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**Cyber-centric Police Management:
A Position Paper for Virtual Police Management
During Critical Incidents**

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ABSTRACT

There are at least 43 separate police agencies that file charges in the Houston/Harris County Texas area. They are responsible, with various levels of interest, in criminal matters for the 3.7 million residents of the area. Further, many of these agencies have concurrent jurisdiction. Recorded critical incidents confirm confusion due to jurisdictional or critical events so near jurisdictional boundaries that political delineation blurred, sparking misunderstandings between agencies and issuing improper response with confusion to the constituents who needed immediate assistance. Using existing research, this paper addresses the tendency of concurrent jurisdictions to have a lack of coordination management, communication, and clarification as to which agency has full accountability to critical incidents. It presents an argument that the contemporary management paradigm in responding to a critical incident in concurrent police jurisdictions should be changed to ensure accountability and provide the best police service to the community. The paper delivers an information technology based alternative to current methodology of police deployment to critical incidents in concurrent jurisdictions. It concludes that any alternative police management paradigm will not easily be accepted among Texas law enforcement agencies. It further recommends moving forward with more study and discussion for alternatives.

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INTRODUCTION

There are at least 43 separate police agencies that file charges in the Houston/Harris County Texas area Harris County District Attorney's Office (2008). They are responsible, with various levels of interest, in criminal matters for the 3.7 million residents in the area. Many of these agencies have concurrent jurisdiction. Concurrent jurisdiction exists for several reasons. Some exist because of the development of specialized police agencies created for a particular entity, such as a university police department; others exist because of political subdivisions within the jurisdictional boundaries of existing political subdivisions (e.g. city, constable offices within a county) or legislative creation such as a transit police department. Most of these specialized entities have generally recognizable boundaries that, for the most part, delineate where one jurisdiction ends and another begins.

However, there are recorded critical incidents so near jurisdictional boundaries that the political delineation becomes blurred, sparking misunderstandings between agencies and the constituents who need immediate assistance. The main question that must be asked is which agency should be notified to respond and who has full accountability. It is this lack of managing coordination and communication to critical incidents that will be the focus of this paper. Critical incident response in concurrent jurisdictions can cause an inadequate, inappropriate or, at worse, no response, if not properly managed. In other words, the contemporary management paradigm in responding to a critical incident in concurrent police jurisdictions should be changed to ensure accountability. Further, this paper will provide an alternative management paradigm using a police model not easily accepted among Texas law enforcement

agencies. Debate, if not outright dispute, is expected for this new arrangement because it calls for a temporary relinquishment of autonomy by responding agencies. The concept may be unfamiliar to police as it has not been used in a law enforcement setting but has shown great promise in other area of emergency response and is therefore presented.

To establish a framework for position and demonstrate the short comings of the current paradigm, this paper will describe five of the most prevalent departments with concurrent jurisdiction and how it fails in one of the most densely populated areas of Harris County: downtown Houston, Texas. Further, it will discuss why this paradigm exists and its origins. The alternative model will then be presented using the same agencies and context for comparison to existing model.

POSITION

The current model is an unwise use of tax payer capital during a critical incident. Much of the problem is caused by stagnation of the current police service delivery model. It is a legacy police paradigm with roots in Sir Peel's geographical structure (Etter, 2001) and serves as an excellent analogy for today's paradigm. In this model, each officer is accountable for his area or "beat" (jurisdictional boundary). The idea being only one officer (agency) is accountable for one "beat" (jurisdictional boundary). Consequently, imagine five of Peel's officers assigned the same "beat." The comparison in modern day Houston is that each agency (analogous to Peel's officer) has a concurrent "beat" with another agency (the other four of Peel's officers). Sir Peel would have needed to coordinate which officer was accountable to an event to which all

had been called. If not, there would be a replication of effort by a factor of five as well as an inefficient management of police service.

The current approach to concurrent jurisdictional law enforcement service delivery is identical to Sir Peel's paradigm and one with a great potential for a failure in police service delivery during a critical event. As mentioned, five prevalent agencies in the downtown Houston area have concurrent jurisdiction. Each of the five jurisdictions has an individual tax base with distinct "jurisdictional boundaries," and all five could receive a call to respond to a specific critical incident wholly within their jurisdiction and that of another. With the overlap in jurisdiction, the public reporting a critical incident via 911 and/or directly to police agencies via a call for service infrastructure to each agency can cause a confused and inappropriate response. Further, the law enforcement agencies themselves may also become confused as to why other agencies may be on scene for "their" call further exacerbating a convoluted response.

To illustrate, the intersection of Main Street and Commerce Street, Houston, Texas is just outside the University of Houston-Downtown doors. The location technically falls within the primary jurisdiction of the Houston Police Department. However, it is possible that other agencies with concurrent jurisdiction could lay claim to an incident or, worse, could all be called to deliver police services to the location via their individual agency's communication infrastructure. This is simply because of concurrent jurisdiction or the incident's proximity to jurisdictional boundaries that the incident could easily be confused as to be in the jurisdiction of an agency a witness has called directly for assistance. As such, there is a high potential for replication of effort

and resources with the possibility of conflicting managerial decision making and minimal information sharing making first responders and civilians involved vulnerable.

The law enforcement agencies specifically discussed in this paper to demonstrate current paradigm of concurrent jurisdiction police service delivery are: Houston Police Department, METRO Transit Police, Harris County Sheriff's Department, University of Houston-Downtown Police Department and Harris County Constable's Office Precinct 1. These departments were selected because they best exemplify the issue of managing response to critical incidents when a critical incident occurs and have components originating from various locations within concurrent jurisdictions. They also have the technical infrastructure in place to mitigate such inaccuracies in police service response.

The seemingly illogical foundation of the local concurrent jurisdiction has been the allocation of specialized police departments and established Texas law. Regardless of their founding statutes, all have police authority. The separate tax bases which funds them also inadvertently creates a system of avoidance to accepting responsibility. This is the result when responding agencies, guided by elected officials, sense a sole obligation to their tax base and when apathy by police management to bring an incident to a conclusion that may not be their "jurisdiction."

A coordinated response of police resources to a critical incident to an area with multiple concurrent police service delivery agencies will mitigate redundancy and inappropriate response. Further, once the critical incident becomes stable, the investigation can more quickly move to the appropriate agency's investigative team or a multijurisdictional task force may be implemented to complete an inquiry. Additionally,

when the public is in a crisis, they are unaware of jurisdictional boundaries or agency specific responsibilities. They expect the first police officer on the scene to take charge and act without regard to “jurisdiction.” To further demonstrate how entrenched the current paradigm is, it is important to understand how the present management paradigm originated. This is discussed in the next several paragraphs.

The existing management of the aforementioned police organizations can be generally described as fiefdoms with little exchange of information, except material mandated to be officially reported to the state and to which every agency across the State of Texas has access. This is evidenced in the separate hierarchical chains of command for each agency. Further, each has its own dispatch system for receiving and disseminating calls for service within their individual jurisdiction.

In reality, these law enforcement entities are legally established and politically based institutions. This model of governance necessarily entails elected officials who at minimum influence or appoint police/law enforcement administrators, unless those police/law enforcement administrators are themselves elected officials. This leads to concurrent jurisdictions regarding themselves as autonomous and self-serving despite the fact they have a geographical relationship with other agencies. Miller stated that elected officials tend to sustain support for their office to the detriment of utilitarian requirements of all who reside in their area (as cited in Matkin & Frederickson, 2009). To be fair, most agencies accept the fact there is “concurrent” jurisdiction and it is an impetus for a paucity of cooperation. This is evidenced by the existence of Memorandums of Understanding (MOU) between some of the agencies such as between the City of Houston Police department and METRO Transit Police (METRO

Police, 2010). The fact that not all have a MOU with one another is indicative of further fragmentation. However, existing agreements fall short of the need to create an organization with governance over all parties involved. This is illustrated by MOUs limiting responsibility by only documenting a shared commitment to specific roles of each entity as needed (Andrew, 2009).

In order to mitigate confusion and perhaps instill synergy, police managers of all Harris County-Houston area agencies must re-think and re-engineer their delivery of police service delivery model to one which allows creation of ad hoc teams managed by a virtual police management organization (VMPO). The VMPO would be specific to management of police service delivery during critical incidents, which contain multiple components affecting two or more agency separately. Similar to response to natural or manmade disasters, managing a response of this nature, if not coordinated, would become a part of the problem (Auf der Heide, 1989). As the incident becomes known, there is a risk of redundancy and/or deployment of inappropriate resources. The ability to coordinate response to critical events within concurrent jurisdictional boundaries would enhance public safety and be more fiscally responsible. This coordinated response will necessitate an "incident organization", a transitory political structure of separate entities (Smith & Dowell, 2000).

The paradigm of transitory alliance calls for a management structure that can quickly integrate all resources available within the multijurisdictional response area. This is best completed by a virtual management organization. The VPMO that is created will be via a cyber-centric approach. Communications and information sharing would be by wireless internet technologies. This technology exists today in four of the

five allowing interoperability. The lone agency not yet interoperable is the Houston Police Department. However, efforts are underway to implement such interoperability by 2014. The intent of cyber-centric police service delivery management in the context of this paper would be to coordinate resources and collect and disseminate intelligence of a specific critical incident to which two or more police service delivery agencies have received calls. To this end, the major law enforcement agencies in the Houston-Harris County Area should implement a virtual police critical incident response management paradigm to address critical incidents to be viable up and to the extent a specific agency clearly accepts the lead for the incident. An outline as to how this could be accomplished is discussed below.

Management concepts, such as managing technology in business, can migrate into public service philosophies. The business philosophy of becoming leaner to improve profits is similar to the “do more with less” precepts placed on police service by their governing bodies today. These cost cutting efforts have law enforcement agencies (LEA) looking to apply business Information Communication Technology (ICT) to help cut costs where ever possible. A particularly good fit for ICT is in the management of multiple police organizations. For this to occur, however, police managers must change or at least modify their style and focus of management to becoming more aware in identifying the appropriate information and communication technology application (Hughes & Love, 2004). This contention is supported by Hedelin and Allwood (2002) when they argued that a degree of re-engineering that may include a restrained shift in management style within the police organization is necessary when an ICT project is undertaken.

The recent radical growth of ICT caught many LEA administrators off guard. When the ICT revolution started, most police organizations were simply not prepared to take advantage of the opportunity for better management through technology (Munro, 1984). ICT was seen by police managers as solely support for record keeping. This is because the necessary development of police management skill and development were not improved to meet the requirement of ICT as a management tool beyond information storage (Ackroyd, 1993; Etter, 2001). According to Munro (1984), for police managers to meet the challenge of ICT in police service management, three areas must be developed: program budgeting, strategic planning, and ICT itself. Due to the limited scope of this paper, the first two areas of budgeting and strategic planning will be discussed only briefly.

Program budgeting and strategic planning may be summarized by saying that although funding for infrastructure and hardware have been allocated, educational courses concerning advanced technology for law enforcement agencies has not kept pace (Munro, 1984). Thus, there is a short fall in how ICT may be recognized as a benefit to police personnel management. Even with the proliferation of ICT as applied to information management, there has been little research into how ICT has impacted police organizations from a management perspective.

However, one byproduct of business information communication technology (ICT) that is capable of finding its way to the attention of police managers is the concept of managing virtual teams. The potential for exploitation of the virtual team concept in police management is great, given the availability of ICT currently in use by police. Technologies, such as Automated Vehicle Location (AVL), Mobile Data Terminals

(MDT), and Real Time Crime Analysis are now in service. A virtual team in the business world is a collection of individuals working on single project but not located in the same geographical area. Decisions are made based on a collaboration of individual ideas and information. The collaboration and documentation is exchanged via email, video, or other technology supported by information technology.

This concept would unquestionably require the support of Information Communication Technological enhancements in creating a virtual organization. The adoption of this model must necessarily have a foundation in evolving technological dynamics that will re-engineer and not restrain (Gordon, 2001). In other words, the adoption would encourage cooperation by making it easier to complete task than to battle over which agency is accountable. Law enforcement could adopt and modify the cyber-centric virtual team management used in today's businesses.

Most importantly to the focus of this paper is the transition business managers had to make as the old paradigm of direct supervision was no longer applicable. This paper supports extending the paradigm of business virtual team management and applying it to law enforcement management by discussing the inter-agency possibilities. It will discuss in depth its application at the next level; creating virtual police management organizations, which are critical incident specific and involve concurrent, yet organizationally separate jurisdictions. This is where the concept would be most effective and supports the common edict today of doing more with what the agency has, a zero based budget (no growth in personnel). To this end, a shift toward a virtual police management organization (VMPO), complemented with modified police

management practices and facilities that assist appropriate delivery of traditional police services during a critical incident within a contemporary context is viable.

Today, there are two facilities that have the potential to act as the hub for the virtual police management organizations (VPMO): The Houston Police Real Time Crime Analysis Center and TranStar, both of which are technologically enhanced facilities. The Houston Real Time Crime Analysis Center (RTCAC) keeps a 24/7 watch on all calls for service to HPD and uses Geographical Information Systems to plot locations of calls for service on a map as they relate geographically to resources, thereby allowing the RTCAC to graphically observe developing patterns and form an intelligence led response.

Houston TranStar was originally designed enhance traffic mobility, and it has the capability to communicate with multiple agencies and is staffed by multiple police agencies to collectively solve traffic issues. Modifications technologically would enhance its capabilities to include monitoring response to critical incidents by a multitude of police service delivery agencies. The major hurdle for a VPMO is the acceptance of each independent agency to accept whatever entity is at the hub to direct and authorize decisions to any law enforcement agency resource responding to a critical incident. There are also those who do not agree a VMPO could be successful. These counter positions are discussed in the next section.

COUNTER POSITION

Opponents argue that law enforcement agencies are based in politics and, as such, their governing elected officials will not allow their officers to be governed (managed) by any management entity for fear of not being able to fulfill their obligation

to their electorate. They are that this may be particularly true when the agency has concurrent jurisdiction but the critical incident occurs in an area with its own police service delivery. This has been found true in other parts of the country. In Suffolk County, New York, 57% of respondents to a survey (Baer, 1982) cited "limitations on independence of action," as the most important reason not to enter into an inter-jurisdictional service agreement. The rebuttal to this perspective is possibility of creating a government, with only one purpose (Reynolds, 2003), known as special districts. These can be formed when local political governments voluntarily act for their creation. Such an entity could be the hub of the VPMO, thus adding legitimacy and credibility with a higher potential for allegiance, at least for the duration of a critical incident.

Other opponents may argue that officers will respond and act without regard to jurisdiction and then work out details of critical incident as to investigatory and primary responsibility after the incident, thus negating the need for formal management, virtual or otherwise. They would insist this is done as a matter of working in the area and of common practice. There is evidence for this perspective as well. A study by McDavid (1977) indicated that informal (non-written) cooperative agreements correlated with police performance being ranked higher than formal (written) cooperative agreements. However, this study along with many others (Matkin & Frederickson, 2009; Reiss, 1992; Andrew, 2009; Reynolds, 2003; Monge et al., 1999) focused on interagency and inter-jurisdictional issues rather than concurrent jurisdictional concerns. Stated another way, the studies involved jurisdictions that were contiguous. This paper considers a jurisdiction within a jurisdiction. Further negation to this perspective is the first

counterpoint. Managers of one agency tend not to give up autonomy; therefore, there is a tendency to not to engage critical incidents in a concurrent jurisdiction where that jurisdiction has police service delivery.

RECOMMENDATION

Virtual management has been used in business applications for decades. A virtual team in the business world is collection of individuals working on single project but not located in the same geographical area. Decisions are made based on ideas, information, and documentation that are exchanged via email, video, or other technology supported by information technology. Most importantly, managers needed to adjust styles as the old paradigm of direct supervision was no longer applicable.

Current management of police services is not in line to meet the future challenges. Short of a complete consolidation of police departments, a very unlikely event, a strategic direction is needed to integrate new and emerging information communication technologies to make the best use of police personnel as it is dispersed among the several agencies of the area. The five police departments used to exemplify this proposed strategy receive funding from a multitude of tax bases. Political jurisdictions force the legacy model of police fiefdoms often duplicating effort and wasting resources. Cyber-centric police management exploiting the benefits of virtual police management solves both the political and technical issues facing law enforcement administrators.

However, concessions and modifications of current police practices and management will necessarily be a part of any successful cyber-centric or virtual police management effort. Technology will need to be shared both fiducially and as a function

of the delivery of police service. Police officers must think for themselves about applying new concepts of virtual team decision-making, and first line supervisors must no longer see themselves in a paramilitary structure because the a virtual police supervisor may not be managing officers within their hierarchal structure. Instead, these supervisors must see themselves as more of a conductor, providing appropriate decision-making feedback to field officers via socio-technical methodology to accomplish a common goal. Further, there may actually be a reduction in supervision. If a virtual organization can be created, fewer police managers would be needed across jurisdictions because any deficiencies may be taken up by other partner agencies. In other words, there would not be as great a need for each agency in the region to have a supervisor on duty as another member agency could have one that would be a “virtual” manager for both. This would allow the personnel position to be pushed down to the level of officer on patrol and decrease response time.

Obviously, much work will be needed to train police personnel and implement the ICT. All current police personnel will need to move beyond the current level of technical literacy. Law enforcement command staff will need to enhance their skill sets to be able to not only apply technology and adopt cyber-centric management philosophy but also to be able to recognize new and emerging technologies beneficial to expedient delivery of police service.

This model provides an overall framework with a specific an example of applicability. The broad strokes mentioned here are intended to act as a precursor to more detailed examination of what is possible in re-engineering police work to ensure that practitioners influence adoption of ICT and improve police service delivery and

management. It is ironic that although little has been done in espousing virtual management in the police environment, systems that support such concepts have been, such as computers in police vehicles, advanced radio communications and memorandums of understanding specifying shared resources and responsibilities. If law enforcement can be provided with suitable technology and the skill sets to use it, virtual management may very well evolve in and of itself. This concept must be demonstrated and supported financially and politically by government entities. Partnerships between police service providers, private ICT industry, and academia are also essential.

This paper makes no pretense as to the enormous challenge in dismantling the well-entrenched legacy system of police service delivery. It is intended to emphasize the gap in police service delivery. Further, it provides possible solutions using current and emerging information communication technology with an adoption of a cyber-centric approach to management that complements current management methodologies.

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