Introduction
Pursuant to RSMo. 643.337.2, the Missouri Department of Natural Resources (Department) and the Missouri State Highway Patrol (Highway Patrol) are issuing a joint annual report to the General Assembly on the status of the oversight measures implemented for the decentralized inspection/maintenance program – the Gateway Vehicle Inspection Program (GVIP). This report summarizes GVIP compliance and incidents of fraud discovered during the 2017 Fiscal Year (July 1, 2016-June 30, 2017). This report also provides our joint recommendations for oversight improvements to the GVIP.

Background
The GVIP is a federally required air pollution control strategy in the St. Louis ozone nonattainment area comprised of Franklin, Jefferson, St. Charles, and St. Louis counties and the City of St. Louis.

Since the 1980s, the Department has overseen an Inspection/Maintenance program for vehicles located in the St. Louis area. The program originated as a decentralized program, became centralized in 2000, and then reverted to a decentralized program in 2007 with the beginning of the GVIP.

The Missouri Air Conservation Commission promulgated 10 CSR 10-5.381, “On-Board Diagnostics Motor Vehicle Emissions Inspections,” effective August 30, 2007. This rule established state regulations that the Department and Highway Patrol currently use to oversee and enforce the GVIP emission inspection requirements, with assistance from the state’s contractor at the time, Opus Inspection. The Department is the lead agency for emissions inspections and the Highway Patrol is the lead agency for safety inspections. The GVIP began collecting vehicle emissions and safety inspection data on October 1, 2007. On October 28, 2016, Worldwide Environmental Products, Inc. (WEP) was awarded the GVIP contract for the State of Missouri. WEP began operations as the state’s contractor on June 12, 2017.

Station Licensing
As of June 2017, there were 832 public and 21 private or government active licensed GVIP stations and 4,805 active licensed inspector/mechanics. A current directory of licensed GVIP stations is on our website at: http://www.missourigvip.com/.
Vehicle Inspection Data
Each licensed GVIP station performs vehicle inspections using a Missouri Decentralized Analyzer System (Analyzer System). This system sends real-time inspection information from inspection stations directly to the GVIP Vehicle Inspection Database. The Department, Highway Patrol, Department of Revenue (DOR), and contract license offices have access to the database through secure, dedicated Internet connections. During the 2017 Fiscal Year (FY2017), GVIP stations conducted 820,831 initial emissions inspections and 589,196 initial safety inspections.

Previous testing programs identified already polluting vehicles, which resulted in costly repairs. Instead, the GVIP identifies problems before needing major repair. Only 20,340 vehicles failed their initial emissions test. This yields a compliance rate of 97.5% for emission tested vehicles in the St. Louis area.

Emissions Waivers and Exemptions
10 CSR 10-5.381 (3) (K) enables the Department to issue waivers and exemptions from GVIP requirements. Just like inspection results, waivers and exemptions issued by the Department are available for real time verification by DOR, contract license offices and online registration via the Vehicle Inspection Database.

- **Cost-Based Waivers** – granted by the Department if a motorist spends a specified amount on emissions-related repairs after failing an initial emissions inspection and is still not able to pass the emission test. During FY2017, the Department issued 158 Cost-Based approvals, issued 66 denials or close-outs due to inadequate repairs or response, and had 33 vehicles pass a post-repair emissions inspection after being told a retest was required as part of the waiver process. At the end of this reporting period, 3 applications were still being processed.

- **Out-of-Area Waivers** – granted by the Department for vehicles that are taxed within the ozone nonattainment area but not driven in the area during the registration period. For FY2017 the Department received 471 applications. Of the 471 waiver requests, 52 were denied or determined unnecessary (due to gross vehicle weight rating). The Department issued 419 Out-of-Area waivers, primarily for businesses such as AT&T and Laclede Gas, but 41 were also provided to charitable organizations with offices located in other areas of the state as well as the occasional motorist.

- **Reciprocity Waivers** – granted by the Department for vehicles that are taxed within the ozone nonattainment area but are located in another state and have passed an equivalent emission inspection in that state. For FY2017, the Department issued 9 Reciprocity waivers.

- **Mileage Based Exemptions** – granted by the Department for vehicles with documented odometer readings to meet various mileage waiver criteria. For FY2017, the Department received 1,800 applications, with 625 from motorists coming to the St. Louis Regional Office. Department staff issued 1,730 Mileage-Based exemptions, denied 38 applications, and determined 32 unnecessary for various reasons.
Data Oversight Methods

Real Time Inspection Data/Paperless Inspection Verification
Analyzer Systems connect to the Vehicle Inspection Database using an Internet connection. The system’s software uploads inspection data to the database where it becomes immediately available to the Department, the Highway Patrol, the state’s contractor, DOR, contract license offices, and the online registration system for inspection verification. This allows license offices to quickly identify fraudulent vehicle inspection reports, deny vehicle registrations, and report the issue so an immediate investigation may begin. This investigation includes determining the source of the fraudulent inspection reports, requiring legitimate inspections for the vehicles, and possible criminal prosecution.

Bulletin Messaging and Documents Menu
Each Analyzer System includes a messaging system that allows the Department, the Highway Patrol, and the state’s contractor to contact GVIP stations, individually or collectively, to inform inspectors and mechanics about inspection procedures, billing reminders, and software updates. Each Analyzer System is also equipped with a documents menu, which stores and prints GVIP regulations and fact sheets, as well as comment, waiver, and exemption forms. This simplifies the distribution of public information to inspection stations and to vehicle owners.

Consumer Protection Technical Service Centers
Cost-Based waivers allow a vehicle to register and operate in failing condition for up to two years. Therefore, the Department strives to ensure repairs made to vehicles receiving a Cost-Based waiver are appropriate and beneficial. Through negotiated contracts, the Department retains the services of approximately 11 vehicle repair facilities to serve as Technical Service Centers. These Technical Service Centers employ Missouri Recognized Repair Technicians who are certified by the National Institute for Automotive Service Excellence in specific areas, specializing in diagnosing the cause of a failing emissions test. These centers serve to:

- Diagnose readiness issues with specific makes and models. This helps identify vehicles requiring special testing circumstances and ease future testing.
- Diagnose vehicles that received repairs but show no signs of improvement.
- Review vehicles and prepare receipts to ensure repairs performed were necessary for the emissions failure and performed as billed.
- Provide motorists with accurate diagnostic information on how best to repair their vehicle to pass an emissions test.

The Department is able to deny Cost-Based waiver requests if reviews show repairs were not appropriate to correct the emissions failure. Many times the Department works with the shops that performed the initial repairs to reimburse the motorist or provide additional free repairs. The use of Technical Service Centers reduces the number of Cost-Based waivers, thereby minimizing the emissions from waived vehicles while also maximizing the number of fully repaired vehicles.

For FY2017, the Department authorized the review of 11 vehicles by one of these centers.
Equipment Oversight Methods

Laptop Audit Computers with Wireless Internet Access
Department and Highway Patrol auditors receive laptop computers containing both Analyzer System software and customized auditing software. These allow auditors to securely access the Vehicle Inspection Database and conduct audits with or without Internet access. Department and Highway Patrol auditors are able to review inspection records for all stations and inspector/mechanics while in the field. Once an audit is complete, Department and Highway Patrol staff managers can immediately review audit results and generate summary audit reports from the inspection database. This allows for a quicker response when identifying fraudulent inspections and procedures.

Digital Cameras
Each inspection system includes a digital camera. The Analyzer System's software requires licensed inspector/mechanics to photograph the rear license plate, the vehicle identification number plate, and the odometer. The inspector/mechanic attaches these photographs to the vehicle inspection reports on the inspection database where it is available for review and comparison to previous inspection reports to ensure the vehicle reported matches the vehicle inspected. The Department and Highway Patrol are then able to identify inspector/mechanics taking improper or no photos prior to the inspection.

Fingerprint Readers
Each inspection system includes a digital fingerprint reader. The software requires the licensed inspector/mechanics to scan one finger prior to beginning each inspection. This fingerprint scan must match the scan stored in the system for that individual in order to proceed with the inspection. Fingerprint readers in combination with the trigger reports described below have dramatically improved enforcement efficiency by documenting and pinpointing inspector/mechanics conducting improper inspections.

Enforcement
Station Audits
The Department and Highway Patrol conduct overt and covert audits of GVIP stations. During covert audits, the Department uses a fleet of six vehicles altered to fail in order to assess the test effectiveness and to prevent test station fraud. The Highway Patrol also has a vehicle with defects to evaluate the station's safety inspections. During FY2017, Department staff conducted 1,359 overt lane and inspector audits and 779 covert vehicle inspection and data audits of GVIP stations. Highway Patrol staff conducted approximately 675 overt audits and 87 covert audits.

Trigger Reports
Once uploaded to the inspection database, the inspection data becomes available to the Department, Highway Patrol, DOR, and the state's contractor via an Internet-Based Reporting Suite.

For OPUS, the Reporting Suite contained general informational reports along with “trigger reports” designed to identify emissions or safety inspection patterns inconsistent with state regulations. When improper inspections occurred, the trigger report compiled the evidence into a report used to initiate an investigation. For example, the OBD VIN Mismatch Report and the Protocol Mismatch Report reveal “clean scanning” violations. Clean scanning is the illegal act of connecting the Analyzer System cable to a different vehicle than the one identified on the inspection report with the intent of bypassing the required test procedure. The OBD VIN Mismatch Report compared the vehicle identification number entered by the inspector/mechanic with the number the vehicle reported through the system. In addition, vehicle manufacturers program every make and model with a certain protocol that the vehicle...
uses to communicate. The Protocol Mismatch Report identified inspections where the protocol used by the on-board diagnostic is different from the known protocol for the vehicle reported. These two reports were extremely effective in identifying instances of fraudulent inspections.

**Clean Scanning**

Fraudulent inspection activities such as clean scanning are violations of the Clean Air Act and prosecutable by the U.S. Attorney’s Office. The Department and Highway Patrol collaborate with the U.S. Environmental Protection Agency’s (EPA) Criminal Investigation Division and the U.S. Attorney’s Office on investigations of vehicle inspection fraud and inspection document falsification.

The Department did not finalize any enforcement cases with monetary penalties during this reporting period.

**Equipment Lockouts and License Suspensions/Revocations**

The Department and Highway Patrol have the ability to apply an electronic “lockout,” which prevents an individual inspector/mechanic or an entire GVIP station from using their Analyzer System(s). For FY2017, the Highway Patrol initiated 381 lockouts including 19 for no photos of vehicles, 9 lockouts for excessive offline testing, 1 for unauthorized equipment, and 63 for failing the audit. The removal of a lockout occurs upon the completion of the license suspension or the correction of the violation.

In addition to having their Analyzer System(s) locked out, inspection stations conducting improper inspection activities may have their inspection licenses suspended for up to one year or revoked entirely. To date, the Highway Patrol suspended one (1) inspector/mechanic license for clean scanning violations. During FY2017, the Highway Patrol suspended or revoked zero (0) station licenses for clean scanning violations.

The Department and Highway Patrol continuously investigate additional GVIP stations and inspector/mechanics for improper inspection activities.

**Oversight Results**

The GVIP prevents registration fraud by investigating and identifying individuals producing fraudulent inspection reports. The GVIP implemented an improved auditing system, streamlining the Department and Highway Patrol oversight of vehicle emissions and safety inspections. The result of the integrated oversight methods described above is that the Department and Highway Patrol can cost-effectively audit, detect, and enforce to further prevent emissions and safety inspection fraud.

**Recommendations for the Future**

The Department and Highway Patrol continually strive to improve our ability to detect fraud and ensure data integrity. We continue to move forward by identifying areas of possible improvement to the GVIP, including:

- Provide ability for Mileage Based Exemptions to be provided at GVIP inspection facilities through the inspection Analyzer System by utilizing data already in the inspection system at no charge to the motorist and at no VID fee or authorization fee charged to the shop.

- Continue efforts to seek out and prevent fraudulent inspection procedures in addition to clean scanning violations. With ongoing improvements to the reporting system, and varied covert audit techniques, we continue to improve our ability to efficiently identify improper inspections.
• Continue working with DOR to improve the registration process through identifying and preventing invalid registration obtained with counterfeit inspection reports, ensuring individual licensing offices conduct proper verifications, minimizing problems or confusion with registration of vehicles that are exempted from safety and/or emissions inspections, minimizing issues associated with online registrations and providing additional information regarding exemptions. We will also continue to work with DOR to ensure automobile dealers statewide meet their statutory obligation to inform vehicle purchasers of their rights regarding emissions inspections.

• Continue efforts to coordinate with the Missouri Attorney General's Office Consumer Protection Division and DOR to bring enforcement action against used car dealers who fail to meet the requirements of the statute. RSMo. 643.315.4 requires a dealer to obtain a passing emissions test before sale or clearly state in the sales contract that the purchaser may return the vehicle to the dealer for retest and repair within 10 (ten) days of sale should the vehicle fail an emissions test.

Conclusion
The oversight measures described in this report have elevated the GVIP to among the best in the country. Thanks to efforts like the GVIP in the St. Louis area, ozone levels have shown a continued decline in recent years. As the GVIP continues, we will have an even greater potential for compliance and enforcement capabilities. The Department and Highway Patrol will continue working with the state's new contractor to enhance the oversight tools needed to identify violations and improve enforcement capabilities. Both agencies will continue to ensure compliance with state statutes and rules, remove violators from the program, and work for the public health and safety by overseeing an inspection program with proven value and integrity.