

ATRI Appearances and Presentations

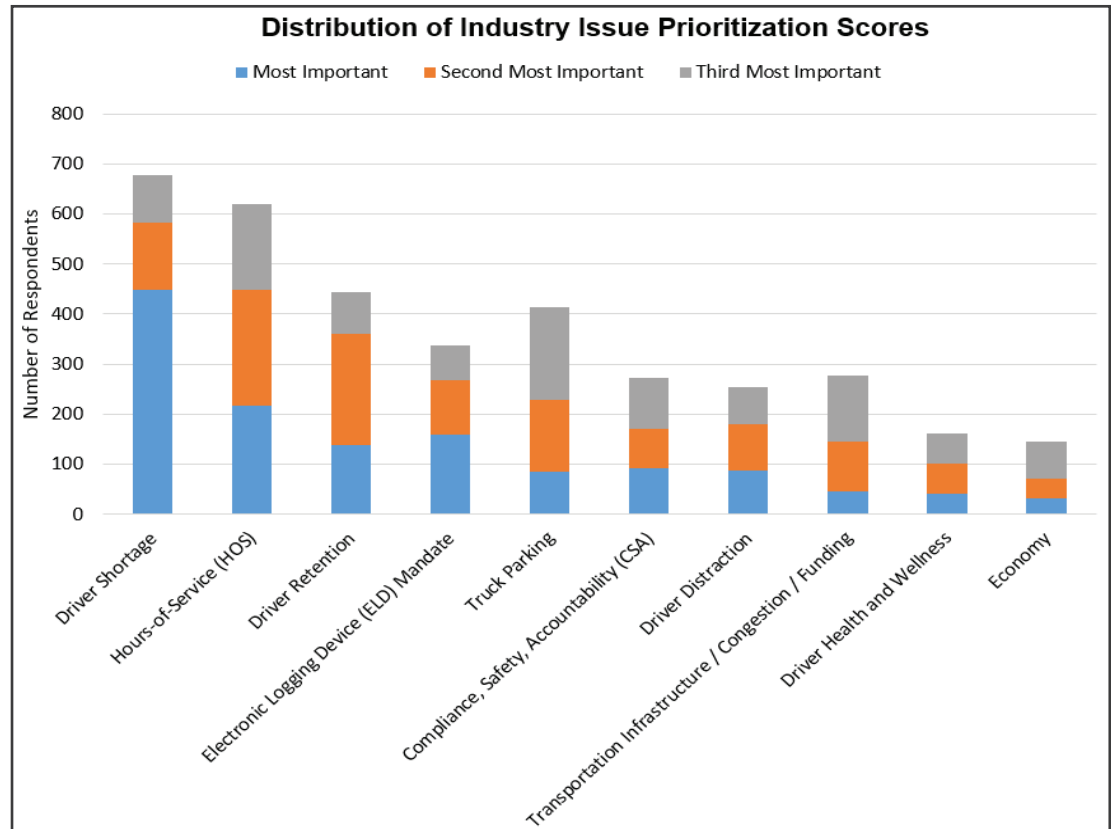
- ★ Feb 11 - 12, NATSO Connect 2019, Orlando, FL, Dan Murray
- ★ Feb 13, Military Operations Research Symposium, Baltimore, MD, Dan Murray
- ★ Feb 24–27, NHMTA Annual Conference, Key West, FL, Rebecca Brewster
- ★ March 2 - 3, United/Mayflower Agents Meeting, St. Louis, MO, Rebecca Brewster
- ★ March 3 - 4, Petroleum Packaging Council, Phoenix, AZ, Rebecca Brewster
- ★ March 7, NW Georgia Transportation Club, Dalton, GA, Rebecca Brewster
- ★ March 12 - 13, Great West Trucking Leadership Symposium, Omaha, NE, Rebecca Brewster
- ★ March 26 - 27, Great West Trucking Leadership Symposium, Knoxville, TN, Alan Hooper
- ★ March 27 - 28, PMTA Safety Conference, Harrisburg, PA, Rebecca Brewster
- ★ March 28 - 30, Mid-American Trucking Show, Louisville, KY, Carla Rose and Alexandra Shirk
- ★ April 1 - 3, Great West Trucking Leadership Symposium, Chandler, AZ, Dan Murray
- ★ April 9 - 10, Great West Casualty Trucking Leadership Symposium, Grapevine, TX, Rebecca Brewster

Driver Shortage Returns as Top Trucking Industry Concern

ATRI’s 2018 survey of the top concerns in the trucking industry identified the driver shortage as the top-ranked issue. The need to recruit qualified truck drivers is not a new issue for the industry. In fact, the Driver Shortage has been a top-three issue in 12 out of the 14 years that ATRI has conducted this survey.

The driver shortage held firm as the number one issue for the second year in a row as strong freight demand and an aging workforce increase pressure on motor carriers to recruit and retain the best talent.

The number two issue was the Hours-of-Service rules, driven in large part by the industry’s call for increased flexibility in the rules, particularly the sleeper berth provision. Driver Retention was the number three issue, reflecting the industry’s challenges in recruiting and retaining professional drivers.



Industry concern over the ELD Mandate has abated some since the final rule went into effect in December 2017, as evidenced by a drop in ranking from the number two issue in 2017 to the number four issue in the 2018 survey. The lack of available truck parking rounded out the top five but remains as the number two issue among commercial drivers.

The full report, available from ATRI’s website at TruckingResearch.org, lists all 10 top concerns and details strategies for addressing each as ranked by survey respondents. The full report also details the differences in ranking of the issues between motor carriers and professional drivers.

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The Safety Case for Bringing More Women to Trucking

There are many reasons to recruit more women in the trucking industry but ATRI's new Crash Predictor Model finds that the primary benefit to adding more women to the ranks is safety. The research found that female professional drivers outperformed their male counterparts in every statistically significant safety behavior. And, the study found that men were 20 percent more likely to be involved in a crash than women.

ATRI's Crash Predictor Model statistically quantifies the likelihood of future crash involvement based on specific truck driving behaviors (e.g. prior crashes, violations and convictions). Now in its third iteration, the model identified nearly a dozen behaviors that raise a driver's risk of being involved in a future truck crash by more than 50 percent.

The top two behaviors in ATRI's study for predicting future crash involvement, each with more than 100 percent increased likelihood of a future crash, are a reckless driving violation and a failure to yield right of way violation. ATRI also found that prior crash involvement continues to have a statistically significant relationship to future crash involvement with a 74 percent increase in the likelihood of being in a future crash.

Across all three iterations of the Crash Predictor Model (2005, 2011, 2018), several behaviors have remained as statistically significant predictors of future crash involvement including convictions for improper lane/location, reckless/careless/inattentive/negligent driving and improper or erratic lane change.

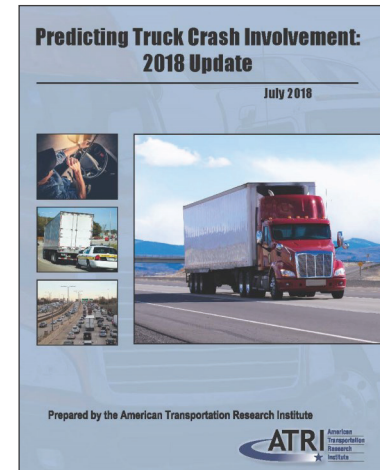
Looking specifically at the gender analysis, relative to females, male truck drivers had:

- ★ 88% increased likelihood of receiving a reckless/careless/inattentive/negligent driving conviction.
- ★ 78% increased likelihood of being charged with a seat belt violation.
- ★ 73% increased likelihood of receiving a failure to obey traffic signal/light conviction.
- ★ 70% increased likelihood of receiving a speeding 1-15 miles over the speed limit conviction.

Preventing crashes is a top priority in the trucking industry. The Crash Predictor Model was designed to give the industry a framework for customizing driver hiring and training practices to focus on those driver behaviors that are most predictive of future crashes. And that's a key point to remember. This study is not looking at the behaviors that immediately precede a crash but instead is focused on the violations and convictions that are most statistically related to having a future crash.

ATRI's Crash Predictor Model is data-rich, examining over 435,000 individual driver records over the course of two years. Over 93 percent of those truck drivers had zero crashes in that time period. The trucking industry is serious about safety and the numbers bear that out. Based on the Crash Predictor Model findings, bringing more women into the industry will improve those safety stats even more so.

ATRI's study also recognizes the role of traffic enforcement in preventing crashes,



(The Safety Case Continued from page 2)

particularly those activities that target the crash predictor behaviors. The research provides a list of “top tier” states which emphasizes those states that have proven track records of maximizing their enforcement resources while minimizing their share of the nation’s truck crashes. Indiana tops that list, followed by New Mexico, Washington, California and Maryland.



Indiana Motor Truck Association President Gary Langston joins Governor Eric Holcomb in congratulating the Commercial Vehicle Enforcement Division of the Indiana State Police for being recognized as the top state in ATRI's Crash Predictor Model.

New ATRI Research Shows Trucking Industry’s Operational Costs Continue to Climb

In what likely comes as no surprise to trucking fleets, one of the newest studies from ATRI shows that the industry’s operational costs are on the rise. ATRI’s recently released 2018 update to the annual Operational Costs of Trucking report documented the average marginal cost per mile incurred by motor carriers in 2017 increased six percent to \$1.69.

This analysis uses financial data provided directly by for-hire trucking fleets throughout the country to document and analyze trucking costs on vehicle- and driver-based line items. The initial study was completed in 2008 and has been conducted annually since, yielding a decade of industry operational costs.

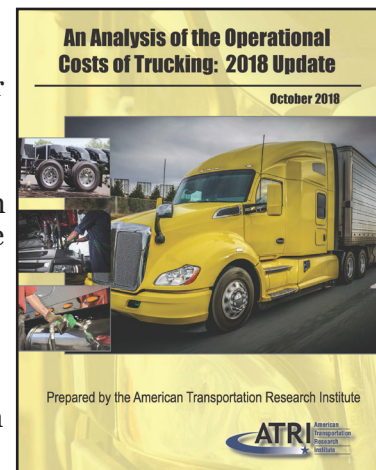
Cost increases were broad-based in 2017, with growth in nearly every major line-item over the year. Driver wages increased for the fifth consecutive year and the combined cost of driver wages and benefits represent 43 percent of the overall cost per mile.

Fuel prices rebounded from decade-lows and the growing cost and sophistication of newer truck models continues to drive up costs for both purchasing and repair and maintenance. Motor carrier operational costs have now surpassed the 10-year average since ATRI began its annual Ops Costs research.

The research also analyzes costs by industry sector, looking separately at Truckload, Less-than-Truckload and Other sector costs. Additionally, the research breaks out costs by region of the country, where fleets that operate primarily in the Northeast experience the highest cost-per-mile of \$1.735. The analysis attributes the higher operating costs in the Northeast to extremely dense population centers, major toll facilities, and untenable levels of traffic congestion.

Beyond looking at operating costs, fleets can also use the ATRI Ops Costs findings to benchmark their equipment utilization. The average age of the truck-tractors in ATRI’s sample was 4.9 years, with those trucks averaging 89,804 miles per year.

As with all ATRI studies, the 2018 Operational Costs of Trucking is a free download available at TruckingResearch.org.



Trucking Industry Congestion Costs Now Top \$74 Billion Annually

Traffic congestion on the U.S. National Highway System added nearly \$74.5 billion in operational costs to the trucking industry in 2016, a 0.5 percent increase over 2015, according to a recently released ATRI study.

In the latest Cost of Congestion analysis, ATRI utilized a variety of data sources including its unique truck GPS database to calculate delay on just the NHS totaling 1.2 billion hours of lost productivity. This equates to 425,533 commercial truck drivers sitting idle for a working year.

Moreover, congestion costs are increasingly concentrated on a relatively small proportion of the NHS - 86.7 percent of total nationwide congestion costs occurred on just 17.2 percent of NHS segment miles. These NHS segments are characterized as having above-average costs in excess of \$155,000 per mile during 2016, and are

Cost of Congestion Continued on page 7)

Out and About with the ATRI Staff

The ATRI staff are frequently asked to present research findings at industry events on topics ranging from truck parking to younger drivers to the role of autonomous technologies in the industry.



ATRI Chairman Judy McReynolds (right) and Rebecca Brewster, ATRI President (left) recognize outgoing Board member Greg Owen for his 15 years of dedicated service on the ATRI Board of Directors. Greg is Head Coach and CEO of Ability Trimodal Transportation Services in Carson, CA.



Jeffrey Short, ATRI Senior Research Associate discusses the latest ATRI research findings at the Illinois Trucking Association annual conference.



Caroline Boris, ATRI Research Analyst discusses ATRI's Crash Predictor Model at the Commercial Vehicle Safety and CDL Compliance Summit in Denver, CO.



ATRI President Rebecca Brewster (center) discusses infrastructure issues with Tonn Ostergard (left), chairman and CEO of Crete Carrier Corporation and ATA Chief Economist Bob Costello (right) as part of a panel at ATA's 2018 Management Conference and Exhibition.



ATRI Vice President Dan Murray at the TruNorth Transportation Risk Summit last September. (Photo taken by Donn Jones, Nashville, TN)



Alan Hooper, ATRI Research Associate speaking at the National Insulation Association Fall Summit.

ATRI Announces New Research Advisory Committee Members for 2019 - 2020

The ATRI Board of Directors recently announced the list of members for the 2019-2020 Research Advisory Committee. RAC members represent motor carriers, industry suppliers, commercial drivers, law enforcement, government, academia and trucking industry associations. The RAC meets annually in March to develop and rank research topics addressing the trucking industry's most pressing research needs.

Ms. Karen Rasmussen, RAC Chairman CEO HELP, Inc.	Mr. Don Lefevé President and CEO Commercial Vehicle Training Association	Mr. Steve Raetz Director, Research & Market Intelligence C.H. Robinson Worldwide, Inc.
Mr. Tom Balzer President and CEO Ohio Trucking Association	Mr. Kevin Lhotak President Reliable Transportation Specialists	Mr. Jeremy Reymér Founder and CEO DriverReach
Mr. Shawn Brown Vice President, Safety and Recruiting Cargo Transporters	Mr. Mike Ludwick Chief Administrative Officer Bison Transport	Mr. Lee Sarratt, CDS Director of Safety J.B. Hunt
Mr. Kenneth Calhoun Fleet Optimization Manager Altec Service Group	Mr. Doug Marcello Transportation Attorney Marcello and Kivisto	Deputy Chief Mark Savage Colorado State Patrol
Dr. Alison Conway Associate Professor, Civil Engineering City College of New York	Ms. Jaime Maus Vice President of Safety and Compliance Werner Enterprises	Ms. Kary Schaefer General Manager of Marketing and Strategy for Freightliner and Detroit Brands Daimler Trucks North America
Mr. Bob Costello Chief Economist and Senior Vice President American Trucking Associations	Ms. Caroline Mays Director, Freight and International Trade Section Texas DOT	Mr. Russell Simpson America's Road Team Captain Holland
Mr. Tom Cuthbertson Vice President, Regulatory Compliance Omnitracs	Ms. Shannon Newton President Arkansas Trucking Association	Mr. Mike Stephens Vice President of Finance USA Truck
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Mr. Thomas Fansler President Trimble Transportation Mobility	Ms. Holly Pixler Senior Director Transportation, International and Data Management MillerCoors	Ms. Sara Walfoort Manager, Freight Planning Southwestern Pennsylvania Commission
Mr. Jim Fields Chief Operating Officer Pitt Ohio	Mr. John Prewitt President Tideport Distributing, Inc.	Mr. Tom Weakley Director of Operations Owner-Operator Independent Drivers Association Foundation
Ms. Victoria King Vice President Public Affairs UPS		Mr. Shawn Yadon Chief Executive Officer California Trucking Association
Mr. Stephen Laskowski President Canadian Trucking Alliance		

"RAC members serve a critical role in developing and prioritizing research proposals that address the trucking industry's top challenges. Congratulations to those appointed by the ATRI Board to serve in this important role and we look forward to working with them," said Rebecca Brewster, ATRI President and COO.

Thanks for your SUPPORT

Thanks to Our Contributors!

We would like to thank all of those who supported ATRI in 2018 through charitable contributions to advance the trucking industry's research agenda. These contributions, which are strictly dedicated to ATRI's research activities, mean improved industry safety and productivity for all. Additionally, we want to thank those who have given generously to ATRI in memory of someone. Memorial gifts to ATRI are a wonderful way to honor and remember those in the industry who have passed on.

ATRI is the ideal candidate for charitable giving and to show your support for the work that ATRI does. Simply visit ATRI's website at TruckingResearch.org and click on the "Support ATRI's Work" tab to be directed to an online form where you can indicate your willingness to make a 2019 contribution.

A&M Transport, Inc.	FedEx Corporation	Minnesota Trucking Association
AIM Dedicated Logistics	Florida Trucking Association	Mississippi Trucking Association
Ability TriModal Transportation Services	G&P Trucking Company	Missouri Trucking Association
Alabama Trucking Association	Garrett Knollman	Motor Transport Association of Connecticut
American Moving and Storage Association	Georgia Motor Trucking Association	Nagle Companies
Amy Boerger	Grand Island Express	National Tank Truck Carriers
ArcBest Corporation	Great West Casualty Company	Nevada Trucking Association
Arizona Trucking Association	Greg and Val Owen	New Hampshire Motor Truck Association
Arkansas Trucking Association	HELP, Inc.	New Mexico Trucking Association
Armada Supply Chain Solutions	Idaho Trucking Association	North Carolina Trucking Association Foundation
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Brenny Transportation	James Burg Trucking Company	Oregon Trucking Association
Bulldog Hiway Express	Jeff Short	Pennsylvania Motor Truck Association
C.H. Robinson Worldwide	J.J. Keller & Associates, Inc.	Pitt Ohio
California Trucking Association	John Whittington	Prime, Inc.
Canadian Trucking Alliance	Kansas Motor Carriers Association	Randy Boyles
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(Thanks! Continued from page 6)

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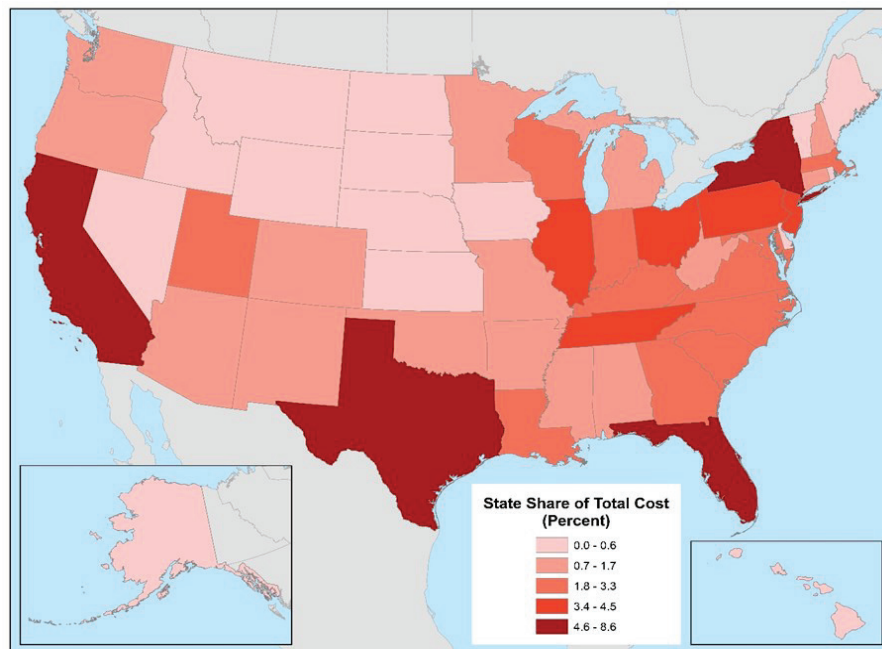
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Cost of Congestion Continued from page 3)

predominantly located in densely populated urban areas. As expected, traffic congestion tended to be most severe in urban areas, with more than 91 percent of the total congestion costs generating from metropolitan areas.

ATRI's analysis also documented the states, metropolitan areas, and counties that were most impacted by these delays and subsequent cost increases. The top 10 states experienced costs of more than \$2.4 billion each, led by Texas and Florida with over \$5.5 billion each. In fact, the top 10 states combined account for 51.8 percent of the congestion costs nationwide.

"Perhaps no other issue has as great an impact on this nation's supply chain as traffic congestion. In the face of growing and pervasive congestion, not only does the trucking industry lose billions annually but ultimately the consumer pays the price through higher prices on the shelf," said Benjamin J. McLean, Ruan Transportation Management Systems Chief Executive Officer. "Doing nothing to address the state of our nation's infrastructure will create a significant impediment to the growth of our economy."



State Share of Total Cost of Congestion

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ATRI Solicits ELD Data for Industry Clearinghouse

ATRI has launched an initiative to collect and warehouse anonymized electronic logging device (ELD) data. With universal deployment of ELDs, the industry now has a new opportunity to document and address the many issues that impact driver and carrier safety, operations, and productivity using the more robust data available from ELDs.



"The new data generated by ELDs can provide a wealth of insight and research support to our industry," said Andrew Boyle, Co-President of Boyle Transportation and ATRI Board Member. "But we clearly need a trusted third-party facilitator to manage and monitor how the information is used. ATRI is uniquely suited to serve that role. In the right context, ELDs can provide the real-world data needed to guide future regulations and initiatives."

Numerous trucking fleets have already shared their ELD data with ATRI to evaluate its potential for a number of critical industry analyses and ATRI is now looking for an expanded group of motor carriers who are willing to regularly provide anonymized ELD data to ATRI for the industry clearinghouse. Through the collection of anonymous, aggregated ELD data, ATRI can support solid, thorough and scientifically valid analyses to address major industry problems.

ATRI has designed its ELD Clearinghouse architecture to minimize the data upload requirements for participating fleets. If you would like to learn more about how to participate, please contact ATRI's Dan Murray at dmurray@trucking.org or 651-641-6162.

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