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LAW ENFORCEMENT ASSISTANCE ADMINISTRATION (LEAA)

POLICE TECHNICAL ASSISTANCE REPORT

MICROFICHE

SUBJECT: Planning a Police Television Studio -

REPORT NUMBER: 79-045-202

FOR: Texas Department of Public Safety
Austin, Texas

CONTRACTOR: Public Administration Service
1776 Massachusetts Avenue, N. W.
Washington, D. C. 20036

CONSULTANT: William B. Cawley

CONTRACT NUMBER: J-LEAA-002-76

DATE: March, 1979

58260

TABLE OF CONTENTS

	<u>Page Number</u>
I. INTRODUCTION	1
II. ANALYSIS OF THE PROBLEM.....	2
III. FINDINGS AND CONCLUSIONS	6
IV. RECOMMENDATIONS.....	12

Exhibits

Figure 1 - Inventory of DPS Video Equipment.....	3
Figure 2 - Estimated distribution costs for each district headquarters	4
Figure 3 - Proposed studio area (photo).....	7
Figure 4 - Proposed studio area looking in the opposite direction (photo).....	7
Figure 5 - Video Studio Layout.....	8
Figure 6 - Proposed grid lighting system.....	9
Figure 7 - Texas DPS Grant Proposal for Video Studio.....	11

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ACQUISITIONS

I. INTRODUCTION

This report was prepared in response to a request from the Texas Department of Public Safety for technical assistance in connection with the department's plans for a new television studio. The studio is to be used in basic as well as in-service training, and the department requested an evaluation of its facilities as well as of the equipment it was planning to purchase.

The consultant assigned to this project was William B. Cawley, video technician with the Salt Lake City, Utah, Police Department; others involved in processing the request were:

Requesting Agency: Col. Wilson E. Spiers
Director, Department of Public Safety
P.O. Box 4007
Austin, Texas 78773

Approving Agency: Robert O. Heck
Police Specialist
Enforcement Division
Office of Criminal Justice
Programs, LEAA

James G. Vetter
Chief, Police Section
Enforcement Division
Office of Criminal Justice
Programs, LEAA

During the on-site phase of this assignment, the following DPS personnel were interviewed:

Emory Muehlbrad
Manager, Personnel and Training

Jeff D. Heard
Training Officer

Bobby F. Greene
Manager, Visual Aids Department

II. ANALYSIS OF THE PROBLEM

The five problem areas on which the Department of Public Safety requested recommendations were:

1. The cost-effectiveness of televised training programs, including a statewide distribution system.
2. The cost-effectiveness of making recruiting productions.
3. What should be the size and cost of studio lighting?
4. How should a video committee be handled in the department?
5. Cost-effectiveness of preparing public service announcements for local TV.

In addition, an inventory of equipment already on hand in the DPS was made by Mr. Greene and the consultant; it follows as Figure 1. All this equipment is in good working order.

To determine relative cost-effectiveness, the costs of distributing a DPS-produced program to the department's 12 regional headquarters were examined. It was assumed that the mastering system for all DPS productions should be on the 3/4 inch U-matic format. Once a completed program was ready for duplication and distribution, however, the half-inch Betamax format would probably be more than adequate to use for the actual distribution to and field viewing in the 12 districts. Based on the minimum of what each headquarters would need to be able to present a DPS program, the following comparison was made:

3/4-inch format U-Matic		1/2-inch format Betamax	
TV receiver	\$ 400	TV receiver	\$ 400
3/4-inch player	1,600	1/2-inch player	1,100
TV Stand	150	TV Stand	150
1-hour tape	<u>26</u>	1-hour tape	<u>20</u>
Total	\$2,176	Total	\$1,670

Estimated distribution costs for each district headquarters are shown in Figure 2 which follows. To outfit the 12 headquarters with the Betamax system would cost \$20,040, compared to \$26,112 for U-Matic--an initial saving of just over \$6,000. In addition, half-inch tapes are cheaper than the larger ones.

The answer to the second and fifth questions, whether DPS production of its own recruiting and public service programs would be cost-effective is that because DPS equipment to be purchased is industrial grade,

Figure 1 - Inventory of DPS Video Equipment

Video Tape Recorders: 3-Sony Model 2600 3/4-inch U-matic
1-Sony Model slo-340 1/2-inch Betamax portapak
1-Sony Model slp-320 1/2-inch Betamax portapak

Cameras: 4-Sony DXC-1600 Color Trinitron Cameras with associated camera control units
1-Wheelit Portapak cart, for ENG/EFP applications

Monitors: 3-Sony 19-inch color monitors
2-Sony 17-inch black and white monitors
1-JVC 19-inch color monitor
2-Zenith #21-inch color receivers used in classroom situations and closed circuit television presentations

Power Paks: 1-Cine 60 Model 9707, 7-Amp Hrs, 12 Volts

Light Kit: 1-Sungun Model SG-65G, 100 watts, 12 Volts

Video Projectors: 2-Advent Model 1000-A. These projectors and associated screens are primarily used in classroom situations

Film Chain/Multiplexer: 1-Ziemark 2000P Multiplexer
2-Kodak 35mm Slide Projectors
1-EIKI 16mm Filmchain Projector

Figure 2 - Estimated distribution costs for each district headquarters.

<u>Number of Stations</u>	<u>3/4-inch U-matic</u>	<u>1/2-inch Betamax</u>
1	\$ 2,176	\$ 1,670
2	4,352	3,340
3	6,528	5,010
4	8,704	6,680
5	10,880	8,350
6	13,056	10,020
7	15,232	11,690
8	17,408	13,360
9	19,584	15,030
10	21,760	16,700
11	23,936	18,370
12	26,112	20,040
13	28,288	21,710
14	30,464	23,380
15	32,640	25,050
16	34,816	26,720
17	36,992	28,390
18	39,168	30,060
19	41,344	31,730
20	43,520	33,400

its products would not meet the standards expected of broadcast equipment. Such programs would be most unlikely to ever be shown on a public broadcast. DPS has not produced such a program as yet, and none are presently planned.

The type and cost of studio lighting, the third question to be considered, will be discussed in the findings and conclusions portion of this report, as well as the formation of a video committee that would take the studio out of a chain-of-command situation.

III. FINDINGS AND CONCLUSIONS

The following findings emerged from this technical assistance assignment:

Cost-Effectiveness

Because of existing and proposed equipment, which is industrial grade, producing public service and recruiting announcements for use by commercial broadcasters is not feasible for the Texas DPS.

However, for training use in the DPS and its regional headquarters, the equipment contemplated is acceptable. Because of cost differences, the half-inch video format is superior to the 3/4-inch video format. There are no significant differences in input levels, output signals, and system compatability.

Studio Lighting

After a careful survey of the studio area (shown in Figures 3 and 4, following), a less expensive television system lighting grid than had been planned is proposed. Figure 5 and 6 are sketches of the video studio layout and of this proposed grid lighting system respectively. It is particularly important that studio lighting be adequate when industrial grade cameras are used.

In the proposed grid system, 6,000-watt dimmers would be placed in the circuit row for brightness, contrast control, and flexibility.

All lighting materials used on this grid system could be removed and transported to another site should the DPS decide to move the studio. The system represents a significant savings over the one that had been contemplated with no loss of quality or output.

Video Committee

To control program content and coordinate the entire effort involved in each video project, a separate committee should be set up for each DPS production, with the ranking officer concerned (or his designate) as chairman. The chairman would be responsible for setting taping dates, locations, talent choices, DPS policy involvement, and other factors in producing the program, leaving the visual aids manager, Bobby F. Greene, free to devote his efforts and technical expertise to producing a high-quality program. Since Mr. Greene is not a sworn DPS member, he cannot make policy or dictate procedures in line with DPS goals; the program video committee would be in a much better position to handle those aspects.

Further, treating each video program as a separate project recognizes the different circumstances involved in each program, since the approach to

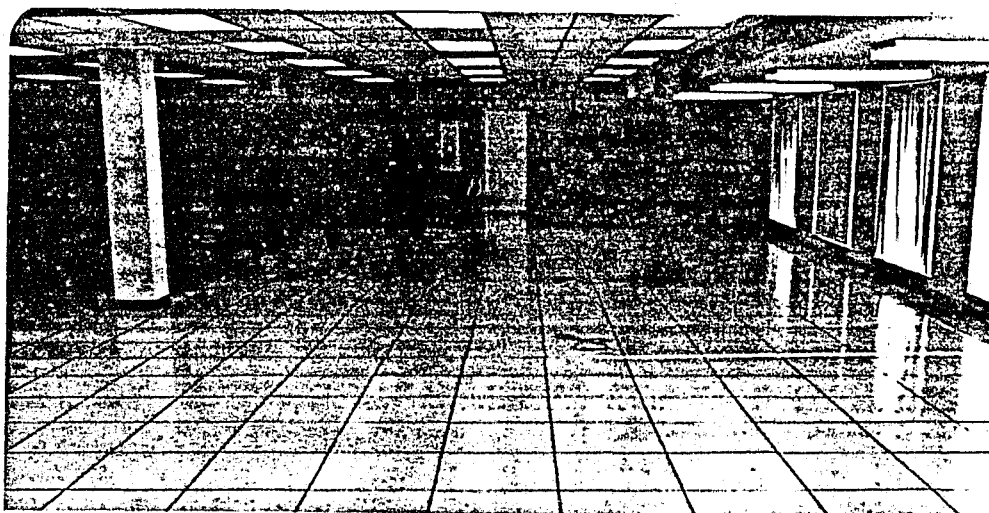


Figure 3 - The proposed studio area, a former computer room that has adequate ventilation and an 8-foot ceiling.

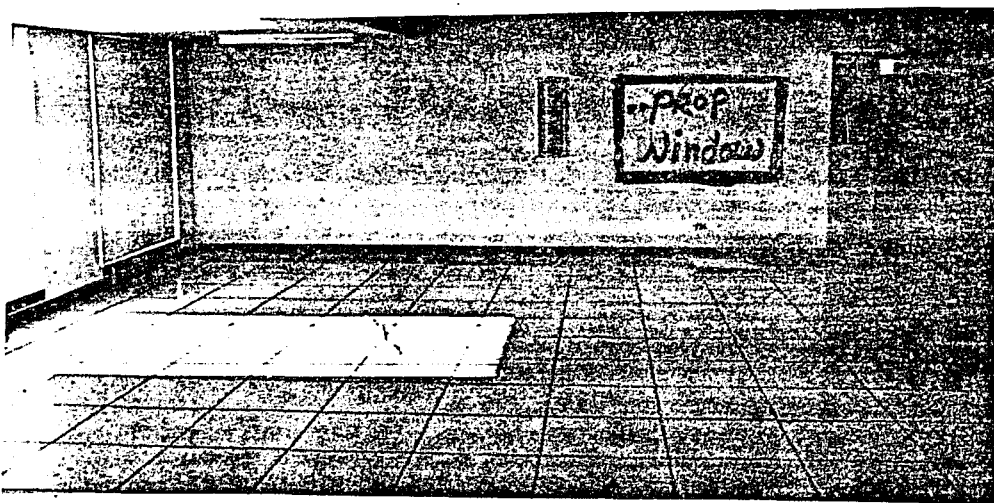


Figure 4 - Looking the opposite direction in the studio; a window for the control room would be cut where indicated.

Figure 5 - Video Studio Layout

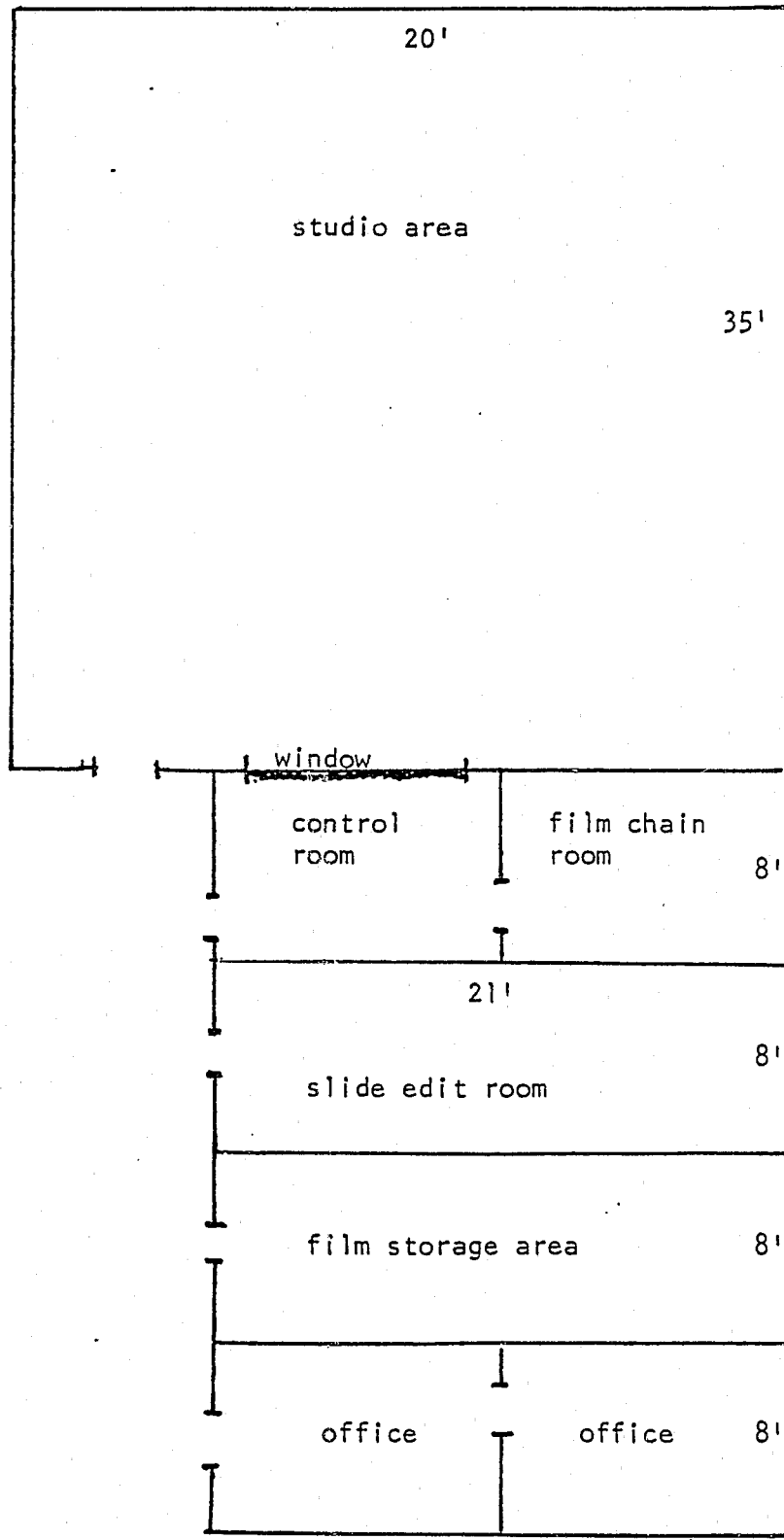
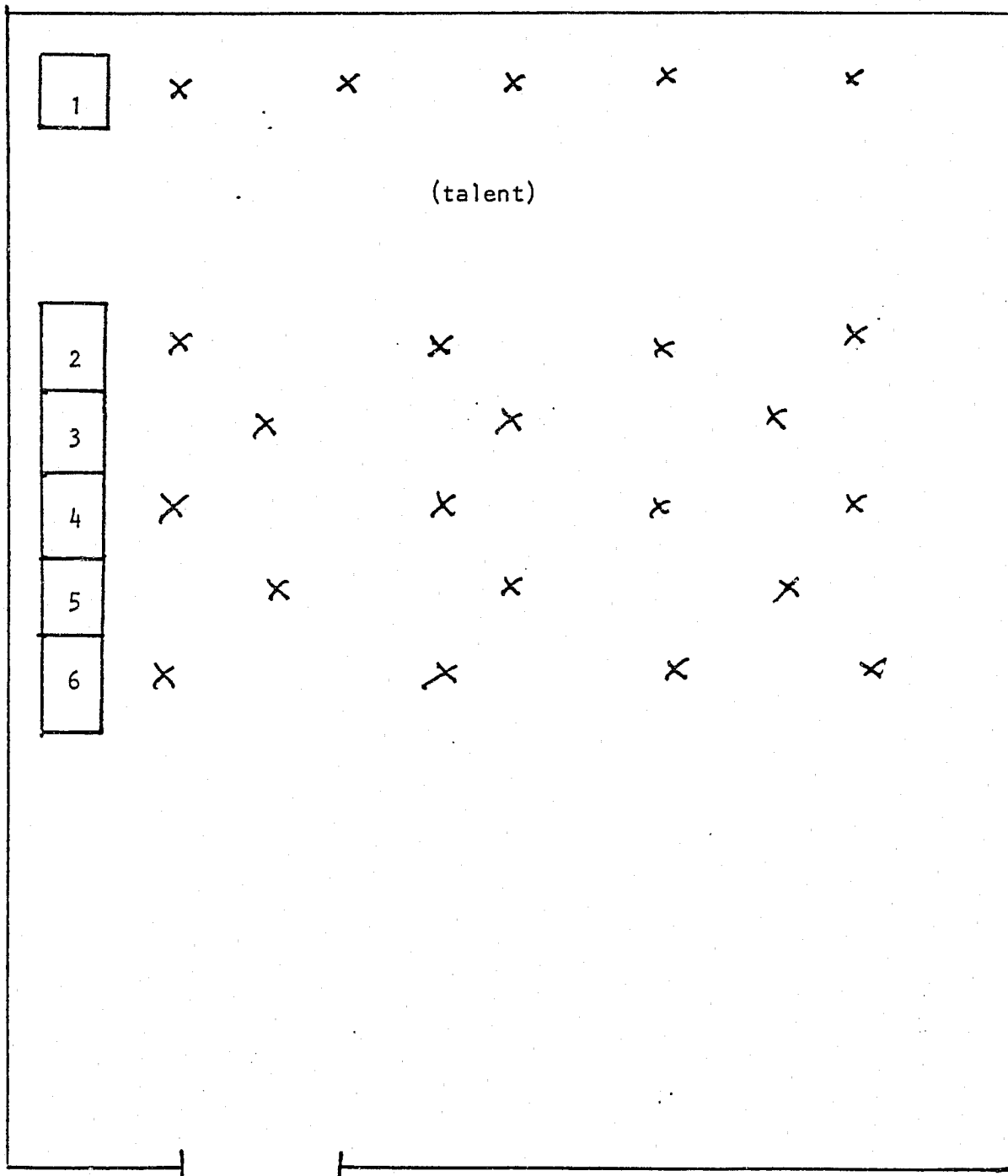


Figure 6 - Proposed Grid Lighting System



X = proposed duplex box (6 busses could handle this load adequately. Each bus should have a 6,000-watt rating)

a program dealing with weapons search and seizure could be totally different from that in a program on vehicular apprehension. Use of a video committee involving the DPS personnel concerned with that particular area will make certain that the program meets the needs and requirements of the DPS.

Equipment Costs and Savings

Because DPS personnel have never been in the video business, their approach to entering the field has been careful and cautious. Both Mr. Greene and Mr. Heard have been in touch with other cities and states that have public safety video studios in order to avoid mistakes that might have been made there.

The equipment that has been proposed for purchase (see Figure 7, the grant proposal for the system) is of the best available industrial grade on the market. In that regard, the proposed grid lighting system should enable the DPS to reduce the \$30,000 figure for a studio lighting package by as much as 60 percent.

The local video vendor who has been working with Mr. Greene is both knowledgeable and competent, and his repair depot appears to be of high quality, including well-trained technical personnel.

Cooperation with other local public safety agencies appears to be excellent, with easily worked out reciprocal loan arrangements for equipment available.

Figure 7 - Texas DPS Grant Proposal for Video Studio

One (1) studio quality camera 3-tube Plumicon or Saticon convertible to portable (ENG) capability	\$45,000.00
One (1) studio lighting package composed of the following:	
one (1) Dimmer pack with 8-dimmers	
one (1) Micro-Q control console	
one (1) Pigtail patch system w/40 GTL twistlock pigtail and terminal box	
six (6) 1 KW/6" fresnel w/connectors	
six (6) 8-way barn doors	
six (6) color diffuser frames	
four (4) scoop (14")	
four (4) color diffuser frames	
fourteen (14) Mini-Dye lights	
spare bulbs for each light fixture	
sixteen (16) color gels for background lighting	
two (2) cyclorama and double track in U-shape	
one (1) light grid for all fixtures to cover 18" x 20" staging area	30,000.00
One (1) Pedestal for studio camera	2,100.00
One (1) Cradle head for studio camera	790.00
One (1) Character Generator	6,000.00
One (1) Audio Equipment	<u>4,200.00</u>
	<u>\$88,090.00</u>
<u>Construction</u>	None
<u>Supplies and Operating</u>	None
<u>Indirect Cost</u>	None
TOTAL	<u><u>\$88,090.00</u></u>

IV. RECOMMENDATIONS

The following recommendations are made, based on the findings and conclusions reached in the course of this assignment:

1. That the modified equipment purchase proposed be made, including the half-inch format Betamax for use in regional headquarters.
2. That the studio lighting grid system proposed be installed, thereby effecting a considerable savings in funds, which can then be used in the purchase of other video equipment.
3. That a video committee chaired by the ranking DPS officer concerned or his designate be formed to deal with policy matters and content, leaving technical aspects of production to the visual arts manager.
4. That the Texas DPS continue its careful, forward-looking approach to entering the video field, recognizing that it has a qualified video technician on board and knowledgeable advice from professional video vendors, available as needed.