White Paper

How to Maximize your Transit Video Surveillance System Investment

When planning an investment for transit video surveillance, the bid price should be treated as just one component of the overall purchasing strategy as operating costs vary widely. The factors that influence total cost of ownership include more than just procurement costs and strategies exist to make the most of capital grants and keep operating costs low.

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Accounting for Procurement Costs

Regardless of the system installed, operating costs can be a large expense and they are not always obvious.

There can be significant personnel costs associated with training, maintenance and trouble-shooting, as well as obtaining and archiving desired video from a system. The more sophisticated the search capabilities of the system are and the easier the system is to use, the less time and personnel cost is dedicated to it.

Planning for compatibility can also help agencies maximize their investments. Many agencies outfit a portion of their fleet with a camera system and, in just a few months or years, are forced to adopt a completely new system for the remainder of the fleet because the manufacturer's own system is not backwards compatible. This can result in the agency being required to replace their old systems so that they are compatible with the newer technology. Compatibility is also vital to employ new technology when an agency upgrades its existing system, such as adding streaming live video, GPS or back-end management software.

Even litigation can be a hefty hidden cost; an unreliable system can have an impact in the courtroom, and contribute to a judgment against the agency if the system does not work properly or does not collect the information needed to protect the agency.

Managing Operating Costs from the Beginning

Many agencies receive grant money, often from the FTA or stimulus funds, and some agencies will receive insurance money for outfitting a fleet or facility with surveillance equipment. The initial mentality is typically to use as little of that capital funding as possible and select the low bid. However, agencies should assess the inverse relationship between capital cost and operating costs. Typically, maximizing the free money available for capital results in lower operating costs for the agency.

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For example, selecting the low bid often results in the purchase of a less expensive, lesser quality system, typically with a shorter warranty period and less manufacturer support included. Most agencies find this type of system will suffice initially. However, in subsequent years when fatigue from the vibration, temperature and power fluctuations set in, required repairs will be funded out of the operating budget. In addition, a less feature-rich system utilizes more hours for troubleshooting, offloading and locating desired video clips adding to the operating costs. If an agency is forced into a low-bid situation, the agency should ensure that their technical specifications and scope of work are drafted so that the most effective and efficient system is purchased to meet their needs, including lower operating costs.

Anticipating Post-Deployment Needs

As video and recording technologies rapidly evolve year after year and agency needs become more sophisticated, it's very common to see the needs and wants of agencies change. Often the initial need is an easy-to-use, reliable system that records and plays back video and audio. However, once the cameras are installed, many agencies see the benefits of added functionality and want to see video in real time as events unfold or know exactly where vehicles are on their routes right down to the exact city block or intersection. A lot of these upgrades and enhancement requests stem from

GPS capabilities help users locate desired video with searching capabilities by event, time and date, calendar-based search as well as vehicle speed and historical mapping location.

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the sometimes daunting task of finding and locating desired video.

After implementation, many agencies see the real-time savings of implementing video-management software. More features are available all the time, such as accelerometers that are activated when the bus experiences a hard stop or fast turn, for example, triggering an alert at headquarters and the ability to stream live video from that vehicle.

Agencies may also want to plan for a system that offers an upgrade path rather than just a replacement path. Lately, agencies have been scrambling to add additional cameras to their systems to deal with the enforcement of drivers that are texting-while-driving. Again, this is a case where upgradability is a lot less expensive than replacing the entire system to add additional features, such as the ability to record more cameras.

Assessing the Importance of Backward and Forward Fleet-Wide Compatibility

One factor that often does not receive enough attention is the value of having a software management system that will monitor the health, activity and maintenance of the entire fleet despite differences in equipment upgrades. Oftentimes, when one or several camera systems no longer function properly, some manufacturers will require an upgrade to the software management along with the next generation of DVRs and cameras. This is a cost that can come as a surprise to many agency managers. The initial hope is that your management system will always work seamlessly with newer *and* older equipment.

It is important that the core system works with equipment that was installed with the initial procurement and that it also works with equipment that will inevitably be installed in the future as vehicles in the fleet turn-over. This requirement will eliminate valuable resources during an upgrade phase, as well as the hassle of having to monitor multiple systems for different vehicles.

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Knowing the Life Expectancy of the System

The life expectancy varies significantly depending on the manufacturer and the individual system that is selected, so this is definitely a question that should be asked by the agency during the initial stages of the procurement process. More often than not, agencies elect to replace or upgrade their systems because of new technology or features before their systems need to be replaced due to age.

Management software can streamline fleet-wide management of on-board equipment. Used to reduce liability, mitigate risk, improve efficiency, reduce maintenance and operating costs, management software provides health status of DVR systems with automatic notification of system failures, camera obstructions and more...

Anticipating Common Repairs

Most repair issues are the result of equipment not being designed for mobile applications. For example, there are still many systems designed for a fixed facility-type application that have been modified for use in transit and rail vehicles. You can very quickly run into a situation where you are spending a significant amount of your operating budget on repair and maintenance. Because video is often only downloaded when an event arises, many agencies are surprised to find out how long the video system was not recording when they go back to download video. It is important to have a recurring system check by either integrating with other on-board devices to link with health reports or have a separate DVR system and health reporting system in place. Likewise, a system that is installed but not operating correctly can give a false sense of security to passengers and the agency and, in the event of a passenger lawsuit, this disrepair could weigh on the jury's decision.

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Keeping up with Trends

Related to anticipating future needs, agencies should keep up with the trends, technologies and regulations in the industry as they are constantly changing. Already we are seeing more cameras per vehicle with much higher resolution on each camera and faster and more sophisticated ways to stream video to operations centers and beyond, such as to police vehicles and to smartphones. Smartphone applications currently exist for this purpose. And, as previously mentioned, accelerometers are becoming a more common requirement – these can be used to alert transit managers to something unusual on a bus and aid in driver training. With all of this technology in the field it is likely we will see fleet monitoring services offered to transit agencies. And more drivers will be monitored by cameras - the public is demanding means to prevent texting and other driver distractions and cameras are an obvious deterrent. All of these trends should weigh in on your procurement strategy and decisions.

Live video streaming on mobile devices increase accessibility of video to more agency users.

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About Apollo Video Technology

Apollo Video Technology is an acknowledged leader in the Mobile Video Industry. With an emphasis on unsurpassed customer service and support, Apollo Video creates technologically advanced solutions for a growing need of accessible mobile video surveillance and fleet information. Established in March of 2004, Apollo Video has implemented thousands of successful, easy to use and cost effective solutions for Transit, Rail, Law Enforcement, Public Safety, School Transportation and Military applications in the United States and Worldwide. Apollo Video exclusively provides mobile video and fleet management solutions simplifying real-time video capture and reducing overall costs with exceptional quality, durability and robust software solutions.

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