

TRAFFICVISION™ CASE STUDY

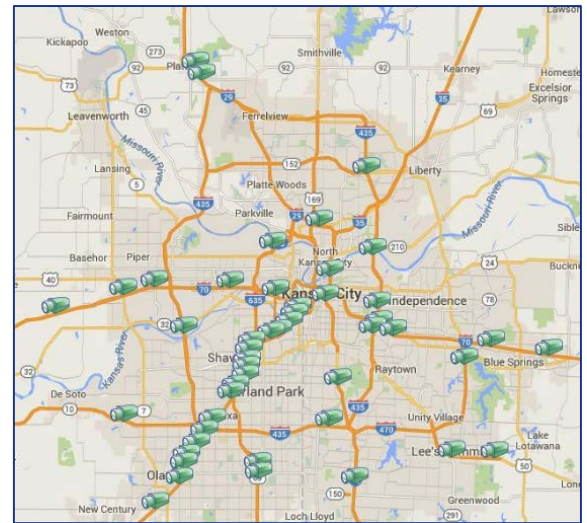
Video Analytics Detection for KC SCOUT



INTELLIGENT EXPANSION

The Kansas City metropolitan area is internationally renowned: it has its own cool jazz, distinctive barbecue, and one of the highest levels of quality of life, as reported by its friendly citizens. Less well-known until recently is its reputation for progressive and forward-thinking traffic management, enhanced by the use of emerging technology. Not only is Kansas City a [SmartCities®](#) finalist, but back in 2012 the Missouri Department of Transportation was the first in the region to implement a cutting-edge video analytics tool to help monitor highway CCTV traffic cameras at its traffic management center (TMC), KC SCOUT. This software tool is TrafficVision™, which uses their existing camera infrastructure to monitor traffic flow and detects highway incidents such as crashes and sudden congestion in real time, while simultaneously collecting important data.

After an initial deployment of TrafficVision™, KC SCOUT upgraded their coverage in 2016, and now over one third of the KC SCOUT cameras are monitored by this patented video analytics technology. These real-time alerts and data are seamlessly integrated into their command and control software, resulting in impressive improvements on Kansas City traffic flow and roadway safety.



CCTV cameras monitored by TrafficVision™ throughout the KC Metro Area, as shown in the TrafficVision™ user interface.

THE CHALLENGE

KC SCOUT manages traffic for the entire metro area of approximately 2.1 million residents and is jointly operated by the Missouri and Kansas departments of transportation (MoDOT and KDOT). These agencies recognized that it was impossible for three operators per shift to adequately monitor the 300+ traffic cameras placed throughout their highway system. In their efforts to be less reactive and to improve incident detection and response times, they realized there would be value

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in turning these cameras into proactive detection tools with a technology solution that does not sleep, take breaks or require replacing any equipment. Numerous studies show the benefits of faster incident clearance time on overall traffic flow, by reducing queue and lessening the likelihood of

secondary incidents. KC SCOUT knew this was the next best step as their intelligent transportation system (ITS) matures.

THE BENEFIT

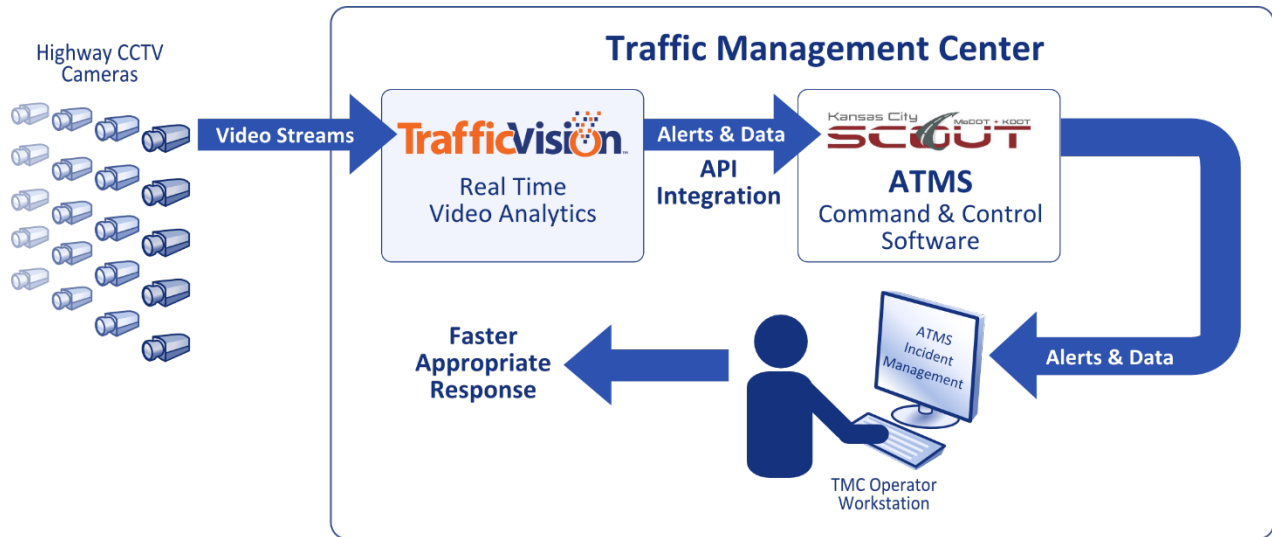
Since adopting the software solution, KC SCOUT has reported that TrafficVision's contribution to their TMC operations has produced impressive findings. "Of the 300+ CCTVs in the network, TrafficVision™ was responsible for initially detecting 27% of all incidents reported in 2015." That 27% came from the 48 out of 300 cameras that were utilizing the video analytics. This means that over 25% of all their incidents logged system-wide in 2015 were generated from only 16% of their cameras. Faster detection means faster response time and shortened incident duration. Now that over 33% of all cameras in the system are monitored by TrafficVision™, KC SCOUT can expect real-time detection of many more incidents by TrafficVision™ and further traffic flow improvement.

KC SCOUT summarized several notable benefits from the TrafficVision™ implementation including:

- Improved detection, notification and response to incidents as they occurred
- Improved incident clearance times and, therefore, safety
- Reduced demand on operators tasked with many other responsibilities
- A surprising finding was that TrafficVision™ enhances operator performance and job satisfaction.

REAL-TIME MONITORING + INTEGRATION = SEAMLESS TRAFFIC MANAGEMENT

In response to these impressive initial findings, KC SCOUT increased their TrafficVision™ footprint to monitor over one third of all their cameras in 2016. But they also realized even more value would be gained if these TrafficVision™ alerts and data were integrated into their command and control software, or advanced traffic management system (ATMS), a portal through which TMC operators control and interface with all their traffic control and ITS devices.



This diagram depicts the KC SCOUT system enhanced by an integration of TrafficVision™ video analytics for real-time incident detection and reporting to TMC operators through their advanced traffic management system (ATMS).

The integration received praise from KC SCOUT operators due to the seamless transfer of incident alerts from TrafficVision™ to the ATMS Event Receiver: “Within one click the operator can create and manage the incident using SCOUT’s ATMS tools.” They supplied a list of a number of advantages to the integration:

- Increases productivity
- Saves time & lives
 - Simplifies event creation—one click to place an incident on the map
 - Captures what an operator might miss when busy
 - Captures event CCTV location and event type
 - Maximized Resources: Both CCTVs and staff



Integrated TrafficVision™ notification displays within the KC SCOUT ATMS, notifying operators of pallets in roadway and providing a means for one-click ATMS event creation. The still image of the scene is annotated with a box around the detected incident.

ABOUT TRAFFICVISION

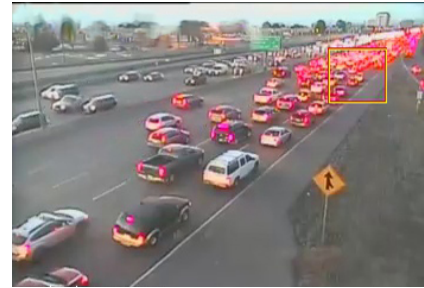
Video analytics is a broad term for algorithms that track movement and pixel groupings across video frames. These algorithms are designed to learn from each camera's unique view, and they incorporate traffic-specific parameters to provide accurate alerts tailored for traffic management professionals. TrafficVision's video analytics provide visual verification of incidents in the form of incident snapshots, as shown below. You can also configure the software to save video footage before and after an incident for review.



TrafficVision™ detected a vehicle that spun out due to icy conditions. Winter weather can make driving dangerous, and TMCs can receive real-time notifications for incidents on the highway in all weather conditions.



TrafficVision™ detected stopped traffic on an exit ramp due to a collision. Incidents such as this can create unexpected queues, which can lead to secondary incidents.



TrafficVision™ detected traffic congestion and slowed speeds.

TrafficVision™ is an elegant and flexible solution to transform existing CCTV video assets into intelligent sensors. As agencies strive to manage their increasing ITS infrastructure and mature in operational efficiencies, video analytics is a capstone-level investment that ties the rest of the system together. Not only does an external video analytics system upgrade a TMC's equipment and relieve the burden of human operators, but it also generates alerts and data that can seamlessly integrate into the existing operational infrastructure. TrafficVision™ helps agencies achieve more with their existing cameras and ATMS.

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More and more agencies are learning the value of this additional layer of monitoring and intelligence available to them, and the power of integration into their ATMS, as KC SCOUT has experienced. Please contact TrafficVision™ representatives

Within one click the operator can create and manage the incident using SCOUT's ATMS tools.

to learn more about how your agency can advance safety and efficiency through immediate incident detection, leading to shortened incident duration. If you are interested in testing our vision analytics in your TMC environment or exploring how we can integrate

our continuous automated detection with your ATMS, contact TrafficVision™ at info@trafficvision.com or call 1-844-GOT-TVIS (1-844-468-8847).

For more information, contact:

TrafficVision™

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