

How to determine your fiscal efficiency

Since police administrators have no profit and loss statement to assist them in their efforts toward budget efficiency, they must use other means of determining how effective they have been in fiscal matters.

By Harold G. Campbell, Ph.D.

Among the many challenges facing law enforcement these days is the rapid conversion from intuitive-style management practices toward more empirical and scientific methods of problem solving and leadership. This redirection has been partly brought about by a decisive revenue stabilization process that has not only curtailed the forecasted growth trends of many police departments, but has consequently prompted administrators toward increased fiscal efficiency and accountability.

One of the basic problems that has accompanied this rapid transition is that few clearly defined expectations regarding spending efficiency have been developed to guide police officials in

their efforts at effective resource allocation. For the most part, police administrators have simply attempted to hold the percentage growth rate of their annual budgets to a minimum, while crime and dollar loss march steadily onward. This technique possesses obvious drawbacks when applied to the effective control and reduction of criminal activity.

Since police administrators, like other government officials, have no profit and loss statement to assist them in their efforts toward budget efficiency, they must use other means of determining how effective they have been in fiscal matters. This problem can become acute when attempting to justify the expenditures for targeted enforcement or team policing operations. Although it is fairly well recognized that such deployments

can be very effective at reducing or preventing criminal activity, it is often difficult for police managers to fiscally defend the expenditures associated with such an operation. Consequently, it may be equally difficult for the police manager to deduce when such enforcement programs begin to slip away from the cost-effective posture.

The unfortunate aspect of this occurrence is that it can place a well intentioned police administrator in a virtual "unarmed-defense" type of position when confronted or challenged regarding the effectiveness level of his program. A compounding problem rests with the thought that if police administrators cannot defend and articulate the achievements of these types of programs, then future curtailments or restrictions of budget revenues may dis-

allow (unjustifiably) the use of such operations.

In an effort to assist police administrators with this particular dilemma, and to provide the law enforcement profession with a tangible tool for determining the cost-efficiency of such a program, I have developed the following methodology. Let us assume that as part of our normal analysis of jurisdictional crime we have discovered that the crime of residential burglary appears to be disproportionately high in a particular area when compared to similar districts. We will call this district Region A.

After reviewing additional data relative to the property loss and methods of perpetration, normally found in the Uniform Crime Reports, we determine that we can probably impact and subsequently reduce the frequency of this type of crime within the area through modifications of existing enforcement strategies and operational tactics. This modification can be accomplished in a number of ways such as increased use of police reserves operating in radio cars, the use of foot patrols, enhanced utilization of narcotics units, active monitoring of pawn shop operations, increased community awareness through the Neighborhood Watch program and others.

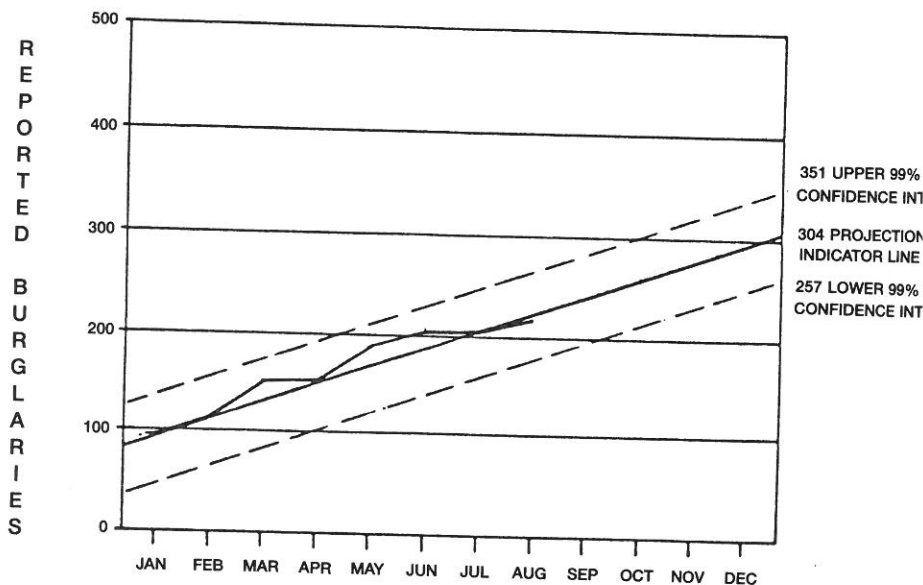
Whatever the particular methods decided upon, the emphasis should be to accomplish the selected mission objective. In this case, the mission objective will be to reduce the frequency of residential burglary in Region A. As part of our overall effort, further statistical analysis of the expected criminal activity rate for this and other contiguous areas will be necessary so that we can logically distribute available resources and, while the operation is progressing, monitor the results and achievements the redeployment has had on reducing residential burglaries from the expected frequency.

This can be accomplished in a number of ways. However, for this case, we will use a technique known as "linear regression." This technique, al-

though it sounds as though it arose from a futuristic space movie, is quite simple to employ and basically does nothing more than predict future burglaries based on previous experiences and history.

However, since we fully intend to alter the mode of enforcement, knowing the expected number of burglaries and what actually happened after we changed the enforcement operation

FIGURE 1
TARGETED ENFORCEMENT PROGRAM
REGION A PROFILE



As applied to this type of effort however, it is invaluable for measuring effectiveness and cost-efficiency.

Simply put, linear regression allows us to predict (within probable degrees of confidence) the number of residential burglaries we can expect to experience in Region A should we continue in our present mode of enforcement.

will provide the necessary figures for calculating the impact we had on reducing burglaries. Figure 1 illustrates how much a technique is used to predict the number of burglaries before the targeted enforcement program is implemented.

We can expect approximately 1,109 burglaries to occur in Region A through the month of December, should we al-

low the normal enforcement posture to continue. In this case, we will interject a new (targeted) enforcement strategy beginning in September and allow it to run on an experimental basis through

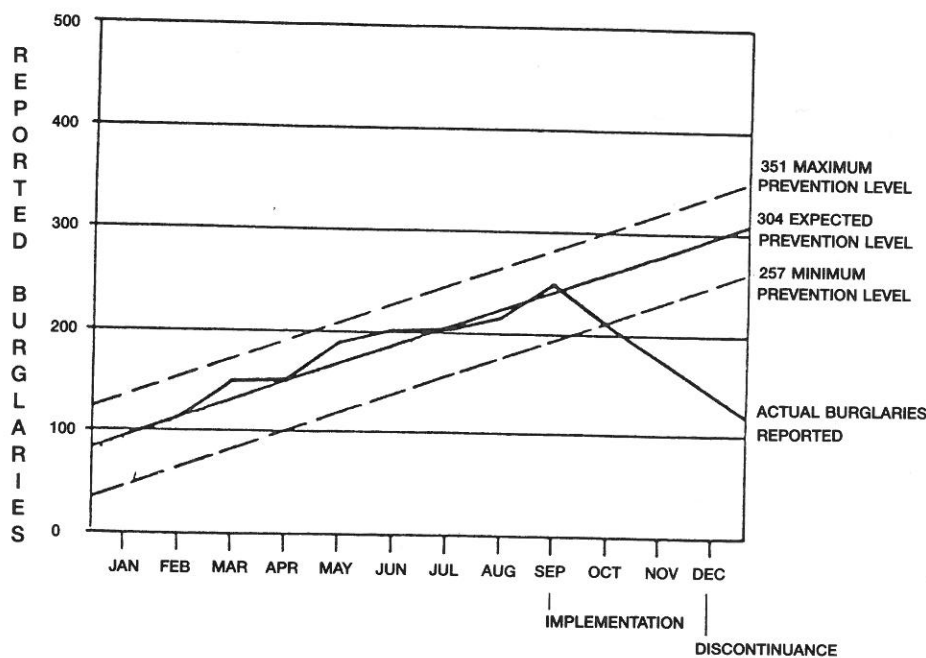
the actual number of burglaries for each month through the end of the program. Based on these data, it can be deduced within a reasonable degree of certainty that we prevented roughly 344 ex-

well as to challengers, that we were cost-effective in reducing crime. We would be hard pressed to defend a program that cost several thousands of dollars if our return in loss prevention were only \$1.25. Consequently, it is necessary to use available UCR data to illustrate and subsequently compute average loss factors for residential burglaries so that a monetary savings to the residents can be computed.

This can be achieved by adding the total dollar loss for residential burglary crimes within the targeted region over the period examined and dividing the total figure by the number of burglaries. For example purposes, let us assume that the total loss for the eight-month period used in our projection was \$150,000 dollars. Now since the total was derived from adding the individual loss figures together, then to deduce the average loss per burglary we simply divide the total by the number of crimes. In this case, let us say that we derived an average dollar loss figure of \$300. Since we could have expected a total of 1,109 residential burglaries to occur during the four-month period of the operation, we simply multiply the average loss per burglary (\$300) by the 1,109 burglaries expected during the program. The resultant figure comes out to be \$332,700 dollars. This then is the amount of dollars in loss we could have expected to experience had we not implemented our targeted enforcement program.

To compute the approximate loss prevention figure, we simply subtract the actual dollars lost to residential burglary (in this case \$132,000) from the expected loss figure. The resultant computation for our example program would be a savings of approximately \$200,700 dollars. Although this figure is, like the crimes prevented figure, also useful in proving that the program was a success, we still have not answered the questions relative to cost-efficiency. More specifically, we cannot yet show that our expenditures for increased patrol coverage and other law enforcement methods employed were

FIGURE 2
TARGETED ENFORCEMENT PROGRAM
REGION A PROFILE



December.

As you can see in figure 2, our hypothetical situation has produced excellent results, insofar as the number of burglaries has dropped from an expected frequency of 1,109 to an actual frequency of 765. This tabulation is achieved by adding the expected number of burglaries for each month and

pected burglaries.

Now obviously, this calculation is extremely useful (by itself) in illustrating to challengers that the targeted enforcement program has been successful in achieving its objective. However, in these days of cost-accountability, we must extend our calculations so that we can show to ourselves, as

prudent and reasonable trade-offs for the dollars saved.

To achieve this end, what is required is to total the expenditures for the increased coverage throughout the program's duration, preferably on a monthly basis. Since we already know what the normal expenditures would have been for operational coverage of Region A the same technique as that used to deduce loss prevention savings can be employed to show the extra cost. For purposes of this example, we will say that our normal monthly expenditure for police coverage in Region A is approximately \$5,000 dollars.

The enhanced coverage increased this monthly coverage expense to roughly \$7,000 dollars. Now since the difference between the two cost factors is \$2,000 per month, we can deduce that we spent an additional \$8,000 dollars for coverage during the duration of the targeted enforcement program, which lasted four months.

Now that we have acquired the cost figures, we are ready to show how cost-efficient our program was over its du-

ration. This is achieved by using a ratio method, or more simply, by dividing the loss prevention figure \$200,700 by the enhanced coverage cost factor \$8,000 to derive a dollars-saved-for-dollars-spent computation. For our example we could say that for every dollar we spent on extra coverage we saved the residents of Region A approximately \$25 in burglary loss. The same computation can be done on a monthly basis so that the police manager can have a continuing report card of his programs cost-efficiency relative to loss prevention.

In other words, it becomes very easy to see that, if for the first month you save \$25 in loss but the second month only achieves a loss prevention figure of .43 cents, the program has slipped away from the cost-effect posture and should be discontinued or redirected to another area where resources can be more cost-efficiently utilized.


In conclusion, one can see that by using a few very simple computation techniques it is possible to deduce tangible figures upon which to base sound

managerial decisions about program effectiveness and cost-efficiency. It is not the intent of this article to propose that the techniques illustrated herein are the only methods acceptable for program evaluation. Rather, that they simply allow police managers easily mastered tools to assist him in managing his police operations more effectively. Further, use of these tools will provide for an adequate defense of program effectiveness should such questions arise.

About the author

Dr. Harold Campbell is a member of the Los Angeles County Sheriff's Department and serves as a law enforcement planning coordinator. He received his academic training at Claremont University and specialized within the fields of mathematics and criminal justice administration. He holds an adjunct professorship with the Northrop University School of Business and is a reserve officer with the United States Navy.

The Breakfast House
Enjoy Home-Style Cooking
648-7162
2055 E. Main Street
MONTALVO

THE FIREBIRD RESTAURANT

646-1566
960 E. Ojai Avenue
OJAI

VENTURA-PACIFIC AGENCY
Insurance
Call Collect Anytime
487-2744
3159 E. Thousand Oaks Boulevard
THOUSAND OAKS

VALLEY DISCOUNT CARPETS INC.
Dependable Neighborly Service
Professional Installation
Vinyl • Hardwood • Drapes • Mini Blinds
891-9693
16226-C Parthenia
SEPULVEDA



THE BRONZE BODY
2900 Standiford Avenue
MODESTO