

HOW WILL GLOBAL POSITIONING SATELLITE TECHNOLOGY
IMPACT THE MANAGEMENT OF ALTERNATIVE-SENTENCED OFFENDERS
IN A MEDIUM-SIZED SHERIFF'S DEPARTMENT BY 2007?

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by

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This Command College Project is a FUTURES study of a particular emerging issue in law enforcement. Its purpose is NOT to predict the future, but rather to project a number of possible scenarios for strategic planning consideration.

Defining the future differs from analyzing the past because the future has not yet happened. In this project, useful alternatives have been formulated systematically so that the planner can respond to a range of possible future environments.

Managing the future means influencing the future; creating it, constraining it, adapting to it. A futures study points the way.

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Chapter I

ISSUE IDENTIFICATION

INTRODUCTION

The justice system in America has, for the past two decades, incarcerated repeat criminal offenders under progressively increased sentencing guidelines. Legislators in California amended the Penal Code to include penalty enhancements and mandatory minimum sentences designed to keep career criminals locked up for longer periods, up to and including life sentences. Californians have seen the growth of such programs as the Career Criminal Apprehension Program, Sexual Habitual Offender Program, and Three Strikes. The programs are designed to identify and incapacitate—through incarceration—offenders who are likely to continue in their particular criminal enterprises. Crime may be down throughout California and the rest of the country; however, no concrete evidence exists to conclude that longer and harsher sentences are responsible for the trend.

Correctional institutions at federal, state, and local levels are severely and chronically overcrowded. The nation's correctional population, for the year 2000, reached a new high of almost 6.5 million men and women, having grown by 126,400. This total represents 3.1 percent of the country's total adult population, or one in every 32 adults.¹ The latest statistics published by the U.S. Department of Justice reveal that jail populations in California are at 101 percent of capacity.² Overcrowded conditions in some local jails require the early release of certain inmates to avoid exceeding maximum population figures set by statute and local courts.

The simple answer may be to build more prisons and jails, but taxpayers are not willing to pay the high cost of prison construction or the on-going cost of staffing more and more correctional institutions. "A decade ago the estimated cost for jail construction and renovation alone was estimated to be more than a half-billion dollars. It is believed that the cost is more than the nation can afford."³ Public officials should expand and improve on various alternatives to incarceration in order to sustain the tough-on-crime trend and minimize its impact on jail overcrowding.

STATEMENT OF THE ISSUE

One alternative-sentence, home confinement, provides a term of incarceration; however, the offender serves that term confined in his or her own home. Combined with electronic monitoring, this sentence offers one of the most popular and widely used alternatives. One problem exists with electronic monitoring; it only accounts for the offender's presence at home. An offender's whereabouts are unknown if he or she leaves home. This raises a public safety concern. How do law enforcement and corrections officials offer electronic monitoring programs, hold offenders accountable, and still ensure public safety? Combining home electronic monitoring with Global Positioning Satellite (GPS) technology may be one possible solution. The combination of these two technologies will allow law enforcement agencies to provide needed relief for overcrowded jails, while maintaining accountability for criminal offenders.

HISTORY OF ELECTRONIC MONITORING

The technology involved in electronic monitoring was developed in the mid-1960s by psychologist Robert Schwitzgebel. Schwitzgebel believed that his invention could provide a humane alternative to incarceration for many people involved in the justice process.⁴ His system consisted of a receiver and a transmitting unit capable of sending and receiving a signal from as far away as a quarter-mile.

Electronic monitoring was first used in the United States in 1983 when Judge Jack Love of Albuquerque, New Mexico sentenced the first offender to house arrest with electronic monitoring. Palm Beach, Florida quickly followed Love's example and adopted the device in its corrections' program to reduce jail overcrowding. There were 3,200 offenders being monitored electronically in thirty-two states by 1988.⁵

Approximately 1,500 programs existed, and 95,000 electronic monitoring units were in use in the United States as of January 1998. The total includes individuals on pretrial status, home detention, probation and parole, as well as in juvenile detention. Success rates for offenders in home detention are slightly better, and recidivism rates are slightly less, than offenders in traditional incarceration.⁶

Electronic monitoring costs significantly less than traditional incarceration. The federal government estimates costs for electronic monitoring to be about one third that of jail or prison confinement.⁷ Offenders sentenced to electronic monitoring most often pay operating costs themselves on a per day basis.

Typical equipment used in electronic monitoring consists of a pager-size device worn around the offender's ankle. The ankle-unit transmits a signal to a receiver attached to the offender's phone. The signal remains unbroken as long as the

offender stays home. The receiver sends notification to a computer on the other end of the phone line if the offender leaves.

There are two versions of electronic monitoring systems: a passive system that sends monitoring data only in response to an automated phone call, and an active system that sends a continuous signal to the receiver. Either system sends automatic notification to a monitoring computer if the offender leaves home.

Electronic monitoring continues to be an appropriate and effective alternative punishment for non-violent offenders. Electronic monitoring contains sufficient elements of punishment to be accepted by the public and the judiciary as an alternative to imprisonment. The empirical evidence shows electronic monitoring a slightly more effective alternative in delivering rehabilitative programming, and reducing recidivism, than traditional custodial sentences.

HISTORY OF GPS

The Global Positioning Satellite (GPS) network consists of twenty-four satellites orbiting 12,000 miles above the earth. The U. S. Department of Defense funds and controls the GPS network, which became operational in 1986. The Department of Defense made the system available for civilian users in 1990. Private industry uses GPS devices for such purposes as land surveying, portable navigation units for hikers, and as an option on some automobiles to help motorists find their way in unfamiliar areas. Some law enforcement agencies use GPS technology to track the location of field officers.

GPS functions by using orbiting satellites as reference points for locations on earth. Precisely measuring the distance between at least three of the twenty-four satellites, and a radio transmission on earth, allows the GPS network to triangulate the distances and pinpoint the exact location for the transmission within ten meters. Movement can be tracked and recorded through the same triangulation process should the transmission move.

The Federal Communications Commission (FCC) has driven the cellular phone industry to make significant advances in GPS location capabilities over the past few years. The FCC's Enhanced 9-1-1 emergency phone system requires that cellular phone service providers have the ability to pinpoint and track the location of someone dialing 9-1-1 on their cellular handset. The GPS based cellular phone location system is known as Automatic Location Identification, or ALI. ALI for cellular phones became partially operational in October of 2001. Twenty-five percent of all newly activated cellular phones were required to be ALI compatible by December 31, 2001. All newly activated cellular phones must be in compliance by December 31, 2002. The final phase of the ALI project requires ninety-five percent of all cellular phone subscribers to be capable of interfacing with the Enhanced 9-1-1 system. The development of ALI has resulted in smaller receivers and transmitters for GPS locating and tracking, creating new potential for GPS tracking applications.

Continental Divide Robotics (CDR) in Littleton, Colorado has taken GPS tracking technology a step further by adding Artificial Intelligence. CDR is testing a system that can locate any person or object anywhere in the world and notify a monitoring station if that person or object breaks an established set of rules. The

system resulted from research done at two Artificial Intelligence laboratories: one at the Massachusetts Institute of Technology and the other at the Colorado School of Mines.

CDR's system was designed for the federal government to use for tracking selected federal parolees. A selected parolee will wear a pager-size transmitting device that uses GPS technology to track and record the parolee's location. The transmitting device notifies CDR's system about its location. Monitoring remains continuous and unbroken. The system will make decisions about violation severity and whom to notify if the parolee leaves a certain area or gets near a particular location. CDR's founder, Terry Sandrin says, "We are literally creating software that is reactive and proactive. It has the ability to make decisions."⁸

ProTech Monitoring developed a similar GPS offender tracking system. The ProTech system, like CDR's, requires the offender to wear an ankle bracelet which acts as a transmitter. The ProTech system has a separate GPS receiver, slightly smaller than a child's lunchbox, which the offender carries at all times. The two devices must remain within a pre-set distance from each other. The ankle bracelet ensures that the offender keeps the tracking device close by to receive and transmit location information.⁹ The ProTech system provides automatic and immediate notification if an offender violates a pre-determined set of rules. The system dispatches law enforcement to apprehend the offender upon notification.

The constant tracking capabilities of the CDR and ProTech systems will make the next generation of electronic monitoring more effective. The GPS component

adds greater accountability to the home confinement alternative-sentence, affording opportunity for broader application.

INTERVIEW

Terry Sandrin, Chief Operating Officer of CDR, was interviewed on July 20, 2001, at his place of business in Littleton, Colorado.¹⁰ CDR is a private company involved in the research and development of GPS tracking systems. Sandrin's company developed a GPS tracking system for use by the U.S. Department of Corrections. CDR's system was still in the developmental stage at the time of the interview. Beta-testing was expected to begin in late fall of 2001.

Sandrin demonstrated CDR's tracking product. He tracked CDR employees moving about the City of Littleton. Employees were represented on Sandrin's computer screen as spots against a grid map of the city. The CDR parolee tracking system seemed readily adaptable for use in a sheriff department's community corrections program.

CDR's system has the unique ability to define zones of inclusion and exclusion. Monitoring equipment alerts authorities if an offender enters or leaves a specified zone. The zones are simple to create by clicking and dragging a computer mouse. There are two versions of the system. One involves active tracking of parolee movement, updated every second in real-time. The other version, a passive system, records parolee location and downloads it to a monitoring station at pre-determined time intervals. Downloading is accomplished through a standard or cellular telephone connection.

Sandrin explained one weakness in the GPS system that his and other companies are working hard to overcome. GPS tracking can experience the same service interruptions as cellular telephones. GPS coverage will be weak in areas of weak or sporadic cellular coverage. Barriers such as tunnels and concrete buildings inhibit the ability for the GPS system to update offender data. Location information is still tracked and recorded; however, it will not be available at the monitoring facility until the interference clears. The quest to eliminate service interruption for cellular phones and GPS applications should eventually eliminate this problem. The benefits of a GPS tracking system, for electronically monitoring offenders, outweigh the consequences of sporadic and brief interruptions in data reception.

Statistics from the last two decades show upward trends in rates of incarceration and length of sentencing. These trends have resulted in burgeoning correctional populations in almost every state. Policy makers must decide whether to build more prisons or to expand various alternatives to incarceration. California voters, in the 1990s, rejected two new prison bonds leaving the future of prison construction very uncertain. California has more prisoners than bed space for them; therefore, the future of corrections should include expanded use of alternative-sentencing.

Managing inmate populations will remain a challenge for sheriff's departments throughout California. Research for this project focuses on emerging GPS technology and its application to the field of corrections. Electronic monitoring combined with GPS technology should provide a unique method to improve management of jail populations and reduce operating costs.

CHAPTER II FUTURES STUDY

INTRODUCTION

A group of eleven individuals assembled at the El Dorado County Government Center in Placerville, California on November 13, 2001, to engage in a process known as Nominal Group Technique, or NGT. The NGT uses a brainstorming method to generate ideas in a controlled, non-threatening environment. The group members were asked to consider the question: "How will GPS technology impact the management of alternative-sentenced offenders in a medium-sized sheriff's department by the year 2007?"

NOMINAL GROUP TECHNIQUE

The NGT was used to develop future scenarios and strategies for this project. The eleven NGT panel members were chosen because of their unique and varied backgrounds. Each member brought his or her unique expertise to the discussion of the topic issue. Individual panel members are identified in Appendix C.

Panel members were given literature, one month prior to the scheduled meeting, which explained the topic issue and the NGT process. Participants were asked to come to the session prepared with a list of several trends and events. The topic issue and the NGT process were discussed prior to beginning the brainstorming session. The group was asked to identify and clarify trends and events impacting how a medium-sized sheriff's department might use emerging GPS technologies in

community corrections. A clear and unambiguous definition for trend and event were expressed and discussed. The definitions used were as follows:

- **Trends** are defined as a series of incidents or occurrences that indicate a pattern about a particular subject or issue. For the purposes of this exercise, avoid trend labels that indicate a particular direction, such as increase or decrease.
- **Events** differ from trends in that they involve singular incidents, occurring on a specific date, or at a specific time.

Each participant expressed his or her thoughts on trends and events in round-robin fashion during the brainstorming session. Sufficient time was allowed for clarification of expressed ideas; however, prolonged discussion was discouraged.

TRENDS

The group members presented their individual trends and ultimately developed a list containing 39 candidate trends (Appendix A). The group was asked to vote on those trends from the list which they deemed most significant to the issue statement. Using a two-stage voting process the group reached consensus and identified 13 trends which they believed would have the most significant impact on the issue statement. The group then assessed what value each trend might have on the issue relative to time frames of five years past, the current year, five years into the future, and ten years into the future.

Group members were next asked to assign numerical values for each of the thirteen trends to reflect what they believed to be each trend's impact on the topic issue. The arbitrary value of 100 was assigned for each trend's current year impact.

Those values are reflected in column three of Table 2.1. The remaining values reflected in columns two, four, and five of Table 2.1 represent the median of the panel's stated values for each trend. The value in column six represents the median of the panel's level of concern about the trend, in values of one through ten.

TREND ANALYSIS

Table 2.1

TRENDS	-5	TODAY	+5	+10	IMPACT 1-10
1. Civil rights cases filed relative to privacy.	0	100	150	150	9
2. Recidivism rates for criminal offenders.	100	100	120	120	8
3. Community safety after GPS Program implementation.	0	100	125	150	8
4. Limitations of GPS technology.	0	100	125	125	5
5. Community reaction to GPS tracking.	0	100	100	120	7
6. Criminal offense background.	100	100	110	110	8
7. Cost of technology.	0	100	125	150	7
8. Acceptance of GPS alternative sentence by judges.	0	100	100	100	6
9. Jail population.	100	100	130	150	5
10. Sheriff's Dept. staffing levels.	100	100	125	140	8
11. Cost of jail construction.	100	100	125	150	5
12. Recidivism rates for offenders on GPS tracking program.	0	100	125	150	6
13. Success of current Alternative Sentencing programs.	100	100	150	165	6

The NGT panel members identified the following trends as most likely to impact the development and implementation of a program using GPS technology to track alternative-sentenced offenders by a medium-sized sheriff's department.

1. Number of civil rights cases filed relative to privacy.

The group decided that the number of cases meant those cases filed, in state or federal court, by either a criminal offender or a private citizen who felt that their privacy was violated. The privacy issue was raised because of the potential for creating a record of everyone with whom the offender had contact. This issue needs serious consideration for the implementation of any GPS offender-tracking program. Some associates of offenders may not wish their interaction to become part of an offender's data profile.

2. Recidivism rates for criminal offenders.

The NGT panel felt that in order to assess the value of a GPS tracking program, or any alternative sentence program, it would be necessary to have a comprehensive recording and analysis of recidivism rates.

3. Community safety after GPS offender-tracking program implementation.

The group recognized that this trend involves the difficult task of collecting and analyzing qualitative data. They believed that an important component of any public safety program should include the input and reaction of the community. Community sentiment could significantly impact program viability.

4. Limitations of GPS technology.

The expert group member on the functionality and use of GPS technology said that GPS technology must continue to advance beyond current limitations. This member asked what would happen if a criminal offender being tracked enters a tunnel or a cave? Concrete or earth enclosures are impediments to GPS signaling devices. Radio frequency interference may also cause interruptions in data transmission.

Obstacles may need to be eliminated or minimized to ensure offender accountability and program integrity.

5. Level of Community acceptance to GPS tracking.

The NGT panel members believed that community support for, or resistance to, such an alternative-sentence was another qualitative trend that should be considered and measured. The discussion focused on the connection that this trend has with Trends 1 and 3. Group members believed that an agency could offset negative community reaction through information designed to educate. Community members may be more supportive if made aware of the number of sentenced and unsentenced criminal offenders released on the GPS program. The public could be educated about the levels of accuracy and accountability allowed by continuous GPS tracking.

6. Acceptance of GPS tracking for serious offenders.

The NGT panel believed it important to record and analyze offender background (offense type, how many, and sentences received). Analysis of these data, over time, may indicate that judges are more liberally applying this alternative-sentence. Such a trend might be indicative of growing acceptance of the GPS track alternative-sentence program among the judiciary. The group theorized that a GPS tracking program represents a significant effort at rehabilitating the offender and facilitating his or her re-entry to society.

7. Cost of technology.

The NGT panel believed that this trend deserved careful consideration. They thought that the cost of GPS technology would continue to rise. However, over time and with increased use, technology usually gets cheaper. The group asked who

would pay for the program? Should the cost be borne by public agency, or should it be passed on to the user/offender? The group suggested that if the alternative were offered only to those who could pay, then certain indigent people might be excluded giving rise to legal challenges. The public agency might consider the GPS program as a way of reducing normal budget expenditure if it could be proven cheaper than traditional incarceration.

8. Acceptance of GPS tracking of criminal offenders as an alternative sentence by judges.

The NGT members considered analyzing the number of alternative sentences handed down by judges an important trend to monitor. A decline in the number of alternative sentences could signify reluctance by judges to accept such sentencing measure as sufficient punishment. Therefore, the group suggested that acceptance by judges was a critical component to program success. Judges should be considered significant stakeholders in any GPS alternative sentencing proposal.

9. Jail population.

The NGT members believed that an increase in jail populations would be good for the implementation and sustainability of a GPS alternative sentencing program. Group members said that a sheriff could compare the cost of jail construction to continuous and active GPS monitoring of offenders. The Sheriff might sell GPS monitoring as a cost-effective alternative to traditional incarceration. The result could be increased public support for the idea.

10. Sheriff's Department staffing levels.

Group members theorized that a decrease in the number of sheriff's correctional personnel, attributable to this alternative sentencing program, could have a positive effect on program viability. An increase in personnel could have the opposite effect.

11. Cost of jail construction.

The panel members said that this trend should be closely monitored and identified in association with Trend 9. Members said that rising jail construction costs would be a significant catalyst for changing the way criminal offenders are managed. The high cost of jail construction might be useful for convincing stakeholders that a GPS tracking program offers a fiscally responsible alternative to building more jails.

12. Recidivism rates for alternatively-sentenced offenders on GPS tracking program.

The NGT panel members said that this key trend should be analyzed in relation to Trend 2. Reduced rates of recidivism for offenders sentenced to GPS tracking could be indicative of program success. Members said that the collection and comparison of recidivism rates was an important consideration. One member suggested that statistical analysis of new criminal offenses would be the best numbers to measure.

13. Success of current alternative sentencing programs.

Group members said that analysis of this trend would be helpful in convincing stakeholders to implement a newer, high-tech alternative sentencing program. They believed that the long-established practice of supervised probation, its continued use

and success, could be used to convince stakeholders to adopt the GPS alternative. Values for Trend 13 in Table 2.1 continued to rise five and ten years into the future. This suggests that panel members believe the acceptance of alternative sentencing programs will continue for at least the next decade.

EVENTS

The NGT panel members repeated the brainstorming process. This time they focussed on identifying specific events that might impact the topic issue. Members were requested to consider possible future events as opposed to predicting probable future events. The panel established a list that contained 33 candidate events (Appendix B). Members were asked to select from the list the events they deemed most significant to the topic issue. Through a two-stage voting process the group reached consensus and identified ten events which they believed would have the most significant impact.

Values were assigned to each of the ten events using a slightly different analytical process. Members were asked to predict the probability of each event occurring within the first year, within five years, and within ten years. The resulting probability scores are depicted for each event in columns two through four of Table 2.2. The values in column five reflect the impact each event might have on the issue statement. Note that these values represent a positive or negative impact on the issue, ranging from -10 to 10. The values in each column and row of Table 2.2 reflect the median value for the panel members.

EVENT ANALYSIS

Table 2.2

EVENTS	Year 1	+5	+10	IMPACT -10 to +10
1. U.S. Supreme Court rules GPS offender tracking unconstitutional.	0	25%	50%	-10
2. Sheriff uses GPS tracking to relieve jail overcrowding.	10%	50%	80%	+5
3. GPS tracking system given to Alzheimer's patients saving Sheriff thousands in Search and Rescue costs.	10%	75%	80%	+10
4. Crime victim sues County because GPS system fails to track offender who attacks victim.	10%	20%	50%	-2
5. False offender tracking data, from GPS monitoring system, leads to lawsuit.	5%	25%	40%	-2
6. Study shows GPS tracking program has no effects on rates of recidivism.	0	30%	60%	-7
7. Center for Disease Control study proves GPS devices cause cancer.	0	30%	50%	-8
8. Child molester on GPS tracking program abducts and murders child.	10%	25%	30%	-7
9. Military eliminates availability of their GPS network for non-military use.	5%	20%	20%	-10
10. Detectives solve murder case by use of data from GPS offender tracking program.	10%	25%	50%	+10

The NGT panel members identified the following events as those most likely to impact the development and implementation of a program using GPS technology to track alternative-sentenced offenders by a medium-sized sheriff's department.

1. U.S. Supreme Court rules GPS offender tracking unconstitutional.

Group members said that an adverse ruling from the High Court would have significant negative impact on the program. The purpose for bringing the case before

the court would not matter. The two potential issues discussed were a privacy case and one brought by an offender who developed health issues as a result of GPS tracking equipment. An adverse Supreme Court ruling would serve as a permanent injunction, barring any future use of this form of sentencing.

2. Sheriff uses GPS tracking to relieve jail overcrowding.

The NGT panel members believed that using jail overcrowding as a catalyst to implement a GPS program could be an effective strategy. Members said that selection criteria should be established so offenders would not present a threat to community safety. Panel members with experience in corrections explained how county jails are sometimes mandated to release offenders because of excessive inmate population. The GPS alternative sentence program may provide an effective alternative to such releases. Group members approved the concept because constant tracking establishes accountability for released offenders.

3. GPS tracking system given to Alzheimer's patients saving Sheriff thousands of dollars in search and rescue costs.

The NGT panel members said that establishing the value of GPS tracking, through some other program, might assist in establishing a similar program for criminal offenders. Members believed that a program designed to assist Alzheimer's patients might emphasize the usefulness of GPS technology and diminish resistance to an offender tracking program.

4. Crime victim sues County because GPS system fails to track offender who attacks victim.

The NGT panel members said that this event would reinforce what most everyone has experienced—a failure in technology. Any machine or electronic device may experience faulty operation or complete failure. The group felt that any GPS system will experience problems requiring intervention by a skilled technician. Faulty operation could effect certain individuals, or the entire system. Members said the potential for such an event should cause planners to consider back-up systems.

5. False offender tracking data, from GPS monitoring system, leads to lawsuit.

The NGT panel members noted that this event was similar to Event 4, or that systems are known to fail. The false data discussed for this event involved erroneous information about the offender's movement. Data must be accurate and reliable to support and sustain violations of sentencing conditions. A GPS tracking program which is known to provide inaccurate information may discourage judges from sentencing offenders to the program. Inaccurate data might also discourage judges from imposing additional sanctions for violations of sentencing conditions.

6. Study shows GPS tracking program has no effect on rates of recidivism.

The NGT panel members said that emphasizing the rehabilitative potential of a GPS offender tracking program could jeopardize its continued use if recidivism rates were not reduced. Members believed that alternative sentences should have some tangible benefit to the community. A program that did not reduce recidivism should at least show a reduced cost in overall operating expenses. The group believed the impact of this event would be substantially negative.

7. Center for Disease Control study proves GPS devices cause cancer.

The NGT panel members thought this event had a fifty-percent probability of occurrence, within ten years, and a substantial negative effect. Members believed multiple individual lawsuits, or perhaps a class-action lawsuit, would follow. Members believed the occurrence of Event 7 would result in the elimination of the GPS alternative sentencing program. To risk the health of an offender would expose the public agency to significant liability.

8. Child molester on GPS tracking program abducts and murders child.

The NGT panel members had an interesting discussion about this event. They suggested that GPS tracking may not prevent a murder, but the GPS data could lead to a quick resolution of the case. GPS tracking data could be presented as evidence against the perpetrator during the criminal trial. Acceptance of GPS technology in a court of law might enhance its reliability and application to law enforcement.

9. Military eliminates availability of GPS network for non-military use.

The NGT panel members believed that this event had a low probability of occurrence and a high negative impact. They did not believe this would happen since the United States is currently at war and yet the satellite system remains available for commercial use. Members believed GPS technology to be too essential in normal commerce for the military to take such drastic action. The group said that some commercial venture would be launched if this event occurred, negating the effect of the military's action.

10. Detectives solve murder case by use of data from GPS tracking program.

The panel members believed that this event had a moderate probability of occurrence; however, its occurrence would have the highest possible positive impact on the issue statement. Comparisons of Events 8 and 10 indicate they are almost direct opposites, yet both events represent essentially the same fundamental issue. The group felt that Event 10 would result in an increased use of GPS tracking programs.

CROSS IMPACT ANALYSIS

Two weeks after the NGT panel discussion, three of the group's members were asked to examine the thirteen trends and ten events to conduct a cross-impact analysis. The purpose of the exercise was to determine what effect each event might have on each trend. Table 2.3 was constructed and distributed to the group members to assist in the exercise. Participants were asked to assume that each paired trend and event occurred in conjunction with one another. Participants were instructed to reach consensus and assign a numerical value for each of the boxes. The values could range from -5 to +5 depending on whether the impact was negative or positive. The values established by this process are found in Table 2.3.

CROSS-IMPACT ANALYSIS

Table 2.3

	Trend 1 Civil Rights cases	Trend 2 Recidivism rates	Trend 3 Community safety after GPS	Trend 4 Limitations of GPS Tech.	Trend 5 Community reaction	Trend 6 Criminal offense background.	Trend 7 Cost of technology	Trend 8 Acceptance by judges	Trend 9 Jail pop.	Trend 10 Sheriff staffing levels	Trend 11 Cost of jail construction	Trend 12 Recidivism rates for GPS program	Trend 13 Success of current Alt. Sent.
Event 1 – US Supreme Court rules GPS offender tracking unconstitutional.	-5	1	-3	0	-2	0	0	-5	3	2	0	0	0
Event 2 – Sheriff uses GPS tracking to relieve jail overcrowding.	+2	-2	3	0	1	0	1	2	-4	-2	0	-2	2
Event 3 – GPS tracking system given to Alzheimer's patients, reduces SAR costs.	0	0	2	4	5	0	1	3	-2	-2	0	0	0
Event 4 – Crime victim sues County because GPS system fails to track offender who attacks victim.	2	1	-5	2	-5	0	2	-5	4	2	0	2	0
Event 5 – False offender tracking data, from GPS monitoring system, leads to lawsuit.	+2	1	-2	2	-3	0	2	-4	2	2	0	1	0
Event 6 – Study shows GPS tracking program has no effect on rates of recidivism.	+2	0	-3	2	-3	0	0	-2	1	1	0	0	0
Event 7 – Center for Disease Control study proves GPS devices cause cancer.	+5	2	-3	-2	-5	0	-4	-5	2	2	0	2	0
Event 8 – Child molester on GPS tracking program abducts and murders child.	0	2	-5	2	-5	0	-5	-5	2	2	0	2	0
Event 9 – Military eliminates availability of their GPS network for non-military use.	0	2	-3	3	0	0	5	0	2	2	0	2	0
Event 10 – Detectives solve murder case by use of data from GPS offender tracking program.	0	-3	4	4	5	0	2	5	3	-2	0	-4	0

The primary value of the cross-impact analysis technique is to fully understand the relationship between trends and events. Understanding these relationships might provide an opportunity to cause the occurrence of certain events thus influencing a trend in a predictable direction.

The cross-impact analysis revealed that Event 1 would have severe negative impacts on Trends 1 and 8. An adverse ruling from the U.S. Supreme Court regarding GPS tracking of criminal offenders might provoke a significant increase in

lawsuits. Judges everywhere would be precluded from issuing the GPS alternative sentence. The analysis also indicates that if Event 1 occurred, jail populations would rise, effecting Trend 9 in a positive direction by a value of three.

The participants said that Event 2 would have a significant negative effect on Trend 9. They suggested that jail population would decrease should a sheriff use GPS tracking to relieve jail overcrowding. One participant said that releasing non-sentenced offenders and tracking them with GPS technology might reduce or eliminate double bunking of inmates—two inmates per cell.

Participants believed that Event 3 would have a significant positive impact on Trends 4 and 5. A GPS tracking system used to locate Alzheimer's patients, should they wander away, could positively affect community reaction to GPS tracking. Furthermore, greater use and application of GPS tracking might facilitate a more rapid expansion and improvement in the technology.

Participants agreed that Event 4 would have a significant negative impact on Trends 3, 5, and 8. Community safety would be diminished if a criminal sentenced to the GPS tracking alternative perpetrated an attack. Community reaction to GPS tracking of offenders would be negatively impacted, and judges would be less inclined to accept GPS tracking as a reliable alternative sentencing measure if Event 4 occurred.

The participants believed that Event 5 would have a significant impact on Trend 8. A lawsuit based on any false or misleading data might convince judges that GPS technology was unreliable. Judges would be discouraged from imposing the GPS alternative should Event 5 occur.

The participants said that Event 7 would have a significant positive effect on Trend 1, and a significant negative effect on Trends 5, 7, and 8. The number of lawsuits could increase if the Center for Disease Control determined that GPS tracking devices caused cancer when used in close proximity to the body. The same Center for Disease Control study could provoke a community and its judges to react adversely to any use of GPS devices. Public agencies might be forced to pay damages for successful lawsuits brought by offenders who were compelled to participate in the GPS tracking program.

The participants said that Event 8 would have a significant negative impact on Trends 3, 5, 7 and 8. Community safety would be diminished and people would react unfavorably to GPS technology if a child molester being monitored by GPS technology were able to abduct and murder a child. Such an event might result in a lawsuit, thus increasing agency costs. Participants agreed that judges would not be inclined to impose a sentence proven to jeopardize community safety.

The participants theorized that Event 9 would have a significant positive effect on Trend 7. Private industry would have to launch their own series of satellites if the U.S. military were to eliminate non-military use of the GPS network. The cost associated with creating a new satellite network would be passed on to system users, thus significantly increasing the cost of GPS devices.

The participants believed that Event 10 would have a significant positive impact on Trends 3, 4, 5 and 8. However, this same event would have a significant negative impact on Trend 12. Participants said that if GPS data were successfully used to solve a murder case, then a community's sense of safety and security would be

increased. This event could generate positive public feelings about the use of GPS tracking. Furthermore, judges might be inclined to react favorably. Event 10 could result in creating a broader market for GPS technology and could stimulate more research to improve the technology.

The participants said that Event 10 demonstrates a significant success for GPS tracking technology. Reliable and accurate tracking data would limit an offender's ability to engage in criminal activity and instill a greater sense of accountability. An event such as this might result in a reduction in recidivism rates for offenders on a GPS tracking program.

ALTERNATIVE SCENARIOS

The following scenarios are imagined events projected into the future. They are based on the assumption that the GPS technology expressed in the issue statement of this paper is in use. The stories were developed from events and trends identified through the process of the Nominal Group Technique.

PESSIMISTIC SCENARIO

Leon was in a very weakened state of health. His condition arose from a government program with the best of intentions. The date is August 7, 2010, and Leon just passed away at the age of 47. His involvement in criminal activity spanned most of his adult life. An event which happened about five years ago changed all that. The change was definitely for the better, but ultimately cost Leon his life. Leon was a criminal, specifically a burglar, up until about five years ago. He was not particularly successful at his craft. Three times he was apprehended, incarcerated, tried, and

convicted. Leon earned three years probation and six months county time for his first encounter with the legal system.

The second time Leon was caught he earned a felony conviction. He was sentenced to a full year local jail time, along with three years on probation. Leon did not rehabilitate from the experience. He stayed clear of the law for a while, but still engaged in criminal activity. Then in January of 2005, he was apprehended for the third time. This time was different. The authorities had a new device that was specifically designed to make offenders like Leon more accountable. The device used GPS technology to track and record a criminal offender's location at all times of the day and night. The judge said the new tracking program was designed to rehabilitate Leon, to make him more accountable for his activities.

Leon was gainfully employed just before his arrest, which would help the judge make her sentencing decision. Leon was trying hard to turn his life around, but he could not seem to control his impulse to run with the wrong people and visit the wrong places. He needed help with self-control. Leon said that he did not want to go to prison, but his activities said otherwise.

The judge was sympathetic. She could see that Leon was truly remorseful this time. Leon's public defender was a good attorney who convinced the judge to sentence Leon to the newly implemented GPS Electronic Monitoring Program. The judge said, in open court, that she would give Leon one last chance. All Leon had to do was agree to have a tiny computer chip implanted in his side and to stay home except for work and for basic essentials like food.

Leon went to the hospital right after court. A surgeon implanted the chip in Leon's side. The casual observer would not notice that Leon was a living testament to advanced tracking technology. The implantation of GPS technology directly into the host's body was perfected through experimental technology developed for use on Alzheimer's patients who tended to wander from nursing homes. Expensive search teams were assembled to find these patients when they got lost. Tragically, they were sometimes found dead. The GPS tracking allowed for immediate recovery of Alzheimer's patients. The success rate for Alzheimer's patients was 100 percent, with no injuries or fatalities suffered.

Leon received random visits from local sheriff's department correctional officers while on the program. He was impressed to find that the officers were aware of his every move. They suggested that Leon not visit certain people and places. The officers told Leon that they knew where he was at all times. They made it clear to Leon that if he stepped out of line he would immediately be terminated from GPS electronic monitoring and incarcerated in state prison. That got Leon's full and complete attention. The officers showed Leon computer printouts listing where he went and for how long.

What a difference this new found accountability made in Leon's life. He realized for the first time his basic problem—he just did not know how to keep himself on the straight and narrow track and away from trouble. The computer chip did what jail could not. Leon knew someone was always watching him. He knew that if he offended, he would be apprehended immediately. He had no chance for success if he

engaged in criminal activity. GPS electronic monitoring showed Leon the daily mistakes he made. It taught him to stay home, or at work, and to stay out of trouble.

The miniature computer chip implanted in Leon's side taught him to be responsible and accountable. He credited the corrections program for his promotion at work. Leon's life had finally changed for the better, at least for a while.

Leon received terrible news about one year ago. The GPS chip had given him a rare and fatal form of cancer. He came down with it right after a government study concluded that global positioning devices cause cancer when placed in close proximity to the human body. Leon's case was terminal. He made the conscious decision to get the device implanted, and it truly did him some good, but the cost was extraordinarily high. Leon said that the good was too short-lived, and the side effect of cancer was not worth the success. Leon was a convicted burglar, but his crime did not warrant death.

Leon became a crusader against GPS tracking during his last months and days. He and others filed a lawsuit which reached the U.S. Supreme Court. The high court ruled that the forced use of GPS devices constituted cruel and unusual punishment. Leon also won a civil suit against the county, but he did not live to see any compensation.

OPTIMISTIC SCENARIO

Sam was visiting Jim, at his home, on a cold and rainy night in late November 2007. Jim's home was located in a sparsely populated area of the Sierra Nevada Foothills. Jim's brother-in-law, Bob, was also at the home. The conversation

between Jim and Sam consisted of their usual friendly chat. They sat at the kitchen table and enjoyed each other's company.

Jim and Bob never really got along too well. It was no secret that there was bad blood between them. Anyone acquainted with Jim and Bob knew they did not like each other. Exactly why they did not get along was less widely known; however, Bob would permanently end his conflict with Jim on this particular night.

Bob appeared in the kitchen holding a rifle which he leveled at Jim's chest and uttered, "This is how it is going to end." Bob pulled the trigger and after an ear-shattering explosion, Jim dropped lifelessly to the floor. The rifle was then leveled at Sam, who stood motionless in astounded disbelief at what he had just witnessed. Sam vaguely recalls Bob telling him, "Get out of here; keep on running or you'll die too."

Sam ran for his life and did not stop until he reached the nearest neighbor's home several hundred yards away. Sam called the police using the neighbor's phone. When the police arrived at Jim's home, they found neither Bob nor Jim. Several officers and detectives searched the house and property; however, they could not locate either man. Detectives and Crime Scene Investigators searched the kitchen. They found no blood, no sign of a struggle, and no sign of a clean up. The only evidence found was one spent bullet casing. Detectives found guns in the home during their search, but none matched the caliber of the casing from the kitchen. Sam was drinking that evening, so detectives began to doubt his story.

Detectives learned through their investigation that Jim had a criminal background. They started searching for Jim at first light with determined optimism.

Detectives knew without question, and with very little effort, they would soon find Jim. Jim was on the Sheriff's new GPS criminal offender Electronic Monitoring Program. He was wearing an ankle bracelet that collects data on his every movement. Detectives acquired Jim's exact location from the GPS monitoring station. Data showed that Jim had not moved from the same spot since 11:00 p.m. the previous night. When detectives arrived at the designated location, they found Jim. He was dead, the victim of an apparent homicide. He had a single gunshot wound in the center of his chest. Jim's body was found in a very remote and heavily wooded area on a steep incline. No one would have found the body had Jim not been wearing the GPS device.

Detectives were able to obtain critical evidence about the homicide since Jim was located so quickly. The discovery led to Bob's arrest. He confessed to the murder when confronted with the evidence and eyewitness testimony. He was ultimately convicted.

NORMATIVE SCENARIO

The year is 2010 and Steve has worked for the local Sheriff's Department for the past 27 years. He has witnessed many changes over the years. Steve still remembers what he calls the good old days when criminals were locked behind thick steal bars. No frills, just tiny, cramped cells. Over the years, things inevitably changed. Jail bars gave way to steal doors with lots of glass. Steve says that about ten years ago jails looked like college dormitories and inmates were given the absolute right to cable TV and movies. Steve often greeted new arrivals at that time with, "Welcome to Club Med, here's your towel and toothbrush."

Steve says that nowadays most criminals do not even see the inside of a jail cell. Jails are reserved for repeat and violent offenders. Steve's current job consists of watching people move around the county as tiny dots on a computer screen. There are restrictions on offender movement, but in Steve's mind, they are criminals and they deserve to be locked up.

Convicted criminals in this age of technology wear an ankle bracelet about the size of a pack of cigarettes, if you can remember what those looked like since the government outlawed them about five years ago. If you can't, the ankle-bracelet measures about two and one-half inches wide, three and one-half inches long, and a half-inch thick. The black colored device has an alarm that notifies Steve if the wearer attempts to remove it from his ankle. The bracelet sends Global Positioning information to a satellite which sends a signal to Steve's computer, allowing him to know the offender's location at any time of the day or night. Steve says the system is a tribute to modern technology. He can create a zone around a place where an offender should not be, and the system will tell Steve if the offender goes inside that area. Should that occur, alarms sound and field units are automatically dispatched to apprehend the offender. The sophistication of the system allows Steve to create a zone around the offender's home. The system will notify Steve, or field units, if the subject tries to leave.

Steve creates zones around offenders' homes each night; after that, Steve goes home. No one needs to watch these offenders after dark. Field units are automatically dispatched should an offender leave the selected perimeter. An officer simply follows the signal to the offender's location and arrests him. Steve says the

tracking system is amazing and very reliable. He says the Sheriff's Department has experienced 100 percent success with the program.

Once a week Steve visits the homes of all the offenders under his charge. He now has forty. Steve shows them the printouts depicting where they have gone. He says offenders are always amazed at first, but they get used to the idea of someone always watching them. The system works quite well according to Steve; it keeps sentenced offenders in line, and helps them to integrate back into society. Steve says that the GPS monitoring program does a better job of holding these people accountable than they can do on their own, and they are less likely to offend again.

There are still jails with plenty of available cells, but according to Steve, these are reserved for hard-core or violent offenders. Steve says he sometimes longs for the days when things were simple and he watched real people instead of computer screens, but change is inevitable and Steve believes that the new technology makes a difference in the lives of offenders and society.

Advancements made in GPS technology make possible the concepts described in the Normative Scenario. As discussed in the NGT process, many alternative sentences are already accepted as appropriate and sufficient forms of criminal sanctions. The ability to account for offender location through the use of GPS tracking will broaden the application of electronic monitoring, which will make it an even more effective alternative. By having more and better correctional options available, the medium-sized sheriff's department can better manage population within jail facilities. Law enforcement agencies that are responsible for incarcerating

criminals should consider GPS technology and electronic monitoring when developing strategic plans for the future.

The implementation of any new program or service should begin with the process of planning. Law enforcement leaders who stimulate their organization through the process of strategic planning will be helping employees to accept and adapt to change. Strategic planning will aid an organization to anticipate possible future environments in which it will operate, to make more efficient use of available resources, and to improve coordination of effort.

CHAPTER III

STRATEGIC PLAN

INTRODUCTION

Strategic planning allows an organization to anticipate future environments and apply that information to current decision-making. Strategic planning allows an organization to change direction, concentrate resources more effectively, improve coordination, and establish accountability. This section will employ strategic planning to define issues important in developing, implementing, and managing how GPS technology will impact the management of alternative-sentenced offenders in a medium-sized sheriff's department by the year 2007.

Strategic planning begins with the creation of a vision statement, which describes the potential or desired future. The vision statement will establish a clear direction for the organization. The statement must be meaningful, tangible, and something that creates an image in the mind of the reader.

Karl Albrecht writes in his book, *The Northbound Train*, that a vision statement should be:

...a shared image of what we want the enterprise to be or become, typically expressed in terms of success in the eyes of its customers or others whose approval can affect its destiny. It is a determination that the leaders make, which provides an aiming point for future orientation. The vision statement usually implies an element of noble purpose and high values, of something considered especially worthwhile.¹¹

Developing a mission statement is similarly helpful in strategic planning. Karl Albrecht writes that a mission statement should be:

...a simple compelling statement of how the enterprise must do business. It defines who its customers are, the value premise it offers those customers, and any special means it will use to create value for them to win and keep their business.¹²

An organization's mission statement tells how that organization will do business in order to fulfil the vision. The mission must be definitive, must identify the enterprise, and be concise. The mission statement must imply action, and must be memorable.

ORGANIZATIONAL DESCRIPTION

The El Dorado County Sheriff's Department is a medium-sized law enforcement agency with 173 sworn peace officers and 217 civilian employees.¹³ Along with traditional law enforcement operations such as patrol and investigative services, the department operates a 400-bed jail system that provides for the care and housing of sentenced and unsentenced criminal offenders. The department faces a rapidly changing environment driven by changes in the law, technological advancements, population growth, demographic trends, and workforce changes. The challenges of this changing environment afford unique opportunities to provide a better and more cost-effective alternative-sentencing strategy.

The El Dorado County Sheriff's Department, if not for court-ordered releases, would face offender populations that exceed the capacity of its two jail facilities. According to the Jail Commander, Captain Robert Altmeyer, jail staff often releases certain offenders to remain in compliance with court ordered maximums for inmate populations, particularly in the South Lake Tahoe Jail.¹⁴ The objectionable practice of

releasing criminals before they have served their sentences makes alternative-sentencing programs an effective future strategy for managing jail populations.

This portion of the project will focus on developing strategies and recommendations to assist a medium-sized sheriff's department in dealing with burgeoning jail populations by employing GPS technology to monitor and track criminal offenders electronically.

ORGANIZATIONAL ANALYSIS

A clear understanding of the organization's internal processes and external pressures must be developed in preparation for any change. This involves a careful study of the organization's capabilities, weaknesses, leadership, culture, people, and the external environment in which the organization operates. The process begins with the identification of stakeholders. A stakeholder is defined as any person, group, or organization that may affect, influence, or impact an organization's resources or outputs. Stakeholders must be identified and asked to participate since their input will be critical to the success of the strategic planning process.

Planning begins with stakeholders conducting a careful analysis of the organization. Stakeholders should next build consensus for desired results, or goals. By identifying and focusing on goals, stakeholders can work backward and identify which resources and internal processes will be necessary to reach intended goals.¹⁵

The internal and external stakeholders for implementing a program which uses GPS technology to track alternatively-sentenced criminal offenders are as follows:

INTERNAL

Sheriff

- Responsible for acquiring funding for personnel and equipment.
- Must understand capabilities and limitations of GPS program.
- Will ensure proper support throughout organization.
- Will be concerned with community reaction.

Management

- Establishes policies and procedures for guidance and direction to ensure uniformity and consistency.
- Sets direction for the organization.
- Assures that staff is adequate trained and prepared.
- Monitors external factors which may impact program effectiveness.
- Assures adherence to Department Vision and Mission; update as necessary.

Supervisors and line staff

- Must have adequate training and working knowledge of equipment necessary for program.
- Will support program if they understand its value to the Department and the community.
- Carry out day to day operations.
- Must be able to identify and respond adequately to technical problems.
- Will want support from managers.
- Complete necessary reports.

Department Information Technology Staff

- Must understand the technologies involved in GPS tracking.
- Must have sufficient training to support and maintain tracking software and hardware.
- Must have appropriate staffing and budget.

EXTERNAL

County Board of Supervisors

- Must work with limited annual budget; will want to minimize costs of offender management.
- Leadership, plans, and philosophies can be altered by elections.
- Sensitive to community support or opposition to programs or issues.

County Council/Risk Management/Human Resources

- Sensitivity to adverse court ruling that may increase liability exposure.
- Will want to know if new program exposes employees to greater risks.
- Does new program affect working conditions, does it require modification of job classification, Memorandum Of Understanding; will it result in the creation of a new job classification?

Judges

- In some cases, constrained by statutory sentencing guidelines.
- Will be concerned with community reaction to decisions.
- Will need training/education to understand GPS technology and GPS program capabilities/limitations.
- May be resistant to GPS alternative sentencing as insufficient punishment.

Developers of GPS technology designed to track individuals

- Will need technical advice on conforming their products to accommodate law enforcement/criminal justice application.
- Need assurance that there is a sustainable market for their product within law enforcement/criminal justice.
- Will need to develop user groups designed to support end-users of their products and services.
- Develop contracts for agency license covering use of products.

District Attorney

- Must have confidence that GPS alternative holds offenders sufficiently accountable to the parameters limiting their movement
- Assurance of community safety and security.
- May provide leverage in plea bargaining process.

Defense Attorneys

- Will likely support system as it affords clients (offenders) opportunity to avoid incarceration.
- May be skeptical of potential for prosecutors to increase number of filings based on new alternative sentence.

Citizens

- Have concern regarding who is allowed to participate in GPS tracking program.
- Will want information about program effectiveness.

- Some may resist implementation based on not-in-my-backyard (NIMBY) sentiment.

Civil Libertarians

- May support GPS tracking program as more rehabilitative than traditional punishment of incarceration.
- Will have concerns about tracking data, such as compilation of information on associates of criminal offenders.

STRATEGY DEVELOPMENT

This section identifies two broad alternative strategies intended to assist in achieving the goal of establishing a GPS based electronic monitoring program. Command staff from the El Dorado County Sheriff's Department Jail Division met on December 13, 2001. The meeting was intended as a brainstorming session for the development of the following strategies.

Strategy 1

This first strategy builds on an existing electronic monitoring program by acquiring necessary hardware and software to support GPS tracking.

The El Dorado County Sheriff's Department already uses an electronic monitoring program similar to one in use at the federal level. The sheriff's electronic monitoring program differs from the federal program by only allowing for the

monitoring of sentenced offenders. A judge sentences each offender to El Dorado County's program under very stringent guidelines.

The Sheriff's Department could build on the existing Electronic Monitoring Program and implement a parallel program which incorporates GPS tracking. Running the two programs concurrently will provide useful information about the effectiveness of the constant surveillance characteristics of GPS, versus the limited capabilities of the current monitoring program.

Building upon an established and successful program would be the greatest strength of this strategy. Existing employees could be used to avoid the costly prospect of adding personnel. There would be minimal training required since employees assigned to the Electronic Monitoring Program are familiar with the work processes necessary to support a home confinement program. GPS adds greater accountability by tracking offender location on a constant basis. The new high-tech program provides a mechanism to keep an offender from violating restrictions established as a condition of sentencing.

Limiting the use of the GPS tracking program to offenders who are specifically sentenced by a court is a weakness of this strategy. In addition, civil libertarians may oppose the use of GPS monitoring as excessively intrusive on the lives of those who associate with an offender.

Strategy 2

This second strategy uses jail overcrowding, and taxpayer resistance to new jail construction, as a catalyst for initiating a comprehensive GPS criminal offender tracking program.

The latest statistics published by the U.S. Department of Justice, show that jail populations in California are at 101 percent of capacity.¹⁶ Overcrowded jails in El Dorado County force department employees to release criminal offenders based on statutory or court-mandated population limits. This second strategy would establish objective criteria which jail staff will use to identify suitable inmates for release well in advance of reaching maximum inmate capacity. Inmates would be selected based on objective criteria. Offenders held for theft or drug offenses, for example, could be released from custody to be confined in their own homes. A GPS tracking system would allow jail employees to account for the location of each participant at any time, day or night. The ability to identify and release selected inmates may reduce litigation from jail overcrowding, and the expense of jail expansion or new jail construction.

The U.S. Department of Justice, Bureau of Prisons, has used home confinement on sentenced and pre-sentenced offenders for more than a dozen years.¹⁷ Defendants and prisoners are confined in their homes for all or parts of each day, under the federal program. The program uses three levels of increasing restrictions defined by the time participants must remain home. The first level, or Curfew, requires the offender to remain at home for just the evening hours. The second level, or Home Detention, requires the offender to remain home except for work or other approved activities. The third level, or Home Incarceration, requires the offender to remain home at all hours except for work, medical reasons, court appearances or court-ordered activities.¹⁸

The federal system only accounts for the participant's presence at home through a device connected to the telephone line. A central monitoring station monitors each participant. Through the addition of GPS technology, a medium-sized sheriff's department could improve on the federal system. GPS allows for the continuous tracking and monitoring of each offender, not just while they are at home. Offenders who violate the conditions of sentencing or release could be tracked and apprehended before they have an opportunity to commit more crime.

Home confinement has another benefit; it reduces the cost of incarceration by one-third.¹⁹ Home confinement also allows an offender to remain employed and supporting their families. Civil libertarians may be encouraged to support the strategy on that basis alone. The sheriff's department benefits through increased flexibility for correctional staff to regulate the number of inmates in a jail facility, while still maintaining offender accountability.

One weakness of this strategy involves affected citizens voicing strong opposition to the program. Assuring citizens, through community forums, that jail employees will only release inmates subject to release under population limits may lessen any opposition. Citizen groups may be encouraged to learn that GPS monitoring and tracking of offenders allows the department to improve management of jail populations at reduced operating costs.

Through strategic planning, an organization can anticipate future environments and apply that information to current decision making. Strategic planning allows an organization to change direction, concentrate resources more effectively, improve coordination, and establish accountability. Change is inevitable; an organization can

either plan for future changes or react to the consequences an unanticipated future. If an organization will invest the appropriate time and effort in systematically planning ahead, then the future will be filled with less problems and more effective use of time and resources. Developing a strategic plan begins the process of change. The next step in that process involves managing and directing employees through the turbulence of change.

Chapter IV

TRANSITION MANAGEMENT

INTRODUCTION

Any effort directed at organizational change implies an expected future condition related to the stated goal. Success depends upon the ability of organizational managers to direct the process of change. Managers must guide the workforce through a transitional process intended to bring about the determined future condition. “The leader serves as the main change agent—the person who often initiates the change and is responsible for promoting it and ensuring that it happens in a way that is beneficial for the organization, its clients, and the community.”²⁰

Organizational change is not an easy process. Resistance to change often generates from within the organization. Change, by its very nature, fosters a feeling of confusion and uncertainty for employees. Employee routines are upset; change may make their jobs more complicated. Employees can feel threatened by change. They are uncertain if they can achieve any new expectations which accompany change. Leaders must understand that these concerns exist and must prepare to address them. Nanus and Dobbs identify three universal prescriptions for overcoming resistance to change. They are as follows:

- Honest and frequent communication throughout the organization about the change to explain its purposes, to reduce uncertainty, and to show how the change will contribute both to the greater good of the clients, the community, and to the personal needs of the staff and volunteers.
- Widespread, genuine participation in the change process so that people in the organization feel they have a voice in designing the change and can exercise some control in its implementation.

- Effective training programs that enable people to learn why the change is necessary, what it will require of them, and what it means for them personally.²¹

Resistance to change can never be fully eliminated; however, certain practical measures can be taken to reduce its significance. The leader can reduce negative effects from change by the identification of positive change agents from within the organization. These change agents can be tasked with promoting or selling the change throughout the organization. The leader may prefer to facilitate change by hiring a recognized expert from outside the organization. Another technique employs a pilot program, or one that builds on an existing program. A pilot program requires a smaller, more manageable, group. Building on an existing program allows employees to engage in their traditional activities.

COMMITMENT PLAN

The elected sheriff has the responsibility to identify the need for change and to create a climate that promotes the change in a sheriff's department. The sheriff, to implement change, must strive to overcome the organizational culture that endeavors to perpetuate the present condition. He or she should create a visual image of the future, one that can be shared and understood throughout the organization and defines a new and distinct reality for employees at all levels.

The next step involves broad participation by staff members who are strongly committed to the change. The sheriff should assemble the right change team and encourage its members to establish common values that promote cooperation, inclusion, and teamwork. The sheriff assumes responsibility for keeping the team on

target to achieve stated goals. Team progress, from an operational perspective, must be monitored and evaluated in relation to stated goals. Decisions must be made in a timely manner. Specific tasks should be delegated with established deadlines for completion. Successes should be appropriately recognized and commended. Problems, which impede progress, must be overcome. Problems can be resolved either by the group, or by individuals empowered to overcome them. Regular meetings should be held to ensure coordination of effort. Finally, the processes, tasks, and outcomes should all be thoroughly documented. Reports that are generated will serve as informational tools for interested stakeholders. Good documentation also provides a blueprint for future change.

The following stakeholders are individuals or groups whose support and commitment will be essential to manage successfully the change required for implementation of the strategies described above.

- Sheriff
- Sheriff's managers (civilian and sworn)
- Supervisors
- Training Officers
- Line Staff
- County Board of Supervisors
- County's Chief Administrative Officer
- County Judiciary
- District Attorney
- Public Defender

- Defense attorney's
- Criminal offenders

IMPLEMENTATION PLAN

The following plan establishes a five-year horizon. Planning should begin immediately and implementation shortly thereafter.

Strategy 1

This strategy builds upon an existing home electronic monitoring program, and enhances it by acquiring necessary hardware and software to support GPS tracking. Both programs should run concurrently to establish comparative statistical data.

The sheriff or designee, during the first year, should assemble a team of appropriate stakeholders to identify what results the program will be expected to achieve. The team will then determine resource and equipment needs and identify what work processes are necessary to accomplish the desired results. The team should identify a provider of the specified GPS technology and include them at the early planning stages. The provider may not understand what his or her product must do to satisfy agency needs should this step be overlooked.

The following is an ordered list of first-year tasks:

- Assemble project team—include operations personnel from the current Electronic Monitoring Program.
- Identify hardware/software provider and, if necessary, send out requests for proposals.
- Develop operational plan.

- Identify funding source: County general fund, technology grant, or costs paid for by offenders based on their ability to pay.
- Configure software/hardware to fit operational plan.
- Train Information Technology staff relative to hardware/software maintenance.
- Train Electronic Monitoring Program personnel on operational issues.

The cost of this strategy would be minimal since existing employees will carry out program services. Computers with Internet access may be necessary to monitor and track offender movement depending on the company chosen to provide the GPS technology. CDR and ProTech allow for equipment leasing on a per day basis. The estimated daily cost for electronic monitoring supervision in 1999 was between \$5 and \$25 per offender (NLECTC 1999) or between \$1,825 to \$9,125 annually.²² Terry Sandrin of CDR expects the daily cost of his company's GPS monitoring and tracking to be about the same as for conventional monitoring, or about \$8 to \$12 per offender.²³ The cost for El Dorado County's current Electronic Monitoring Program is \$10 per day, or less, depending on the ability of the offender to pay.

Strategy 2

This strategy builds upon Strategy 1. Strategy 2 expands the first strategy to include unsentenced offenders, allowing sheriff's personnel to place offenders on the program independent of the court. Jail overcrowding and taxpayer resistance to new jail construction could be used as a catalyst for initiating this second phase.

The sheriff, after one year of operational experience with Strategy 1, should re-assemble the GPS project team and determine what results are expected from this next phase. A thorough analysis of the operational data developed from Strategy 1

should be the first order of business. This analysis provides an opportunity to identify what changes or alterations might be necessary to strengthen program effectiveness. Next, the team should determine what additional resources or equipment might be needed.

The following list identifies second year tasks:

- Assemble project team—include current operations personnel from H.E.M.P and pilot GPS program.
- Include stakeholders that will be affected by program expansion: e.g. District Attorney, judge, defense attorney, employers, and community representatives.
- Identify additional equipment resource needs.
- Acquire additional funding as necessary.
- Identify and train any additional staff needed.

EVALUATION PLAN

Any strategy for organizational change should include an evaluative component. The team responsible for the operational plan should develop instruments or processes to measure success. Evaluation in the early stages should include an assessment of whether deadlines are met, whether funding strategies are successful, and whether training is appropriate and sufficient. Evaluation in the operational stage should include a measurement instrument designed to ensure that team efforts have produced expected results. The inclusion of an evaluative component allows success to be quickly recognized and rewarded. Conversely, evaluation allows for early identification and correction of failures or setbacks.

The strategies discussed in this paper should produce tangible results and reduce or eliminate the need to release inmates based on jail overcrowding. The plan offers an alternative to traditional incarceration. The proposed program provides a mechanism to ensure offender accountability. An active GPS tracking system provides assurance that sentenced offenders adhere to the judgment of the court, and if not, provides a mechanism to locate and incarcerate them. GPS tracking provides assurance that a pre-sentenced offender does not flee jurisdiction and that he or she makes all required court appearances.

Offenders may also realize tangible benefits through the implementation of these strategies. Alternative-sentenced offenders are afforded the opportunity to continue their employment and provide for the needs of their family. They would be free to follow educational pursuits, whether high school or college. They may also participate in counseling or chemical-dependency treatment programs, and avoid the negative stigma associated with traditional incarceration.

Organizational leaders, to ensure program effectiveness, should conduct regularly scheduled audits designed to analyze and evaluate organizational, program, and individual performance. Expected and desired results should be clearly stated, measured, and managed. Leaders must ask, does the organization better manage inmate population after implementation of the above strategies? Does the program effectively track offenders? Are offenders on the program more successful in completing sentences and are they less likely to recidivate? Are employees performing as expected? These questions should be asked and answered to manage results more effectively.

Organizational change is not an easy process. A certain level of resistance will always accompany change. Resistance to change can never be fully eliminated; however, practical measures discussed in this chapter can reduce its significance. Plotting a course for organizational change presents a challenge for leaders. The effective leader will see the vision and will communicate it effectively. John C. Maxwell in his book, *The 21 Irrefutable Laws of Leadership* writes: "The leader finds the dream then the people. The people find the leader and then the dream."²⁴ Dr. Martin Luther King Jr. had a dream that involved enormous social changes. He found the dream and the people followed.

Chapter V

CONCLUSION

Promoting public safety and community wellness is a primary mission of law enforcement. Therefore, actions taken by law enforcement organizations and their leaders should include community safety as a goal. Statistics reveal that California's jail population currently exceeds maximum capacities.²⁵ The time to act is now. Overcrowded correctional facilities result in criminals being set free without restrictions on their movement or activities. Some may choose to engage in further criminal conduct, risking public safety. How can government meet the correctional needs of the justice system while maintaining safe communities? The simple answer may be to build new correctional facilities or expand existing ones. However, experience shows that communities cannot build their way out of the problem of jail overcrowding, the cost is far too burdensome. New cost effective options are needed which keep the public safe, and achieve criminal justice system goals.

The need to explore other forms of criminal sanctions makes sense for a variety of reasons. Primarily, government agencies operate on limited budgets making fiscal responsibility a critical operational consideration. Alternatives to incarceration must be expanded and improved should funding not be available for more jail construction. Alternatives should provide a measure of safety for all members of the community. A program that approaches complete restriction of freedom, at reduced operating costs, might be acceptable to all stakeholders as an

effective solution. Electronic monitoring combined with GPS tracking is just such a program.

Home electronic monitoring programs have been in use for decades. Electronic monitoring's widespread use as an alternative to incarceration provides a strong platform for a new program, one that produces greater offender accountability. The addition of GPS tracking technology can correct the current home monitoring weakness of not knowing an offender's location. This allows for broader application of home electronic monitoring without compromising community safety.

GPS technology will improve the future management of alternatively-sentenced offenders through constant, remote surveillance. The ability of law enforcement officials to restrict movement and track offender location on a continuous basis makes sense for the future of community corrections. The accepted and widespread use of home electronic monitoring programs across America, from federal agencies to local sheriff's departments, confirms their effectiveness. Incorporating GPS tracking with current monitoring programs will limit opportunities for monitored offenders to engage in conduct which brought them to the attention of the criminal justice system in the first place. This project concludes with the recommendation that medium-sized sheriff's departments, in California and elsewhere, begin planning to incorporate electronic monitoring and GPS tracking into future corrections strategies. GPS technology has a definite place in the future of corrections and may well be the best solution to overcrowded jails.

Research for this project found two private companies developing products that might be used by a sheriff's department to initiate a GPS electronic monitoring,

alternative-sentencing program. Continental Divide Robotics, or CDR, is one such company. Tracking equipment developed by CDR uses artificial intelligence to make decisions about whether or not a particular offender complies with the conditions of their release or sentencing. CDR's system fits the criteria for effective alternative sentencing. Their system can be used to reduce operating costs and jail overcrowding while retaining the basic features of an already established alternative sentence. CDR's system establishes greater accountability for offenders, thereby promoting community safety.

CDR's Director of Operations, Mr. Ed Sokoloski, was interviewed on December 19, 2001. He said that CDR's GPS monitoring system was now being field-tested on parolees in the state of Virginia. The daily cost will be \$8.95 per participant for active monitoring. Passive monitoring will be available for \$4.95 per day. The cost includes an ankle-bracelet monitoring device, and requires no additional hardware or software. Tracking will be accomplished by logging onto a secure website accessed by a standard Internet connection.²⁶

Sokoloski said that his product now includes a feature that notifies authorities if an offender comes within close proximity to a person—victim, witness, etc.—from whom they are order to stay away. The feature, unique to CDR's tracking system, should attract the attention of victim's groups and judges. Judges sometimes issue restraining orders as a condition of offender release or sentencing. CDR offers a device which can be worn by persons specified in a restraining order. Should a restrained offender come within a specified distance from a protected person the system will automatically summon police. Sokoloski says the addition of this feature

allows for the creation of moving exclusionary zones. Authorities will receive quick and efficient notification of an offender who approaches someone wearing the exclusionary device. CDR's system enables police to locate and arrest the monitored offender, possibly avoiding further criminal action or violence.

Sokoloski was asked if anyone had raised concerns about potential violation of the civil rights of those who associate with a monitored offender. Sokoloski said that he did not believe his company's tracking system posed a valid Constitutional concern. He explained that although offender locations are tracked and recorded, one cannot know whom an offender meets with, or speaks to, without visual verification.

Sokoloski was interviewed again on June 18, 2002 to determine whether his company's tracking system was available for general use. Sokoloski said that CDR's GPS tracking product became fully operation in May of 2002.²⁷

Many organizations today employ research and development teams to develop new products and technologies or to implement strategies that enhance business opportunities and make organizations more competitive. Law enforcement leaders can do the same by holding brainstorming sessions with stakeholders or by scanning the media for new technologies with potential application to law enforcement. Law enforcement leaders can form strategic alliances with companies whose products and services assist law enforcement with its vital mission of promoting safe communities.

Today's law enforcement leaders will help define and shape the future of public safety through strategic planning, by looking for new technologies that enhance service delivery, and by encouraging innovation within their organizations. The

military has successfully used GPS to improve the safety of front line troops and deploy forces more efficiently. Civilian and law enforcement applications for GPS technology are expanding. The future of community corrections should include the use of GPS tracking and electronic monitoring to protect society more effectively and reintegrate criminal offenders back into communities. Based on research for this project, an electronic monitoring program, which incorporates GPS technology for the tracking of criminal offenders by 2007, is achievable and warranted.

How will Global Positioning Satellite Technology impact the management of alternatively-sentenced offenders in a medium-sized sheriff's department by 2007? GPS technology will impact the future management of alternative-sentenced offenders by allowing for broader application. Accountability for persons who are currently serving alternative-sentences is insufficient. Visits by probation officers, or others, are infrequent and brief. The addition of GPS tracking technology will add a level of accountability that can only be matched by traditional incarceration. An offender's location and movement is under constant surveillance, affording little opportunity to engage in criminal activity. GPS offers restriction of freedom, offender accountability, and sufficient punishment to be accepted by all components of the criminal justice system.

APPENDIX A

List of Candidate Trends Identified by NGT Panel

1. Civil Rights cases filed relative to individual privacy.
2. Recidivism rates for criminal offenders.
3. Jail population.
4. Community safety after GPS Program implementation.
5. Limitations of GPS technology.
6. Per Diem cost of inmate housing.
7. Cost of program for offenders.
8. Community sentiment about Alternative Sentencing.
9. Criminal offense background.
10. Medical costs for incarcerated offenders.
11. Tax credits for employers.
12. Jail inmate demographics by offenses.
13. Decriminalization of drug offenses.
14. Probation caseloads.
15. Availability of tracking data over Internet.
16. Success of current Alternative Sentencing programs.
17. Public acceptance of remote punishment (wearable electronic shockers).
18. Acceptance of GPS Alternative Sentence by judges.
19. Sheriff's department staffing levels.
20. Commercial use of GPS technology.
21. Employment statistics.
22. Cost of prison construction.
23. Availability of grants.
24. Recidivism rates for offenders on GPS tracking program.
25. Alternative costs to public agencies if GPS program is not used.
26. Use of data for law enforcement investigations.
27. Tampering with GPS tracking data.
28. Agency liability cases filed.
29. Equal access to GPS program by all offenders (Civil Rights).
30. Public/private partnerships.
31. Number of cases filed by prosecutors.
32. Plea-bargaining.
33. Labor costs.
34. Search Warrant issues for surveillance of offenders on GPS program.
35. Pre-sentence offenders on program.
36. Public distrust of government.
37. Illusion of safety.
38. Cost of technology.
39. Failure rate of GPS tracking directly related to tampering by offender.

Appendix B
List of Candidate Events
Identified by NGT Panel

1. Center for Disease Control study proves GPS devices cause cancer.
2. Child molester on GPS tracking program abducts and murders child.
3. Military eliminates availability of their GPS network for non-military use.
4. County Board of Supervisors reduces Sheriff's budget by 30%.
5. Local Judge files suit after Sheriff's Department leaks information from GPS monitoring system indicating offender associates.
6. Crime victim sues County because GPS system fails to track offender who attacks victim.
7. False offender tracking data, from GPS monitoring system, leads to lawsuit.
8. Detectives solve murder case by use of data from GPS offender tracking program.
9. Sexual assault victim saved when GPS tracking system subject is incapacitated by electric shock.
10. ACLU study shows Arab-Americans less likely to be offered GPS alternative sentence.
11. Wall Street reacts favorably to GPS technology stocks.
12. GPS system prevents major terrorist attack.
13. Military denies access to GPS network, but Microsoft and Dish Network announce they will provide service for fee.
14. Offender on GPS tracking Alternative Sentence program finishes law school and passes bar exam.
15. Boy 14 years old hacks into GPS tracking system and sells data.
16. District Attorney finally files Domestic Violence Restraining Order case due to GPS tracking data.
17. Major disaster overloads cell system—results in inability to monitor offenders on GPS tracking system.
18. Sheriff's Department receives award for innovative GPS tracking program.
19. National law enforcement consortium launches GPS satellite network to facilitate tracking of offenders.
20. U.S. Supreme Court rules GPS offender tracking unconstitutional.
21. Data from GPS tracking program used by crime victim to retaliate and kill offender.
22. Class-action suit initiated by criminal street gang is successful in blocking use of GPS tracking program.
23. Technology available at Radio Shack which blocks GPS tracking ability.
24. Study shows GPS tracking program has no effects on rates of recidivism.
25. Sheriff uses GPS tracking to relieve jail overcrowding.
26. Employee sues for wrongful termination because of delinquent child support. Employer derived information from GPS tracking program data.
27. Local rash of armed robberies linked to failure of GPS offender tracking program.
28. GPS tracking system given to Alzheimer's patients saving Sheriff thousands in Search and Rescue costs.

29. Drowning victim found alive by use of GPS tracking system.
30. Sheriff proposes using GPS to track deputy sheriffs' on-duty activities.
31. GPS tracking data shows reduction in domestic violence cases.

32. GPS tracking responsible for locating suspected terrorist network.
33. Judicial candidate denounces GPS tracking as insufficient punishment.

APPENDIX C

List of Nominal Group Technique Panel Members

1. Robert Altmeyer – El Dorado County Jail Commander
2. Carmen Brennieste – Victim’s rights attorney, El Dorado Women’s Center
3. Jeff Greenwood – Hone Electronic Monitoring Program operator, El Dorado County
4. Dave Handler – Employer, owner/operator of four McDonald’s Restaurants
5. Fred Kollar – Captain, El Dorado County Sheriff’s Dept. Member of POST Command College, Class 33.
6. Chris Koontz – Private citizen
7. Karla Kowolski – Probation Officer, El Dorado County
8. Sean O’Brien – Chief Assistant District Attorney
9. Ken Steffan – El Dorado Women’s Center Director
10. Scott Stewart – Office of Emergency Services/Search and Rescue Coordinator, El Dorado County
11. Joseph Warchol – Chief Probation Officer, El Dorado County

NOTES

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¹⁵ Cary Simon, lecture on "Transition Management in a Strategic Organization," Presentation to POST Command College Class 32 (San Marcos, CA, October 24, 2001.

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