

Case Study:

IIS Automated Thermal Inspection System

The New Mexico State Police Commercial Vehicle Enforcement Bureau added the IIS Automated Thermal Inspection System at their Lordsburg and Anthony Ports of Entry in September of 2015. The patented **Automated Thermal Inspection System (ATIS)** is fully integrated with their existing IIS Smart Roadside Inspection System.

ATIS provides New Mexico's Commercial Motor Vehicle (CMV) officers with an additional layer of accurate real-time information on all passing CMVs. ATIS automatically reads and compares the thermal images of the tires, brakes and wheels on each side of the vehicle while it passes sensors installed on the ramp. High resolution thermal images are captured for each wheel set (both left & right) of each axle on the vehicle.

The system automatically processes each image, identifying thermal anomalies such as wheel bearing failures, loose wheels, flat tires, and non-operational or out of adjustment brakes. The system immediately displays this information with corresponding images and alerts on the IIS Smart Roadside display. IIS' ATIS features a better than 90% detection rate of faulty components on wheel sets.



350% Increase in Out-Of-Service Incidents September 2015 to June 2016

Captain Tim Labier of the New Mexico State Police Commercial Vehicle Enforcement Bureau has found several benefits of using ATIS in their inspection process. The most significant impact has been a **more than 300% increase in Out-Of-Service violations** issued at the site after the integration of ATIS. Captain Labier stated "ATIS has increased our efficiency by assisting officers to focus their efforts on carriers requiring further investigation. By using this thermal inspection technology, we have replaced random inspections with qualified inspections, and we're taking more dangerous commercial vehicles off of the road."

Captain Labier recalled an early incident where the ATIS alerted his officer to a petroleum tanker with a thermal anomaly on one-wheel set. Upon inspection it was discovered that all of the brake components had fallen out of the wheel assembly, leaving functioning brakes on just one side of the axle.

Improperly inflated tires on CMVs are a concern for the State Police due to the extreme heat on New Mexico's highways. Through ATIS officers are able to identify dangerously hot tires which appear normal under a visual inspection. Captain Labier encourages his staff to use ATIS to educate CMV drivers on the importance of proper tire inflation. "In one particular instance at the Anthony Port of Entry my officer was able to identify and stop a CMV hauling a Class 3 flammable liquid with dangerously under-inflated tires. Had the vehicle continued it would have eventually lost a tire with the possibility of damage to nearby vehicles and the risk of the driver losing vehicle control."

Intelligent Imaging Systems is dedicated to improving the effectiveness and efficiency of existing Commercial Vehicle Enforcement (CVE) operations. Automated Thermal Inspections Systems (ATIS) helps officers identify unsafe commercial vehicles, improving safety and supporting the flow of commerce.

Trucks Placed Out-of-Service

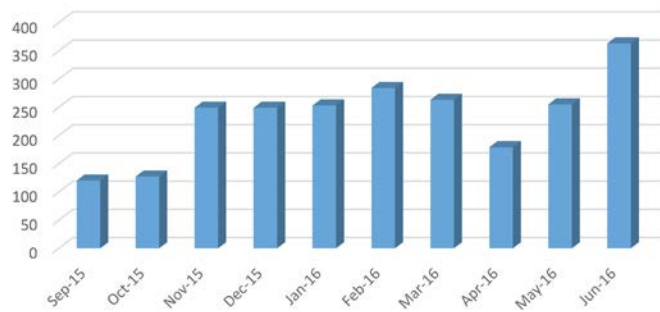


Figure 1 - OOS Incidents Anthony



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