ELECTRONIC MONITORING OF OFFENDERS

CRIMINAL JUSTICE POLICY COUNCIL

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ELECTRONIC MONITORING AND HOUSE ARREST STUDY COMMITTEE

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POTENTIAL APPLICATIONS FOR ELECTRONIC MONITORING AND HOUSE ARREST IN THE STATE OF TEXAS

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As this report represents a compilation of information supplied by criminal justice practitioners, product vendors and researchers, great care has been exercised in reporting that information. The reader should be mindful that, with any new technology, initial production or maintenance problems may occur which are often quickly resolved as the industry develops. This report does not constitute an endorsement of the product of any particular manufacturer.

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PREFACE

In January of 1986 the Electronic Monitoring and House Arrest Study Committee was formed in response to a request from the Texas Criminal Justice Policy Council. The Policy Council requested a comprehensive review of the feasibility of using electronic monitoring devices and "house arrest" as an alternative to incarceration and traditional forms of probation and parole.

Electronic monitoring of offenders is a relatively new technological development. While this technology has not been used in Texas, during the last several years it has been used to a limited degree in other states. Few states have made a policy decision to include electronic monitoring as an option to secure detention. The purpose of this report is to provide a single document which summarizes our research on electronic monitoring and to aid policy makers who are considering its application to community corrections.

Don Stiles, Chairman
John Byrd, Vice Chairman

ACKNOWLEDGEMENTS

This report benefited greatly from the contributions of many individuals and organizations. From its inception the study was overseen by members of the House Arrest and Electronic Monitoring Committee. Members of the Committee from the various criminal justice agencies provided valuable insight into the particular difficulties of initiating programs of this type and made important, unique contributions to the study effort. Representatives from the Criminal Justice Center, Sam Houston State University, served to focus the Committee's work, overseeing much of the research effort.

Mr. Ronald D. Champion, Executive Director of the Texas Criminal Justice Policy Council, and his staff provided valuable guidance to the Committee. Logistical support for the Committee was freely given by its Chairman, Mr. Don Stiles, Executive Director of the Texas Adult Probation Commission.

A deep debt of gratitude is owed to Dr. George Beto, Interm Dean and Director, Criminal Justice Center, Sam Houston State University, who willingly provided staff and support for the activities of the committee.

Special recognition is due to the staff members of the various agencies and offices of Committee members who assisted in preparation of materials for the report.

The Committee benefited greatly from the efforts of an ad hoc committee convened by the Texas Commission on Jail Standards. Representatives of six county sheriff's departments, the Texas Attorney General's Office, the Sheriff's Association of Texas, and the Texas Commission on Jail Standards provided valuable insight into the feasibility of an electronic monitoring and house arrest program as an alternative to detention in a county jail.

Without the gracious cooperation of the vendors and current users of the technology, the research effort would not have been possible. Assistance and technical information was received from the Southwestern Bell Telephone Company. All three groups willingly gave of their time and expertise to facilitate the work of the Committee.

Texas Criminal Justice Policy Council
Electronic Monitoring and House Arrest Study Committee

Executive Summary

POTENTIAL APPLICATIONS FOR ELECTRONIC MONITORING AND HOUSE ARREST IN THE STATE OF TEXAS

Not unlike other states, Texas is experiencing a continuing problem of prison overcrowding. Between 1974 and 1983 there was a 142 percent increase in new admissions to the State's prison system. Assuming static policy conditions, new admissions are expected to rise by another 8.8 percent between 1986 and 1990.

As of March 13, 1986, there were 17,997 prisoners being held in Texas county jails. Of that number, roughly sixty percent were pre-trial detainees and forty percent were convicted offenders.

During 1985 there were 6,892 parolees who had their parole revoked and were returned to prison. Of that number, almost twenty percent were revoked for technical violations. Approximately 280,000 offenders are supervised by adult probation departments with approximately 80,000 under direct supervision for felony offenders.

Approximately two thousand youthful offenders are committed to the Texas Youth Commission annually, fifty-five percent of which are for a felony referral, twenty percent for a misdemeanor, and twenty-five percent for violation of a lawful court order.

A number of correctional alternatives have been proposed to stem the growing incarceration rates, most recently the use of electronic monitoring and house arrest to supervise offenders in the community. In December of 1985 the Criminal Justice Policy Council endorsed a motion to identify potential applications for the technology in Texas. The study was divided into six basic areas:

- Existing technology
- Current use of the technology
- Potential applications for Texas

- Philisophic and policy issues
- Legal Issues
- Recommendations

Existing Technology

Ten vendors of the equipment were identified and interviewed. The systems which are currently operational and available are of two basic types. The first is an active system which constantly monitors the offender. The second is a passive system which randomly calls the offender and requires verification of their presence through insertion of a wristlet device into a "verifier box."

Not including field testing, four of the companies do not yet have their equipment being utilized by a criminal justice agency in an operating program. One of those manufacturers is in the process of developing a prototype of the equipment and another is awaiting final approval of their system from the Federal Communications Commission. One vendor expressed the belief that it would be premature to market a system of less than one hundred units in Texas because they do not currently have the capability to support and service the equipment in this geographic area.

Estimated average daily costs for acquisition of the equipment range from $1.29 to $9.04 per day for outright purchase, from $0.95 to $7.00 per day for lease-purchase agreements, and from $1.91 per day to $7.00 per day for straight lease agreements.

A preliminary review of the technology by the Southwestern Bell Telephone company indicates it is technologically possible to utilize the available systems with existing phone company equipment. Although not insurmountable, there will be some inherent difficulties in Texas due to the configuration and number of individual telephone companies.

Current Use of the Technology

Ten programs were identified for examination by the study committee. The majority of the operational programs are those which function at the county level. The type of offender eligible for the different programs varies from agency to agency. As would be expected, the state agencies have developed applications directed at felony offenders. Only two of the counties use the technolgy on felony offenders, and in one of those counties, only for the least serious felonies.

Offenders are placed under supervision for varying time periods, normally from one to four months. Most of the programs have a limited number of individuals being monitored at one time, ranging from four to twenty people.

Three hundred and seventy people are known to have completed electronic supervision programs at the time of this report. While the amount of experience is limited, the failure rate for these programs is low, being ten percent or less. It is important to note that these figures represent only the county programs which tend to have lower risk offenders than programs at the state level which deal primarily with felony offenders.

Potential Applications For Texas

Proposed models for application of electronic monitoring in the State of Texas have been developed by the Commission on Jail Standards, the Juvenile Probation Commission, the Youth Commission, the Adult Probation Commission, and the Board of Pardons and Paroles. The programs are directed toward increasing the efficiency of agency officials, diversion of offenders from institutions or more restrictive forms of supervision, and a reduction in costs and institutional overcrowding. It is estimated that the programs may address an eligible population of 4,900 offenders. The figures do not represent a static population because individuals selected would be in varying programs for different time periods.

Preliminary analysis of the data supplied by the vendors and agency representatives indicates the technology offers the potential for a reduction of costs currently

incurred by the corrections component of the criminal justice system. Estimates of cost reduction for an individual offender range from $18.96 to $46.96 per day for some programs. Other programs may experience an increased cost of $2.04 to $9.04 per day. The reader is cautioned that these projections, tenuous at best, are based upon the information available at the time of this report. It would be less than prudent, given the limited amount of knowledge available, to make policy decisions soley on these projections. A very real possibility exists that personnel costs, administrative overhead, the actual failure rate of offenders in the programs, and unanticipated outside influences may negate any hoped for reduction in base expendatures.

Philosophic and Policy Issues

It is premature to attempt to determine the actual cost-benefits of an electronic monitoring program. The technology has been only recently introduced to the correctional field and time must pass before one can determine if the benefits out-weigh the costs. One must consider the lost opportunity costs. What other programs could have been initiated or expanded with the funds used to purchase the monitoring equipment?

The non-monetary benefits which can be realized from use of the technology are equally as important as fiscal concerns. Policy makers must weigh the effects of incarceration on the individual against the magnitude of risk to public safety. It is neither humanistically nor economically beneficial to incarcerate people who are capable of functioning under community supervision.

Advocates of electronic monitoring argue that the technology has the potential to reduce jail and prison populations. Whether or not this will occur is an emperical question which is not yet answerable. While the technology may be a useful tool for reduction of overcrowding, it is not the sole answer to the problem. The technology cannot serve as a substitute for sound correctional planning.

Irrespective of the perceived cost-benefits, the introduction of the technology may require administrative changes affecting personnel policy, revocation procedures, and relations with the external environment. By its very nature electronic monitoring is a twenty-four hour a day

service. While the number of additional personnel that may be required to operate such a program is unknown, this will be dictated by the number of offenders on the system and the number of violations reported. If screening procedures are effective and the equipment is reliable, the number of reported violations should be low. If the number of violations reach an intolerable level, rather than hiring additional personnel, the screeening proceedures and the reliability of the equipment should first be examined.

There appears to be a wide range of philosophic attitudes toward the technology among the probation officials interviewed. Some saw it as a useful tool which could find a proper place in probation. Others see it as one step beyond what probation is supposed to be. Most administrators, however, expressed a philosophic ambivalence about the technology. While mildly interested in the concept, they would rather let some other agency experiment with its use first.

Electronic monitoring can be a useful tool in the repretoire of criminal justice strategies, however, it can also be abused. Excessive periods of surveillance are abusive and antithetical to the concept of diversion. Some people are not appropriate candidates for the program. If a person requires extended periods of continuous surveillance they probably belong in an institution and not the community.

Legal Issues

The legality of using electronic monitoring as a correctional alternative must be addressed from two perspectives; constitutional and legislative. An in-depth analysis of the constitutional issues is presented in Appendix E of the full report. It is the opinion of the Legal Subcommittee, subject to the requirements addressed in the appendix, that a properly designed program would withstand a court challenge based on constitutional issues. A review of state laws and materials submitted to the Secretariat indicates that new legislation will be needed in connection with the use of electronic monitors in Texas.

It will be necessary to amend the provisions of pertinent laws to authorize the use of electronic monitors as an alternative for probation, parole, and institutional (jail or other detention facilities) release. In the case of

probationers, this can be added to the list of conditions to be imposed, contained in Article 42.12, Section 6(a) of the Code of Criminal Proceedure. In the case of parolees, use of the technology can be added to the set of conditions imposed by the Board of Pardons and Paroles. For institutional detainees or releasees the provisions may be added to Chapter 43 of the Code of Criminal Procedure and the appropriate section of the Texas Family Law.

It is suggested that a law be enacted providing for immunity from liability in state tort cases for Texas criminal justice personnel who are involved in the release and supervision of electronic monitor users. Court decisions give judges and parole decision makers absolute immunity for the decision to release. The immunity law, therefore, would provide protection for criminal justice personnel other than judges and parole board members and commissioners.

A law should be enacted which makes provisions to provide electronic monitoring devices to potentially eligible offenders who would not be able to afford payment of any required fees. While this recommendation need not be enacted into law, it must be included in the electronic monitoring program so as to obviate possible equal protection challenges.

Recommendations

The use of electronic monitoring in the State of Texas appears to be feasible from a conceptual perspective. Based upon the research conducted by the Electronic Monitoring and House Arrest Study Committee, the follwing recommendations are presented to the Texas Criminal Justice Policy Council.

1. Electronic monitoring should not be used if programs which are less costly or less intrusive will work equally as well.

The technology should be used only for those individuals who would otherwise be incarcerated or subjected to a more restrictive or costly form of supervision. To do otherwise would be abusive and counterproductive to the perceived benefits of electronic monitoring programs.

2. The State of Texas should develop and implement a pilot project with the technology.

Many questions remain unanswered about the long-term benefits and cost effectiveness of the technology. Without actual operational experience it is difficult to make a realistic assessment of the potential benefits and liabilities of such a program.

3. Specific legislation should be adopted which authorizes agencies to utilize the technology.

In addition to enabling legislation, protection from civil liability for release decisions and operation of electronic monitoring programs should be enacted. Provisions should be made to provide equipment for indigent offenders who would otherwise be eligible for the programs.

4. A state clearinghouse for information should be established and additional research conducted.

It appears inevitable, barring a legislative prohibition, that electronic monitoring will be used either at the local, county, or state level in Texas. Criminal justice agencies within the state would greatly benefit from having a central location for the collection and dissemination of information pertaining to use of the technology.

Tentative projections, based upon the information available at the time of the report, indicate the possibility of reduced correctional costs through use of the technology. However, it was not possible to calculate the expense of personnel and administrative overhead which would be incurred by participating agencies. An in-depth analysis by the Governors' and Legislative Budget Offices who are more familiar with budget preparation for state agencies would provide more realistic projections.

5. The Secretariate function of the Committee should be continued through June of 1987.

It is anticipated that the technology will continue to cevelop at a rapid pace. While the knowledge base is expanding at a much slower rate, the information presented

here could very well be out of date within six months to a year. Until such time as a policy decision is made it would appear prudent to continue gathering information and remain abreast of new developments. The Secretariate would continue to receive and compile information from the members of the Committee and outside sources. If deemed necessary an additional report would be issued in June of 1987.

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Section 1

INTRODUCTION

During the 1970's crime escalated beyond most predictions and seemingly the ability of anyone to control it. As fear of crime increased, so did the public's demand that something be done. In response, numerous statutes were enacted during this period which reflected the growing demand for crime control. The principal policy objectives of this era seemed to be:

- Increase the probability that those convicted would be incarcerated.
- Increase the duration of their incarceration.
- Reduce the probability of offenders being released before serving the full term of their sentences.

Not surprisingly, these policy changes coupled with the increasing number of offenders moving through the justice system, resulted in a massive overcrowding problem, which has had profound and irrevocable effects on both local jails and state prison systems. The ripple effects of overcrowding precipitated a correctional case law revolution which raised a variety of challenges to the constitutionality of the nation's correctional system. As a result, policy makers have been confronted with a two-headed dragon, neither head of which could be chopped off without increasing the dangerousness of the other. If the public's demand for punishment was to be accommodated, institutions would become more crowded and legal sanctions would ensue. Conversely, building more institutions, a fiscally objectionable alternative, or reducing populations by greater use of parole would likely fly in the face of public sentiment. Neither alternative was attractive since few policy makers wanted to ask the public to choose between their pocketbooks and their demands for safety. Prompted by legal and fiscal pressures, various alternatives to incarceration have been proposed, including use of the electronic monitoring technology recently introduced by the private sector.

One can find scattered references to the potential use of telemetry in the supervision of offenders in both the

futurist and criminal justice literature as far back as the late 60s and early 70s.[1] However, it was not until the institutional overcrowding problem created an unprecedented demand for diversion that market conditions were attractive enough to encourage the private sector to make the technology commercially available. Over the past year or so, several companies have been marketing different versions of surveillance technology which have broad potential applications in corrections.

1.1 Objectives of the Study

In January of 1986 the Electronic Monitoring and House Arrest Study Committee was formed in response to a mandate from the Texas Criminal Justice Policy Council to conduct a comprehensive review of the feasibility of using electronic monitoring devices and "house arrest" as an alternative to incarceration and traditional forms of probation and parole. Specifically, the committee was directed to address the following:

- Eligibility criteria for offenders.
- Estimates and projections of the numbers of suitable offenders.
- Estimates of capital and personnel costs.
- Caseload and population impact on agencies.
- Equipment and program reliability.
- Legal and civil rights issues.
- Experience and extent of use in other states.
- Citizen and community response or acceptance in other states.
- Statutory changes needed.
- Recommendations for further study.

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[1]G. L. Ingraham & G. W. Smith. The use of electronics in the observation and control of human behavior and its possible use in rehabilitation and control. In S. Jackwell (ed.) Crime and Justice, 1971-1972. New York: AMS Press, 1974, p. 363-377.

1.2 Organization of the Report

What follows is the cumulative effort of the members of the study committee. The report consists of six substantive sections:

- A description of the technology, the types of equipment currently in existence, and estimated costs.
- Descriptions of programs currently operated in other states.
- Proposed program models for the State of Texas.
- Philosophic and policy issues.
- Legal issues.
- Recommendations.

Appendices provide supplemental material. Appendix A contains the project plan developed by the Committee. Appendix B consists of the survey instruments used to conduct interviews of vendors and current users. Appendix C is an index of the names, addresses, telephone numbers, and contact persons for the known vendors. Appendix D is a similar index of the known users.

An in-depth analysis of the legal and constitutional issues is presented in Appendix E. Appendix F is a report from the ad hoc committee of the Texas Commission on Jail Standards which outlines issues directly affecting use of the technology by county jails. A staff report from the Texas Adult Probation Commission detailing potential applications of the technology by that agency is contained in Appendix G. Appendix H is a previously proposed joint monitoring project between El Paso County and the Texas Youth Commission. Appendix I describes the research design and methodology for a proposed pilot project in Houston, Texas. A selected bibliography of published material on the topic is presented in Appendix J.

Because formalized use of the technology is new, there is not yet a body of empirical knowledge assessing its utility and cost benefit. Therefore, this report can only speculate on the possible applications, the potential for abuse, and the administrative and policy implications since time must pass before empirical evaluations can be conducted.

Section 2

THE TECHNOLOGY

This section of the report is designed to provide an overview of the technology, information on specific vendors, products, and cost estimates.

2.1 Overview

One of the earliest references to the use of an electronic monitoring device was recorded in the literature over twenty years ago when individuals conducting research into behavioral electronics announced the development of a portable device for tracking the location of individuals. The system was utilized from 1964 through 1970 to monitor the location of parolees, mental patients, and research volunteers in Cambridge and Boston Massachusetts.[1]

Clearly, the concept of electronic monitoring of convicted offenders is not new. Advances in technology and favorable marketing conditions created by overcrowding and fiscal constraints, however, have led to a recent re-discovery of the possible applications of telemetry as a correctional alternative. One of the first formalized uses of the technology by a criminal justice agency occurred during 1983 in Albuquerque, New Mexico. Judge Jack Love was inspired by a "Spiderman" comic strip to experiment with the concept of enforcing house arrest with the aid of an electronic monitoring device. Subsequent to that experiment, programs were implemented in Florida. The initial evaluations of those programs were favorable, prompting adoption of the concept in various locations.

The current systems can be placed in two broad categories, those which require a telephone to operate, and those which operate without a telephone. The most prevalent systems are those which utilize telephone lines to communicate between the offender's home and a central office.

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[1] R.K. Gable. Application of personal telemonitoring to current problems in corrections. Journal of Criminal Justice, 1986, 14, p. 167-176.

The first type of these systems, referred to in the earliest literature as "active" systems consists of a transmitter unit, a receiver-dialer unit, and a central office computer or receiver unit. A transmitter, which is strapped to the offender, broadcasts an encoded signal to the receiver located in the offender's home. The receiver is connected by the telephone to the central office computer or receiver unit. When the transmitter being worn by the offender is within range of the home receiver, the system indicates that they are at the residence. When the offender goes beyond the range of the receiver unit, i.e., leaves the home, the signal from the transmitter is not received and the system indicates absence. If the offender leaves home during an unauthorized period, in violation of their curfew, a violation report is generated. If, however, the offender leaves the home at a time they are authorized to do so, the times of arrival and departure are noted, but no violation report is generated.

A second type of unit utilizing telephone lines for communication has been referred to in the earlier literature as a "passive" system. It consists of a central office computer, an encoder device, and a verifier box. The encoder device is worn either on the wrist or ankle by the offender. The computer is programmed to generate either random calls or to call at specific times to the offender's home. The offender is required to provide voice identification and then insert the encoder device into the verifier box, confirming their identity. The system will provide exception reports if the phone is not answered, if a busy signal is received, if an operator incercept message is detected, or if the offender fails to properly insert the encoder device into the verifier box.

Currently under development is a passive system which relies on computerized voice identification. The offender, who is not required to wear any type of device, must answer a series of random questions which are then matched by the computer with a previously supplied exemplar of their voice.

The essential difference between the active and passive systems is that the active system operates continuously, monitoring the time the offender arrives and departs. The passive system verifies the presence of the offender only at the time the telephone call is made from the central office. The term "passive" is somewhat misleading in that the offender is required to perform certian functions.

The second major category of systems are those devices that do not rely on telecommunications equipment. One such device consists of a transmitter and a portable receiver. The transmitter, worn by the offender, emits a

radio signal. The portable receiver is placed in the monitoring official's car and will receive the signal from the transmitter when it is within one block of the offender. Periodic checks of residential areas are made during the time period that the offenders are required to be home. The device may also be used to make random checks at places of employment, treatment centers, or other locations to confirm the presence of the offender.

Although none are known to be in use, the technology exists to operate a system similar to those relying on telecommunications by radio transmitters. Under such a system, the offender wears a personal transmitter which sends a signal to the home receiver. The receiver records the information and then sends it by radio signal to a central location.

2.2 Method of Data Collection

An overview of the technology was first developed by researching the available published literature. A questionaire was developed and mailed to each known vendor to elicit information on the functional characteristics of their particular product. A telephone interview was then conducted with each vendor to obtain the information. Subsequent to the interview, draft copies of the profiles were mailed to them for verification of the information.

Estimates of system costs were provided by the vendors during the telephone interviews. The figures presented in this chapters are estimates based upon the following assumptions:

- The cost estimates do not reflect personnel expenses, telephone lines, or administrative overhead which may be incurred.
- Costs were estimated for two year periods to facilitate planning in a biennial budgeting process.
- Average daily cost per unit was calculated on the basis of 730 days in the two year period, assuming each unit is being utilized every day.
- Cost of maintenance contracts are included in estimates unless otherwise noted.

- All fractions were rounded upward to the nearest whole cent.

Where available cost estimates are provided for the purchase price, lease price, and lease/purchase price for systems of twenty and fifty units. It should be noted that these estimates do not represent a firm bid from the vendors. They reflect prices quoted on the date of inquiry and are subject to change.

2.3 Advanced Signal Concepts

Advanced Signal Concepts, located in Clewiston, Florida, markets an active system under the trade name "ASC IIb." Currently a limited number of units are installed in Palm Beach County, Florida. The company is less than a year old and would be reluctant to market a system of less than one hundred units in Texas until they have the capability to suppport and service the equipment.

While the transmitter is designed to be worn on the ankle, it can be modified to be worn on the wrist or around the waist. The straps which secure the transmitter to the offender can be replaced by the agency. There is no mechanism which will detect and report attempts to remove the transmitter. The unit is crystal-controlled to eliminate interference generated by a person's body heat. The battery life for the transmitter is approximately 115 days. The vendor exchanges transmitters with the agency when a new battery is needed. During the first year battery replacement is done without charge. Unlike some systems, the battery may be "turned off" when the transmitter is not in use, thereby reducing the frequency of replacement. The transmitter has a signal range of approximately 150 feet.

The home monitoring unit is programmed to transmit to the central office computer either over telephone lines or by radio signals. The monitor is not programmable by the agency. A flexible external antenna is included with the unit to enhance signal reception from the transmitter worn by the offender. There is an internal back-up battery power supply which is constantly being charged while the unit is plugged into a standard wall outlet. The unit has a 16 gauge metal case to enhance durability. The monitor can report to a primary computer and one alternate computer.

The equipment can be adapted to use radio transmissions rather than telephone lines to communicate with the central office. A standard radio tower without a repeater system would provide limited coverage. With the

addition of a repeater system the range could be increased substantially. One system can be configured to allow both radio and telephone reporting.

The computer software will operate on any IBM PC compatible. The system also has the ability to interface with other larger computers, such as a Burroughs. By integrating the program into the existing computer system, the necessity of making duplicate entries of inmate records in two seperate computers is eliminated. The memory storage capacity will vary with the different computers selected by the user. The standard monitoring capacity of the system is two hundred units, expandable to four hundred.

The equipment provided by Advanced Signal Concepts is largely compatable with systems marketed by CONTRAC and Corrections Services, Inc. This capability allows an agency the option of combining elements of the different systems.

2.3.1 Central Equipment Costs

PC Computer with "intelligent database software and interface.	$ 6,000
Digital receiver with eight phone line capability.	$ 3,500
Total	$ 9,500

2.3.2 Purchase Price - 20 Unit System

Central Equipment	$ 9,500
Transmitters and home monitors (20 @ 810)	$ 16,200
Total	$ 25,700

Average cost per day = $1.76

2.3.3 Purchase Price - 50 Unit System

Central Equipment	$ 9,500
Transmitters and home monitors (50 @ $750)	$ 37,500
Total	$ 47,000

Average cost per day = $1.29

2.3.4 Two Year Lease/Purchase Plan - 20 Units

Monitors and transmitters ($100 per unit buy out at end of 24 month lease)	$ 2,000
Security deposit	$ 8,000
Purchase of digital receiver with eight phone line capability	$ 3,500
Purchase of PC Computer with software and interfacing.	6,000
Total	$ 19,500

Average cost per day = $1.34

2.3.5 Two Year Lease/Purchase Plan - 50 Units

Monitors and transmitters ($100 per unit buy out at end of 24 month lease)	$ 5,000
Security deposit	$ 20,000
Purchase of digital receiver with eight phone line capability	$ 3,500
Purchase of PC Computer with software and interfacing.	6,000
Total	$ 34,500

Average cost per day = $0.95

*Prices do not include installation costs.

2.4 Computrac Systems, Incorporated

Computrac Systems, Incorporated, located in Salt Lake City, Utah, markets an active system under the trade name of "ComTrac One." Currently the system is being utilized by the State of Utah. Monitoring of the equipment is contracted through the ADT Alarm Company which has a twenty-four a day response capability in the event a violation report is generated.

The transmitter, which is worn around the offender's neck, is reported to be unobtrusive underneath normal clothing. The company designed the transmitter to be worn around the neck in order to enhance reception of the radio signal. The coded message broadcast by the transmitter is changed every hour to prevent attempts to duplicate the signal. The individually coded signal identifies the person wearing the transmitter and reports the condition of the transmitter's battery. Attempts by the offender to remove the necklace are detected by the home receiver and reported. Unlike some systems, the fastening strap for the transmitter does not need to be replaced after use if properly removed by the agency. The vendor will replace damaged straps free of charge, unless there are an excessive number of replacements required. In that event, the charge would range up to five dollars per strap. The battery life for the transmitter is approximately five months. The transmitter has a maximum signal range of approximately one thousand feet.

The base station, placed in a halfway house or the offender's home, is programmed to make calls randomly or at set times to the host computer. The user can determine the number and frequency of calls made. Programming for the base station can be downloaded from the host computer, allowing for changes in curfew hours from the central office. If the telephone line in the home is busy or out of order when the calls are to be made, the system will give a warning tone to the offender. The system can be adapted to seize the telephone line and complete the call. If the phone line or power connection is unplugged, or if an attempt is made to tamper with or move the base station a report will be generated at the host computer.

Each base station has the capacity to receive and process signals from up to thirty transmitters. This would allow for installation in a halfway house with only one receiver, eliminating the need for multiple receivers which would be required if other systems having a limited capacity were utilized.

The central computer system is a Leading Edge, Model D, having 640k internal memory, a 20 megabyte hard disk, and two floppy disks. A backup battery system is available, but is not included as standard equipment. If the computer were to "crash" due to a power failure, without the backup power supply, data in the internal memory (open files) would be lost. If the system is operated under a contract arrangement with ADT this would not be problematic because they have an existing auxiliary power supply system which operates their alarm systems in the event electric service is interrupted. The software can be programmed for up to four levels of passwords. Each level will allow the person accessing the computer to perform only authorized functions. The system can be expanded to accommodate an infinate number of telephone lines. As presently designed and utilized, the system will accommodate only one terminal, however, the capability does exist to network terminals.

2.4.1 Central Equipment Costs

Computer equipment including monitor, printer, modem, & software. Does not include backup power supply or cost of maintenance on central equipment. No charge for installation or training.	$ 3,500

2.4.2 Purchase Price - 20 Unit System

Central Equipment	$ 3,500
Transmitters (20 @ $675)	$ 13,500
Home Receivers (20 @ $4,300)	$ 86,000
Two year maintenance contract for transmitters and receivers	$ 7,300
Total	$110,300

Average cost per day = $7.55

2.4.3 Purchase Price - 50 Unit System

Central Equipment	$ 3,500
Transmitters (50 @ $675)	$ 33,750
Home Receivers (50 @ $4,300)	$215,000
Two year maintenance contract for transmitters and receivers	$ 10,950
Total	$263,200

Average cost per day = $7.21

2.4.4 Two Year Lease/Purchase Plan - 20 Units

Equipment Lease	$ 25,600
Maintenance	$ 7,300
Total	$ 32,900

Average cost per day = $2.25

2.4.5 Two Year Lease/Purchase Plan - 50 Units

Equipment Lease	$ 51,000
Maintenance	$ 10,950
Total	$ 61,950

Average cost per day = $1.70

2.5 CONTRAC

CONTRAC (Controlled Activities Corporation), located in Tavernier, Florida, markets an active system under the trade name "In House Arrest System." The company has clients located in Florida, Oregon, and Kentucky.

The transmitter unit, designed to be worn on the ankle, is held in place by secure straps which may be replaced by the agency. An internal mechanism which will detect and report attempts to tamper with the unit is available as an option. The batteries, which must be replaced by the vendor, have an average life of eighteen months. The cost of one battery replacement for each unit is included in the lease price. The transmitter has a range of approximately two hundred feet.

The home monitoring unit is programmed to transmit from the offender's home to the central office equipment. The monitor is not programmable by the agency. A rechargeable battery is installed in the monitor to insure system operation during power outages. A low battery report is sent to the central office whenever the monitor battery is low or unable to recharge. Any attempt to tamper with the monitor or relocate it will be detected and reported.

The central office equipment includes a receiver and a computer. The standard computer for the system is an IBM PC XT, however, an option is available which allows the agency to select an IBM PC AT for an additional charge. The computer system has a standard 640k internal memory and a 20 megabyte hard disk. It has the capability to backup the memory on floppy disk, tape, and paper printout logs. A backup battery-operated power supply and surge protector is included as standard equipment. The central receiver is seperate from the data stored in the computer. The system is designed to automatically log all improper calls and disconnect, thereby limiting the probability that someone could gain unauthorized access to the system over the telephone lines. The system is designed to operate on one computer terminal, however, the capability does exist to create an in-house network. The computer can be programmed for only two in/out periods in one day.

2.5.1 Central Equipment Costs

Computer equipment including software, printer, backup power supply, and surge protector.	$ 8,766
Central office receiver	$ 6,000
Two year maintenance contract	$ 825
On site installation and training	$ 850
Total	$ 16,441

2.5.2 Purchase Price - 20 Unit System

Central Equipment	$ 16,441
Transmitters and home monitors (20 @ 1,095)	$ 21,900
Two year maintenance contract for transmitters and receivers	$ 2,000
Total	$ 40,341

Average cost per day = $2.77

2.5.3 Purchase Price - 50 Unit System

Central Equipment	$ 16,441
Transmitters and home monitors (50 @ 1,095)	$ 54,750
Two year maintenance contract for transmitters and receivers	$ 5,000
Total	$ 76,191

Average cost per day = $2.09

2.5.4 Two Year Lease/Purchase Plan - 20 Units

Equipment Lease $ 43,446

Includes cost of transmitter/monitor tuning and transmitter battery replacement. All other parts subject to six month warranty.

Average cost per day = $2.98

2.5.5 Two Year Lease/Purchase Plan - 50 Units

Equipment Lease $ 82,706

Includes cost of transmitter/monitor tuning and transmitter battery replacement. All other parts subject to six month warranty.

Average cost per day = $2.27

2.6 Control Data Corporation

Control Data Corporation, located in Bloomington, Minnesota, markets an active system under the trade name "CFD Home Escort." Currently their product is being used by the Michigan Department of Corrections and the Utah Department of Probation and Parole.

The transmitter, designed to be worn on the ankle, will detect and report attempts to tamper with the device. The fastening straps can not be replaced by the agency and the unit must be sent back to the factory for refurbishing once it is removed from the offender. For every unit purchased the agency will receive two spare transmitters, allowing them to rotate the units back and forth from the factory with little or no down time for the equipment. The transmitter is battery operated and has an internal mechanism which will report to the central computer when the battery is low and needs to be replaced.

The home monitor is programmed to transmit to the central office computer. Additionally, the central office computer will poll to the house at specified intervals to make system checks. The monitor will detect and report attempts to tamper with or relocate the unit. A battery backup-power supply is included with the monitor. The unit

has telephone line seizure capability.

The central computer is an NCR XP with eighty-five megabytes of memory. It has the capability to perform memory backup functions on floppy disks, tape, and paper printout logs. A battery system provides approximately four hours of operation if there should be a power outage. Included with the system is a multiple level password protection system which limits access to the computer.

Under a lease-purchase plan, title to the equipment passes to the agency upon installation. The agency must then pay a per diem rate based upon the number of units. The rate is determined on a three year decreasing scale. The daily rate for the first year is $7.00 per unit, the second year rate is $6.00 per day and the third and subsequent years are charged at $3.00 per day, per unit. The lease provides for termination of the contract after written notice from the agency. The corporation will provide a straight lease option with prices quoted upon request.

2.6.1 Central Equipment Costs

Computer equipment including monitor, printer, software, backup power supply, and central office receiver. No charge for installation or training.	$ 50,000

2.6.2 Purchase Price - 20 Unit System

Central Equipment	$ 50,000
Home receiver with 3 transmitters (20 @ $3,000)	$ 60,000
Maintenance contract for all equipment, including refurbishing of transmitters.	$ 21,900
Total	$131,900

Average cost per day = $9.04

2.6.3 Purchase Price - 50 Unit System

Central Equipment	$ 50,000
Home receiver with 3 transmitters (50 @ $3,000)	$150,000
Maintenance contract for all equipment, including refurbishing of transmitters.	$ 54,750
Total	$254,750

Average cost per day = $6.98

2.6.4 Two Year Lease/Purchase Plan - 20 Units

Equipment Lease, including maintenance	$ 94,900

Average cost per day = $6.50

2.6.5 Two Year Lease/Purchase Plan - 50 Units

Equipment Lease, including maintenance	$237,250

Average cost per day = $6.50

2.7 Controlec, Incorporated

Controlec, Incorporated, located in Niles, Illinois, markets an active system under the trade name "Prison Monitoring System." They have no clients or systems installed.

The transmitter is designed to be worn on the ankle of the offender. The housing material will not irritate healthy human skin. The unit will shut itself off if an attempt is made to tamper with it. The fastening strap can be replaced by the agency. The signal range is approximately one hundred-fifty feet. The transmitter's battery has a life expectancy of three months.

The home monitor is battery powered. It utilizes a transformer and household current to continually charge the battery. Any attempt to move the monitor will cause it to shut off, causing an LED light to come on.

The computer is an Apple compatible, similar to the Apple 2E, with a 20 megabyte hard disk. The central computer has the capacity for two telephone lines and is designed for a total client capacity of two hundred individuals.

The company, which operates on a lease basis, provided cost information for a two year lease/purchase agreement. Replacement straps for the transmitter will be provided without charge. Maintenance agreements are available for a ten percent surcharge on the lease/purchase price.

2.7.1 Two Year Lease/Purchase Plan - 20 Units

Equipment Lease $102,200

Average cost per day = $7.00

2.7.2 Two Year Lease/Purchase Plan - 50 Units

Equipment Lease $182,500

Average cost per day = $5.00

2.8 Corrections Services, Incorporated

Corrections Services, Incorporated, located in West Palm Beach, Florida, has systems installed in Florida, Kentucky, Oregon, Illinois, Pennsylvania, and Vancouver, British Columbia. One of the principles in the company is also the Executive Director of Pride, Incorporated, a private organization which supervises probationers on a contract basis in West Palm Beach County.

The transmitter device is designed to be worn on either the ankle or around the waist of the offender. The battery for the unit has a shelf life of three to five years, with an active life of approximately eighteen months. The battery may be turned off when the unit is not being used, reducing the frequency of replacement. The system will detect when the battery is low and notify the central office computer.

The home monitor has several features that are programmable by the agency; telephone number for monitor to call, frequency of calls, range of transmitter, and a unit

identification number. The monitor has a non-volatile memory for storage of messages if the phone lines are disconnected. When telephone service is restored the information contained in the memory will be reported to the central computer. There is a test button on the equipment which will allow the agency or client to activate a status transmission. This feature can be used to test the monitor prior to placing it in an offender's home, or to verify that the equipment is functioning properly after it has been installed. A telescopic antenna is provided with the monitor to enhance reception of the transmitter's signal.

The system operates on a custom built IBM compatible computer which has a 20 megabyte memory storage capacity. The software allows the agency to generate custom reports. The computer may be programmed for two in/out periods per day for each client. Within the agency access to the computer can be controlled through a multiple level password protection system. Access from outside the agency through a telephone modem is inhibited by an interface board which requires a digital pass.

2.8.1 Central Equipment Costs

Computer equipment including monitor, printer, receiver, software, and backup power supply. No charge for installation or training.	$ 18,500

2.8.2 Purchase Price - 20 Unit System

Central Equipment	$ 18,500
Transmitters and home monitors (20 @ $1,895)	$ 37,900
Two year maintenance contract	$ 20,304
Total	$ 76,704

Average cost per day = $5.26

2.8.3 Purchase Price - 50 Unit System

Central Equipment	$ 18,500
Transmitters and home monitors (50 @ $1,895)	$ 94,750
Two year maintenance contract	$ 40,770
Total	$131,370

Average cost per day = $3.60

2.8.4 Two Year Lease/Purchase Plan - 20 Units

Equipment lease, including maintenance	$ 87,984

Average cost per day = $6.03

2.8.5 Two Year Lease/Purchase Plan - 50 Units

Equipment lease, including maintenance	$176,670

Average cost per day = $4.85

*Corrections Services, Inc. will offer a straight lease for any number of units at $7.00 per day for each unit in use. They reserve the right to adjust the number of units with any agency under this type of agreement so that the units do not remain unused.

2.9 Cost Effective Monitoring System

Cost Effective Monitoring Systems, located in Urbana, Illinois, has a system under local use and testing which has not yet received final FCC approval. It therefore can only be leased for use in federally funded research or for use in states that elect to be included in the vendor's FCC Experimental Service License. At the present time, field tests are being conducted by the Champaign County, Illinois, Probation and Court Services Department. Initial feedback from that department to the vendor was described as positive.

The system operates with two components, a transmitter device worn by the offender, and a receiving unit placed in the monitoring official's car. The offender wears a watch-size unit on their ankle or wrist which emits a

continuious signal. If the transmitter's fastening device, a clasp, is removed by the offender, the signal is interrupted. The strap can be re-connected by the officer through use of a special tool.

The receiving unit, described as being approximately the size of a lunch box is placed in the officer's car. It is powered by the automobile's battery through use of the cigarette lighter and is also equipped with a rechargeable battery. The officer has the option of using either a magnetic roof-top antenna or a hand held directional antenna. The system requires the officer to drive within two blocks of the offender's home at irregular intervals. When the receiver is within range of the transmitter, the offender's presence is indicated. The receiver has the capability to monitor twelve different transmitter signals. The system is designed primarily for use with intensive probationary supervision or pre-trial release, or for offenders who do not have a telephone.

Pending final approval of the equipment by the Federal Communications Commission it can not be sold outright. It was indicated that the cost for leasing a twenty unit system for two years would be $8,540, or $0.58 per day. This price would include the transmitters, two receivers, four antennas, and a service contract for each year which includes transmitter battery replacement.

2.10 Digital Products Corporation

Digital Products Corporation, located in Fort Lauderdale, Florida, manufactures a passive system under the trade name "On Guard Wristlet/Verifier System." The equipment has been used in New Jersey, Oklahoma, Utah, Oregon, Indianna, Maryland, and Florida.

The "On Guard" system is operationally unique from others described. It utilizes a central office system, a verifier box in the offender's home, and a wristlet device. The verifier box operates off of current supplied through the telephone connection, while the wristlet does not require batteries.

The client being supervsed is required to wear the wristlet, a watch sized identification module. The central system generates telephone calls to the offender's home. When the person answers the phone they receive a recorded message which must be responded to and is recorded for voice identification purposes. Instructions are then given to the

client for insertion of the wristlet into the verifier box. When the wristlet is inserted a proprietary handshake takes place between the calling computer and the client's verifier unit, confirming that the client is at the location of the verifier, provided the wristlet has not been removed.

The central system consists of an IBM XT computer with a 10 megabyte hard disk and a caller unit designed to interface with the computer and operate the software. Each computer has the capacity to permit operation of up to four caller units, each caller unit having the capacity to handle one hundred clients. The caller unit utilizes a patented voice recognition technique designed to ensure that the system will communicate only with a human, limiting the probability that it could be defeated by use of a tape recording of the offender's voice.

The wristlet is secured to the offender through the use of a plastic strap sold only to correctional institutions and other qualified sources. The company suggests for added security against alterations or unauthorized replacement that the strap be signed by the supervising officer and visual inspections of the wristlet be made periodically while the offender is being monitored.

The verifier unit is a self-contained unit which attaches to the telephone line and the client's telephone set. It operates soley on the telephone's power supply. For that reason, no backup power supply is included in the system, which is inoperative if the offender's telephone is out of order.

Because patents are still pending, the company will not disclose further information about the functional characteristics of the technology, other than to say the design is such that those who would attempt to defeat the system would likely be discovered before they could do so.

At the present time the company will only lease the system to an agency. Costs for insurance and maintenance are not included in the quoted lease prices.

2.10.1 Two Year Lease - 20 Units

Equipment Lease	$ 36,000

Average cost per day = $2.47

2.10.2 Two Year Lease - 50 Units

Equipment Lease $ 69,600

Average cost per day = $1.91

2.11 Life Science Research Group, Inc.

Life Science Research Group, located in Thousand Oaks, California, manufactures an active system under the trade name "SCAN SYSTEM" (Social Communication Assistance Network). The equipment was developed by the same researchers who established the first location monitoring system for offenders in Massachusetts in the 1960's and designed the first telemonitoring system in the 1970's.

The operating characteristics of the system are designed to facilitate community based corrections and the use of volunteers. There are four major components to the system; the link (transmitter unit), the locator unit, the network information center, and a remote information center.

The link, a small transmitter worn by the offender, emits an individually coded signal at pre-set intervals to indicate the person's location. It is fastened around the offender's wrist or ankle by a security band which can not be removed without sending an alarm signal to the network information center and to the remote information center. If the person goes beyond the range of the receiver an alarm signal is indicated at the network information center which notifies the network manager and network members in the offender's community.

The locater unit is placed in the offender's home, workplace, and other approved locations to receive the signals sent by the transmitter. The signals are received by the locator unit which downloads the information to the computer.

The network information center is a microcomputer which is placed in the network manager's home or office. The network manager is a volunteer in the community who has assumed responsibility for supervision of the offender. He is normally assisted by several other volunteers in the community who are connected by telephone through the local area monitor to form a community based network to assist the offender in his adjustment to the community. Each network can handle up to twenty offenders.

Additionally, the information can be transmitted directly to a remote information center located in a correctional agency or probation office for additional security and/or direct monitoring of the individual by an agency.

An estimation of cost for a single unit system and a twenty unit system was provided by the company. At the present time they have no lease-purchase options.

2.11.1 Purchase Price - 1 Unit

Equipment costs $ 4,900

Average cost per day = $6.72

(Additional locator units are available at $1,400 each)

2.11.2 Purchase Price - 20 Unit System

Equipment costs $ 46,700

Average cost per day = $3.20
(Additional locator units are available at $1,400 each.
Cost to add central base station approximately $12,000)

2.11.3 Purchase Price - 50 Unit System

Equipment costs $ 96,800

Average cost per day = $2.65

2.11.4 Two Year Lease - 20 Units

Equipment Lease $ 44,200

Average cost per day = $3.03

2.11.5 Two Year Lease - 50 Units

Equipment Lease $ 92,600

Average cost per day = $2.51

2.12 VOXTRON Systems, Inc.

VOXTRON Systems, Incorporated, located in New Braunfels, Texas, is presently in the process of developing a passive system under the tradename "Provotron Home Confinement System," also known as "Homer." It is anticipated that the the equipment will be available in August of 1986.

The company has developed specialized software that uses Texas Instruments speech processing hardware to create a computerized model of a person's voice. The system will call each offender, verify the offender's identity through voice verification, and optionally request a demonstration of manual dexterity using the telephone keypad. The only equipment required in the individual's home is a telephone with touchtone capability and a special telephone handset provided by the company.

Voiceprint data is collected for up to nine phrases from the offender. Because the system is designed to detect differences in the voice, it is imperative that the voiceprint data be collected using the same telephone that will later be used by the offender to provide verification. The system is sensitive enough to detect responses given by a different person, and responses given over a different telephone.

The system may be programmed for up to four different calling periods per day with one to five random telephone calls being made during each period. Additional calls can be manually initiated by the person monitoring the system. Any failure to establish a telephone connection is noted by the equipment. If the failure condition continues for a period of ten minutes, an alarm is generated.

The person receiving the call is asked to repeat from one to three of the phrases which were recorded in the enrollment process. If the spoken voice matches the voiceprint, the individual may then be asked to repeat a sequence of digits using the telephone touchtone keys as a manual dexterity test designed to indicate drug or alcohol abuse. An individual who is under the influence of alcohol or other drugs may fail the verification process if their speech is sufficiently slurred, or if they do not possess sufficient eye-hand coordination to enter the numbers as directed.

If there is a system operator in attendance, they may initiate a call at any time, direct the verification process, and request additional verification. The system operator may

also enter remarks into the computer log for any call which they direct.

Two types of errors may occur with this system. A Type I Error occurs when the system fails to recognize the voice of the offender when they in fact properly respond. A Type II Error occurs when the computer improperly accepts the voice of someone other than the offender without generating an alarm. Preliminary tests conducted by the vendor indicate the error rate is low. Type I Errors are estimated at less than one percent, while Type II Errors are estimated at less than .1 percent. The company intends to lease the equipment rather than offer it for sale. There will be an initial enrollment fee of $25.00 to $50.00 per client. In addition, a per client fee will be assessed at a rate of $2.50 to $5.00 per day. System equipment, maintenance, and updating of software are provided without additional charge. On-site training will be conducted for up to six people upon initial installation. Additional staff training can be accomplished through a computer assisted instruction (CAI) program which is included in the software packages.

2.13 Comparison of the Systems

To assist in comparring the different operating systems four tables have been prepared. Table 2.1 shows the features of the central computer. A description of the home monitor units is provided in Table 2.2. Table 2.3 describes the features of the transmitter worn by the offender. Table 2.4 provides a breakdown of the direct costs for purchase or leasing of equipment.

Table 2.1

Central Computer Features

SYSTEM CHARACTERISTICS	Advanced Signal Concepts	Computrac Systems Incorporated	CONTRAC (Controlled Activities Incorporated)	Control Data Corporation	Controlec, Incorporated	Corrections Services, Incorporated	Cost-Effective Monitoring System	Digital Product Corporation	Life Science Research Group	VOXTRON
Central Computer Features										
CLIENT CAPACITY	200 (400)	1,000	500 (1,000)	200	200	200	N/A	400	200 (Approx.)	300
INTERNAL MEMORY STORAGE	640k 20mg Hard Disk	640k 20mg Hard Disk	20mg Hard Disk	85mg Hard Disk	20mg Hard Disk	20mg Hard Disk	N/A	640k 10mg Hard Disk	640k	640k 20mg Hard Disk
MEMORY BACK-UP CAPABILITIES										
• Floppy Disk	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
• Tape	Optional	No	Yes	Yes	No	Optional	N/A	No	No	Option
• Paper print-out logs	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
BACK-UP BATTERY POWER SUPPLY	Yes	Avail-able	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
POLLING FOR SYSTEM CHECKS										
Frequency	Program	Program	6		Program	Program	N/A	N/A	Program	N/A
Direction:										
To House				X	X		N/A	N/A	X	
From House	X	X	X			X	N/A	N/A		
POLLING FOR MONITORING										
Direction:										
To House					X		N/A	X	X	X
From House	X	X	X	X		X	N/A			
TELEPHONE LINE CAPACITY	8	1 to k	4(8)	3	2	4	N/A	4	1	6
TERMINAL NETWORKING CAPABILITY										
• In House	Under			X	Under	Under	N/A	No	Yes	Yes
• Remote	Develop-	Option	Option	X	Develop-	Develop-	N/A		Yes	Option
• Number of Terminals	ment			8-32	ment	ment	N/A		Unlimited	Option
PRINTED REPORTS										
• Violation	X	X	X	X	X	Program	N/A	X	X	X
• Equipment Failure	X	X	X	X	X	Program	N/A		X	X
• Daily Summary	X	X	X	X	X	Program	N/A	X	X	X
• Monthly Summary	Program	X		X	X	Program	N/A	X	X	
• Summary by Client	Program	X	X	X	X	Program	N/A	X	X	X
• Summary by Officer	Program	X	X			Program	N/A	X	X	X
INDIVIDUAL CLIENT FILES										
• Client Data	Program	X	X	X	Program	X	N/A	X	X	X
• Client Schedules	Program	X	X	X	Program	X	N/A	X		X
• Medical	Program	X	X	X	Program	X	N/A	X		Program
• Court Restrictions	Program	X	X	X	Program	X	N/A	X		Program
• Officer Contacts	Program	X	X	X	Program		N/A	X		
PASSWORD PROTECTION	X	X	-	X		X	N/A	X	X	X
MULTIPLE IN/OUT CAPABILITY		X					N/A			
• Maximum Periods	2	Unlmtd.	2	Unlimited	Unlimited	?	N/A	Unlimited	Unlimited	4
• Agency Programmable	X	X	X	X	X	X	N/A	X	X	X
FCC REGISTERED AND APPROVED							N/A			
• Computer Equipment	X	X	X	X	X	X	N/A	X	X	Yes
• Phone Line Interface	X	X	X	X	X	X	N/A	X	X	Yes

NOTE: Computrac system's computer has the capacity to serve 1,000 monitoring units. Each monitoring unit can monitor thirty subjects.

Table 2.2

Home Monitor Unit Features

HOME MONITOR FEATURES	Advanced Signal Concepts	Computrac	CONTRAC	Control Data Corp.	Controlec	Corrections Services, Inc.	Cost-Effective Monitoring Systems	Digital Products Corp.	Life Science Research Group
Size	?	12"x12"x6"	8"x9"x4"	13¼x8x2-3/4	10/10/10	2½/5½/12"	4"x8"x4"	2¼x4¼x7¼	?
Weight	?	12 lbs.	4 lbs.	1.5 lbs.	25 lbs.	8 lbs.	21 lbs.	1 lb.	?
TELEPHONE COMPATIBILITY									
• Use standard phone lines	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes
• Use modular phone lines	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes
• Memory re-dial capability	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes
• Line seizure capability	Yes	Yes	Yes	No	No	Yes	N/A	No	N/A
• Transmitter violation delay Length	Yes 10 min.	Yes 20 sec.	Yes 8 min.	Yes 1 sec.	Yes 5 min.	Yes Program	N/A N/A	N/A N/A	Yes Program
PROGRAMMABLE BY AGENCY	No	Yes	No	No	Yes	Yes	Yes	No	No
CAPABILITY TO REPORT TO MULTIPLE COMPUTERS	Yes	Yes	Yes	No	Yes	No	N/A	N/A	Yes
• Number	2	?		-					2
L.E.D. INDICATORS									
• Monitor failure		None	X	X	None		N/A	N/A	
• A/C power failure	X	None	X	X	None	X	N/A	N/A	X
• Transmitter proximity	X	None	X	X	X		N/A	N/A	
• Communication on Tamper	X	None	X	X	X		N/A	N/A	
CAPABILITY TO TRANSMIT									
• Client Out	X	X	X	X	X	X	N/A	N/A	X
• Client In	X	X	X	X	X	X	N/A	N/A	X
• Home Monitor Unit On	X	X	X	X		X	N/A	N/A	X
• Home Monitor Tampered with		X	X	X	X	X	N/A	N/A	X
• Transmitter Tampered with		X	X	X	X	X	N/A	N/A	X
• Transmitter Power Failure	X					X	N/A	N/A	
• Home Unit Power Failure	X	X	X	X		X	N/A	N/A	X
• Home Unit Relocation		X	X	X		X	N/A	No	X
BACK-UP BATTERY POWER SUPPLY	Yes	Yes	Yes	Yes	Yes	Yes	N/A	No	Yes
COILED CORDS	No	Option	Yes	No	Option	Option	N/A	N/A	Yes
CARRYING HANDLE	Yes	No	Yes	No	No	Yes	N/A	No	No
STORAGE CASE	No	No	No	No	No	No	No	No	No
MEETS NATIONAL ELECTRIC CODES	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MEETS FCC REGULATIONS	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
ALL SOLID STATE CIRCUITS	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes

NOTE: Cost Effective Monitoring Systems and VOXTRON do not utilize a home monitor. See narrative description of equipment.

Table 2.3

Transmitter Features

TRANSMITTER FEATURES	Advanced Signal	Computrac	CONTRAC	Control Data	Controlec	Corrections Services, Inc.	Cost-Effective	Digital	Life Science Research
Size	2.1x2.6x.85	1.1"x2.3"x.3"	5x1.25x1.25	2½/2½/3/4	3½/2/3/4	2/5-1/8/1-1/8	¼x½x9/16	1¼x3/4x¼	2x2½x3/4
Weight	4 oz.	3 oz.	3 oz.	6 oz.	8 oz.	4 oz.	2 oz.	7 grams	2.5 oz.
Waterproof Housing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tamper Resistant Housing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Non-irritant to skin	X	X	X	X	X	X	X	X	X
Reusable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Secure Fastening	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fastening Replaceable by Agency	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Capability to Detect Tampering	No	Yes	Option	Yes	Yes	No	Yes	No	Yes
Signal Range	150'	1000'	200'	150'	150'	130'	2 blocks	N/A	100'-300'
Battery Life	6 mos.	5 mos.	18 mos.	6 mos.	3 mos.	18 mos.	4 mos.	N/A	3-4 wks.
Battery On/Off Capacity	Yes	No	No	No	No	Yes	Yes	N/A	No
Transmitter Worn On:									
• Neck		X							
• Wrist	X								
• Ankle	X		X	X	X		X	X	X
• Waist	X					X	X	X	X
						X			

NOTE: VOXTRON does not use a transmitter. See narrative description of equipment.

Table 2.4

Equipment Costs

	Advanced Signal	Computrac	CONTRAC	Control Data	Controlec, Inc.	Corrections Services, Inc.	Cost-Effective	Digital	Life Science Research
20 Unit Purchase Average Cost Per Day	25,700 1.76	110,300 7.55	40,341 2.77	131,900 9.04	NOT QUOTED	76,704 5.26	NOT QUOTED	NOT QUOTED	46,700 3.20
50 Unit Purchase Average Cost Per Day	47,000 1.29	263,200 7.21	76,191 2.09	254,750 6.98	NOT QUOTED	131,370 3.60			96,800 2.65
20 Unit Lease/ Purchase Average Cost Per Day	19,500 1.34	32,900 2.25	43,446 2.98	94,900 6.50	102,200 7.00	87,984 6.03			
50 Unit Lease/ Purchase Average Cost Per Day	34,500 .95	61,950 1.70	82,706 2.27	237,250 6.50	182,500 5.00	176,670 4.85			
20 Unit Straight Lease Average Cost/Day.	NOT QUOTED	NOT QUOTED	NOT QUOTED	NOT QUOTED	NOT QUOTED	7.00		36,000 2.47	44,200 3.03
50 Unit Straight Lease Average Cost/Day.						7.00		69,600 1.91	91,600 2.51

VOXTRON was not quoted.

2.14 Telephone Company Service

The majority of the systems require telecommunications to operate. The existence of approximately seventy telephone companies in the State of Texas may be problematic if large scale programs were to be implemented.

Essentially, three types of telephone lines are available for use; regular central office lines, FX lines, or watts lines. The central office lines are the least expensive and can be utilized when the locations to be monitored would not require the use of long distance services. FX (forgein exchange) lines allow for completion of telephone calls to outlying areas without payment of long distance charges for each call made. The service is typically billed on a monthly basis, and while more expensive than regular phone lines, it is normally less expensive than the use of watts lines. Watts lines (800 numbers) are the most expensive method of operation. Calls made on these lines are generally billed by the second. In some areas there may be a minimum charge per call.

The cost of telephone service can be decreased by reducing the number of times per day calls are generated by the system. The number of FX or watts lines should be limited and combined with the use of local lines where possible. It may be advantageous to solicit bids for any long distance telephone service which is required to operate the equipment.

Selection of the particular telephone company and service will necessarily have to occur after the equipment is selected. Different systems may require that call forwarding be disconnected. Whether the system polls from or to the offender's home would determine whether in-going or out-going watts lines must be purchased.

Preliminary consultation with the Southwestern Bell Telephone Company indicate there may be some unique problems with the equipment which have not been encountered elsewhere due to the configuration of telephone companies existing in Texas. Company representatives believe, however, the problems can be overcome. Once the equipment is selected the telephone company will assist the agency and vendor in resolving any difficulties that may arise.

2.15 Summary

Ten vendors of the equipment were identified and interviewed. The systems which are currently operational and available are of two basic types. The first is an active system which constantly monitors the offender. The second is a passive system which randomly calls the offender and requires verification of their presence through insertion of a wristlet device into a "verifier box."

Not including field testing, four of the companies do not yet have their equipment being utilized by a criminal justice agency in an operating program. One of those manufacturers is in the process of developing a prototype of the equipment and another is awaiting final approval of their system from the Federal Communications Commission. One vendor expressed the belief that it would be premature to market a system of less than one hundred units in Texas because they do not currently have the capability to support and service the equipment in this geographic area.

Estimated average daily costs for acquisition of the equipment range from $1.29 to $9.04 per day for outright purchase, from $0.95 to $7.00 per day for lease-purchase agreements, and from $1.91 per day to $7.00 per day for straight lease agreements.

A preliminary review of the technology by the Southwestern Bell Telephone company indicates it is technologically possible to utilize the available systems with existing phone company equipment. Although not insurmountable, there will be some inherent difficulties in Texas due to the configuration and number of individual telephone companies.

Section 3

CURRENT USE OF THE TECHNOLOGY

This section of the report is designed to provide an overview of existing programs. Information on specific applications of the technology, program development, and evaluations are presented.

3.1 Method of Data Collection

In order to fulfill the mandate of the Criminal Justice Policy Council 10 programs were reviewed. The programs were identified through a search of the relevant literature, from information submitted by the vendors, and through contacts with the National Institute of Justice.

A questionnaire was developed to guide the data collection process. A representative of each program was contacted by telephone and interviewed. Subsequent to that interview the information was transcribed into a written summary which was forwarded to the program representative for verification.

3.2 Dade County Department of Corrections & Rehabilitation

Since July of 1985, Dade County has used home incarceration and electronic monitoring as a compliment to its work furlough program. The program is administered by the Pre-Trial Services Program within the Dade County Department of Corrections and Rehabilitation.

To participate in the home incarceration program, an inmate must first participate in the work furlough program. To qualify for work furlough, the inmate must make application to the furlough committee and may appear before the committe with an attorney. The inmate must have a good institutional record, have secured a job, and must be responsible for supporting someone other than themselves. Under the furlough program, inmates leave the jail each morning, work in the community during the day, and return to the jail at night.

After a period of adaptation, the inmate may apply for home incarceration. The case is reviewed by a counselor, and if the inmate is found acceptable, he continues to work in the community, returning to his own home during the evening.

Inmates are monitored twenty-four hours a day from a computer within the administrative offices of the Dade County Department of Corrections and Rehabilitation. If the system indicates a curfew violation, the offender is called to determine whether it is a false-positive report. Depending upon the circumstance and the history of the offender, an officer may be dispatched to the home, or the offender may be asked to report to the jail the next morning. Inmates remain under home surveillance for the duration of their sentence, which is normally forty to sixty days, although one inmate has been under surveillance for one hundred days.

With two exceptions, all nineteen people who have been on the program over the past year have been convicted felons, serving jail time for such offenses as grand theft, cocaine possession, burglary and forgery. No misdemeanants have been on the program since they are not in jail long enough to qualify for work furlough. In two cases pre-trial detainees were put under home incarceration because they represented peculiar management problems for the jail. One was a deaf mute, and the other was an individual with a highly contagious disease. Nine offenders have completed the program to date. Two have been revoked, one for trying to defeat the monitoring device, the other for throwing the monitor at his wife.

The precipitating incident for the program was jail overcrowding. The Dade County facility currently handles about 3,500 inmates. A local criminal justice planning agency suggested the use of electronic monitoring to help solve the jail overcrowding problem. In 1985 an RFP was issued, with only one vendor, CONTRAC, responding. The staff of the Pre-Trial Services Program field tested the equipment for approximately one month before it was put on the first inmate.

The Department's surveillance equipment was bought by the County. However, it is being amortized by an administrative fee charged participating inmates. Inmates under conventional work furlough pay $7.00 per day for room and board. Those qualifying for home incarceration pay an additional $7.00 a day as an administrative cost for the surveillance equipment. Given the current flow of offenders through the program, it takes approximately thirteen months to amoritize the equipment.

Currently the Department is using ten CONTRAC units. They plan to purchase thirty more units, and to change the daily fee rate to a sliding scale where the administrative fees charged the inmates will vary depending upon their income. They estimate they could use as many as two hundred units. One possible program expansion under consideration would be to release inmates in the last sixty days of their sentence under home incarceration. Eligible candidates would be inmates with good institutional records, and no history of violence.

Initially the program encountered some reliability problems with the equipment until they became familiar with its operation. They have encountered several environmental problems which interfered with the system's performance. For example, one inmate lived near a taxi-cab dispatching station and the two-way radio traffic produced many false-positive reports. In another case the batteries in a transmitting unit malfunctioned, producing erratic violation patterns. They have also encountered "sleep errors" which are produced when a subject rolls over in his sleep, imposing his body between the transmitter and the receiver. In another case, a participant was living in substandard housing with such poor wiring that the system produced a number of unreliable reports.

No enabling legislation was required for electronic monitoring. However, a county ordinance was enacted in order to establish the work furlough program. The program is designed for inmates living in Dade County, although two inmates from Broward County (Ft. Lauderdale) have been on the program. This required modification of the equipment to permit long distance calls to the surveillance computer. In this instance the inmates were required to pay for the long distance calls.

The Department has not encountered any negative feedback in the use of home incarceration and electronic monitoring. This acceptance is probably a function of the fact that the inmates placed under surveillance are well known to the Department, having demonstrated good work records under the work furlough program. Media coverage has been positive, although most of the coverage has been by national and international media and not local media.

The Department sees several benefits stemming from the program. First, they are able to divert people from jail who present little risk to the community, and at the same time, provide some measure of punishment to the offender. Since the offenders pay for the use of the equipment, the

county is able to provide confinement without incurring the substantial cost required to keep an inmate in jail. The second benefit stems from the fact that the offenders can be reunited with their families and contribute to their support.

Several caveats were offered by the Department to agencies interested in using the technology. First they suggest that it is best used with offenders who need the least control. They caution against the use of electronic monitoring for high-risk offenders, as when the technology is being used as a supplement to intensive supervision. Secondly, they suggest that the technology only be used with offenders well known to program administrators. They have been reluctant to use the technology with pre-trial detainees, since there is too little time to determine which detainees would be good risks for the program. Finally, they discouraged the idea that electronic surveillance is a substitute for human surveillance. Even though the offender is placed in his home and monitored by a computer, human beings are still required to screen applicants, install the equipment, provide surveillance, and to counsel individuals in the program.

3.3 Palm Beach County Sheriff's Department

The Palm Beach Sheriff's Department implemented the first law enforcement application of the home arrest program with electronic monitoring. The technology is used as a complement to their work release program which has been in operation for approximately nine years.

Under the work release program, misdemeanants and non-violent felons are permitted to work in the community, returning to the jail in the evening. After a period of adaptation, work release inmates may apply for the home arrest program. Applicants are screened by a sergeant who reviews their record to determine any history of violence, sexual misconduct, or drug abuse. If the applicant is found acceptable, the case is reviewed by a captain who explains the conditions of the program to both the offender and his family or sponsor. Applicants must have both a home and a phone, and be willing and able to pay the $9.00 per day surveillance fee.

The average offender is under house arrest for sixty days, however, one was in the program for 311 days. The program is designed for post-conviction work release inmates. The department is considering extending the program to misdemeanant pre-trial detainees who are bondable, but who

cannot afford to pay the bond. Two female pre-trial inmates found to have AIDS have already been placed under home incarceration.

To date, 139 inmates have been under home arrest, with three having been revoked. There are currently twenty offenders under surveillance. Approximately sixty percent of the program participants are non-violent felons and forty percent are misdemeanants. Approximately twenty offenders are placed in the program each month. All participants must live and work within Palm Beach County and have sentences of one year or less.

As in other jurisdictions, the precipitating incident for the program was jail overcrowding. Experiments had already taken place elsewhere in the use of house arrest and electronic monitoring with probationers. When the county learned of the technology, the county judge permitted the Sheriff's Department to conduct a pilot test with five misdemeanants on work release. The test was successful and the county has since bought additional equipment which has been amortized by charging the program participants $9.00 per day.

Initially the county purchased CONTRAC equipment, but now is using equipment from Corrections Services, Inc. and Advanced Signal Concepts as well. The Sheriff's Department is anticipating the purchase of eighty additional units at an estimated cost of $1,200 to $1,800 a unit. The current fee structure allows the county to pay for the equipment within fourteen months. The budget for the current fiscal year for the software, transmitters, and dialer receivers is $49,000.

Reliability problems were encountered with the equipment. So-called "dead spots" in different areas produce reports which indicate the offender has momentarily left the home. Milar (foil) wall paper will interfere with the monitoring function. The monitoring device must be placed in a room which does not have this type of wallpaper. By regularly pretesting the equipment and occasionally relocating the dialer receiver in the offender's home, these problems have been eliminated.

The technology has been well received by the community and the press coverage has been positive. Some initial inquiries were received from the American Civil Liberties Union, but when the nature of the program was explained, no further inquiries have been forthcomming.

The Department sees several benefits to the program. It has relieved jail overcrowding and contributes to cost-

avoidance. The fees charged inmates have amortized the cost of the equipment and the county is able to recoup its capital investment within fourteen months. In addition, the program allows inmates to be gradually returned to the community, permitting them to provide for their own support and that of their families.

The Department offers the following advice to agencies considering home incarceration: use the technology on the least risky offenders and avoid putting violent offenders or sex offenders in the program.

3.4 PRIDE, Incorporated

PRIDE, Incorporated is a not-for-profit corporation which has been providing misdemeanant probation services for Palm Beach, County, Florida since 1977.

In December of 1984 they began an electronic monitoring and home arrest program. The program is designed to divert misdemeanant offenders who would otherwise go to jail. Participation in the program is voluntary. Participants must have a job in the community and are required to pay a daily surveillance fee of $7.00. For the most part, program participants are DWI offenders and traffic offenders, although the program has been used on several occasions for conventional probation violators. In addition, PRIDE has a contract with the State of Florida to monitor juveniles who will be sent to non-secure facilities such as halfway houses. Ordinarily these juveniles would be held in detention pending commitment at a cost of $55.00 per day. Putting them under house arrest with electronic monitoring reduces the cost to $7.00 per day.

PRIDE initially used equipment provided by Contrac, but has since begun to use equipment manufactured by Corrections Services, Incorporated (CSI). Currently they have thirty units and are changing out the Contrac equipment for CSI equipment.

PRIDE runs the program, operates the equipment and provides the surveillance under an agreement with the county judges. They also operate a comparable program in Volusia County (Daytona Beach), which began in November of 1985. That program is designed primarily to handle DWI offenders.

The use of electronic monitoring in Palm Beach County stemmed from conversations between PRIDE, County Judge Edward Garrison and the Sheriff. All parties agreed that there were

offenders who did not need to be in jail but required some form of restraint. Both the sheriff and the judge agreed to experiment with the Contrac equipment and the concept of home incarceration. Since 1984, 110 individuals have completed the program with only three failures. Approximately ten offenders are placed under supervision a month, however, the number would be increased if more monitoring devices were available.

PRIDE's probation services are completely financed by fees paid by offenders. Currently they have a staff of approximately fifty-three personnel and a budget of 1.9 million dollars. The fees charged probationers vary depending upon they services provided. All pay a probation service fee, while others may be paying fees for DWI school, drug treatment, etc. Those under electronic monitoring pay $7.00 per day for the surveillance.

Those under electronic monitoring remain under surveillance for the duration of their sentence, normally four months, although one offender has been under surveillance for as along as six months. The program has been positively received by the judges, prosecutors and law enforcement agencies in the county. In addition, the program has received positive press coverage.

The only program requirement which has changd over the last sixteen months relates to the requirement that the offender have a job in the community. On occasion, a judge will sentence a person to house arrest who does not have a job and permit him thirty days to secure employment.

Program planners are considering expansion of the program to include pre-trial jail detainees and men sentenced for failure to pay child support.

The program director sees several benefits from the electronic monitoring program. It permits the county to divert people who don't need to be in jail, but need some form of control. In addition, the program allows the offender to stay with their family, keep their jobs, and contribute to the support of their dependants. The PRIDE experience cautions those new to the technology to spend sufficient time pre-planning the program, starting slowly, only adding more units as experience permits.

3.5 Kenton County, Kentucky

Kenton, County, Kentucky has been administering an electronic monitoring/home arrest program since May of 1985. The State of Kentucky has been interested in electronic monitoring for several years because of the problem of prison and jail overcrowding.

Legislation was introduced in 1984 to permit home arrests and electronic monitoring as a unique sentence. The legislation failed to pass because the legislature was not convinced of the utility of the new technology.

Subsequently, Kenton County entered into a cooperative agreement with the State Department of Probation and Parole to test the effectiveness of the equipment. For almost a year the county and state have administered a jail diversion program in which non-violent misdemeanants and Class D felons have been allowed to voluntarily participate in the monitoring program. Normally, these individuals would be sentenced to jail, but under the terms of the program, their sentences are probated and a period of time under home arrest is ordered.

To date, most of the offenders on the program have been convicted of DUI or driving with a suspended license. The remainder have been shoplifters, individuals in possession of a controlled substance, or individuals convicted of passing worthless checks.

The program is the result of a cooperative arrangement between Kenton County and the State Department of Probation and Parole. The county bought the equipment and operates the computer while the state agency is responsible for screening candidates and providing supervision. The program uses equipment from CONTRAC and although twenty units were originally contracted for, only twelve have been bought and no more than eight people have been on the program at any one time.

Based upon the success of the program and an evaluation conducted by Dr. Robert Lilly of the University of Kentucky, the state legislature enacted enabling legislation in 1986 to permit direct sentencing to house arrest. With this legislative enactment, it is anticipated that the other counties and the State Department of Corrections will begin using electronic monitoring and house arrest.

To date, thrity-five offenders have finished the

program and four have been revoked. As of mid-April, four offenders were on the program, with the courts placing about one offender per month on the program.

Although the county bought the equipment, offenders are required to pay a surveillance fee which varies depending upon their income. A sliding fee schedule was developed with the help of the Legal Aid Office. For example, offenders making less than $100 a week pay nothing. Those making between $100-$199 a week and sentenced to seven days of home arrest pay a total fee of $25.00. If sentenced to fourteen days, they would pay $50, and so forth.

The maximum duration of surveillance is determined by the sentencing judge. A typical sentence would be tweleve months in jail probated to two years with forty-five days of house arrest. To date, the longest period to which an individual has been sentenced to house arrest has been six months.

The county has encountered problems with the equipment. The probation officer responsible for the program personally wears any new equipment to determine its reliability. When the program began, a number of units were sent back to the manufacturer to be refurbished since they produced false-positive reports.

The program has been generally accepted by the community. Prosecutors, judges, and law enforcement agencies have been supportive and the program has received positive media coverage. Program planners, however, were overly optimistic in their estimation of the number of individuals who would be sentenced to the program.

The county has derived positive benefits from the program. The thirty-five individuals diverted over the past eleven months would have occupied jail space for anywhere from seven days to six months. Instead, these individuals have been working in the community, supporting their families, and in the case of DUI offenders, have been participating in alcohol treatment programs.

Program administrators suggest that agencies considering electronic monitoring and house arrest should not use the program for violent offenders since this will risk negative community reaction. They also suggest that equipment be thoroughly tested prior to being used with offenders.

3.6 Michigan Department of Corrections

The Michigan Department of Corrections became interested in the use of electronic surveillance after seeing vendor displays at the American Correctional Association 1984 Congress of Corrections.

While prison populations were a consideration in the use of the technology, the department developed an electronic monitoring program because it was considered a good idea of its own merits.

The department began planning the program early in 1985. At the time, several vendors offered surveillance technology, but they were attracted to the Control Data system since it was purported to be tamper-proof. The department had planned to implement the program in April, 1985, but they encountered reliability problems with the equipment. These problems have been resolved, and the first offender was placed on the program on April 14, 1986.

The Michigan Program is designed to divert recidivists convicted of property offenses who would otherwise go to prison. Violent individuals, or those who have been convicted of violent offenses in the past, are automatically excluded.

The program has been set up in three phases. The first phase involved development of procedures and the testing of the equipment. The second phase is a six month pilot study to be conducted in Washtenaw County. Based upon the success of the pilot study, the final phase will involve implementation of the program in other counties thoughout the state.

During the pilot study, a committee will review the cases of convicted property offenders who would otherwise be sentenced to prison. Eligible candidates will be referred to the sentencing judge, and if found acceptable, the judge will defer sentencing and place the offender in the house arrest program. If the offender complies with the conditions of the program, the judge will sentence them to a period of probation. The department intends to implement the program slowly, with the goal of initially placing twenty-five offenders under electronic monitoring. No enabling legislation was required to implement the program, since Michigan law empowers circuit judges to not only defer sentencing, but grants them broad latitude in establishing probation conditions.

The entire cost of the program is financed by state appropriations. The department estimates that the current cost of probation supervision is approximately $1.60 per day. The surveillance equipment costs $8.00 a day, resulting in a an estimated program cost of $9.60 per day.

During the pilot program, offenders will not be required to contribute to the cost of the equipment. The State of Michigan has a stringent restitution law which requires offenders to pay restitution, fines and costs. Unless the pilot indicates that the offenders are able to contribute to the cost of the equipment, the department will continue to finance the program through state appropriations.

The department sees two benefits flowing from the program. The primary one being cost avoidance for the state if offenders can be diverted from prison. It is also felt that a period of house arrest could be very useful in teaching marginal property offenders to discipline their lives.

During the pilot study, offenders will be under electronic monitoring and house arrest for four months, after which the monitoring devices will be removed. The decision to set the maximum period of surveillance at four months is dictated by the fact that four months is the life of the battery used in the transmitter. Offenders who wish to enter the program will have to provide their own home and telephone. The department will not subsidize those costs.

3.7 New Jersey Intensive Supervision Program

In the latter part of 1983, the State of New Jersey implemented an Intensive Supervision Program which has been experimenting in the use of electronic surveillance as one component of the program. The program is a result of a recommendation made in 1982 by the Annual Judicial Conference which encouraged exploration of the use of intensive supervision to assist in relieving prison overcrowding.

The goal of the program is to identify offenders already sentenced to prison who are eligible candidates for intensive supervision in the community. Offenders who have served a minimum of sixty days on their current sentence may apply. Offenders sentenced for homicide, sex offenses, robbery, and those serving mandatory minimum sentences are not eligible. The offender's record is reviewed to determine any history of violence, the extent of prior criminal activity, or any aggravating circumstances which would

preclude them from the program.

If the offender passes this initial screening, he or she is interviewed by an ISP officer who helps the applicant develop a release plan. The release plan specifies where the offender will live, his employment, and most significantly sets out certain goals and objectives. This plan is reviewed by a screening board, and if found acceptable, the case is recommended to a three Judge Resentencing Panel, which by rule of court can suspend the current sentence and place the offender in the intensive supervision program on a trial basis.

A progress report is submitted to the Resentencing Panel after ninety days, and if the offender continues to be successful for 180 days, the Resentencing Panel vacates the current sentence and places the offender in the Intensive Supervision Program.

Offenders under intensive supervision are required to work, obey the conditions of the treatment plan, perform a minimum of 16 hours per month of community service, keep a daily diary and a weekly budget, and are contacted a minimum of 20 times per month by their supervising officer. In addition, they are required to maintain a 10 p.m. to 6 a.m. curfew, are extensively urine monitored and subject to warrantless searches of their houses, person, and autos.

Electronic monitoring is only a complement to the ISP program used by the officer as a supervision tool. New Jersey is currently experimenting with Digital Corporation equipment and has twenty wristlets. These are used selectively, either on offenders just entering the program, or as a punitive measure with those who have committed curfew or other technical violations.

The program is administered statewide with offices in East Orange, East Brunswick, and Camden. Surveillance officers work primarily out of their home and use state vehicle to make contact with the offenders. Officers are on duty 24 hours a day and carry pagers so that they can be contacted by either an offender or a supervisor.

The ISP program has been in operation since September 29, 1983, and currently has approximately 383 offenders under supervision. To date, 131 have completed the program. Approximately 20 percent of the participants have returned to prison. Most revocations are for technical violations; failure to work, curfew violations, positive urine tests, etc. Currently about 25 to 30 offenders are placed in the program each month.

The ISP program is financed through a special state appropriation enacted three years ago and budgeted annually. This appropriation provides funding for administrative and line personnel, and will be used for the purchase or lease of electronic surveillance equipment. For fiscal year 1986, ending in July, the program budget is $2,119,000. Recently provisions have been made to require offenders to contribute to the cost of services. After the 180 day probationary period, the Resentencing Panel assesses the offender's ability to pay and may assess a maximum fee of $7,200 per participant for the duration of the supervision. Partial payments are collected each month, and may average about $50.00 per month per offender. The estimated cost of the supervision program is approximately $6,800 per year per offender.

The New Jersey program is only using electronic monitoring as a complement in its Intensive Supervision Program. It is considering the expanded use of electronic monitoring as needs and funds permit. No particular problems have been encountered with the use of the equipment, and media coverage has been positive. Over time both judges and victims have become more positively disposed to the program, and no negative community reaction has been experienced. The primary benefits of the program are seen to be:

- That intensive supervision with the selective use of electronic monitoring is a useful tool in dealing with prison overcrowding.
- Administrators have the opportunity to experiment with a variety of probationary supervision strategies which would not be possible otherwise.
- Offenders are provided an opportunity to "re-establish their lives" under intensive and directed supervision.

The following advice is offered to agencies considering electronic monitoring: experiment thoroughly with the equipment and procedures before using the technology with offenders.

3.8 Oklahoma Department of Corrections

In October 1984 the Oklahoma Department of Corrections implemented a House Arrest Program. To date, approximately 4,000 sentenced felons have been released under the program. The Department became interested in electronic monitoring technology because its director serves on a technology committee of the American Correctional Association. The technology was judged to be an innovative alternative and the Department wanted to test its utility as a complement to its House Arrest Program.

Currently the Department is planning to use electronic monitoring as a complement to its House Arrest Program. The technology will serve two purposes. First, it will allow administrators to extend the program to inmates not previously qualified. Second, the Department plans to use the technology on those currently under house arrest whose behavior indicates that they need added surveillance.

Oklahoma's House Arrest program is designed for the reintegration of offenders. To qualify, inmates must be within thirty months of their current release date, have served fifteen percent of their sentence, and not have been denied parole in the last six months. Sex offenders are automatically excluded, but inmates with prior violent offenses can qualify if they are within eleven months of their current release date.

Inmates under house arrest are still considered inmates of the Department, but are in the lowest security level. They are supervised in the community by a case manager and a community correctional officer.

The state initially contracted to buy forty units from Computrac for use in Tulsa and Oklahoma City. The equipment was field tested between January 26 and April 1, 1986, but the state canceled its contract since Computrac could not deliver on the equipment specified in the contract. As a result, the state will issue another RFP to interested vendors.

Under current planning, the host computers will be located in Okahoma City and Tulsa. House arrest inmates who will be put under electronic monitoring will be required to live and work in one of these two cities.

No enabling legislation was required to permit the Department to use electronic monitoring. However, legislation was enacted to provide specific authorization and

criteria for the operation of the House Arrest Security Level.

Currently, inmates under the House Arrest Program can pay up to $45 a month program support fees. A sliding scale has been constructed so the fees charged vary with income. Under current planning, no additional fee will be charged to those inmates under the House Arrest Program who are also electronically monitored.

3.9 Community Corrections - Clackamas County, Oregon.

The Clackamas County electronic surveillance program operates under the auspices of Clackamas County Community Corrections. The county's correctional program is subsidized by the state and operates under the Oregon Community Corrections Act.

The agency provides multiple correctional services, including probation and parole supervision, presentence investigations, recognizance screening, supervision of community service orders, and administration of two residential centers. Electronic surveillance is used to complement several of these services. Typically, electronic surveillance offenders are sentenced to a period in the county jail, after which they are referred to the residential center. The residential center is a minimum security facility, housing offenders who work in the community during the day and return to the center at night. After a period of adaptation and appropriate screening, individuals accepted into the program are released from the residential center, continue to work in the community during the day, returning to their homes at night.

Both misdemeanants and felons have participated in the program, and their offenses have ranged from DWI to armed robbery, drug offenses, manslaughter, and sexual violations. A risk classification instrument and extensive interviews with both the offender and the family are the primary tools used to screen applicants. These procedures have worked well since only two individuals have been revoked among seventy-five who have been in the program.

Participation in the program is voluntary and the applicant must have a stable home, a telephone, and either a job or prospects for employment. Initially, the screening criteria were more conservative but the low failure rate has caused program administrators to relax the criteria somewhat.

Clackamas County currently has twenty-six surveillance units and has sixteen more on order. Their equipment includes five Contrac units, twenty Digital units, and one Correctional Services Unit. The sixteen units on order will be purchased from Correctional Services, Inc.

The entire program is administered by Clackamas County Community Corrections. The agency operates the equipment, provides the surveillance, and is responsible for financing the program through the collection of surveillance fees.

Although the program is designed for offenders residing in Clackamas County, offenders convicted in Clackamas County but residing elsewhere have also been program participants. In such cases, WATTS lines are used for telecommunications and courtesy supervision is arranged with a probation officer in another county.

The program began in April of 1985. The Program Director had seen exhibits of electronic monitoring technology at the Western Corrections Conference and American Correctional Association Mid-Winter Conference in 1984. Vendors visited the county in March of 1985 and the first offender was put under surveillance in April of 1985.

Unlike other counties, jail crowding was not the precipitating incident for creating the program. The technology was considered an innovation in its own right, capable of providing an additional sentencing option which was both humane and relatively inexpensive.

The county bought equipment from two different vendors since this would provide versatility. Contrac equipment was purchased since it was the only active system on the market at the time. The Digital equipment was purchased because it provided voice verification which would be helpful in monitoring alcoholic and drug abusing offenders. The equipment was tested for aproximately thirty days prior to the first offender being put under surveillance.

To date, approximately seventy-five offenders have completed the program. Currently, sixteen are under surveillance and two have been revoked. Approximately six offenders are being placed in the program a month. The program has been gaining momentum, and with the purchase of sixteen additional units, the number of offenders under surveillance should increase substantially.

Clackamas County initially purchased the equipment under a criminal block grant program administered by the state plus local monies. Offenders are charged a flat rate of seven dollars a day to defray the cost of the equipment and the program has collected ninety-five percent of the charged fees. The Program Director estimates that the total cost of the electronic surveillance program including salaries, overhead, equipment, phone installation, etc. is five dollars a day, or a net profit of two dollars a day.

Offenders remain under electronic surveillance for the duration of their sentence. Typically, this is thirty days although one offender was under surveillance for as long as four and one half months. A human operator monitors the system twenty-four hours a day. If a curfew violation is reported, the offender is called for verification, and depending upon the circumstance, may be required to report the next day.

Individuals in the residential center are permitted "social passes" permiting them to deviate from curfew restrictions. This same privilege is extended to offenders under the electronic surveillance program and exceptions to curfew restrictions can be granted depending upon the circumstance.

One probation officer monitors all electronic surveillance cases. Extensive screening is conducted and both the offender and the family are thoroughly briefed on the nature of the technology and the conditions of the program.

Initially the program experienced technical problems with both the Contrac and Digital equipment. Initially the Contrac equipment produced some false positive reports due to "trip resets," battery failures, and "sleep errors." In addition, the Digital system contained software problems but these have since been corrected. Two computers are used -- one each for the Contrac and Digital systems. The Director finds this advantageous since if one system goes down, the other system can be used as a backup.

The program has been positively received within the county. Judges are making increasing use of the option and the State Department of Corrections has asked the county to handle offenders released on temporary leave. This is a program in which offenders are released temporarily from prison in order to find jobs and establish residencies for up to six months before their parole eligibility date. In addition, other counties have made inquiries about the possibility of joining the Clackamas County system. Under

this arrangement, Clackamas County would operate the host computer and WATTS lines would be used for telecommunications, resulting in a system network of electronic monitoring over a multi-county area.

The county has realized several benefits from the program. Beds are made available in both the jail and the residential center. In addition, it has proved to be a sentencing alternative which is both humane and cost-beneficial. Currently, the per diem cost in the residential center and the jail is eighteen and forty-five dollars a day, respectively. The program has also enhanced the recognizance release program since it permits judges to place marginal offenders on recognizance who would otherwise remain in jail.

The Clackamas County experience suggests several caveats for those interested in the use of electronic surveillance. They recommend all equipment be thoroughly checked before being placed on an offender. In addition, they encourage prospective users to specify minimum performance criteria in contracts for equipment. Finally, they encourage the purchase of both active and passive systems to enhance the versatility of the program and to allow one system to serve as a backup for the other in the event of a system failure.

3.10 Inhouse Arrest Program - Linn County, Oregon

The Inhouse Arrest Program in Linn County, Oregon is the result of a grant received from the National Highway Traffic Safety Commission. The program is designed to divert the offenders from the county jail which is currently operating under a capacity ceiling mandated by a federal court.

Initially, the program participants were misdemeanants convicted of DUI since the funds used to purchase the equipment were from the National Highway Traffic Safety Commission. Subsequently, additional units were bought under funds made available by the Community Corrections Act and the program has been expanded to include other types of misdemeanant offenders as well as conventional probationers who were put under house arrest for technical violations.

Currently, the program has twenty-seven units, including twenty-four from Contrac and three from Corrections Services, Inc. The program is administered under the Probation Department and includes program participants

who live and work in Linn County and surrounding counties. The program began in the Spring of 1985 when a grant was submitted to the National Highway Traffic Safety Commission and the first offender was put under surveillance on June 1, 1985. To date, twenty-nine offenders have completed the program, three absconded, and there are currently fifteen individuals under inhouse arrest. The number placed under supervision varies but has averaged about seven a month over the last six months. The twenty-nine who have completed the program represent a substantial diversionary impact considering that the county jail has a twenty-four bed capacity.

When the program began, the county probation officer conducted background investigations on program applicants to determine whether they had a home, a phone, and a job in the community. Based upon the probation report, the judge would sentence the offender to a term of a probation with a special provision that they be under house arrest. As the program progressed, the judges no longer asked for the background check and directly sentenced offenders to probation with house arrest. This has complicated the program since in some cases the offender may not have a place to live, a phone, or a job.

Grants have been used to purchase equipment. Offenders are charged to participate in the program from two to seven dollars a day depending upon income.

Program administrators indentify several benefits flowing from the program. It has proven to be an effective way to divert offenders from the jail, fifty-one having been diverted in six months. In addition, offenders are allowed to keep their jobs, preserve their self-respect, and contribute to the support of their families.

Normally, offenders are under surveillance for thirty days although one was under surveillance for as few as ten days and another for as long as six months.

Linn County has encountered two problems with their equipment. Some of the monitoring equipment supplied by Contrac proved unreliable and had to be replaced. Replacement was accomplished promptly and "in a very satisfactory manner." The computer, which monitors the system, was bought from a local vendor and the county failed to negotiate an appropriate service and maintenance contract. Since the computer runs twenty-four hours a day, maintenance problems have not been infrequent and the vendor has proved to be less than responsive to the county's service need. The problem has been resolved by purchasing equipment designed

to operate this type of system.

Acceptance of house arrest and electronic monitoring has been positive within the criminal justice community and press coverage has been supportive. The county plans to purchase more equipment as funds permit and plans to expand the program to include offenders convicted of driving with suspended licenses, and as a means of diverting pre-trial detainees. Recently, a sex offender was sentenced by the Circuit Court to the program for a period of six months.

The Linn County experience suggests that agencies considering electronic surveillance thoroughly field test equipment before putting it on offenders. They also suggest that thought be given to they type of computer used to support the system since it will be operating twenty-four hours a day, and that a proper service and maintenance contract be negotiated.

3.11 Utah State Department of Corrections

The State of Utah began planning the use of electronic monitoring in June of 1984. The first offender was placed under supervision in the Spring of 1985 and the program has been in operation for approximately one year.

The initial intention was to use electronic monitoring on parolees and probationers under intensive supervision, who were on the verge of revocation. Plans are currently under way to extend the use of the technology to two other groups of offenders; sex offenders being released on parole, and probationers who have been sentenced to some term of jail confinement. The current intention is to put parolees sentenced for sex offenses on the Computrac System for three months, followed by nine months of monitoring on the Digital System. Due to the concern over jail overcrowding, the State also intends to divert probationers sentenced from thirty to ninety days in jail to a house arrest program with electronic monitoring.

Currently the state has forty monitoring units including:

- 15 Computrac Units
- 15 Control Data Units
- 10 Digital System Units

Initially the state purchased the Computrac System, but because of delays in delivery and reliability problems, it awarded contracts to the two other vendors to determine which system best suited its needs. The Control Data system was judged attractive because it also offered a tamper alarm feature, and the Digital system was purchased because of the attractive price offered by the vendor.

The entire program is administered by the Utah Department of Corrections which operates the equipment and provides the surveillance. Currently Digital and Computrac systems are used in Salt Lake County, while the Control Data system is used in Ogden. Offenders must reside in one of these counties to be eligible for the program.

Like other jurisdictions, the State of Utah began experimenting with electronic monitoring because of prison and jail crowding problems. The Legislature encouraged experimentation with the technology, and has been the sole source of funding since the program began. The State did not conduct a formal feasibility study before purchasing monitoring equipment. A contract was initiated to purchase the Computrac system, since the manufacturer was located in Salt Lake City, and had been active in encouraging the Department to experiment with electronic monitoring. The state has gained considerable experience since the inception of the program. The equipment was not field tested prior to being put on offenders. Equipment reliability problems have been encountered, with the result that officers have spent overtime in following up false/positive reports. Equipment reliability problems have been encountered, and some field administrators have expressed disillusionment with the technology.

Because of equipment and software problems, the number of offenders being placed under supervision has varied since the inception of the program. Currently fourteen offenders are under electronic monitoring and several have been revoked, although not for curfew violations. Until equipment reliability problems can be resolved, the Department has been hesitant to revoke offenders solely on the basis of computer reported curfew violations. Regretably, one offender absconded with the equipment, which represents a substantial financial loss to the program.

In order to address some of the problems encountered by the program, the Department created an Electronic Surveillance Steering Committee in February of 1986. Since that time, fourteen offenders have been placed in the program, and the Department is currently planning to conduct a formal study to determine the relative reliability of the

three monitoring systems that they currently use. College students will be used in the experiment, and the technical reliability failure rate of the three systems will be used to determine the type of offender which would be appropriate for each of the monitoring systems.

Unlike other jurisdictions, Utah does not charge the offender a fee for being under electronic monitoring. Legislative appropriations have covered the cost of equipment, as well as the indirect costs of telephone charges, equipment installation, and so forth. Currently the Control Data and Computrac equipment costs $9 dollars a day, while the Digital system costs $2.50 per day.

To date, the average duration of electronic monitoring has been two months. Under current planning, sex offenders released on parole will be under surveillance for a year. Offenders can request curfew exceptions. An agent, in consultation with his or her supervisor, may grant the exception, but generally only in the case of treatment related conflicts.

Supervising agents receive no formal training in electronic monitoring other than that provided by the manufacturer. Offenders receive informal training, but this varies with the monitoring system. In the case of the Digital system, the offender is simply given the equipment and a set of instructions. An agent goes to the home of the offender if the Control Data system is used, and demonstrates the use of the equipment. In the case of the Computrac system, a company representative must go to the home of the offender to fine-tune and adjust the equipment.

As mentioned before, the State has experienced equipment problems. Delays in the delivery of the Computrac equipment caused renegotiation of contracts and delays in the startup of the program. Problems have also been experienced with the software in the Control Data system and with the tamper alarm feature. Technical problems have not been experienced with the Digital system, but procedural problems have been encountered. The State's Attorney General has discouraged the Department from using the Digital system to make random calls throughout the night. As a result, offenders on the Digital system are only monitored until 10 p.m. There is no monitoring through the night, and because of the nature of the system, no monitoring between calls.

When the program was first announced, there was mixed reaction in the print media. Since that time, however, there has been no media coverage of the program. Acceptance by the criminal justice community has been positive and funds for

the purchase of equipment has not been a problem.

Utah's experience with electronic monitoring has been mixed. Unanticipated delays in equipment delivery stalled the implementation of the program and equipment reliability and software problems have been encountered. Although plans exist to expand the use of electronic monitoring, the Department wants to first test the reliability of the three systems it has to determine their most appropriate application. Utah's experience suggests several caveats for potential users of electronic monitoring. First, it is advisable to conduct a feasibility study prior to the purchasing of hardware. Second, it is wise to conduct a field test of the equipment on non-offenders to determine its relative reliability.

3.12 Program Comparison

To assist in comparring the different programs, seven tables have been prepared. Table 1 provides a description of each of the ten programs and their history. Program planning, required legislation, and eligibility criteria are shown in Table 2. Equipment used and field tests conducted on the equipment is depicted in Table 3. Table 4 shows the duration of monitoring for each of the programs and the type of training received by officers and offenders. A summary of program funding and caseload statistics are given in Table 5. Problems encountered by the agencies are listed in Table 6. Table 7 describes the perceived program benefits, future plans for use of the technology by the agency and caveats offered to those considering program implementation.

Table 1

Type of Application, Area of Coverage
and Age of Program

Agency	Current Application	Coverage	Date Began	First Offender Placed	Age of Program
(1) PRIDE Inc., West Palm Beach, Florida	Misdemeanant jail diversion	1 county	October 1984	December 1984	17 months
(2) Palm Beach Co. Sheriff's Department	Work release program in county jail	1 county	Fall 1984	December 14, 1984	15 months
(3) New Jersey ISP	Complement to an ISP of offenders released from prison	Statewide	ISP Program September 1983	June 1984, still experimenting	22 months
(4) Clackamas Co., Oregon	• Jail & residential center diversion • Pretrial • Convicted misdemeanants & felons	• 1 county • Some outside county	April 1985	April 1985	12 months
(5) Utah State Department of Corrections	ISP Probation & Parole	2 counties operational	June 1984	April 1985	1 year
(6) Kenton Co., Kentucky	• Diversion of misdemeanor and Class D felony offenders who would be sentenced to jail • Placed on probation with monitoring as a condition of probation	• 1 county • Some outside county		May 1985	12 months
(7) Dade County, Florida Dept. of Corrections & Rehabilitation	• Work furlough of sentenced felons in county jail • 2 pretrial offenders offenders--one with contagious disease & one deaf mute	• 1 county • 2 offenders in neighboring county	June 1985	July 1985	9 months
(8) Linn County, Oregon	• Jail diversion program--primarily DWI	1 county	July 1985	October '85	6 months
(9) Michigan Dept. of Corrections	Recidivist felons convicted of property offenses who would normally go to prison. Deferred sentence	1 county pilot study for 6 mos.	February '85	April 14, '86	N/A
(10) Oklahoma State Dept. of Corrections	House arrest diversion for felons in state prison. Offenders work and pay program service fee ($45/mo. max.)	2 counties planned	House arrest program: October '84	None yet	N/A

Table 2

Program Planning, Required Legislation and Eligibility Criteria

Agency	Enabling Legislation Required	Precipitating Incident	Source of Program Idea	Feasibility Study Conducted	Eligibility Criteria	Exclusion Criteria
(1) PRIDE Inc., West Palm Beach, Florida	No	Wanted to divert: • Low risk offenders • Cost avoidance	Program director	No	• Would go to jail otherwise • Have a job • Voluntary	• Sex offenders • History of violence • Multiple DWI convictions • Certain drug offenders
(2) Palm Beach Co. Sheriff's Department	No	Jail overcrowding	County Judge and Sheriff's Department	No	• Successful under work release program • Have a home and phone	• Drug offender/user • History of violence • Sex offender
(3) New Jersey ISP	Court Rule	Prison overcrowding	N.J. Judicial Conference 1982	Yes	• Served 60 days of current sentence • Non-violent offense	• Violent offense • Sex offender • Mandatory minimum sentence • History of violence • Extensive prior record
(4) Clackamas Co., Oregon	No	Good idea in its own right	Seen at Western Corrections Association and ACA meetings in 1984	Cost Analysis	• Sentenced by court • Risk classification screening • Home and phone • Discretionary with respect to offense and history	• Discretionary
(5) Utah State Department of Corrections	No	Jail-Prison overcrowding	Legislature	No	• Discretion of courts and Board of Pardons	• Discretionary
(6) Kenton County, Kentucky	Not originally. Legislation recently enacted	• Jail crowding • State/County Cooperative experiment	Local defense attorney	Yes	• Stable in community • Gainful employment • No history of violence	• Failure to appear on priors
(7) Dade County, Florida Dept. Corrections & Rehabilitation	• County ordinance for work furlough program	Jail crowding	County Criminal Justice Planning Agency	No	• Approved for work furlough • Gainful employment • Good instit. behavior • A dependent to support • If successful on work furlough, can be transferred to electronic monitoring	• Discretionary
(8) Linn County, Oregon	Yes	Jail crowding	(?)	Yes	• Non-violent offense • Judge sentences offender to house arrest without prior screening	• Violent offense • At discretion of judge
(9) Michigan Department of Corrections	No	• Good idea in its own right • Prison overcrowding	Exhibit at ACA	Yes. Also begin pilot study in April '86	• Property offender who would go to prison otherwise	• Convicted of violent offense
(10) Oklahoma State Department of Corrections	For house arrest program but not surveillance program	Awareness of technology, interest in experimentation	Technology Committee, ACA	Yes	• Non-violent offender • 30 months from release date • Served 15% of sentence • Not denied parole in last 6 mos. • Violent offender 11 mos. from release date	• Sex offenders

Table 3

Equipment and Field Testing

Agency	Equipment	Number of Units	Reason for Choosing Vendor	Field Test Equipment
(1) PRIDE Inc., West Palm Beach, Florida	• Contrac but changing to Correctional Services, Inc.	30	• Contrac: only vendor when program began • Correctional Services, Inc.--using CSI equipment due to technology, reliability, etc.	On staff
(2) Palm Beach Co. Sheriff's Department	• Contrac • Correctional Services, Incorporated • Advanced Signal Concepts	45	• Contrac--only system aware of at time of purchase • Experimenting with other two systems	Worn by staff
(3) New Jersey ISP	• Digital	20	Don't have staff to monitor active system	Yes
(4) Clackamas Co., Oregon	• Contrac (5) • Digital (20) • Correctional Services, Incorporated (1)	• 40 • 16 on order from Correctional Services, Inc.	• Contrac--only active system on market in 1984 • Digital--versality, voice verification	On staff 30 days
(5) Utah State Department of Corrections	• Computrac (15) • Control Data (15) • Digital (10)	40	• Computrac & Tamper Mode: located in Salt Lake City • Control Data: tamper alarm feature • Digital: Price, simplicity of operation	No: planning reliability study
(6) Kenton County, Kentucky	• Contrac	Originally 20; 12 units now	• Demonstration by vendor	On staff
(7) Dade County, Florida Department of Corrections & Rehabilitation	• Contrac	10 units; purchasing 30 more	• Geographically near manufacturer • System "tamper proof" • Contrac only vendor responding to RFP	On staff
(8) Linn County, Oregon	• Contrac	24	(?)	On staff
(9) Michigan Dept. of Corrections	• Control Data	25 under contract	• Tamper alarm feature	On staff
(10) Oklahoma State Department of Corrections	• Computrac--but cancelling due to failure to deliver equipment on time. • Rebidding contract	Plan: • 20 Tulsa • 20 Oklahoma City	• Computrac was only one able to meet terms of contract	On staff for two months

Table 4

Duration of Monitoring and Training

Agency	Duration of Surveillance: Maximum	Duration of Surveillance: Average	If Exception to Curfew Requested	Training: Officers	Training: Offenders
(1) PRIDE Inc., West Palm Beach, Florida	12 months	4 months	For treatment only	Yes	Orientation
(2) Palm Beach Co. Sheriff's Department	311 days	60 days	No	Officers field test equipment	Orientation for inmates and family/ sponsor
(3) New Jersey ISP	Discretionary	N/A	For treatment only	Yes	Orientation
(4) Clackamas Co., Oregon	Duration of sentence; 4.5 months longest to date	30 days	Discretionary	One officer supervises all cases	Orientation
(5) Utah State Department of Corrections	• Discretionary • 1 year planned for sex offender	2 months	For treatment only	Only what manufacturer provides	• Digital: none • Control Data: agent installs in offender's home • Computrac: company rep installs in offender's home
(6) Kenton County, Kentucky	For duration of house arrest sentence. Six months longest to date	30 days	No exceptions	One officer	Orientation
(7) Dade County, Florida Dept. of Corrections & Rehabilitation	100 days	40-60 days	No exceptions	Yes--officers have field tested equipment	Orientation
(8) Linn County, Oregon	• Duration set by judge • Surveillance can be removed after time served	30 days	At discretion of officer	One officer	Orientation
(9) Michigan Dept. of Corrections	• 4 months planned--life cycle of battery in transmitter	N/A	N/A	Yes--officers have field tested equipment	Orientation
(10) Oklahoma Dept. of Corrections	Discretionary	N/A	N/A	Officers field tested equipment	Orientation

Table 5

Program Funding and Caseload Statistics

Agency	Who Paid for Equipment	Does Offender Pay Fee	PROGRAM STATISTICS			
			Under Surveillance	Completed Program	Failures	Average Placed Per Mo.
(1) PRIDE, Inc., West Palm Beach, Florida	Pride, Inc.	$7/day plus fees for additional services	16	110	3	7
(2) Palm Beach County Sheriff's Department	County	$9/day	20	116	3	20/month
(3) New Jersey ISP	Legislature	Yes, for ISP. None yet for electronic monitoring	364 ISP	Approx. 130 ISP	Approx. 20% ISP	25-30/ month
(4) Clackamas County, Oregon	• Criminal Justice block grant • Local funds	• $7/day • amortize equipment in one year	16	75	2	6
(5) Utah State Department of Corrections	Legislature	No	14	(?)	Several	Irregular
(6) Kenton County, Kentucky	County--state provides the supervision	• Yes--sliding scale is based upon income • Equipment amortized by fees	4	31	3	1
(7) Dade County, Florida Dept. of Corrections & Rehabilitation	County: fees used to amortize equipment	$7/day for work furlough; $7/ day for surveillance adm. costs	10	9	1	1-2/mo.
(8) Linn County, Oregon	Grant from National Traffic Safety Commission bought 20 units, other units bought by CCA grant	$15/mo. plus daily fee based upon income and family size	15	29	3	7
(9) Michigan Dept. of Corrections	Legislature	Not in pilot study; may be in future. No probation fee but restitution fines and court costs	Begins April 14, 1986	N/A	N/A	N/A
(10) Oklahoma Dept. of Corrections	Legislature	Program support fee ($45/mo.) but not surveillance fee	N/A	N/A	N/A	N/A

Table 6

Problems Encountered

Agency	PROBLEMS		
	Equipment	Other CJ Agencies	Public
(1) PRIDE Inc., West Palm Beach, Florida	Corrections Services, Incorporated	No problems	Positive press coverage
(2) Palm Beach County Sheriff's Department	Continuing problem with all 3 mfg. "dead spots" in nomes	No	Positive press coverage
(3) New Jersey ISP	No	No	Positive press coverage
(4) Clackamas County, Oregon	• Contrac: reliability problems • Digital: software problems	No problems	Positive press coverage
(5) Utah State Department of Corrections	• Digital: A.G. limits hours of surveillance • Control Data: Software reliability of tamper feature • Computrac: Delivery of equipment reliability	Few problems	Press coverage mixed reaction. No additional coverage since program began.
(6) Kenton County, Kentucky	Initial problems with equipment reliability	No problems but number of referrals not large	Positive press coverage
(7) Dade County, Florida Department of Corrections and Rehabilitation	• 1 case of radio interference • 1 offender "threw" equipment at wife • "Sleep errors"	No problems; Justice community likes program	Positive press coverage--national, international--little local coverage
(8) Linn County, Oregon	• 1 offender absconded with equipment • Computer--poor service support from local vendor	No problems	Positive press coverage
(9) Michigan Department of Corrections	Reliability of equipment during field testing	DA, judges, & police in pilot county position. Other counties interested	Positive press coverage
(10) Oklahoma Department of Corrections	• Computrac: reliability problems, base station not tuned correctly. Software not delivered as scheduled.	N/A	Positive press coverage

Table 7

Program Benefits, Future Plans, and Caveats Offered

Agency	Primary Benefits	Future Plans	Caveats Offered
(1) PRIDE Inc., West Palm Beach, Florida	• Divert people who don't need to be in jail • Keep offender with family • Offender keeps job • Judges control program • Client still gets due process if violates curfew	• Purchase more units • Include pretrial offenders • Parents who fail to pay child support	• Plan procedures carefully • Begin slowly • Expand program as experience is gained
(2) Palm Beach Co. Sheriff's Department	• Reduce jail crowding • Cost avoidance • Gradually release offender into community • Offender finishes sentence with money and a job	• Plan to purchase 80 more units	• Don't use with violent or sex offenders
(3) New Jersey ISP	• Reduce overcrowding • Chance to experiment with new supervisory strategies • Give offenders a chance to reestablish themselves	• Still experimenting with electronic monitoring	• Experiment with equipment
(4) Clackamas Co., Oregon	• System pays for itself • Offender works • Keeps family together	• 16 more units on order • Developing inter-county	• Pretest equipment • Develop tight performance contract with vendor • Multiple systems provide versatility
(5) Utah State Department of Corrections	Too soon to tell	• Sex offenders released on parole • Diversion of probationers serving 30-90 days • Study reliability of equipment	• Preplanning critical • Field test equipment before program implementation
(6) Kenton County, Kentucky	• Good for men not paying support • DWI offenders	• State considering expansion to other counties	• Beware of community reaction if releasing violent offenders
(7) Dade County, Florida Dept. of Corrections & Rehabilitation	• Diverting offenders who don't need to be in jail--yet limit their freedom at low cost	• Change $7/day fee to scale based upon income • Could use 200 units for offenders in last 60 days of sentence	• Use with offenders needing little supervision • Probably not effective with high risk offenders • Use it on offenders who have served some jail time • Don't put on offenders "you don't know" • Select vendor carefully
(8) Linn County, Oregon	• Offender keeps job--supports family • Offender keeps self-respect • Diversion-cost avoidance	• Purchase more equipment	
(9) Michigan Department of Corrections	• Cost avoidance • Instill discipline in marginal offenders	• After pilot study, expand to other counties	N/A
(10) Oklahoma Department of Corrections	• Gain control of marginal offenders in house arrest program	• Not operational yet	N/A

3.13 Summary

There are relatively few operational programs in the United States. Ten programs were identified for examination by the Electronic Monitoring and House Arrest Study Committee. While there is some overlapping, four of the programs are operated on the state level and six are operated at the county level. New Jersey uses electronic monitoring only as a component to its Intenstive Supervision Program (ISP). Two of the states have little or no experience in the actual monitoring of offenders. One of the states has experienced equipment and programatic difficulties which have hampered implementation.

The Palm Beach County Sheriff's Department and Pride, Incorporated (a private concern which provides probation supervision on a contract basis) have the longest running programs of those examined.

The type of offender eligible for the different programs varies from agency to agency. As would be expected, the states have developed applications which are directed toward felony offenders, either as a diversionary measure, or to supplement ISP programs. Only two of the counties use the technology on felony offenders, and in one of those counties, only for the least serious felonies. As a function of the funding obtained from the National Highway Safety Commission, Linn County, Oregon primarily uses electronic monitoring to divert persons convicted of driving under the influence of intoxicants from the county jail.

Offenders are placed under electronic supervision for varying periods of time, however, it is generally for a limited period ranging from one to four months. Most of the programs have a limited number of persons being monitored at any one time, ranging from four to twenty individuals.

While the amount of experience is extremely limited, the failure rate for these programs is low, ten percent or less. Excluding the figures for New Jersey which include all persons under ISP and are not restricted to those under electronic supervision, three hundred and seventy people had completed the programs at the time of the study. The overall failure rate is four percent. It is important to note that these figures represent only the county programs which typically have lower risk offenders and do not include results from the state programs.

Section 4

POTENTIAL APPLICATIONS IN TEXAS

This section of the report is designed to describe potential applications for the technology in the State of Texas. Program proposals, estimates of the number of eligibile offenders and cost projections are presented.

4.1 Method of Data Collection

During the initial meetings of the Electronic Monitoring and House Arrest Study Committee the basic concepts of electronic monitoring were discussed. Each agency represented on the Committee developed program models applicable to their operations. Representatives of the sheriff's departments and the Texas Commission on Jail Standards in consultation with an ad hoc committee submitted a model for use in county jails.

Estimates of costs and potential savings represent the best guess based upon available information. In order to present the most conservative figures possible the lowest estimated cost of current operation is contrasted with the highest price (an average of $9.04 per day) obtained for equipment. Projection of cost savings **do not** include the cost of personnel and administrative overhead which would be required to operate an electronic monitoring program.

4.2 Applications for County Jails

Texas has the third highest number of inmates being held in local and county jails in the United States. In a 1983 census there were 15,176 persons detained in those facilities. At the time of that census, in the Southern Region of the United States, fifty-three percent of the persons held in local and county jails were pre-trial detainees and forty-seven percent were convicted offenders.[1]

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[1]Bureau of Justice Statistics. The 1983 Jail Census. Washington, D.C.: U.S. Department of Justice. November 1984.

The Texas Commission on Jail Standards estimates that as of March 18, 1986, there were 17,997 prisoners being held in county jails. Of that number approximately sixty percent (10,789) were pre-trial detainees and forty percent (7,199) were convicted offenders. The Commission estimates that the average cost to detain a prisoner in a county jail $30.00 per day, with the actual cost varying from county to county.

Two proposals for use of electronic monitoring by county jails have been developed. The planning document from the Commission is attached as Appendix F to this report. In developing the proposals it was estimated that approximately ten to fifteen percent of the population in the county jails would meet the eligibility criteria for the programs. For the purposes of this report the number of eligible offenders was calculated using ten percent of the total estimated population. Cost factors are based upon an estimate of $30.00 per day to house an inmate.

4.2.1 County Jail Pre-trial Release

The technology will be used to facilitate pre-trial release for those offenders confined in the county jail prior to conviction.

4.2.1.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for pre-trial release under electronic monitoring:

1. Inability to post a cash or surety bond.

2. Sufficiently stable personal life style which affords a permanent address and telephone.

3. Release of the offender must pose no serious risk of flight to avoid prosecution or threat to public safety.

4. Court will issue an order authorizing release under the monitoring program, identifying permitted activities and establishing actions which constitute a violation of release conditions. The court order will allow the sheriff to return the individual to confinement in the county jail if a violation of the release conditions occur.

4.2.1.2 Estimated Total Detainee Population

It is estimated that there are approximately 10,789 pre-trial detainees being held in county jails in the State of Texas.

4.2.1.3 Estimated Number of Eligible Detainees

It is estimated that 1,080 detainees would be eligible for participation in the program.

4.2.1.4 Current Cost

For the purposes of this report it is estimated that the average cost per prisoner per day is $30.00, resulting in an estimated cost of $32,400.00 per day to house eligible detainees in county jails.

4.2.1.5 Potential Cost Savings

Electronic monitoring of all eligible pre-trial detainees, not including personnel and administrative expenses, is estimated to cost $9,763.20 per day. Based upon these figures the projected cost savings would be $22,636.80 per day, or $16,524,864.00 over a two year period.

4.2.2 Diversion From County Jail

The technology will be used to divert individuals convicted of a felony or a misdemeanor for which they have been sentenced to confinement in the county jail.

4.2.2.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for placement in the program:

1. Offenders must have a sufficiently stable personal life style which affords a permanent address and telephone.

2. Offender must either be employed, pursuing an academic or vocational education, and/or participating in a treatment program.

3. Release of the offender must not constitute a serious risk to public safety. This is to be evaluated on the basis of the current offense and prior behavior patterns.

4. Sentencing judge must issue a court order authorizing participation in the program. Length of monitoring, permitted activities, and identification of actions constituting a violation of release conditions are included in the court order. The court order will allow the sheriff to return offender to confinement in the county jail if a violation of the release conditions occur.

4.2.2.2 Estimated Convicted Offender Population

It is estimated that there are approximately 7,199 convicted offenders held in county jails in the State of Texas.

4.2.2.3 Estimated Number of Eligible Offenders

It is estimated that approximately 720 offenders would be eligible for participation in the program.

4.2.2.4 Current Cost

For the purposes of this report it is estimated that the average cost per prisoner per day is $30.00 resulting in an estimated cost of $21,600.00 per day to house eligible offenders in county jails.

4.2.2.5 Potential Cost Savings

Electronic monitoring of all eligible post-conviction offenders, not including personnel and administrative expenses, is estimated to cost $6,508.80 per day. Based upon these figures the projected cost savings would be $15,091.20 per day, or $11,016,576.00 over a two year period.

4.3 Applications for the Texas Juvenile Probation Commission

In the State of Texas juvenile probation is administered at the county level. Electronic monitoring devices might have two potential applications for use with juvenile probationers; as an alternative to detention, or as a component in an intensive supervision program to divert offenders from commitment to the Texas Youth Commission.

Less than thirty percent of all children referred to juvenile probation departments are placed in secure detention. Of those placed in detention, sixty-seven percent

are held for less than forty-eight hours. While the actual figure will vary, it is estimated to cost between $50.00 and $60.00 per day to hold a child in a juvenile detention facility. For the purpose of this report the cost factor of detention is based upon the conservative estimate of $50.00 per day.

Approximately two thousand juveniles are committed to the Texas Youth Commission (TYC) each year. Of that number, fifty-five percent are for a felony referral, twenty percent for misdemeanors, and twenty-five percent for violation of a lawful court order. There would be two methods to implement a diversion program for these youth. The adjudicated child may be placed on probation and would become the responsibility of the Texas Juvenile Probation Commission. The second option is to grant selected non-violent youths parole from the Statewide Reception Center of the Texas Youth Commission, after commitment to that agency, which is responsible for administration of the parole function. Both agencies have submitted proposals which contain different cost factors and estimates of the number of eligible youths. When attempting to estimate cost effectiveness of electronic monitoring in the State of Texas, the reader is cautioned not to over-estimate due to the duplication of these two programs which address the same offender population.

4.3.1 Pre-Adjudication Detention

The technology will be used as an alternative to secure detention prior to the adjudication hearing.

4.3.1.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for release under electronic monitoring:

1. Youths must have been formally detained after a hearing, for a period exceeding forty-eight hours.

2. Youth must have a stable home environment.

3. Detention must be for a non-violent offense.

4. An evaluation of the child's current behavior, mental state, and seriousness of the offense must indicate release would not be detrimental to the youth or public safety.

4.3.1.2 Estimated Total Detainee Population

It is estimated that there are approximately 7,569 pre-adjudication detainees being held in detention centers in the State of Texas.

4.3.1.3 Estimated Number of Eligible Detainees

It is estimated that 2,800 detainees would be eligible for participation in the program.

4.3.1.4 Current Cost

For the purposes of this report it is estimated that the average cost per detainee per day is $50.00, resulting in an estimated cost of $140,000.00 per day to house eligible youths in detention centers.

4.3.1.5 Potential Cost Savings

Electronic monitoring of all eligible pre-adjudication detainees, not including personnel and administrative expenses, is estimated to cost $25,312.00 per day. Based upon these figures the projected cost savings would be $114,688.00 per day.

4.3.2 Diversion From Commitment to TYC

The technology will be used to divert youths who would otherwise be committed to the Texas Youth Commission.

4.3.2.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for diversion under intensive supervision utilizing electronic monitoring:

1. Adjudication for a non-violent offense which would have otherwise have resulted in commitment to TYC.

2. Youth must have a stable home environment.

3. An evaluation of the childs age, current behavior, mental state, and seriousness of the offense must indicate release would not be detrimental to the youth or public safety.

4.3.2.2 Estimated Total Commitment Population

It is estimated that there are 1,779 youths committed each year for non-violent offenses.

4.3.2.3 Estimated Number of Eligible Youths

It is estimated that 627 children would be eligible for the intensive supervision program.

4.3.2.4 Current Cost

For the purposes of this section of the report the Texas Juvenile Probation Commission estimates the cost to commit one child to TYC is $56.00 per day, resulting in an estimated cost of $35,112.00 per day to house eligible children.

4.3.2.5 Potential Cost Savings

Electronic monitoring of all eligible adjudicated offenders, not including personnel and administrative expenses, is estimated to cost $5,668.08 per day. Based upon these figures, the projected cost savings would be $29,443.92 per day.

4.4 Applications for the Texas Youth Commission

The Texas Youth Commission is responsible for the secure detention of adjudicated juvenile offenders and administration of the parole function upon release. Three possible applications for the technology have been identified; as an alternative to pre-hearing detention, to monitor high risk parolees, and as a method of diversion for commitment to a youth facility.

Youths awaiting hearings on parole revocation are placed in secure detention which is estimated to cost from $50.00 to $55.00 per day. For the purposes of this report the conservative figure of $50.00 per day will be used.

To maintain one child in a state school it is estimated to cost $56.00 per day. Approximately 350 youths each year have their parole revoked and are returned to the state school. In using electronic monitoring for an intensive supervision program with the youth, cost factors are difficult to construct. The actual costs of traditional parole supervision and revocation are not static. They

depend, to a great extent, on the time frame between release and revocation. It is difficult, if not impossible to determine whether there have been any monetary savings, or whether the costs have been merely forestalled, resulting in a net increase.

Approximately fifty juveniles are committed to TYC annually, who because of the nature of the offense would be diverted to transisitional contract care. The cost of maintaining these children in contract care is currently $30.00 per day.

4.4.1 Pre-Hearing Release

The technology will be used to facilitate pre-hearing release for those youths confined in a secure detention facility awaiting a parole revocation decision. The average length of monitoring for this population is estimated at ten days per individual.

4.4.1.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for pre-trial release under electronic monitoring:

1. Transfer or revocation hearings must have been approved.

2. Juveniles must have an approved home or contract care placement for the duration of the monitoring period.

4.4.1.2 Estimated Total Client Population

Approximately 3,000 youths per year are paroled or released to community-based programs.

4.4.1.3 Estimated Number of Eligible Youth

It is estimated that approximately 150 youth would be eligible for the program.

4.4.1.4 Current Cost

For the purposes of this report it is estimated that the average cost per youth per day is $50.00, resulting in an estimated cost of $7,500.00 per day to house eligible detainees. Based upon an average ten day detention period per youth it is estimated to cost $75,000.00 per year to

house these individuals.

4.4.1.5. Potential Cost Savings

Electronic monitoring of all eligible pre-hearing detainees, not including personnel, administrative, or contract care expenses, is estimated to cost $1,356.00 per day. Based upon these figures the projected cost savings would be $6,144.00 per day. Assumming 150 youths were monitored for a ten day period each year, the projected cost savings over a two year period would be $122,880.00.

4.4.2 Intensive Supervision of High Risk Parolees

The technology will be used to monitor high risk youth released from a state school on parole. Monitoring will augment a sixty day period of intensive supervision in an attempt to reduce the number of escapes and revocations associated with this population.

4.4.2.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for release on parole under electronic monitoring:

1. Must be eligible for parole release from state school.

2. Identified as being at risk in terms of the probability of violating parole.

4.4.2.2 Total Client Population

It is estimated that approximately 2,500 youths are paroled each year.

4.4.2.3 Estimated Number of Eligible Youth

It is estimated that approximately 100 youths would be eligible for the program.

4.4.2.4 Current Cost

For the purposes of this report it is estimated that the average cost per youth per day is $56.00, resulting in an estimated cost of $5,600 per day to house eligible children in a state school.

4.4.2.5 Potential Cost Savings

Electronic monitoring of all eligible children, not including personnel and administrative expenses, is estimated to cost $904.00 per day. Based upon these figures the projected cost savings would be $4,696.00 per day. If it is assumed that one hundred juveniles, who would otherwise be under secure detention at a state school, are monitored for a sixty day period each year, the project cost savings over a two year period would be $563,520.00. The reader is again cautioned to consider the reservations expressed above regarding the difficulty of projecting cost savings.

4.4.3 Diversion From Commitment

The technology will be used to divert selected offenders directly to parole from the Statewide Reception Center, under enhanced supervision.

4.4.3.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for diversion from the under electronic monitoring:

1. Profiles indicate they pose little or no threat to individuals or the community.

2. Approved home placement.

3. Parents or guardians who are willing and able to provide care and supervision.

4.4.3.2 Estimated Total Client Population

It is estimated that there are approximately 2,000 juveniles committed annually to TYC who are classified as non-violent offenders or probation violators.

4.4.3.3 Estimated Number of Eligible Youth

It is estimated that approximately fifty youth annually would meet the eligibility criteria.

4.4.3.4 Current Cost

Youth participating in this program would otherwise be diverted to transitional contract care. Cost per day for contract care at the transitional level is currently $30.00 per individual, resulting in an estimated cost of $1,500.00

per day to house all fifty eligible juveniles.

4.4.3.5 Potential Cost Savings

Electronic monitoring of all eligible youth, not including personnel and administrative expenses, is estimated to cost $452.00 per day. Based upon these figures the projected cost savings would be $1,048.00 for each day all fifty juveniles were diverted from commitment to TYC.

4.5 Applications for the Texas Board of Pardons and Paroles

One of the contributing factors to overcrowding in local jails is the number of parolees being detained while awaiting a revocation hearing. In fiscal year 1985, 6,892 releasees were revoked and returned to prison. Of that number, approximately twenty-seven percent (1,861) were for technical violations. Many of those individuals remained in the county jails for lengthy periods of time while awaiting parole revocation hearings. To address this problem the Board of Pardons and Paroles recommends a pilot project in Harris County involving seventy-five to one hundred offenders being housed for technical violations. For this report the conservative figure of seventy-five offenders will be utilized and costs projected on an average of $30.00 per day to keep an individual in the county jail.

The Texas Board of Pardons and Paroles operates a halfway house program as an alternative to returning an individual to prison through the parole revocation process. In fiscal year 1985 approximately forty-three facilities were operational, receiving a total of 4,281 parolees. It is proposed that individuals who have violated their parole regulations and are in need of more stringent supervision be confined in a halfway house under electronic monitoring. It is by the Board of Pardons and Paroles suggested that a group of seventy-five to one hundred individuals be selected for a pilot project in Dallas.

Cost projections will have to be based upon the cost of the monitoring equipment and the $21.00 per day average payment to the halfway house and contrasted against the estimated cost of housing offenders by the Texas Department of Corrections. Projections of anticipated cost increases or savings from the program are tenuous at best. The length of stay at a halfway house will vary by individual. In those instances where the program is successful, there will be a long-term cost decrease because the individuals will not be sent back to prison and will be released from the halfway

house back into society. In those instances where the program is not successful, the long-term costs will be increased because the expense of confinement in TDC has merely been forestalled and must be added to the cost of monitoring in the halfway house.

4.5.1 Pre-Hearing Release

The technology will be used to facilitate pre-hearing release for those offenders who would be confined in the county jail prior to a revocation hearing.

4.5.1.1 Eligibility Criteria

Individuals who meet the following criteria would be eligible for pre-hearing release under electronic monitoring:

1. Specific types of eligible violators are to be stipulated in guidelines formulated by the Board of Pardons and Paroles.

2. Screening for the program would take place by the supervising officer, the parole supervisor, and the hearing officer.

3. Length of monitoring is dictated by the hearing section. Would continue until a hearing took place or the technical allegation was dismissed.

4. Parolees must participate in the program voluntarily.

5. Program may be used in conjunction with existing authority of the Board of Pardons and Paroles to issue a summons rather than arrest warrant prior a person's revocation hearing.

4.5.1.2 Estimated Total Inmate Population

It is estimated that approximately 600 parolees annually are incarcerated in the Harris County Jail that meet the anticipated Board criteria.

4.5.1.3 Estimated Number of Eligible Inmates

It is recommended by the Board of Pardons and Paroles that a pilot project be implemented utilizing seventy-five to one hundred parolees who are currently incarcerated in the Harris County Jail. For purposes of this report the more

conservative figure of seventy-five individuals will be utilized.

4.5.1.4 Current Cost

For the purposes of this report it is estimated that the average cost per prisoner per day is $30.00, resulting in an estimated cost of $2,250.00 per day to house seventy-five eligible offenders in the county jail. It should be noted that the figure of $30.00 per day is an estimate and does not reflect the actual cost of incarceration in Harris County.

4.5.1.5 Potential Cost Savings

Electronic monitoring of seventy-five eligible pre-hearing detainees, not including personnel and administrative expenses, is estimated to cost $678.00 per day. Based upon these figures the projected cost savings would be $1,572.00 per day.

4.5.2 Halfway House/Electronic Monitoring

The technology will be used as an adjunct to confinement in a halfway house by individuals who have violated parole rules and are in need of more stringent supervision.

4.5.2.1 Eligibility Criteria

1. Volunteers who have committed parole rule violations in which a letter of reprimand has had no effect on the individual's behavior patterns.

2. Specific criteria will be dictated through the Board of Pardons and Paroles.

4.5.2.2 Estimated Client Population

There are approximately 35,525 individuals being supervised by the Board of Pardons and Paroles. In fiscal year 1985, 6,892 of those releasees were revoked and returned to prison.

4.5.2.3 Estimated Number of Eligible Offenders

It is recommended by the Board of Pardons and Paroles that a group of seventy-five to one hundred individuals in Dallas, Texas, be selected for a pilot project. For the purpose of this report, the more conservative figure of

seventy-five will be utilized.

4.5.2.4 Current Cost

For the purposes of this report is estimated that the average cost to house a prisoner per day in the Texas Department of Corrections is $28.00, resulting in an estimated cost of $2,100 per day to house seventy-five inmates. The cost to the Texas Board of Pardons and Paroles to place a client in a halfway house is approximately $21.00 per day, resulting in an estimated cost of $1,575.00 per day for placement of seventy-five parolees.

4.5.2.5 Potential Cost Increase

Based upon the cost of equipment and the average payment made to a halfway house, electronic monitoring used in conjuction with placement in a halfway house is estimated to cost $2,253.00 per day for seventy-five offenders. This represents an increase of $678.00 per day over the cost of keeping seventy-five parolees in a halfway house without electronic monitoring. There would be an increased cost of $153.00 per day over the cost of incarcerating those same offenders in the Texas Department of Corrections. To the extent that the program is successful and the parolees are diverted from prison and released from the halfway house under less costly forms of parole supervision, the possibility exists for cost savings. With the limited knowledge available about the success or failure rate of such a program, it is impossible to provide a realistic estimate of the long-term costs.

4.6 Applications for the Texas Adult Probation Commission

The administration of probation in the State of Texas is accomplished at the judicial district level with funding and oversight from the Texas Adult Probation Commission. A number of programs have been proposed for use of the technology with probationers. A copy of the Commission's staff report is attached to this report as Appendix G. The programs are designed to accomplish one of several objectives; to increase the capabilities of probation officers, to divert probationers from more costly forms of supervision, or to divert probationers from incarceration.

The Commission estimates that the number of probationers in a program at any one time will vary considerably, as will the length of monitoring. Preliminary indications are that a static population figure of one

thousand probationers would be an accurate estimate of the number of individuals who would be in an electronic monitoring program at any one time. The cost for supervision of a probationer ranges from $.40 per day to $28.00 per day, depending on the type of program utilized.

4.6.1 Electronic Surveillance Probation

The purpose of Electronic Surveillance Probation is to enhance the surveillance and monitoring capabilities of adult probation officers supervising high risk probationers so that the supervision of these offenders in the community is more acceptable to the public.

4.6.1.1 Eligibility Criteria

1. Monitoring must be a less intrusive and less costly method of supervision than alternatives.

2. In lieu of jail therapy for felony offenders who have committed a technical violation of their probation.

3. In lieu of revocation and incarceration at TDC for probationers who commit misdemeanor offenses while on probation.

4. For residents of restitution centers who are released earlier than the six month minimum term.

5. For shock probationers who are not eligible for Intensive Supervision Probation and who are not in need of residential services.

6. For high risk probationers who, based on a valid assessment instrument, show the potential for continued criminal activity but are not eligible for placement into other alternatives to incarceration and who would be controlled adequately through electronic surveillance.

4.6.1.2 Estimated Number of Eligible Probationers

It is estimated that 1,000 probationers would be eligible and participating in a program at any one time.

4.6.1.3 Current Cost

It is estimated that probation costs range from $.40 to $28.00 per day, depending on the type of supervision. For the purpose of this report it is estimated that the average cost to house an inmate in a county jail is $30.00 per day, with the the cost of incarceration in the Texas Department of Corrections estimated at $28.00 per day.

4.6.1.4 Potential Cost Savings

It is not possible, from the information available at the time of this report, to give an accurate estimation of the potential for cost savings or increases. If one were to compare the cost of traditional probation with the equipment costs incurred for electronic monitoring which do not take into consideration personnel and administrative overhead for a monitoring program, the estimates would range from a decreased cost of $18.96 per day to an increase in cost of $8.64 per day for each person.

If it is assumed that the individuals would otherwise be incarcerated in the county jail or at the Texas Department of Corrections, the potential cost savings would estimated at $20.96 for the jails and $18.96 for prisons. To reiterate a caveat previously offered, these cost savings will be realized only to the extent that the programs successful and the individuals were diverted from incarceration. In those instances where the program fails, costs may be increased over that which would be incurred if the individual had been incarcerated immediately.

4.7 Summary

Proposed models for application of electronic monitoring in the State of Texas have been developed by the Commission on Jail Standards, the Juvenile Probation Commission, the Youth Commission, the Adult Probation Commission, and the Board of Pardons and Paroles. The programs are directed toward increasing the efficiency of agency officials, diversion of offenders from institutions or more restrictive forms of supervision, and a reduction in costs and institutional overcrowding. It is estimated that the programs may address an eligible population of 4,900 offenders. This does not include 627 youths identified by the Juvenile Probation Commission as candidates for diversion from TYC.[1] The figures do not represent a static population because individuals selected would be in varying programs for different time periods.

Preliminary analysis of the data supplied by the vendors and agency representatives indicates the technology offers the potential for a reduction of costs currently incurred by the corrections component of the criminal justice system. Estimates of cost reduction for an individual offender range from $18.96 to $46.96 per day for some programs. Other programs may experience an increased cost of $2.04 to $9.04 per day. The reader is cautioned that these projections, tenuous at best, are based upon the information available at the time of this report. It would be less than prudent, given the limited amount of knowledge available, to make policy decisions soley on these projections. A very real possibility exists that personnel costs, administrative overhead, the actual failure rate of offenders in the programs, and unanticipated outside influences may negate any hoped for reduction in base expendatures.

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[1]The Texas Youth Commission submitted a program model addressed at the same offender population with an estimation of fifty eligible juveniles. To avoid "druble counting" of eligible numbers and to remain conservative the figure of fifty offenders is used in the calculation of the total eligible population.

Section 5

PHILOSOPHIC AND POLICY ISSUES

This section of the report addresses four basic areas; cost-benefits of electronic monitoring programs, administrative issues, philosophic concerns, and potential abuses of the technology.

5.1 Cost-Benefit of Electronic Monitoring

It is premature to attempt to determine the actual cost-benefit of the technology. It has been only recently introduced to the field and only time will tell whether the benefits derived out-weigh the costs. The question of cost-benefit is complex, not simple. The assessment of costs and benefits vary depending upon one's point of view; the sheriff with an overcrowded jail versus the probation department which may have to pay for the technology. In addition to the direct cost of purchasing of equipment, there are the indirect costs encountered in operating the system. One should also consider the lost opportunity costs and benefits. What other programs could have been inititated or expanded with the funds used to purchase the surveillance equipment? Finally there are nonmonetary costs and benefits to be considered.

Probably the primary selling point of the technology is its potential cost savings over the expenses incurred for operation of institutions and new construction. The institutional overcrowding problem has made policy makers keenly aware of the extraordinary costs associated with incarceration. Institutional operating costs vary but recent national studies suggest that they may well range between $15 and $100 per day. Similarly, the cost of new construction varies from $25,000 to $75,000 or more per bed depending upon the level of architectural security desired.[1] In Texas, instutional operating costs are estimated to range from $25 to $56 per

[1]For example, see G.S. Funke. "Economics of Prison Crowding." The Annals, March 1985, 478, p. 86-99.

day depending upon the particular agency.

From this perspective, there is no question that the direct cost of electronically supervising offenders in the community is less costly than incarceration. In some instances, however, costs for monitoring may exceed current costs of minimal supervision by probation officials. Although costs vary among manufacturers and as a function of the number of units acquired, the current direct cost of a system ranges from $.95 to $9.04 per day. This may represent an attractive cost trade-off for policymakers who can see savings not only in institutional operating costs, but also in the reduced need for future capital construction.

From the agency administrator's point-of-view, the technology may not be cost beneficial. Funds expended for one purpose are no longer available for another. When an agency considers the use of electronic monitoring, it should carefully consider the lost opportunity costs in terms of the benefits associated with other possible programs. If a department is successful in securing funds to buy a surveillance system, will this frustrate efforts to secure needed funds to expand other programs or initiate new ones? Administrators need to properly assess the priority to be attached to the aquisition of the technology relative to other departmental needs.

Most of the administrators surveyed agreed that the technology should only be used to divert offenders who would be otherwise incarcerated. If the technology is simply used with individuals who would be granted probation or parole anyway, there is no cost savings relative to institutional costs. Unless it can be demonstrated that use of the technology with typical offenders reduces recidivism more than conventional supervisory strategies, there would be no savings from a public safety perspective. It is likely that if the technology is only used to enhance surveillance of people who should be granted probation or parole in the first instance, the result will be a widening of the correctional net, increasing costs with no noticeable benefit.

There are a variety of potential monetary benefits which could flow from the use of the technology. Obviously money saved by diverting offenders can well be used in other ways. However, the non-monetary benefits that might be derived from the technology are equally attractive. One cannot deny the humanistic benefits which might be achieved. The decision-making criteria used in the administration of justice are generally conservative for understandable reasons. When the risks seem high, the system is more likely

to incarcerate the individual than provide supervision in the community. In such instances, the secondary effects of incarceration are neither few nor trivial. Pretrial detainees, for instance, who are unable to make bond or be released on their own recognizanze may lose their jobs, residence, default on their car payments, and are not in a position to support their families. In this case policymakers must weight the secondary effects of incarceration against the magnitude of the risk to public safety and failure to appear rate. Although the actual calculation of such trade-offs is complex, the cost-benefit issue is simple: It is neither humanistically nor economically beneficial to hold people in prison or jail who do not need to be there.[1]

Advocates of electronic monitoring argue that the technology has the potential to reduce jail and prison populations. If successful, depending upon local conditions, this could have one of three effects. First, it could reduce the rate of capital expansion in the future. Secondly, it could obviate the need for new construction. Thirdly, it could actually reduce the population in existing facilities. Critics of the technology express scepticism about the third alledged benefit. They suggest that even if offenders were diverted from existing institutions, thereby making bed space available, the beds would be filled anyway. The result would not be a reduction in operating costs, on the contrary it would simply increase overall public expenditures by the cost associated with the purchase of the technology.

A final thought on cost-benefit concerns the research and development costs associated with the technology. If the proposed benefits are to be realized by the correctional community and the public, then the cost of the technology must be reasonable, the equipment reliable, operation efficient, training requirements minimal, and noticeable enhancements in public safety achieved. Currently there are several companies offering electronic monitoring technology. In selecting among systems the cautious consumer should keep in mind the adage "caveat emptor." Certianly the department does not want to become a guinea pig, paying for the research and development of an untested system. Prudent public policy requires that the private sector absorb the research and development costs prior to offering the technology to the

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[1] S. Nogel, P. Wice, and M. Neef. Too Much or Too Little Police: The Example of Pretrial Release. Sage, 1977.

correctional community. This suggests that the agency administrator should look not only at the comparative cost among the different systems currently in the marketplace, but also assess the extent and quality of the reseach and development which stands behind the products. Purchase of an unreliable system requiring a high degree of maintenance may prove to be an irrevocable mistake, resulting in professional embarrassment and loss of public confidence.

5.2 Administrative Concerns

Irrespective of the perceived cost-benefits, the introduction of the technology may require administrative changes affecting personnel policy, revocation proceedures, and relations with the external environment.

By its very nature, electronic monitoring is a twenty-four hour a day service. The system has to be monitored, particularly during the evening hours and weekends. Violations must be reported and responded to. Prior to implementing a system, the department must carefully specify the procedures to be followed in the event a curfew violation is reported. Several alternatives are possible. The monitors can simply call the offender on the phone to determine whether it is a false report. However, positive identification by voice is a problem. Another alternative is for the monitor to record the alleged violation and forward the report to the supervising officer who would confront the individual the next day. A third alternative is for the monitor to call an officer who would then proceed to the person's residence to determine whether it is a false report. Obviously this is more costly, and raises the prospect of potential personnel problems.

Criminal justice employees may argue that they are too highly paid and skilled to be spending their evening hours and weekends checking curfew violations reported by a computer. While this may be a valid criticism, it could also be argued that the technology provides an opportunity to free the officer to do that which s/he does best. The department could hire surveillance officers to actually follow up the curfew violations. A surveillance officer need not be as highly paid or trained as a probation or parole officer since their sole function would be to follow-up reported violations.

Depending upon the number of offenders under surveillance, one surveillance officer could be assigned to each caseload, or possibly to two or three caseloads. The

actual number needed would depend upon the number of offenders on the system and the number of violations reported. If a large number of violations are reported, then a larger number of surveillance officers would appear to be required. However, if the reported violations are high, the wrong kind of offender is being put under surveillance in the first place, or the equipment is unreliable and producing a large number of false alarms. If screening procedures are effective and the equipment is reliable, the number of reported violations should be low. If the number of violations goes beyond a certain level, the question is not how many surveillance officers to hire, but what is wrong with the screening procedures or the equipment.

To some extent, procedures and training may vary depending upon the particular system purchased. However, notwithstanding which system is purchased, procedures need to be developed and training instituted in a variety of areas.

It is recommended that agencies design operating procedures and training programs prior to implementing the system. It would be counter-productive to purchase a system, place probationers under surveillance and then, only as they gain experience, determine what procedures and training would have been appropriate.

One of the first procedures to be considered is the screening criteria to be used in determining appropriate candidates. Different procedures may have to be established, depending upon whether the potential candidates will be pre-trial or post-trial, juveniles or adults.

The offender will require some training in the purpose and maintenance of the technology. A short orientation program should be instituted which explains the purpose of the technology, how it works, care and maintenance of the equipment, what to do if the equipment fails, and the department's policy in the event of a curfew violation.

Monitors will have to be hired and trained to operate the equipment. Procedures to be considered include how to enter, update, modify, and expunge information in the computer, and what to do in the case of reported violations. An important training consideration is what to do if the system crashes, as in the case of a power outage or mechnaical failure. Depending on the manufacturer, the monitor may have to be trained in backing up and recovering the information contained in the system in order to protect the cata against a system failure.

An important consideration is system security. It is

a general principle of computer security to administratively seperate computer operators from those authorized to make changes in the system. It is recommended that one individual, possibly the supervisor of the electronic monitoring program, be empowered to authorize changes, but be prevented from having physical access to the hardware. All the changes would be made by the computer operator, and the system should produce a daily log of all changes and modifications. It would be the supervisor's responsibility to verify whether the changes made correspond with those which were authorized. This check and balance should protect the system from inadvertent as well as unauthorized changes.

Finally, the department will need to develop procedures for officers to follow in the event of a reported curfew violation. Certainly, discretion must be exercised in the case of a false alarm since the reported violation could be a function of mechanical error rather than a curfew violation. As with conventional probation, a curfew violation should not necessarily result in a revocation.

Should a department interested in electronic monitoring consider entering into a contract for the monitoring service? It is quite conceivable, for example, for private investors to purchase electronic surveillance systems and offer to provide monitoring services on a contractural basis. This could be a cost beneficial arrangement, since the department would not have to make a capital investment in the equipment, be concerned with maintenance, or be involved in the hiring, training, or supervision of the monitors.

While the care to be exercised in this situation would be no different than in contracts drawn up for other services purchased by an agency, there is a particular caveat to be offered in this instance. The department should determine whether the contractor has a proprietary interest in the particular hardware system being used. It would probably be better if the contractor is not the manufacturer of the hardware. In the event the hardware is unreliable, they are more likely to change systems. However, those contractors with a proprietary interest in the hardware may well be willing to live with an undependable system as long as the department is willing to pay for the service. This would be unwise, particularly if the unreliability of the system reduced its integrity in the eyes of both agency employees and offenders. In addition, an unreliable system may jeapordize public safety.

5.3 Philosophic Concerns

Interviews with probation administrators suggested that there is a wide range of philosophic attitudes toward the technology. On the one hand, some see it as a useful tool which could find a proper place in probation. Others see it as one step beyond what probation is supposed to be. Most administrators, however, expressed a philosophic ambivalence about the technology. They realize that probation must change with the times, but were uncertain whether electronic monitoring was an appropriate change of direction for probation. These administrators might be characterized as sitting on the fence. While mildly interested in the technology, they would rather let some other agency experiment with its use before taking the plunge themselves.

It may be that the differences found among the administrators' attitudes eminate from divergent views as to the purpose of probation. Some see probation as primarily a surveillance function, and although they are not opposed to the ends of rehabilitation, they are not likely to take risks when asked to choose between these two objectives. In all likelihood, administrators who hold this view will come more readily to the use of electronic monitoring.

Other administrators approach probation from a more humanistic perspective. While they do not discount their responsibility to assure public safety, they give relatively more emphasis to the rehabilitative goals of probation. These administrators are more sensitive to the Orwellian connotations of the technology and view it as one step beyond the appropriate function of probation. They might characterize the philosophy of probation in the following way. Offenders make mistakes, but some of them have enough going for themselves that society can take a chance on them remaining in the community. The purpose of probation, therefore, is to allow offenders to demonstrate that they are trustworthy enough to live among their fellow citizens. While some degree of human surveillance is prudent, the probationer must be given enough room to deomonstrate trustworthiness. From this philosophic point of view, some administrators feel that electronic monitoring goes beyond trust, and therefore beyond the scope of what probation should be.

5.4 Potential Abuses of the Technology

Electronic monitoring can be a useful tool in the repertoire of criminal justice strategies. By the same token, it can be abused.

The primary use of the technology should be the diversion of individuals who would be otherwise sentenced to prison or jail. Even allowing for the conservative nature of decision making in criminal justice, many of those currently incarcerated need the added surveillance that an institution provides. Thus, diversion of these individuals will require more extensive surveillance in the community. Other things being equal, the use of electronic monitoring in this circumstance seems appropriate. Using the technology with individuals who would be granted release anyway is potentially abuse. This application is likely to raise costs without necessarily increasing benefits. In addition, it could needlessly widen the correctional net and be an undue invasion of privacy. It is not inconceivable that judges and prosecutors enamoured with the technology could adopt the policy of including everyone under community supervision in an electronic monitoring program. This excessive use of the technology should be avoided. To reiterate a caveat mentioned elsewhere, the technology should not be used if other methods which are less expensive and intrusive work equally as well.

Being diverted from prison or jail is a benefit to the offender, but excessively long periods of house arrest may have adverse effects. Some might argue, for instance, that it would be cost beneficial to use electronic monitoring to hold people under house arrest for twenty-four hours a day, seven days a week. If this condition was imposed for any length of time it would be abusive in two ways. First, if the offender represented such a threat to the community that prolonged house arrest was necessary, they probably need to be in an institution. Secondly, such protracted and continuous confinement is antithetical with the purposes of diversion.

To a lesser extent, and for the same reasons, long term partial confinement during weekday evenings and weekends can be abusive. Such a regimen of confinement may be reasonable for several months, but if an individual has demonstrated that they can work during the day and obey curfew restrictions in the evening and on weekends, why continue such extensive monitoring? Would it not be better to reduce the level of surveillance and use the equipment on some other probationer in need of more extensive supervision?

Some suggest that the technology represents an unwarranted invasion of privacy, and sooner or later litigation will ensue. While one should never rule out the possibility of litigation, the committee believes that if the technology is used appropriately, litigation is unlikely. Since offenders diverted to the program would have been incarcerated otherwise, they are not likely to sue since prison is a less desirable alternative. In fact, electronic monitoring is a "bird nest on the ground" for a defense attorney looking for leverage in plea negotiation, and therein lies a potential for abuse. The busy prosecutor may become too willing to negotiate pleas resulting in use of electronic monitoring, when the more appropriate alternative from the prospect of public safety would be incarceration. For this reason it is critical to involve both the prosecutor and the courts in developing diversionary policy long before the purchase of a system.

The technology should not be conceived of as a quick fix for the complicated problem of a community's overcrowded jail or a state's overcrowded prison system. Overcrowding is a complex problem, unlikely to be solved simply by purchasing an electronic monitoring system. A community or state facing overcrowding problems needs to conduct an indepth analysis of why the problem exists and identify various alternatives which can ameliorate the situation. Electronic monitoring might be a useful tool, but certainly not the sole remedy for the problem. It cannot be used as a substitute for sound correctional policy development.

Although practical experience is limited, common sense suggests that certain kinds of offenders may be inappropriate candidates for electronic monitoring programs. Given the current public sensitivity towards the treatment of sexual offenders, it may not be wise to include them in the program at first. This is not to say that such individuals could not benefit from the program, but that subsequent violations committed by sexual offenders under electronic surveillance may arouse such a strong community reaction that it might jeopardize the use of the technology with other suitable offenders. Common sense would also suggest that offenders with a history of spouse or child abuse are not suitable candidates. In this case, the use of the technology may put the offender's family in clear and eminent danger if they are to be residing in the same home.

Finally, one needs to carefully consider the potential use of the technology with juveniles. Communities vary, both in the extent of delinquency and their corresponding tolerance for the criminalization of the juvenile justice

system. Other things being equal, the technology could be a very effective means of responding to early signs of delinquency. However, the danger always exists that the juvenile justice net will be widened too far and that the ill effects of labeling, attendent with an over-reaction to deviance could become excessive.

5.5 Summary

It is premature to attempt to determine the actual cost-benefits of an electronic monitoring program. The technology has been only recently introduced to the correctional field and time must pass before one can determine if the benefits out-weigh the costs. One must consider the lost opportunity costs. What other programs could have been initiated or expanded with the funds used to purchase the surveillance equipment?

The non-monetary benefits which can be realized from use of the technology are equally as important as fiscal concerns. Policy makers must weigh the effects of incarceration on the individual against the magnitude of risk to public safety. It is neither humanistically nor economically beneficial to incarcerate people who are capable of functioning under community supervision.

Advocates of electronic monitoring argue that the technology has the potential to reduce jail and prison populations. Whether or not this will occur is an emperical question which is not yet answerable. While the technology may be a useful tool for reduction of overcrowding, it is not the sole answer to the problem. The technology cannot serve as a substitute for sound correctional planning.

Irrespective of the perceived cost-benefits, the introduction of the technology may require administrative changes affecting personnel policy, revocation procedures, and relations with the external environment. By its very nature electronic monitoring is a twenty-four hour a day service. While the number of additional personnel that may be required to operate such a program is unknown, this will be dictated by the number of offenders on the system and the number of violations reported. If screening procedures are effective and the equipment is reliable, the number of reported violations should be low. If the number of violations reach an intolerable level, rather than hiring additional personnel, the screeening proceedures and the reliability of the equipment should first be examined.

There appears to be a wide range of philosophic attitudes toward the technology among the probation officials interviewed. Some saw it as a useful tool which could find a proper place in probation. Others see it as one step beyond what probation is supposed to be. Most administrators, however, expressed a philosophic ambivalence about the technology. While mildly interested in the concept, they would rather let some other agency experiment with its use first.

Electronic monitoring can be a useful tool in the repretoire of criminal justice strategies, however, it can also be abused. Excessive periods of surveillance are abusive and antithetical to the concept of diversion. Some people are not appropriate candidates for the program. If a person requires extended periods of continuous surveillance they probably belong in an institution and not the community.

Section 6

LEGAL ISSUES

The legality of using electronic monitoring as a correctional alternative must be addresed from two perspectives; constitutional and legislative. An in-depth analysis of the constitutional issues is presented in Appendix E. It is the opinion of the Legal Subcommittee, subject to the requirements addressed in the appendix, that a properly designed program would withstand a court challenge based on constitutional issues. A review of state laws and materials submitted to the Secretariat indicates that new legislation will be needed in connection with the use of electronic monitors in Texas.

6.1 Enabling Legislation

It will be necessary to amend the provisions of pertinent laws to authorize the use of electronic monitors as an alternative for probation, parole, and institutional (jail or other detention facilities) release. In the case of probationers, this can be added to the list of conditions to be imposed, contained in Article 42.12, Section 6(a) of the Code of Criminal Proceedure. In the case of parolees, use of the technology can be added to the set of conditions imposed by the Board of Pardons and Paroles. For institutional detainees or releasees the provisions may be added to Chapter 43 of the Code of Criminal Procedure and the appropriate section of the Texas Family Law.

6.2 Immunity From Civil Liability

It is suggested that a law be enacted providing for immunity from liability in state tort cases for Texas criminal justice personnel who are involved in the release and supervision of electronic monitor users. Court decisions give judges and parole decision makers absolute immunity for the decision to release. The immunity law, therefore, would provide protection for criminal justice personnel other than judges and parole board members and commissioners.

6.3 Provisions for Indigent Offenders

A law should be enacted which makes provisions to provide electronic monitoring devices to potentially eligible offenders who would not be able to afford payment of any required fees. While this recommendation need not be enacted into law, it must be included in the electronic monitoring program so as to obviate possible equal protection challenges.

Section 7

RECOMMENDATIONS

The use of electronic monitoring in the State of Texas appears to be feasible from a conceptual perspective. Based upon the research conducted by the Electronic Monitoring and House Arrest Study Committee, the follwing recommendations are presented to the Texas Criminal Justice Policy Council.

7.1 Electronic monitoring should not be used if programs which are less costly or less intrusive will work equally as well.

The technology should be used only for those individuals who would otherwise be incarcerated or subjected to a more restrictive or costly form of supervision. To do otherwise would be abusive and counterproductive to the perceived benefits of electronic monitoring programs.

7.2 The State of Texas should develop and implement a pilot project with the technology.

Many questions remain unanswered about the long-term benefits and cost effectiveness of the technology. Without actual operational experience it is difficult to make a realistic assessment of the potential benefits and liabilities of such a program.

7.3 Specific legislation should be adopted which authorizes agencies to utilize the technology.

In addition to enabling legislation, protection from civil liability for release decisions and operation of electronic monitoring programs should be enacted. Provisions should be made to provide equipment for indigent offenders who would otherwise be eligible for the programs.

7.4 A state clearinghouse for information should be established and additional research conducted.

It appears inevitable, barring a legislative prohibition, that electronic monitoring will be used either at the local, county, or state level in Texas. Criminal justice agencies within the state would greatly benefit from having a central location for the collection and dissemination of information pertaining to use of the technology.

Tentative projections, based upon the information available at the time of the report, indicate the possibility of reduced correctional costs through use of the technology. However, it was not possible to calculate the expense of personnel and administrative overhead which would be incurred by participating agencies. An in-depth analysis by the Governors' and Legislative Budget Offices who are more familiar with budget preparation for state agencies would provide more realistic projections.

7.5 The Secretariate function of the Committee should be continued through June of 1987.

It is anticipated that the technology will continue to develop at a rapid pace. While the knowledge base is expanding at a much slower rate, the information presented here could very well be out of date within six months to a year. Until such time as a policy decision is made it would appear prudent to continue gathering information and remain abreast of new developments. The Secretariate would continue to receive and compile information from the members of the Committee and outside sources. If deemed necessary an additional report would be issued in June of 1987.

Appendix A

COMMITTEE PROJECT PLAN

Texas Criminal Justice Policy Council
Electronic Monitoring and House Arrest Study Committee

PROJECT PLAN

I. Goals and Objectives of the Committee

The commmittee was formed in response to a mandate from the Criminal Justice Policy Council to conduct a comprehensive study of the feasibility of using electronic monitoring devices and "house arrest" as an alternative to incarceration and traditional forms of probation and parole. Specifically, the committee was directed to address the following:

- Eligibility criteria for offenders.
- Estimates and projections of the numbers of suitable offenders.
- Estimates of capital and personnel costs.
- Caseload and population impact on agencies.
- Equipment and program reliability.
- Legal and civil rights issues.
- Experience and extent of use in other states.
- Citizen and community response/acceptance in other states.
- Statutory changes needed.
- Recommendations for further study.

The committee's goal is to produce a "white paper" which will allow the Criminal Justice Policy Council to formulate an informed decision as to the possible benefits to be derived from the technology.

II. Annotated Description of Final Report

The final report will consist of an executive summary, six substantive sections, and an appendix, as follows:

Executive Summary

The executive summary will condense the information contained in the body of the report providing the reader a quick overview of the topics addressed. It will begin with the purpose of the report, provide an outline of the report's organization, and summarize the contents. It summary will conclude with the recommendations of the committee.

Section 1

Section 1 will describe the technology, the types of equipment currently available, and associated costs. A matrix showing the known manufacturers, unit costs, and functional characteristics will be included.

Section 2

Information on current users of the technology will be provided in this section. Specifically the report will identify current users of the technology, descriptions of their programs, their client criteria, and the number of people affected. Additionally, information will be sought from users as to any difficulties they have experienced, benefits derived, community reaction, and future plans. If there have been any evaluation reports or policy statements prepared by these agencies they will be summarized. A chart will be included showing, by jurisdiction, the program type, number of affected persons, equipment used, and length of experience with the technology.

Section 3

The question of how the technology might be utilized by specific agencies in the State of Texas will be addressed in this section. Models for the following categories of agencies will be developed and presented:

- Department of Corrections
- Board of Pardons and Paroles
- Adult Probation Commission
- Youth Commission
- Juvenile Probation Commission
- County Jails

Each agency will develop an application plan including:

- A short description of the programs in which the technology could be used.
- A description of the offender criteria which would be used to establish eligibility for the program.
- The total client population by program category and the number of persons in each category who might meet the established criteria.
- Current daily cost of supervising an eligible offender under existing programs without the technology.

After the information is presented in narrative form, it will be summarized in a table format:

Sample Table

Program	Total Client Population	Eligibility Criteria	Total Eligible	Current Unit Cost	Direct Cost Savings
Work Release	3,000	A B C	150	$15	
Pre-Release	1,500	A E F	900	$13	

Direct cost savings will be roughly estimated from the current equipment costs provided by the manufacturers. The section will out of necessity contain a disclaimer that cost savings will be effected by start-up costs, indirect costs, and personnel costs. Additionally, there is no way to accurately predict the failure rate of persons on the system. Such failures will result in expenses being deferred, but not reduced. It should be pointed out that these savings will not be realized immediately, because system implementation will be incremental.

The purpose of the section is to provide an overview of suggested uses for the technology and a rough estimate of cost/benefits to assist policy makers in preliminary economic evaluations.

Section 4

This section will provide a variety of caveats concerning the technology. Philosophic and policy issues will be addressed. Reasonable expectations for the programs will be outlined. Recommendations for evaluation proceedures will be put forth to facilitate an emperical study of the benefit of the technology for public safety, actual cost benefits, failure rate, and adequacy of proceedures.

Additionally, in this section, consideration will be given to the advisability of establishing a clearinghouse at the state level to share information on system design, initiation of programs, and evaluation components.

Section 5

Specific legal concerns as to the constitutionality and any required enabling legislation will be reviewed in this section.

Section 6

The last section will contain the specific recommendations of the committee. The recommendations will be presented in a numbered format with a short explanation and justification following each of them.

Appendix

The appendix will contain various reference materials. Among those items expected to be included are:

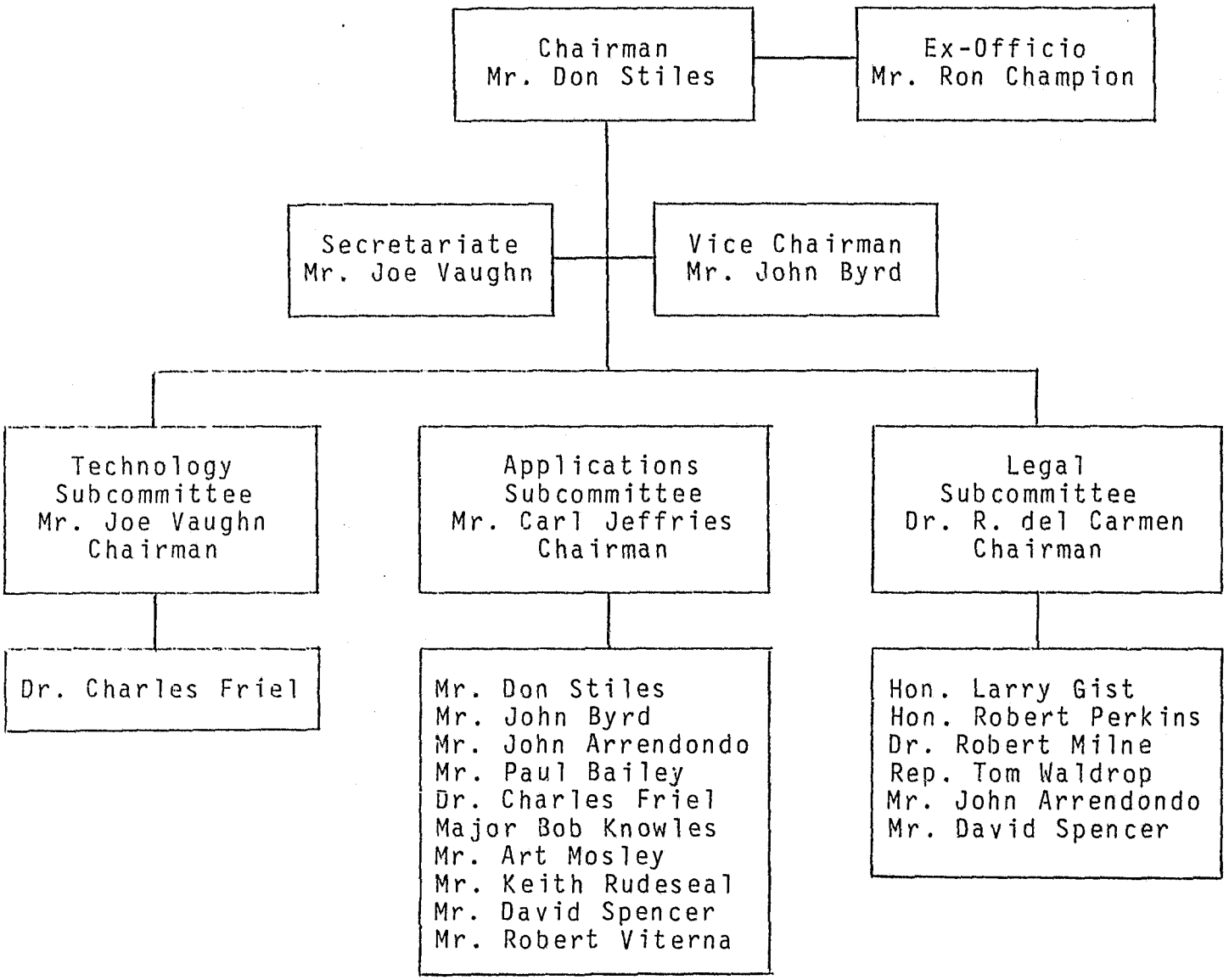
- Name, address, and phone numbers of manufacturers.
- Name, address, and phone numbers of current users.
- Bibliography of published material.

- Photographic reproductions of brochures from manufacturers and/or short statements about their products.

III. Committee Organization

The context of the report suggests that the committee be divided into subcommittees to facilitate work flow. Figure 1 provides the suggested organizational structure.

Figure 1
Committee Organization



The Committee Secretariate will receive and organize all written materials for the committee. It is felt that due to geographic constraints, the work flow would be facilitated by having one person serve as a "point man" to receive the written work of the subcommittees and assist the committee chairman in monitoring the work process and in communicating with other committee members. Ideally, that person should also be the one who will compile the final report.

The Technology Subcommittee will assume responsibility for obtaining the information necessary to compile sections 1 and 2 of the report. While section 4 will require input from the entire committee, a portion of the work has already been done by the two members of the Technology Subcommittee. For that reason they will assume responsibility for compiling the information necessary for that section.

The Applications Subcommittee will assume responsibility for obtaining the necessary information to complete section 3.

The Legal Subcommittee will assume responsibility for identifying the information to be included in section 5.

IV. Task Analysis and Project Schedule

For administrative purposes, the project has been divided into four phases:

Phase 1: Organization and Planning
Phase 2: Data Collection and Analysis
Phase 3: Preliminary Draft
Phase 4: Review and Finalization

Organization and Planning (1-21-86 to 2-16-86)

The organization and planning phase consists of identifying the tasks to be performed, assignment of the tasks, and establishment of timeframes for completion. The following tasks have been identified:

Task 1: Organizational meeting 1-21-86.
Task 2: Prepare project plan/task analysis.
Task 3: Prepare project schedule.
Task 4: Disseminate project plan/schedule to members.
Task 5: Meeting on 2-14-86 to finalize project plan and work assignments.
Task 6: Final project plan/schedueI to members.

Data Collection and Analysis (2-16-86 to 3-16-86)

The data collection and analysis phase of the project involves the identification of possible applications, development of eligibility criteria, and analysis of program impact. Collected data will be submitted to the secretariate. The following tasks have been identified:

Task 7: Prepare agency criteria for use of technology. (See annotated description of final report, section 3 for format).

- Task 7A: Texas Department of Corrections
- Task 7B: Texas Board of Pardons and Paroles
- Task 7C: Texas Adult Probation Commission
- Task 7D: Texas Youth Commission
- Task 7E: Texas Juvenile Probation Commission
- Task 7F: County Jails

Task 8: Develop questionaire for manufacturers.
Task 9: Solicit information from manufacturers.
Task 10: Estimate cost savings.
Task 11: Develop list of current users.
Task 12: Develop questionaire for current users.
Task 13: Solicit information from current users.
Task 14: Examine constitutional/legal issues and prepare recommended legislation.
Task 15: Develop recommended evaluation proceedures.
Task 16: Develop bibliography of published works.
Task 17: Develop philosophic and policy concerns.
Task 18: Data and recommendations for report to secretariate.
Task 19: Develop proposed committee recommendations.

Preliminary Draft Phase (3-16-86 to 4-13-86)

After having received the information collected and developed by the committee members, the secretariate will prepare a draft copy of the report to be distributed to the members. After the members have had an opportunity to review the report, a third meeting should be held to discuss the draft and finalize the committee's formal recommendations.

Task 20: Prepare preliminary draft.
Task 21: Distribute draft to members.
Task 22: Meeting to discuss draft, suggest changes, and finalize formal recommendations.

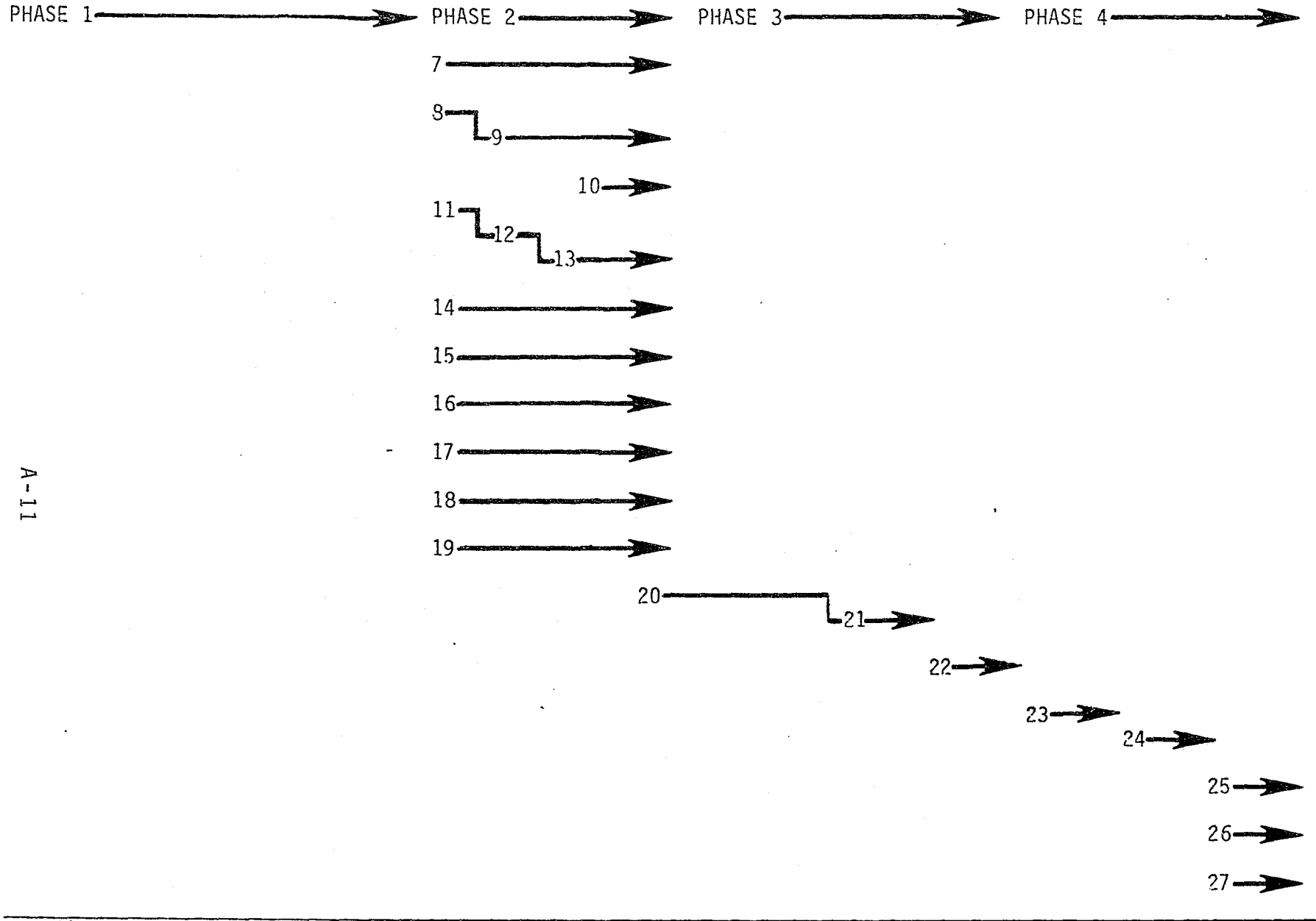
Finalization Phase (4-13-86 to 4-27-86)

The finalization phase will consist of making any changes to the report and preparation of the final draft.

Task 23: Prepare final draft copy of report.
Task 24: Distribute final draft to members.
Task 25: Report objections, exceptions, final changes by phone to secretariate.
Task 26: Prepare final report.
Task 27: Submit final report to Executive Director of the Criminal Justice Policy Council.

****

Project Schedule
Electronic Monitoring and House Arrest Study Committee



Appendix B

SURVEY INSTRUMENTS

VENDOR: _____
CONTACT PERSON: _____
TELEPHONE: _____

SECTION 1: CENTRAL COMPUTER FEATURES

1. Total client capacity: _____

2. Total internal memory storage capacity: _____

3. Memory backup capabilities:
   _____Floppy disk
   _____Tape
   _____Paper printout logs

4. Battery power backup system: _____

5. Data retrieval backup system: _____

6. Briefly describe any data security system:

7. Field polling for system checks:
   Frequency per day: _____

   Direction of polling:
   To house: _____
   From house: _____

8. Printed reports:
   _____Violation reports
   _____Equipment failure reports
   _____Daily summary report
   _____Monthly summary report
   _____Summary report by client
   _____Summary report by officer

9. Individual Client Files:
   _____Client data
   _____Client schedules
   _____Medical requirements
   _____Court restrictions
   _____Officer contacts

10. Telephone line capacity: _____

11. FCC registered and approved:
    _____Computer equipment
    _____Phone line interface

12. Computer hardware:
    Manufacturer: _____
    Model: _____

13. Multiple in/out capability:
    _____ Number of times per day client may enter/ leave residence.

    _____ Can this be modified for each individual client by the agency?

14. Terminal Networking Capability:
    _____ Number of terminals
    _____ In house networking
    _____ Remote locations

SECTION 2: FEATURES OF THE HOME MONITOR

1. Size: _____ x _____ x _____.

2. Weight: _____

3. Does system use existing telephone company lines? _____

4. Will system operate on modular phone lines? _____

5. Does system have phone line seizure capability? _____

6. Does system have battery backup system? _____

7. Does system meet National Electric Codes? _____

8. System complies with FCC regulations? _____

9. System able to report to multiple computers? _____

10. System have memory re-dial capability? _____

11. All solid state circuits? _____

12. Transmitter violation delay? _____ Length: _____

13. Is unit programable by the agency? _____

14. Coiled cords? _____

15. Carrying handle? _____

16. Storage Case? _____

17. L.E.D. Indicators:
_____Unit power failure
_____A/C power failure
_____Transmitter proximity
_____Communication on
_____Tamper

17. Capability to transmit:
_____Monitor unit on
_____Client out
_____Client in
_____Home unit tampered with
_____Transmitter tampered with
_____A/C power failure
_____Transmitter power failure
_____Home unit power failure
_____Test reports and failures
_____Unit relocation

SECTION 3: TRANSMITTER FEATURES

1. Size: _____ x _____ x _____

2. Weight:

3. Waterproof housing? _____

4. Tamper resistant housing? _____

5. Will not irritate healthy human skin? _____

6. Unit resuable? _____

7. Can fastening be replaced by agency? _____

8. Is fastening secure? _____

9. Will it report attempts to tamper with unit? _____

10. Battery life: _____

11. Signal range: _____

12. Range test capability? _____

13. Transmitter worn on:

_____Neck
_____Wrist
_____Ankle
_____Waist

TELEPHONE SURVEY

ELECTRONIC MONITORING USERS NO. _____

1. Phone No.: _____ Date: _____

   Contact: _____ Time: _____

2. Agency: _____

   a) Address: _____

   b) Phone No.: _____

   c) Director: _____

3. Brief description of program: _____

4. Equipment being used: _____

   Number of Units: _____

5. Organizational Configuration:

   a) Who runs program: _____

   _____

   _____

   b) Who operates equipment: _____

   _____

   _____

   c) Who provides surveillance: _____

   _____

   _____

   d) Was enabling legislation required: _____

   _____

   _____

6. Jurisdictional coverage: _____

   a) Geographic area: _____

   _____

   b) Jurisdictional area: _____

   _____

7. When did program begin: _____

   a) Planning began: _____

   b) First Offender Placed: _____

   c) Duration: _____

8. Program planning:

a) Precipitating incident for program: _____

b) Whose idea was program: _____

c) Was there a planning team: _____

d) Planning document: _____

e) What sold them on their equipment: _____

e) Did they field test the equipment: _____

9. Eligibility requirements: _____

a) Have requirements changed/why: _____

b) Automatic exclusion criteria: _____

10. Program Statistics:

a) No. currently on program: _____

b) No. who have finished program: _____

c) No. who have failed program: _____

d) No. put on program in last month: _____

11. How is program financed: _____

_____

_____

_____

a) How was equipment paid for: _____

_____

_____

_____

b) Current budget for fiscal year: _____

_____

_____

_____

c) Does offender pay: _____

_____

_____

_____

12. Cost Benefits:

a) What is the daily cost of program: _____

_____

_____

b) Cost elements in daily cost: _____

_____

_____

c) Benefits derived: _____

_____

_____

_____

_____

13. Procedures:

a) Max duration of surveillance: _____

_____

b) When violation reported: _____

_____

_____

_____

c) Exception to curfew requested: _____

_____

_____

_____

d) If offender needs home/phone: _____

_____

_____

e) Training of Officers: _____

_____

_____

f) Training of offenders: _____

_____

_____

14. Problems encountered:

a) Equipment: _____

_____

_____

_____

b) Offenders: _____

_____

_____

_____

c) Staff/Unions: _____

_____

_____

_____

d) Organization: _____

_____

_____

_____

_____

e) Funding: _____

_____

_____

f) Other CJ Agencies: _____

_____

_____

_____

Continued next page

14. Problems encounters (Continued):

g) General public: _____

_____

_____

_____

h) Media: _____

_____

_____

_____

15. Future considerations:

a) Expand/change equipment: _____

_____

_____

_____

b) Eligibility criteria, current program: _____

_____

_____

_____

c) New program applications: _____

_____

_____

_____

d) Organizational changes: _____

_____

_____

_____

16. One best thing about the program: _____

_____

_____

_____

17. The one caution you would share with others: _____

_____

_____

_____

18. Follow up items

a) Call back for: _____

_____

_____

b) Document(s) to be sent:

( ) Program description

( ) Program planning document

( ) Eligibility criteria

( ) Program statistics

( ) Current budget

( ) Procedural manual

( ) Press clippings

( ) Other _____

_____

c) Action Items:

( ) Copy of final report

( ) Thank you letter

Appendix C

LIST OF VENDORS

Advanced Signal Concepts
P.O. Box 1856
Clewiston, Florida 33440
Attn: Mr. Robert J. Pearsall
(813) 983-2073

Computrac Systems, Inc.
420 East South Temple Avenue
Suite 340
Salt Lake City, Utah 84111
Attn: Mr. Kent B. Hansen
(801) 531-0500

CONTRAC (Controlled Activities Corporation)
93351 Overseas Highway
Tavernier, Florida 33070
Attn: Mr. Thomas O. Moody
(305) 852-9507

Control Data Corporation
Corrections Systems Division
8800 Queen Avenue South
Bloomington, Minnesota 55431
Attn: Mr. Roger Mulier
(612) 921-6836

Controlec, Inc.
Box 48132
Niles, Illinois 60648
Attn: Mr. Joseph Brumbach
(312) 966-8435 or (312) 286-7377

Corrections Services, Inc.
2711 Exchange Court
P.O. Box 2941
West Palm Beach, Florida 33402
Attn: Mr. Fred Rasmussen
(305) 683-7166

Cost-Effective Monitoring System
2207 Grange Circle
Urbana, Illinois 61801
Attn: Dr. Walter W. McMahon
(217) 333-4579 (Days)
(217) 367-3990 (Evenings)

Digital Product Corporation
4021 Northeast 5th Terrace
Ft. Lauderdale, Florida 33334
Attn: Mr. Burton J. Weiss
(800) 327-9476

Life Sciences Research Group
515 Fargo Street
Thousand Oaks, California 91360
Attn: Dr. R. Kirkland Gable
(805) 492-4406

VOXTRON Systems, Incorporated
190 South Seguin Street
New Braunfels, Texas 78130
Attn: Mr. Stanley F. Chapin
(512) 629-4807

Appendix D

LIST OF CURRENT USERS

FLORIDA

Dade County Department of Corrections & Rehabilitation
1500 N.W. 12th Avenue, Room 726
Miami, Florida 33136
(305) 547-7903
Mr. Tim Murray
Director of Pre-Trial Services

Palm Beach County Sheriff
673 Fairground Road
P.O. Box 85, Loxahatchee
West Palm Beach, Florida 33470
(305) 793-5633
Captain Eugene Garcia

Pride Incorporated
2711 Exchange Court
West Palm Beach, Florida 33409
(305) 683-9188
Mr. Glen Rothbart
Executive Director

KENTUCKY

Kentucky Department of Probation and Parole
County Building, Room 706
Covington, Kentucky 41011
(606) 292-6555
Ms. Dianne Lehman
Supervisor, Electronic Surveillance Program

MICHIGAN

Michigan Department of Corrections
Steven A. Mason Building
Lansing, Michigan 48909
(517) 373-0267
Mr. Perry Johnson
Deputy Director

NEW JERSEY

New Jersey Administrative Office of the Courts
Intensive Supervision Program
Richard J. Hughes Justice Complex
Trenton, New Jersey 08625
(609) 984-0076
Mr. Richard Talty
Director, Intensive Supervision Program

OKLAHOMA

Oklahoma Department of Corrections
3400 Martin Luther King Boulevard
Oklahoma City, Oklahoma 73136
(405) 528-8570
Mr. Jerry Massie
Coordinator, House Arrest Program

OREGON

Clackamas County Community Corrections
501 Pleasant Avenue
Oregon City, Oregon 97045
(503) 655-8603
Mr. Terry L. Gassaway
Director

Linn County In-House Arrest Program
1400 Southeast Queen, Room 202
Albany, Oregon 97321
(503) 967-2044
Ms. Nancy White
Probation Officer

UTAH

Utah State Department of Corrections
6065 South 300 East
Salt Lake City, Utah 84107
(801) 261-2817
Mr. L. Joseph Bogaty
Program Director: Field Operations

Appendix E

ANALYSIS OF CONSTITUTIONAL ISSUES

LEGAL ISSUES IN THE USE OF ELECTRONIC SURVEILLANCE IN PROBATION

Rolando V. del Carmen & Joseph B. Vaughn*

ABSTRACT

This paper explores the legal and constitutional issues involved in the use of electronic devices to monitor probationers. The article describes the monitoring system currently used in many jurisdictions, then reviews and interprets United States Supreme Court cases on electronic surveillance. The constitutionality of probation conditions is addressed and possible infringement of constitutional guarantees in the use of electronic devices is explored. Specific constitutional provisions are discussed, including the right to privacy, the right against self-incrimination, cruel and unusual punishment, equal protection, and search and seizures. Other legal concerns addressed are the use of curfew restrictions, the constitutionality of waiver of rights, and the right to refuse probation or parole. The article concludes that while the use of electronic devices in probation raises several constitutional issues, its constitutionality will most likely be upheld by the courts, if challenged.

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I. INTRODUCTION

Jail and prison overcrowding has generated a re-examination of the concept of imprisonment and the use of alternative forms of sentencing for those who would normally be incarcerated if space were available. From 1972 to 1982, the population in federal and state prisons throughout the United States more than doubled. In 1981 and 1982 there was a twelve percent growth rate each year in the number of offenders sentenced to state and federal prisons. In 1984 more than 430,000 men and women were incarcerated in those institutions.[1] That does not include the thousands more held in local and county jails.

Solutions to the overcrowding have been mandated by the courts in some thirty-nine states, the District of Columbia, Puerto Rico, and the Virgin Islands.[2] The traditional response to overcrowding has been to build more prisons. There is a growing realization, however, that this response may not be economically or politically feasible. Initial construction costs are prohibitive and the public has shown signs of reluctance to expend public funds for institutionalization A new prison cell is estimated to cost from $25,000 to $75,000.[3] The State of Illinois has appropriated $150 million dollars to capital expenditures for prisons, representing fifty percent of all capital spending

during that time period.[4] Moreover, experts disagree on whether or not the construction of new prisons is the answer. Some maintain that new prisons are needed to alleviate overcrowded conditions; others believe that prison construction would merely widen the net and lead to more incarceration.[5]

Recent articles indicate a growing belief that alternatives to incarceration should be utilized both as a means to alleviate prison overcrowding and as a more humane and effective form of offender treatment.[6] Proposed alternatives include restitution, community service, prerelease programs, early parole, Intensive Probation Supervision, and house arrest. Others have even suggested a return to corporal punishment.[7]

Probation, in diverse forms, has been used in all states as a viable alternative to incarceration; but its cost-effectivness has also been questioned. While probation is admittedly less costly, it is far from inexpensive. For example, California spends approximately $1,600 per year for each person on probation. In that state one out of every eighty-three people between the age of nine and sixty-five is now on probation.[8]

One proposed incarceration alternative is intensive supervision through the use of electronic devices to monitor offenders. The solution is now technologically feasible and is being used in a few jurisdictions. This paper examines

the current use of the device and some possible constitutional and legal challenges to its usage. There have been no court cases decided to date which deal specifically with the issue, hence the paper will focus on the use of electronic surveillance based on cases where similar issues have been raised. It concludes with an assessment of the constitutionality of such use in probation cases.

II. THE MONITORING SYSTEM

While the full extent of its useage is unknown, widespread use of the monitoring system has not yet occurred. Among the first users of the system were West Palm Beach County, Florida; Lake County, Illinois; Albuquerque, New Mexico; Kenton County, Kentucky; and Washtenaw County, Michigan.[9]

The monitoring systems currently used are usually composed of three parts--a control computer located at the controlling agency, a receiver unit located in the offenders home, and a transmitter device worn by the offender. The style of the transmitter varies from those that are worn on the ankle, to those that are worn on the wrist or around the neck. The ankle transmitting device, which is about the size of a cigarette package and weighs five ounces, is strapped just above the ankle with a rubberized watch-type strap which is said to be tamperproof. Although the offender conceivably could remove the device by cutting the strap or stretching it and taking it off over his foot, an electronic circuit within the device detects such tampering and sends an alarm to the receiving unit.[10]

In one program the ankle device is viewed as a part of the punishment process. There is no provision for its removal. While technology exists to make the unit much

smaller, advocates of the program do not want the offender to forget that he is wearing it. The weight of the device serves to remind the person of its presence, enhancing its use as a punishment. In one program, out of the sixty people on whom the ankle device has been placed, only one has had an adverse physical reaction to it.[11]

The receiver, located in the offender's home, communicates with the control computer through a telephone connection. Like the ankle device, the receiver is designed to be tamperproof. There is an internal battery to supply power in the event the unit is unplugged or the electricity goes off in the home. The receiver communicates with the control computer at randomly selected times. If the message is not sent at the selected time, the control computer automatically calls the receiver to check and alerts the operator if there is a problem. Additionally, the receiver keeps a log of the times the offender comes and goes from the house. To facilitate work-release programs, the computer can be set to allow the person to leave and return home at certain times without triggering an alarm.

The control computer, like the receiver, has an alternate power supply to allow its continued operation in the event the electric service is interrupted. It provides a printout of the times an individual enters or leaves the area of confinement, thus preserving a record of any

violations of the restrictions placed upon him.[12]

The system is reported to be accurate eighty-five percent of the time in monitoring violations.[13] Inaccurate reports can be generated, according to one user, by power failures, or severe thunderstorms that interfere with the telephone line transmissions. One operation problem has been discovered in the system itself. If a person places his body in a fetal position, as sometimes occurs during sleep, and his body mass is between the ankle device and the receiver, the signal is blocked and a false alarm is sent to the computer indicating that the user has left home. When the user rolls over and his body mass is no longer blocking the signal the receiver will indicate he has returned. According to the system supplier, it is necessary to rely on a human's analytical ability to distinguish between false readings and actual violations.[14]

The system is designed for selective use and is not for everyone. "It is for a select group of non-violent offenders who really want to make it work, it is for the person who has good motivation."[15] In West Palm Beach County, Florida, it was initially utilized only for persons convicted of driving while intoxicated. Currently, approximately fifty percent of the offenders in that program are such persons, while the remainder have been convicted of a broad spectrum of non-violent misdemeanors. It is used "for people who appear to be those who could make it on the street if their activities

were curtailed somewhat. The system is a curfew device, it doesn't control his (the offender's) activities."[16]

Aside from intensive supervision, the system has also been utilized to monitor pre-trial detainees who would normally not be eligible for release on a personal recognizance bond, because of prior record. The system is used in lieu of pre-trial detention in jail. In these instances, the alternative is provided only to those non-violent offenders who have a permanent place to live and are employed. If there is a shortage of equipment and no units are available the person must remain in jail until his trial if he is unable to post a bond.[17]

The system can be operated either publicly by the probation department, or privately on a contract basis with a corporation. Under the second option, the private corporation in effect assumes the duties of a probation department in providing the supervision of the offenders. Additionally, programs can be devised to accept only misdemeanants or only felony offenders, or any combination of offense types. The cost of the program can be financed totally by the government, or it can be partially paid for by the offender through fees.

III. CONSTITUTIONAL ISSUES

Electronic Surveillance

Supervision of probationers requires a varying degree of surveillance by probation officers. The use of house arrest and monitoring devices to supervise clients must comply with the Fourth Amendment which prohibits unreasonable searches and seizures. That Amendment provides the foundation for cases decided by the United States Supreme Court which involve the use of electronic surveillance. Since 1928, the United States Supreme Court has decided a series of cases which indicate the parameters within which electronic surveillance and devices may be used.

The seminal case in electronic surveillance is Olmstead v. United States,[18] decided in 1928. In Olmstead, the Court held that a wiretap executed without an accompanying tresspass in an individual's home was not a Fourth Amendment violation. The central issue of tresspass, on which Olmstead was based, formed the basis for two subsequent decisions dealing with the use of electronic "bugging" devices. Goldman v. United States,[19] involved police officers who electronically monitored a conversation through a wall of an adjoining office. In On Lee v. Unites States,[20] a former-friend-turned informant, who was wired with a transmitting

device, entered the defendant's laundry with defendant's consent. In both cases the Court held that the electronic surveillance was constitutional because there was no trespass to property.

The modern landmark case on electronic surveillance and its Fourth Amendment restrictions was decided by the Court in 1967. In Katz v. United States,[21] government agents, without the defendant's knowledge or consent, attached a monitoring device to the outside of a public telephone booth and recorded only the defendant's conversation. The Court ordered the tape recorded evidence excluded because no warrant had been issued authorizing the surveillance. Overruling Olmstead and Goldman, the Court held that the absence of a tresspass into the public telephone booth did not justify violating the defendant's "reasonable expectation of privacy," saying that "the Fourth Amendment protects people, not places."[22] Katz is significant because it eliminated trespass as a requirement for unconstitutionality. More importantly, it made the right to privacy in effect portable in that such right now attaches to a person rather than to a protected place. The Katz case has been the foundation upon which recent right to privacy cases have been decided.

The Katz decision did not overturn On Lee, although some lower courts held otherwise. In deciding a case similarly circumstanced, United States v. White,[23] the Court re-

affirmed the decision in On Lee. In White, an informer had consented to wear a microphone and have his conversations with the defendant recorded. The Court held that no Fourth Amendment violation had occurred because a defendant does not have a "justifiable and constitutionally protected expectation that a person with whom he is conversing will not then or later reveal the conversation to the police."[24] The Court believed that if there was no reasonable expectation of privacy, the use of electronic equipment to record the conversation could not be construed as creating a violation of the defendant's constitutional rights.

In Berger v. New York,[25] the Court dealt specifically with the constitutional requirements for a wiretap. It held that the language of a New York statute authorizing wiretapping was too broad and therefore violative of rights under the Fourth and Fourteenth Amendments. The Court went on to say that a valid warrant authorizing any form of electronic surveillance, including wiretapping, must satisfy the following requirements: (1) The warrant must describe with particularity the conversations which are to be overheard; (2) A showing of probable cause to believe that a specific crime has been or is being committed; (3) The wiretapping must be for a limited period of time; (4) The suspects whose conversations are to be overheard must be named; (5) A return of the warrant must be made to the court,

showing what conversations were intercepted; and (6) The wiretap must terminate when the desired information has been obtained. In very specific terms, Berger spelled out the constitutional requirements for electronic surveillance. States have since complied with these requirements by statute or court decisions.

Federal Legislation

In 1968 Congress passed Title III of the Omnibus Crime Control and Safe Streets Act to regulate the electronic and mechanical interception of wire and oral communications. That law requires law enforcement officials to obtain a court order to intercept wire and oral communications. The act governs only the interception of contents of oral or wire communications and therefore leaves open a wide variety of other electronic surveillance devices which may be utilized without obtaining a court order.[26] Title III regulates only the interception of the contents of oral and wire communications, hence the use of monitoring devices which track locations of people, absent any state enacted statute, is governed only by the Constitution.

In 1977, the Supreme Court, in United States v. New York Telephone Co.,[27] directly addressed the issue of whether or not Title III applied to governmental use of pen registers. In that case the Court found that such devices are not regulated by the Act because they do not intercept actual

telephone conversations, but merely record telephone numbers dialed from a telephone. Two years later, in Smith .v Maryland[28] the constitutional issue of whether or not the use of pen registers constituted a search within the meaning of the Fourth Amendment was resolved. The Court held that the attachment of a pen register at the telephone company office to record the numbers dialed on a phone did not constitute a search because there was no legitimate expectation of privacy.

United States v. Knotts[29], decided in 1983, represents the first time the Supreme Court considered the use of "beeper"[30] devices to trace the location of an object or person. In that case a "beeper" was placed in a container of chemicals which was later purchased by the defendant for use in the manufacture of drugs. Police followed the defendant by utilizing the beeper and located a cabin where he was staying. The Court held that there is no reasonable expectation of privacy as to a person's movement on public highways and therefore no search occurred. The Court did not rule on whether the installation of the "beeper" was constitutional because Knotts did not raise the issue. Prior to Knotts, the lower courts decisions on the utilization of electronic surveillance devices to track a vehicle on a public highway generally held that no warrant need be obtained.[31]

A year later, in United States v. Karo,[32] the Court addressed an issue left unanswered in Knotts--whether the use of a "beeper" would constitute a search under the Fourth Amendment if it revealed information that could not have been obtained through visual surveillance. In Karo, government agents learned from an informer that the defendants had ordered a quantity of ether for use in manufacturing cocaine. The agents supplied a canister containing a beeper to the manufacturer which was later sold to the defendants. Installation of the beeper did not constitute a violation of the Fourth Amendment. The can belonged to the government agents at the time the beeper was installed and therefore the defendant's could not have had any legitimate expectation of privacy in it. Even if the beeper had been placed in one of the canisters owned by the manufacturer, the consent of the manufacturer to its placement, would have been sufficient to comply with the requirements of the Fourth Amendment. The Court also held that the transfer of the canister to the defendants, under these circumstances, did not constitute a search or a seizure.

While concluding that no Fourth Amendment right was infringed by the installation of the beeper or the transfer of the canister containing the beeper to the defendants, the Court found that their privacy interests were violated by the monitoring of the beeper. Over a period of several months the electronic device was utilized to monitor the movement of

the canister until agents obtained a search warrant for the home of one of the defendants. The device was used not only to track movements of the canister in public places, but to confirm that it was located in a specific residence, information that could not have been obtained by observation from outside the curtilage of that residence.

Karo differs from Knotts in that in Knotts, the beeper was utilized to monitor the movements of the automobile and the arrival of the canister in the area of the cabin, something that could have been done by the naked eye. The beeper was not utilized to monitor the canister while it was inside the cabin. In Karo the beeper was used to monitor the canister inside the residence belonging to the defendant, something which could not be done by the naked eye alone. It is this distinction, monitoring in a private versus a public place which constitutes a violation of the right to privacy.

The aforementioned cases indicate that the use of electronic devices by law enforcement officials does not constitute a search within the meaning of the Fourth Amendment when there is no interception of oral or wire communication and when the device does not reveal information that could not have been obtained through visual surveillance. It could therefore be argued that the use of an electronic device which merely indicates whether a person is complying with his curfew restriction, would not constitute a

search. The ankle device currently utilized as a condition of probation is not capable of monitoring conversations, nor can it determine what the individual is doing inside the confines of his home. Its sole purpose is to ensure that the probationer is complying with the conditions of probation. It is true that the ankle device generates information which could not otherwise be obtained by visual surveillance, but that alone should not taint the device because its installation is with the client's consent. Additionally, under a system of house arrest and under most probation conditions, the officer would have a right anyway to verify whether the person is complying with such restrictions through visual surveillance and unannounced home visits. The use of the ankle device, therefore, merely enhances the ability of the officer to conduct surveillance even in a place where a client has a "reasonable expectation of privacy;" something which a probation officer is generally authorized to do.

Fourth Amendment protection for persons incarcerated is less than that afforded the public at large. In Hudson v. Palmer,[33] the Court said that the Fourth Amendment right against unreasonable searches and seizures affords an inmate absolutely no protection for searches and seizures in his cell. Courts have traditionally been reluctant to interfere with searches in prisons and jails, particularly where the security and orderly operation of the institution is at

stake. The use of electronic devices to record and monitor the private conversations of prisoners is one of many areas where the needs of the institution have been held to justify what would otherwise have been an impermissible practice if non-institutionalized individuals were involved. In Lanza v. New York,[34] the Supreme Court noted that a jail shares none of the attributes of privacy of a home, an automobile, an office, or a hotel room. And in Bell v. Wolfish,[35] a case involving the rights of pre-trial detainees, the Court said that any expectation of privacy of a prisoner necessarily would be of a diminished scope.

Constitutionality of Probation Conditions - in General

As a general rule, the authority granting probation has broad discretion in setting terms and conditions. Restrictions on constitutional liberties which have been upheld by the courts include warrantless searches by probation officers, freedom of association, freedom to travel, requiring the regular reporting to a probation officer, regulating the freedom to travel, change jobs, or choose a residence.[36] The courts have held that a probationer may be subject to these restrictions as a condition of receiving the privilege of probation even though they could not be imposed upon the citizenry in general. "The court may surround probationers with restrictions and

requirements which a defendant must follow to retain his probationary status."[37]

Most state statutes suggest probation conditions which are optional with the sentencing judge. In the aggregate, decided cases show that there are four general elements for the validity of a probation condition. These are:

1. The condition must be protective of society and/or rehabilitative of the probationer;
2. The condition must be clear;
3. The condition must be reasonable; and
4. The condition must be constitutional.

Protection of society and/or rehabiltation of the probationer are all-encompassing and convenient justifications for the imposition of a condition. Because justifications are easy to establish, challenges to probation conditions seldom succeed. Just about any probation condition can be broadly justified as either protective of society or rehabilitative of the individual. These two rationales may, however, be antithetical in that what may be protective of society may not necessarily be rehabilitative of the individual. In these cases courts balance the interests involved on a case-by- case basis. Protection of society and rehabilitation of the client are such strong justifications that they may validate conditions which are otherwise violative of fundamental rights. This was implied in Porth v. Templar,[38] where the Tenth Circuit Court of

Appeals said that probation conditions must bear a relationship to the treatment of the offender and protection of the public. The court then added that "The case stands for the proposition that absent a showing of a reasonable relationship between a release condition and the purpose of release the abridgement of a fundamental right will not be tolerated."[39]

The second requirement for the validity of a probation condition is that the condition must be clear, meaning that the probationer must know what acts are violative of the condition. In Panko v. McCauley,[40] the condition forbidding the probationer from "frequenting" establishments selling alcoholic beverages was not upheld because there was no evidence that the probationer understood what that term meant. This case implies that there may be a duty to explain conditions of probation which are unclear.

Reasonableness mandates that the condition be fair and can be carried out properly. For example, a probationer was ordered to abstain from alcohol for five years. Evidence that he was an alcoholic led the court to deny probation revocation when the condition was violated, the court claiming unreasonableness because of the probationer's condition.[41] Similarly, a former serviceman convicted of accepting kickbacks was placed on probation on condition that he forfeit all personal assets and work without compensation

for three years, or 6200 hours. The condition was struck down as unduly harsh in its cumulative effect.[42]

Conditions which are unconstitutional are invalid unless validly waived. A waiver obtained where the alternative is incarceration is not always a voluntary waiver, particularly if it involves the violation of a fundamental right. The courts are particularly protective of First Amendment rights, such as the freedoms of religion, speech, press, and association. In one case, the court held that a condition which requires a convicted person to attend church services is improper.[43] The same is true with conditions limiting freedom of speech, unless there is a showing of a reasonable relationship between the release condition and the abridgement of a fundamental right.[44]

The use of electronic surveillance needs to be analyzed in the context of the above requirements. Arguably, the wearing of an electronic device is protective of society and rehabilitative of the individual. Setting a curfew for a convicted offender might protect society and instill a sense of discipline which can be rehabilitative for the probationer. Clarity of conditions poses no problem in electronic surveillance cases because the client obviously knows what is happening and how the condition might be breached. Where the practice may run into probable difficulties are in the reasonableness and constitutionality requirements. Reasonableness is closely linked to the Equal

Protection provision of the Fourteenth Amendment, basically meaning that the requirement be fair and just. There is nothing inherently unfair or unjust with electronic surveillance when viewed in isolation, but when applied to an aggregate where financial capability becomes a determinant to obtaining probation, equal protection considerations might arise, particularly where no provisions are made for accommodating indigent defendants.

Of even greater concern than reasonableness are questions concerning the constitutionality of the condition, viewed in the light of specific constitutional provisions. Electronic surveillance therefore needs to be analyzed in the context of constitutional guarantees, specifically the following rights: privacy, self-incrimination, cruel and unusual punishment, equal protection, and warrantless searches.

Right to Privacy

It is axiomatic that the rights of probationers are limited; the courts have consistently held that they have a limited expectation of privacy. In one case, a probationer who was required to report his employment and financial condition to his counselor, argued that his right of privacy was being violated. In rejecting his argument, the court said that some restrictions on privacy were permissible in order to accomplish the legitimate goal of monitoring the

behavior of probationers.[45] In other cases, the right to privacy has been invoked to challenge conditions restricting contact with family members or barring pregnancy or marriage.[46]

Conditions of probation which infringe on the privacy rights of the probationer are examined by the courts under a doctrine of reasonableness to determine if they are designed to meet the rehabilitation needs of the offender, or if they serve the interests of the state or public in maintaining order. The electronic device currently used is designed to enforce curfew and travel restrictions, both of which the courts have upheld as valid conditions of probation. In reality, all the device does is allow the probation officer to become more proficient at enforcing curfew and travel limitations. Theoretically, the officer could watch each probationer to ensure that he is complying with those restrictions. The courts have refused to hold that scientific enhancement raises any constitutional issues which visual surveillance would not also raise. In Knotts the Court refused to equate police efficiency with unconstitutionality and rejected the petitioner's argument that scientific devices (in this case a "beeper" used to show location) are unconstitutional. In the Karo case the Court reaffirmed that doctrine. It did not find the use of the device unconstitutional; only that the manner in which it was

used was unlawful. It follows, therefore, that if the conditions of probation are reasonable, the use of technology to enhance the probation officer's efficiency in enforcing them would not be unconstitutional. All the technology accomplishes is increased surveillance proficiency.

The Right Against Self-Incrimination

The Fifth Amendment provides that no person may be compelled in a criminal proceding to be a witness against himself. In probation, this right has been invoked in cases where an offender is required to answer a counselor's questions,[47] submit to a search by a probation counselor or policeman,[48] or provide a juror or prosecutor with information.[49]

Conviction does not remove or lessen a person's constitutional right not to testify against himself. Two courts of appeals recently were faced with probation conditions regarding tax returns. In one case, a probationer was ordered to file tax returns despite his claim of a Fifth Amendment privilege.[50] In the other, a probationer was ordered to file amended tax returns.[51] The first of those conditions was held to be improper, while the second was upheld. In the latter case, while the filing of amended returns was called for -- and presumably complete returns were what the court had in mind -- there was no attempt to

interfere with the probationer's possible exercise of a constitutional right; he could comply with the condition, literally, and on the amended return claim his Fifth Amendment privilege. This would not violate the condition, hence probation could not be revoked for exercising an explicit right. In the former case, however, the mere assertion of the right not to incriminate himself placed the probationer in danger of revocation.

Another Fifth Amendment issue arises when the probationer is required by a condition, such as regular polygraph tests, to disclose information which could be used in a new criminal proceeding. In these cases, the result of a Fifth Amendment challenge to the condition has turned on: (1) whether the government could reasonably have expected incriminating evidence to be forth-comming, (2) whether use immunity was promised and (3) whether Fifth Amendment rights were voluntarily, knowingly and intelligently waived.[52]

In Minnesota v.Murphy[53] the Supreme Court clarified the muddled waters on this issue, saying that a state "may validly insist on answers to even incriminating questions and hence sensibly administer its probation system, as long as it recognizes that the required answers may not be used in a criminal proceeding and thus eliminates the threat of incrimination."[54] The Court added that "a defendant does not lose this Fifth Amendment protection by reason of his

conviction of a crime; notwithstanding that a defendant is imprisoned or on probation at the time he makes incriminating statements, if those statements are compelled they are inadmissible in a subsequent trial for a crime other than that for which he has been convicted."[55]

Whether or not the Fifth Amendment protects a probationer against self-incrimination generally depends on the type of proceeding wherein the evidence is to be used. If the evidence is to be used in a revocation proceeding, the Fifth Amendment argument usually fails. On the other hand, if the claim is raised in a subsequent criminal trail, the claim is usually upheld.[56]

In the case of electronic devices, violation of the right against self-incrimination is remote for a number of reasons. The evidence obtained will be used only for purposes of revocation since only a probation condition is violated and no criminal act is involved. The device certainly serves the system's needs, particularly the need to monitor the activities of a probationer and to help control burgeoning prison populations. An even stronger reason is that such devices do not per se violate the right against self-incrimination because what that right protects is merely the right against testimonial, not physical self-incrimination.[57] If any incrimination at all is involved in the use of an electronic device, such incrimination is physical, not testimonal. Some cases appear to indicate,

however, that when the probation conditions require incriminating information, the Fifth Amendment entitles the client to some form of immunity against the use of the evidence obtained.[58]

Cruel and Unusual Punishment

The Eighth Amendment of the Constitution proscribes cruel and unusual punishment. Although the provision is often invoked in prison cases, it is seldom used in probation perhaps because the terms of probation are seldom severe or oppressive. Nonetheless, some cases have held that conditions which are excessively harsh or impossible to comply with may fall under this category.[59] In one case, the condition that the defendant leave the country was deemed cruel and unusual, hence unconstitutional;[60] similarly, a condition that an alcoholic refrain from drinking was found to be unconstitutional.[61]

The use of an anklet device does not appear to violate the cruel and unusual punishment standard used by the courts in corrections cases.[62] Its effects are not oppressive, nor does it subject the user to humiliation or degredation. Compared to incarceration, it is certainly less restrictive and much more humane.

Payment of Costs and Equal Protection

Requiring probationers, as a condition of probation, to reimburse the state for its costs has been upheld by the state courts. In Arizona v. Smith[63] the state appeals court allowed the imposition of a probation condition that the defendant spend thirty days in the county jail and pay for the cost of that incarceration. The condition was allowed, even though there was no specific statutory authorization to do so. The decision was justified under the broad discretion of the court to determine conditions of probation. In that case, there was no claim of indigency on the part of the defendant.

Under a slightly different set of facts, the Arizona Court of Appeals in 1982 considered the issue of requiring payment of costs as a condition of probation. The Court found that:

> To require a probationer to help defray the state's costs of supervising his probation should be beneficial in the rehabilitation of the defendant, and such reimbursement into the probation fund will strengthen the criminal justice system's ability to finance its probation services. We find there is nothing unconstitutional in the Arizona Legislature enacting legislation that requires a financially capable probationer to help defray the state's cost of maintaining him while on probation.[64]

The courts, in these cases, have held that a probationer who is not indigent may be required to repay costs. The decisions are based on the rationale that such a requirement is directly related to the rehabilitative goal of probation

and that it serves a legitimate state interest.

A slightly different situation is presented in probation revocation cases when the probationer is unable to pay court costs or restitution. In Bearden v. Georgia,[65] decided in 1983, the Court held that a judge cannot properly revoke a defendant's probation for failure to pay a fine and make restitution--in the absence of evidence and finding that the probationer was somehow responsible for the failure, or that alternative forms of punishment were inadequate to meet the state's interest in punishment and deterrence. In essence, the decision holds that a probationer can be revoked for refusing, but not for inability caused by indigency, to pay restitution and court costs.

In at least one system currently in operation, the probationer is required to pay the costs of utilizing the ankle device to monitor his presence in the home during the required hours.[66] It is in this area that a challenge under the Equal Protection clause of the Fourteenth Amendment is foreseen. Prior court decisions which have upheld the requirement that offenders reimburse the state for financial costs dealt with offenders who could afford to pay. The issue is different when indigent defendants who would have been eligible for probation must face incarceration because they cannot afford to pay. This presents a real problem because a monitoring device at present costs approximately

five dollars per day.[67] The Court has said that "there can be no equal justice where the kind of trial a man gets depends on the amount of money he has."[68]

Warrantless Searches

"With few exceptions it has been held that the United States Constitution is not violated by the requirements that a probationer submit to warrantless searches as a condition of probation."[69] The courts, however, disagree as to whether the requirement is valid as to searches by probation officers only, or whether the probationer may be required to submit to warrantless seaches by police officers as well.

The Ninth Circuit Court of Appeals ruled in United States v. Consuelo-Gonzalez,[70] based upon the Federal Probation Act, that federal probationers are subject to warrantless searches by probation officers only. The court, however, expressely pointed out that states may implement a different rule which would be constitutional, saying:

> It is obvious, however,that opinions differ as to what controls are improper, and we express no opinion here regarding the extent to which the states constitutionally may impose conditions more intrusive on the probationer's privacy than those we have here indicated are proper under the Federal Probation Act.[71]

Relying on the above case, the Arizona Supreme Court, in in 1977 upheld the imposition of a probation condition allowing a warrantless search by both police and probation

officers.[72] That endorsement, however, was qualified by the belief that in the majority of the cases, the probationer should not be required to submit to a warrantless search by police officers in addition to submitting to such searches by probation officers. The court feared that warrantless searches by police might interfere with the rehabilitative effort.

Six years earlier, the California Supreme Court upheld the imposition of the same conditions, finding that the requiring of a narcotics offender to submit to searches by police officers as well as probation officers was reasonably related to the person's prior criminal conduct and was aimed at deterring or discovering subsequent criminal offenses. They reasoned that the offender would be less inclined, under those conditions, to be in possession of narcotics.[73]

In Texas, as in some other states, the rule is more restrictive. The Court of Criminal Appeals has repeatedly held that the protections against unreasonable searches provided by the Fourth Amendment to the U.S. Constitution and Article 1, Section 9 of the Texas Constitution extends to probationers, and that a diminuation of those protections for a probationer can be justified only to the extent actually necessitated by the legitimate demands of the probation process. A probationer may be entitled to a diminished expectation of privacy because of the necessities of the correctional system, but his expectations may be diminished

only to the extent necessary for his reformation and rehabilitation.[74]

It is not currently foreseen that the use of a transmitter attached to a probationer or the presence of a monitoring device in his home would constitute a search under applicable constitutional and statutory law. A more difficult question, however, is whether the absence of the proper electronic signal or voice response from the probationer could provide a legal basis for warrantless entry into the probationers home to determine this presence or absence. Any condition of probation seeking to authorize such an entry would have to be very carefully drafted in order to survive a possible constitutional attack.

IV. OTHER LEGAL CONCERNS

The Use of Curfew Restrictions

In establishing a curfew which requires a person to be in a certain place at a certain time, the courts will generally uphold the condition if it is shown that the restriction will facilitate supervision and discourage harmful association. Such conditions have been viewed by the courts in terms of whether or not they are reasonably related to the rehabilitation of the offender, and whether they accomplish the essential needs of the state and public order.

In State v. Sprague[75] the Oregon Court of Appeals upheld the imposition of a 10:00PM curfew of a twenty-year old female after she was convicted of interfering with a friends arrest during which she struck a police officer. The trial judge determined that her continued association during the late evening hours with her friends would be detrimental to her rehabilitation. Other decisions have upheld a curfew from 10:00PM to 6:00AM,[76] while another upheld prohibiting a probationer from driving a car between midnight and 5:30AM on the belief that it would minimize the opportunity to contact persons involved in criminal activities.[77]

The condition, however, must be reasonably related to

rehabilitation. The imposition of a curfew for five years has been held invalid because there was no showing that it was reasonably related to the rehabilitation of the offender.[78] If the use of a curfew and electronic surveillance is reasonably related to rehabilitation, given the offense committed, questions of legality or constitutionality should not be of any major concern.

Waiver of Rights and the Right to Refuse Probation

Court decisions on the validity of waivers of rights in probation and parole cases are mixed. Traditionally, courts have relied on express waivers or have invoked the "act of grace" or "constructive custody" doctrines to strip offenders of most of their constitutional rights.[79] In the last decade, however, courts have re-examined this approach. As a result, new doctrines have emerged such that the whole issue should be considered unsettled. This doctrinal uncertainty is reflected in the cases discussed below, each adhering to differing doctrines. On the one hand, the Court has ruled that a person may pre-waive his rights voluntarily. In Zap v. United States[80] the Court said:

> The law of searches and seizures as revealed in the decisions of this Court is the product of interplay of the Fourth and Fifth Amendments. But those rights may be waived. And when petitioner, in order to obtain the government's business, specifically agreed to permit inspection of his accounts and records, he voluntarily waived such claim to privacy which he otherwise might have had...81

In this case the petitioner had contracted with the government and as a condition of that contract agreed to allow inspection of his records. During an audit of the records evidence was uncovered which led to his conviction for fraud.

Applying the rationale of Zap, the Supreme Court of California ruled that when a probationer, in order to obtain probation, specifically agrees to a warrantless search condition, he has "voluntarily waived whatever claim of privacy he might have otherwise had."[82] Note, however, that Zap was not a probation or parole case.

Claims that attaching such conditions to probation amount to coercion and not a voluntary waiver of a persons rights have not been favorably received by some courts. In one case, the Nebraska Supreme Court reasoned that:

> If acceptance of this term of probation to avoid going to prison amounts to coercion, the same argument would apply equally to any condition attached to the granting of probation, and the coercion rule would consequently invalidate all conditions of probation.[83]

The claim of a New Mexico appellant that the choice between going to prison and signing a probation agreement is no choice, and therefore could not constitute a valid waiver, met a similar fate in that state's court of appeals. The court refused to even consider the argument, deciding the case on a broader issue, finding that probationers are not automatically granted full constitutional protection. The

court held that a probationer's rights are more limited than the rights of a person not on probation.[84] What the court in essence held was that there could have been no coercion, resulting in an invalid waiver, because the appellant was not entitled to the constitutional protection claimed.

Because probation is viewed as a privilege, the state may impose restrictions which aid in the rehabilitative process or prove a reasonable alternative to incarceration as punishment for a crime committed. If the probationer finds the terms and conditions of that probation to be unacceptable, he may reject the probation and ask to be incarcerated instead. The decision to accept or reject probation has been viewed by the courts as constituting a voluntary choice and not coercion. Court decisions take the position that as long as the conditions of probation are reasonable, the probationer is given a free choice to either accept the probation, or to reject it and go to jail. Probation reflects the benevolence of the state and no one is forced to accept it, however, if anybody does he may be required to submit to reasonable intrusions by the state.

The above cases indicate that waiver of rights is valid. On the other hand, however, later cases provide some authority for the proposition that a parole or probation condition waiving Fourth Amendment protection is illegal or ineffective. In one case where a consent to search had been signed by a state parolee, the consent was thrown out by a

federal court in a collateral challenge.[85] The court reasoned that since the prisoner could only secure his release on parole by accepting the condition, his consent was not voluntarily given. The prospect of eight years of additional confinement was coercive, according to the court.

Even in the Ninth Circuit, which recognizes a waiver condition as valid, the terms of the condition must be narrowly drawn. The Ninth Circuit disapproved as overly broad a condtion that appeared to extend the benefits of a federal probation condition to all law enforcement officers.[86] This holding was based on the coerciveness of the circumstances that gave rise to a consent waiver.

The mere act of agreeing to the terms of probation does not mean that a legal challenge is foreclosed. An example is Sobel v. Reed[87] where a federal parolee asserted that his First Amendment rights had been violated by a condition prohibiting him from going outside the limits of the Southern District of New York without permission from the parole officer. On a number of occasions, Sobell sought and obtained permission to travel to and speak at various places; however, on other occasions, such requests were denied. The court held that the board violated Sobell's exercise of his rights of speech, expression, or assembly, except when it could show that withholding permission was necessary to safeguard against specifically described and highly likely

dangers of misconduct by the parolee. In Porth v. Templar,[88] a case involving a First Amendment right, the Tenth Circuit Court of Appeals stated that probation conditions must bear a relationship to the treatment of the offender and the protection of the public for it to be valid. Reliance on a waiver will therefore not legitimize an otherwise invalid condition. The court added that absent a showing of a reasonable relationship between a release condition and the purpose of release, the abridgment of a fundamental right will not be tolerated. The aforementioned cases imply that release conditions abridging fundamental rights can be sustained only if they serve a legitimate and demonstrated rehabilitative objective. The claim by the state that waiver by the probationer or parolee cures any constitutional infirmity will no longer be upheld consistently.

In the case of electronic surveillance, refusal to waive what primarily amounts to a right to privacy may mean incarceration instead of probation. Using the standard of reasonableness, however, it can be said that diminution of privacy in exchange for freedom is reasonable when the alternative is no freedom at all and a greatly diminished right to privacy in case of incarceration. Moreover, the right to privacy does not enjoy the same degree of protection and preference as do First Amendment rights.

Pretrial Detainees

Although electronic devices are generally used to monitor the activities of probationers or convicts who would otherwise be in jail, some jurisdictions use them for pre-trial detainees who would otherwise be ineligible for release because of prior records or inability to post bond. In these cases, questions might arise concerning the constitutionality of the use of electronic devices, particularly in view of an unadjudicated persons's presumption of innocence. The argument could be made that a pre-trial detainee (the use of an electronic monitor would make the suspect a releasee instead of a detainee) is not a convict and should enjoy more rights; therefore, any restriction which amounts to punishment should not be applied to a detainee who has yet to be convicted. Such argument sounds logical, but finds scant support in jurisprudence, at least in cases involving detainees. Courts have repeatedly decided that, in general, detainees do not enjoy more rights than convicts when incarcerated. In Bell v. Wolfish,[89] the Court said that the fact of confinement as well as the legitimate goals and plicies of the penal institution justify limitations of constitutional rights. The Court then added:

> This principle applies equally to pretrial detainees and convicted prisoners. A detainee simply does not possess the full range of freedoms of an unincarcerated individual.[90]

Subsequent lower court cases have reiterated this principle

which obliterates distinctions in the amount of rights enjoyed by convicts and detainees.

Although no cases have addressed this issue, the arguments used to justify surveillance of probationers or convicts serving time outside jails or prisons should apply just as cogently to pretrial detainees. The fact that no conviction has taken place does little to strengthen a releasee's case because of a valid alternative condition--which is that if the device were not available, the releasee could have been validly deprived of all his freedom and kept in jail. As long as detention would have been legal, it would be logical to assume that the releasee may constitutionally suffer a diminution of constitutional rights, just like any other prisoner. Any arrangement that mitigates the harshness of incarceration should therefore be judged on the standard of what the state, in the absence of the electronic monitor alternative, could constitutionally have done. Moreover, consent by the releasee to the installation and use of the electronic monitor, as long as the consent is knowingly and intelligently given, should greatly strengthen the state's claim to its valid use.

V. CONCLUSION

Jails and prisons are overcrowded and their use as a rehabilitative tool is suspect. There is a growing belief that alternatives to incarceration should be utilized both as a means to alleviate overcrowding and as a more humane and effective form of offender treatment. Technology has provided and shows promise as an alternative to incarceration for those who may be given a second chance to become useful members of society. It provides intensive supervision in the form of movement restriction which regular probation otherwise cannot supply.

Providers of the system foresee a continued growth in its utilization, particularly in any area where there is a court mandated "cap" on the number of prisoners which may be held in a facility.[91] Electronic surveillance technology is relatively new, hence expansion into other areas is still clouded. Whatever the future portends, a review of decided cases in probation and parole indicates that while the use of electronic devices raises constitutional issues, its constitutionality will most likely be upheld by the courts, primarily based on the concept of diminished rights. It is important, however, that the use of electronic devices be governed by specific guidelines that comport with state statutes in those states which have applicable laws.

Moreover, the issue of device availability to indigents must be addressed so as to remove any possibility of a successful constitutional challenge based on equal protection. It is this article's conclusion that the constitutionality of the use of electronic devices in probation is strongly defensible. Whether or not such use is cost-effective, politically acceptable, or administratively feasible is an entirely different matter.

NOTES

*Rolando V. del Carmen is Professor of Criminal Justice, Criminal Justice Center, Sam Houston State University, Huntsville, Texas. He has an LL.B. from Silliman University in the Philippines, an M.C.L. from Southern Methodist University, an LL.M. from the University of California at Berkeley, and a J.S.D. from the University of Illinois. He has written extensively and is a consultant for the National Institute of Corrections. Joseph B. Vaughn is a Doctoral Fellow at the Criminal Justice Center. He obtained his M.S. and Ed.S. degrees from Central Missouri State University, and taught criminal justice courses at Drury College, Springfield, Missouri. He is currently finishing his Ph.D. in Criminal Justice at Sam Houston State University. This project was made possible by a grant, #C-ADM-85-010, from the National Institute of Corrections.

1. J. Thompson, Prison Crowding: A Symposium, 78 U. Ill. L.R. 203 (1984).

2. Lock "Em Up? There's No More Room!, 69 A.B.A. J. 1352, (1983).

3. G. Kennedy, Control Data Corporation, Minneapolous, Mn., Interview conducted April 11, 1985.

4. Supra Note 1 at 204.

5. For a full discussion of the issue see Conrad & Rector, Should We Build More Prisons? A Debate, 1977 National Council on Delinquency (1977).

6. Corbett and Fersch, Home As Prison: The Use of House Arrest Federal Probation, March 1985, pp. 13-17.

7. See G. Newman, Just and Painful: A Case For The Corporal Punishment of Criminals, MacMillan (1983).

8. California Probation Problems May be Five Years Ahead of Nation, 16 Corrections Digest, Feb. 13, 1985, at 7.

9. Supra Note 2 at 1352; Houston Chronicle, Feb. 17, 1985, at A22, col. 1; Berry, Electronic Jails: A New Criminal Justice Concern, 2 Justice Quarterly, March 1985 at 3; Houston Chronicle, March 13, 1985, at A10, col. 1. The program in Washtenaw County was scheduled to begin April 1, 1985 for a six month trial basis.

10. Supra Note 3.

11. F. Rasmussen, Pride, Incorporated, West Palm Beach, Florida, Interview conducted April 11, 1985.

12. Supra Note 3.

13. Supra Note 11.

14. Supra Note 11.

15. Supra Note 3.

16. Supra Note 11.

17. Supra Note 11.

18. 227 U.S. 438 (1928).

19. 316 U.S. 129 (1942).

20. 343 U.S. 747 (1952).

21. 389 U.S. 347 (1967).

22. Id. at 351.

23. 401 U.S. 745 (1971).

24. Id. at 749. See also Hoffa v. United States, 385 U.S. 293 (1966). Court held the Constitution does not protect a person's misplaced belief that a person he reveals illegal activities to will not later reveal them to police.

25. 388 U.S. 41 (1967).

26. 18 U.S.C. 2510-2520 (Codified 1976).

27. 434 U.S. 159 (1977).

28. 442 U.S. 735 (1979).

29. 460 U.S. 276 (1983).

30. A "beeper" is a transmitting device which emits a signal to a receiver which allows a person to determine the location of the beeper.

31. See United States v. Brock, 667 F.2d 1311 (9th Cir. 1982), cert. denied, 103 S.Ct. 1271 (1983); United States v. Sheikh, 654 F.22d 1057 (5th Cir), cert. denied, 455 U.S. 991 (1982); and United States v. Michael, 654 F.2d 252, (5th Cir.), cert. denied, 454 U.S. 950 (1981).

32. 104 S.Ct. 3296 (1984).

33. 35 Cr.L. 3230 (1984).

34. 370 U.S. 139 (1962).

35. 411 U.S. 520 (1979).

36. See R. del Carmen, Potential Liabilities of Probation and Parole Officers, 34-37 (1982).

37. State v. Smith, 542 P.2d 1115, (Ariz. S.Ct. 1975).

38. 453 F.2d 330 (10th Cir. 1971).

39. Note, Fourth Amendment Limitations on Probation and Parole Supervision, 1976 Duke L.J. 71, 75 (1976).

40. 473 F. Supp. 325 (D.C. Wisc. 1979).

41. Supra Note 36, at 37.

42. Supra Note 36, at 36.

43. Id.

44. Sobell v. Reed, 327 F. Supp. 1294 (S.D.N.Y. 1971).

45. United States v. Manfredonia, 341 F. Supp. 790 (S.D.N.Y.), affirmed, 459 F.2d 1392 (2nd Cir.), cert denied, 409 U.S. 851 (1972).

46. State v. Livingston, 53 Ohio App. 2d 195 (1976).

47. State v. Johnson, 202 NW 2d 132 (1972).

48. Note, The Search and Seizure Condition of Probation: Supervisory or Constitutional? 22 South Dakota L. Rev. 199 (1977), as cited in N. Cohen & J. Gobert, The Law of Probation and Parole (1983).

49. See in general N. Cohen & J. Gobert, The Law of Probation and Parole (1983).

50. United States v. Conforte, 624 F.2d 869 (9th Cir.) cert denied, 449 U.S. 1012 (1980).

51. United States v. McDonough, 603 F.2d 19 (7th Cir. 1979).

52. See R. V. del Carmen, Potential Liabilities of Probation and Parole Officers, revised edition, 103 (1985).

53. 104 S.Ct. 1136 (1984).

54. Id. at 1147.

55. Id. at 1142.

56. Supra Note 49, at 236.

57. Schmerber v. California, 384 U.S. 757 (1966).

58. Supra Note 49, at 234.

59. Supra Note 49, at 215.

60. Dear Wing Jung v. United States, 312 F.2d 73 (9th Cir. 1962).

61. Sweeney v. United States, 353 F.2d 10 (7th Cir. 1965).

62. See Legal Responsibility and Authority of Corrections Officers, American Correctional Association, 51-53 (1982).

63. 576 P.2d 533 (Ariz. App. 1978).

64. State v. Means, 654 P.2d 29 (Ariz. App. 1982) at 32.

65. 33 CrL 3103 (1983).

66. Supra Note 11.

67. Supra Note 11.

68. Griffen v. Illinois, 351 U.S. 12 (1956) at 19.

69. 79 ALR 3d at 1803.

70. 521 F.2d 259 (9th Cir. 1975).

71. Id. at 266.

72. State v. Montgomery, 566 P.2d 1329 (Ariz. S.Ct. 1977).

73. People v. Mason, 488 P.2d 630 (Calif. S.Ct. 1971).

74. Tamez v. State, 534 S.W.2d 686 (Tex. Cr. App. 1976).

75. 629 P.2d 1326 (Or. Ct. App. 1981).

76. Johnson v. State, 291 S.E. 2d 94 (Ga. Ct. App. 1982).

77. State v. Cooper 282 S.E. 2d 436 (Ga. S.Ct. 1981).

78. State v. Labure, 427 So. 2d 855 (1982).

79. See U.S. v. Pattman, 535 F2d 1062 (8th Cir. 1976).

80. 328 U.S. 624.

81. Id. at 628.

82. People v. Mason, 488 P.2d 630 (Cal. S.Ct. 1971) at 634.

83. State v. Morgan 295 N.W. 2d 285 (Nev. S.Ct. 1980) at 289.

84. State v. Gallagher, 675 P.2d 429 (N.M. App. 1984).

85. U.S. ex. rel. Coleman v. Smith, 395 F. Supp. 1155 (W.D.N.Y. 1975).

86. U.S. v. Consuelo-Gonzalez, 521 F.2d 259 (9th Cir. 1975).

87. 327 F. Supp. 1294 (S.D.N.Y. 1971).

88. 453 F.2d 330 (10th Cir. 1971).

89. 441 U.S. 520 (1979).

90. Id. at 546.

91. Supra Note 11.

Appendix F

TEXAS COMMISSION ON JAIL STANDARDS
AD HQC COMMITTEE REPORT

TEXAS COMMISSION ON JAIL STANDARDS

March 3, 1986

Don Stiles
Executive Director
Texas Adult Probation Commission
8100 Cameron Road, Suite 600
Austin, Texas 78753

Dear Don:

Attached please find draft of the "Jail Position" on the use of Electronic Monitoring Devices and House Arrest.

We remain open to reason and amenable to suggestions.

Sincerely,

Robert O. Viterna
Executive Director

ROV/nr

cc: Joseph B. Vaughn,
Criminal Justice Center, SHSU

Ron Champion
Criminal Justice Policy Council

ELECTRONIC MONITORING AND HOUSE ARREST STUDY COMMITTEE

Proposed Application by County Jails

On February 19, 1986, the following group was convened at Texas Commission on Jail Standards offices in Austin to discuss the feasibility and application of an electronic monitoring and house arrest program as an adjunct to detention in a county jail.

Sheriff Jimmy Boydston - Potter County

Sheriff Jack Driscoll - Grayson County

Sheriff Mario Santos - Webb County

Sheriff Bill Strickland - McCulloch County

Major Bob Knowles - Dallas County

Mr. Paul Bailey - Bexar County

Mr. Mike Lynch - Attorney Generals Office

Mr. Gordon Johnson - Sheriff's Association of Texas

Mr. Jack Crump - Texas Commission on Jail Standards

Mr. Robert Viterna - Texas Commission on Jail Standards

A representative from Citizens United to Rehabilitate Errants (CURE) a prisoner advocate organization was also invited.

All persons attending the meeting were briefed on the origin and requirements of the Electronic Monitoring and House Arrest Study Committee and of the convened groups' charge to develop a program or application for county jails.

A premise was accepted that the technology would best benefit jails of 250 or more capacity. Jails of 100 - 250 capacity could benefit from the technology but it would be most cost beneficial when shared with local and area probation departments and parole regions. Most small jails, under 100 capacity would not, normally, find the technology cost beneficial, as only 10% - 15% of a jails' population might be eligible for such monitoring program.

The sheriffs present were adamant that space freed up through use of the technology should not be considered by the State of Texas as available for the keeping of persons convicted and sentenced to TDC. The benefit of the program to jails would be through controlling the further growth of prisoner population, rather than outright reduction thereof.

Proposed Application

What classification of prisoner shall be eligible for electronic monitored house arrest or release?

Only those persons convicted of felonies or misdemeanors which, under current statutes, permit sentencing to the county jail. Persons whose sentence requires confinement to TDC shall not be considered for such release.

Pre trial persons may be eligible for electronic monitored release only if so ordered by proper magistrate or judge as a condition of release on own recognizance or bail bond.

Who makes the decision to place a specific person on electronic monitored

house arrest or release?

The court which sets bond or which sentences the prisoner shall be the only entity to authorize electronic monitored house arrest release.

The court order shall state how long the person shall be on the electronic monitored house arrest or release program; what are the conditions and constraints of the program, to include what constitutes a violation and what are the consequences of a violation. That same order shall authorize the sheriff, if he has probable cause or factual knowledge of a violation, to immediately return the prisoner to jail and to duly reclassify the prisoner to a greater, closer degree of custody (some form of jail), without further reference to the court.

Who pays the individual cost of installation and use of the electronic monitoring equipment?

The prisoner who is released on the electronic monitoring house arrest or release program will bear the cost of the telephone, other devices, equipment installation and all associated fees incident thereto.

One of the criteria for eligibility for the program shall be a sufficiently stable personal life style which affords a permanent address and telephone.

On the rare instance where there may be an exception to this criteria the

prisoner may agree to move in with a consenting relative or friend who can offer the stable life style, permanent address and telephone.

Who shall install and monitor the electronic monitoring equipment?

In major metropolitan areas, the Sheriff's Department may have sufficient numbers of prisoners on the electronic monitoring and house arrest program to support an operation independent of probation and parole users. We anticipate that 10% - 15% of the jails population would be eligible for such program. The following county sheriffs should probably operate independent programs.

Bexar Dallas El Paso Harris Tarrant

In other counties, the electronic monitoring and house arrest program should probably be a joint operation including the sheriff who will be responsible only for prisoners sentenced to the program, the probation department who will be responsible for probationers who are assigned to the program and the local (regional) parole authority who will be responsible for parolees assigned to the program.

In these latter counties, it appears to be in the interest of efficient operation to task the sheriff with installation of all equipment and monitoring of all users. This would create a centralized source of equipment, installers and a 24 hours a day monitoring capability. The Sheriff may charge the probation and parole authorities a daily fee per user for providing the service.

Who determines what constitutes a violation of the electronic monitoring and house arrest program?

The court order sentencing a prisoner to the program shall spell out what constitutes a violation. In the case of probationers and parolees the order or written authority to place the person on the program shall specify what constitutes a violation.

In the day to day operation of the monitoring activity, the officer monitoring the terminal/printer shall determine, on an individual basis, if a violation has occurred and will act in accordance with standard operating instructions as to who to notify and when to notify concerning a violation.

Who enforces the provisions of the court order or the provisions of the probation order or parole release?

The sheriff will enforce the provisions of the court order sentencing prisoners to electronic monitored home arrest or those who have been released on own recognizance or bail bond with that program as a condition of the release.

Probationers who violate the provisions of their order will be apprehended and taken into close custody (some form of jail) by the relevant probation department.

Parolees who violate the conditions of their release will be apprehended

by a parole officer or by the sheriff if a proper warrant is delivered into the sheriff's hands and taken into close custody (some form of jail).

What are the penalties for violation of the conditions of electronic monitored home arrest programs.

For prisoners sentenced to the program or for pre trial prisoners released with participation in the program as a condition, violation shall result in apprehension and return to close custody (some form of jail). A disciplinary board will hear the violation and the explanation thereof. If the violation is sustained, the prisoner, under the terms of the conditions already present in the court order placing him on the program, will be reclassified and remain under a form of close custody (some form of jail) as arrived at by the disciplinary board. If the violation is not sustained, the prisoner may be returned to the program, unless the disciplinary board believes the prisoner did not merit participation in the program initially, or believes subsequent violations are likely to occur.

Probation and parole violators will be dealt with in accordance with procedures established by the probation and parole authorities, but will meanwhile reside in close custody (some form of jail).

What legislation is needed to implement a program of electronic monitored home arrest as a sentence or condition of pre trial release?

A statute enabling this program shall be permissive in implementation. However it shall clearly place the responsibility for sentencing or pre

trial release in the hands of the courts. The sheriff shall only follow the orders of the court. He will impliment the program through keeping and installing the equipment and monitoring the participants. However, part or all of these latter functions may be contracted to private firms, whose results will be monitored by the sheriff. In no event shall the sheriff have any liability for the actions or deeds of any program participant.

Such legislation shall also state that the hard copy or printout of the electronic monitoring system is prima facie evidence of violation. Also, that the sheriff, in pursuit of a violation reported to him by the electronic monitoring system or other source, does not require a warrant to enter and search the premises in which a program participant is required to be at a given time.

Finally, such legislation shall clearly enable the court order sentencing the prisoner or pre trial releasing the prisoner to the program, to include in it such language as will permit the sheriff to implement and enforce against violation the provisions of the order without further reference or recourse to the court.

Who shall pay for damaged equipment?

Any participant of the electronic monitored home arrest or release program who has in his custody any equipment incidental to the program is financially responsbile for such equipment. Tampering or misuse which leads to malfunction or disfunction of such equipment, or damage to or

destruction of such equipment, shall be reimbursed by the participant to the owner of the equipment. Additionally, criminal mischief or vandalism charges may be filed and action taken against the participant/perpetrator.

Appendix G

TEXAS ADULT PROBATION COMMISSION
STAFF REPORT

TEXAS
ADULT PROBATION
COMMISSION

8100 Cameron Road • Suite 600, Building B • Austin, Texas 78753 • (512) 834-8188

February 18, 1986

Mr. Joseph Vaughn
Criminal Justice Center
Sam Houston State University
Huntsville, Texas 77340

Dear Mr. Vaughn:

Enclosed is the staff report. It has not been presented to the Commission for final approval. That may take place in May. If you have any questions, please feel free to contact me.

Sincerely,

Malcolm MacDonald
Administrator
Community Based Correctional Programs

MMacD/es

Enclosure

TEXAS
ADULT PROBATION
COMMISSION

8100 Cameron Road • Suite 600, Building B • Austin, Texas 78753 • (512) 834-8188

ELECTRONIC SURVEILLANCE PROBATION
APPLICATION PLAN
STAFF ANALYSIS ONLY

prepared by
MALCOLM MACDONALD
ADMINISTRATOR
COMMUNITY BASED CORRECTIONAL PROGRAMS
TEXAS ADULT PROBATION COMMISSION

February 12, 1986

DESCRIPTION

The purpose of Electronic Surveillance Probation is to enhance the surveillance and monitoring capabilities of adult probation officers supervising high risk probationers, probationers who are not complying with the conditions of probation, or probationers diverted from a more controlling and costly sanction to one of a lesser degree of control and cost so that the supervision of these offenders in the community is more acceptable to the public.

ELIGIBILITY CRITERIA

Electronic surveillance technology would be utilized when it can be documented that it is a less intrusive and less costly method of supervision than other alternatives. To this end, electronic surveillance would be used:

1. in lieu of jail therapy for felony offenders who have committed a technical violation of their probation;
2. in lieu of revocation and incarceration at TDC for probationers who commit misdemeanor offenses while on probation;
3. for non-violent offenders diverted from TDC and not placed into a Restitution Center;
4. for residents of restitution centers who are released earlier than the six month minimum term;
5. for shock probationers who are not eligible for Intensive Supervision Probation and who are not in need of residential services;

6. for high risk probationers as determined through case classification, Strategies for Case Supervision, or other validated assessment instrument which indicates the potential for continued criminal activity and a need for control but who are not eligible for placement into other alternatives to incarceration or who would be controlled adequately through electronic surveillance.

CLIENT POPULATION

It is estimated by TAPC staff that at any one time 1000 offenders would be in the Electronic Surveillance Probation program. The dynamic capacity of the program during one year could range from 3000 offenders (average length in program being four months) to 12,000 offenders (average length in program being one month). Release from the program would be based upon the term the judge establishes and the progress the offender makes in achieving the goals of the supervision plan developed by the probation officer. Given that Electronic Surveillance Probation would be a community based sanction, each judicial district adult probation department would develop their own rules regarding the implementation of ESP so that the program would be acceptable to the community. Such rules would be approved by TAPC if funding other than per capita funding is requested from TAPC for the program. Given that approximately 800 felony probationers are revoked each month, and given that the accumulated static capacity of Intensive Supervision Probation, Restitution Centers, and Court Residential Treatment Centers is approximately 4500 and offenders in these programs could be released to ESP, the 1000 static capacity of ESP appears to be reasonable.

CURRENT DAILY COSTS

The following are approximations of the daily state costs per offender of various community based correctional programs implemented by judicial district adult probation departments.

$.40 Misdemeanor Probation
$.75 Felony Probation
$3.50 Specialized Caseloads
$4.50 Intensive Supervision Probation
$27.00 Restitution Center Program
$28.00 Court Residential Treatment Center Program

Community Service Restitution Probation, shock probation and deferred adjudication would have the same costs as misdemeanor and felony probation.

ELECTRONIC SURVEILLANCE PROBATION
PROGRAM DEVELOPMENT REVIEW COMMITTEE COMMENTS
TEXAS ADULT PROBATION COMMISSION
FEBRUARY 14, 1986

ON WHICH OFFENDERS WOULD THIS SURVEILLANCE SUPERVISION STRATEGY BE USED?

1. in lieu of jail therapy for felony offenders in which a technical violation has occurred;

2. in lieu of revocation and incarceration at TDC for probationers who commit minor offenses while on probation;

3. non-violent offenders diverted from TDC;

4. offenders residing in TDC who are interviewed and given the option to leave prison and participate in ESP...shock probationers for example;

5. high risk probationers as determined through case classification, SCS, severity of prior criminal record, history of probation violations, evidence of community-offender ties and potential for continued criminal activity;

6. in lieu of revocation of misdemeanor probation and sentence to weekends in jail; and

7. pre-trial release program.

WHO IS TO DECIDE TO PLACE AN OFFENDER UNDER ELECTRONIC SURVEILLANCE?

1. the judge through a court order;

2. offender can volunteer to get into the program if willing to comply with; guidelines established by prosecutor, judge, probation department, and defense attorney; and

3. recommendation of probation officer, district attorney, or court but all must support it.

WHO IS TO PAY FOR THE COST OF RENTING THE EQUIPMENT?

1. probationers should pay part of the cost;

2. grants and probationer contributions;

3. the county should pay for a portion of the cost when it serves as an alternative to incarceration in the jail; and

4. the probationer should put up a deposit or cash bond for the cost of the equipment.

D. HOW SHOULD THE PROBATION OFFICER INTERACT WITH ESP?

1. part of a specially trained unit;

2. 24 hour surveillance with immedicate response capability either by phone or in person;

3. team of regular probation officer and an ESP officer providing support;

4. any probation officer should be able to access this technology to supplement his/her efforts at supervision a high risk probationer; and

5. limited caseload.

E. DOES THE PROBATION OFFICER NEED ANY SPECIAL TRAINING?

1. technological uses of the equipment;

2. programmatic problems experienced in other states using the technology;

3. how to make safe and effective field visits;

4. crisis intervention and working with disgruntled probationers; and

5. how to testify in court.

F. WHAT WOULD THE VIOLATIONS OF ESP BE?

1. leaving the designated area;
2. absconding;
3. destroying, stealing or tampering with ESP equipment;
4. not maintaining consistent phone service; and
5. discretion on the officer's part in determining violations.

G. WHAT SHOULD THE PENALTIES FOR VIOLATING ESP BE?

1. to be determined by court;
2. motion to revoke probation except for minor violations;
3. revocation in order to demonstrate to community that this sanction has teeth in it.

H. WHAT WILL THE COMMUNITY RESPONSE BE TO ESP?

1. proactive public relations needed to secure acceptance;
2. positive because of saving tax dollars when used as alternatives to prison;
3. if ESP includes counseling, restitution and community service, it will be accepted;
4. positive because non-violent people will be diverted from prison resulting in space for violent offenders; and
5. favorable if it is reliable and the community's concerns are addressed.

I. WHAT WILL BE THE CRITERIA FOR SUCCESSFULLY RELEASING AN OFFENDER FROM ESP?

1. completing a predetermined sentence on ESP;

2. availability of slots in ISP to which ESP probationer would move;

3. significant progress to achieving goals of supervision plan but no sooner than completing the term ordered by the court; and

4. no violations of conditions of probation .

OTHER QUESTIONS

1. How should equipment damage be handled?
2. If a probationer cannot afford a telephone, should one be provided?
3. Would telephone companies consider contributing phones as a public service?

Appendix H

EL PASO COUNTY/TEXAS YOUTH COMMISSION JOINT PROJECT PROPOSAL

TEXAS YOUTH COMMISSION

OFFICE MEMORANDUM

TO: Mart Hoffman, Assistant Executive Director of Child Care

FROM: John R. Arredondo, Director of Community/Special Services

SUBJECT: Electronic Monitoring of Parolees

DATE: December 3, 1985

The enclosed material denotes a unique objective being carried by my office on electronic monitoring of parolees. This specific material is delineated as follows:

- Objective Planning Sheet
- MBO Work Plan
- Electronic monitoring letter and contract proposal
- Memorandum from General Counsel on legal considerations
- Criminal Justice Newsletter on electronic monitoring
- Literature review on electronic monitoring

I request your review, support and approval on this unique electronic monitoring project. I welcome and await your positive response on this matter.

If further information is required, please advise.

JRA/dl

enclosures

cc: Cherie K. Townsend, Administrator of Parole/RCP

TO: J. ARREDONDO
CC: R. JACKSON, J. BONILLA
FROM: P. ELPASO
DATE: FRI 24-JAN-86 18:18:48 CDT
SUBJECT: PROPOSAL FOR PILOT PROJECT

Yesterday you requested that I submit a short letter of proposal to you regarding a pilot project in El Paso County using electronic monitoring of juvenile probationers as an alternative to commitment to TYC by the 327th Family District Court. In 1984, 1984, and 1983, the 327th Family District Court committed 71,79, and 75 youngsters to TYC respectively. What the court is proposing is to reduce its commitments to TYC by one-half by use of electronic monitoring of the probationers here at home. This will not include pre-trial detention nor supervision of illegal aliens.

What the court needs from the Texas Youth Commission is approximately $75,000.00 per year to purchase or rent the electronic monitoring equipment in order to supervise 35 youngsters who would go to TYC if it were not for the monitoring. Assuming that the cost per youngster were $3,000.00 per year, at 35 youngsters per year, the total cost to TYC would be $75,000.00.

The juvenile probation department would provide all services relating to the monitoring and supervision.

This proposal is cost effective to the Texas Youth Commission. The court would not send 35 youngsters to TYC which cost TYC as follows:

35 juveniles X $58.00 per day = $21,170.00 per child-cost of commitment per year.

35 youngsters X $21,170.00 = $740,950.00 per year,

or

35 youngsters X $51.00 per day = $18,615.00.

35 youngsters X $18,615.00 = $651,525.00

I do not have what the cost of aroling these same youngsters in the community is to TYC. As you can see based on these figures not including the cost of paroling, it would cost TYC $75,000.00 to keep 35 youngsters in the community who it would receive anyway and which would cost them anywhere from $651,521.00 to $740,950.00 a year.

Please let me know when you will be coming in next week as I look foward to meeting with you.

Sincerely,

Joann Chapman
Court Administrator

jc/mch

cc: Mr. Ron Jackson
Executive Director
Texas Youth Commission.

*Note: Retyped from original document to enhance photocopies.

TEXAS YOUTH COMMISSION
OFFICE MEMORANDUM

TO: John R. Arredondo, Director of Community/Special Services

FROM: Tom Olsen, TO Contract Monitor

SUBJECT: El Paso Proposal

DATE: January 27, 1986

I evaluated El Paso Probation request for funding. I have these observations:

1. The cost per day per commitment for all TYC is $26 not $58, if Parole is included.

2. Be that as it may, it seems imprudent to consider a request in the amount of their projection of our savings ($75,000). Actual cost of electronic surveillance for 35 youth, using the "On Guard" system is as follows:

a. Monthly rental of central dialer and printer:	$400.00
b. Monthly rental of thirty-five wristlets and verifiers:	$875.00
c. Monthly total:	$1,275.00
	x 12
d. Total annual cost:	$15,300.00
	÷ 35
e. Annual cost per youth:	$437.15
	÷ 35
f. Daily cost per youth:	$1.20

If they would allow us to provide, or at least specify the equipment, and if they provide all supervision, it might be a reasonable daily rate for a diversionary project. We might want to include some guarantees that the 35 youth would in fact, have been committed to us in the absence of the diversion

TO:ld

cc: Cheryln K. Townsend, Administrator of Parole/RCP

TEXAS YOUTH COMMISSION

OFFICE MEMORANDUM

TO: John Arredondo

FROM: John Franks JF

SUBJECT: Cost Savings of Electronic Monitoring of Probationers

DATE: January 31, 1986 RE:

You asked that I verify the cost benefits of utilizing electronic monitoring of probationers as proposed by the El Paso Parole Office. Their computations are correct but I would use different assumptions than those in the proposed pilot project. I feel it would be more realistic to use contract care cost per day figures because they do not include fixed cost (no effect on student population), also I would use our average length of stay instead of one year.

The following is my fiscal analysis of this project.

35 commitments per year X 180 days (6 mon. length of stay) X $40.12 per day (Dec. 1985) = $252,756

TYC Cost for 35 students	$ 252,756
Less cost of electronic monitoring equipment	75,000
Savings to agency	$ 177,756

Please advise if you have any questions.

JF:plm

TEXAS YOUTH COMMISSION

OFFICE MEMORANDUM

TO: John R. Arredondo, Director of Community/Special Services

FROM: Cheryln K. Townsend, CKT Administrator of Parole/RCP

SUBJECT: Electronic Surveillance

DATE: February 5, 1986 **RE:** El Paso

I have reviewed the proposal we have received from El Paso County requesting funds for electronic surveillance of youth in lieu of commitment to TYC and would like to share with you my concerns regarding this proposal:

1. We are not able to expend funds for services to youth unless they have been committed to our agency. There would need to be some assurances given that youth participating in this project would have otherwise been committed to TYC. In addition, a classification scoring form should be completed and a staffing held to ensure that the youth would have been placed in an institution if committed to TYC. If commitment to TYC is a requirement for participation, the question will be, is a youth being committed to TYC so they can participate in the program, or does the youth require commitment because other appropriate alternatives have been exhausted by the Court? If the latter is the case, the youth may not be a good candidate for electronic surveillance.

2. Electronic surveillance requires a telephone in the youth's home. If we fund this project, we would need assurances that youth would not be excluded from participation in the program because the family can not afford a telephone. El Paso County would have to pay for telephone installation and service while a youth participated in this program.

3. During FY '85, El Paso County reports 75 youth were committed to TYC. These commitments are over a one year period of time so it would not be cost effective to immediately pay for the cost of diverting 35 youth from TYC. TYC should only pay for services as they are delivered and should do so at a daily rate per youth with a limit on how long a youth will participate in the program.

4. Electronic surveillance requires that a youth voluntarily participate in the program.

5. El Paso County would need to insure the equipment and assume the cost of such insurance.

Based on the above concerns, issues regarding parole release, transfers to more secure settings, and the cost analysis completed by Tom Olsen, I do not recommend that TYC participate (fund) in this proposal as submitted by El Paso County. If this project is funded as proposed, the appropriate funding source is the Texas Juvenile Probation Commission. If TYC wants to provide electronic surveillance in El Paso County as an alternative to institutional placement (new commitment or revocation) I recommend our agency operate the program. The cost of electronic surveillance for 35 youth for 365 days plus the employment of a Parole Officer I and Steno II would be less than the $75,000.00 requested by El Paso County.

I look forward to discussing this proposal with you.

CKT/lc

cc: File

TYC

WORK PLAN

PERSON RESPONSIBLE J. R. Arredondo ORGANIZATION UNIT Community Services Dept. DATE 11/27/85

KRA Operating Results OBJECTIVE To develop a home monitoring alternative to residential care utilizing four staff weeks at a cost of $9,500 by February 28, 1986.

ACTIVITY	PERSON RESPONSIBLE	BEGIN DATE	END DATE	COMMENTS
1. Begin investigation of available electronic monitoring technology.	T. Olsen	06/10/85	08/19/85	a) presentation from Control Data Corp. (J. Arredondo, M. Ferrara, T. Olsen present)
				b) contact other manufacturers for product information.
			06/21/85	c) contact Oklahoma Department of corrections for product evaluation study
2. Prepare memo on product comparison.	T. Olsen	06/24/85	06/24/85	a) copy to J. Arredondo, C. Townsend, B. Griffin, R. Jackson
3. Request opinion from legal and medical depts. on appropriateness of technology.	J. Arredondo T. Olsen	06/26/85	10/11/85	a) opinion from legal approving testing
			10/85	b) opinion from medical approving testing
4. Invite manufacturers to make in-house presentation.	T. Olsen	07/15/85	08/08/85	a) presentation by Digital Products Corp. attended by representatives from TYC, Board of Pardons/Parole, Juvenile Probation Commission, Adult Probation Commission
5. Follow up meetings with manufacturers.	J. Arredondo T. Olsen	09/23/85	08/19/85 09/24/85	a) ACA conference, New York b) APPA conference, Houston

10 73
TYC

WORK PLAN

PERSON RESPONSIBLE J. R. Arredondo ORGANIZATION UNIT Community Services Dept. DATE 11/27/85

KRA Operating Results OBJECTIVE To develop a home monitoring alternative to residential care utilizing four staff weeks at a cost of $9,500 by February 28, 1986.

ACTIVITY	PERSON RESPONSIBLE	BEGIN DATE	END DATE	COMMENTS
6. Selection of product provider.	J. Arredondo	10/21/85	11/10/85	a) Product selection based on minimal stigma, cost, and service.
7. Identification of target population	J. Arredondo C. Townsend	11/11/85	12/20/85	a) Meetings with Parole Area Supervisors, Reception Center officials.
8. Develop policy on use of electronic monitoring technology.	J. Arredondo C. Townsend	11/20/85	01/15/86	
9. Contract for services with provider.	J. Arredondo C. Townsend N. Nichols	01/20/86	01/27/86	a) Contact selected provider and initiate contract.
10. Develop evaluation procedure	A. Moore	01/20/86	on-going	
11. Equipment delivery and training of TYC personnel.	provider	01/27/86	02/15/86	
12. System operational	responsible staff	02/15/86		

MBO-1
6/80
TYC

OBJECTIVES PLANNING SHEET

Community Services Department
Organizational Unit

Date November 27, 1985
Person Responsible Arredondo

KRA	INDICATOR	OBJECTIVE
Operating Results	Home monitoring technology	To develop a home monitoring alternative to residential care utilizing four staff weeks at a cost of $9,500 by February 28, 1986.

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Appendix I

HOUSTON PILOT PROJECT

PROPOSED RESEARCH DESIGN

RESEARCH DESIGN AND METHODOLOGY FOR EVALUATION OF ELECTRONIC MONITORING OF PROBATIONERS AND PAROLEES IN HOUSTON, TEXAS

Presented to
Mr. Ronald D. Champion, Executive Director
Criminal Justice Policy Council
State of Texas

by

Joseph B. Vaughn
Criminal Justice Center
Sam Houston State University
Huntsville, Texas

April 21, 1986

INTRODUCTION

A new technology has been developed and implemented on a limited basis which allows corrections officials to use electronic surveillance to monitor the activities of offenders. Within the past two years, prompted primarily by overcrowding of institutions, there has been growing attention given to the technology. In additon to providing an alternative to incarceration, electronic monitoring is believed to allow probation and parole officials to become more effective and cost efficient. No research has been done to date on the effectiveness of the device over more traditional forms of supervision.

Systems which are currently operational can be placed in two broad categories, active or passive. The active system consists of a transmitter unit, a receiver-dialer unit, and a central office computer or receiver unit. The transmitter is strapped to the offender and broadcasts an encoded signal to the receiver located in the offender's home. The receiver is connected by the telephone to the central office computer or receiver unit. When the offender goes beyond the range of the receiver unit, i.e., leaves the home, the signal from the transmitter is not received and the system indicates absence.

The second type of unit, referred to in the literature as a "passive" system, consists of a central office computer, an encoder device, and a verifier box. The encoder device is worn either on the wrist or ankle by the offender. The computer is programmed to generate random calls or to call at specific times to the offender's home. The offender is required to provide voice identification and then insert the encoder device into the verifier box, confirming their identity. The system will provide exception reports if the phone is not answered, if a busy signal is received, or if an offender fails to properly insert the encoder device into the verifier box.

The underlying philosophy of the technology is that by imposing a curfew the rehabalitative efforts are enhanced because a sense of discipline is instilled in the offender and there is a lessoned likelyhood that they will engage in activities which are enhanced by peer pressure during idle time periods. Use of the device is believed to increase public safety by maintaining greater control over the offender than is possible with other more tradtional forms of supervision.

The technology has not previously been used in the State of Texas. A feasibility study of its use has been conducted

by the Texas Criminal Justice Policy Council. One of the recommendations of the study committee was to conduct a field test using probationers and parolees in Houston, Texas. Probation is administered by individual counties with guidance and oversight from the Texas Adult Probation Commission. The administration of parole is a state function. The probability of standardized proceedures in conducting the experiment is enhanced by using a single location for the test site. Evaluation of the study will be conducted by researchers from the Criminal Justice Center, Sam Houston State University, Huntsville, Texas.

The instant study is designed to evaluate the effectiveness of the technology. Specifically, the project will address the following:

1. To further define with which type of offenders and under what circumstances the technology can be utilized.

2. Assess the effectiveness of the devices to maintain public safety.

3. Determine if an active system provides a greater measure of public safety than a passive system.

4. Assess the cost-effectiveness of the program.

5. Measure the degree to which electronic monitoring is acceptable to practictioners and the public.

6. Identify special legal, technical, training, or programmatic difficulties of electronic monitoring.

7. Enumeration of recommended operational proceedures and suggested improvements in the technology.

Ideally, the technology would be tested under "sterile" conditions in a laboratory setting which would allow for control of all extraneous sources of variance. The experimental subjects would be randomly selected from the population of offenders. From those selected, the subjects would then be randomly assigned to treatment groups and no-treatment control groups to facilitate control of extraneous variance, thereby enhancing the validity of the study.

Unfortunately, as is the case in a great deal of operational research, the researcher will not have sufficient control of the organizations involved to guarantee randomization, making impossible a true experimental design. Even though use of the technology is perceived by the

criminal justice system as an important issue, legal and ethical constraints dictate that the research be quasi-experimental. Because the technology is so new, there is little if any historical or archival data available that would assist in the research function. There have been no prior experiments conducted on the technology from which to draw information and knowledge. This report details the developmental stages of a quasi-experiment designed to examine the effectiveness of the technology.

TASK ANALYSIS

The following general tasks are identified which must be performed if a reliable and valid experiment is to be conducted:

- Preliminary study of the technology. This need can be fulfilled by the activities of the Electronic Monitoring and House Arrest Study Committee of the Texas Criminal Justice Policy Council. The final report of that Committee will be released in May of 1986.

- Preliminary research design. Will be fulfilled by this document.

- Agency commitment to research project. The Texas Board of Pardons and Paroles, The Texas Adult Probation Commission, and the Harris County Adult Probation Department will have to agree to participate in the experiment. The agreements between these agencies have already been reached and will be coordinated by the Texas Criminal Justice Policy Council.

- Funding for the project. Monies to operate the program and conduct the evaluation will have to be secured.

- Establish eligibility criteria. The criteria to be utilized by the sentencing judge, Harris County Adult Probation Department and the Texas Board of Pardons and Paroles will have to be finalized.

- Procurement of equipment. The monitoring equipment to be used during the experiment will have to be selected in accordance with state regulations.

- Development of agency policies and proceedures. Uniformity of proceedures dictates that written policies be developed prior to program implementation.

- Training of staff. Supervising officers will have to be trained in the use of the equipment and any written instruments to be used in the experiment.

- Finalization of research design. The research design should be reviewed and modified as necessary.

- Selection of offenders and operation of program.

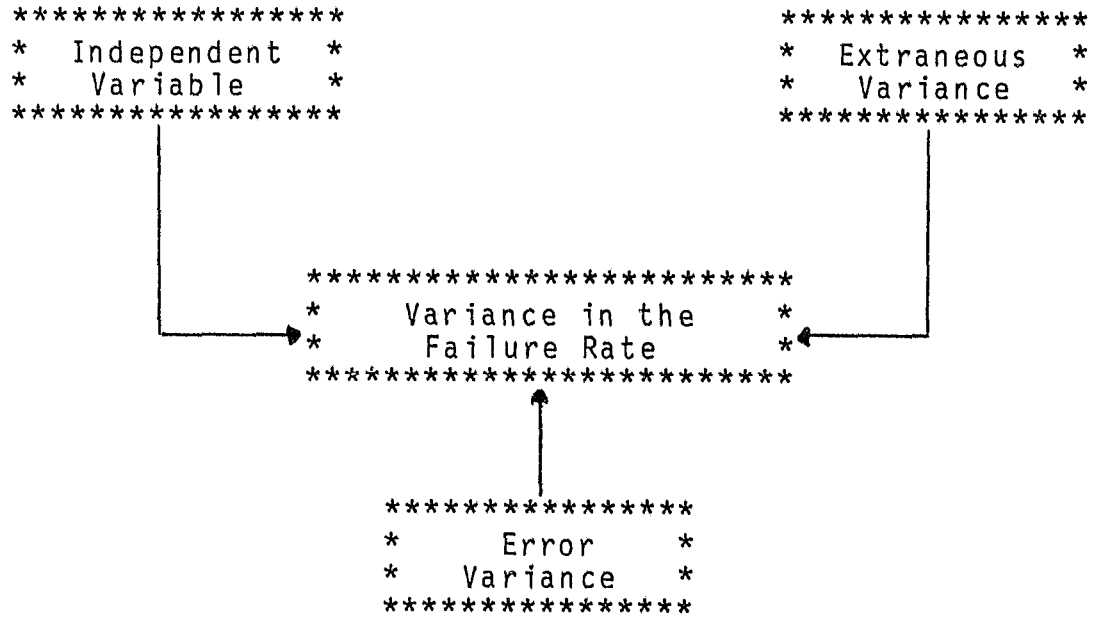
- On-going evaluation. The program should be monitored and modified as circumstances require in a method consistant with accepted research methodology.

- Termination of project.

- Preparation of final reports. Once the project has been terminated and all the data gathered, statistical analysis will be conducted and the final report prepared.

POTENTIAL SOURCES OF VARIANCE

Within any experiment one can consider that there are three sources of variance; that introduced by the independent variable, that introduced by error, and extraneous variance. By manipulation of the independent variable, in this case the type of supervision, the researcher hopes to introduce variance into the failure rate, if in fact the levels of supervision have a differential effect.



The difficulty encountered in an experiment is the identification and control of the sources of extraneous and error variance which confound the differential effect observed on the dependent variable. In a quasi-experiment such as this, one cannot use randomization to control variance and therefore must rely on other methods. In order to accomplish this the researcher must be able to identify and measure the sources of variance. In particular, the following possible sources of variance have been identified in the instant experiment:

1. Reliability of the measuring instrument used to predict risk of failure.

2. Reliability of the measurement of failure by probation and parole officers.

3. The pre-disposition of the offender to fail.

4. Judges interest in success of the experiment.

5. Probation and parole officers interest in success of the experiment.

6. Officers ability to detect violations and willingness to report or take official action.

7. Seasonal effect on violations.

When randomization cannot be used as a control method the researcher must rely on methods which can be implemented pre-experimentally or those used ex-post-facto. In developing the research design one of the principle objectives is to consruct the experiment in such a fashion as to identify and control extraneous and error variance. In addition to randomization, the more common pre-experimental methods to control variance are elimination of the variable, inclusion of the variable as an independent variable, and matching. Use of statistical tests will allow the experimenter to control for variance "ex-post-facto" when ethical or legal constraints do not allow for pre-experimental control. However, it must be realized that any attempt to control variance within the study has the potential to reduce the external validity of the study. Given the political and legal boundries in which the instant research must be performed, and the lack of any prior research, generalizability (external validity) is of secondary concern. With the technology being in its infancy, it would be benefical to focus on its effectiveness initially in a micro-fashion. Successive studies can later be used to examine the generalizability of the effect, or lack thereof, to other populations and settings.

DEVELOPMENT OF THE RESEARCH DESIGN

Research Questions

Development of a research design is an incremental process consisting of several general steps. Identification of the problem is the first step in any research design. Having dispensed with that process in the introduction it is next necessary to consider the research questions. Research questions serve to shape the research process by identifying the issues to be addressed.[1] In the instant study, the following research questions are considered:

1. Is the technology more effective in controlling the behavior of the offender than other, more conventional forms of supervision?

2. Is the success or failure of electronic monitoring significantly affected by the type of offender included in the program?

3. Are active systems more effective than passive systems in controlling the behavior of offenders?

4. Is electronic monitoring more cost-effective than traditional forms of supervision?

5. Is electronic monitoring acceptable to criminal justice practictioners?

6. Is electronic monitoring acceptable to the general public?

Hypothesis

Having identified the research questions to be examined the reseacher is now in a position to begin formulation of the experiment. Generally the next step would be to identify the hypotheses. A hypothesis flows naturally from a research question and allows the experimenter to identify possible outcomes of the research which can be proven to be probably true or probably false. Correctly used the hypotheses force the researcher to examine the phenomena without introducing his or her bias into the research. Frequently the hypothesis is stated in the null form, that there is no difference. To do so in the instant study would result in the following hypotheses:

1. There is no significant difference in the failure rate of offenders supervised by use of the electronic surveillance technology when compared to other more conventional forms of supervision.

2. The type of offender on which electronic monitoring is utilized will have no significant affect on the success or failure rate of the individuals.

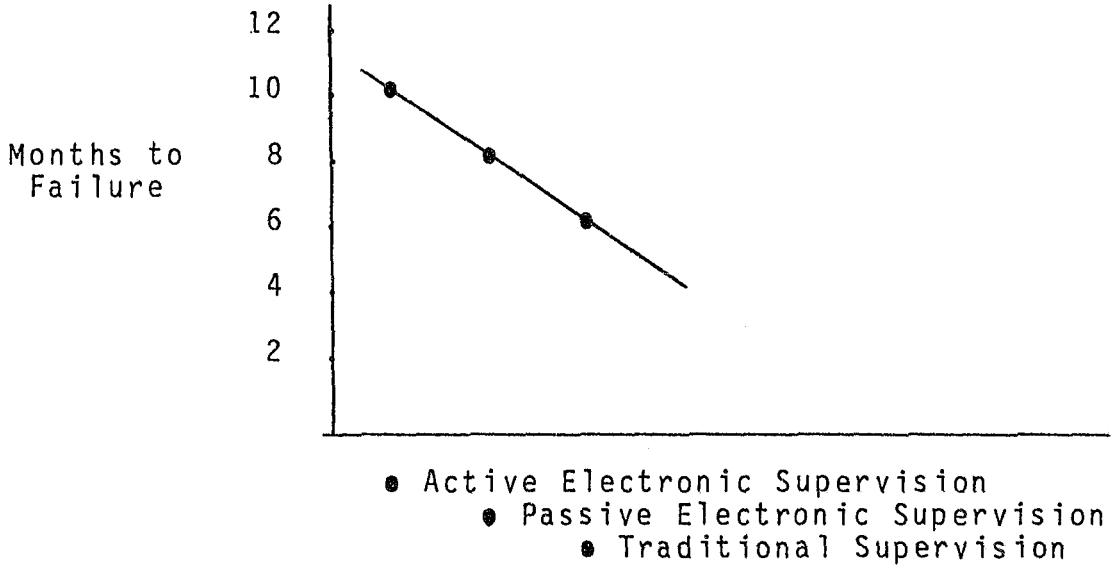
3. An active monitoring system will not be significantly more effective in controlling the behavior of an offender than will a passive system.

4. Electronic monitoring is not more cost-effective than traditional forms of supervision.

The philosophy behind the use of the null hypothesis is that of "chance." In essence the null hypothesis states that there is no difference between the groups other than that which occurs by chance alone. The researcher may then utilize those statistics which test the proposition that the difference is in fact systematic and not random. The statistics measure the difference from "chance," i.e., is the variation observed greater than that which would occur by chance alone and therefore the result of some systematic form of variance?[2]

In some instances, however, the null hypothesis can limit causal interpretation. In studies where randomization is not possible and pre-test measures are not available, use of predicted higher-order correlations to pre-experimentally identify which groups will be effected in which ways can provide relatively strong inferences about cause. The more complex the predicted interaction between non-equivelant groups, the more causal inference tends to be facilitated. However, the chance of obtaining the predicted order decreases as the number of points in the data predicted increases.[3]

The logical order of prediction in the instant study would be that those with the least supervision would have the highest failure rate and those with the most supervision would have the lowest failure rate when measured in months to failure.



In the instant study, however, without pre-test measures, unidentified extraneous and error variance may preclude the researcher from obtaining the predicted order, even if it was in fact correct. For example, errors in measuring months to failure may result in the traditional supervision group having the lowest failure rate. By virture of the fact that they are not continuiously monitored, their actions which may have led to revocation or technical violations, may go undiscovered. Conversly, by virture of the fact that the electronic surveillance is intensive, a higher failure rate may result merely because more violations are discovered. Personality differences between the supervising officer and the offender may result in a higher failure rate among those who are under traditional supervision and have more contact with the officer. Due to the inability to effectively control these sources of variance, it will be necessary to utilize pre-test meausres and ex-post-facto statistical analysis to aid in causal inferences.

The last two research questions do not readily lend themselves to hypotheses formulation. Both are subjective evaluations of the acceptability of the technology and its use by the criminal justice practictioner and the general public. Those research questions will be addressed through descriptive methods.

Selection of a Research Design

The research is designed to measure effectiveness of electronic monitoring in months to failure. Failure will be defined as violation of the terms of release. Each offender will be monitored for the period of time established by the releasing authority. Their failure rate will be calculated based on the number of months they remain under supervision without a revocation offense.

The simplest and least costly experiment would involve the utilization of a post-test only non-equivalent group design:

X_1 0

X_2 0

X_3 0

Two factors make this design unsuited for the instant research project; the inability to guarantee randomization and the inappropriateness of using predicted higher-order interactions. In randomization one seeks a heterogeneous population within each treatment group. To the extent that randomization has occurred the extraneous variance should be normally distributed within the groups and should cancel each other out. To the extent that the subjects within one particular group are heterogenous, your ability to generalize the results is increased. The groups themselves, however, should be homogeneous, in that there is no significant between-group variance prior to the introduction of the treatment. Since randomization can not be guaaranteed one should not assume the groups are equivalent and must either rely on pre-test measures or on a predicted higher-order interaction to facilitate inferences of causality. For the reasons previously cited, prediction in this instance is not a promising alternative.

Introduction of a pre-test measure is problematic because of the dependent variable construct. There is no way to measure months to failure by a pre-test measure. One alternative is to identify proxy measures of the dependent variable and then statistically examine the correlation between the two. Proxy measures are formed on the belief that there is some logical basis for inferring that one group is more likely to fail than the other. Of particular concern in this study is the pre-disposition of the individual offenders to fail. If the groups were randomized this should self-cancel, i.e., on the whole no group would have any

greater pre-disposition to fail than any of the others. Because we can not randomize, we can not assume the groups are equivalent. There are several measurement instruments currently utilized within the field of corrections to indicate pre-disposition to failure which have been previously validated.[4] As a proxy measure, this study will employ a Risk Assessment Scale to measure pre-disposition to fail. The design would now appear as such:

$$O_a \quad X_1 \quad O_b$$
$$O_a \quad X_2 \quad O_b$$
$$O_a \quad X_3 \quad O_b$$

The Risk-Needs Assessment Scale will examine factors which have been previously correlated with the risk of probation failure. Specifically the following areas are rated:

Risks

1. Number of address changes in last 12 months.
2. Percentage of time employed in last 12 months.
3. Alcohol usage problems.
4. Other drug usage problems.
5. Attitude toward probation (motivation to change, willingness to accept assistance).
6. Age at first adjudication of guilt.
7. Number of prior periods of supervision.
8. Number of prior revocations.
9. Number of prior felony adjudications of guilt.
10. Adjudications for specific types of offenses (burglary, theft, auto theft, robbery, forgery, or worthless checks).
11. Adjudication for assaultive offense within last five years.

Needs

1. Academic/vocational skills.
2. Employment.
3. Financial management.
4. Marital/family relationships.
5. Companions.
6. Emotional stability.
7. Alcohol usage.

8. Other drug usage.
9. Mental ability.
10. Health.
11. Sexual behavior.
12. Supervising officer's impression of needs.

Criteria for evaluating the risks are objective and based upon standardized proceedures for evaluating the individual items. The needs portion of the scale, while more subjective, also relates to prediction of failure. Seperate composite need and risk scores are obtained for each individual. Data needed to complete the scales are available from court and probation/parole files.

Improvement can be made in the research design by the use of a non-treatment control group. In the instant study the control group rationally would have to consist of those individuals who have previously committed an offense and been adjudicated. The study is designed to measure the effectiveness of three levels of supervision on the behavior of the individual. In essence the group which is placed under traditional supervision is not receiving treatment other than that which might be introduced by the adjudication process and the subsequent possiblity of revocation. Using the rationale that no treatment is being applied by the probation/parole department, and that those in the treatment group have a similar history, i.e., adjudication and assignment to supervision, the traditional supervision group can serve as a control group when measuring the effect of differential supervision techniques. The design would now appear as:

$$O_a \quad X_1 \quad O_b$$

$$O_a \quad X_2 \quad O_b$$

$$O_a \qquad\quad O_b$$

To reduce the possibility that an individual judge may bias the results by his individual sentencing practices, probationers from different judges will be utilized. This will allow for a two-way analysis of variance; across treatment groups, and across judges. The design then becomes:

O_a	X_{a1}	O_b
O_a	X_{a2}	O_b
O_a		O_b
O_a	X_{b1}	O_b
O_a	X_{b2}	O_b
O_a		O_b
O_a	X_{c1}	O_b
O_a	X_{c2}	O_b
O_a		O_b
O_a	X_{d1}	O_b
O_a	X_{d2}	O_b
O_a		O_b

One additional concern for the validity of the study can be addressed in the research design by adding a second post test measurement, which would result in the design appearing as:

O_a	X_{a1}	O_b	O_c
O_a	X_{a2}	O_b	O_c
O_a		O_b	O_c
O_a	X_{b1}	O_b	O_c
O_a	X_{b2}	O_b	O_c
O_a		O_b	O_c
O_a	X_{c1}	O_b	O_c
O_a	X_{c2}	O_b	O_c
O_a		O_b	O_c
O_a	X_{d1}	O_b	O_c
O_a	X_{d2}	O_b	O_c
O_a		O_b	O_c

As previously alluded to, the type of supervision, ability of the individual officers, and other random factors, will have a direct effect on the measurement of failure rates. In an attempt to control for this, a self-report questionnaire will be administered to the offenders at the conclusion of their supervision period which is designed to measure activities which would have constituted "failure," if detected. The questionnaire will be administered confidentially to enhance its reliability.

Within the population of probations the opportunity exists for a more stringently controlled research design than that enumerated above. The Harris County Adult Probation Department operates a restitution center where offenders are required to live for a period of six months. During that time their activities are controlled with an enforced curfew. The offenders are expected to be employed and make court ordered restitution payments. After an adjustment period at the restitution center a sample of those offenders will be released to their home under electronic monitoring. This

will allow for a direct comparison between the use of the more expensive restitution center and the alternative use of electronic monitoring with the subjects comming from the same sample population.

RESEARCH METHODOLOGY

Using a quasi-experimental design to examine the effectiveness of the three levels of supervision, the offenders will be rated according to the critera of the Needs-Risk Assessment Scale for a predisposition to fail. Failure is defined as commission of a technical violation or a criminal offense. The critera for evaluation will be months to failure. Violations will be measured by both official data and the self-report questionaire. Those placed under traditional supervision will serve as a control group. For the sub-group of probationers sent to the restitution center, those not released on electronic monitoring will serve as a control group.

Assignment of the subjects to different treatment groups will be determined by the judges and parole commission, resulting in a non-randomized experiment. Individuals assigned will have to agree to participate in the monitoring process. While the use of volunteers in some instances may make the research design suspect, in this instance it is essential. The willingness to participate is one of the underlying philosophies of operational programs. The agreement to participate, therefore, allows the results to be generalized to other programs.

Subjects from the group of probationers will be selected based upon the following criteria:

1. Felony offenders who have committed a technical violation of their probation who, but for the electronic monitoring program, would otherwise be incarcerated.

2. Offenders who have committed misdemeanor offense while on probation.

3. Non-violent offenders diverted from incarceration who are not placed in a restitution center.

4. Residents of restitution centers who are released earlier than the six month minimum term.

The Texas Board of Pardons and Paroles has specified that only parolees who have had technical violations without encompassing any other law violations will be eligible for inclusion in the program. The identified parolees will be those who would otherwise be incarcerated for those technical violations.

Given the experience of other jurisdictions who have previously initiated programs it would be less than prudent to acquire the equipment and begin the experiment without conducting a pre-test. For that reason the research project will be divided into four phases:

1. Organization phase. During this phase the policies and proceedures will be standardized, bid specifications developed, and equipment acquired. Once received the equipment will be tested on staff members to ensure that it functions properly.

2. Pre-test phase. A pre-experiment will be conducted with actual offenders to ensure that the proceedures and equipment are functioning correctly.

3. Re-evaluation phase. At the completion of the pre-experiment the project will be re-examined with modifications and corrections made which are consistent with accepted research methodology.

4. Experimental phase. Once the system is functioning correctly the actual research design will be implemented, data will be collected and analyzed, and research reports prepared.

STATISTICAL ANALYSIS

Statistical analysis of the data requires adaptation of methods which were designed for, and assume random samples. Analysis of variance techniques generally considered appropriate for use with non-equivelant group designs are analysis of variance (ANOVA), analysis of co-variance (ANCOVA), ANOVA with blocking, and ANOVA with gain scores.

ANOVA with gain scores is an inappropriate statistical technique for operationally unique measures, as are the pre and post test in the instant study, and therefore will not be used. Simple ANOVA is computed on the post test scores only, and therefore does not take into account the pre test differences that may exist between the groups. In the instant study with non random assignment, one must assume that there will be between group differences prior to the implementation of treatment which may confound the treatment effect. Therefore, in the instant study, statistical analysis will consist primarily of either ANCOVA or ANOVA with blocking.

The estimate of treatment effect obtained from ANOVA with blocking generally lies somewhere between ANCOVA and simple ANOVA. If the correlation between the pre and post test is between 0 and .4, the treatment effect estimate of ANOVA with blocking is generally more precise than is ANCOVA. If the correlation is .6 or above, the estimate obtained from ANCOVA is generally more precise than ANOVA with blocking. In the instant study, under certain conditions, it would be desirable to use ANCOVA for the statistical analysis. ANCOVA extends the simple ANOVA by including the pre-test measure in the model in the form of a linear regression. Using the pre test as a covariate it provides an adjustment for initial differences between groups and estimates what the treatment effect would have been if the groups had initially been equivalent.

For descriptive purposes a simple ANOVA will be utilized to depict the pre-treatment differences between the groups. The results will be included in the research report in that they may lend understanding to possible bias in the outcome.

If the correlation between the pre and post test is .6 or above, ANCOVA will be utilized to estimate the treatment effect. If it is below .4, ANOVA with blocking will be utilized. Given the limited knowledge on the subject under investigation, it would seem more important to use those methods which have the greatest likelyhood of estimating the existence of any treatment effect. For that reason, if the

correlation between pre and post test falls between .4 and .6, both ANCOVA and ANOVA with blocking will be utilized and reported. At present there is no consensus as to which test is more appropriate for estimating treatment effects when the correlation is between .4 and .6.

Applying the above rationale the following independent variables will be examined utilizing the appropriate statistical test:

Race
Sex
Marital status
Probationers versus parolees
Individual probation/parole officers
Individual judges
Type of offense
Technical versus criminal violations
Seasonal time periods

Where appropriate regression and descriptive statistical proceedures will be utilized.

LIMITATIONS OF THE STUDY

The limitations of the study can be examined through an evaluation of the applicable threats to validity, which are categorized into statistical conclusion validity, internal validity, construct validity, and external validity.[5]

Statistical Conclusion Validity

1. Low Statistical Power. Analysis of variance techniques are relatively powerful tests for estimating treatment effect.

2. Violated Assumptions of Statistical Tests. Analysis of variance techniques assume random data. In the instant study the data is non-random, however, the tests have been shown in the past to be relatively robust to violations of this assumption.

3. Fishing and the Error Rate Problem. The number of comparisons is not such that this should cause any validity problems. Additionally, analysis of variance techniques provide for an adjustment of the error rate, reducing the likelyhood that any relationships would be spurious.

4. Reliability of Measures. The analysis will use group means which are more stable than individual scores. The questionaire administered to the offenders will assist in assesment of the reliability of the measurements of failure from the supervising officers.

5. Reliability of Treatment Implementation. The probability of standardized supervision proceedures is increased by virtue of the fact that the experiment is being conducted in a single county with a limited number of officers involved. Differences between the probation and parole officers can be anticipated because they are members of different agencies. Since one of the issues to be examined is the differential effect of the technology on probationers versus parolees, this not detrimental to the research design. The questionaire given to the offenders is designed to examine treatment implementation. Official records will also be examined in an effort to verify treatment implementation.

6. Random Irrelevancies in the Experimental Setting. Because this is a quasi-experiment, there is no way to control much of the experimental setting, and the possibility exists that the results may be biased by this factor.

7. Random Heterogeneity of Resondents. To the extent possible, this will be controlled by analysis of variance techniques which provide for an adjustment of differences.

Internal Validity

1. History. It is impossible to insulate the groups from outside influences. By use of the traditional supervision group as a control group, the threat of history should be minimized.

2. Maturation. To a certian extent maturation cannot be controlled in this design. An evaluation of the plausability of this threat will be done post-experimentally based upon the risk-assessment scale, analysis of variance techniques, and the self-reported questionaire.

3. Testing. As a threat this should not be operating.

4. Instrumentation. The type of instrument used for the post test has been previously validated as having a high degree of reliability. Those responsible for completion of the instrument will have training to reduce the possibility that their skill will increase during the experiment introducing bias into the pre-test. The design of the instrument should eliminate any difficulties with ceiling or basement effects.

5. Statistical Regression. Should not apply.

6. Selection. This threat is of particular concern in the experimental design due to non random selection and non random assignment. Analysis of variance techniques will be used to examine and control for this threat.

7. Mortality. With the exception of death, or transfer of the offender, mortality should not effect the outcome of the experiment. Those cases of mortality which do occur will be examined to determine what if any impact they would have on the overall results.

8. Ambiguity About the Direction of Causal Influence. Should not be operating with this design.

9. Diffusion or Imitation of Treatments. Offenders as a condition of release are prohibited from associating with one another. Due to the nature of the experiment this is not foreseen to be a threat which would influence the outcome.

10. Compensatory Equalization of Treatments. Administrative compensation between the groups is not foreseen.

11. Compensatory Rivalry by Respondents Receiving Less Desirable Treatment. Because the offenders are those who would otherwise have been incarcerated, this threat is not believed to be applicable.

12. Resentful Demoralization of Respondents Receiving Less Desirable Treatments. Not believed to be applicable.

Construct Validity

1. Inadequate Pre-operational Explication of Constructs. The constructs of both the independent variables and the dependent variables have been clearly defined.

2. Mono-operation Bias. Two exemplars are utilized, official records, and a self-reported questionaire.

3. Evaluation Apprehension. There is a good possibility that this will be operating within the experiment. The offenders, obviously, will want to present themselves in a most favorable light to their probation or parole officer. In using a confidential questionaire, it is believed that some of this difficulty will be overcome.

6. Confounding Constructs and Levels of Constructs. The treatment is being given at three different levels using two basic groups (probationers and parolees) which should show any difference which might exist.

7. Restricted Generalizability Across Constructs. There is only one dependent variable construct in this design.

External Validity

1. Interaction of Selection and Treatment. The results of this experiment can be generalized only to those individuals who would meet the selection criteria established for inclusion in the program.

2. Interaction of Setting and Treatment. In this instance the results may have limited generalizability beyond the courts, or the probation and parole departments involved in the experiment.

3. Interaction of History and Treatment. The results should be generalizable into the future for similar settings and individuals.

CONCLUSION

The instant study is an applied research study designed to test whether or not differential supervision strategies have differential effectiveness. It is not concerned with wide generalization at this point, rather it is restricted to particular individuals and circumstances. In evaluating the study, the primary concern is with internal validity. Through this initial study information should be generated which will provide the incentive for further studies. As the knowledge base is built upon, it is hoped that research designs which allow for more control of the experimental setting will be permitted by the criminal justice system.

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Appendix J

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