

# BETTER ROADS SAFER ROADS

## THE TEXAS TRANSPORTATION PLANNING PUZZLE

PLANNING FOR  
OLDER DRIVERS: TEXAS'  
CHANGING POPULATION

WHAT IS THE TEXAS RURAL  
TRANSPORTATION PLAN?

# BETTER ROADS SAFER ROADS

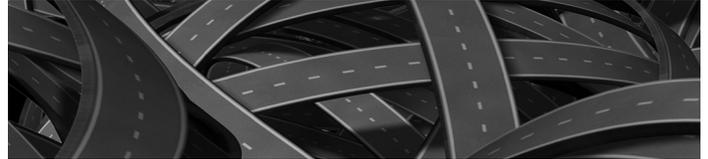
Special Edition 2016 – TxLTAP.org

- TxLTAP -

## 03

### THE TEXAS TRANSPORTATION PLANNING PUZZLE

Include trains, cars, buses, ferryboats, bicycles, pedestrian paths, and trucks that are accessible for everyone



## 09

### PLANNING FOR OLDER DRIVERS: TEXAS' CHANGING POPULATION

Addressing challenges an older population presents



## 11

### WHAT IS THE TEXAS RURAL TRANSPORTATION PLAN?

A blueprint for the planning process in rural areas



## 08

### TIGER FUNDING

U.S. Transportation Secretary Foxx announces \$500 million in eighth round of Tiger Funding

## 13

### ROAD RIGHT-SIZING

A brief look into road diet usage in Austin, TX

## 08

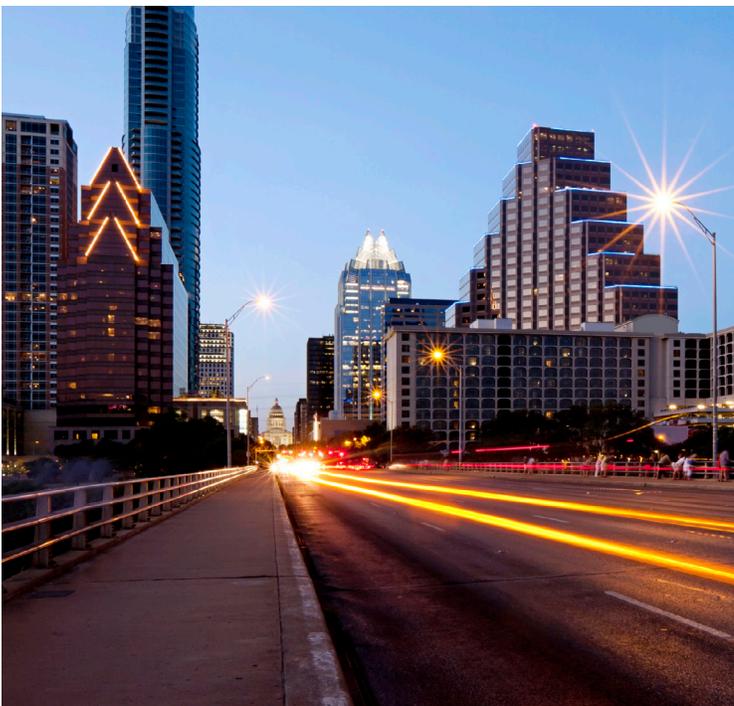
### SPRING TRAINING WORKSHOP

Tuesday, April 19, 2016, in Decatur, TX

## 14

### FHWA SEEKS PARTNERS

The unpaved road safety pooled fund study



The Local Technical Assistance Program (LTAP) is a nationwide effort financed by the Federal Highway Administration and individual state departments of transportation. Its purpose is to translate into understandable terms the best available technology for roadways, bridges, bicycle and pedestrian facilities, and public transportation for city and county roadway and transportation personnel. The TxLTAP, operated by the University of Texas at Arlington, is sponsored by the Texas Department of Transportation (TxDOT) and the Federal Highway Administration. This newsletter is designed to keep you informed about new publications, techniques, and training opportunities that may be helpful to you and your community.

# LETTER FROM TxLTAP ADMINISTRATION

“ By failing to prepare,  
you are preparing to fail.”  
- Benjamin Franklin

Benjamin Franklin's famous quote above can be applied to many things, but especially to the focus of this special edition of the TxLTAP newsletter: transportation planning. Our state's and communities' economic health depends greatly on getting Texas' transportation infrastructure right. Proper planning is crucial. Without clearly understanding where we are, what we have, what's coming and subsequently, what we'll need, we will fail to correctly expand our transportation system in a manner which prepares us for the future.

If you are unfamiliar with Texas' extensive transportation planning efforts and the complex web of agencies, authorities, local governments and organizations involved, please take a moment to absorb information found in this periodical. From it, you will discover that transportation planning is multifaceted and involves not only traditional roads, but airports, railways, air quality, mass transit systems and more.

It is our hope these articles provide insight into and clarity on the transportation planning process, as well as, emphasize that all communities should play a part, whether they are major metropolitan complexes, burgeoning suburban areas, or rural communities. Collaborative transportation planning will keep the state on a continued path for success.

Speaking of planning, plan to take advantage of TxLTAP's online resources by visiting the program's website at [txltap.org](http://txltap.org)

Respectfully,  
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## PLANNING FOR THE FUTURE - THE TEXAS TRANSPORTATION PLAN 2040

The Texas Transportation Plan (TTP) 2040 serves as TxDOT's long-range, performance-based transportation plan. The TTP documents the existing infrastructure and funding needs for all passenger and freight modes in the state over the next 25 years. The document guides planning and programming decisions for the development, management, and operation of the statewide, multimodal transportation system in Texas. As the state's first performance-based long-range transportation plan, the TTP provides a path forward to align transportation investment decisions with performance outcomes to address passenger and freight needs and demands amid unprecedented growth and declining revenues.

### *The goals for the TTP are as follows:*

- **Safety** - Improve multimodal transportation safety.
- **Asset Management** - Maintain and preserve multimodal assets using cost-beneficial treatments.
- **Mobility and Reliability** - Reduce congestion and improve system efficiency and performance.
- **Multimodal Connectivity** - Provide transportation choices and improve system connectivity for all passenger and freight modes.
- **Stewardship** - Manage resources responsibly and be accountable and transparent in decision-making.
- **Customer Service** - Understand and incorporate customer desires in decision processes and be open and forthright in all agency communications.
- **Sustainable Funding** - Identify and sustain funding sources for all modes.

### *The TTP includes:*

- An infrastructure inventory, such as highways and bridges, and their usage;
- A future infrastructure inventory and service needs;
- A future funding projection;
- A funding sources description and an analysis of alternative and innovative sources to address funding shortfalls; and
- Performance goals, measures, and targets.

### *The transition of current practices to a more performance-based approach is an ongoing process that began with the adoption of the TTP 2040. As the TTP is implemented, TxDOT will:*

- Advance asset management planning and predictive capabilities for all project types, both at the Division and District levels;
- Make strategic capacity enhancements to reduce bottlenecks and improve travel times in key passenger and freight corridors;
- Continue to work with elected officials to identify and develop sustainable funding sources; and
- Continue its partnerships with multimodal transportation providers to develop and implement provide new technologies, demand management strategies, system operations and non-motorized transportation improvements to meet identified needs.

More information on the TTP 2040 is located at [www.txdot.gov/inside-txdot/division/transportation-planning/statewide-plan.html](http://www.txdot.gov/inside-txdot/division/transportation-planning/statewide-plan.html).

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# THE TEXAS TRANSPORTATION PLANNING PUZZLE



Our state's transportation system is a multifaceted behemoth involving every layer of government and impacting each citizen and business in Texas. In many ways, the system could be considered a living organism which grows and evolves within its existing environment. Like any organism, the transportation system responds and reacts to pressures such as demographic changes, system demand, economic factors, and resource availability. The health of Texas' transportation system relays a great deal on forecasting future conditions and developing strategic plans.

Like the transportation system itself, transportation planning is a complex process often viewed as a confusing mix of acronyms and organizations. The following primer is meant to help clarify a few key terms and processes.

## WHAT IS A TRANSPORTATION SYSTEM?

The transportation web which include trains, cars, buses, ferryboats, bicycles, pedestrian paths, and trucks that are accessible for everyone.

## WHICH ORGANIZATIONS ARE INVOLVED?

### Transit agencies:

Organizations that provide transportation for the public. Public transportation includes buses, subways, light rail, commuter rail, monorail, passenger ferryboats, trolleys, inclined railways, and people movers.

### Metropolitan Planning Organizations:

Federal law requires that a Metropolitan Planning Organization (MPO) be designated for each urban area with a population of 50,000 or more. The MPO will provide a continuing, cooperative, and comprehensive transportation planning process resulting in plans and programs which consider all transportation modes and supports metropolitan community development and social goals. These plans and programs shall lead to the development and operation of an integrated,

intermodal transportation system that facilitates the efficient, economic movement of people and goods.

For a list of Texas' MPOs, visit the Association of Texas Metropolitan Planning Organizations (TEMPO) at <https://www.texasmpo.org/>.

### Texas Transportation Commission:

The Texas Transportation Commission consists of five commissioners appointed by the governor with the advice and consent of the senate to govern the Texas Department of Transportation (TxDOT). The commissioners' six-year terms are staggered, so that an appointment is generally made every two years. The governor designates one commissioner to serve as the chair. The Texas Transportation Commission adopted the Texas Transportation Plan (TTP) 2040 on Feb. 26, 2015 to serve as TxDOT's long-range, performance-based transportation plan. The TTP 2040 guides planning and programming decisions for the development, management, and operation of the statewide, multimodal transportation system in Texas over the next 25 years.

### Regional Mobility Authorities:

A regional mobility authority (RMA) is a political subdivision formed by one or

more counties to finance, acquire, design, construct, operate, maintain, expand or extend transportation projects. These projects may be tolled or non-tolled. Each year, the Texas Transportation Commission requires RMAs to submit a compliance report and a project report. There are specific requirements for each report.

### What types of projects are RMAs involved in?

- Tolled or non-tolled roadway
- Passenger or freight rail (tracks, locomotive equipment and facilities)
- Ferry
- Airport
- A transit system
- A bridge
- Pedestrian or bicycle facility
- Intermodal hub
- Border crossing inspection station
- Automated conveyor belt for the movement of freight
- Air quality improvement initiative
- Public utility facility
- Port security, transportation or facility
- Parking area, structure or facility, or a collection device for parking fees
- Project listed in State Implementation Plan (air quality plan)





## WHAT IS TRANSPORTATION PLANNING?

A continuing, collaborative, and comprehensive process of examining demographic characteristics and travel patterns for a given area. Transportation planning examines how these characteristics will change over a period of time, evaluates alternatives for an area's transportation system, and assesses the most effective use of local, State, and Federal transporta-

tion funding. Long-range planning is typically done over a period of 20 years; short-range programming of specific projects usually covers 4 years.

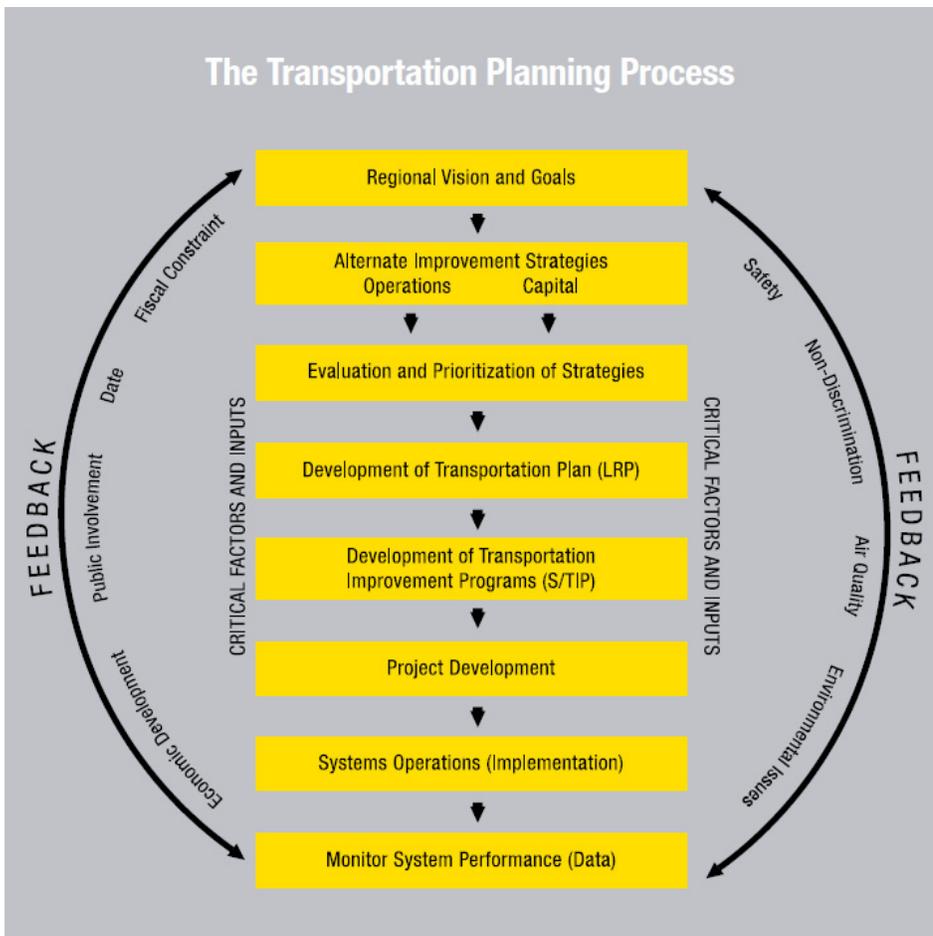
## WHAT IS THE TRANSPORTATION PLANNING PROCESS?

Transportation planning is a cooperative, performance-driven process by which long and short-range transportation improvement priorities are determined. MPOs,

States, and transit operators conduct transportation planning, with active involvement from the traveling public, the business community, community groups, environmental organizations, and freight operators.

*Transportation planning typically follows the following steps:*

1. **Engaging** the public and stakeholders to establish shared goals and visions for the community.
2. **Monitoring** existing conditions and comparing them against transportation performance goals.
3. **Forecasting** future population and employment growth, including assessing projected land uses in the region and identifying major corridors of growth or redevelopment.
4. **Identifying** current and projected transportation needs by developing performance measures and targets.
5. **Analyzing** various transportation improvement strategies and their related tradeoffs using detailed planning studies.
6. **Developing long-range plans and short-range programs** of alternative capital improvement, management, and operational strategies for moving people and goods.
7. **Estimating** how recommended improvements to the transportation system will impact achievement of performance goals, as well as impacts on the economy and environmental quality, including air quality.
8. **Developing a financial plan** to secure sufficient revenues that cover the costs of implementing strategies and ensure ongoing maintenance and operation.



## WHAT ARE THE KEY PRODUCTS OF THE TRANSPORTATION PLANNING PROCESS?

Federal requirements call for agencies to deliver several key groups of documents as part of the transportation planning process. These required documents include:

- **Planning Work Programs**, which include Unified Planning Work Programs prepared by MPOs and State Planning and Research Work Programs prepared by States.
- **Transportation Plans**, which include Metropolitan Transportation Plans prepared by MPOs and Long Range Statewide Transportation Plans prepared by States.
- **Transportation Improvement Programs**, which include Metropolitan Transportation Improvement Programs prepared by MPOs and Statewide Transportation Improvement Programs prepared by States.

### THE UNIFIED PLANNING WORK PROGRAM (UPWP)

The UPWP lists the transportation studies and tasks that MPO staff and member agencies will perform to support the metropolitan transportation planning process. It must identify the funding source for each project, the schedule of activities, and the agency or agencies responsible for each task or study. UPWPs reflect issues and strategic priorities unique to each metropolitan area and will differ by MPO.

*UPWPs cover a one- to two-year period and typically include the following elements:*

- Planning data and analysis tasks, such as data collection and trends monitoring, and studies of a variety of demographic, development, transportation, and environmental factors.
- Public outreach activities conducted in accordance with the Public Participation Plan (PPP), including collaborative development of the PPP and periodic evaluation of its effectiveness.
- Preparing the MTP and TIP, including supporting studies and products that will result from these activities.
- Completing of all federally funded studies, including all relevant State and local planning activities conducted without Federal funds.

### THE METROPOLITAN TRANSPORTATION PLAN (MTP)

In metropolitan areas, the MTP identifies how the region intends to invest in the transportation system. Federal law requires the plan, “include both long-range



and short-range program strategies/ actions that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods.”

The MTP is prepared through active engagement with the public and stakeholders using an approach that considers how roadways, transit, nonmotorized transportation, and intermodal connections are able to improve the operational performance of the multimodal transportation system. Accordingly, the MTP must cover performance measures and targets and include a report evaluating whether the condition and performance of the transportation system is meeting those targets.

### THE TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

MPOs use a TIP to identify transportation

projects and strategies they will pursue over the next four years. These projects reflect the investment priorities detailed in the MTP. TIPs list the immediate program of investments that, once implemented, will go toward achieving the performance targets established by the MPO and documented in the MTP. In short, a TIP is a region's means of allocating its transportation resources among the various capital, management, and operating investment needs of the area, based on a clear set of short-term transportation priorities prepared through a performance-driven process. All projects receiving Federal funding must be in the TIP.

*Under Federal law, TIPs must follow these rules:*

- Cover at least four years of investment.
- Be updated at least every four years.
- Remain fiscally constrained so that projects are only included if their full funding can reasonably be anticipated.
- In air quality nonattainment and

maintenance areas, the projects in the first two years of the TIP are limited to those with available or committed funding.

- Conform with the State Implementation Plan (SIP) for air quality in nonattainment and maintenance areas.
- Report on anticipated progress in meeting performance targets.
- Include projects for which Federal funds were obligated in the prior year.
- Be approved by the MPO and the governor.
- Be incorporated, directly or by reference and without change, into the STIP.

## THE LONG-RANGE STATEWIDE TRANSPORTATION PLAN (LRSTP)

State DOTs cooperate with non-metropolitan area local officials to develop an LRSTP using a performance-driven process based on an agreed upon set of performance measures and targets. Plans are prepared with active engagement with the public and stakeholders and will vary by State. LRSTPs may be either policy-oriented strategic plans, or project-focused

investment plans that include lists of recommended projects.

### The Statewide plan also addresses:

- Policies and strategies, or future projects.
- Projected demand for transportation services over 20 or more years.
- A systems-level approach that considers roadways, transit, nonmotorized transportation, and intermodal connections.
- Statewide and regional land use, development, housing, natural environmental resources, freight movement and employment goals and plans.
- Cost estimates and reasonably available financial sources for operation, maintenance, and capital investments.
- Ways to preserve existing roads and facilities and make more efficient use of the existing system.

## THE STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)

The STIP is similar to the TIP in that it identifies the immediate short-range

priorities for transportation investments Statewide and must be fiscally constrained. Through an established process, State DOTs work with local officials to identify projects across rural areas, small urban areas called urban clusters—with 2,500 to 49,999 people—and urbanized areas. Projects are selected for the STIP based on adopted procedures and criteria. As noted above, TIPs developed by MPOs must be incorporated, directly or by reference and without change, into the STIP.

### Under Federal law and regulation, the STIP:

- Must be fiscally constrained and may include a financial plan.
- Must be approved by FHWA and FTA.
- Including an overall determination, called the Planning Finding, which states whether Federal requirements are being met.
- STIP approval must be granted before projects can proceed from the planning stage to the implementation stage.
- Must report anticipated progress in

	Who Develops?	Who Approves?	Time/Horizon	Contents	Update Requirements
<b>UPWP</b>	FHWA/FTA/MPO	MPO	1 or 2 years	Planning studies and tasks	At least once every 2 years
<b>MTP</b>	MPO	MPO	20 years	Future goals, strategies and projects	Every 5 years (4 years for non-attainment and maintenance areas)
<b>TIP</b>	MPO	MPO/Governor	4 years	Transportation investments	Every 4 years
<b>LRSTP</b>	State DOT	State DOT	20 years	Future goals, strategies and projects	Not specified
<b>STIP</b>	State DOT	FHWA/FTA	4 years	Transportation investments	Every 4 years

The table above briefly outlines several key groups of documents which are a part of the transportation planning process and the responsible agencies.



## U.S. TRANSPORTATION SECRETARY FOXX ANNOUNCES \$500 MILLION IN EIGHTH ROUND OF TIGER FUNDING

WASHINGTON – U.S. Transportation Secretary Anthony Foxx announced \$500 million will be made available for transportation projects across the country under an eighth round of the highly successful Transportation Investment Generating Economic Recovery (TIGER) competitive grant program.

“The TIGER program funds vital transportation projects that provide real benefits to communities all across the country. Every year, we see hundreds of compelling applications that have the potential to improve people’s access to economic opportunities, make people safer, and improve their well-being,” said Secretary Foxx. “I am proud that for seven rounds, TIGER has been able to make a valuable contribution to improving our nation’s transportation infrastructure, and I look forward to this year’s competition.”

Like the first seven rounds, FY 2016 TIGER discretionary grants will fund capital investments in surface transportation infrastructure and will be awarded on a competitive basis for projects that will have a significant impact on the nation, a metropolitan area, or a region.

The 2016 TIGER grant program will continue to make transformative surface transportation investments by providing improve-

ments over existing conditions. The grant program will focus on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for communities, both urban and rural.

The Consolidated Appropriations Act, 2016, does not provide dedicated funding for the planning, preparation, or design of capital projects; however, these activities may be funded as part of an overall construction project.

Since 2009, TIGER has provided nearly \$4.6 billion to 381 projects in all 50 states, the District of Columbia and Puerto Rico, including 134 projects to support rural and tribal communities. Demand has been overwhelming, and during the previous seven rounds, the Department received more than 6,700 applications requesting more than \$134 billion for transportation projects across the country.

The highly competitive TIGER grant program supports innovative projects, including multi-modal and multi-jurisdictional projects, which are difficult to fund through traditional federal programs. These federal funds leverage money from private sector partners, states, local governments, metropolitan planning organizations, ports, and transit agencies. The 2015 TIGER round alone is leveraging \$500 million in federal investment to support \$1.4 billion in overall transportation investments.

TIGER funding is provided in the Consolidated Appropriations Act, 2016, signed by President Obama on December 18, 2015. Applications are due April 29, 2016. For more information on how to apply, please visit [www.transportation.gov/TIGER](http://www.transportation.gov/TIGER).

APRIL 19, 2016

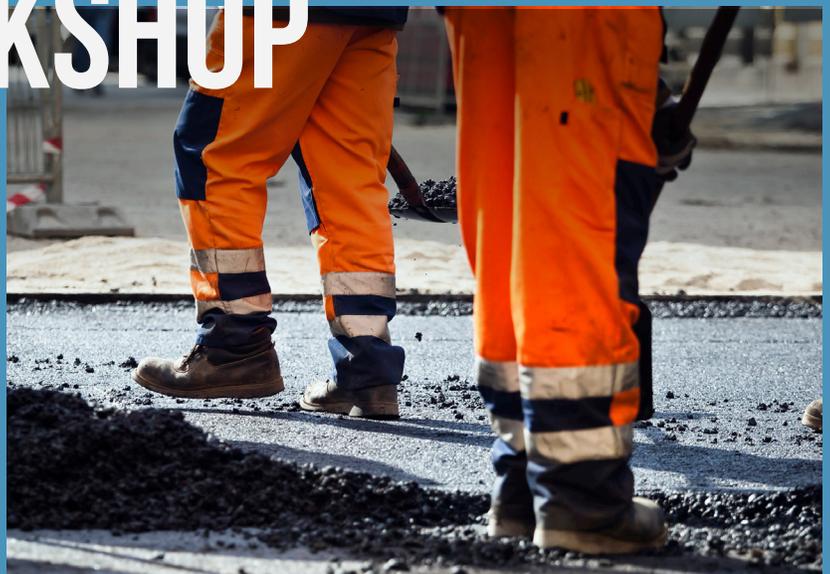
DECATUR  
CIVIC  
CENTER

Texas Association of County Engineers and Road Administrators'

# SPRING TRAINING WORKSHOP

Our Spring One-Day workshop is scheduled for Tuesday, April 19, 2016. It will be held in Decatur, TX at the Decatur Civic Center. The Texas Association of County Engineers and Road Administrators is pleased to have the University of Texas at Arlington's Public Works Institute teach on roadway maintenance topics. Applications have been made for County Commissioners to earn up to 5.5 continuing education hours for attending the event.

The registration fee is \$40 per person. An additional \$10 processing fee will be necessary for County Commissioners desiring continuing education credits. Contact Markie Casebier at 512-260-1376 with questions on how to register for the event.



# PLANNING FOR OLDER DRIVERS

## TEXAS' CHANGING POPULATION

The U.S. Census Bureau projects there will be 9.6 million people 85 and older by 2030, up 73% from today. Road safety analysts predict that by 2030, when all baby boomers are at least 65, they will be responsible for 25% of all fatal crashes. Given that it is one of the nine most populated states and attracts retirees from across the country, Texas will be greatly impacted by this demographic change.

With that in mind, the greater transportation community need to consider the consequences and begin to plan for these older user of the transportation system. This growing group of drivers, pedestrians, and other road users are experiencing declining vision; slowed decision making and reaction times; exaggerated difficulty when dividing attention between traffic demands and other important sources of information; and reductions in strength, flexibility, and general fitness.

To assist transportation organizations in addressing challenges an older population presents, the Federal Highway Administration (FHWA) offers its Handbook for Designing Roadways for the Aging Population. The treatments in the Handbook focus on five categories of roadway features, each containing a number of specific design elements for which guidance is provided. The five categories include intersections, interchanges, roadway segments, construction work zones, and highway-rail grade crossings.

1.

Intersections encompass a majority of the recommendations because numerous studies show that intersections are the most problematic areas with respect to crash frequency and severity involving aging drivers. Intersections also involve the greatest exposure to risk for pedestrians.

2.

Interchanges are addressed with a focus on opportunities to improve difficulties with lane changing (merging/weaving) and wrong-way driving maneuvers.

3.

Roadway segments place emphasis on horizontal curves (delineation) and provisions for passing zones.

4.

Construction work zones represent opportunities to enhance path delineation and advance notice of road work. These treatments are warranted due to heightened tracking (steering) demands that may increase a driver's workload along with an increased potential for unexpected events that require a rapid response.

5.

Highway-rail grade crossings are the final category. Although conflicts are rare, they can be unexpected and severe. Problems of detection (despite passive controls) may be amplified for aging drivers due to the sensory losses experienced with aging.



Large route shield markings like these should be used in advance of major freeway junctions to guide drivers to the correct lane.

The Handbook contains descriptions of 51 treatments in these 5 categories, plus recommendations for their implementation. Nearly half of the treatments (24) pertain to intersections, such as left-turn treatments, signs, signals, lighting, and roundabouts. Another 8 treatments pertain to interchanges; these treatments are largely intended to improve the driver's information and intended actions at the approaches to entrance and exit ramps, although lighting and delineation of the ramps themselves are discussed as well. There are 10 treatments for roadway segments; many of these focus on improving the visibility and navigability of horizontal and vertical curves. Seven construction work zone-related treatments provide recommendations on the use of changeable message signs, static signs, and channelization for lane closures and other road work. Finally, the two treatments for highway-rail grade crossings (delineators and lighting) are intended to improve the visibility of crossings for approaching drivers.

Within each category of features, treatments are classified as proven practices or promising practices. The 33 proven practices are based on supporting evidence drawn from a comprehensive review of field and laboratory research addressing human factors and highway safety.

Promising practices include 18 additional treatments that are in use by one or more agencies around the country.

The treatments presented in the Handbook do not constitute a new standard of required practice. The final decision about when and where to apply the treatments remains at the discretion of State and local design and engineering professionals.

The Handbook is a resource that can be used to enhance safety in jurisdictions with high numbers of aging road users, or it may be employed primarily as a problem-solver at crash sites. The transportation community can apply Handbook treatments in the design of new facilities and planned highway reconstruction projects, or use it to make improvements to existing facilities. The implementation of these treatments is intended to translate into real gains in safety and mobility for aging drivers, and many of the treatments have potential benefits for all users of the surface transportation system.

In an effort to ensure knowledge sharing, FHWA and the National Highway Traffic Safety Administration (NHTSA) have developed a Clearinghouse for Older Road User Safety, or ChORUS. FHWA and NHTSA envision this clearinghouse devoted to the safety of older road users as a one-stop shop for transportation officials, community leaders, older drivers,

and their families and caregivers. The agencies will fill the clearinghouse with information about safer road designs for older road users, including drivers, pedestrians, cyclists, and persons with mobility or cognitive impairments; cost-effective roadway countermeasures to improve community safety for all; licensing information and policies; and other resources. The clearinghouse includes a community forum and discussion boards where users can interact, and is optimized for desktop computers, tablets, and other mobile devices. The clearinghouse can be accessed at <https://roadsafeseniors.org/>.

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Find a pdf copy of the Handbook for Designing Roadways for the Aging Population on TxLTAP's online library.

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Another example of a recommended practice is this "jumbo" street sign.

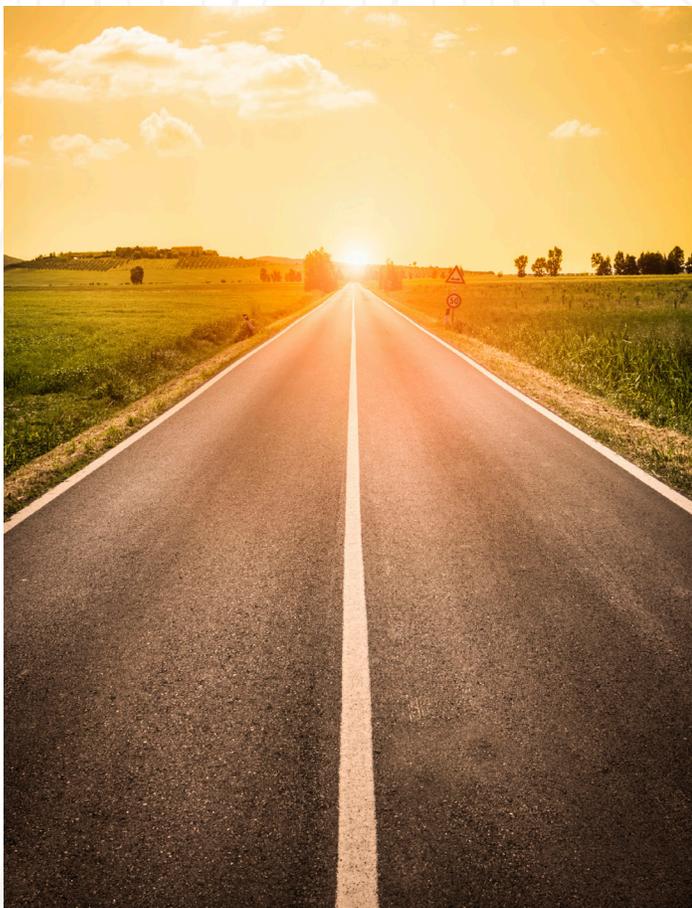
Marcus A. Brewer, P.E., is an associate research engineer with the Texas A&M Transportation Institute. He has more than 15 years of experience in research on geometric design, traffic control devices, pedestrian mobility, and roadway safety. He served as the primary author for completion of the Handbook for Designing Roadways for the Aging Population. He holds a B.S. in civil engineering from The University of Kansas and a master's degree in civil engineering from Texas A&M University.

Rebecca T. Crowe is a transportation specialist with FHWA's Office of Safety. Crowe has been with FHWA for 14 years and manages the Older Road User program in

addition to the Road Safety Audit, Motorcycle Safety, and Road Diet initiatives. She holds a B.S. in urban studies and planning from Virginia Commonwealth University and a master's degree in transportation planning, operations, and logistics from George Mason University.

For more information, see the Handbook for Designing Roadways for the Aging Population, which is available in HTML and PDF formats through the Web site of the FHWA Office of Safety at [http://safety.fhwa.dot.gov/older\\_users/handbook](http://safety.fhwa.dot.gov/older_users/handbook). Or contact Rebecca Crowe at 804-775-3381 or [rebecca.crowe@dot.gov](mailto:rebecca.crowe@dot.gov).

# WHAT IS THE TRTP?



Unlike urbanized areas where Metropolitan Planning Organizations (MPOs) are required by law to develop Metropolitan Transportation Plans (MTPs) that identify and prioritize future transportation projects within funding constraints, there is no equivalent requirement for rural areas. To address rural transportation needs, which tend to be different than the transportation needs in urbanized areas, the Texas Department of Transportation (TxDOT) adopted the Texas Rural Transportation Plan (TRTP). The TRTP is the rural component of the Statewide Long Range Transportation Plan (SLRTP) and acts as a blueprint for the planning process in rural areas. The current TRTP is a standalone document and is used to guide the collaborative efforts between TxDOT, local and regional decision-makers, and transportation stakeholders to reach a consensus on needed transportation projects and services through 2035. The TRTP is a multi-modal transportation plan that includes highways, bicycle and pedestrian facilities, general aviation, inland waterways, freight and passenger rail, and public transportation

The TRTP provides an objective basis for the TxDOT Districts to begin project planning when planning funds become available. In addition, the TRTP presents needs for rural non-highway transportation across the state. This will enable a more consistent approach to statewide multi-modal planning by presenting a more complete analysis of rural transportation. Future transportation funding can be invested to secure the greatest benefits for all citizens.

# TEXAS RURAL AVIATION PLAN?

## WHAT DOES THE TRTP INCLUDE?

Approximately 650 added capacity rural highway projects were evaluated and ranked in the TRTP. Detailed maps of projects in each TxDOT District can be found in Appendix E of the TRTP. The project rankings do not indicate the priority in which projects will be funded or constructed. Prioritization will be determined by TxDOT, taking into account knowledge of any additional local factors that did not lend themselves to inclusion into the statewide ranking process. Identifying needs for non-highway modes is more complex than for highway modes and harder to quantify. An overview for each mode is as follows:

### **Bicycles and Pedestrians:**

In addition to the safety concerns related to surface treatment and positioning of rumble strips, the TRTP identifies the broader approach to planning and designing the street environment in small cities known as "Complete Streets." This approach considers the respective needs of bicyclists, pedestrians, transit users, and drivers. The TRTP also emphasizes the potential economic impact of biking events and tourism.

### **Inland Waterways:**

Texas has a significant marine transportation system that supports commerce, recreation, and tourism. TxDOT has developed a capital program for Texas ports for 2011–2012. The primary focus is on deepening channels, landside facilities, and intermodal interchanges. Most ports are within MPO boundaries and the U.S. Army Corps of Engineers is responsible for maintaining the channels.

### **General Aviation:**

TxDOT's 5-year Texas Airport System Plan is the primary planning tool. The TRTP emphasizes the potential economic impact of General Aviation, especially enhancing design standards to allow corporate jets.

### **Rail (freight and passenger):**

Freight rail is provided through a combination of local short-line railroads, which connect with Class I railroads. Passenger rail improvements were identified in four corridors. TxDOT has developed the Texas Rail Plan.

### **Public Transportation:**

TxDOT has worked closely with regional planning organizations to support the development of rural transit coordination plans in each region. For the TRTP, TxDOT has additionally developed a long-range plan to identify rural public transportation capital and operations needs. The TRTP also highlighted recent declines in the level and availability of intercity bus services. While the TRTP identifies known projects for non-highway modes, these projects are not ranked.

More information on the Texas Rural  
Transportation Plan can be found here:

<http://www.txdot.gov/inside-txdot/division/transportation-planning/statewide-plan/trtp-2035-report.html>

# ROAD RIGHT-SIZING — A BRIEF LOOK INTO ROAD DIET USAGE IN AUSTIN, TX

By: Becky Crowe, FHWA Office of Safety

Road Diets are modern countermeasures used to improve safety and livability near parks, schools, and other pedestrian and cyclist-utilized locations. To gain a better understanding of Road Diets, the City of Austin, TX conducted an analysis of 37 Road Diet projects that have been installed since 1999 to determine the safety and mobility impacts of these projects.

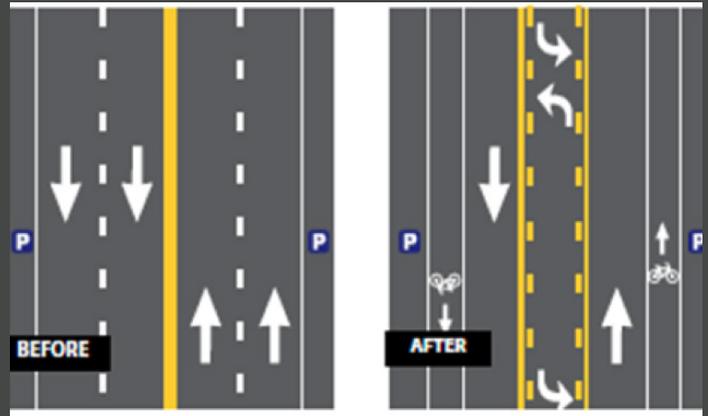
Road Diets, also called "right-sizing projects," are recognized as a best-practice tool for maintaining motor vehicle capacity while reducing high-risk speeding and addressing safety concerns for pedestrians and cyclists. These projects are typically installed in coordination with routine street maintenance, which has enabled a city like Austin to implement Road Diets at roughly one-tenth the cost of stand-alone Road Diet implementation projects.

The City of Austin has joined Secretary Foxx's Safer People, Safer Streets challenge, which highlights the ongoing commitment to mobility and safety for all modes of transportation. Road Diet implementations in Austin within the last 5 years have resulted in improved safety for all users with minimal or no impact to motor vehicle level of service.

The Austin Transportation Department (ATD) routinely analyzes the city's streets for opportunities to improve safety and mobility for all road users. ATD's goal is to create safe and complete networks for everyone, and it acknowledges the reality that the large-scale expansion of streets is not financially feasible. ATD makes data-driven decisions about the city's existing roadway assets and uses Road Diets to rebalance underutilized space, improving the efficiency of Austin's streets in the process. Potential Road Diet projects are selected for analysis for a number of different reasons, including the need for improved safety or to provide space for other modes of travel. Austin has selected high-crash locations for these analyses. In addition, Austin citizens



Road Diet projects have been a way for the City of Austin to expand its bicycle network, which correlates with Secretary Foxx's goals and new Ladders of Opportunity effort.



A typical Road Diet can reduce crashes up to 69 percent.

or neighborhood associations can request Road Diets in order to improve safety on their neighborhood streets.

Analyses of the impact of Road Diets involves the study of a "change of operations" at intersections and on arterials as well as changes in crashes and other safety characteristics such as pedestrian and cyclist perceptions of safety. Of the 37 total projects completed in Austin since 1999, 32 were on roads with fewer than 15,000 average daily users. Austin has proven that road diets can be used effectively on low-volume roads to improve safety while maintaining mobility.

ATD now regularly includes public involvement and outreach in recognition of the value gained from engaging and gathering input from citizens who use these streets on a daily basis. After implementation of a Road Diet project, ATD observes traffic operations and responds to citizen phone calls and 311 requests to ensure successful implementation. Before and after studies are completed to ensure impacts are realized. Areas of study in Austin include traffic volumes, travel times, peak hour operations, motor vehicle speeds, and crash histories.

Road Diet conversions have been implemented for more than three decades. Still, this type of conversion is relatively unusual and new to most transportation professionals, local jurisdictions, and the traveling public. Education and outreach play a critical role in the success of a Road Diet.

The Austin experience has repeatedly demonstrated that Road Diet projects can accommodate the same motor vehicle volumes, avoid increases in travel time, reduce high-risk speeding, and reduce collisions.

To learn more about Road Diets, download the Road Diet Case Studies Guide at TxLTAP's website. To learn more about Road Diets in Austin Texas, read the full Austin Transportation Department Lane Conversion report at:

[http://austintexas.gov/sites/default/files/files/Lane\\_Conversion\\_Report\\_2015-06-01.pdf](http://austintexas.gov/sites/default/files/files/Lane_Conversion_Report_2015-06-01.pdf)

# FHWA SEEKS PARTNERS FOR UNPAVED ROAD SAFETY POOLED FUND STUDY

By: Gabe Rousseau and Rosemarie Anderson, FHWA Office of Safety

FHWA has proposed a NEW Transportation Pooled Fund study to improve safety on unpaved roads. Does your State have safety issues on unpaved roads? Would your agency be interested in participating in the pooled fund study? To learn more, please contact [Rosemarie.Anderson@dot.gov](mailto:Rosemarie.Anderson@dot.gov).

In 2012, there were more than 1.3 million miles of unpaved road in the United States, accounting for almost 35 percent of the more than 4 million miles of roadway in the Nation. Unpaved roads only account for about 2.4 percent of fatalities nationally, but in some States these roadways account for up to 20 percent of road fatalities. All but four States reported fatal crashes on unpaved roads in 2012.

Because reductions in serious injury and fatal crashes throughout a State's entire transportation system are a primary goal of State departments of transportation (DOTs), achieving reductions in unpaved roadway injuries must be addressed.

Decreasing fatalities requires the consideration of safety improvements on the local roadway system. In many States, a large percentage of roadways on the local system have an unpaved surface.

Several trends are likely impacting the number of crashes recorded along unpaved roadways. These trends include lack of maintenance, ex-urban development (i.e., a semi-rural region lying adjacent to a city's suburbs), larger agricultural equipment, and the conversion of paved roadways to unpaved roadways. Several safety improvements that have proven to address safety on paved roadways may also be appropriate for unpaved roadways; however, many improvements are not appropriate. This has left large gaps in agencies' ability to address safety on unpaved roadways.

The objective of the pooled fund effort is to conduct traffic safety research for unpaved roads with the ultimate goal of producing findings that will assist agencies in reducing fatalities and serious injuries on these roads.

***In order to do this, the following activities will be undertaken by the study participants:***

- Conduct research on the effectiveness of existing and promising innovative safety countermeasures for unpaved road safety, which could lead to the development of crash modification factors;
- Examine driver behaviors that could lead to crashes on unpaved roads as well as efforts to develop strategies to reduce those crashes; and
- Determine the research, environmental, maintenance, and infrastructural elements that contribute to traffic safety issues prevalent on unpaved roadways.

The study will also create a platform for Federal, State, Tribal and local practitioners to share information, stay informed of current safety-related research, and collaborate to initiate new research of importance on unpaved roads.

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For more information about the study, please visit:

<http://www.pooledfund.org/Details/Solicitation/1419>.





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