



SOUTHWEST RESEARCH INSTITUTE



# Heavy-Duty Truck Fuel Economy

Southwest Research Institute® (SwRI®) has been conducting truck fuel economy evaluations since 1973. The mild climate in San Antonio allows year-round testing on public roadways and test tracks.

The SwRI-developed Mobile DEVCon™ (Direct Electronic Vehicle Control) system provides computer control of vehicle speed to improve the confidence interval in transient test cycles. The system maintains the human element in driving and allows for customizable, complex cycles to be driven repeatably.

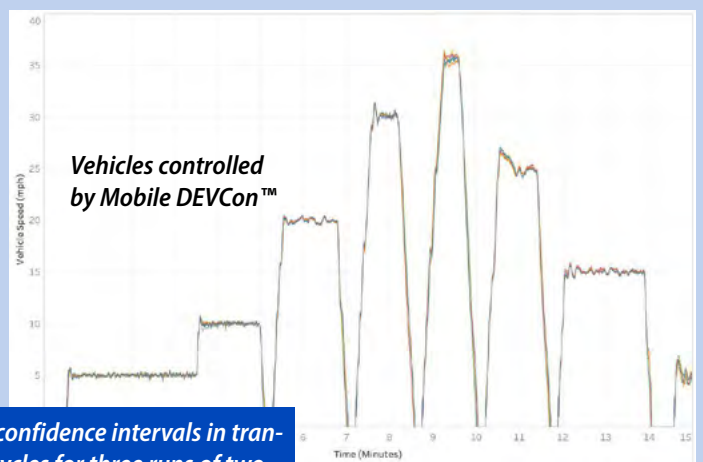
Mobile DEVCon's improved repeatability allows for testing of products offering small changes in fuel economy that were previously considered within the test noise.

## Test Procedures

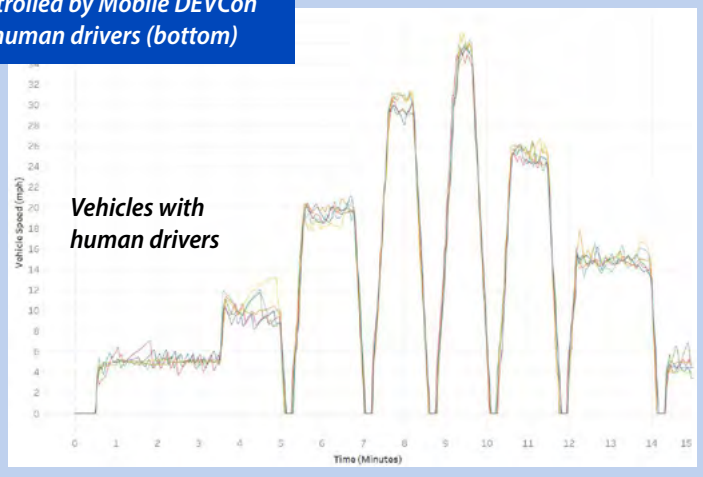
Experienced test engineers routinely use the following procedures:

- SAE Recommended Practices
  - SAE J1321 SAE Fuel Consumption Test Procedure Type II (2012 revision)
  - Interim test method for verifying fuel-saving components for the EPA SmartWay® program (modifications to SAE J1321)
  - SAE J1526 Joint TMC/SAE Fuel Consumption In-Service Test Procedure Type III
- TMC Recommended Practices
  - RP1102 In-service Fuel Consumption Test Procedure Type II
  - RP1103 In-service Fuel Consumption Test Procedure Type III
  - RP1109 Type IV Fuel Economy Test Procedure

SAE Recommended Practice J1321 specifically addresses the needs and operating conditions of long-haul truck fleets. To compare one vehicle to another, SAE J1526 is the preferred method.



*Improved confidence intervals in transient test cycles for three runs of two trucks controlled by Mobile DEVCon (top) and human drivers (bottom)*







**We welcome your inquiries.  
For more information, please contact:**

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## **SOUTHWEST RESEARCH INSTITUTE**

Southwest Research Institute is a premier independent, nonprofit research and development organization using multidisciplinary services to provide solutions to some of the world's most challenging scientific and engineering problems. Headquartered in San Antonio, Texas, our client-focused, client-funded organization occupies 1,500 acres, providing more than 2.3 million square feet of laboratories, test facilities, workshops, and offices for more than 2,600 employees who perform contract work for government and industry clients.

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