

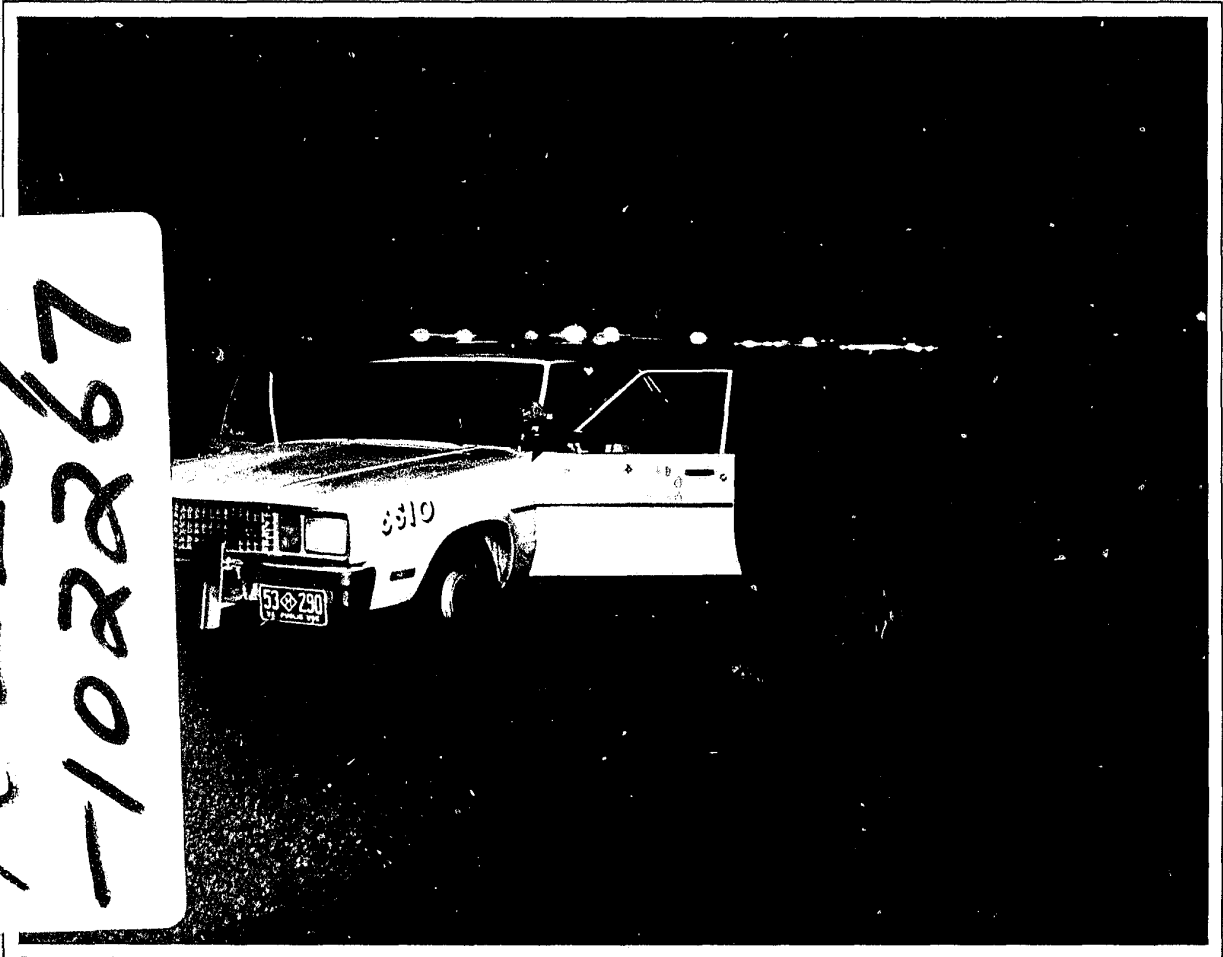


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July 1986

Law Enforcement Bulletin

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*The Near Future
Implications for Law Enforcement*

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ACQUISITIONS

The Cover:

The responses to an informal survey of 75 executives drawn from the world's largest law enforcement agencies identify major concerns facing their departments within the next 5 years. (See article p. 1.)

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Use of a Computer in the Budget Process

“Automation of the administrative functions of an agency can keep the number of staff support personnel to a minimum, and ... increase their productivity.”

By
MAJ. DAVID T. BOYETT
Staff and Auxiliary Services Bureau
Police Department
Norman, OK

With the advent of the desktop personal computer, more and more small- to medium-sized law enforcement agencies are using computers to increase productivity. Typical applications have been calls for service, incident reporting, recordkeeping, and UCR reporting. Along with the speedy high-tech computers using the 80286 processors came a whole world of low-cost MS-DOS software, everything from word processing, project management, user friendly data base management systems, and powerful spreadsheets. All these programs can pay back the initial investment in just a few months. Automation of the administrative functions of an agency can keep the number of staff support personnel to a minimum, and at the same time, increase their productivity.

Computerized budgeting allows you to explore many possibilities. Starting with the basic spreadsheet, a budget can be developed to provide instant updating, projections of spending trends, and all types of graphs, including pie charts, bar graphs, and line graphs. These graphs can compare one account in relation to the entire budget or compare past budgets with the proposed one. Many other software packages are available to transfer information onto video tape,

color slides, or even to a plotter for better budget presentations. Although the budget process begins with the basic spreadsheet, it can quickly expand to areas of word processing and data base management.

A good wordprocessor and letter quality printer can consolidate budget sheets into the final budget document where all the written justifications and impact statements are included. A good wordprocessor will allow you to “cut and paste” spreadsheet and graphs into the final document without having to retype the entire document. In fact, if other areas in the agency have wordprocessing through a local area network or multi-user system, then the entire document can be put together without using a single piece of paper or retyping any of the justifications. All budget requests can be merged into the final document in just a few seconds. After the budget is developed and finalized on the spreadsheet, a DBMS (data base management system) software can be used to track each purchase. As the purchases are made, the DBMS will deduct the proper amount and maintain the information to provide periodic reports. Such reports can include a budget summary by account, listing of all purchases by date, vendor, or requesting division.

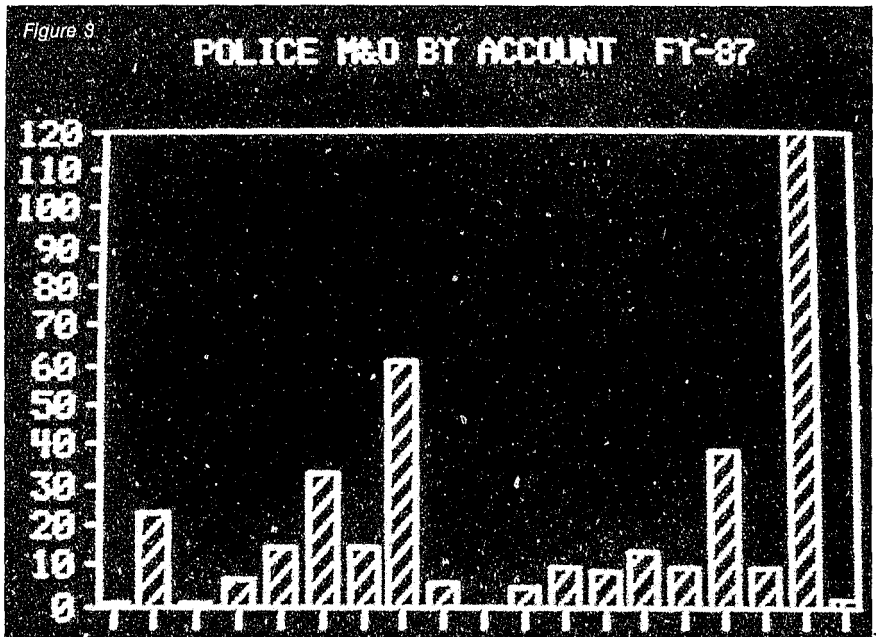
4) The budget is developed through budget study sessions and changes computed on the spreadsheet.

To generate bar graphs or pie charts to show the relationship between the various accounts, just place the cursor on column I "This YR" data in the chart of accounts, select the accounts to graph, and within a few seconds, a graphic representation of the budget will be shown. (See figs. 3 and 4.)

Slides can be taken directly from the screen or a printout made using a dot matrix printer. If using a color display, the charts will appear in color. With the proper software, a complete automated budget presentation can be made, even giving projections for the next 5 years. A statistics package can even be used to compare budget with crime rates.

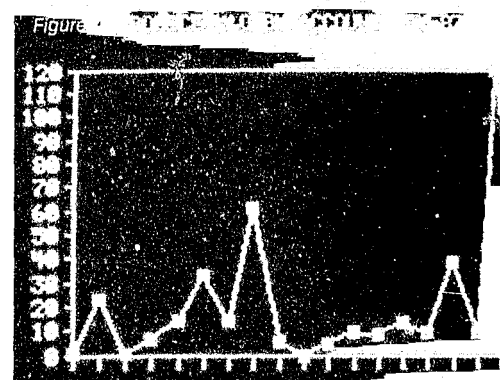
Using DBMS software, a budget monitoring program can be developed to keep the budget on track throughout the year. First, a data base is constructed to hold the information from the spreadsheet's chart of accounts. Each account will have a separate entry for its budgeted amount. Then, a second data base is constructed to keep a record of each purchase or expenditure. The system works by entering the purchase amount, description, and the account from which the purchase is to be made. At this point, the computer looks up the account returning the current balance and percent expended. The purchase can then be approved or delayed according to expenditure policies.

A budget monitoring program has several benefits. Spending trends can be quickly identified, allowing for the necessary adjustments to be made between accounts or request additional



funds. Account summaries can be generated at any time showing the status of each account. Requisition listings can be printed showing each expenditure for any time period. Other uses include vendor reports to show a need for bid specifications of certain items, resulting in lower bulk cost, and inventory control. To make the system "user friendly," a menu system can be used for program selections.

Budgetary feedback is provided through the completion of budget performance reports. The reports are prepared weekly or monthly, depending on policy or control requirements. Actual expenses must be reviewed to determine whether budget objectives are being achieved. Any indication that the budget is being exceeded or used to excess must be determined quickly. Budget reports should include differences between budgeted and actual expense. Most line item expenses can be monitored by comparing the percentage expended with the percent of the budget year. Each month of the budget represents 1/12, or 8.33 percent of the budget year. Another benefit of the computerized budgeting is its ability to generate a performance report at any time and automatically compute the comparison of amount expended to the percent of budget



year (the computer will use .274% per day).

New budgeting techniques will require each department to review goals and objectives and adopt minimum efficiency standards. The only way to accomplish these complex tasks without additional manpower is to start taking advantage of the various low cost computers and software being used in private business and banking. Explore through training, review word processing, spreadsheets and DBMS, research computer magazines, and find out what the computer can do for your agency.

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Figure 1.

Worksheet Global,	Range Insert,	Copy Delete,	Move Column-Width,	File Erase,	Print Titles,	Graph Window,	Data Status	Quit
A	B	C	D	E				
ACCOUNT	AMOUNT	DESCRIPTION	JUSTIFICATION	BY				
BUDGET REQUEST SUMMARY								
4344	\$315.00	CRIME KIT SUPP.	PATROL UNITS	763				
4344	\$225.00	MAP REPLACE	DISPATCH	455				
4344	\$947.00	TAPES-24 HR.	DISPATCH	475				
4344	\$260.00	PRESENT. FLAGS	ACADEMY	366				
4344	\$2,000.00	FLASH.BATT.	PATROL INVEST.	600				
4344	\$570.00	REFILL FIRE EXT.	PATROL	500				
4344	\$395.00	FILE DIV. INDX.	DEPARTMENT	400				
4344	\$275.00	EVID. COLLECT	PATROL UNITS	500				
4344	\$5,250.00	FILM PHOTO SUPP.	DEPARTMENT	200				
4344	\$600.00	LAB CHEM.	DEPARTMENT	200				
4344	\$200.00	TAPES VCR SUPP.	TRAINING	300				
4344	\$140.00	PLASTIC BAGS	LAB	200				
4344	\$300.00	STAPLE GUNS STPLS	RANGE	400				
4344	\$1,620.00	TARGET CTRS CDBD	RANGE	400				
4344	\$500.00	TARGET FRAME MAT.	RANGE	400				
TOTAL	\$39,190.00							

Next, build a chart of accounts section of the spreadsheet. Because the information in each column is different than the line item section, the chart of accounts must start in column F. The chart of accounts section is divided into six columns (F-K) containing the following information:

Column F—Account (8 spaces) This column will list each line item account as reflected in the line item section. This section will use only one row for each account.

Column G—Name (23 spaces) This column contains the name of the account.

Column H—Last-YR (11 spaces) This contains the budgeted amount from last year's budget.

Column I—This-YR (11 spaces) Here is where the spreadsheet starts its work. Just enter the cell location for the account total in the line item section and the current account total will always be displayed here.

Column J—Change (11 spaces) Enter the formula to subtract column H from column I and the difference will always be displayed here. A negative dollar amount will be placed inside parentheses.

Column K—Percent (7 spaces) Enter the formula to calculate the per-

centage change between the budget years and that percentage will be displayed here. (See fig. 2.)

Now enter the accounts, set the account totals, and start your budgeting. Once the spreadsheet has been set up, it can be used repeatedly. Change any line item amount and the following changes occur automatically. First, the line item account total changes, and at the same time, the "this year" column of the chart of accounts changes. The "this year" total is adjusted, along with the dollar amount "change." Also, the account "percent" and total percent is changed. In other words, for each change made in the line item section, the spreadsheet makes six different calculations and updates in the chart of accounts.

Thus far the budgeting process has taken the following steps:

- 1) Budget planning from various divisions.
- 2) Budget requests sent from divisions to staff.
- 3) All requests are entered into the budget spreadsheet.

Figure 2

F ACCOUNT	G NAME	H LAST-YR	I THIS-YR	J CHANGE	K PERCENT
4211	MEMBERSHIPS	\$1,310.00	\$1,340.00	\$30.00	2.29%
4213	TRAINING	\$22,889.00	\$23,575.00	\$686.00	3.00%
4214	MISC. EXPENSE	\$1,250.00	\$1,285.00	\$35.00	2.80%
4218	POLICE ACADEMY	\$7,000.00	\$7,000.00	\$0.00	0.00%
4221	RENT LEASE EQUIP	\$14,305.00	\$14,725.00	\$420.00	2.94%
4223	INSURANCE	\$42,000.00	\$32,500.00	(\$9,500.00)	22.62%
4224	MAINT. SERVICE	\$13,739.00	\$14,145.00	\$406.00	2.96%
4225	PRISONER CARE DE	\$59,000.00	\$60,770.00	\$1,770.00	3.00%
4235	REIMBURSEMENTS	\$5,645.00	\$5,650.00	\$5.00	0.09%
4244	FREIGHT CHARGES	\$406.00	\$415.00	\$9.00	2.22%
4247	OTHER SERVICES	\$4,700.00	\$4,825.00	\$125.00	2.66%
4251	PRINTING PUBLICA	\$9,011.00	\$9,280.00	\$269.00	2.99%
4253	DUPLICATING COST	\$8,100.00	\$8,335.00	\$235.00	2.90%
4311	GENERAL OFFICE S	\$12,716.00	\$13,095.00	\$379.00	2.98%
4326	BLDG MAINT. SUPP	\$9,354.00	\$9,625.00	\$271.00	2.90%
4344	EXPENDABLE TOOLS	\$38,077.00	\$39,190.00	\$1,113.00	2.92%
4345	POLICE SUPPLIES	\$9,016.00	\$9,285.00	\$269.00	2.98%
4347	UNIFORMS	\$116,369.00	\$119,785.00	\$3,416.00	2.94%
4414	MAINT. INST ELE	\$2,000.00	\$2,060.00	\$60.00	3.00%
		\$376,887.00	\$376,885.00	(\$2.00)	0.0%

"Computer budgeting operates in much the same way as a manual budget...."

Performance Budgeting—Performance budgeting looks at activities and their related cost. This method is more complex because it requires a great deal of defined performance objectives. As the budget is reviewed, an impact statement should be written to describe how the objectives would be affected should that activity not be funded, and how many activities can be cut and still meet minimum objectives. This technique exercises a higher degree of management control toward overall objectives than the line item method.

PPBS (Planning-Programming-Budgeting System)—This is another complex budgeting technique requiring departmental objectives. Broken down even more than performance budgeting, PPBS requires each objective to have several activities, and each activity must be rated according to its efficiency. Then list alternate activities for each objective. Each objective presents a comprehensive list of activities with various alternatives.

Zero-Base Budgeting—Zero-base requires a new review of all projects, programs, activities, and objectives each year. As the name indicates, start with nothing and justify everything. The two basic steps of zero-base budgeting are developing decision packages and then ranking the packages.

A decision package is a document that identifies and describes a specific activity where it can be evaluated and ranked against other activities which are competing for limited resources. The document should include:

- Goals and objectives,
- Consequences of not performing the activity,
- Measures of performance,
- Alternate courses of action, and
- Cost and benefits of the activity.

Two types of alternatives should be considered:

- Different ways of performing the same function and
- Different levels of effort of performing the function (establishing a minimum level).

Ranking the decision packages directs management's attention to how much can be spent and on what should it be spent. Because of the complex nature and the hundreds of activities which must be reviewed, all levels of management must be involved in ranking decision packages from their respective areas and passing them up the chain of command. A ranking of each decision package can now be established for funding.

Spreadsheet Design

The advantage of a spreadsheet over a manual system is that the spreadsheet allows items, activities, or projects to be added, deleted, or modified during the budgeting process. With each change, the entire budget is re-calculated, updated, and ready to produce a new copy for the next round of budget discussions. The "what if" questions can be explored in a matter of seconds. What if declining tax revenues cause a 10-percent reduction in funding? Enter the reduction and see the entire budget document instantly change all account totals. Another feature of new spreadsheets allows you to make bar graphs or pie charts of any budget items. Simply mark the totals to chart, and the computer creates the requested graphics.

Any of the budgeting techniques can be designed on the spreadsheet program. The following example

shows a line item M&O account. The line item part of the spreadsheet is divided in five columns (A-E) containing the following information:

Column A—Account (8 spaces) This column contains the line item account number. All requests for the same account number must be grouped together. Additional rows can be added or deleted without affecting the spreadsheet.

Column B—Amount (11 spaces) This column contains the amount budgeted for each line item. At the bottom of the column for each account, the account total will be displayed. This total is created by a simple sum routine used by the spreadsheet.

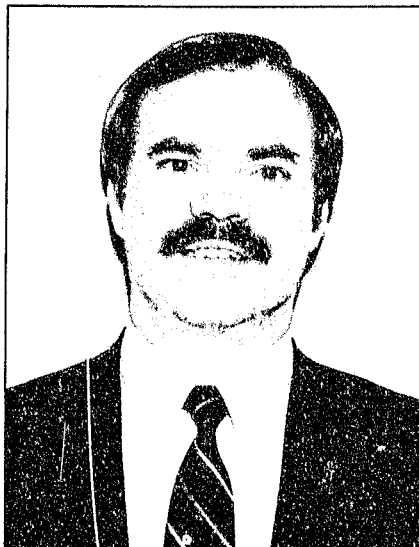
Column C—Description (17 spaces) This is a brief description of the item to be purchased or funded.

Column D—Justification (22 spaces) This is a brief justification of the item to be purchased. More-detailed information may be required on a support document.

Column E—By (8 spaces) This shows who within the agency made the original request. This is usually the person who will also have all support information if needed.

Now establish an entry and total group for each account. Remember new rows (items) can be added at any time, and any changes in the dollar amounts will automatically be updated on the total line.

When all the line items for the various accounts have been entered, test the spreadsheet and see how easy it is to increase or decrease budget amounts and have the spreadsheet re-total the account. Some spreadsheets can hold as many as 4,000 separate line items and 256 columns. (See fig. 1.)



Major Boyett



Don P. Holyfield
Chief of Police

During the conversion process from a manual to an automated system, certain procedures must be followed to insure a successful changeover:

Review the manual system

- Is the account numbering system adequate?
- Are job responsibilities defined?
- What new information do you need the computer to keep?

Involve staff and plan a conversion schedule

- Reduces resistance to change,
- Identifies conversion steps over a period of several months to reduce disruption of normal operations.

Install hardware and software and test for "bugs" before actually using the system.

Conduct training

- Schedule all affected personnel training on basic hardware and software applications,
- Get feedback during training for system improvements,
- Set up sample applications for practice.

Plan your spreadsheet by using input from all involved, start setting up the spreadsheet "cells" and formulas.

Begin running both the manual and automated system in parallel

- Note any needed modifications,
- Compare reports from both systems.

Plan a schedule to phase out the manual system.

Implement backup and archive procedures for the computer system.

Review computer security procedures (passwords and entry logs).

Computer budgeting operates in much the same way as a manual budget, and for that reason, it is easy to convert from ledger books to an electronic spreadsheet. The spreadsheet has rows and columns to enter amounts just as manual books do. Each location is referred to as a "cell." The columns are lettered and the rows are numbered; therefore, the first cell on row one is A1, the second cell on row one is B1, etc. Large spreadsheets can contain as many as 2,000 rows and 254 columns. Each column can be formatted in size and told to store numbers, percents, or titles.

The spreadsheet may look like the same manual ledger, but the likeness stops there. By entering formulas into the spreadsheet cells, the computer can be commanded to do automatic look-ups or calculations. A look-up formula can display the current account balance, and a calculation formula can enter the new balance, along with the percentage expended. Columns of numbers can be automatically updated as new entries are made by using a simple (sum) command.

Before starting the spreadsheet, review the current budgeting technique.

Line Item Budgeting—This is the most popular in small agencies and the easiest to complete. It concentrates on projecting next year's budget based on the current and past year's expenditures. As its name indicates, this technique is a list by account number of items to purchase or salaries to fund. The budget is usually divided into three sections—personnel services, maintenance and operations, and long term capital expenditures or projects. These three sections reflect the total fiscal budget.