

**Air Support: Providing Service through Technology and
Regionalization**

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The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

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Air Support: Providing Service through Technology and Regionalization

For the last half century, air support units have provided critical intelligence information and operational capabilities for local law enforcement entities. Many communities consider an aircraft an essential element of its public safety plan because of its ability to make ground-based enforcement operations more effective, cover distances quickly and monitor critical infrastructure.

Despite the advantages, many cities do not operate these units, and those that do have generally looked for ways to obtain the same operational capabilities and intelligence information at a lower cost. To that end, there have been two key trends developing within the industry. The first trend has been a move towards the use alternative technologies such as unmanned aircraft, while the second is one of consolidating the organizations that provide airborne these services. As the current economic crisis deepens, airborne policing units might well be disbanded since community leaders often see the elimination of these programs as an expedient way to balance their budgets.

Unless alternative organizational and technological solutions are implemented, local police departments could well lose airborne capabilities altogether. This could a lasting impact on the on the effectiveness of local departments in their endeavor to ensure community safety. This, however, does not have to be the case if police departments work to capitalize on emerging strategies designed to preserve the capabilities of air support units within the budgetary limitations of the community.

Air Support Unit Missions

In a September 2007 article in USA Today, Dan Schwarzbach, President of the Airborne Law Enforcement Association, is quoted as saying, “aircraft are an important asset in protecting key facilities.” With respect to having an aviation unit, he opines, “I think it’s critical. Any modern city in today’s world has to have that” (Villa & Wagner, 2007). The Airborne Law Enforcement Organization also estimates that more than 800 law enforcement agencies in the United States now operate aircraft (Villa & Wagner, 2007). Many communities agree these services extremely valuable, but this fact does not automatically create the environment where each city can provide them. In today’s economy, communities continue to struggle with the ability to provide an acceptable and affordable level of police services. As time moves forward, the question becomes whether new technology, or new technology combined with a regionalized air support service unit, can meet these needs.

Making decisions about how services may be provided by air support units in the future requires an understanding of the tasks handled by those units today. The operational expectations for air support units have evolved over time, primarily driven by the need for information by officers or commanders on the ground. In early studies, claims were made that having a helicopter visible to the community was a deterrent and reduced crime by its mere presence (Whitehead, 2001, pp 9-22). Studies were conducted to substantiate this claim, but they have had mixed results and the methodologies are questionable from a scientific standpoint (Whitehead, 2001, pp 9-22). If the general deterrence theory is not the cornerstone of airborne policing, the focus can (and should) be shifted to an examination of its other capabilities.

Operations conducted by air support units can be divided into two broad categories. The first is intelligence gathering and dissemination to ground-based operational units. This function encompasses normal patrol activity (e.g. perimeters, pursuits, other observations that are relayed for use by operational units), surveillance, traffic, and disturbances. The second category is when air support is tasked with delivering or evacuating personnel, or delivering or removing equipment. An air unit can also be an essential operational element of a tactical operation.

For example, in a report to the Burbank City Council in 1987, Chief Glen Bell noted the primary purpose of their helicopter program was to provide a platform for airborne observation and to work as an extension of the officer on the ground. The report stated "...the program proved valuable because of its ability to see for the ground officer, behind ground obstacles, on roof tops, in alleys, and on streets effectively for several blocks from the actual scene of a crime" (pp. 2-3). The ability of aircraft to augment officers on the ground has been quantified to the extent that a single helicopter has the observation capability of 23 officers on the ground and is similar to flooding a ten block area with patrol cars (Matrix, 2006, p. 27). An audit of a pilot project conducted by the Ontario, Canada Police Service concluded "...the police helicopter demonstrated the ability to respond more quickly to calls and provided an aerial perspective that assisted operations with deployment decisions. It also contributed to apprehensions and helped diffuse potentially dangerous situations (Griffiths, 2001, Conclusion)."

Other missions identified by the Cities of Burbank and Glendale in Chief Bell's report included functioning as an observation platform to assist officers on the ground as part of its basic patrol function. This included photographic missions for police and other

city departments, surveillance operations with investigative units, observation of large events for crowd control, assisting the fire department with information on brush fires and conducting search operations for missing people, especially in large open spaces (Bell, 1987, p4).

As equipment changed, missions were added; including the transportation of personnel to isolated areas, evacuation of people from high rise buildings, transportation of fire fighters into and out of work locations during fires, and the ability to provide or remove equipment through sling load work (Bell, 1987, p.15). Monitoring large events and providing transportation for tactical teams has taken on a new significance in a post 9/11 world, and those capabilities have been added as an important component and function of some air support units

www.ci.pasadena.ca.us/police/AirSupport/Current.asp).

Other communities have noted similar results. A study of the London, Ontario police helicopter program conducted by the University of Western Ontario compared various levels of helicopter patrols in designated test areas against other similar areas where helicopter patrols were not utilized. The study concluded that the use of a helicopter does improve the efficiency and effectiveness of the department (Whitehead, 2001, p.89). Dr. Whitehead, who conducted the study and authored the report, stated, “In addition to our analysis of occurrence reports also adds information on efficiencies and effectiveness that appear to result from the involvement of the police helicopter in a wide array of occurrences. We find that involvement of the police helicopter save Police Officer time, produces a more prompt response and increases the likelihood of apprehension (Whitehead, 2001, p.89).” Understanding current intelligence gathering

and operational needs is one thing, but developing a structure for delivering these services in the future is quite another.

Organizational Structure

The high cost of operating aviation units has nudged cities in the direction of assessing alternatives to provide them at a more affordable cost. The City of Los Angeles and similar large communities have the capability to provide these services themselves, and may have them available on a 24 hour a day basis. Other medium size cities such as Fresno California, Ontario California, Colorado Springs Colorado, Wichita Kansas, and Huntington Beach California also provide these services independently. In those cities, though, helicopter services are not on duty 24 hours a day, seven days a week (Matrix, 2006, p.21). Other cities, such as Pittsburgh Pennsylvania, choose not to operate their own aircraft, but choose to rely solely on the use of another jurisdiction's helicopters (e.g. state, county) helicopters when they need them (Griffiths, 2001, Experience of other Jurisdictions).

With limited financial resources, small and medium size cities have actively been exploring alternative more cost effective airborne law enforcement services. One example is the City of El Monte, California, which combined their resources with six neighboring cities to purchase and operate a helicopter program (Villa & Wagner, 2007). The City of Pasadena, much like the program in El Monte, provides air support services to its own City, and entered into an agreement to provide the same services to six other partner cities on a limited basis. Each partner city contributes personnel and funding to provide regular service to all parties in the agreement (www.ci.pasadena.ca.us/police/AirSupport/Airops_Fast.asp). Finally, Burbank and

Glendale CA have operated a joint program to various degrees since 1979. At times it has been a formal contractual relationship, while at other times, the operations remained financially independent; however, flights were cooperatively scheduled to enhance aerial patrol coverage to both cities (Matrix, 2006, p. 1).

Cities that have determined that some sort of airborne capability is desirable have found a way to provide them. Some focus on providing the intelligence function, while others provide a combination of intelligence and operational capabilities. The method of providing the service is varied, and only limited by the resources, imagination, and creativity of those involved in the process. As relevant technologies advance, though, some may ask why these agencies don't seek less expensive, equally efficient alternatives.

Emerging Technology

While municipalities have been analyzing methods to consolidate services to save money, there have been technological developments with the potential to change the way air support units work. These range from unmanned aerial vehicles to the use of satellite technology. Both of these could play a role, assuming the technology continues to develop and the regulatory hurdles are cleared.

Camera technology is one of the areas that is changing rapidly, and digital high definition camera equipment capable of being deployed on manned or unmanned aircraft has entered the market. These systems have the capability of providing much more detailed information while the aircraft is further away (FLIR Systems Brochure 2008). As camera technologies improve, they are actually moving in two separate directions.

Although some equipment is getting smaller, this is not the case with some of the longer-range camera equipment.

The larger, newer equipment from Cineflex can be deployed on aircraft or unmanned aerial vehicles and is able to read a license plate from 7000 feet (Churchill & Park, 2006). This increased “standoff” distance for the operation not only potentially permits data to be gathered sooner, but allows aircraft to operate either higher or further away to reduce the chances of being detected while gathering information. At the same time, other, smaller, gyro stabilized camera systems have been developed that can fit on large model-type helicopters – blurring the line between models and unmanned aerial vehicles (Churchill & Park, 2006).

A second emerging technology involves the use of unmanned aerial vehicles (UAV), an unmanned semi-autonomous or a fully autonomous aircraft (Philpott, 2008, p. 6). UAV in use or under development vary greatly in size and capability. They can be either fixed or rotary wing, and the specific type of UAV selected varies as much as the mission it is being asked to perform.

The smaller UAVs are called Micro UAVs and are designed to assist with law enforcement or search and rescue type operations. The Micro UAVs have limited endurance and work at relatively low altitudes. On the other end of the spectrum are larger UAVs with flight times of up to sixty hours and the capability of carrying up to 2000 pounds of equipment (Puri, 2004, pp 2-4). The payload capacity of the larger UAV makes them capable of carrying the camera equipment currently carried on or available to most law enforcement aircraft today.

One of the advantages of UAV is the fact they are unmanned. Assuming information can be relayed back to the person controlling it from the ground, a UAV can be sent into places without placing crewmembers at risk. This is a major advantage for the military, but there are other issues that must be considered in the civilian environment. Because the vehicle is remotely piloted, a communication link must be maintained with it, and a system needs to be developed in the event of a communications failure to prevent the UAV from crashing into a populated area. Secondly to be effective, the UAV must be able to function in an environment with other aircraft. It must be developed and flown in such a way so it does not come into conflict in sometimes heavily congested urban airspace (Puri, 2004, p. 4). To date, the Federal Aviation Administration has thwarted efforts to use unmanned aircraft at lower altitudes over heavily populated areas (Haag, 2009). Despite the challenges, UAV's are being used by the US Customs and Border Protection for non-military purposes.

Finally, there is the issue of the use of satellites for the gathering of domestic law enforcement purposes. Commercial technology already exists that can provide information on land use, show the progress of projects, and assist in assessing impacts on water sources and vegetation. Furthermore, currently available commercial satellite imagery can be provided with a resolution of two feet, and in major metropolitan areas is often supplemented with aerial photography (www.digitalglobe.com). This type of imagery has the potential to reduce the need for low level physical observation, or may have the capability of providing information that directs low level or ground observation thereby making the ground operation more efficient.

Technology has, and no doubt will continue, to develop at a rapid pace. Newer technology has the capability to transform the way in which services are provided.

Technology such as satellite imagery and unmanned aerial vehicles are currently in use by the military to provide intelligence information to support manned operations. This same division of resources could easily occur in the civilian sector, since the types of intelligence information needed by the military and civilian law enforcement is similar.

Technology, however, is not the panacea to the issues faced by medium size cities in maintaining aerial intelligence gathering and operational capabilities. Agencies must become flexible in the way in which airborne intelligence gathering function is provided. As competition increases for tax dollars, high dollar services will be heavily scrutinized. Under these circumstances, providing such services on a cooperative or consolidated manner makes both operational and financial sense. This will drive cities into looking at providing services through multi-agency agreements and through the use of technology that expands capabilities without increasing costs.

Flying into the Future

A significant catalyst leading to the transformation of air support units could well be the current economic crisis. Working to blend technology into consolidated organizational structures offers local communities the opportunity to achieve economies of scale and preserve their current capabilities. Shaping this future will require a concerted effort by the leaders of local communities and police departments. Not only will the development of the various technologies have to be encouraged, the organizations will have to adapt so they can integrate the use of the new technology while remaining cost effective. Furthermore, Federal regulations will have to be changed to

permit the use of unmanned aerial vehicles and the sharing of data such as satellite imagery. By moving in these directions, local communities can meet their obligation to preserve the safety of the community along with their fiduciary responsibility.

Tempting as it might be to eliminate an air support operations, such a decision does come with a price. As mentioned, a single helicopter has the observation capability of 23 officers on the ground and is the equivalent of flooding a ten block area with police cars (Matrix, 2006, p 27). Furthermore, other studies indicate the felony arrest rate of cars working with helicopters is six times greater than that of ground-based units alone; and when a suspect flees, they will often “go to ground” when a helicopter is overhead. Further, a helicopter can generally arrive on scene fifteen times faster than a ground unit (Matrix, 2006, p. 27). In the simplest analysis, a department that wanting to maintain the same level of effectiveness while eliminating an air unit would have to add significant ground-based resources to its budget. This could be as many as 23 officers for each shift where helicopter service is provided; compared with the cost of airborne policing, the helicopter becomes a bargain in terms of effectiveness and mission outcomes.

The elimination of helicopter resources might be a short-term gain, but short-sighted in the long run. That is not to say that operations should continue to exist in their current form. Regionalizing or combining these resources can bring about significant savings without sacrificing the underlying capabilities of an air support unit. For example, the consolidation Glendale and Burbank’s air support units reduced the combined budgets of the two units by \$967,000 per year. Continuing to pursue these opportunities while bringing new technologies on line holds the promise of keeping

valuable airborne intelligence gathering and operational capabilities at an affordable price.

Shaping the Future

Air support units play an important role in today's police organizations, and maintain these capabilities are likely to be more critical in the future. As leaders face the current economic crisis, it becomes critical to assess not only the short-term financial issues but also to assess the long-term implications of those decisions. Air support services may be expensive, but there are alternatives. Some have assessed their needs and consolidated their resources thus preserving capabilities while saving money. With changes in technology, air support services ten years from now may not be provided the same way they are today. Satellite and unmanned aerial vehicle might well replace some of the operations provided by helicopters. This type of change, however, is not bad. It holds the promise of retaining capabilities considered desirable by police departments without increasing the number of officers on the ground, and if the new technology is integrated into a regionalized air support program, it could keep the program affordable for all involved.

The leaders of today's organization hold the future of the organization in their hands. Quick, expedient decisions may solve the problem today, but leave tomorrow's leaders with even a larger crisis. Well thought out plans that assess the needs of the community, the needs of the police department, regionalize key resources, and integrate new technology are essential to building an effective organization for the future. The answer to today's problems is not arbitrarily cutting services; rather it lies in planning and building bridges to a future that preserves and enhances current air support capabilities.

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