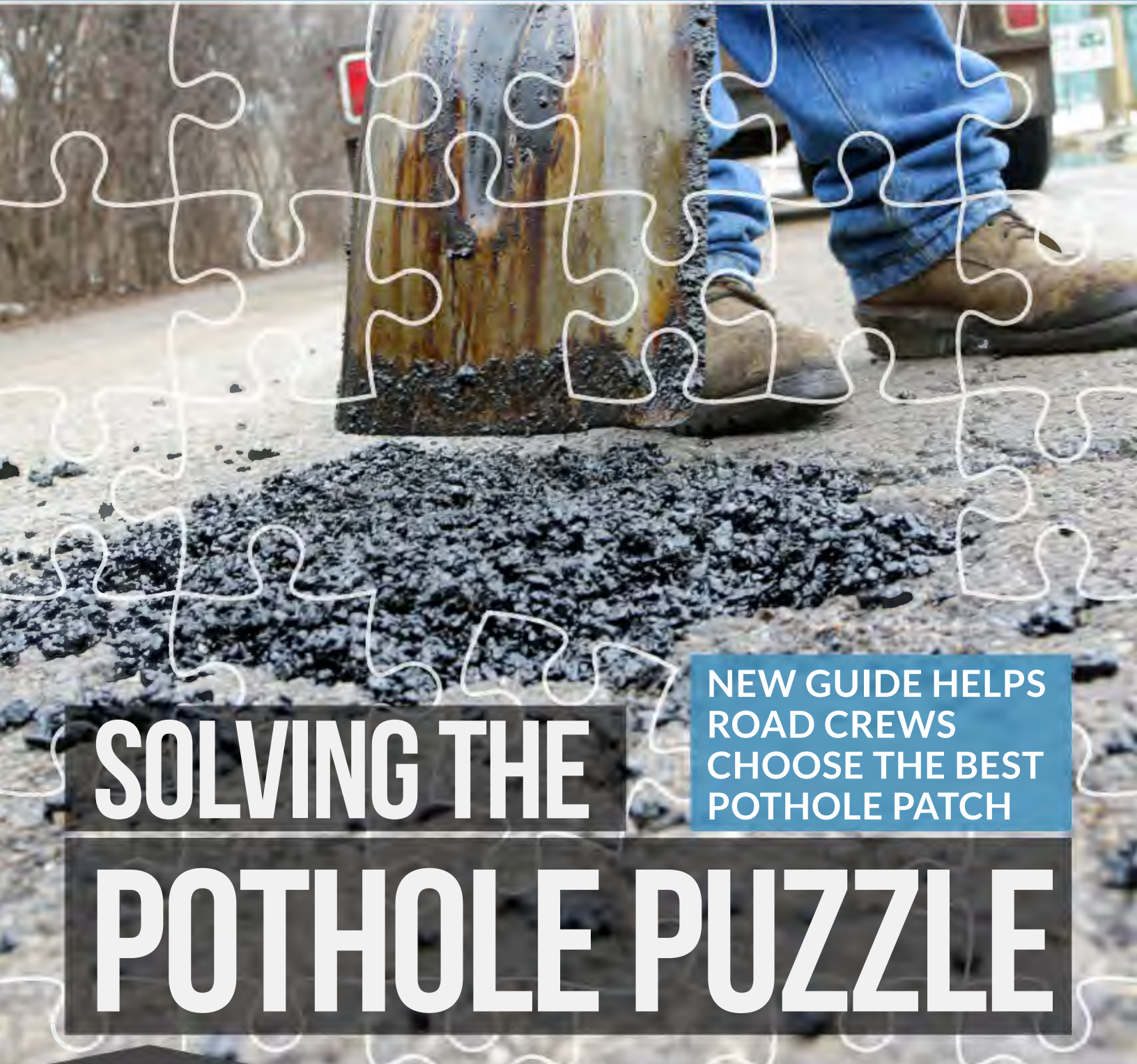


# BETTER ROADS SAFER ROADS



NEW GUIDE HELPS  
ROAD CREWS  
CHOOSE THE BEST  
POTHOLE PATCH

# SOLVING THE POTHOLE PUZZLE

# ENGAGING THE PUBLIC IN LOCAL ROAD FUNDING DECISIONS MAY LEAD TO BETTER OUTCOMES

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Researchers and public works leaders collaborate on the design, implementation, and evaluation of methods used to engage stakeholders about local road system needs.

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Licensed drivers over 65 continue to increase, teen drivers remain at near-record lows.

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By 2020, 25 percent of workers in the United States will be 55 or older. But this group is not without risk.

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Researchers have developed decision trees in both flowchart and flash card form to help road crews choose the most suitable method for repairing potholes. They also compiled best practice guidelines for patching method selection, placement, compaction practices, and moisture control to provide further guidance.

## 07 ROADWAY SAFETY DATA PROGRAM: TOOL AND TOOLBOX UPDATES

Since the launch of the Toolbox, FHWA has added new tools in direct response to States' requests, updated hyperlinks, and removed and replaced obsolete tools. See select new tools added to the Toolbox in 2017.

## 08 OVER 54,000 AMERICAN BRIDGES STRUCTURALLY DEFICIENT, ANALYSIS OF NEW FEDERAL DATA SHOWS

A new report finds there is the equivalent of one structurally deficient bridge, on average, for every 27 miles of our major highway network. If placed end-to-end, they would stretch 1,216 miles, or nearly the distance between Miami and New York City.

## 09 2018 TEXAS BRIDGE INVENTORY REPORT

View the annual bridge inventory report from the American Road and Transportation Builders Association.

## 11 CREATING A SAFE DRIVING PROGRAM FOR WORKERS

Motor vehicle crashes cost employers \$60 billion annually. To help prevent these costs, the Network of Employers for Traffic Safety provides steps employers and workers can take to build a safe driving program for the workplace.

## 13 FHWA ADDS SIX NEW PROVEN SAFETY COUNTERMEASURES IN 2017

The Proven Safety Countermeasures initiative (PSCi) began in 2008 with nine countermeasures and strategies. This most recent update of the initiative adds six new countermeasures and crosscutting strategies.

## 14 TXLTAP EVENT & WORKSHOP SCHEDULE

Register for free TxLTAP workshops and events occurring in 2018.



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.

Members of the public often hear news about the deteriorating state of the nation's infrastructure, but in general they are unaware of the efforts and costs required to maintain and operate the transportation systems they rely on every day.

In a recent study completed at the University of Minnesota, researchers sought to better understand stakeholder attitudes, knowledge, and engagement about financing for local road system management. "It's important for people to be informed and to be listened to, and to have their opinions taken into consideration in decision making," says Guillermo Narváez, a former research associate with the Humphrey School of Public Affairs and the project's principal investigator. "This approach very often leads to better outcomes than non-participative decisions."

Survey responses from county government leaders indicated that the public generally agrees on the importance of well-maintained local roads but lacks an understanding of funding and financing mechanisms. "There is limited public engagement on these issues despite the use of a variety of outreach methods, and public attendance at hearings is often motivated by opposition to a project rather than a desire to learn about it," Narváez says.

As part of the study, the researchers collaborated with public works leaders from four local jurisdictions on the design, implementation, and evaluation of methods used to engage stakeholders about local road system needs. Each case study reviewed the jurisdiction's transportation system, outreach methods used to engage the public, policy outcomes, and relevant features of the area.

**"It's important for people to be informed and to be listened to, and to have their opinions taken into consideration in decision making,"**

Based on their analysis of the survey responses and case studies, the research team recommends four actions:

- Organize community dialogue based on high-quality information, impartial analysis, and thoughtful explanations of policy options.
- Use multiple communication channels for targeted outreach. Traditional methods such as newspaper announcements are no longer sufficient; new approaches such as geo-targeted communications, social media, and smartphone-compatible messaging formats are needed.

- Build resources to support stakeholder participation, including accessible information (e.g., infographics) and staff capacity to conduct outreach and communications.
- Employ an inclusive process and thoughtful, timely responsiveness from public managers.

"This research was successful in building public engagement to help smaller county agencies like ours work through a project," says Bruce Hasbargen, county engineer in Beltrami County. "It's great to be able to share this success with others."

The research study was sponsored by the Minnesota Local Road Research Board and the Minnesota Department of Transportation.



## CASE STUDY: BROOKLYN PARK

**POLICY ISSUE.** City staff were interested in introducing a citywide franchise tax to provide a consistent funding stream and remove the burden of large, one-time assessments on adjacent property owners for individual road projects.

**PUBLIC PROCESS.** Facilitated small-group meetings were held in the most affected neighborhoods and in City Hall, incorporating Q&A and small-group dialogues, involving 120 people. There were several discussions with the city council and direct outreach explaining the recommendation for a franchise fee.

**OUTCOME.** The franchise fee was passed and implemented. Residents' confidence in and acceptance of the fee option increased substantially through the community dialogue process, as evidenced by the researchers' pre- and post-surveys.

# OLDER DRIVERS SET RECORD FOR SECOND YEAR

## LICENSED DRIVERS OVER 65 CONTINUE TO INCREASE, TEEN DRIVERS REMAIN AT NEAR-RECORD LOWS

The Federal Highway Administration (FHWA) recently published new data showing a record-high 221.7 million licensed drivers in the U.S. in 2016, including 41.7 million - or almost one in five - who are 65 years or older. This age group is growing faster than any other, and is far outpacing their teenage counterparts.

The largest single-year percentage increase in licensed drivers that year was among those who are between 75-79 years old, increasing by 4.98 percent over the previous year. Except for five states - Michigan, Oklahoma, South Dakota, West Virginia and Wyoming - the nation saw increases among licensed drivers in 2016 compared to the previous year.

The new data show 57 million drivers between the ages of 20-34 - generally known as "millennials" - which accounted for nearly one in four U.S. drivers last year, increasing slightly from the 56.1 million reported in 2015.

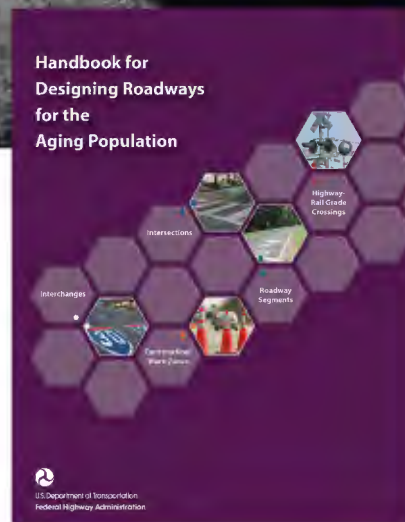
Teen drivers continued to increase slightly for the third year in a row, rising to 8.8 million - the highest level since 2013, but remaining at among the lowest levels since

the federal government began compiling driver license data in 1963. In 2016, America's 112.1 million licensed women drivers outnumbered their male counterparts by 2.5 million.

The data collected from all 50 states and Washington, D.C., show that licensed drivers aged 85 or older increased by 161,182 people - or 4.62 percent - since the previous year, making it the nation's second-fastest growing demographic group in 2016.

FHWA researchers have pioneered numerous safety enhancements - such as cutting-edge retroreflective laminates which make highway signs brighter and more visible from greater distances - to address the needs of older drivers, which range from declining vision to decreased flexibility and psychomotor performance, and changes in perceptual and cognitive performance.

In addition, the agency provides funding support to the Roadway Safety Foundation to operate the "Clearinghouse for Older Road User Safety" which offers information for practitioners and for senior drivers as well.



Published in FHWA's "Highway Statistics," an annual compilation of information about drivers, vehicles and roads, the data reflect the growing demands on the U.S. highway system and informs decisions by transportation policy makers, researchers and academia.

Additional information about how the FHWA designs roads for older drivers can be found in "Handbook for Designing Roadways for the Aging Population," available online at [https://safety.fhwa.dot.gov/older\\_users/handbook](https://safety.fhwa.dot.gov/older_users/handbook), offers substantial information on the methods and techniques used to accommodate this growing driver demographic.

# KEEPING OLDER DRIVERS SAFE

Permission to reprint granted by the National Safety Council.

Older drivers bring knowledge and experience to the workplace. By 2020, 25 percent of workers in the United States will be 55 or older. But this group is not without risk. According to the National Institute for Occupational Safety and Health (NIOSH), motor vehicle crashes account for 32 percent of all work-related deaths among workers 55 or older.

Although not everyone ages the same way, an older worker's ability to drive may be affected by a number of factors related to aging, including declining eyesight and hearing; arthritis, which can make gripping the steering wheel difficult; and decreased motor skills, memory and the ability to make quick decisions.

**"By 2020, 25% of workers in the United States will be 55 or older."**

NIOSH urges older workers to speak to their supervisors if they are experiencing driving issues to discuss alternatives to driving, such as attending meetings via phone or video conference or changing work schedules to drive during less busy times.

Also, NIOSH recommends employers reduce the amount of driving older workers do and "set policies that allow drivers to consult with their supervisors to adjust driving hours if they have trouble seeing at night, and to stop driving if they are too tired or the weather is bad."

As with all age groups, older employees can help keep themselves and other motorists safe by following safe driving practices, including not driving under the influence of drugs, alcohol or prescription medications; always wearing seat belts; not driving distracted; and maintaining good health by

exercising regularly, eating healthy foods and getting annual health screenings.

Employers can help promote safe driving habits by creating clear policies about driving under the influence of drugs and alcohol, promoting worker health through workplace wellness programs and activities, and requiring workers to take driver training.

Employers can implement and enforce the following safety policies:

- Require safety belt use.
- Address travel, such as considering if work can be accomplished without driving.
- Prevent distracted driving by banning texting while driving.
- Discourage drowsy driving by permitting breaks and allowing workers to get enough sleep.
- Prohibit impaired driving.
- Encourage safe driving by offering training and pointing out vehicle safety features.

Older workers can do the following:

- Always wear a safety belt while driving.
- Discuss your medication's and medical conditions' effects on driving with your doctor.
- Be healthy.
- Visit a doctor if you're often tired.
- Have an eye exam every one to two years.
- Talk to your boss if you have trouble driving.





# SOLVING THE POTHOLE PUZZLE

## NEW GUIDE HELPS ROAD CREWS CHOOSE THE BEST POTHOLE PATCH

For most road crews, repairing potholes is an essential and highly visible duty. Choosing the best or most cost-effective pothole repair method, however, has remained a complicated puzzle.

To help solve this puzzle, the Minnesota Department of Transportation (MnDOT) funded research to help road crews choose patching methods that match specific repair conditions. University of Minnesota Duluth (UMD) researchers explored patching tools, materials, and methods to identify which ones were most appropriate for specific pothole conditions, road locations, and time of year. They also evaluated the effectiveness of different methods based on durability, road safety, ride quality, and driver satisfaction.

“We wanted to develop a decision tree for choosing the right pothole repair method that could be laminated for use in the field,” says Susan Lodahl, assistant state maintenance engineer with the MnDOT Office of Maintenance.

Researchers began by reviewing existing literature to identify the four repair methods best suited to Minnesota: cold mix, hot recycled asphalt, mastic material, and mill-and-fill with hot-mix asphalt. Next, they identified five sites near Duluth, where they oversaw 20 pothole repairs.

Investigators then monitored these repairs for two years to assess the methods and their best applications. Their findings include:

- Cold-mix asphalt patch should only be used for temporary fixes in small to medium potholes. The material is not designed to be structurally sound for depths beyond two inches.



- Virgin hot-mix asphalt during the regular season is the most acceptable option for filling milled areas. This option can be used in any situation—mill-and-fill or established potholes.
- Mastic, although expensive, is the best option for repairing small potholes as well as longitudinal joints.

Using the findings from this study, researchers developed decision trees in both flowchart and flash card form to help road crews choose the most suitable method for each repair. They also compiled best practice guidelines for patching method selection, placement, compaction practices, and moisture control to provide further guidance.

“The decision trees and best practices we developed can be easily combined into a patching guide that, with laminated flash cards, can be distributed to MnDOT road crews throughout the state and will also be invaluable to our local public agencies in Minnesota and beyond,” Barman says.

*Article excerpts reprinted with permission from the University of Minnesota, Center for Transportation Studies, Catalyst Newsletter - January 2018*

*A copy of the full report is available in the [TxLTAP library](#).*



# ROADWAY SAFETY DATA PROGRAM: TOOL AND TOOLBOX UPDATES

As any mechanic knows, using the right tools for the job is crucial. When the job is collecting, managing, and analyzing roadway safety data, where do you start? In December 2014, the FHWA Roadway Safety Data Program (RSDP) team launched a new resource—the Roadway Safety Data and Analysis Toolbox—to help users answer that question. The virtual Toolbox serves as a clearinghouse of roadway safety data and analysis tools such as guides, software, and databases from diverse sources. A web-based interface helps users to search and filter through nearly 200 safety data and analysis tools based on self-identified needs, capabilities, and resources.

FHWA performs regular maintenance to make sure that the Toolbox stays up to date. Since the launch of the Toolbox, FHWA has added new tools in direct response to States' requests, updated hyperlinks, and removed and replaced obsolete tools. The following list highlights the select new tools added to the Toolbox in 2017.

The following tools can be found in the [TxLTAP library](#): Roadway Data Extraction Tool User Guide; Roadway Data Extraction Tool Implementation and Programming Guide; and Bicycle and Pedestrian Data Collection Manual.

## FHWA's Roadway Safety Data and Analysis Toolbox: NEW TOOLS AVAILABLE

|   | PRIMARY TOPIC AREA |         |         |          |
|---|--------------------|---------|---------|----------|
|   | Manage             | Analyze | Collect | Research |
| <p><b>ROADWAY DATA EXTRACTION TOOL USER GUIDE</b></p> <p>This application guide introduces users to the importance (and value) of high-quality safety data, safety data analysis tools and methods, and data-driven decision making. It focuses on the needs of safety data collectors and teaches users how to assess equipment, costs, and other resources required to collect and manage safety data.</p>  | ✓                  |         | ✓       |          |
| <p><b>ROADWAY DATA EXTRACTION TOOL IMPLEMENTATION AND PROGRAMMING GUIDE</b></p> <p>This application guide helps users better understand the needs of safety analysts and safety data collectors. It can help agencies measure, maintain, or improve quality safety data by employing either traditional or state-of-the-art techniques to collect high-quality safety data efficiently and cost effectively.</p>  | ✓                  |         | ✓       |          |
| <p><b>BICYCLE AND PEDESTRIAN DATA COLLECTION MANUAL</b></p> <p>This application guide allows users to improve their understanding of safety data collection, management, and improvement with a focus on bicycle and pedestrian data.</p>   | ✓                  | ✓       | ✓       | ✓        |
| <p><b>A PERFORMANCE-BASED HIGHWAY GEOMETRIC DESIGN PROCESS</b></p> <p>This information guide supports user understanding of the value of high-quality safety data and state-of-the-art safety data analysis tools and methods. It also focuses on the importance of safety data integration in supporting data-driven decision making in the safety management and project development processes as it relates to the performance-based design process.</p> | ✓                  | ✓       |         |          |

# OVER 54,000 AMERICAN BRIDGES STRUCTURALLY DEFICIENT, ANALYSIS OF NEW FEDERAL DATA SHOWS

The nearly 48,000-mile Interstate Highway System literally moves the U.S. economy. It carries 75 percent of the nation's heavy truck traffic. A new report finds there is the equivalent of one "structurally deficient"-rated bridge, on average, for every 27 miles of our major highway network. The 1,800 structurally deficient Interstate bridges are crossed 60 million times daily.

When it comes to bridges needing attention, however, that's just the tip of the iceberg.

According to an analysis of the U.S. Department of Transportation's just released 2017 National Bridge Inventory database, 54,259 of the nation's bridges are rated structurally deficient. If placed end-to-end, they would stretch 1,216 miles, or nearly the distance between Miami and New York City.

Cars, trucks and school buses cross these 54,259 compromised structures 175 million times every day, the data show.

The pace of improving the nation's inventory of structurally deficient bridges slowed this past year. It's down only

two-tenths of a percent from the number reported in the government's 2016 data. At current pace of repair or replacement, it would take 37 years to remedy all of them, says Dr. Alison Premo Black, chief economist for the American Road & Transportation Builders Association (ARTBA), who conducted the analysis.

To help ensure public safety, bridge decks and support structures are regularly inspected for deterioration and remedial action. They are rated on a scale of zero to nine—with nine meaning the bridge is in "excellent" condition. A bridge is classified as structurally deficient and in need of repair if the rating on a key structural element is four or below.

While these bridges may not be imminently unsafe, they are in need of attention.

Other key findings in the ARTBA analysis:

- Iowa (5,067), Pennsylvania (4,173), Oklahoma (3,234), Missouri (3,086), Illinois (2,303), Nebraska (2,258), Kansas (2,115), Mississippi (2,008), North Carolina (1,854) and New York (1,834) have the most structurally deficient bridges. The District of

Columbia (8), Nevada (31), Delaware (39), Hawaii (66) and Utah (87) have the least.

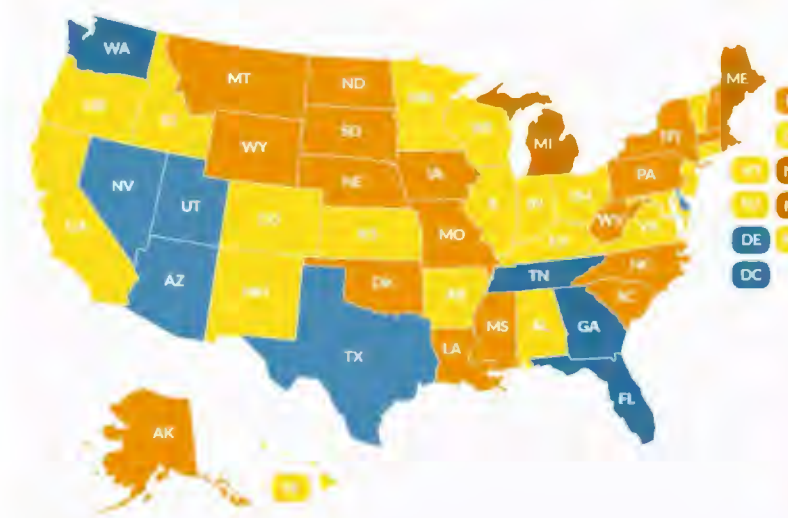
- At least 15 percent of the bridges in six states—Rhode Island (23 percent), Iowa (21 percent), West Virginia (19 percent), South Dakota (19 percent), Pennsylvania (18 percent) and Nebraska (15 percent)—fall in the structurally deficient category.

State - and congressional district-specific information from the analysis - including rankings and the locations of the 250 most heavily traveled structurally deficient bridges in the nation and top 25 most heavily traveled in each state is available at [www.artbabridgereport.org](http://www.artbabridgereport.org).

### Highlights:

- 54,259 of the nation's 612,677 bridges are rated "structurally deficient."
- Americans cross these deficient bridges 174 million times daily.
- Average age of a structurally deficient bridge is 67 years, compared to 40 years for non-deficient bridges.
- One in three (226,837) U.S. bridges have identified repair needs.
- One in three (17,726) Interstate highway bridges have identified repair needs.
- Of the nearly 54,000 bridges in the state of Texas, 847 or 1.5 percent are classified as structurally deficient; 29 of which are on the Interstate Highway System. The state has identified needed repairs in 11,836 bridges at an estimated cost of \$8.1 billion.

2018 Deficient Bridge Report



% of bridges structurally deficient



# 2018 TEXAS

# BRIDGE INVENTORY REPORT

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## Texas

### Highlights from FHWA's 2017 National Bridge Inventory Data

- Of the 53,869 bridges in the state, 847, or 1.5 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.<sup>1</sup>
- 29 structurally deficient bridges in the state are on the Interstate Highway System.
- 1,459 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- Over the last five years, bridge investment has accounted for 17.7 percent of highway and bridge contract awards in the state, compared to an average of 28.9 percent nationwide.<sup>2</sup>
- Over the last 10 years, 6,480 new bridges have been constructed in the state; 1,440 have undergone major reconstruction.
- The state has identified needed repairs on 11,836 bridges; which the state estimates will cost \$8.1 billion.<sup>3</sup>

### Bridge Inventory

| Type of Bridge <sup>4</sup> | All Bridges   |                   |                    | Structurally Deficient Bridges |                   |                  |
|-----------------------------|---------------|-------------------|--------------------|--------------------------------|-------------------|------------------|
|                             | Total Number  | Area (sq. meters) | Daily Crossings    | Total Number                   | Area (sq. meters) | Daily Crossings  |
| <b>Rural Bridges</b>        |               |                   |                    |                                |                   |                  |
| Interstate                  | 2,220         | 1,615,962         | 31,313,857         | 4                              | 1,672             | 48,420           |
| Other principal arterial    | 4,747         | 3,944,069         | 33,181,526         | 15                             | 35,525            | 80,910           |
| Minor arterial              | 3,851         | 2,559,304         | 13,351,088         | 19                             | 32,358            | 65,410           |
| Major collector             | 8,064         | 3,145,118         | 11,256,904         | 60                             | 33,165            | 75,149           |
| Minor collector             | 2,470         | 663,930           | 1,247,143          | 13                             | 4,688             | 8,108            |
| Local                       | 10,258        | 2,069,636         | 4,223,471          | 593                            | 65,524            | 70,811           |
| <b>Urban Bridges</b>        |               |                   |                    |                                |                   |                  |
| Interstate                  | 3,344         | 8,471,387         | 183,000,000        | 25                             | 191,443           | 958,750          |
| Freeway/expressway          | 4,436         | 12,467,860        | 141,000,000        | 9                              | 22,216            | 237,733          |
| Other principal arterial    | 3,909         | 5,466,183         | 62,112,036         | 9                              | 17,358            | 157,410          |
| Minor arterial              | 2,761         | 2,643,388         | 29,136,833         | 21                             | 21,987            | 149,608          |
| Collector                   | 2,871         | 2,283,243         | 20,692,632         | 23                             | 40,962            | 132,978          |
| Local                       | 4,938         | 2,606,347         | 17,764,713         | 56                             | 20,728            | 269,663          |
| <b>Total</b>                | <b>53,869</b> | <b>47,936,432</b> | <b>548,000,000</b> | <b>847</b>                     | <b>487,632</b>    | <b>2,254,950</b> |

### Proposed Bridge Work

| Type of Work                    | Number | Cost (millions) | Daily Crossings | Area (sq. meters) |
|---------------------------------|--------|-----------------|-----------------|-------------------|
| Bridge replacement              | 3,185  | \$3,547.4       | 11,008,956      | 1,290,583         |
| Widening & rehabilitation       | 79     | \$66.3          | 1,479,479       | 42,249            |
| Rehabilitation                  | 261    | \$848.5         | 1,180,153       | 125,218           |
| Deck rehabilitation/replacement | 9      | \$861.6         | 1,780           | 1,623             |
| Other work                      | 8,302  | \$2,813.1       | 80,822,988      | 6,604,437         |

### Top Most Traveled Structurally Deficient Bridges in Texas

| County  | Year Built | Daily Crossings | Type of Bridge                 | Location                                  |
|---------|------------|-----------------|--------------------------------|---|
| Harris  | 1961       | 106,670         | Urban Interstate               | IH 45 NB over White Oak Bayou             |
| Harris  | 1964       | 80,210          | Urban Interstate               | IH 610S EB over Holmes Rd, UPRR, Theresa  |
| Harris  | 1964       | 80,210          | Urban Interstate               | IH 610S WB over Holmes Rd, UPRR & Theresa |
| Denton  | 1960       | 75,357          | Urban local road               | S Denton Dr over IH 35E                   |
| Harris  | 1958       | 74,130          | Urban Interstate               | IH 10 WB over McCarty St/US 90A           |
| Tarrant | 1961       | 69,770          | Urban Interstate               | IH 35W NB over Nixon St                   |
| Dallas  | 1970       | 66,000          | Urban other principal arterial | Loop 12 NB to IH 35 NB over IH 35E SB     |
| Harris  | 1979       | 66,000          | Urban freeway/expressway       | SH 288 SB over US 59 NB & Alabama St      |
| Potter  | 1964       | 49,650          | Urban Interstate               | IH 40 EB over Arthur St                   |
| Potter  | 1964       | 49,650          | Urban Interstate               | IH 40 WB over Arthur St                   |

Sources: Bridge data is from the 2017 National Bridge Inventory ASCII files, released by the Federal Highway Administration in January 2018. Note that specific conditions on bridges may have changed as a result of recent work.

<sup>1</sup> According to the Federal Highway Administration (FHWA), a bridge is classified as structurally deficient if the condition rating for the deck, superstructure, substructure or culvert and retaining walls is rated 4 or below or if the bridge receives an appraisal rating of 2 or less for structural condition or waterway adequacy. During inspection, the conditions of a variety of bridge elements are rated on a scale of 0 (failed condition) to 9 (excellent condition). A rating of 4 is considered "poor" condition and the individual element displays signs of advanced section loss, deterioration, spalling or scour. ARTBA follows the methodology of the FHWA and evaluates bridge status without applying the 10-year rule.

<sup>2</sup> ARTBA analysis of Dodge Data Analytics data.

<sup>3</sup> States report the cost of proposed bridge work for each bridge to the Federal Highway Administration as part of the bridge inventory data each year. Each highway agency is encouraged to use its best available information and established procedures to determine bridge improvement costs.

<sup>4</sup> Bridges are classified by FHWA into types based on the functional classification of the roadway on the bridge. Interstates comprise routes officially designated by the Secretary of Transportation, and the Dwight D. Eisenhower National System of Interstate and Defense Highways. Other principal arterials serve major centers of urban areas or provide mobility through rural areas. Freeways and expressways are similar to interstates, with directional lanes generally separated by a physical barrier, and access/egress points generally limited to on- and off-ramps. Minor arterials are used for trips of moderate length, serve smaller geographic areas and connect to the higher arterial system. Collectors funnel traffic from local roads to the arterial network; major collectors have higher speed limits and traffic volumes, and are longer in length and spaced at greater intervals, while minor collectors are shorter and provide service to smaller communities. Local roads do not carry through traffic, and are intended for short distance travel.

# CREATING A SAFE DRIVING PROGRAM FOR WORKERS

According to joint research conducted by the Occupational Safety and Health Administration, the National Highway Traffic Safety Administration, and the Network of Employers for Traffic Safety (NETS), motor vehicle crashes cost employers \$60 billion in medical care, legal expenses, property damage and lost productivity annually. To assist employers in better understanding these costs, NETS has developed a Cost of Crashes Calculator that can be used by employers who want to understand the cost of crashes incurred by their occupational fleets.

The application includes three different components including an On-the-Job Crash Costs, an Off-the-Job Crash Costs, and a Return on Investment (ROI) Guidance Calculator. Knowing these associated costs enables management to develop a business case that supports an investment in fleet safety and justification to invest in employee-wide safe driving programs. To access the Cost of Crashes Calculator visit <http://crashcost.trafficsafety.org/#/home>.

NETS lists the following steps employers can take to build a safe driving program for the workplace:

- **Request involvement from both management and employees.** Senior management involvement is essential for setting policies and allocating resources for a safe driving program. To help the effort succeed, encourage employee participation at all levels.
- **Have written policies.** Create clear, understandable and enforceable driving safety policies and communicate them to all employees. Post them throughout the workplace, distribute copies regularly and discuss the policies at meetings. Topics to consider addressing include a ban on cell phone use while driving, zero-tolerance for alcohol or drug consumption during company hours, and mandatory use of safety belts.
- **Create driver-agreement contracts.** Establish a contract with all employees who drive for work purposes – whether they drive company-owned vehicles or their own

- **Perform driving record checks.** Check the driving records of all employees who drive for work purposes. Clearly define the number of violations an employee can have, if any, before losing the privilege of driving for work.

*"Knowing these associated costs enables management to develop a business case that supports an investment in fleet safety and justification to invest in employee-wide safe driving programs."*

- **Report crashes.** All motor vehicle crashes – regardless of severity – should be reported to the employee's supervisor as soon as possible. They also should be reviewed to determine their cause and whether or not the crashes were preventable.

vehicles – acknowledging awareness and understanding of safety policies, procedures and expectations for driver performance.

- **Implement a disciplinary system.** Develop a system for progressive discipline if a driver develops a pattern of traffic violations or preventable incidents. The system should describe what specific actions will be taken if a driver accumulates a certain number of violations.
- **Conduct driver training.** Provide driver safety training, as even experienced drivers benefit from periodic training and reminders of safe driving practices and skills.
- **Keep company vehicles in working order.** A mechanic should perform a thorough inspection of company vehicles at least once a year, and results should be kept on file.

Visit the [TxLTAP Library](#) for a copy of the "NETS' Recommended Road Safety Practices Guide" and the "NETS' Comprehensive Guide to Road Safety".

## WHAT CAN EMPLOYERS DO TO PREVENT WORK-RELATED CRASHES?

1. **Require the use of seat belts at all times for all occupants.**
2. **Plan and manage travel.**
  - Consider whether the work can be done without driving.
  - Reducing the amount of driving workers do is the most effective way to prevent motor vehicle crashes.
  - Set work schedules that allow workers to obey speed limits and follow applicable rules such as hours-of-service regulations.
  - Encourage supervisors and drivers to decide on the driver's route, destination, and travel schedule ahead of time.
  - Set policies that allow drivers to consult with their supervisors to adjust driving hours if they have trouble seeing at night, and to stop driving if they are too tired or the weather is bad.
3. **Prevent distracted driving.**
  - Ban texting and hand-held phone use while driving.
  - Consider banning the use of hands-free phones.
  - Require workers to pull over in a safe location if they must text, make a call, or use their hand-held device for other purposes such as looking up directions.
4. **Prevent drowsy driving.**
  - Design work schedules that allow enough time off so workers can get adequate sleep.
  - Allow for breaks during the work shift.
  - Allow workers to take a nap of less than 30 minutes or stop in a safe location if they are too tired.
  - Promote a positive work environment to reduce job stress, which can affect sleep quality.
  - Promote awareness of sleep disorders and other illnesses that may increase drowsiness.
5. **Prevent impaired driving.**
  - Set policies that prohibit operating a vehicle under the influence of alcohol, illegal drugs, or prescription and over-the-counter medications that could affect the ability to drive safely.
  - Give workers general information about the possible effects of prescription and over-the-counter medications on their driving.
6. **Promote worker safety, health, and well-being through workplace policies, programs, and activities.**
  - Incorporate topics such as exercise, healthy diet, and good sleeping habits.
7. **Assess driving ability.**
  - Restrict driving based on assessment of actual driving ability, rather than general health status or an arbitrary age limit.
  - Make every effort to assign other job duties that don't require driving if a worker's ability to drive is affected temporarily or permanently.
8. **Promote safe driving.**
  - Make drivers aware of advanced safety features available in their vehicles and their proper use.
  - Provide "refresher" driving training that includes topics such as safe driving strategies, changes in road rules, regulations on distracted driving, and new vehicle safety features.
9. **Provide the following recommendations to workers to ensure a good vehicle fit.**
  - Maintain a clear line of sight over the steering wheel.
  - Have at least 10 inches separating your chest from the steering wheel.
  - Adjust your seat, seat belt, and head restraint to fit safely and comfortably.
  - Ensure easy access to gas and brake pedals.

## WHAT CAN WORKERS DO TO PREVENT WORK-RELATED CRASHES?

1. **Use your seat belt at all times and require passengers to do the same.**
2. **Prevent distracted driving.**
  - Do not text or use a hand-held phone while driving.
  - Avoid using hands-free phones as much as possible.
  - Pull over in a safe location if you must text or make a call.
3. **Do not drive under the influence of drugs or alcohol.**
4. **Talk with your doctor or pharmacist about the potential effects of your medications on driving.**
  - Read medicine labels carefully and look for warnings and potential medication interactions.
  - Do not drive if you feel lightheaded or drowsy.
5. **Talk with your doctor about how your medical conditions may affect your driving.**
6. **Maintain good health.**
  - Engage in regular physical activity two and a half hours per week.
  - Adopt a balanced diet of vegetables, grains, protein, fruit, and dairy.
  - Talk with your doctor about what health screenings and exams you need.
  - Stay well-rested and alert by getting 7 to 9 hours of sleep each day.
7. **See a doctor if you are often tired or sleepy.**
8. **Get a thorough eye exam at least every 1 to 2 years.**
  - Make sure your prescription is up-to-date if you need glasses or contacts.
9. **Use a driving self-assessment tool to evaluate your driving.**
  - Seek help from your doctor or someone trained to do more intensive driving assessments if needed.
  - Take a driving refresher course to learn new driving strategies and recent changes in traffic laws.
10. **Talk to your supervisor if you are having difficulty with driving, as you may need to change your driving habits. Some strategies you may discuss are:**
  - Attend meetings by phone or video conference.
  - Map out safe routes in advance to drive on well-lit streets with less traffic, clear signs, and easy parking.
11. **Make necessary adjustments to your car to ensure a good vehicle fit.**
  - Maintain a clear line of sight over the steering wheel.
  - Have at least 10 inches separating your chest from the steering wheel.
  - Adjust your seat, seat belt, and head restraint to fit safely and comfortably.
  - Make sure you can easily reach the gas and brake pedals.
12. **Seek advice from a professional trained in driver rehabilitation or adaptive technologies if chronic pain or decreased range of motion make it difficult to drive.**

# FHWA ADDS SIX NEW PROVEN SAFETY COUNTERMEASURES IN 2017

By: Jeffrey Shaw, FHWA Office of Safety

In September 2017, the FHWA Office of Safety introduced an additional six proven safety countermeasures to enhance the already robust portfolio of safety strategies for State and local transportation professionals to consider implementing as part of their efforts to improve safety on the Nation's roadways.

The Proven Safety Countermeasures initiative (PSCI) began in 2008 with nine countermeasures and strategies. The vision and goal of the PSCI established then remains the same today: to encourage the widespread implementation of select, proven safety treatments and strategies to accelerate efforts to save lives and prevent injuries on our Nation's roads. The initiative was updated in 2012 with five additional countermeasures that aligned with the data-driven, focused approach pillars of the FHWA Safety Program: Roadway Departure, Intersections, and Pedestrians/Bicycles. This most recent update of the initiative adds six new countermeasures and crosscutting strategies.

The comprehensive list of all 20 Proven Safety Countermeasures is diverse and broad, and while it aligns with the three FHWA Safety Focus Areas, it also includes crosscutting strategies. Visit the [Proven Safety Countermeasures web page](#) today to learn more about these and other effective safety countermeasures for rural roads and urban streets alike.

For more information or assistance, please contact Jeffrey Shaw at [jeffrey.shaw@dot.gov](mailto:jeffrey.shaw@dot.gov).

## FHWA'S SIX NEW PROVEN SAFETY COUNTERMEASURES



**Reduced Left-Turn Conflict Intersections**



**Leading Pedestrian Intervals**



**Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections**



**Local Road Safety Plans**



**Roadside Design Improvements at Curves**



**USLIMITS2**  
(a tool to aid practitioners in determining appropriate speed limit recommendations)

For more information on upcoming events and workshops, visit [txltap.org](http://txltap.org)

Call the TxLTAP office at 817-272-9678 or email us at [txltap@uta.edu](mailto:txltap@uta.edu) to schedule an event or workshop near you.

### GRAVEL ROADS ACADEMY

Improve upon current knowledge related to gravel road maintenance best practices. Learn how to get more mileage out of your gravel roads budget with the latest tools, techniques, and know-how from road maintenance experts.

### HEAVY EQUIPMENT FOR WILDFIRES

Heavy Equipment Operators are sometimes called out to assist fire fighters in wildland fire situations. Learn methods of attacking a fire with a dozer and grader, and dangerous situations to avoid.

### HEAVY EQUIPMENT RODEO

Heavy equipment operators will be given a chance to learn and practice new skills while stressing safety and excellence. Operators will use maintainers, backhoes, dump trucks, loaders, and more to steer through a series of exercises designed to test their abilities.

### SNOW AND ICE TECHNIQUES

Snow and ice control is a complex process. This workshop will cover personal and operational safety, plowing techniques, salt and abrasive application, and decision making based on the forecast and actual in storm conditions.

# TXLTAP EVENTS & WORKSHOPS

**TAKE ADVANTAGE OF TECHNICAL ASSISTANCE**

**TXLTAP IS FORTUNATE TO HAVE SOME OF THE MOST EXPERIENCED AND KNOWLEDGEABLE TRANSPORTATION PROFESSIONALS ON STAFF.**

This staff includes retired maintenance managers, heavy equipment operators, road crew chiefs, civil and transportation engineers, inspectors, and the public works directors who all worked on the state's road system and in a nutshell "have been there, done that." Now Texas' local roadway agencies can directly benefit from their street smarts.

While training and information sharing at conferences or through a newsletter can do a lot of good, TxLTAP recognizes sometimes there is just nothing like rolling up your sleeves, experiencing the problem first hand and then offering a meaningful solution. That's why in addition to hosting classes and publishing Better Roads, Safer Roads, our program offers local roadway agencies an opportunity to consult directly with a TxLTAP subject matter expert to specifically address your organization's unique issue. And like all resources TxLTAP offers, there is no charge to receive our help or expertise.

Do you need information on proper method for fixing your lingering road problem? Would it help if someone came out to watch your road crew perform a repair and offer suggestions on how to save time and money in the future? Could you use the help of a traffic engineer who could assess a problematic intersection? Would it be a benefit to you if a subject matter expert came to ride the roads and developed a training presentation specific to your needs?

**Take advantage of our technical assistance service!**  
Call 817-272-9678 or email us at [txltap@uta.edu](mailto:txltap@uta.edu). We're ready to help!





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## SAFETY

Making Roads Safer  
for Workers & Drivers

**TRAINING.**  
**TECHNICAL ASSISTANCE.**  
**RESOURCES.**

## ORGANIZATIONAL EXCELLENCE

Striving for  
Overall Quality



TxLTAP serves all local government roadway agencies by providing no charge training, technical assistance and resource access.



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Training that  
Makes an Impact

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## INFRASTRUCTURE MANAGEMENT

Building Smart & Using  
Resources Effectively



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