damage to roads and vehicles

TxDOT actions for responsible system preservation:

- Rehabilitate 5 percent of the state highway system annually
- Resurface 12 percent of the state highway system annually
- Rehabilitate 1,500 bridges annually [during the next 10 years]
- Design roads and bridges for increased durability
- Increase transit capital investment to replace worn-out buses used in rural and small urbanized areas

Preservation Subgroup Members:

- Tim Brown, Chair
- Carlos Benavides
- Joe Graff
- Mary Owen
- Carroll Robinson
- Amadeo Saenz

Resource Person:

- Frank McCullough (CTR)

Streamlined Project Delivery

Goal: Improve project delivery from project conception to ribbon cutting, on average, by 15 percent within 5 years.

Success will be measured by reductions in the overall average project planning, design and construction time frames. (Source: TxDOT and partners)

Why accelerate project delivery:

- Deliver transportation benefits to the public sooner
- Minimize economic disruptions
- Improve traveler's satisfaction
- entire corridors be completed
- transportation projects be coordinated with other governmental entities to avoid redundancies
- projects be designed with maintenance and operations in mind
- the most appropriate and long-lasting materials are used
- there be accountability for the work done, including provision of warranties
- construction techniques are used that minimize traffic disruptions

Background

Current:

Transportation users say “get in, get out, and stay out!” as road construction disrupts traffic flow and business access. Delays cost time and money. Many states are seeking project delivery efficiencies due to difficulties in permitting, decision-making, and the long time frames associated with the conventional design-bid-build transportation construction process.

The Future:

It is in the public's best interest that:

- project selection be based on life-cycle cost-benefit analysis
- Reduce the total time from project identification to ribbon cutting
- Increase the percentage of project deadlines met
- Expand hours of construction where appropriate to night-time and off-peak periods [within two years]

Advancing Projects Can Pay Off!

The primary reason for accelerating projects is delivering the benefits (reduced user delay costs) to the traveler sooner. Usually, there are smaller benefits to be gained from reduced construction cost inflation.

For example: Using bonds to accelerate a mobility project in Florida by four years, there were \$27 million of construction cost savings and \$116 million dollars of reduced delay costs. There was a bond interest cost of \$41 million, which netted total benefits to the state and users of \$102 million. Non-bond methods of project acceleration also produce these kinds of benefits.

Net Benefit = \$102 Million



Recommended partnership actions to improve project delivery:

- Conduct a review of all potential additional revenue sources and secure enabling legislation
- Obtain funding, subject to referendum, for the newly created Texas Mobility Fund to accelerate reconstruction and expansion of large critical corridors [within four years]
- Improve methods of measuring public benefits and costs of projects
- Use creative financing to maximize money available for transportation improvements
- Consolidate projects or contracting of corridor segments
- Privatize appropriate amounts of engineering and other services
- Hire a single company for design and construction (design-build, design-build-maintain, or design-build-maintain-operate)
- Anticipate right of way needs for future transportation expansion
- Develop inter-local agreements with transportation partners to clarify and facilitate work
- Allow construction bids to be submitted and received on-line

TxDOT actions to accelerate project delivery:

- Increase the use of toll road funding to deliver more projects [within two years]
- Implement processes to reduce the time required to design projects and gain approval for construction [within two years]
- Streamline internal project delivery processes
- Expand use of accelerated construction techniques.
- Increase the use of incentive/disincentive contracts to accelerate construction completion [within two years]
- Increase the use of pre-cast concrete components in suitable projects [within two years]

Project Delivery Subgroup Members:

Mayor Windy Sitton, Chair
Charlie Ball
Carlos Benavides
Joe Graff
Katie Nees

Resource People:

Mike Behrens (TxDOT)
Byron Blaschke (TTI)
Tommy Gonzalez (Lubbock)



Innovative construction sequencing allowed lanes on Beltway 8 Tollway (in Houston) to open 45 days earlier than scheduled, and the project to be completed three months ahead of schedule.

Economic Vitality

Goal: *Attract and retain businesses and industry with adequate transportation systems and services.*

Success will be measured by growth in the Gross State Product.

(Source: Texas Comptroller of Public Accounts)

Why support economic vitality:

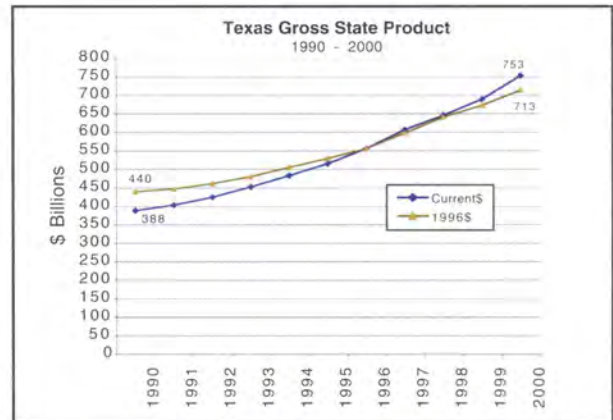
- Global economic competitiveness
- Produce and protect jobs

Background

Current:

Although the State of Texas has enjoyed robust economic growth in recent years, not all regions of the state have shared equally in that prosperity. Some rural counties have unemployment rates in the double digits—about ten times that of counties with the highest employment rates. About 70 percent of all US/Mexico trade passes through Texas and the total volume is growing by 30 percent a year. Border crossings, corridors for trade, corridors for connectivity, and multimodal systems provide Texans opportunities to participate in the growing economy.

U.S. transportation and manufacturing industries find they are losing global market share due to domestic transportation capacity constraints. Intelligent Transportation Systems (ITS) technologies increase the capacity of existing highways. At present TxDOT operates approximately 500 miles of ITS roadways in Austin, Dallas, El Paso, Fort Worth, Houston, Laredo, Pharr and San Antonio. Connectivity and corridor capacity are vital for efficient trade in 2000. The Texas Trunk System, a 10,500-mile planned rural network that includes and complements the Interstate System, currently has about 3,900 miles of 2-lane roadways that need to be upgraded to four-lane divided.



Gross state product of Texas was an estimated \$753 billion in 2000, third among the 50 U.S. states

According to the Texas Comptroller, Texas ranks eighth among the 50 states in the rate of job growth over the past year.

The Future:

Today, the workforce in Texas is about 10 million. By 2020, the labor force is projected to increase by five million (about two percent annually). A larger workforce means more people making the journey to work and increasing demands on Texas transportation systems.

Improving Texas' ability to move products from rural areas, through urban areas and to the rest of the world could improve the economic position of

Texas is World Class

As reported by the Texas Department of Economic Development, Texas offers businesses world-class infrastructure and expanding markets.

- **Largest road network of the 50 U.S. states**
- **More than 90 percent of the state's population lives within 50 miles of an airport.**
- **Port of Houston handles more foreign cargo than any other port in the U.S.**
- **44 railroads, on 12,000 miles of track in Texas, carry 280 million tons of freight annually.**
- **Texas has added more new manufacturing jobs since 1990 than any other state.**

the entire state. The diversity of Texas causes transportation needs to vary greatly throughout the state, from road-dependent rural areas to complex multi-modal systems in metropolitan job centers. Regional priorities must be recognized through funding programs and project selection that deliver a diverse set of services.

For every 100 jobs in Texas' less populated counties at the beginning of the 1990s, 128 now exist. A strong correlation has developed in the past decade between physically attractive rural areas and net migration to those areas. The internet is one of the factors linking urban and rural economies, allowing traditionally urban jobs to be done in rural areas.

Strategies to achieve goal:

- Eliminate gaps or bottlenecks in the Texas transportation systems
- Decrease border-crossing time
- Encourage the use of rail and barge as alternatives to highways for surface freight shipment
- Improve the average travel speed on congested trade corridors

Recommended partnership actions to support economic vitality:

- Identify North American Free Trade Agreement trade corridors and alternative trade corridors
- Identify congested corridors and assess multi-modal alternatives
- Make completion of the Texas Trunk System corridors a priority
- Augment heavily congested areas with toll facilities (roadways, bridges, ports, etc.)
- Provide rail spurs into water ports and airports
- Build inter-modal terminals for freight
- Provide reliever airports as a freight alternative to congested commercial airports

- Support the economic development efforts of state agencies and the Governor's Office
- Encourage master planning to include transportation strategies that support local economic development
- Adequately staff international bridges with customs and inspection personnel

TxDOT actions serving as a catalyst for economic development and job growth:

- Alleviate congestion on trade corridors by developing a mix of alternative transportation modes
- Obtain funding for rapid completion of designated trade corridors
- Design trade corridors to ensure the smooth flow of freight traffic
- Accelerate the completion (from two-lane to four-lane divided) of 800 miles of the Texas Trunk system [within ten years]
- Work with local governments and the freight industry to assess intermodal needs [within four years]
- Implement a program to work with businesses, chambers of commerce and local governments to find locations for new business sites that work well with existing transportation infrastructure [within two years]
- Implement a program to coordinate with businesses to provide safer and better access from business sites to adjacent roads [within two years]
- During early development of major projects, investigate potential impact on economic vitality

Economic Vitality Subgroup Members:

Joe Krier, Chair
 Betty Armstrong
 Mary Owen
 Carroll Robinson
 Windy Sitton

Resource People:

Rob Harrison (CTR)
 Tommy Gonzalez (Lubbock)



Houston, Texas' largest metropolitan area, has a booming and diversified economy served by multiple international ports, airports, rails, and interstates.