Digital Cruiser Mounted Video Systems: Potential and Promise

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For three decades, police agencies across the country have been using cruiser mounted video camera systems to aid the work of patrol officers. Commonly known as dashboard cameras or "dash cams," this technology has been used to aid in criminal prosecutions, address allegations of officer impropriety and provide key leads in cases where officers are assailed. Additionally, these systems have captured video documentation of various critical incidents, which have been utilized for television entertainment programs and officer survival training sessions alike.

Dash cam technology is in a state of constant evolution, with a variety of manufacturers providing systems with higher quality video and audio recordings while simultaneously providing solutions for footage storage and management. The most notable advance in dash cam equipment has been the shift from analog based 8 mm and VHS recordings to digital video recording units. Departments throughout North Carolina are investing in these digital dash cam systems. Officials from the North Carolina Governor's Safety Program state that local agencies that are applying for matching fund grants are almost universally outfitting with digital based dash cam units.

The piedmont agencies of Kernersville Police Department and King Police Department are forerunners in the use of this technology, each having recently equipped their patrol fleets with digital cruiser mounted video systems. Though the two departments use equipment from different manufacturers, both have similar dash cam systems which store video footage on removable hard drives that are down loaded at end of shift to a department mainframe. This

allows each department to maintain digital databases of video files, which can be easily reviewed, maintained or turned into DVDs for use as evidence in court.

The systems used by King PD and Kernersville PD have several features, which greatly improve the usefulness of the dash cam for officers. The most notable capability of the new equipment is its ability to record footage continually onto a memory buffer, in much the same way as a digital video recorder (DVR) works on a home television. By recording footage onto this memory buffer, the dash cam can now create files that contain footage from 1-2 minutes prior to the activation of the emergency equipment. This enables officers to capture footage of not only their traffic stops, but also of the offence that led the officer to initiate the traffic stop.

Though the pre-event recording feature of new digital dash cam systems is often the most noted innovation, the digital video databases which store dash cam footage for agencies may prove to be even more useful to officers in the long term. Dash cam footage which is recorded onto 8 mm or VHS tapes creates storage difficulties, filing challenges, and of course the tapes themselves are more subject to degradation. The databases used by the Kernersville PD and King PD, conversely, are managed by advanced software, which allows for customization to the needs of each organization.

For example, the Kernersville PD system stores its video files according to the nature of the incident recorded (DWI, traffic warning, etc.) and allows for footage to be searched by officer name, date, or nature of incident. Furthermore, the software automatically manages itself by deleting the oldest footage files based on the department's specific design. Thus preserving both evidence and memory space within the hard drive. By using media player software, the departments are able to view high quality video and audio footage quickly and easily.

Research Using the Databases

Over the course of 2007, I conducted research for a master's thesis by viewing footage from the digital databases of the King and Kernersville Police Department databases. I attempted to learn what factors increase the likelihood of a citizen complying with the commands of a police officer. The research uncovered some interesting features of the interactions which occur between officers and citizens. However, during the course of the study, it also became apparent to me that the use of digital databases of dash cam footage can be broadened.

Digital dash cam footage databases, which are maintained by law enforcement agencies, represent a new resource that has yet to be fully exploited by our profession.
Analog based systems produce a collection of tapes which are difficulty to store and organize. Furthermore, finding a specific piece of footage requires tedious fast forwarding and rewinding. By contrast, digital databases allow for a quicker location of specific footage, or even an automatic random sampling of video files. My experience with these systems demonstrated to me that departmental databases of digital dash cam footage have a broader potential than has been explored up to this point.

Training of New Recruits

Policing is, in many ways, a trade. Our profession has steadily increased the role of academic achievement in the careers of officers; however, the work of law enforcement, from patrol to investigation, is so varied and complex that it must be learned almost entirely through experience. Administrators and instructors in criminal justice programs and BLET academies acknowledge this fact and work to design programs with the goal of providing students with experiential based education. With a combination of training by veteran officers, scenario based role-playing and ride-along hours, students are exposed, as much as is practical, to the real work

of law enforcement. These educational techniques have their limitations, as will any preparation program prior to actual field training. However, the development of digital dash cam video databases presents the possibility for adding a complementary education strategy to the course of study for criminal justice students and BLET cadets.

The footage available from digital video databases provides instructors with a way to allow students to observe, practically first hand, the work of a patrol officer. By sampling footage from these digital databases, teachers can expose students to an unedited view of officer/citizen interactions, from the mundane to the dynamic. Digital dash cam footage allows students to observe dozens of traffic stops, in detail, while at the same time providing an environment where the students are free to discuss with the instructor concerning the tactics and law which guide the officer's actions.

Obviously, a more wide spread use of digital dash cam footage in criminal justice programs or BLET schools should not replace ride-alongs. However, this footage does serve as an excellent complement to shadowing experiences. If students have the chance to view traffic stops or listen to the audio from responses to domestic violence calls, they will be better positioned to understand what they are witnessing as a ride-along and to ask better questions of the officers they encounter. Furthermore, by using dash cam footage as a training tool, instructors can expose students to a wider variety of law enforcement activates than they would typically experience during the average ride-along.

It should also be noted that dash cam video allow students to view law enforcement activities that involve a degree of danger which might exceed what they would be allowed to participate in as a ride-along. Finally, the best reason to expand the role of dash cam video in BLET and criminal justice programs is that the video and audio captured by these systems is

relatively candid. Patrol officers have dash cam systems in their vehicle every single day, but the same is not true of ride-alongs. The presence of an observer influences the behavior of officers and citizens, in both small and large ways. By viewing dash cam footage, students are able to see more natural examples of police work.

Self Improvement

Digital dash cam footage could be an extremely valuable tool in a BLET program. However, officers can continue to use this resource to aid them in developing and maintaining their law enforcement skills and tactics. The dashboard mounted video systems which are used by law enforcement agencies are designed to begin recording whenever a cruiser's blue lights are activated. This creates documentation for officers of their own performance during traffic stops and other enforcement activities.

Professional athletes regularly film and review their own performances in meticulous detail. This allows them to note strengths or weaknesses in their own play and the play of their opponents. By using digital media players, officers have the ability to view high quality footage of their own traffic stops or responses to other calls. Officers should be encouraged to regularly review footage captured by the dash cam system in their own cruiser. Officers have been reviewing their dash cam footage for years in an attempt to gather evidence, for example, reviewing footage from a field sobriety test. However, officers have not been trained to review footage from even their most mundane traffic stops or citizen encounters.

Every time an officer performs a vehicle stop, the dash cam system of the cruiser captures detailed footage of the officer's interaction with a citizen. By reviewing the video and audio, an officer can review his/her own officer safety tactics. Furthermore, by reviewing the footage the officer can examine the way in which the verbal interaction with the citizen(s) progressed. It is

very difficult to remember any conversation exactly, much less one that is conducted with the distractions of a roadside interviews. The lapel microphones worn by patrol officers allows for documentation and review of these officer/citizen interactions.

Perhaps the two most important skills for a law enforcement officer are the ability to keep themselves safe with physical tactics and the ability to maintain control of encounters with verbal tactics. By reviewing the video from dash cam footage, officers can better prepare themselves to hone both of these skills. Digital dash cam systems make this kind of self-improvement simple and efficient.

Training and Personnel Officers

The officers who are responsible for training their fellow law enforcement officers have been long been aware of the usefulness of dash cam footage. Typically, in-service training has used footage from critical incidents. This is an important technique for helping officers to study and prepare officers for the most dangerous events that they may come across. However, it is just as important for officers to receive continual training on how best to conduct the more common activities of law enforcement.

Agencies that invest in digital databases of dash cam footage possess a fantastic resource for the officers within the agency who are tasked with maintaining and improving the skills and tactics of their fellow officers. Footage stored in a departmental mainframe and viewable via easy to use media players presents a training officer with documentation of the routine performance of officers. This documentation, rather than being used as a tool for micro-management, can instead be used to determine general tendencies of officers in the department. For example, by taking a random sample of traffic stops which result in arrests, training officers can evaluate the handcuffing and body search techniques of officers within their agency. This

information can then be used to create in service training for officers which is specifically targeted to the needs of an agencies officers.

A systematic observation of an agency's dash cam footage can also be used to document the success rate of new policies or techniques. For example, if the decision is made to conduct annual in-service training on Verbal Judo, then by utilizing a dash cam video database, the training officer can monitor the change in the degree to which officers employ the technique. This allows the training officer to effectively evaluate their own training programs as well as monitor the usefulness of the tactics being taught. By taking advantage of the ease and utility of digital databases, training officers can improve their own effectiveness and document the end results of their work.

Academic Research

The potential for expanded employment of digital dash cam video databases to improve BLET programs, officer self evaluation, and in-service training should be an exciting prospect for all who care about the profession of law enforcement and the communities that our profession serves. However, there is one potential application of digital dash cam footage databases, which will probably meet with resistance from many in the field of policing. Dash cam footage databases present academic researchers, especially social scientists, with an untapped storehouse of research material. The history of relations between law enforcement professionals and academic researchers has been long and complicated. In general, those who work in field of law enforcement believe that communities are best served when decisions regarding police practices are made by those who have spent their professional lives actually engaged in policing. This stance views academic researchers as outsiders who have little or no

understanding of the true nature of policing, and who may be pushing an agenda which runs counter to the best interests of officers and even the communities they serve.

The ambivalence of law enforcement towards academics who are attempting to study police work is understandable. No one enjoys having their actions monitored and evaluated by outsiders. Additionally, social science research often seems to involve the potential for negative publicity and criticism, while proposing policies which may lead to an undermining of the authority of law enforcement professionals to make determinations regarding the work of policing.

However, the skills and abilities of social science researchers and other academics should not be undervalued. Dash cam footage primarily captures social interactions between officers and citizens. Law enforcement has often worked with experts to develop and assess the tactics and strategies for maintaining officer safety while maximizing the advantage of an officer if the interaction becomes violent. Social science researchers possess the strategies and expertise to develop and assess the verbal and non-verbal communications which occur in officer/citizen interactions. An experienced sociologist, psychologist or anthropologist who has spent a career developing the skills to observe complex interpersonal interactions (without being influenced by biased preconceptions), record the foundational factors, and report findings from a unique point of view.

By allowing academic research of digital dash cam footage, law enforcement agencies can reap substantial rewards. For example, the conversational technique of Verbal Judo has been taught to law enforcement officers for over 10 years. However, the question remains, does the system actually bring about the improvements in officer/citizen communication which it claims? A criminologist, using digital dash cam video databases as a population to sample from, could

conduct a review of the effectiveness of Verbal Judo or any of a myriad of other tactics. The assessment could be either quantitative or qualitative, relying on a document analysis or ethnographic approach, but it would aid law enforcement in its endeavor to assess and improve its own practices, in the same way that medical research confirms or invalidates medical practices.

By giving researchers access to digital dash cam footage databases, agencies can support research without inconveniencing their own officers with tedious surveys or encumber them with shadowing researchers. Sampling for the digital databases provides researchers with a more unadulterated view of police practices and allows them to conduct their research more quickly and with less invasiveness. Allowing such research of our practices fosters community confidence and helps to portray our profession as dynamic and proactive. In the end, rigorous study of our practices and polices is a key step in achieving and maintaining the professional standards which all law enforcement agencies and officers aspire to. Academic researcher are outsiders, but their own separation from our field allows them to provide a perspective which can improve our agencies and our service to our communities.

The Future

Improvements in video and audio technologies, along with advancements in data compression and storage, will no doubt continue to proceed at exponential rates. Already, departments are using digital units that download dash cam footage automatically to the main database via wireless connections, and have systems which allow for footage to be directly accessed from the courthouse, providing for easy access to video for evidentiary purposes and

preventing chain of custody issues. As this technology improves, it is the responsibility of the field of law enforcement to continue to advance its own application of this tool.[1]

King Police Department and Kernersville Police Department are agencies which exemplify not only a commitment to providing officers with the best equipment, but also a commitment to fully utilize that equipment. As data accumulation and retention technologies advance, public and private sector organizations are faced with a fount of information more rich than at any other time in history. Law enforcement must seek to maximize the utility of these sources of data, not only to identify criminals and prevent crime, but also to asses our own practices and policies. Digital cruiser mounted video systems are a tool with a vast amount of potential, and it is up to agencies and officers alike to seize that potential. Both our profession and the communities it serves are depending on it.

Note:

Eddy, Joni., Joe Martin 2008. "Applying Digital In-Car Video Systems to Manage Evidence and Obtain Prosecutions." *The Police Chief* 6:26-27.