

ABL 5135
5383
636

THE BILL BLACKWOOD
LAW ENFORCEMENT MANAGEMENT INSTITUTE
OF TEXAS

SOME ALARMING NEWS FOR HVPD
An Analysis of the Feasibility of Providing Direct
Alarm Monitoring for Residences and Businesses
Located in Highland Village, Texas

A Policy Research Project
Submitted in Partial Fulfillment
of the Requirements for the Professional Designation
Graduate, Management Institute

By
Conrad C. Bahr

Highland Village Police Department
Highland Village, Texas
September 1998

Notice: This material may be protected
by copyright law (Title 17 U. S. Code).

RESERVE

636

ABSTRACT

Since the 1960's alarm systems have been an important part of policing in the fight against crime. However, in recent years, an absolute explosion of the utilization of alarm systems has created a windfall for private corporations. While companies in this industry have been making record profits, law enforcement agencies that respond to the alarms and do all the footwork have been taxed by the increased demand in service with no financial assistance.

The purpose and important relevance of this project is to perform an analysis of the feasibility of providing a direct monitoring station in the police department communications center. Improved response times, communications, better controls over false alarms, as well as fiscal benefits are all possible. Although there is some increased exposure and initial capital outlay, revenue generated by providing this service can greatly help with personnel needs and budgetary shortfalls that have occurred with increased levels of service expectations in recent times.

The method used for this research is historical writings and personal interviews of experts in this field.

Several benefits for the city will occur if the police department provides the direct alarm monitoring service. First, the citizens of the community will have another option for alarm monitoring that will be local and prompt, allowing police response time to be significantly reduced. Second, revenue that is sent often out of state will be retained locally for services that can be provided in a more categorically improved fashion.

RESERVE

TABLE OF CONTENTS

Section	Page
Abstract	
Introduction	1
Historical and, Legal and Theoretical Context	2
Review of Literature and Practice	4
Discussion of Relevant Issues	6
Conclusions / Recommendations	10
Bibliography	

RESERVE

Introduction

In Maslow's Hierarchy of Needs, humans have always required safety and security as a basic necessity for survival. As a result of these primal needs, as well as the presence of current crime trends, a phenomenal growth of the alarm industry has been seen nationwide in recent years. The effect of this trend has been extraordinary revenues generated that are in the billions of dollars. The problem is the burden placed on government for utilization of resources and its accountability for responding to these calls for service. Meanwhile, private corporations have reaped record profits. The police department may be able to recover some of those expenditures by providing and charging for residential and business central station alarm monitoring at their communications center in the police department, as opposed to monitoring by the private sector.

Government is continually struggling to generate revenue from rigid sources, while striving to improve our level of service. The purpose of this project is to determine the feasibility for the Highland Village Police Department to monitor alarms for a fee while maintaining a maximum level of service and minimum expense to the taxpayers.

The intended audience of this project is the Highland Village City Council, so that it may consider the service and fiscal benefits related to the city's demands for increased police and fire services. In addition, the general citizen population will need to be surveyed and allowed to consider the need for improved response times as well as the financial implications and convey their opinions to their elected officials. The police department will use this information to formulate a position and make a recommendation to the council as how to progress with this project.

RESERVE

The implementation of this idea is somewhat new and innovative. Therefore, limited sources of information are available regarding this concept. However, articles from earlier years of the alarm era have been published and will be utilized. In addition, some law enforcement agencies have implemented such a program, and personal interviews will be conducted with appropriate personnel who administer these programs.

This project will demonstrate the benefit of the HVPD performing monitoring services by 1) Enhancing communication as to the type of alarm being submitted, i.e. burglar, holdup, fire, etc.; 2) That response times will improve since the loop of communication will tighten considerably; 3) Redirecting revenue being paid to others for work done by the city, so the city may recover some cost involved with providing response to alarm calls; and 4) hiring additional dispatch and police personnel, which should have positive effects on other areas of the department's operations.

Historical, Legal, and Theoretical Context

Security alarms in one form or another have been used for thousands of years. History shows that man used devices and animals as alarms as early as 4000 BC. In the last 30 years, because of technological advances, declining prices, the introduction of retail sales of alarm equipment, and an increased fear of crime, alarms have become a common place in American society. In fact, some estimates show that there are 15 million residential alarm systems in the United States, and that 40% of all businesses have an alarm system (IACP, Sec.1, p.2). From the late 60's until the late 70's, most police agencies welcomed alarm systems at residences and businesses, viewing it as the equivalent of placing a police officer at that location to stand sentry (Steiner p.44). As this rapid growth trend has continued, so have the increase of alarm responses by police.

More frustrating is that approximately 99% of all alarm calls are false (Gillman, p.1A). False alarms are defined as "All alarm signals that occur when no actual intrusion has been attempted" (IACP, Sec.1, p.1). These false alarms are caused most often by human error, a system malfunction, or inclement weather. Alarm calls now can account for about 30% of all calls for service at most police departments (IACP, Sec.1, p.2), and in some cases can be in excess of 40% (Lacy, William R., 1998).

In recent years, budgets have increased in most police departments, but at a percentile rate that barely keeps up with inflation. Although call volume and the requests for services have increased, the number of officers nationwide per thousand population has dropped over time (Security Management, 25, 11, p.36). With the drop in average manpower in mind, and the fact that 30 to 40% of calls for service are some type of alarm call, it can be inferred that the large increase in alarm systems and their demand for police response is a significant cause of the burden that is placed on law enforcement resources today. Interesting enough, a variety of mixed feelings is articulated by both the public and private sector regarding accountability, cause for public expenditures, responsibility, and the current flow of resources generated by the alarm industry to the private sector.

Some law enforcement officials find excessive alarm response incompatible with their mission statement. Several administrators have stated that mismanagement of alarm response has translated into a huge loss of police man hours, declining police morale, and the waste of millions of dollars (Sweeney, p.47). Gary Hayes, Executive Director of the Police Executive Research Forum has stated, "So much of what the police departments do is for the benefit of some industry. And this (alarm response) is just another example of

it. These private entrepreneurs are making a profit off of the police" (IACP Sec.1, p.7)(Sweeney, p.47).

The cost to government entities is high. For example, in 1996, the Dallas, Texas Police Department spends about \$5 million responding to alarms according to Chief Ben Click, but only recovered about \$3 million annually in fees (Gillman, p.1A). A study was performed using systematic statistical analysis to improve productivity in medium size police departments. Analysis of the data reveals that too many fireman and policemen are kept busy with false alarm calls (Stevens p.28). The frustration level among some police chiefs is high. However, contract security firms feel that interference from local government and the police department is unfair to competition with them and a misuse of public resources and tax dollars (Security Management, 25, 11, p.42). But law enforcement believes that the community is entitled to facts about alarms from other than commercial sources. Emphasis must always be placed on the desirability to transmit the alarm signal over a premium line to police headquarters (Steiner, p.45). The community may desire to have all alarms terminate in police headquarters, including widespread installations in homes may be a new image for the department. Others say that community involvement is the key to maximum coverage with minimal subscriber error (Steiner, p.45).

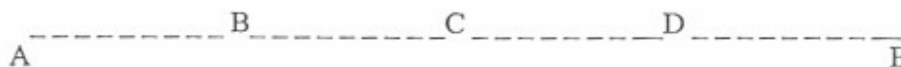
Review of Literature and Practice

Although research on this topic is dated from the early 1970's, review shows what is timely and relevant to today's concerns. In the big picture of police work, improving the capability of apprehension is of paramount concern for maximum benefit of law enforcement's overall purpose. This apprehension process can be referred to as an

RESERVE

"Operating Time Interval", which defined is the time elapsing from the moment that a crime is committed until the arrival of an officer or officers at the scene and are able to take some form of action. A theory that was created in part by V.A. Leonard, states that police response may be broken down into four defined time periods. The time line below (Exhibit 1) illustrates those periods:

Exhibit 1 (Leonard p.17)



AB - Time between the moment that the crime is committed and that moment when someone lifts a notification device to contact the police.
BC - Time between the moment the notification device is lifted and conversational contact at the police communications center.
CD - Time between this conversation is initiated and a radio or other broadcast of the report to patrol cars.
DE - Response time of the responding patrol car or cars from the location at which the notification is received, to the scene or other incident.

AE is from start to finish, the total Operating Time Interval, and it can be broken down into four segments. An important objective of police is to reduce the AE time frame as much as possible, because of its critical relevance. Minutes, and even seconds can mean the difference between saving life or property, as well as making an apprehension. The ability to reduce any part of intervals will be effective in reducing the total Operating Time Interval, thereby increasing response time efficiency for the department. Each of the four time intervals varies in actual time units, and is very flexible in their time line. This explains the theory that evaluation of each time frame individually will indicate where these reductions can be made, with a corresponding improvement in the capability to improve property and life saving, as well as apprehension efforts.

In 1970, the Cedar Rapids, Iowa Police Department did a study, funded by the Law Enforcement Assistance Administration on the effectiveness of the installation, test,

RESERVE

and evaluation of a large scale burglar alarm system for a municipal police department. The study compared 350 alarmed businesses with 350 businesses that had no electronic or monitoring equipment, and the relevance of apprehension and ability for case clearing with these variables. The study concluded that the burglary clearance rate for Cedar Rapids PD was 17% of all offenses of businesses with no alarm, below the national average of 18.9%. However, when the businesses with alarms were burglarized, the clearance rate jumped to 32%, almost doubling the clearance rate for Cedar Rapids (Matias, p.12).

Discussion of Relevant Issues

Highland Village, Texas is a lakeside bedroom community located in Denton County, approximately 25 miles northwest of metropolitan Dallas. Highland Village is currently experiencing phenomenal growth and construction in the immediate and surrounding areas, due to the following factors. There is a natural trend of growth north of Dallas, the presence of Lake Lewisville, a highly used recreational lake that is partially located within our city limits, the close proximity of Interstate 35, the new Texas Motor Speedway, as well as D/FW International and Alliance Airports.

With this growth comes an enormous amount of transient traffic that is present during the growth stages and will continue as growth levels out. The city is made up of well educated professionals who work for mostly high tech and professional corporations. The average age of the Highland Village resident is 33; the median income is \$76,100; and there are approx. 3850 residences and 60 businesses in the city (D Magazine). This community is highly educated and has detailed knowledge of technology available, and one that requires a high level of service. Safety and security is of paramount concern and

RESERVE

direct monitoring should appeal to this type of community. The city does not require permitting at this time, and does not keep data on the number of alarm systems in the city. It is estimated that there are currently about 2300 alarm systems in the city, and that relatively all new construction has an alarm installed while being built (Curry).

With this information, a hypothesis can be made as to the level of participation based on the above facts and figures. Hardware, software, training and warranty maintenance for a municipality the size of Highland Village is estimated to be a capital expenditure of about \$85,000 (Richardson).

The following four questions are present issues that must be addressed: 1) Would people use the service; 2) What participation level would be required for the service to pay for itself; 3) What would be the response from existing alarm companies; and 4) What exposure, if any would the city be open to for providing this service?

It is strongly believed that this is a police service that would be highly utilized by members of the community. This theory is based on two factors. First, it can be assumed that when it is shown to citizens, who will in turn actually become consumers, that for competitive pricing and for service that will greatly minimize error possibilities and improve response time, logic will prevail. Second, other cities that have implemented similar service have had profoundly positive results and success.

The second concern is the justification of the sizable expenditure for the equipment and human resources to offer this service. A thorough fiscal analysis should be done prior to finalization of the project. However, preliminary analysis seems to indicate that relatively minimal participation will justify the expenditure. Furthermore, with

RESERVE

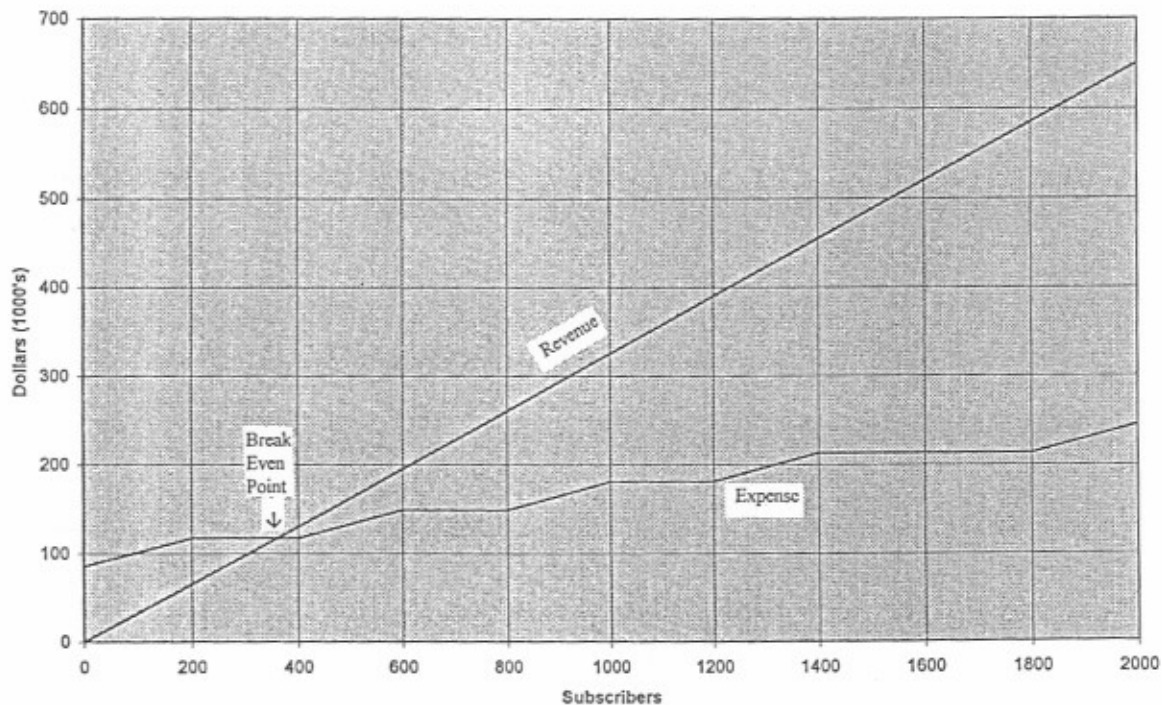
widespread participation, other related police services can be enhanced and operated more efficiently, and still have a revenue surplus.

A break even analysis was done based on the following facts and assumptions:

- The city would have an initial fixed cost of about \$85,000.
- The city would charge \$25.00 per month per household monitoring fee.
- An annual alarm permit would be required and issued - \$25.00 per year.
- 1 Alarm Coordinator position recommended at onset.
- 1 Comm. Officer added for each 400 alarms added to system.
- Surplus revenue would be for additional officers and equipment.
- That a direct dialer system would be used.

Exhibit 2

BREAK EVEN ANALYSIS - DIRECT DIALER



RESERVE

The graph above (Exhibit 2) is a break even analysis illustrating the relationship between the generated revenue, incurred expense, and at what point that the project cost would break even. It also provides a visual comparison on which the reader can quickly evaluate what level of subscribers would be needed to produce a certain level of revenue.

The graph shows that the break even point for this project is 370 subscribers. From that point, revenue generated could be used to accelerate payoff of a multi-year amortization of the equipment if applicable, in a reserve for future alarm or communication center needs, or other needs deemed necessary by the department.

Alarm companies may become concerned, since a large part of their revenue comes from the monitoring segment of the industry. The fact that there will be some resistance is inevitable. However, there are numerous alarm companies that are in business as repair operations only. They are more than willing to assist in development and implementation of this type of service, and it was found that alarm companies will decide that cooperation will benefit them as opposed to reprisal (Richardson).

There may be concerns raised by the city as to liability exposure for providing this service. There will be some increased exposure, but it will be minimized with proper training and systems in place. The police department already does a great deal of the functions involved with alarm response. The additional task of interpreting the data and dispatching officers to the proper location is similar to that of taking a 9-1-1 call. In other words, this is a familiar task which is already performed with proficiency and success, and should not be a problem.

RESERVE

Conclusions / Recommendations

The purpose of this project is to specifically determine the feasibility of the Highland Village Police Department to monitor alarms for a fee while it considers factors such as the city's size, demographics, tax base, income per capita, and real estate value to validate the findings. The city may be able to recover some of those expenditures required by providing for residential and business alarm response. This project demonstrates the benefit of the HVPD performing monitoring services by 1) improving communication as to the type of alarm being submitted, i.e. burglar, holdup, fire, etc.; 2) Improving response times since the loop of communication will tighten considerably; 3) Generating revenue to the city to recover some cost involved with providing response to alarm calls; 4) the hiring of additional dispatch and police personnel, which should have positive effects on other areas of the department's operations; and 5) Significantly impact our ability to apprehend offenders, solve crimes, and possibly save lives as evidenced in the Cedar Rapids, Iowa alarm study.

It is concluded and recommended that the implementation of this service be explored further. An exact cost structure should be developed that provides detailed information on fixed costs associated with the acquisition of hardware, software, and human resources needed to perform to a standard of excellence that this department strives for. In addition, a survey of residence and business owners should be done without delay exploring the committed demand for this service, and address any issues raised by constituents prior to policy and expenditure implementation.

By implementing the recommendations enclosed, it is believed that with a significant and secure subscriber base, the city can provide another service to the citizens

RESERVE

of Highland Village that will add to the quality of life. This will be achieved by essentially eliminating the *BC* time interval and reducing the *CD* interval as well. These reductions could reduce the overall *AE* Operational Time Interval significantly. Based on demographics of the City of Highland Village, and depending on the number of subscribers, not only will the system pay for itself, it will pay for additional sworn and non-sworn personnel. These human resources may be used for other needs in the organization besides alarm response, and still have a potentially sizable revenue surplus for other needs of the department. This will effectively help to prepare for the growth and expansion that is inevitable with the city, and have a positive effect in all areas of the department's operations. Most importantly it can be done for about the same recurring cost as they currently pay now to the private sector.

Based on this research, if the minimum requirements and participation are met, the project appears to be feasible and should be another successful program in place by the city for the members of the community.

RESERVE

BIBLIOGRAPHY

Alarm Industry Quality Control Manual: A Comprehensive False Alarm Reduction Program (Bethesda, Md: National Burglar and Fire Alarm Association, 1980), p.8.2

City of Highland Park, Texas, City Ordinance Regulating the Use of Residential and Business Security Alarm Systems, pp.1-15

Cunningham, William C., Strauchs, , John J., and Van Meter, Clifford W. Private Security Trends, 1970-2000: The Hallcrest Report II (Stoneham, Mass.: Butterworth-Heinemann, 1990) p.282

Cunningham, William C. and Taylor, Todd H. Private Security and Police in America: The Hallcrest Report I (Stoneham, Mass.: Butterworth-Heinemann, 1985) p.64

Curry, Chris. Interim City Manager, City of Highland Village, Texas, Personal Interview, August 1998

Gentry, Sgt. Larry, Police Direct Monitoring Coordinator, Highland Park DPS, Personal Interview, July, 1998

Gilliam, Todd J. "Alarm Policy Still Awaiting Full Response; Ordinance Has Freed Police But Not Dropped False Alarm Calls" The Dallas Morning News June 18, 1996, p.1A

Highland Village Police Department, 1993 Crime Statistics. Highland Village: Highland Village Police Department, 1998

Highland Village Police Department, 1994 Crime Statistics. Highland Village: Highland Village Police Department, 1998

Highland Village Police Department, 1995 Crime Statistics. Highland Village: Highland Village Police Department, 1998

Highland Village Police Department, 1996 Crime Statistics. Highland Village: Highland Village Police Department, 1998

Highland Village Police Department, 1997 Crime Statistics. Highland Village: Highland Village Police Department, 1998

Lacy, Lt. William R., Alarm Monitoring Coordinator, University Park Police Department, Personal Interview, July, 1998

Leiechenstein, Michael, Designing For Security (New York; Rand Corporation, 1971)

RESERVE

Leonard, V.A., The Police Communications System (Springfield, IL., Charles C. Thomas, 1970)

"PSLC5-False Alarms" IACP Special Reports ([www.theiacp.org/specialreports/pslc5/sections 1,2,3,4,5,6,7.html](http://www.theiacp.org/specialreports/pslc5/sections%201,2,3,4,5,6,7.html), June,1998)

Richardson, Capt. Bobby, Communications Director, Highland Park DPS, Personal Interview, July, 1998

Steiner, Richard V. "Advantage of Police Monitored Alarms" Police, (Springfield, Ill, 16, (7), 1972 pp.44-46

Stevens, John M., Webster, Thomas C. Productivity Improvement: Summary Findings for Police and Fire Departments (University Park, PA; Pennsylvania State University, Institute for Public Administration, pp.1-28

Sweeney, Paul. "The True Cost of False Alarms" Police Magazine , May 1983, p.47

"The Best Places To Live" "D" Magazine, July 1998, pp.80-85

The Security - Police Relationship: Preliminary Findings From the Hallcrest Systems Study" Security Management (Washington, D.C., 25, (11), pp.35-38, pp.40-41)

RESERVE