

WHAT WILL BE THE IMPACT OF GLOBAL POSITIONING
SYSTEMS ON MISSING PERSONS INVESTIGATIONS FOR A
MID-SIZED LAW ENFORCEMENT AGENCY BY THE YEAR 2007?

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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, and adapting to it. A futures study points the way.

The views and conclusions expressed in this Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (P.O.S.T.).

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Chapter One

Issue Identification

Introduction

Law enforcement pulls out all the stops when investigating missing persons cases, and Global Positioning Systems (GPS) certainly can be an aid in those investigations. Imagine using a piece of equipment that will allow its operator to locate a specific spot that could be miles away to within a margin of error of less than two centimeters. What a breakthrough it will be when a global positioning system has the ability to pinpoint the location of a missing child or an elderly person who suffers from Alzheimer's and has wandered away from his or her home.

This project provides historical information on Global Positioning Systems and their variety of uses. It documents a futures study that concludes with stimulative ideas covered in three possible future scenarios. Additionally, it includes a strategic plan that suggests how law enforcement can best prepare for this change, what transitional management mindsets will need to be, and concludes with justified findings.

One missing child or adult is one too many. The toll the ordeal takes on families of the missing can be unbearable. Efforts to expedite the availability of critical information to law enforcement and the public have improved, but in the future the public may have the opportunity to make themselves or their children easier to locate if lost or kidnapped. The technology of Global Positioning Systems has advanced dramatically. Capitalizing on the success and popularity of implanted GPS transmitters

in animals, a company named Applied Digital Solutions has developed that technology for use on humans.¹

The second chapter presents findings and background of a futures study where the Nominal Group Technique (NGT) was used to identify future trends and events, with a discussion of how those will impact investigations and the use of Global Positioning Systems. At the conclusion of the chapter are three scenarios identifying pessimistic, realistic, and optimistic outcomes relevant to the information developed from the NGT exercise.

Chapter 3 discusses the strategies that law enforcement must consider to implement the changes to be on the cutting edge, rather than the bleeding edge, of this technology. Identification of stakeholders, resources, and obstacles to implementation are part of the strategic plan. This chapter also discusses management challenges associated with these changes. It includes a discussion of components of the strategic plan that prepare the organization for change.

The final chapter describes the implications the issue has on the leadership of a law enforcement agency and offers some recommendations on how to best implement the changes that become necessarily evident as a result of this project.

Missing Persons Cases

Child Abduction

Polly Klaas, Danielle van Dam, and Elizabeth Smart. All girls under the age of 15. All kidnapped from either their homes or their neighborhoods. Polly Klaas was abducted and murdered by a paroled sex offender, Danielle van Dam was kidnapped

and killed by a neighbor, and as of this writing, Elizabeth Smart is still missing from her Salt Lake City, Utah, home.

While these cases are alarming and a parent's worst nightmare, statistical experts point out that a child has a greater chance of falling off of a bike and dying than being abducted and killed.² The National Center For Missing and Exploited Children reports that of the 125,000 children who are missing each year, between 3,000 and 5,000 of these children are kidnapped or abducted by strangers. Surprisingly, that number has remained relatively constant since the 1980s.³ The large majority of children who are missing are either missing because they run away, or are with someone the child knows (i.e., their estranged mother or father who has no custody, or their grandparent who is unhappy with the child's upbringing).⁴

Stranger abduction cases frequently end quickly with the child being reunited with his or her loved ones soon after the abduction. Perpetrators may become scared with the intense law enforcement pressure and drop the child off or abandon them, or their purpose and thrill may have been satisfied by simply having the child with them for a short time. Unfortunately, the longer a child is gone in a stranger abduction case, the higher the chances of a tragic outcome. The National Center for Missing and Exploited Children reports that nearly three of four children who are murdered in abductions by non-family members are murdered within the first three hours of their abduction.⁵

Stranger abduction cases are not only traumatic, but they also consume the efforts of local and sometimes state and national law enforcement officials. In the majority of missing children cases, the child is either a runaway or is playing at a friend's home and has innocently forgotten to call a responsible party. Law enforcement is

concerned after two to three hours of searching. The first investigative steps include contacting the school the child attends to make sure the child boarded the bus that afternoon, walking shopping malls the child might frequent or are near his or her home, and contacting all friends and relatives the child could possibly be with. If these efforts aren't successful in locating the child, the deployment of additional personnel begins and notification of the media and department command staff takes place. Search and rescue teams are notified and activated if there is a remote possibility that the missing may have fallen into a body of water, or wandered into the forest or desert. A sense of urgency begins to envelop the investigation. If there are suspicious circumstances surrounding the disappearance, state and possibly federal law enforcement agencies are notified and asked for assistance. These investigations can take from hours to weeks. The Elizabeth Smart investigation has taken investigators all over the United States, thus far with negative results.

As if the horrific nightmare of having a child kidnapped were not enough, many times the parents of missing children must endure intense media scrutiny during the investigation, as well as during the trial of the accused. Parents find themselves defending their actions, justifying why they slept with the windows open, why they allowed their daughter to spend the night at a friend's house, or why they called 9-1-1 before going through the neighborhood to check for their missing child. The parents understand the odds for a positive outcome decrease as time goes by, and they frequently appear on television during those terrible days pleading for the safe return of their child.

Missing Elderly

Due to the aging of Baby Boomers over the next 20 years, the population over 65 will increase by nearly 80 percent.⁶ Alzheimer's disease is one of several scourges of aging. In North America, there are an estimated 4.9 million people who have been diagnosed with Alzheimer's disease, 200,000 with autism, and another 3.6 million elderly people with symptoms of other dementia. Current studies indicate that more than 60 percent of people afflicted with Alzheimer's are at risk of wandering away and getting lost or injured.⁷ While investigations into missing adult cases are usually not as emotional as a missing child case, the urgency is the same or greater. Statistics show that nearly one out of every two Alzheimer's wanderers who is missing more than 24 hours will be found dead.⁸ Many elder care facilities are secure and only allow their patients to go outside when escorted by staff or family.

Law enforcement agencies adopt the same approach to the search of both missing adult and missing child cases. Both are manpower intensive. In Stokes County, Virginia, the sheriff's department began a program called Project Lifesaver where aged individuals who are identified as at risk of wandering are given a small wrist transmitter to wear. Families of the at risk individual participate in the decision to outfit their relative. The transmitter sends out a signal that corresponds to the individual and to a database that contains blood type, medications needed, wandering history, family contacts, and a photograph. The national data base may be accessed by any Project Lifesaver organization member.⁹

The emotional drain on family members of Alzheimer's patients is also extreme. Many families struggle with the choice of keeping their loved one at home or placing him or her into a care facility. It is estimated that 70 percent of those diagnosed with Alzheimer's live at home and rely upon family to provide care.

Global Positioning Systems

Types of GPS

Global Positioning Systems were first marketed in the 1970s as computers that determine locations by satellite signal exchange. That technology has evolved to Global Positioning Systems that today range in price from two hundred dollars for a hand-held model to over one hundred thousand dollars for a land surveying instrument. A GPS survey tool is essential equipment for survey crews and land engineers. A typical model used by a local engineering firm has a ten kilometer range with no obstructions, a 17,000 foot application with some obstructions, provides instantaneous results, and is accurate to within two centimeters. As with all land-surveying Global Positioning Systems, the unit sends out a signal that can be read or received by up to nine satellites.¹⁰ The satellites send a signal in return over radio frequencies that a computer interprets to determine almost exact latitudinal and longitudinal coordinates.

The military has used GPS since the inception of the technology and outfits soldiers with a unit that is part of a helmet. The military GPS infrastructure consists of 24 satellites.¹¹

Automobile manufacturers have begun installing Global Positioning Systems in vehicles. These systems include On Star, GPS 2000, Code, and Inter-Trak.¹² Manufacturers rely heavily on the safety advantages of vehicles equipped with GPS as

a main selling feature. Prices for this option have dropped from between one and two thousand dollars to between five hundred and one thousand, and, on some new models, the option is standard equipment.

Hand-held GPS devices have entered into sports as well. In Europe, an outdoor sport called Trekking that requires use of a hand-held GPS has exploded in popularity. Participants go on a sort of treasure hunt with latitudinal and longitudinal bearings as the clues that guide them. The GPS unit helps the Trekkers locate the secret spots where the clues to the next bearing are located.

Golf courses have had a modified GPS/range finding system available since the mid 1980s. Originally designed to speed up play, especially on resort courses, these systems were installed on golf carts. The cart contains a transmitter and the receiver is on the flagstick on the green. Judging distance became less of a guess and more of a science. This technology has progressed and now a hand-held GPS is a rental option at some high-end golf courses. It contains a computer processor and if the player enters his club selection on each shot while at the location of the ball, the system will provide a phenomenally detailed printout at the completion of the round that includes where the player's errant shots went.¹³ Pretty heady stuff for the sport that was once played with wood-shafted clubs.

GPS Implants in Animals

Since the early 1990s, veterinarian offices and animal shelters have been touting the benefits of microchip implants in household pets. Until September 2000, these implants were produced by Destron Fearing Corporation who claimed use by one million pet owners in the United States and over ten million in Europe. The company

claims they are responsible for over 2,000 pet recoveries per month in the United States alone. In September 2000, Applied Digital Solutions (ADS) acquired Destron Fearing for \$130 million. In the original news releases, ADS claimed they would be introducing an implanted GPS receiver for humans.¹⁴ Shortly thereafter, ADS introduced a product named Digital Angel, the first GPS-based implant available for sale to the public.

By June 2001, the firestorm over human implanting and big brother/privacy issues boiled over to the point that ADS responded to the issue as follows,

...we have studied the marketplace for emergency location and medical monitoring devices and we're convinced there is a huge potential market need for a wearable, external device. That is our sole focus. Let there be no mistake or confusion about this. Digital Angel is being developed as a wearable, wrist watch type device that will, among other things, help save lives by locating lost or missing children or at-risk patients who may require emergency medical attention. We are not now developing, nor do we have plans to develop, anything other than an external wearable device.¹⁵

Capitalizing on the terrorist events of September 11, 2001, ADS contacted the New York Fire Department and the United States Department of Transportation (USDOT) to offer free externally worn Digital Angel units to the agencies to "aid in the continued search and rescue efforts, as well as future security concerns."¹⁶

How can law enforcement effectively use Global Positioning Systems to aid in missing persons investigations? Will the public outcry over big brother, privacy issues, and concerns by Christian organizations (who believe that an implanted device could be the mark of the beast prophesied in the Bible) dilute the ability of ADS' Digital Angel to help track missing children, sex offenders, and Alzheimer's patients? What stance will the American Civil Liberties Union take on the issue of implants in humans? Will the right to privacy concerns overshadow the safety and security argument the product

espouses: Will insurance companies offer a financial incentive to individuals who opt to have a GPS implant or carry/wear a GPS transmitter?

Through the use of a futures study, the next chapter gives insight into what trends and events may influence the future use of GPS by law enforcement in missing persons investigations and help determine the impact of global positioning systems on missing persons investigations for a mid-sized law enforcement agency by the year 2007.

Chapter Two

Futures Study

Introduction

In order to determine what impact Global Positioning Systems will have on a mid-sized law enforcement agency by 2007, a futures study was conducted using the Nominal Group Technique (NGT) process. A nominal group technique is a structured, facilitated process using a panel of participants who identify trends and events related to a specific problem or question. The NGT identifies trends and events and their potential impact on the issue. Prior to the NGT exercise, each panelist was mailed background information relative to the issue. This information provided each NGT panel member with an introduction to Global Positioning Systems and the potential for uses in law enforcement.

The NGT Process

The NGT process took place in Bakersfield, California on May 24, 2002. Ten participants were involved in the exercise and included:

- A police lieutenant with over thirty years experience, including management of criminal investigations.
- A police lieutenant with twenty three years experience, including three years managing the Planning, Research, and Training Section of his department.
- A police lieutenant with twenty plus years experience, including supervision of missing persons investigations.
- A police lieutenant with twenty plus years experience including supervision of sexual assault investigations.

- A police sergeant with twenty plus years experience including a current assignment of supervising missing persons investigations.
- A police sergeant with fifteen years experience who is in charge of his department's technology section.
- A Deputy District Attorney who has also been in private practice as an insurance defense specialist.
- A school district superintendent who has strong Christian beliefs.
- An analyst in the City of Bakersfield's Management Information Services Division who has extensive mapping and geographic information systems experience.

Trends

In order to obtain informed input on a specific question, brainstorming, or trend and event identification, is the first step in the NGT process. Trends are social, technological, political, economic, environmental, or legal conditions whose characteristics can be measured over time. Trends are non-directional and are usually gradual and long term. They can be qualitative or quantitative and should contain one idea only, not compound ideas. In the NGT process, through a round robin procedure, each participant identifies a trend that is recorded on a flip chart. This process continues until there are no more offerings. A total of twenty-nine trends were identified in this process (Appendix A). The group clarified each trend and through a voting process, selected ten trends that they felt were highly significant and relevant to the issue question.

The panel used the Trend Summary Table to rate the top trends. Five categories are represented on the table:

- What was the level of the trend five years ago (median)?
- What is the level of the trend today? (Identified with an arbitrary number [100], which is used as a baseline for the other three year categories).
- What will be the level of the trend in five years (median)?
- What will be the level of the trend in 10 years (median)?
- What is the level of the panel’s concern regarding this trend (median number on a scale of 1 – 10).

Trend Summary Table

Trends	-5 Years	Today	+5 Years	+10 Years	Concern (1-10)
T1 - Moral concerns	100	100	200	300	10
T2 – Concern re safety	20	100	200	500	10
T3 - Legal Issues	10	100	500	500	10
T4 - Medical uses	50	100	500	1,000	8.5
T5 - Social resistance	200	100	300	500	10
T6 – Use in investigations	25	100	200	800	9
T7 – National security concerns	25	100	250	500	8.5
T8 – Parole/probation monitoring	100	100	125	500	7
T9 – Military use	50	100	500	1,000	9
T10 – Acceptance of biometrics	20	100	500	1,000	10

Discussion of Trends

Trend One: Moral Concerns

The panel identified the moral implications of the push for accepting a GPS implant as the trend with the most controversy. Some panel members spoke of the end times described in the Bible and the mention of the mark of the beast outlined in the Book of Revelation. The panel felt the acceptance of implants is gaining support, and this was concerning to them. The panel felt that the moral struggle over whether or not to implant or to receive an implant would double in five years and again increase after ten years.

Trend Two: Concern Re Safety – Children and Family

Much of the discussion regarding this trend centered around the events of September 11, 2001. As parents, some panel members were increasingly concerned about the safety of their children, especially when outside the home and under the supervision of another. While the level of this trend was much less five years ago, all panel members felt that with expected additional acts of terrorism, the level of concern will double over the next five years and subsequently more than double that level in ten years. As with Trend One, the level of concern expressed by the panel on this trend was as high as it could go.

Trend Three: Legal Issues

If GPS technology and its use are expanded by law enforcement and the public, regulatory controls will need to be put in place. If high profile dignitaries or patients with Alzheimer's are tracked with GPS, the frequency on which this information is transmitted will need to be secure, which will require regulation at the federal level. Eavesdropping

or illegal monitoring raises huge security concerns. The panel felt that with the advent of the technology, the number and complexity of legal issues would explode during the ensuing five years and the level would then remain the same in the following five years. Once again, the panel's level of concern with this trend was at the highest level.

Trend Four: Medical Uses

This trend could impact law enforcement in a somewhat inadvertent way. The panel felt that medical tracking would be a popular use of a GPS device and that ability to track could spill over and benefit law enforcement. The panel also saw the level of this trend increasing greatly in the next five years and then doubling again in the five years after that. The level of the panel's concern was not as high with this trend as it was with others.

Trend Five: Social Resistance

This trend is an obvious by-product of any kind of monitoring. The panel felt this would have significant impact on law enforcement, and would be a large concern to the public. Interestingly, the panel had a higher level of concern with this trend five years ago than today. The panel felt that since 09/11/01, the public is seeking some surety of security and is less resistant to privacy invasion than five years ago. The panel felt the level of this trend would triple in the next five years and would increase again after ten years. As expected with privacy or social issues, the panel's level of concern on this trend was high.

Trend Six: Use of GPS in Criminal Investigations

The panel felt that Global Positioning Systems would continue to be used in criminal investigations such as traffic accident reconstruction, search and rescue

operations, crime scene analysis, and that their popularity and practical usefulness would increase. The panel expected the level of the trend to double in the next five years and then increase significantly by ten years. Their reasoning was that they expect the technology in this field and the use of Global Positioning Systems in investigations to grow greatly in the next decade. While still high, the panel's level of concern with this trend was not all that significant.

Trend Seven: National Security Concerns

Panel members felt that national security issues and concerns have been redefined for all law enforcement agencies, not just those that are mid-size. They felt a significant concern over this issue, again immensely influenced by the events of September 11, 2001. As expected, the level of this trend was quite low five years ago.

Trend Eight: Probation/Parole Monitoring

Alarm or security bracelets are currently used to monitor some probationers and parolees. This is not a new trend, as departments responsible for supervision of criminals have been working with this technology for the last several years. The level of the trend was projected to slightly increase in the next five years and then increase by four fold during the following five years. The level of concern to the panel with this trend was the lowest of any of the trends.

Trend Nine: Military Use

For many military units, a GPS is a standard issued piece of equipment. Law enforcement frequently utilizes ideas first tested by the military. The panel felt there would be a significant impact on law enforcement as the military increased its use of GPS devices. The panel saw the level of this trend increasing greatly in the next five

years as the country's military is called upon to promote peace. The panel projected this level to continue to increase in the next ten years.

Trend 10: Acceptance of Biometrics

Personal authentication and protection of one's identity are two areas where the panel had high levels of concern. Identity theft and cyber crimes are becoming more commonplace and will continue to be a major issue for law enforcement. This trend level is expected to increase significantly in the next five years and as much again in the next ten years. The panel felt the public would welcome this technology if there were assurances it would help curb identity theft. As expected with any privacy invasion issue, the panel's level of concern was as high as the scale would allow.

The level of each trend was projected to increase in the next five and ten years. Discussion during the NGT narrowed the reasoning for these projected increases to feelings of vulnerability since 09/11/01, and the anticipated explosion of technology and applications with Global Positioning Systems.

Events

The second step in the NGT process was the identification of events that could impact the issue. An event is an unambiguous one-time occurrence that upon or after it takes place, the future is different.

The NGT panelists were asked to identify events in the same manner they did trends. A total of twenty-two events were identified (Appendix B). After clarification of the events and some voting, the panel identified the top eight events. The panel then determined the first year that each event could occur beyond the day of the NGT and the likelihood, as a percentage, that it would occur in five years and in ten years. The

panel then rated the impact the event would have on the issue, from -10 to +10. The average scores from the panel's ratings were used to compile the Event Summary Table.

Event Summary Table

Event	1 st Year>0	+5 Years	+10 Years	Impact (1-10)+/-
E1 - Sex offender located	5.25	-0-	75%	+7
E2 – Dependants with implants	3.1	65%	94%	+8
E3 – Child found	1	100%	100%	+6
E4 – Entry prerequisite	7	-0-	61%	+8
E5 – Tracking mentally ill	3	38%	69%	+4
E6 – Foreign country mandates	6	-0-	74%	+3
E7 – Nuclear attack by terrorists	3	36%	71%	+9
E8 – Kidnapped traveler found	3	47%	79%	+6

Discussion of Events

Event One: At-Large Sex Offender Wearing An Implant Is Located.

The NGT participants felt this was the top event among those identified in the round robin discussion. The majority of the panel felt this type of event would not take place for five to seven years, but there were panel members who felt that with the recidivism among sex offenders, this event would take place in the next year or two. Since Megan’s Law came into effect in California in the mid 1990s, sex offenders, especially those who prey upon children, have been at the forefront of the public’s mind when it comes to protecting children. The impact of the issue ranged from 2 to 10 in the opinions of panel members, and they all felt the impact would be positive.

Event Two: Court Mandates Certain Individuals To Be Implanted With GPS

The panel felt that as a protection mechanism to court dependants, judges would, at some point, mandate that dependent adults and eventually children, receive a GPS implant. One of the articles distributed to the panel prior to the NGT dealt with tracking devices and the aged. Counties spend considerable resources through their Adult Protective Services providing services to the aged, who are frequently indigent. An implanted transmitter would reduce law enforcement time when looking for a missing adult who is outfitted with an implant. With the exception of two panel members, all the NGT participants rated the impact of this event on law enforcement as a positive 10. Panel members felt this event would take place within five years and would almost be standard within ten years.

Event 3: Child In Stolen Vehicle Found By GPS

As discussed in chapter 1, many car manufacturers have GPS as at least optional equipment on their new models. Many police agencies have already experienced the frantic call of a parent who left their vehicle running, unlocked and unattended, with their child inside, only to return from this quick errand or absence from the car to find the car and child gone. With GPS in vehicles, they can be tracked quickly and accurately. The panel was in complete agreement that this event will happen within a year. The impact on law enforcement was rated as moderate.

Event Four: Entry Into the United States by Foreigners Requires a Temporary Implant

One of the loudest cries by citizens after September 11, 2001, has been to make borders more secure. In this event, any foreigner would present his or her passport with a bar code in it and as a condition of entry to the country and would be implanted with a

GPS transmitter that would correspond to that bar code. One NGT panelist suggested that another more radical government might be the first to move on this technology and concept. It would simplify tracking of all foreigners and would have a significant impact on law enforcement. A huge impact would be felt by the law enforcement authority doing the implants. Many panel members questioned the feasibility of a mandate such as this. If it were to occur, panel members argued that it would not happen for at least five to ten years.

Event Five: Implanting GPS Chips to Track Mentally Ill Patients.

The event is similar to Event 2 in that it would most likely be court-mandated and would be done with protection of the individual and the public as the motive. Some panel members felt this event would take place this year, others felt it would never happen. The impact on law enforcement agencies was fairly low.

Event Six: Foreign Country Mandates Implants

The panel almost universally felt this event would take place within ten years. Two panel members saw an unlikely occurrence within that time frame. Members who see it happening felt that it would occur in a small country that discourages visitors and is concerned about what its own people are doing. The impact to domestic law enforcement is expected to be minimal, with one panel member rating the impact as -5.

Event Seven: Terrorists Attack With Nuclear Weapons on United States.

The United States continues to be targeted for terrorist attacks, this time with nuclear weapons. Thousands are killed, tens of thousands are radiated. The panel felt the likelihood of an event such as this is fairly high and will obviously have a significant

impact on law enforcement. Panel members also felt an event such as this would be likely to occur in the next five years.

Event Eight: Kidnapped Traveler in Another Country Found Due to Use of GPS

There are currently several United States citizens being held against their will in other countries. If and when one of these individuals is rescued through the use of a GPS implant and receiver, that event will have a strong impact on the popularity of GPS units, but only a moderate impact on law enforcement. The panel felt that a rescue of this type is likely within five years.

Cross Impact Analysis

Once the trends and events were identified, the panel was asked how the events, if they were to occur, would impact the trends. The eight events were compared against the ten trends. The impact of the events on trends was measured on a scale of -5 to +5, with -5 having the most negative impact on the issue and +5 having the most positive impact. A score of "0" indicates no impact. The cross impact table was developed using the median score from the panel's voting. The analysis allows us to determine which event has the greatest potential for impact. It is also a basis from which future scenarios can be developed and can be used to determine which event, if intentionally caused, would have the most beneficial impact on the issue.

Cross Impact Analysis Matrix

	T1 Moral concerns	T2 Concern re safety	T3 Legal issues	T4 Medical uses	T5 Social resistance	T6 Use in investigations	T7 National security concerns	T8 Parole / probations monitoring	T9 Military use	T10 Acceptance of biometrics
E1 - Sex Offender located	+1	+5	+1	0	+1	+4	0	+5	0	+1
E2 – Dependants with implants	+4	+3	+3	+2	+3	+1	0	+1	0	+1
E3 – Child found	-2	+3	-4	0	-2	-1	0	0	0	+4
E4 - Entry prerequisite	+3	0	+5	+1	+5	+2	+5	+1	+1	+1
E5 – Tracking mentally ill	+3	+2	+4	+5	+3	+1	0	0	0	+1
E6 – Foreign country mandates	+4	0	+4	0	+4	0	+4	0	+2	+2
E7 – Nuclear attack by terrorists	-3	+1	-5	+1	-5	0	+5	0	+5	+5
E8 – Kidnapped traveler found	-1	+2	-1	0	+1	0	+1	0	0	+3

Significant Events In The Cross Impact Analysis

As expected, Event 1 (At-Large Sex Offenders Wearing An Implant Is Located) had little impact on most of the trends that deal with issues other than those that involve people. When asked what impact this event would have on the supervision of children/assurance of safety (T2), it is obvious this would be as high an impact as could be recorded. Not only would the search for the criminal raise awareness, but locating him would fuel this topical trend. The panel felt the same impact would be felt on the use of GPS units in probation and parole monitoring (T8).

Event 2 (Court Mandates Certain Individuals To Be Implanted With GPS) showed not to carry any real signs of impact to the panel. There was ambivalence on the part of the panel except when compared with Trend 1 (Moral Concerns), but still some members felt this type of monitoring system could help law enforcement in the case of missing adults.

Event 3 (Child In Stolen Vehicle Found By GPS) had some interesting impacts on some of the trends. The panel felt that some issues with Trend 1 could be mitigated, thus the negative impact. With this successful event, the public's view of biometrics and implants could certainly change for the positive.

With Event 4 (Entry to Country by Foreigner Requires an Implant), the discussion centered around national security and the public's willingness to consider compromising their privacy for ensured safety as reflected by the impact on Trend 3 (Legal Issues), and Trend 5 (Social Resistance). National security (Trend 7) is also highly impacted by this event.

As mentioned previously, Event 5 (GPS Implants to Track Mentally Ill Patients) and its impact on the trends was similar to Event 2. As one would expect, the impact of a GPS implant on mentally ill patients would have a positive influence on the use of implants for medical purposes and could soften the regulatory and control issues that would come with GPS implant technology.

Event 6 (Foreign Country Mandates Implants) would have a high impact on national security issues (Trend 7) and surprisingly, the panel also felt it would change the view on privacy and big brother. If it were seen to be successful in another country, the panel expected Americans would be willing to sacrifice some privacy for safety.

A nuclear attack on the United States by terrorists (Event 7) was the most highly charged impact event discussed. The panel felt it would significantly dilute the strong feelings of those described in Trend 1 (Moral Concerns) and that Americans would no longer be as concerned with legal issues (Trend 3). Trend 5 (Social Resistance To Electronic Monitoring) would be severely impacted (-5) and Trend 7 (Concern Over National Security) would peak. Trends 9 and 10 (Military Use, Acceptance of Biometrics) would be highly impacted as well.

Event 8 (Kidnapped Traveler In Foreign Country Found Because of GPS) was seen to have marginal, if any, impact on all trends, other than Trend 10 (Acceptance Of Biometrics). The panel felt that a successful outcome of a case such as this would have a significant international impact on the acceptance of biometrics.

Alternative Future Scenarios

Scenarios are future stories used to demonstrate the trends and events identified by the NGT panel. The scenarios are based on the information identified in Chapter 1 and brainstormed in the NGT. The scenarios are provided as a model and are designed to highlight the changes that could occur based on the identified trends and events.

Realistic Scenario

January 22, 2007

Detective Skip Miller has just been transferred into the Sex Offender Supervision Unit which is a task force of municipal and state law enforcement officers who monitor the location of all serious and high-risk sex offenders as designated by the Megan's Law

legislation of the mid-1990s. Skip is a forty-eight-year-old investigator with twenty-five years of experience, most of it spent in the Warrant Fugitive Detail. Skip was a real go-getter in his day and earned his way into the Warrant Detail by his aggressive and tenacious work style. With his retirement at age 50 on the horizon, Skip went into the slow-down mode a few years back and began using out-of-state extraditions as a way to build up frequent flyer miles and to help him decide where he wanted to relocate after retirement. Skip had no desire to work on this task force, as most of the members from other agencies were young and motivated and knew lots about computers and this Global Positioning System tracking method. Skip was told that he'd need to learn how to use this system and that he would be the Officer of the Day on a rotating basis once he was trained on the computer system. "Come on," Skip lamented, "those car computers were hard enough to figure out, and now they want me to master this complicated tracking system. I wanted someplace where I could coast out the rest of my career."

Two months into this assignment, Skip is assisting as the Officer of the Day. The system tracks the movement of all twelve hundred of his jurisdiction's sex offenders. By switching to another database, Skip can see where sex offenders in other jurisdictions are. Pretty cool tool.

Just after lunch, Skip is handling the system when he receives an alarm with which he is unfamiliar. A beeping tone is coming from one of the monitors, and Skip's trainer has taken the afternoon off. He had told Skip about these alarms, and Skip knew they meant something about a violator being too close to a school. Skip thought, which school is it? And more important right now, how do I shut off this obnoxious

noise? Skip tries to call his trainer on his satellite phone, without luck. "More evidence of how this technology stuff doesn't work, especially when you need it most," muses Skip.

Finally, Skip hits the right combination of commands and learns that the offender is near the school where his granddaughter attends. Skip could have simply used the voice commands to activate these features, but Skip told his trainer that he didn't believe in that voice recognition stuff and he'd never need it anyway.

Using some of his police experience wisely, Skip calls the school and the Watch Commander on the phone, alerting both to his findings. Unfortunately, Skip didn't care to learn about the direct alert feature of the system either, because he could have made these notifications via the technology within the tracking program. Alas, Skip reaches the Vice-Principal and tells him to keep the students in class. Skip also calls the Communications Center and they in turn immediately notify units that are assigned as school liaisons at the Junior High next door.

Eventually, the sex offender is located and the system is again revered as a success. If only the public knew the real story.

Pessimistic Scenario

January 22, 2007

Two Homeland Security Agents working at the Mayor Bernard Parks Memorial Wing of Los Angeles International Airport are having a conversation. "You know, the Republicans were right back in 2002, if we tighten our borders and monitor who comes into our country, we'll all but eliminate the potential of terrorist attacks from some Middle

Easterner who is here as a student or on supposed business. We'll also be able to tell if these people are congregating or plotting anything sinister."

Shortly after this conversation, a briefing is held at the California Homeland Security Agency (HSA) Headquarters in Sacramento. Agents have corroborated information that some Yemenese students at Chico State University are harboring two men wanted in connection with the alleged construction of a radioactive dirty bomb. These men, Zere Awalhdi and Dere Mulwalhdi, came to the United States on student visas in 2006. As a prerequisite for their entry, they were both implanted with a GPS chip on top of their left wrist. These chips have worked flawlessly in almost all cases since their introduction in 2005.

In the case of Awalhdi and Mulwalhdi, the signal that had once been strong from their transmitters faded and then disappeared in early September 2006. The Yemenese men had been science students at Cal Tech in Pasadena and had been closely monitored by the Homeland Security Agency.

Homeland Security Agents developed information that Awalhdi and Mulwalhdi had defeated their GPS devices by drinking an ionic fluid that short circuits all electrical impulses in the body, including the electrical functions that power the GPS transmitter. HAS Agents knew of this ionic fluid, but also knew that ingestion of it was tantamount to suicide because a body cannot function without electrical brain waves. Agents had heard rumors of the demise of Awalhdi and Mulwalhdi in Pasadena, but could never locate their bodies. How could they be alive if they had disabled the electrical functions of their bodies?

Numerous local, state, and federal agents swarmed two apartments at Chico State, desperately hunting for these Yemenese science students. In the first apartment they found Awalhdi, looking every bit the scientist. He was alive and well, with two ionic PDAs, one on each hip, an ionic powered PC open in front of him, and an ionic powered watch on his wrist, properly worn and unintentionally covering his GPS implant. Apparently you don't have to drink the ionics to disable the monitor.

In the other apartment, agents found Mulwalhdi. Both he and Awalhdi had grown weary of the intense study pressures at Cal Tech and had discovered Chico State when looking for a more relaxed environment. The Universities had mistakenly swapped their first names and the HAS computers never caught the error.

Optimistic Scenario

January 22, 2007

Officer Shawn Towles has just been given a great opportunity. As a result of a rotation agreement between the Chief of Police and the Police Officers Association, officers with as little as eighteen months on the department can transfer to any detail they wish. The department also recognizes the importance of their officers' personal and family lives, thus they can also job share or work out of their homes. Officer Towles has opted for the work-at-home duty and will be capable of handling his new assignment as the department's liaison to the county-wide Sex Offenders Supervision Unit. After all, Towles has a degree from the University of Phoenix in computer science and he is always pushing the envelope for more automation.

Within a few days, Towles has the GPS Monitoring System mastered, and, at the first teleconference between the participating members of the Task Force, establishes himself as a knowledgeable and credible member.

Prior to employment with the police department, Shawn was a lobbyist in Sacramento for AARP. Shawn is actually almost sixty years old, but because of his healthy lifestyle, which includes a vegetarian diet, exercise five days a week, and his self-hypnosis sleep patterns, he looks and acts half his age. Because of his contacts and experience in Sacramento, Shawn is a trusted advisor to the baby boomers. He is keenly aware of the issues facing the elderly, especially the increase of dementia cases.

Shawn talks regularly with the chief and other city leaders about technology and the needs of the aging. Shawn convinced the chief that they should create a partnership with Adult Protective Services (APS) and then market monitoring services to the aged. The monitoring device could be a bracelet or an implant and would contain identifying information, medical history and conditions, and emergency contact information. Shawn would be able to monitor the elder caseload by simply adding another layer to his Geographic Information System program.

The chief and Adult Protective Services entered into an agreement for the Department to provide around-the-clock monitoring services in exchange for payment of half of Officer Towles' salary and some additional money for technological enhancements to the system. Officer Towles successfully trained the APS staff on the system application and on their responsibilities.

The success of the elderly monitoring and the sex offender programs has led to notoriety for the department and Officer Towles. Along with this success come lucrative

employment offers for Officer Towles from corporate security firms. These offers exceed over one hundred thousand dollars, almost doubling his current salary. Officer Towles decides to accept one of the offers and leave the department for a new challenge, taking with him all the city-paid training that prepared him for his technology position at the department.

Looking ahead and planning for consequences is a giant leap toward managing the future. The NGT exercise forecasted trends and identified events that will impact how global positioning systems will affect a mid-sized police agency. The scenarios took trends and events and combined them with imagination.

The optimistic scenario may not be that far out of the realm of possibility. Many departments are flexing schedules and offering incentives to retain quality employees. They are also losing highly trained employees to private industry technology positions. Typically these employees have honed their expertise through training that has been paid for by their department. Agencies need to look at out-sourcing for tech positions that do not require a sworn officer. This will help relieve agencies of the burden of paying for continual training only to have the employee leave for the money private industry can offer. Partnerships have become commonplace and agencies will be well served to continue these relationships.

A strategic plan is a critical element of anything that changes. It is a road map that helps an organization prepare for and respond to circumstances that range from the likely to the unlikely. Optimally, it enables the agency to steer its own course, not one that is dictated from elsewhere. Once the strategies are developed within the plan, they must be implemented to achieve change. This implementation involves planning and

influencing change to lead the organization. Obstacles will be encountered and identifying them early in the process and strategizing how to overcome them is not only part of the strategic plan, but part of transition management. The strategic plan and transition management objectives developed in Chapter 3 focus on the futures identified in the optimistic scenario.

Chapter Three

Strategic Planning & Transition Management

Introduction

As the Dow Jones Industrial average continued to reach new highs every day, volumes on the stock exchange were huge and almost universally people felt that any security purchased would scream upward. Many stocks were at their all time high price and all expectations were that they would continue to rise. That was the Summer of 2000 and who would have predicted that the market would tumble by a third, wiping out the nest egg of millions of Americans, and that the country would see the demise of solid financial giants like Enron and WorldCom. Who could have predicted this collapse? Did anybody see it coming?

The future cannot be predicted, but according to Richard A. Slaughter in The Foresight Principle, "The whole point of studying futures is not to predict, but to understand alternatives."¹⁷ What are those alternatives and how will agencies respond to them? What can be done now that will prepare agencies to be proactive, unsurprised, and unflapped when that unexpected event takes place. Many saw the fall and devaluation of the stock market coming. Few expected the September 11, 2001, terrorist attacks.

Through the NGT process, trends and events that may have an impact on the issue statement were identified, analyzed, discussed, and then the events were more closely examined as to how they would impact the trends. Scenarios were written in realistic, pessimistic, and optimistic mindsets to try to give the most flexibility to the

alternatives. John Hoyle asserts, "All the alternative futures can happen. It is wise to consider both the pessimistic and the optimistic alternatives to avoid pitfalls along the way."¹⁸ Typically, law enforcement has been unprepared for out of the ordinary, but fairly predictable, occurrences. Hoyle sums up the standard preparation level well in saying, "We are often tied to a successful past, and when trouble strikes, we are unprepared to make changes in time to avoid running around."¹⁹ Max DePree further challenged when he said, "In the end, it is important to remember that we cannot become what we need to be by remaining what we are."²⁰

Law enforcement agencies have traditionally placed significant value on seniority. Certain coveted assignments are made based on time with the agency. This practice can be considered worthwhile because it encourages loyalty, but sometimes the best person for the job is not the most senior one applying. Agencies need to look for those diamond-in-the-rough types by knowing the backgrounds, and, as importantly, the passions of their employees so they can be assigned to positions that will most benefit the department. In the optimistic scenario, most police agencies would not assign a newer officer to a multi-agency task force. Obviously, Officer Towles was an excellent fit for the job.

With the rapid change of technology, agencies would be wise to look outside of their department or their city or county staffs to obtain qualified, up-to-date trained technology support staff. There are two reasons why law enforcement agencies cannot and should not try to keep up by having their own people do this work. The time and money a department must put into training individuals to keep them current with forensic training is not well spent. Frequently, as in the case of Officer Towles, the lure of more

money that can be offered in the private sector persuades employees to leave the field of law enforcement. Secondly, most cities and counties do not give tech staff comparable pay to what is available in the private sector, thus the turnover rate is high. Employees are either burned out old-timers or young aggressive individuals who quickly learn that they want to get as much training as possible on the public dollar to prepare them for a job in the private sector.

Change is the key word. Implementation and use of global positioning systems for tracking and finding missing persons will force law enforcement agencies to change the way they do business. If these systems are used for lost children and adults, or if they are used to monitor sex offenders or the mentally ill, there will be a significant impact on law enforcement.

The Strategic Plan

In order to be prepared to properly react to these inevitable changes, a road map and compass must be in place when the event occurs. This map is more formally called a strategic plan, while the compass is comprised of the mission, values, and vision established by the agency. They define what matters most to the agency, what the agency looks to for direction if there is no clear signal or path to take. The strategic plan serves as the filter through which all operational decisions are sifted to ensure that the agency is on course with its developed and stated vision.²¹

The preparation of a strategic plan is a critically important process to an organization. The department head must clearly articulate the mission, values, and vision for the department. These must be realistic, practical, and supported by the command and management staff. This support will be in place if the plan is a fingerprint

plan, that is, all parties have had their opportunity to offer input, they've all had a chance to touch it, and it is reflective of their values.

Just as critical as the internal assessment is the external assessment. If an organization wants to move toward change, it must look both inside and out. While this external examination will not be as painful as the look inside, it should be just as thorough. Agencies need to analyze what outside factors impact their business in either a positive or negative way. These entities, referred to as stakeholders, would include:

- The state legislature
- Local governing bodies - City Council, Board of Supervisors
- State parole agency
- County probation agencies
- California Department of Corrections
- Department of Justice
- State Department of Mental Health
- County and Local Mental Health Departments
- Office of Aging Services
- State law enforcement agencies
- Local law enforcement agencies
- Civil liberties unions
- Individual citizens
- Child care and safety groups
- Law enforcement officers
- California Department of Transportation

- Unites States military
- Local school Board of Education
- District attorneys
- Public defenders and defense attorneys
- Churches

Stakeholders and their views and opinions must be considered during the planning process. While some may be integral to the implementation process, others must be only considered for the resistance they may offer. By identifying the stakeholders early in the process, strategies can be developed for implementation and to overcome conflict that might thwart progress.

The recognition of churches as stakeholders could significantly impact the outcome of a global positioning systems/implant program. Churches could be the snail darter in this issue – that eleventh hour unexpected fly in the ointment that was not seriously considered but now has surfaced and its potential to foul up the best laid plans is great. Churches, who traditionally support all activities of law enforcement, will likely balk at and be very suspicious of any implant. The association with the mark of the beast would be an automatic and reasonable connection. It could be expected that officers would be attendees or members of churches who would probably condemn their local agency for endorsing an implant device.

The external assessment needs to consider what outside factors will be present and what their potential impacts will be on the issue being considered. When conducting internal and external assessments and determining direction for an

organization on an issue, additional questions to the internal stakeholder need to be posed.

Agencies must ask themselves why they are in business? The mission of law enforcement is to protect and global positioning systems will enhance protection. A corollary mission of law enforcement is to rescue in times of need. Certainly GPS fits that goal.

How does the agency do business? The values and culture of the agency are demonstrated here. Law enforcement and communities value life and especially the lives of children. Appropriately so the California legislature has demonstrated the importance it places on at-risk missing children over missing adults through mandated reporting requirements that are more demanding in missing children cases.

Where is the agency going? This is an enhancement of the aforementioned introspective process. It is an organizational capability analysis that objectively inventories and assesses the organization's strategic strengths and weaknesses in relation to the issue.²³

The SWOT method is a practical analysis tool for determining these strengths and weaknesses inside an agency. Additionally, through external assessment it requires analysis of opportunities and threats. When considering these elements in relation to the role and impact that global positioning systems will have on law enforcement by the year 2007, some issues jump to the forefront. Without question, there will be strong community support for law enforcement to have some type of monitoring capability. Whether this is by tracking sex offenders where the offender is wearing a GPS transmitting bracelet, or through an implant, a permanent tattoo, a piece

of jewelry, a contact lens or a clothing bag, it will have strong support when considered as a way to further protect individuals, especially children.

The weaknesses that potentially will need to be addressed are not surprising. Most of them will be the internal challenges that agencies will face trying to achieve the buy in and fingerprint earlier discussed. Law enforcement agencies have cultures based on tradition and may find significant internal resistance when wanting to change. Agencies are typically deeply steeped in tradition to the point that even making a slight alteration creates tension, uneasiness, and a heels-dug-in attitude. Some department veterans will ask why the agency needs to change, especially if the tracking system is not mandated. It will be looked upon as another one of those new ideas that will create more work and will last just a short while. And of course, the issue of money will arise.

The opportunities for a monitoring system are boundless. Once this system works and a human, especially a child, is rescued from harms way, the demands to monitor will be huge. There will be calls for monitoring all felons, monitoring all persons with mental illness, monitoring those stricken with dementia, and on and on. GPS monitoring systems will be available for purchase and what parent would not want one for their child?

Beyond monitoring humans, there will be demands for law enforcement to track property. Shipments of valuable goods or dangerous items will be safer and probably cheaper to insure if they can be tracked with GPS.

The threats to this concept or technology are easily predictable. Concern over privacy, over a person's right to be secure in their own home will be at the forefront of the agenda of civil liberties groups. These groups will provide some resistance against

monitoring criminals, but the real battle will be fought over monitoring those who are not on probation or parole, and are wearing the GPS device for safety. Law enforcement agencies need to proactively inform the public of the advantage of these systems and when a rescue is made, capitalize on that opportunity to reinforce the non-invasive nature of the systems.

The external assessment looks at the opportunities and threats that have direct or indirect impact on the agency. It is expected with relative certainty that there will be a rescue of an individual with a GPS implant in the next five years. This will be a golden opportunity for Officer Towles' department to capitalize and to all but eliminate the fear of big brother. Those who were struggling with privacy issues versus protection will be persuaded that they should not resist this technology.

This persuasion or convincing will be easy, unless Officer Towles or one of his fellow officers inappropriately uses the global positioning system monitoring tools. All of the agency's efforts toward building public trust could be nullified by the ignorant actions or an officer who wants to track his ex-wife. If an event like this were to occur, all the trust built over the years would be thrown away. It would take years to rebuild and would probably never again reach the level it once had.

Transition Management

How does a strategic plan work with the optimistic scenario in chapter 2? How do we move the organization of today, as outlined in the realistic scenario, to the organization of 2007 shown in the optimistic scenario? In the optimistic scenario, a relatively new officer receives a coveted assignment and takes advantage of one of his department's immensely popular flexible work schedule options. This officer has

superior computer skills and knowledge and fits right into the county Sex-Offenders Supervision Unit.

Typically, or perhaps atypically, this officer has a background that is very diverse, having been a legislative lobbyist for the largest organized group of retirees in the country prior to working in law enforcement. The officer has a direct line of communication with the chief of police and has the vision and courage to suggest the crossover use of GPS transmitters with the elderly, as well as with sex offenders. He has the technological prowess to make this happen and even suggests and shows the chief how this venture would be financially lucrative for the agency.

Many significant cultural changes would need to take place in the typical year 2002 police agency if this scenario were to become reality. As mentioned, most police agencies are deeply entrenched with many traditional practices, including a seniority based assignment system. Some even consider seniority as the top factor for promotions. With the increased demand for law enforcement presence post-September 11, 2001, and the reality of the 3 percent @ 50 retirement program in California, the prospect of having a new officer in an assignment that has traditionally been filled by a veteran is highly probable. Agencies must have leaders in place who have the courage to do something non-traditional, like placing a new officer in a position that in the past has been reserved for more tenured officers. Two issues are critical here: The new officer must be qualified and the decision must be reflective of one of the values of the agency, such as service to the community or commitment to excellence. If the officer assigned to his position is one who is tenured, but whose qualifications pale in

comparison to the newer officer, the appointing authority is doing the agency and the community a disservice.

The age of the officer in the scenario is atypical for current day law enforcement, but may be the norm in 2007. In his June 2001 Growth Strategies Newsletter, states that the aging population may need to return to work because of difficult economic times between 2001 and 2005 and that by enhancing the potential of older citizens to contribute economically, chances for material progress in the decades ahead will be enhanced.²⁴ If law enforcement agencies hire individuals 40 to 50 years old, it is expected that they will come with a variety of experience. Departments need to be attuned to the strengths and weaknesses of these employees and look to place them in positions where they have an opportunity to best utilize the skills they have.

Training these employees will also offer new challenges to the law enforcement agency. Academies will potentially need to be prepared to have trainees who are twice the age of the youngest recruits. The expectations of these groups will be significantly different and will require academy staff to work with and prepare two different generations.

In the realistic scenario, the officer who is profiled is someone who obviously has strong interpersonal skills and is comfortable with a variety of types of individuals – politicians in Sacramento as a lobbyist for AARP, as well as the elderly who he represented. This ability to interact and work effectively with a wide cross-section of individuals has not been a trademark of the typical officer. Agencies are slowly accepting this Generation X officer, one who wants less structure, thrives on self-reliance, and needs constant stimulation from a variety of sources, including job

assignments.²⁵ Reflecting the agency's priorities, departments should reward employees who practice the development of partnerships and endorse an approach that values the input of the community.

A strategic plan does not move from paper or meetings to action without leadership and support. A plan may be well thought out and may have the fingerprints of all key players in it, but it must be implemented strategically. The chief of police needs to rely on his influence base within the agency and the critical mass of key players to transition from talk to action. Critical mass is where the transitional management process begins. It is the minimum number of people needed to make change happen. It refers to the leaders in the agency; those who people listen to, those whose opinions are respected, those who can turn the tide of opinion.

Police officers would be key players in overcoming public resistance to global positioning systems and the big brother fear. In strategizing for commitment planning, the chief needs to identify the officers who have influence both inside the department and outside. With officers as the critical mass, they could go to community meetings and talk about the benefits they have seen with global positioning systems.

As discussed earlier, resistance could be expected from churches, police officers who attend critical mass churches with influential pastors and staff will be perfectly poised to influence change.

The fourth component of commitment planning is assessing the progress of the plan. Again, this could be accomplished through the involvement of police officers in community meetings and events.

Responsibility charting is a method that can be used to effectively identify tasks to move from paper to action. Responsibility charting reduces ambiguity and wasted energy and clearly identifies who is responsible for what task.

The following chart is an example of a responsibility chart dealing with the issue of global positioning systems.

<u>ACTORS</u>	Chief of Police	Police Officers	Crime Prevention Section	Planning & Training Staff	Public Information Officer
Community Meetings Discussing GPS	S	R	R		
Ensuring Positive Media Relations	S				R
Train Officers In Technology	I			R	

R = Responsibility

A = Approval

S = Support

I = Information

The key actions, decisions, and activities are listed on the vertical axis. For the community meetings regarding GPS, police officers and the department's crime prevention section would be responsible for these events. The chief of police would support their role. Likewise, the chief would support and participate as appropriate in enhancing media relationships. The public information officer would have responsibility for this task. Responsibility for training officers in new technology would fall under the Planning and Training staff, with that unit being responsible for keeping the chief informed.

This chart helps put the strategic plan into action and through group collaboration achieves consensus for responsibilities. The chart can be developed by those directly involved, their bosses, groups or individuals, and people who are inside or outside the organization.

Public support for global positioning systems will be the barometer by which success or failure will be measured. The technology is of high interest to the media and for a mid-size agency, the local newspaper and television station will be the best measurement of progress. The chief and public information staff will need to look for opportunities to strike while the iron is hot in order to garner the support that is potentially available from the media.

The next chapter discusses what insight and vision leaders in the 2007 law enforcement agency must have to implement change and offers some recommendations on how best to manage, guide, lead, and direct that change.

Chapter Four

Conclusion

Introduction

Providing vision and leadership for any organization takes commitment, passion, and a desire to excel. Guiding an organization through change requires leaders to take those values to another level.

What will be the impact of global positioning systems on missing persons investigations for a mid-sized law enforcement agency by the year 2007? The impacts of this technology will be diverse and widespread and will significantly challenge the culture of traditional law enforcement agencies. The vision to accomplish the transitions that need to be made must start at the executive level of the agency. Additionally, the vision must be imparted throughout the agency and be explicitly clear.

Child abduction cases have generated as much news or more than the events of September 11, 2001. In cases where suspects have been identified, most have a common thread; the offender is a previously convicted child molester or sex offender. In spite of what has been reflected in the news, several agencies handling these cases have not been prepared for what has confronted them. These cases drain resources and further alarm the public. With the technology available with global positioning systems, sex offenders, as a condition of parole, could be monitored and thus either eliminated or confirmed as a suspect very quickly. A huge issue to resolve will be how long sex offenders remain trackable. Does monitoring them end at the time their parole or probation ends? With sex offenders having the highest rate of recidivism among

convicted felons, it would seem prudent to have sex offenders monitored in some way for the remainder of their lives. Civil liberties groups will certainly argue that sex offenders are then really receiving a life sentence. Practically speaking, the monitoring should end at the time the offender successfully completed parole or probation.

Alzheimer's patients and those with dementia would experience a new form of protection. Families could be relieved of around-the-clock monitoring of a loved one who has the propensity to wander.

The challenge identified in this project is the one facing the leadership of law enforcement agencies: how to direct their agency toward acceptance and implementation of a technology that will be here soon. Peter Senge, in the introduction to the book, Synchronicity - The Inner Path of Leadership wrote, "The new leadership must be grounded in fundamentally new understandings of how the world works."²⁶ Law enforcement leaders of tomorrow must be visionaries and be attuned to outside influences. "The trouble with American leaders is that they are not sufficiently aware of the context, or the external environment of whatever it is they are responsible for doing."²⁷

An NGT Futures Study was the basis and framework for Chapter 2 and in that process, the concern of the public about big brother and privacy was significant. With the recent child abductions there has been an increase in the awareness of GPS tracking technology and the biggest issue of concern is the invasion of privacy. Trusted law enforcement officers must step to the forefront and reassure the public that the tracking systems will not infringe on their privacy. These leaders need to also remind the public that these devices will deter those wearing them from committing child

kidnappings. Law enforcement officials must generate public support to ensure acceptance of this technology. Typically, American leaders do not analyze social architecture well enough to create teams to make something different happen.²⁸ This is an instance where law enforcement leaders must break out of their typical mold and sell this technology to the public to make something different happen.

Anticipated leadership challenges were discussed in chapter 3 and most of the focus was on internal obstacles. The strategic plan outlined the process the agency needs to follow to be introspective as well as aware of its external environment. Those steps included:

- Establishing a clear mission for the agency
- Defining the values and goals of the agency
- Adopting, instituting, adhering to and referring to policies that are reflective of the mission, values, and goals
- Assigning the best people to jobs that have significant impact
- Identifying key stakeholders and if they are outside the organization, establishing a partnership with them
- Proactively speaking out on the advantages of a GPS based tracking system for convicted sex offenders

Public support of this technology will be critical to its success or failure. Officer Towles' agency has led the way for this support. As soon as the technology was available, the agency began using global positioning systems in their vehicles through the use of automated vehicle locators. The department did a large public information splash on this technology and on its advantages in dispatching and more importantly, in

reducing response times. The community has become comfortable with this elementary big brother technology.

When this technology is ready for implementation, grant funding will be readily available. The state will offer funding to ensure that all agencies have the capability of monitoring sex offenders in their county, and possibly any surrounding counties.

Opportunity for private funding will also be present. Starting with the Polly Klaas abduction, parents, relatives, and friends of victims in abduction cases have publicly rallied together for support and formed foundations to raise money and awareness. Elderly patient care associations and organizations such as AARP will have an incentive to underwrite this technology in the interest of their constituents.

When this technology is utilized for property security, insurance rates are likely to drop because the property that has a tracking device should be safer. Perhaps the difference between what premiums were and are can fund private monitoring of the equipment that is marked.

Since this equipment will utilize a state-controlled database, updating it should not be a responsibility of a local agency. An Alzheimer's or wanderers' database would present challenges on several fronts. Would it be appropriate for law enforcement to monitor? Who would manage the database? Would the public have access to the database? Law enforcement and legislative leaders should push for an alliance of groups that serve the elderly that would work out of the state Office of Aging, under the authority of each county's Adult Protective Services. This entity could perform the aforementioned functions and could develop policy regarding access.

The ability to monitor individuals and property through the use of a global positioning system is here and by 2007 will be a significant issue to law enforcement. Agencies can take the lead in this technology and look for additional ways to enhance its effectiveness, or they can take the approach of many agencies and let someone else make the decisions for them. This technology is exciting and offers great advantages of protection. Overcoming the obstacles that can be anticipated will be the task of effective, trusted law enforcement officials. The cultural and internal opposition will pose the largest challenge and a healthy, viable organization will be better prepared for these challenges. Preparation to be ready for 2007 starts now.

APPENDIX A

TRENDS

Moral concerns

Concerns re safety – children and safety

Legal issues

Medical uses

Social resistance

Use of global positioning systems in criminal investigations

National security concerns

Parole/probation monitoring

Military use

Acceptance of Biometrics

Use of GPS in auto industry

Tracking wildlife

Mapping, infrastructures

Size and power of transmitters

Availability of GPS units

Costs of GPS units

Acceptance spurred by current events (9/11/01)

Aging population, Alzheimer's, Etc.

Race profiling as movements are tracked through GPS

Use of satellite surveillance/photo mapping

Political reasons/implants for politicians for safety purposes, to avert kidnapping, etc.

Information at fingertips

Tracking of high end property, hazardous materials, weapons, etc.

DNA data bases

Political shifts in attitude; political climate, social acceptance

Identifying, tracking of domestic and foreign travelers

Animal rights/human rights issue blending

Prevention of forgeries and document tampering/fraud, identity theft, etc.

Reliability of units

APPENDIX B

EVENTS

At-large sex offender wearing an implant is located

Court mandates certain individuals to be implanted with GPS

Child in stolen vehicle found by GPS

Entry into the United States by foreigners requires a temporary implant

Implanting GPS chips to track mentally ill patients

Foreign country mandates implants

Terrorist attack with nuclear weapons on United States

Kidnapped traveler in another country found due to use of GPS

Catastrophic event at borders

Civil war/holocaust

GPS usage during catastrophic natural disaster, such as earthquake, flooding, etc.

Certain classes of offenders are implanted and incarcerated, creating a "Botany Bay" situation

Airline crash, useful in tracking of plane and passengers, etc.

Missing person (domestic) in remote area found because of GPS chip

Due to existence of chip, expedited rescue to a medical emergency

Battle of parents involved in child custody, request chip to be implanted in child/children for tracking purposes to prevent child abduction or removal of child from state, etc.

Revelation that GPS implants already being used

Military accidents/friendly fire spur calls for GPS implanting in soldiers

Tracking of high value items and hazardous materials being transported via freight or highway

A wall-less penal institution in exchange for GPS implants of criminals

GPS weapons chips, invention of "smart trigger," which would keep anyone except the owner, from being able to discharge the weapon.

Creation of a world government

NOTES

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