ATRI Research Highlights Issues Related to Truck Driver Screening and Treatment of Obstructive Sleep Apnea

ATRI recently released the results of its sleep apnea survey, which highlights a number of issues related to truck driver screening and treatment of Obstructive Sleep Apnea (OSA). With data from over 800 commercial drivers, ATRI’s report is the first to quantify the costs and other impacts that truck drivers are experiencing as they address diagnosis and potential treatment regimen for OSA.

Among the findings:

★ Among drivers who had been referred to a sleep study, 53 percent paid some or all of the test costs, with an average of $1,220 in out-of-pocket expenses, representing just over 1.5 weeks of median driver pay at $805 per week.

★ Health insurance assistance with sleep study costs impacted driver out-of-pocket costs significantly - 61 percent of drivers with no health care coverage of their sleep study incurred out-of-pocket costs exceeding $1,000 compared to 32 percent of drivers whose health insurance did cover some portion of the sleep study with costs exceeding $1,000.

★ Among drivers reporting time away from work associated with sleep apnea screening, 41 percent indicated days off ranging from 1-30 days.

★ Use of a Continuous Positive Airway Pressure (CPAP) machine was the most commonly prescribed treatment regimen for drivers diagnosed with sleep apnea. This includes drivers in the ATRI sample diagnosed with mild sleep apnea, a condition that does not require treatment for medical certification.

★ The number of drivers who report not adhering to a prescribed OSA treatment was only 1.95 percent of the moderate/severe OSA diagnosed respondents.

★ Driver-perceived treatment efficacy varied by OSA severity. As OSA diagnosis severity increased, drivers experienced more positive CPAP treatment effects. For example, drivers diagnosed with severe OSA and being treated with CPAP reported increased amounts of sleep (84%), feeling better when they wake up (71%), and lower blood pressure (75%).

★ Conversely, among the 91 percent of drivers being treated with CPAP -- despite a diagnosis of mild sleep apnea -- less than a third (32%) experienced improved sleep as a result of CPAP treatment.

★ Among drivers who have had sleep studies and those who have not, there is concern about the use of neck circumference and Body Mass Index (BMI) as measures to refer drivers to sleep studies. Additionally, among drivers who have been tested, 64 percent

(Continued on page 3)
Truck Parking System Receives Research Partnership Award

ATRI is part of a project team that recently received the University of Minnesota’s Center for Transportation Studies (CTS) Research Partnership Award. ATRI, along with the Minnesota Department of Transportation (MnDOT) and the University of Minnesota, developed a system to identify available truck parking spaces and communicate this information to commercial drivers to help them determine when and where to park.

The Minnesota Truck Parking Availability System, originally designed by ATRI, included a network of automated digital cameras, web servers and an XML data feed to different information delivery tools. Image processing software developed by the research team analyzed the video to determine the number of occupied spaces in all kinds of weather and lighting conditions.

The system was installed at rest areas along Interstate 94 northwest of the Twin Cities as part of a demonstration project funded by MnDOT and the Federal Highway Administration. The first site was activated in January 2013.

ATRI also led the collection and analysis of user data which found that sixty percent of commercial drivers said the system helped them find parking during their trips and more than 30 percent said it helped them comply with hour-of-service regulations. Motor carriers and drivers both reported positive productivity impacts from use of the system.

2015-2016 Research Advisory Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Steve Niswander</td>
<td>RAC Chairman</td>
</tr>
<tr>
<td>Ms. Cheryl Bynum</td>
<td>Manager, SmartWay Transport Partnership</td>
</tr>
<tr>
<td>Mr. Doug Bennett</td>
<td>Director, Operations &amp; Business Development</td>
</tr>
<tr>
<td>Mr. Randy Boyles</td>
<td>Senior Vice President, Tailored Solutions</td>
</tr>
<tr>
<td>Mr. Andrew Boyle</td>
<td>Executive VP &amp; CFO</td>
</tr>
<tr>
<td>Mr. Paul J. Enos</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Ms. Sherrri Garner Brumbaugh</td>
<td>President/CEO</td>
</tr>
<tr>
<td>Dr. David W. Guess</td>
<td>Executive VP, Safety &amp; Regulatory Affairs</td>
</tr>
<tr>
<td>Mr. Sanford Hodes</td>
<td>Senior VP &amp; Deputy General Counsel</td>
</tr>
<tr>
<td>Mr. Kevin X. Jones</td>
<td>Vice President, Inbound Transportation</td>
</tr>
<tr>
<td>Mr. Shannon Lively</td>
<td>Vice President – Planning &amp; Engineering</td>
</tr>
<tr>
<td>Mr. Dennis Dellinger</td>
<td>President, Cargo Transporters</td>
</tr>
<tr>
<td>Mr. Duke Drinkard</td>
<td>Energy Manager</td>
</tr>
<tr>
<td>Mr. Chip Duden</td>
<td>Vice President, Strategic Business Analytics</td>
</tr>
<tr>
<td>Mr. Chad England</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Mr. Paul J. Enos</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Ms. Sherri Garner Brumbaugh</td>
<td>President/CEO</td>
</tr>
<tr>
<td>Dr. David W. Guess</td>
<td>Executive VP, Safety &amp; Regulatory Affairs</td>
</tr>
<tr>
<td>Mr. Sanford Hodes</td>
<td>Senior VP &amp; Deputy General Counsel</td>
</tr>
<tr>
<td>Mr. Kevin X. Jones</td>
<td>Vice President, Inbound Transportation</td>
</tr>
<tr>
<td>Mr. Shannon Lively</td>
<td>Vice President – Planning &amp; Engineering</td>
</tr>
<tr>
<td>Mr. Dennis Dellinger</td>
<td>President, Cargo Transporters</td>
</tr>
<tr>
<td>Mr. Duke Drinkard</td>
<td>Energy Manager</td>
</tr>
<tr>
<td>Mr. Chip Duden</td>
<td>Vice President, Strategic Business Analytics</td>
</tr>
<tr>
<td>Mr. Chad England</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Dr. David W. Guess</td>
<td>Executive VP, Safety &amp; Regulatory Affairs</td>
</tr>
</tbody>
</table>

Mr. Vladimir Livshits, Ph.D.   System Analysis Program Manager
Maricopa Association of Governments

Mr. Chris McLoughlin           Cargo Risk Manager
C.H. Robinson

Mr. Scott Mugno                Vice President, Safety & Maintenance
FedEx Ground

Ms. Brenda Neville             President
Iowa Motor Truck Association

Mr. Dean Newell                Vice President, Safety
Maverick USA, Inc.

Maj. David L. Palmer           Major, Texas Hwy Patrol Division
Texas Dept. of Public Safety

Dr. Jonathan R. Peters, PhD    Professor of Finance, Department of Business
College of Staten Island – The City University of New York

Ms. Karen Rasmussen            President & CEO
HELP Inc.

Ms. Barbara Robinson           Director
American Truck Dealers (ATD)

Mr. Wellington F. Roemer, III  President & CEO
Wellington F. Roemer Insurance, Inc.

Mr. Steve Rogers               VP, Truckload Operations
J.B. Hunt Transport, Inc.

Mr. Brett A. Sant              VP, Safety & Risk Management
Knight Transportation, Inc.

Ms. Andrea Sequin              Director, Regulatory Services
Schneider National, Inc.

Mr. Brandon Shafer             Director of Health & Safety
UPS Freight

Mr. Keith Tuttle               Founder
Motor Carrier Service Inc.

Mr. Ronald Uriah               Vice President, Safety
Pitt-Ohio, LLC

Mr. Tom Weakley                Director of Operations
Owner-Operator Independent Drivers Association Foundation

Mr. Rusty Weiss                Director, External Research
DriveCam-Lytx

Mr. Geoffrey Wood              VP, Operations & Safety
Canadian Trucking Alliance
Traffic congestion on the U.S. National Highway System (NHS) added over $49.6 billion in operational costs to the trucking industry in 2014, according to new research from ATRI. In this latest study, ATRI researchers utilized a variety of data sources as well as a revised methodology to facilitate the expansion of previous cost of congestion research from the Interstate System to the entire NHS network. This resulted in calculated delay totaling more than 728 million hours of lost productivity, which equates to 264,500 commercial truck drivers sitting idle for a working year.

ATRI’s analysis also documented the states, metropolitan areas, and counties that were most impacted by these delays and subsequent increased costs. More than a dozen states experienced increased costs of over $1 billion each due to congestion, with Florida and Texas leading with over $4 billion each. As expected, traffic congestion tended to be most severe in urban areas, with 88 percent of the congestion costs concentrated on only 18 percent of the network mileage, and 95 percent of the total congestion cost occurring in metropolitan areas. This concentration of congestion has been well-documented in ongoing work by ATRI which annually identifies the worst truck bottlenecks in the U.S.

On a per-truck basis, ATRI identified congestion costs of $17,750 annually for trucks that average 100,000 miles per year.

As part of this analysis, ATRI has created a congestion cost database to provide granular cost information to transportation planning officials on the hours of delay and associated cost by major jurisdiction type and road level.

“Unfortunately we’ve come to expect traffic congestion as a part of our daily lives but ATRI’s latest analysis illustrates what a significant productivity drain that congestion is on our industry and the economy at large,” said David Congdon, Chief Executive Officer of Old Dominion Freight Line.
Rich McArdle, UPS Freight President, Appointed to ATRI Board of Directors

ATRI’s newest Board member is UPS Freight President Rich McArdle. Rich began his career with UPS in 1982 as an early-morning package sorter and truck loader in Kentucky. Within three short years, he was named to the team that initiated UPS International Air Service between the United States and Europe. He was promoted to Industrial Engineering Manager in 1987 and developed operating plans for expansions to Canada, Japan, Southeast Asia, and Central America.

More recently, Rich served with UPS Corporate Public Affairs to oversee global operations policy including customs and cargo security matters. In early 2015, McArdle became Mid-Atlantic District Manager and continued in that role until being named Jack Holmes’ successor as UPS Freight President in February, 2016. Jack Holmes served as a member of the ATRI Board of Directors from 2012 until early-2016.

McArdle was appointed by ATRI Chairman Judy McReynolds, chairman, president and CEO of ArcBest Corporation.

“We are very pleased to have Rich join the ATRI Board,” said McReynolds. “His operational experience and expertise will be of great value to our Board as we lead the Institute’s work to advance the trucking industry’s safety and productivity. We appreciate the continued support of ATRI by UPS and thank Jack Holmes for his years of service to the ATRI Board of Directors.”

RAC Member Wellington F. Roemer, III

ATRI RAC member Wellington F. Roemer, III, or “Rocky” as he is known by most, is President and CEO of Roemer Insurance, a Toledo, Ohio-based insurance agency originally founded by his grandfather in 1934. Throughout its 80+ years in business, Roemer Insurance has been a leader in the trucking insurance specialty area.

Rocky was born in Columbus and raised in Toledo. He earned his Bachelor of Arts and Juris Doctor Degrees from The Ohio State University. Rocky is admitted to practice law in Ohio and Florida and holds insurance licenses in 36 states.

In 1990, after briefly practicing law in Florida, he joined Roemer Insurance as Vice President and General Counsel. He then ascended to President/CEO after having served five years under his father and then-president, Wellington F. ‘Tod’ Roemer, II. In addition to serving on the ATRI Research Advisory Committee, Rocky has served on a number of civic and charitable Boards and Committees including: The Ohio State University Alumni Club of Lucas County; Ohio Trucking Association; Toledo Trucking Association; YMCA Storer Camps; Grace Community Center; and the Agents’ Advisory Council of Great American Insurance Group. Recently Rocky was installed as member of board of directors of BBB of Toledo (Better Business Bureau of Northwest and West Central Ohio and Southeast Michigan).

Rocky is the father of three daughters. He is a member of First Congregational Church in Toledo where he serves as the congregation’s Vice-Moderator. He has numerous hobbies and interests being an avid SCUBA diver, canoeist and bicyclist; enjoys shooting sports; participates in multi-sport endurance events and he enjoys cooking and entertaining – notably by carrying on a decades-long family tradition of hosting tailgate parties for friends, family and colleagues in Columbus at Ohio State University Football games.
As part of its extensive work in the area of truck parking, ATRI is playing a key role in a new industry initiative to help professional drivers find available parking.

Beginning in late summer, truck drivers who need to stop, park and rest will be able to use a free mobile app called Park My Truck to locate important truck parking information and find available spaces. The app is being developed by the Truck Parking Leadership Initiative, of which ATRI is a key member along with the NATSO Foundation, and the American Trucking Associations (ATA).

The Truck Parking Leadership Initiative was developed based on feedback from professional drivers, motor carriers and truck stop operators who are intimately familiar with truck parking availability as a critical need. Park My Truck allows any parking provider – whether public or private – to report their parking availability for free through this app; it doesn’t require any special technology except internet access.

“ATRI’s latest research has revealed that ‘managing critical truck parking’ ranks as one of the industry’s Top 5 most pressing concerns,” said ATRI Vice President, Dan Murray. “Through this technology, we will dramatically expand the scope of truck parking information available to drivers in an efficient, easily accessible format. It is gratifying to be part of a collaborative team that is generating real-world parking solutions for truck drivers and motor carriers alike.”

“Federal and state governments have spent decades and millions of dollars researching truck parking issues, and testing technology-based approaches to counting available spaces, but not one of these efforts has yielded nationwide data about parking availability,” said Lisa Mullings, the president of NATSO and the NATSO Foundation. “We are still many millions of dollars and years away from implementing an electronic system that can count parking nationwide. The problem is that drivers need information now. We don’t want to allow our pursuit of a perfect solution to prevent us from implementing a good solution today.”

The Truck Parking Leadership Initiative is encouraging all parking providers – including truck stops and travel centers, state DOT rest areas and others – to participate in the initiative by providing information and reporting the number of spaces available in their lots.

“Access to safe truck parking is a critical issue for the trucking industry,” said ATA President and CEO Bill Graves. “It is important for America’s professional drivers to have access to safe parking so they can get their required off-duty rest. Efforts like this to inform drivers about the availability of parking spaces can only help drivers as they deliver our nation’s economy and move us forward. We look forward to working with truck parking providers – both public and private – to ensure that all drivers have access to this important information.”

Administered by the NATSO Foundation, Park My Truck will be accessible by internet or through smart-phone apps by all professional drivers, trucking fleets or other industry participants.

Truck parking operators, including private companies and state or other administrators of highway rest areas, will need only to have internet access and the ability to count available spaces, whether by observation or by electronic means. Truck parking providers can contact the NATSO Foundation at (703) 549-2100 or hello@parkmytruck.com to establish an account to provide truck parking availability.
Earlier this year, ATRI launched a new research initiative to collect real-world information on the daily situations and challenges that truck drivers face in locating appropriate and safe parking. ATRI recruited drivers who agreed to keep a 14-day diary of their truck parking issues; to date over 300 drivers have received diaries and are tracking their daily stops. The diaries ask drivers to record daily stops that relate to fuel and food stops, their 30-minute rest break and the mandated 10-hour break. Drivers are recording the time and location of their stops, how long it took them to find available parking and other information about the location, amenities and why it was selected. Drivers are also logging the amount of time they lost in their duty day if they parked before running out of hours simply to secure available parking.

“ATRI’s truck parking diaries represent a first-of-its-kind opportunity for drivers to document their truck parking issues. We all talk about how tough it is to find truck parking; ATRI is giving us the chance to document the issues on a national scale so that solutions can be identified and acted on,” said professional driver David Green of Werner Enterprises and one of the America’s Road Team Captains.

With completed diaries being returned daily, ATRI plans to complete the data analysis and issue the final report later this year.

### ATRI Board Approves 2016 Research Priorities

At its meeting held April 21, 2016, the ATRI Board of Directors approved the 2016 Top Research Priorities as identified by ATRI’s Research Advisory Committee (RAC). ATRI’s RAC developed the list of recommended research topics at its meeting held in Dallas in March.

Among the top priorities for 2016 are studies that focus on trucking industry impacts from several Federal Motor Carrier Safety Administration regulatory actions as well as looking at the potential for technology to reshape industry operations.

The 2016 ATRI top research priorities are:

- **Effect of Autonomous Vehicles on the Trucking Industry** – quantifying how autonomous cars and trucks will impact freight delivery.

- **Beyond Compliance: Recognizing Safety Contributions** – expanding on ATRI’s 2011 Alternative Compliance research, this study will explore potential safety technology and management program options for inclusion in Beyond Compliance and map potential SMS credits to each.

- **Safety Fitness Determination Impacts** – exploring what FMCSA’s proposed Safety Fitness Determination rule means for motor carrier safety ratings.

- **Impacts of Commercial Driver Sleep Apnea Proposed Rulemaking** – utilizing qualitative and quantitative input from truck drivers, motor carriers and fatigue experts, this study will provide critical inputs to FMCSA’s rulemaking process on the costs and impacts of commercial driver screening and treatment for sleep apnea.

- **Highway Funding Analysis Update 2016** – this research will update ATRI’s 2007 analysis to identify current trends in highway funding.

- **Collision Avoidance Technology Deployment in Cars and Trucks** – will explore the potential safety improvements and cost savings that could be achieved from more rapid deployment of collision avoidance technologies among cars and trucks.

- **Standardizing State and Regional Freight Plans** – will develop a recommended list of criterion for successful multimodal freight plans.
Fleet Owner magazine recently released its inaugural list of Outstanding Women in Trucking. As described in the May 2016 edition of the magazine, “Fleet Owner is proud to recognize and honor the women who are helping to build the trucking industry of tomorrow by profiling a few of the many outstanding women in trucking today. Those chosen for the Fleet Owner Dozen offer excellent examples of just how varied career opportunities for women can be in an industry so essential to our overall economic strength.”

Among the Fleet Owner inaugural dozen are five with strong ties to ATRI:

- Susan Alt, Volvo North America Senior Vice President, Public Affairs – ATRI Research Advisory Committee member 2011 - 2014
- Rebecca Brewster, ATRI President and COO
- Judy McReynolds ArcBest Corporation Chairman, President and CEO – chairman of the ATRI Board of Directors
- Annette Sandberg, TransSafe Consulting President and CEO and former FMCSA Administrator, ATRI Board of Directors

Congratulations to all 12 industry leaders recognized by Fleet Owner Magazine!
ATRI recently issued its data call for the annual update to its Operational Costs of Trucking report. The brief online questionnaire seeks to capture basic cost information from for-hire motor carriers such as driver pay, fuel costs, insurance premiums and lease or purchase payments. Carriers are asked to provide full-year 2015 cost per mile and cost per hour data.

The results of this data collection, combined with the previous Operational Costs of Trucking reports, will yield eight full years (2008 – 2015) of trucking cost information derived directly from fleet operations. This research provides carriers with an important high-level benchmarking tool and government agencies with real world data for future infrastructure improvement analyses.

“ATRI’s annual Operational Costs of Trucking report is a key benchmark that we rely on to identify where we might improve our operating efficiency. Providing the information to ATRI is easy to do and I encourage my colleagues throughout the industry to participate in this vital data collection by ATRI,” said Sherri Garner Brumbaugh, president and CEO of Garner Transportation Group and a member of ATRI’s Research Advisory Committee.

For-hire motor carriers are encouraged to provide confidential operational cost data through ATRI’s survey by Friday, June 17, 2016 available at atri-online.org. The results of this study will be available later this year.