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WHAT WILL BE THE PROTOTYPICAL DESIGN OF THE HIGH TECH POLICE FACILITY FOR MEDIUM-SIZE DEPARTMENTS BY THE 21ST CENTURY?

An analysis of the elements having an influence on future concepts has been conducted to identify their level of impact on facility design, along with the organization's ability to achieve the desired state and manage the transition.

WILLIAM R. CARONNA

COMMAND COLLEGE CLASS SEVEN

PEACE OFFICER STANDARDS AND TRAINING (POST)

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EXECUTIVE SUMMARY

The planning of a successful law enforcement facility that will meet both the present and future needs of the organization and community is a complicated task. The process forces law enforcement planners to be prepared to deal with the growing sophistication of the criminal justice system while spending the limited tax dollars as efficiently as possible.

This futures research project thoroughly analyzes and evaluates the environmental data, current and projected, that has a direct effect on design concepts. Future methodologies have been utilized to present significant trends and events that have a probability of occurring and to measure their levels of impact on the issue. From this, scenarios have been developed to demonstrate what may happen in the "will be" and "should be" futures. A desired future state of the issue was then selected from an understanding of what may happen. Further, a mission statement, strategic alternatives, and a transition management plan have been developed to attain this desired future state.

As a result of this futures study, three major phases of facility design have been identified. First, the pre-design phase includes the formation of a "blue ribbon" project planning team to assess the needs and capability of both the organization and the community. Second, once the programs and operations that will be conducted in the various parts of the facility have been determined, along with their requirements and the availability of funds, the actual design phase can take place. This phase includes site selection and the actual design aspects to be incorporated into the facility. Third, the financial resource planning phase, which is the most critical, incorporates proactive philosophy to ensure adequate funding at the time of construction.

The study is general in nature and concentrates on medium size law enforcement departments while providing a basic approach and implementation process.

It also concludes that the prototypical design of the future police facility must allow for inevitable change by being viable, flexible and durable. It ought to be constructed on a site that allows for both horizontal and vertical expansion. It ought to be energy and space efficient while taking advantage of all available and affordable high technology.

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WHAT WILL BE THE PROTOTYPICAL DESIGN OF THE HIGH TECH POLICE FACILITY FOR MEDIUM-SIZE DEPARTMENTS BY THE 21ST CENTURY?

Project Background

How often have you heard your law enforcement colleagues say, "My police facility was obsolete the day I moved in?" Unfortunately, this statement has been repeated too many times as a direct result of poor planning and design. In starting a building project, great difficulty often lies in defining the vision of the project. The need to do something exists; however, most law enforcement executives, who are not architects or engineers, do not have the expertise to clearly define the goals they want to achieve. This lack can result in short term solutions that do not include programming for the future growth and technological needs of the organization and the community.

Frequently, when a project is undertaken, the project manager fails to clearly state the problem, establish attainable goals, collect facts, uncover concepts, and determine needs. The omission of these programming steps oftentimes results in an inferior finished product. In addition to poor programming techniques, the planning process

is made more complex by the political realities and budgetary restriction facing most administrators today. The construction of a new facility is a very costly endeavor that must reflect the needs of the community and the availability of resources.

In the law enforcement profession, perhaps the most essential resource is the police facility. It reflects the dignity of law enforcement and the community's philosophy towards the accomplishment of police service goals. It also has a direct impact on morale and operational efficiency on command and support staff. The complexities of staff and auxiliary service and the utilization of sophisticated automated data processing equipment and systems, the growth of planning and research activities, and the increase in training requirements, all emphasize the need for sound planning of police facilities if both space and personnel are to be used effectively and economically.

The need to thoroughly understand the past history of police facility design, the present factors, and then calculate the future direction of design needs and concepts is critical to managers who are charged with the task of directing a building project. Optimum results can only be achieved if all major influencing factors are considered at the early stages of planning.

In this future research project the issue has been addressed as it applies to medium-size law enforcement agencies of the present and the future. The scope of the research

included identifying key trends and events that will probably have an impact on the issue and sub-issues from this data; a "desired future" state has been forecasted to illustrate a direction and time horizon of occurrence. Scenarios have been developed, and a strategic plan has been formulated, along with a transition plan to help ensure arrival at the desired state. The data gained from this process will better prepare managers to meet the challenges that lie ahead.

Objective One - Futures Research Study

Statement

The first objective is to analyze and study the general issue utilizing futures research methodologies. The outcome will be three futures' scenarios based primarily upon forecasting data collected.

The general issue is stated as follows: What will be the prototypical design of the high tech police facility for medium-size departments by the 21st century? The sources for these design issues from the past have been scanning, brain-storming and nominal group technique (NGT). Three related issues have been identified from the past.

1. Was careful thought given to the design of today's facilities which were planned 15-20 years ago?
2. Was proper planning done to meet the need in the areas of residential and commercial?
3. Was the high tech equipment of today planned for?

Of the issues identified from the past, I believe all are still viable concerns.

Related issues emerging in the present have also been identified through scanning and brainstorming and nominal group technique. A full description of these processes is described in the methods section. The outcome is a selection of seven related sub-issues for facility design today. They are

1. What are the current technical needs of the employees?
2. What are the needs of the local community?
3. Is there any environmental impact restriction?
4. What are the spending limitations?
5. Is there an ideal site location for the facility?
6. Can the structure be changed through modular building concepts?
7. Looks vs. security?

Two criteria have been used in the selection of sub-issues: (1) the degree of relatedness to the main issue and (2) the feasibility of studying each sub-issue. The determination of the sub-issues has essentially defined the parameters of the general issue for purposes of the study.

Consideration has been given to related issues that may emerge by the 21st century. Future issues have been judged to be relevant to the study based upon potential impact upon future scenarios. The initial selection asks:

1. Will one facility meet the needs of the community?
2. Will future finances keep pace with high tech devices?

3. Will private sector security businesses compete with the public sector for the same responsibilities?
4. Will the work at home alternative affect the space allocations requirements for non-sworn employees?
5. Will the crime rate be commensurate with the population growth?
6. How will the rapid advances in computer technology effect the workforce and related resources?
7. What kind of impact will the advances in aerospace industry have of facility design?

Methods: Identification

The following methods have been utilized to identify the past, present and future issues.

1. Scanning - Use of the scanning method helps gather and develop relevant data.
2. Personal Reflection - This method has been utilized to recall personal experiences.
3. Nominal Group Technique (NGT) - The NGT has been used to forecast relevant trends and events.
4. Futures Wheel - Utilization of the futures wheel to helps structure the emerging issue into sub-issues.
5. Cross-Impact Analysis - A matrix has been made to show the impact events and trends have on each other.
6. Interviews - Interviews have been conducted to develop as many viewpoints as possible on selected data.
7. Scenarios - These project future situations that have a probability of occurring.

The context in which the issue is studied has been determined by the selection of one of the three scenarios developed in Objectives Two and Three. A significant part of the scenario development process is the identification of trends and events that have been estimated to have some degree of impact upon the issue of the study. Trends are then forecasted in terms of relative strength over the time period of the study, which is twelve years. Events are forecasted in terms of probability of occurrence. The probability of impact of events upon other events and upon trends is studied through cross-impact analysis.

Methods: Implementation

In July 1988, the scanning process for the project was completed. While doing so, futures files which were kept current on the emerging issue and classified under the STEEP typology (Social, Technical, Environmental, Economical, and Political), were utilized. In addition, a literature search which broadened horizons and viewpoints was incorporated to include newspapers, magazines, trade publications and journals.

As part of the background data gathering process a five day seminar in Washington D.C. on Planning Design and Construction of Police Facilities was attended. This educational interaction not only provided a vast amount of data, but it also enabled the establishment of a network with other law enforcement officials and experts in the field.

Upon completing the scanning process, time was then set

aside to reflect on personal experiences as they related to the issue. By doing so, resources that would have otherwise gone untapped during the process were utilized. Many hours were spent recalling past experiences, good and bad, which had some relevance to the data being compiled for the project.

The Nominal Group Technique (NGT), was then utilized to organize a group of eleven diversified and knowledgeable people for the purpose of descriptive forecasting of trends and events and cross-impact analysis. The group consisted of six law enforcement officers, two government officials who are financial experts, two architectural design experts and one engineer.

Each member was provided with an informational packet containing the emerging issue being studied, research strategy and reference material on the "Scanning Process." By utilizing the scanning and brainstorming processes, the group first identified what they felt were three prior issues that had a forbearing effect on the emerging issue:

1. Was careful thought given to the design of today's facilities which were planned 15-20 years ago?
2. Was proper planning done in the area of residential and commercial growth to meet the needs?
3. Was the high-tech equipment of today planned for?

The Nominal Group Technique was then incorporated into the process to develop the candidate trends. (Appendix A, a list of 20 identified trends) After the trends were developed, the group was provided with the opportunity to ask

questions and offer feedback to ensure there were no misunderstandings. The group was then asked to develop candidate events which could discretely occur and affect the future design of high tech police facilities. (Appendix B, a list of 20 identified events)

The next step in the project was to distill the candidate trends to the five most valuable. This was accomplished by utilizing the Nominal Group Technique and the Trend Screening form. The group members were asked to rate the trends from "priceless" to "worthless" based on how important they felt it would be to have a long range forecast of the trend. The results are as follows:

1. Advances in high technology for public sector
2. Rising crime rate
3. Technological advances in building materials
4. Escalating commercial construction costs
5. Limited alternative funding sources for public safety

After the rating process was completed, there was further group discussion and debate on the valued importance of the top five trends as related to the police facility design issue. This deliberation process was very helpful towards enhancing the group's consensus. The concerns and negative responses were addressed and diminished. The end result was unchanged as far as the rank order of trends; however, it did continue the thought process on the emerging issue. The entire group agreed that the mere recognition of the other

forecasted trends, even though they were of less value, indicated their future influence on the economic and social climate as conjoined with the critical issue.

Trend evaluation. Once the final set of trends was developed the nominal group was given the Trend Evaluation form and asked to evaluate the trend levels as perceived five years ago and project the levels ten years into the future. The future ratio levels were required for the "Will Be" or "Exploratory Future" which is representative of the future if left unchanged and most likely to occur. The "Should Be" or "Normative Future" represents the future which is desired and attainable or feared, but possible.

After the form was completed by the group, I computed the results and arrived at the median and the range between the high and low estimates. This data is illustrated in Figures 1 through 4.

FIGURE 1

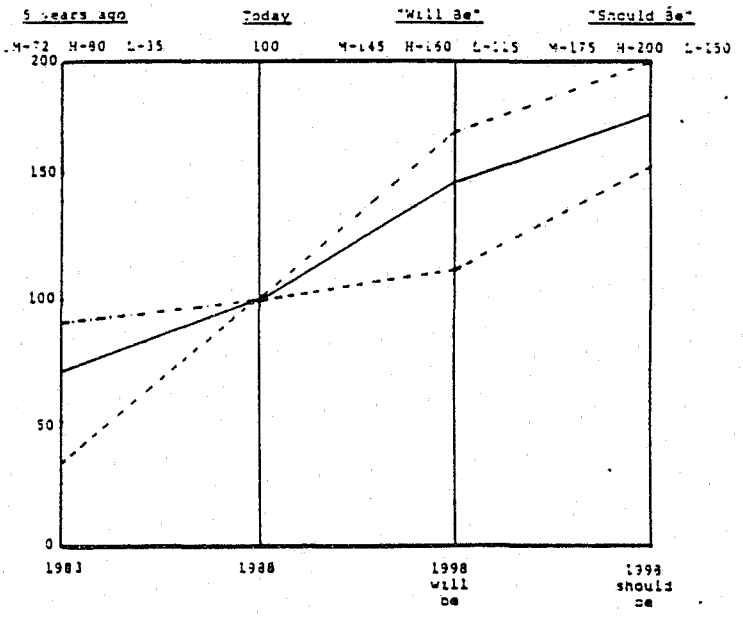
Trend Evaluation Form

TREND STATEMENT		LEVEL OF THE TREND (Ratio: Today = 100)			
		5 Years Ago	Today	"Will be" in 10 Years	"Should be" in 10 Years
1. Advances in high technology for the public sector.		72	100	145	175
2. Rising crime rate.		68	100	150	120
3. Technological advances in building materials.		55	100	130	175
4. Escalating commercial construction costs.		75	100	195	125
5. Limited alternative funding sources for public safety.		119	100	83	100

FIGURE 2

TREND 1. Advances in High Technology for the Public Sector

Level of the trend ratio which includes past and future levels and direction and velocity.



TREND 2. Rising Crime Rate

Level of the trend ratio which indicates past and future levels and direction and velocity.

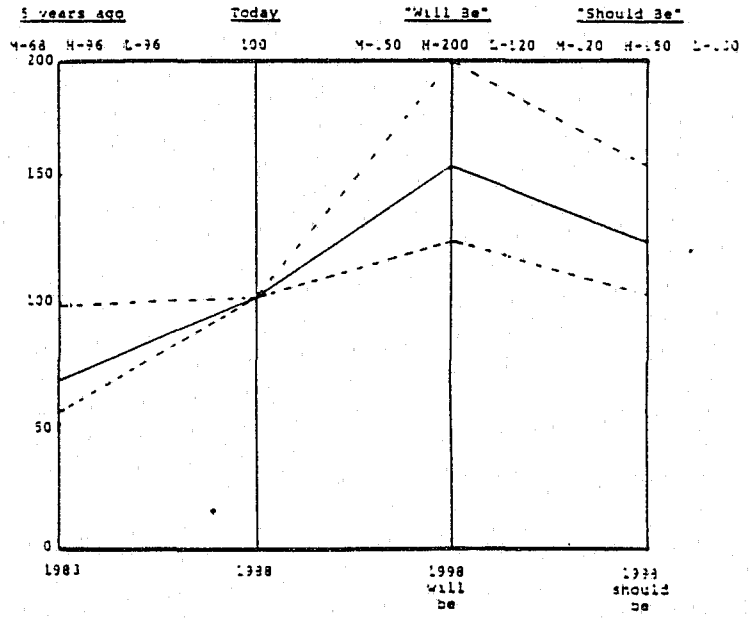
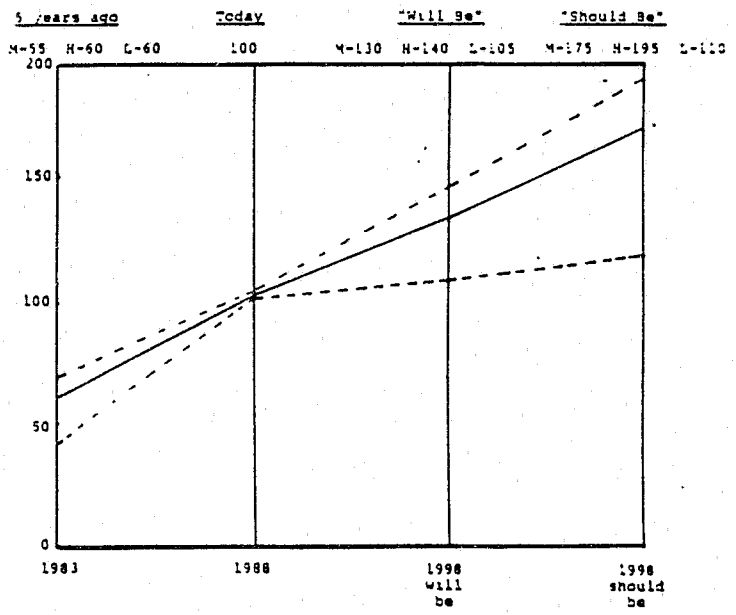


FIGURE 3

TREND 3. Technological Advances in Building Materials

Level of the trend ratio which indicates past and future levels and direction and velocity.



TREND 4. Escalating Commercial Construction Costs

Level of the trend ratio which indicates past and future levels and direction and velocity.

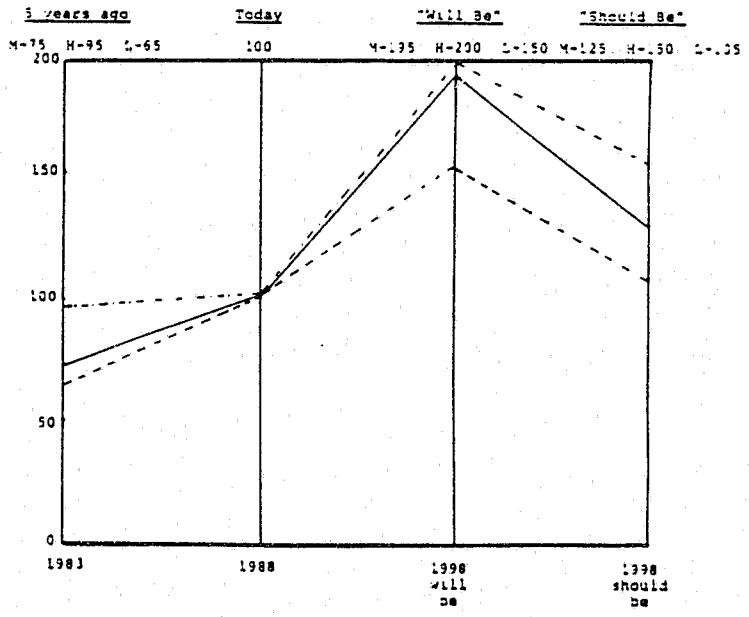
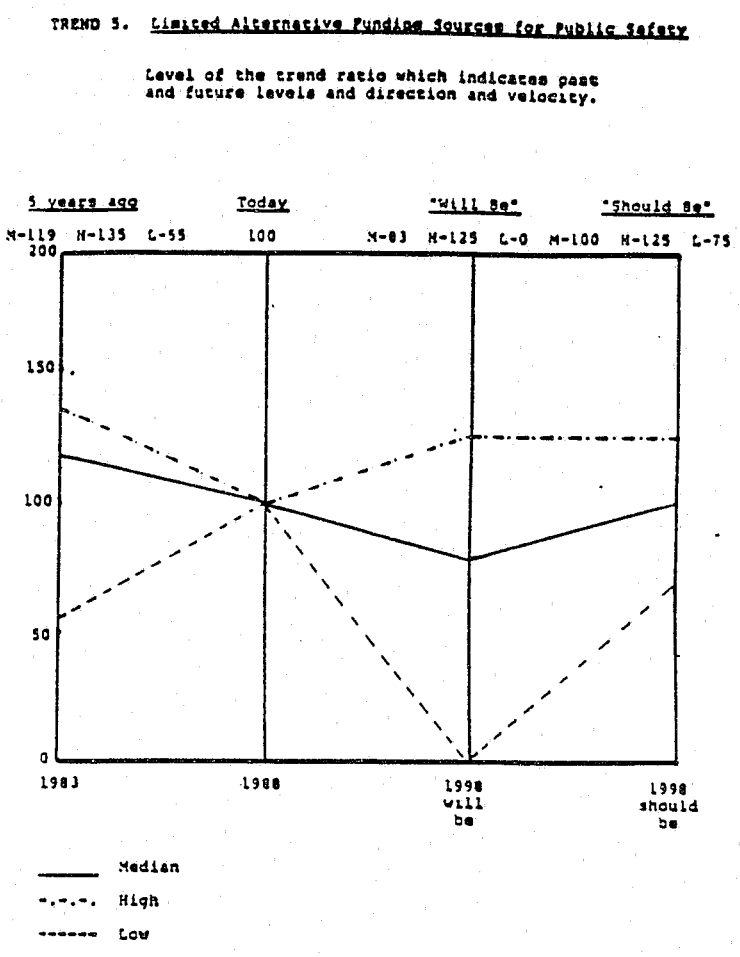


FIGURE 4



Event evaluation. After completing the trend evaluation and forecasting, the group was asked to identify five events that they perceived to be the most relevant to the emerging issues. They were instructed to consider the four following questions during their evaluation process.

1. What are the most important events that could alter the way you see the trends evolving?
2. How probable do you think the events are between now and 1998?

3. How are the identified events important to the future design of police facilities interrelated?

4. How would each event affect the probability of other events occurring?

Using the Nominal Group Technique, a vote was taken and the five events listed below emerged as the most important.

The Event Evaluation was then used by the group to first forecast the probability of the events occurring during a given time span and when they felt the probability would first exceed zero (0); second, to forecast the impact, both negative and positive, the event would have on the issue area and law enforcement in general. Figure 5 illustrates the median probabilities.

FIGURE 5

Event Evaluation Form

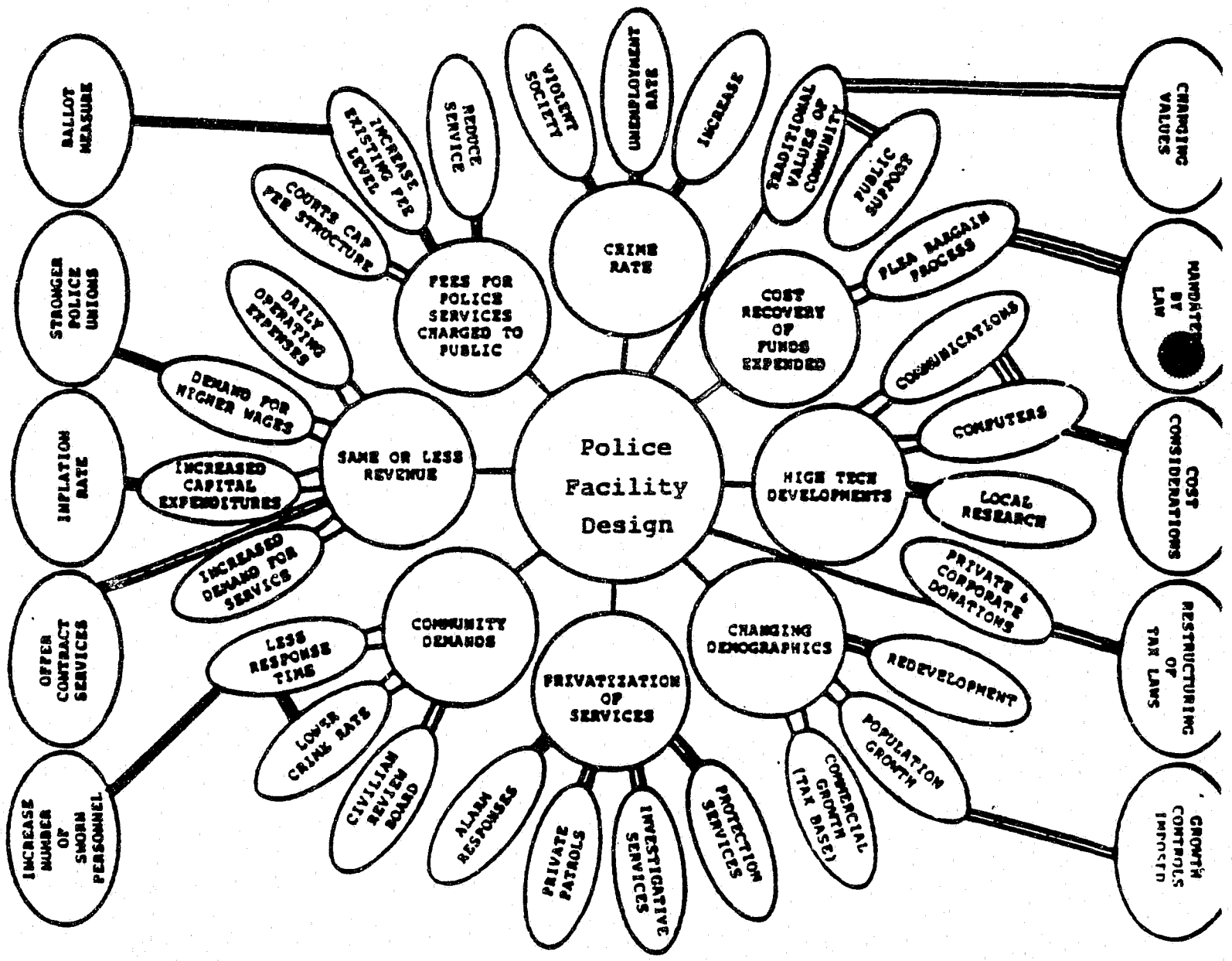
EVENT STATEMENT	PROBABILITY			NET IMPACT ON THE ISSUE AREA (-10 to +10)	NET IMPACT ON LAW ENFORCEMENT (-10 to +10)
	Year that Probability First Exceeds Zero	By 1993 (0-100)	By 1998 (0-100)		
1. Software is developed that allows communication between all major computers regardless of data format.	93	20	60	+ 8	+10
2. Construction costs are reduced by 25% due to widespread use of prefabricated building materials.	91	15	55	+ 7	+ 1
3. The "artificial reality" training simulators are in use by law enforcement.	89	90	100	+ 6	+ 5
4. The State mandates that all new public safety buildings must be constructed to withstand an 8.5 earthquake.	89	65	83	+ 2	+ 2
5. A taxpayers revolt occurred (e.g., Proposition 13 type) which dictates the percentage of expenditures of public funds for public safety construction.	90	55	50	- 9	- 7

FUTURES WHEEL

To enhance the Nominal Group Process, a Futures Wheel was constructed to further identify several contributing issues of concern.

FIGURE 6

Futures Wheel



Forecasting summary. The results of the trends and events forecasting are extremely interesting. They represent diverse thought processes controlled by the personal values and knowledge possessed by the individual nominal group members. The results are indicated in figures 1 through 4.

Trend One, advances in high technology for public sector, was viewed at a moderate to high level five years ago, receives a 72% rating. The nominal group projects a 45% increase over the next ten years, if conditions are left unchanged. If the trend is manipulated to a more desired level, the group projects a 75% increase. The consensus is that research and development ought to be a higher priority at the government level.

Trend Two, rising crime rate, is considered to have a direct and strong impact on the issue because of its correlation to the budgeting process and the number of employees, both sworn and non-sworn, required. The trend levels show a study increase from a 68% median five years ago to a 15% median with a high estimate of 200% in the 1998 "Will Be" future. The consensus of the nominal group is that if the limited funds available for law enforcement are not spent properly on both human and non-human resources, the crime rate will increase by 50%, but only by 20% as indicated in the "Should Be" future, if effective and efficient measures were applied.

Trend Three, technological advances in building materials, has received a rating based on the pattern of technological

advances which have occurred over the past twenty years. The nominal group does feel, however, that more research ought to be done in this area to increase the "Should Be" rating to 175% from 130% in the "Will Be" future, which will be achieved if more emphasis is not placed on development.

Trend Four, escalating commercial construction costs, will almost double to 195% in the "Will Be" future, which will have a dramatic negative impact on the issue. If costs are allowed to rise at this alarming rate, most building projects will never get off the drawing board. The nominal group feels that the costs must be held at an affordable level with only a 25% increase in the "Should Be" future of 1998. The group discussion focuses on the need for technological advances in the building trades while holding labor costs to a minimum.

Trend Five, limited alternative funding sources for public safety, receives a higher rating of 119% for the period five years ago as opposed to the 100% level today. This is based on the fact that there have been fewer restrictions on the amounts and sources of revenue designated for local governments. Group discussion has disclosed vast agreement on the current mode of declining revenue sources for public entities. The "Will Be" projections show an even greater reduction down to 83%.

The results are indicated in Figures 1 through 4.

The five events that emerge as being the most relevant to the issue have been evaluated to determine their probability factors and impact on the issue. The results are

illustrated in Figure 5.

Event One, software is developed that allows communication between all major computers regardless of data format, generates a 60% probability factor of occurring by 1998. When compared to the other events, its velocity is moderate; however, it has the greatest impact on law enforcement in general with a +10 factor. The nominal group feels that 1993 is the earliest this event can occur with a +8 impact on the issue area.

Event Two, construction costs are reduced by 25% due to the widespread use of prefabricated building materials, receives the lowest probability of occurring, 15% by 1993, and the second lowest, 55% by 1998. The impact on the issue area is determined to be major with a +7 rating, however, its effect on law enforcement in general is very minor with a +1 factor.

Event Three, the "artificial reality" training simulators are in use by law enforcement, is viewed as having a very high probability of first occurring by 1989 and a 100% probability of occurring in ten years. A positive impact of +6 on the issue and a +5 on law enforcement in general is forecasted because of the major impact it will have on increasing officer and citizen safety.

Event Four, the state mandates that all new public safety buildings must be constructed to withstand an 8.5 earthquake, receives a moderate-to-high probability of 83% by 1998 with a +2 impact rating on both the issue and law

enforcement in general. This event is projected by the group to have positive effects because it was perceived as a lifesaving measure. Cost factors were strongly considered, but outweighed.

Event Five, a taxpayers revolt occurrs (e.g., Proposition 13 type), which dictates the percentage of expenditures of public funds for public safety, is perceived as having a fairly uncertain probability of occurring. The five year projection was 55%, with a downward projection of 50% in ten years. On the negative side, the group projects that the event, if it occurred, will have a major impact on the issue with a -9 factor.

The results are indicated in Figure 5.

Cross-impact analysis. While analyzing all the data, it is important that the dynamic interrelationships between the events and the trends be understood. To accomplish this, a cross-impact matrix chart has been utilized along with the Nominal Group. The chart shows the events in the left-hand column and the events and trends across the top. The second column from the left shows the median ten year probability factor. Prior to completing the matrix, the group has been asked to consider the following questions:

1. Suppose an event actually occurred, how would it affect the probability of occurrence of each of the other events?
2. Suppose an event actually occurred, how great a change, if any, would it have on the projection of the trend?

The following figure illustrates the results of the Cross-Impact Analysis "NGT."

FIGURE 7

Cross-Impact Analysis

		E 1	E 2	E 3	E 4	E 5	TRENDS T 1	T 2	T 3	T 4	T 5
E 1	60	X	1.0	1.10	1.0	1.0	1.80	.90	1.0	1.0	1.0
E 2	55	1.0	X	1.05	1.15	.95	1.05	1.0	1.75	.75	1.0
E 3	100	1.0	1.0	X	1.0	1.0	1.60	.95	1.0	1.0	1.0
E 4	83	1.0	.75	1.0	X	1.05	1.0	1.0	1.40	1.90	1.0
E 5	50	1.0	1.15	.90	.80	X	1.0	1.05	1.0	1.0	1.65

EVENT STATEMENT
1. Software is developed that allows communication between all major computers regardless of data format.
2. Construction costs are reduced by 25% due to widespread use of prefabricated building materials.
3. The "artificial reality" training simulators are in use by law enforcement.
4. The State mandates that all new public safety buildings must be constructed to withstand an 8.5 earthquake.
5. A taxpayers revolt occurred (e.g., Proposition 13 type) which dictates the percentage of expenditures of public funds for public safety construction.

TREND STATEMENT
1. Advances in high technology for the public sector
2. Rising crime rate
3. Technological advances in building materials
4. Escalating commercial construction costs
5. Limited alternative funding sources for public safety

Cross-impact summary. Event One, software is developed that allows communication between all major computers, has a minimal affect on the events with Event Two, Four and Five remaining unchanged and Event Three, the "artificial reality" training simulators are in use by law enforcement, increased to 1.10. Event One does, however, impact Trend One, advances in high technology for public sector, significantly by increasing the projected ratio to 1.80 and Trend Two, rising crime rate, with a decrease in the projected ratio to .95. The other trends have remained unaffected.

Event Two, construction costs are reduced by 25% due to widespread use of prefabricated building materials, receives a ten year projected probability of 55%, which borders on uncertainty. This indicates that the group feels uncommitted to this event. It also had a minor bearing on the other events with Event One remaining unchanged while the probability of Event Three is increased to 1.05, Event Four is increased to 1.15, and Event Five is decreased to .95. Event Two does, however, have a major impact on Trend Three, technological advances in building materials, with a projected change to 1.75, and on Trend Four, escalating commercial building costs, with a projected decrease to .75.

Event Three, the "artificial reality" training simulators are in use by law enforcement, has the highest probability of occurring, which is 100%; however, it has no impact on the other events. Trend One, advances in high technology for the public safety sector is affected the most, with a projected

change to 1.60. Trend Two, rising crime rate, is also impacted with a .5 decrease. Trends Three, Four, and Five remain unaffected.

Event Four, the state mandates that all new public safety buildings must be constructed to withstand an 8.5 earthquake, has an 83% probability of occurring with no impact on Events One and Three. There is a moderate affect on Event Two, construction costs are reduced by 25% due to widespread use of prefabricated building materials, reducing the probability factor to .75. Event Four also has a minor impact on Event Five, a taxpayers revolt occurred, increasing it to 1.05. Trends One, Two and Three are not affected while Trend Three, technological advances in building materials, is increased to 1.40 and Trend Four, escalating commercial construction costs, is increased to 1.90, which was the greatest impact by an event on a trend.

Event Five, a taxpayers revolt occurs (e.g., Proposition 13 type) which dictated the percentage of expenditures of public funds for public safety construction, has the lowest probability of occurring, but if it does occur, it will have the greatest effect on the other events. The probability of Event Two, construction costs are reduced by 25% due to widespread use of prefabricated building materials, is increased to 1.15 while the probability of Event Three, the "artificial reality" training simulators are in use by law enforcement, is reduced to .90 and Event Four, the state mandates that all new public safety buildings must be

constructed to withstand an 8.5 earthquake, is reduced to .80. Event One is not affected. Trends One, Three and Four remain unaffected while Trend Two, rising crime rate, is impacted slightly, with a .5 increase. Trend Five, limited alternative funding sources for public safety, is affected the most, with a projected increase of .65.

SCENARIOS

Exploratory scenario. Since the mid-to-late 1980's, the voice of the people has echoed strong concerns over what is viewed as excessive and uncontrolled spending by governmental agencies. This philosophical mood has been ignored until November 4, 1998, when the voters of this state approve Proposition 213. Proposition 213 dictates the percentage of expenditures of public funds for public safety construction.

To add to this dilemma, the state court has recently placed a cap on the use of fees collected by municipalities, reducing a sizeable revenue source for construction funds. Over the years, most local governments have become very dependent on this contributing source especially since the total repeal of revenue sharing. On the day after the election, the chief of police summons all of his upper staff members to his office for an emergency planning meeting on the new facility they have been planning. No advanced contingency plans have been made to address the situation, the prior consensus being that Proposition 213 will never pass. This false reading is based on a scanning process which has not addressed contemporary issues management. The

department staff members are told to prepare supplementals, plans which reflect a scaled down design of the new facility or the remodeling and expansion of the existing facility.

The department has been drastically impacted by the current state of affairs. Resources are already strained, the crime rate has increased 50% in the last ten years, the facility built in 1955 is non-functional and there are no capital funds to automate the record keeping and management systems which currently generate hugh amounts of hard copy records with no place to store them. While drafting the alternative plans, the staff members become fully aware of the rising construction costs which have doubled since 1988.

They also have learned that technological advances in the building industry have slowed in the last ten years. The idea of a prefabricated building is explored; however, it is soon evident that this type of construction will not meet the state mandate which requires all new public safety buildings to be constructed to withstand an 8.5 earthquake. This type of construction could have reduced the building cost by 25%. A projected study has been then done on the city in planned revenue for the next five years. This study indicated that there will be no additional funds that can be allocated for the construction of a new police facility.

One alternative remains and that is to remodel and expand the existing facility, which can only be done on a limited basis with the funds currently projected. One week after this project is announced, the department's employee

groups, both sworn and non-sworn, stage a one day walkout as a protest to the poor working conditions and a show of no confidence in the administration. They feel that it is the direct responsibility of the administrators to have properly scanned the environment and better prepared for the future.

Normative scenario. It is in December when the police chief is informed by the city council that his plan to build a new high tech police facility has been approved for the next fiscal year 1998-99. The chief is elated; all of the hard work and research conducted by his staff has finally paid off. They have worked on this project, along with community members and consultants, for the past three years. The final design evolves from a culmination of ideas and concepts supported by the research committee.

It was in the late 1980's when the chief and his staff truly recognized that the department had to grow along with the community to keep in balance with the rising crime rate and calls for service. This meant the addition of several more sworn officers along with support staff systems. They also recognized that the current facility housing the operation was growing obsolete and would not meet their long range needs.

As time progressed, the staff, using environmental scanning techniques, kept a close eye on trend and event indicators that would impact the future planning and design of a new facility. Through the application of the technique, they were able to help avert with community support a

proposition which would have dictated the percentage of expenditures of public funds for public safety construction. The staff knew if that proposition passed, their future plans to build a new facility would be doomed. The staff also kept close track of the advances being made in the related fields of electronics, communications and computers. They were amazed at the rapidly changing systems along with advances being made in the public sector.

When the research committee first met in 1995 they immediately formed into sub groups to study individual issues that could effect the positive outcome of the project. Some of the major issues were future community and department growth, crime rate and calls for service levels, project financing, construction costs, and high tech systems. Many of these areas had been previously identified and explored by the staff through their scanning process.

Because of this, they were able to appropriately address the issues as they developed, thereby connecting what would have been obstacles and threats into opportunities for the organization. One such major concern was the recently passed state mandate requiring all new public safety buildings to be constructed to withstand an 8.5 earthquake. This, coupled with the escalating commercial construction costs, seemed at first to make the cost of the project prohibitive.

However, the staff and the hired consultant quickly pointed out that because of the technological advancements in the building industry and the possible use of prefabricated

building materials, the costs will be within the projected acceptable range and not present a stumbling block. It was also pointed out that because of the 8.5 requirement, the city would have a public safety structure that would remain operational after having a major earthquake, and with very little disruption of service.

Over the next three years these brainstorming and planning sessions continued to take place on a regular basis. It was from this forum that the project plan was developed and subsequently presented to the city council by the chief of police.

During the council presentation the chief is beaming with pride over the plans for the new facility. He eagerly explains that the project will be within budget and that it will be state-of-the-art from the materials used to construct the building to the real life training simulators used to save the lives of citizens and officers that will be built into the design features. He assures the council that the new facility will fulfill their organizational needs far into the 21st Century.

Hypothetical scenario. The chief is smiling as he is greeting people at the official opening of the new police facility. It is a project to be proud of. Everything from the high tech prefabricated modular constructive design to the ultra sophisticated electronic and computer systems is fifth generation technology. This facility, through effort, dedication and hard work, is a great goal achievement for the

organization and the community.

Tours are being conducted by staff members who are eagerly demonstrating all of the technological advances that have been made in the public sector world of computers and communications. In the communication network center, the laser-aided transmitting officers are busy directing the field operations. The guests are amazed when they observe a computerized transmission which is illuminated on an optical screen from one of the field officers, directed through the center and linked with a major financial institution in another state. The staff explains that the latest software technology allows them to communicate with all major computers regardless of data format. They go on to say that the possibilities in the field of communication are endless

In another part of the facility, guests are being treated to a demonstration of the department's new training simulators on a video screen. They witness officers, armed with laser guns, shooting it out with projected human images. A demonstration of the virtual environment work station helmet is also given. The helmet, which weighs twelve pounds, is equipped with a 3-D television screen and stereo system allowing the operator to become totally immersed in whatever training environment is required. Sensors within the helmet detect which way the head turns and automatically change the image to match. The particular one demonstrated is on defensive driving tactics for the patrol officers. Many of the guests anxiously await their turn to try out the

simulators.

Back at the reception area, the chief is explaining to a group of intent listeners that the entire facility has been financed by revenue generated from fees assessed to the developers of both residential and commercial projects. He adds that over the past ten years, beginning in 1988, the number of new developments has doubled, resulting in greater amounts of assessment fees for the city. When asked what he feels created the surge in the building industry, he replies one reason is the de-escalating cost to build today due to the technological advances in building materials and the widespread use of prefabricated materials.

At the end of the day, the chief and his staff celebrate their accomplishments by sponsoring a dinner for all the department employees and key supports in the community. This is their way of showing appreciation for their help and support during the transition period.

Objectives Two and Three - Strategic Plan/ Transition Management Plan

Statement

The second objective is to develop and implement a strategic management process to include:

A. Strategic decision making

B. Strategic planning

C. Policy consideration

Because strategic management is not linear, these three are

interactive in the process.

The anticipated outcome is a strategic plan, bridging the gap from an analysis defined present to a scenario defined future. Thus, the third objective is to develop the transition process by which the plan developed in Objective Two is strategically managed to produce the selected futures scenario.

Methods: Identification

The following methods have been utilized to meet the above stated objectives:

1. WOTS-UP Analysis - is utilized to determine opportunities, threats and strengths in my organization.
2. Strategic Assumption Surfacing Technique (SAST) - is systematically generated potential assumptions, assessment and utilization of assumptions and choosing an assumption to be used as a premise for establishing a strategy.
3. Capability Analysis - is determined through unbiased means; includes the organization strategies, strengths and weaknesses; deals with both the major issue and sub-issues.
4. Critical Mass Analysis - identifies the key players who are critical to the success of the strategic plan.
5. Responsibility Charting - Reduces ambiguity, wasted energy, adversity, and most importantly, clarifies role relationships.

6. Modified Policy Delphi - Insures that a variety of alternative solutions are identified.
7. Transition Management Structure - Developes the Transition Process and placement of the proper Management Structure.

Methods: Implementation

The situation, mission, execution, administration, and control (SMEAC) model has been utilized to structure the strategic plan of the project; and in addition, the structure presents the data, both the process and the outcome.

Situation analysis. The situation is composed of three principal segments: Environment Assessment (WOTS UP), Internal Capacity Assessment (WOTS UP), and Stakeholder Analysis (SAST).

A. Environment Assessment
   1. Valuable Trends
      a) Advances in high technology for the public sector
      b) Rising crime rate
      c) Technological advances in building materials
      d) Escalating commercial construction costs
      e) Limited alternative funding sources for public safety
   2. Valuable Events
      a) Development of software that allows communication between all major computers regardless of data format.

b) Reduction of construction costs by 25% due to widespread use of prefabricated building materials.

c) Use of "artificial reality" training simulators by law enforcement.

d) State mandates requiring all new public safety buildings must be constructed to withstand an 8.5 earthquake.

e) A taxpayers revolt occurs (e.g., Proposition 13 type) which dictates the percentage of expenditures of public funds for public safety construction.

3. Trend Impact

a) Advances in high technology for the public sector

1) Increased availability of high tech resources

2) Creation of a need for technologically advanced employees

3) Increased ability of governmental agencies to compete with private sector

4) Reduced manhours spent on manual functions

b) Rising crime rate

1) Increased demands on law enforcement resources

2) Erosion of sense of security and support held by the community

3) Need for additional manpower and adequate police facilities

c) Technological advances in building materials

1) Increased potential for more sophisticated and advanced police facility design

2) Encouragement of more growth, both commercial and residential, resulting in increased revenue from developer fees

3) Reduction of design concept limitations

4) Higher building costs

5) More demands for service because of the increased growth

d) Escalating commercial construction costs

1) Decreased commercial growth which would reduce tax base income

2) Decrease of developer fee revenue due to less construction

3) Limitation of size and design concepts of future facilities

e) Limited alternative funding sources for public safety

1) Fewer funds for manpower and resources

2) Reduction in the number of specialized programs offered to the community

3) Inability of funding sources to meet the demands resulting in a reduction in service

4. Event Impact

a) Development of software that allows communication between all major computers regardless of data format

1) Creation of a whole new world of communication between law enforcement agencies and support groups

2) A decrease in the need for additional hardware due to compatibility link

3) An increase in computer crimes

b) Reduction of construction costs by 25% due to widespread use of prefabricated building materials

1) Increase of commercial growth rate

2) Generation of additional tax revenues from completed and operating retail outlets

3) Increased revenue from developer fees to pay for resources

4) Increased need for additional services

c) Use of "artificial reality" training simulators by law enforcement

1) More accessibility of the latest training techniques

2) Negative impact on budgets due to the extreme costs

3) Regionalization of training centers

4) Realistic training for officers

d) The state mandating that all new public safety buildings must be constructed to withstand an 8.5 earthquake

1) Increased cost of public safety facility construction

2) Reduction of the number and size of future police facilities

3) Assurance that the integrity of design and construction will not disrupt services

4) Provision of an emergency operating center (E.O.C.) during major earthquake

e) Occurrence of taxpayers revolt (e.g., Proposition 13 type) which dictates the percentage of expenditures of public funds for public safety construction

1) Fewer tax dollars for construction of facilities

2) Reliance on alternative funding sources

3) Increased need for police administrators to be more in tune with the community

5. Opportunities and Threats for the Agency

An opportunity is any favorable situation in the organization's environment, often a trend or change of some kind or an overlooked need that supports the demand for a product or service and permits the organization to enhance its position.

A threat is any unfavorable situation in the organization's environment that is potentially damaging to the organization and the strategy. It may be a barrier, a contraint, or anything that may inflict problems, damage, or injury to the organization.

The following have been identified as both opportunities and threats on the trends and events.

a) All four impacts of Trend One are viewed as opportunities for the agency. High tech resources will be increased while manhours can be refocused on other critical areas, and employees familiar with technological advancements will be brought into the organization to help guide the agency into the future. The opportunity is also there for the agency to explore new and innovative concepts to better serve the community.

b) The first and second impact on Trend Two present threats to the agency because of the drain on existing resources and the potential for reduced community support they create.

The third impact can be viewed as an opportunity for the agency to grow with the acquisition of additional manpower and a new facility which will meet the needs of the

organization, allowing it to better address the challenge of the future.

c) The first impact on Trend Three is viewed as an opportunity because it will allow for more creativity by police managers who are involved in facility design.

The second impact is also viewed as an opportunity for the agency to attach the developer fees to a formula that will assist in financing new facility construction.

The third impact creates an opportunity for facility project managers to explore new and innovative approaches to design.

The fourth and fifth impacts of Trend Three are viewed as threats to the agency because they could have a negative affect on the budgetary process involving the allocation of funds for construction.

d) All three impacts of Trend Four are viewed as threats because they will have a negative affect on the availability of financial resources. In addition, the third impact will drastically curtail the creativity of project managers who will be forced to use common design concepts.

e) The impacts of Trend Five are all viewed as threats to the organization. They will lead

to the reduction of current services, produce roadblocks for future programs and curtail the resources necessary to effectively accomplish the organization's mission.

All of these can all result in diminished support and trust for the organization and its leaders by the community. It will be incumbent upon the managers to not only spend the limited financial resources wisely, but at the same time, continue to explore explore new avenues of funding sources.

f) The first and second impacts of Event One are both opportunities for the organization. The first impact allows the organization to be innovative in the area of researching and testing new ideas. The second impact has a positive financial effect, allowing the organization to redirect funds which had been allocated for additional computer hardware that is no longer required.

The third impact of Event One is viewed as a threat because it will increase the workload of existing manpower.

g) All of the impacts of Event Two, with the exception of number four, are considered opportunities from a financial standpoint. The potential to generate additional revenue

for manpower and resources is excellent. The impact also provides an opportunity to justify additional manpower to keep up with the service requirements.

h) The first and fourth impacts of Event Three are viewed as opportunities for the agency and its personnel, to safely and correctly handle the majority of incidents that occur in the field.

The second impact is seen as a threat to the financial state of the organization because of the high cost involved in obtaining the training technology.

The third impact creates an opportunity for the agency with limited funds to combine its resources with other departments to provide the technology at a regional level which otherwise would not have been provided.

i) The first and second impacts of Event Four are both viewed as threats because they diminish the possibilities for the construction of new facilities which are desperately needed.

The third impact is an opportunity for the agency to provide uninterrupted service to the community during major earthquakes. It will help add to the trust and confidence the

community has in the department.

The fourth impact is also an opportunity for the agency to display its leadership capabilities and its ability to plan for emergency operations.

j) The first and second impacts of Event Five are both threats and can seriously damage the current course and strategy of the organization. Resources are already strained to a maximum level and can not be expected to continue to function in an effective and efficient manner.

The third impact presents an opportunity for police administrators to play a more viable role in directing the philosophy and thinking of the community which could avert future tax revolts.

B. Internal Capacity Assessment

Strengths: A strength is a resource or capacity the organization can use effectively to achieve its objective.

Weaknesses: A weakness is a limitation, fault, or defect in the organization that will keep it from achieving the objective.

To evaluate the internal capability and future adaptability of the organization to properly deal with the issue, seven members of the organization

have been given rating forms. These forms have been used to rate the organization's weaknesses and strengths and, its ability to react to or initiate change.

The evaluators are both sworn and non-sworn personnel selected from a cross-section of the organization. After the forms have been completed their responses have been averaged out to illustrate a comprehensive aspect of the organization. (Figures 8 and 9.)

The results indicate that the evaluators, for the most part, have the same perceptions of the organization. From discussions held with the respondents, prior to and after the evaluation, it is clear that a high level of confidence exists in the organization's ability to control those resources which are intrinsic as opposed to those resources which have been identified as weaknesses controlled by extrinsic forces. Further, the respondents have a very positive image of employee skills at all levels, along with community support, which they feel are important factors to consider during strategic planning and policy formulation as related to the issue.

The areas that perceived as weaknesses -- manpower, facility, money and sworn/non-sworn ratio -- are all major resource items that are directly

FIGURE 8

Capability Analysis

Rating One

Strategic Need Area:

Instructions:

Evaluate each item, as appropriate, on the basis of the following criteria:

I	Superior. Better than anyone else. Beyond present need.
II	Better than average. Suitable performance. No problems.
III	Average. Acceptable. Equal to competition. Not good, not bad.
IV	Problems here. Not as good as it should be. Deteriorating. Must be improved.
V	Real cause for concern. Situation bad. Crisis. Must take action.

Category:	I	II	III	IV	V
Manpower				X	
Technology		X			
Equipment		X			
Facility				X	
Money			X		
Calls for Service				X	
Management Skills		X			
P.O. Skills		X			
Supervisory Skills		X			
Training		X			
Attitudes		X			
Image		X			
Non-Sworn Skills		X			
Council Support		X			
City Mgr. Support		X			
Growth Potential		X			
Mgt. Flexibility		X			
Sworn/Non-Sworn Ratio				X	
Pay Scale			X		
Benefits			X		
Turnover		X			
Community Support		X			
Complaints Rec'd		X			
Enforcement Index			X		
Traffic Index			X		

FIGURE 9

Capability Analysis

Rating Two

STRATEGIC NEED AREA:

Instructions:

Evaluate each item for your agency as to what type of activity it encourages:

I	Custodial	Rejects Change
II	Production	Adapts to Minor Changes
III	Marketing	Seeks Familiar Change
IV	Strategic	Seeks Related Change
V	Flexible	Seeks Novel Change

Category:	I	II	III	IV	V
TOP MANAGERS:					
Mentality Personality				X	
Skills/Talents				X	
Knowledge/Education				X	
ORGANIZATIONAL CLIMATE:					
Culture/Norms				X	
Rewards/Incentives				X	
Power Structure				X	
ORGANIZATION COMPETENCE:					
Structure				X	
Resources				X	
Middle Manager				X	
Line Personnel				X	

controlled by outside forces. These forces include the city council, city manager, the community and growth, which are items that the respondents perceive as areas of strength in the organization. It is therefore incumbent upon the organization to properly influence the areas of strength to convert the weaknesses while achieving the desired state of the issue.

The future adaptability analysis of the department, demonstrates an organization that is seeking related change (strategic) at all levels in the organization.

C. Stakeholder Analysis

The same group used to identify the organizational strengths and weaknesses during the capability assessment has been utilized to analyze the Stakeholders and Snail darters as related to the issue.

Stakeholders are those individuals or groups of individuals who might be affected by or might attempt to influence the issue or law enforcement's approach to the issue.

A non-obvious group of stakeholders who might cause a serious problem with the implementation of a program are Snail Darters (SD). (Figure 10, a complete list of stakeholders.)

A graphic display of the stakeholders' assumptions

appear in the assumption map illustrated in Figure 11. The purpose of plotting each position is to assist in understanding how important each stakeholder's position is to the issue, and to determine how certain or uncertain are the stakeholders assigned assumptions.

1. Police Administrators: Police administrators will show a great deal of interest in the issue and sub-issues because of their direct reflection on the current state of the organization and the future growth capabilities. They will also be interested in the technological advances that would be incorporated in the design concepts.
2. Police Officers: This group will strongly support the issue concepts because issues directly affect their work environment and provide a welcomed challenge for them to assist in the design and planning stages. As individuals, they may not want to become involved unless invited to do so as possible committee members.
3. Non-sworn Police Personnel: They will add ideas and concepts to the issue from the perspective of a civilian employee who has a multitude of different needs as opposed to those needs required by the police officers. They will

participate as a group in the planning and design from an informational resource standpoint but will take more active roles as individuals.

4. City Council: The city council will have to be influenced to set priorities in the areas of growth and funding for the police department, even though they will be inclined to look favorably on the issue area. They will test the political acceptance of the issue before giving it full support. Their major concern will be the source of funds for construction. Once the project is complete they will take a majority of the credit for the final outcome if it is positive.
5. City Manager: This individual will vigorously support the issue once he is convinced that it is viable and attainable. He will act as a middle man between the police administration and the city council while addressing the complete needs of the community.
6. City Engineer: The engineer will take an active role in the early planning and feasibility stage of the issue if he is directed to do so by the city manager. His degree of commitment will reflect the level of priority set by the City.
7. Citizens of the Community: They will support the issue completely, once they are convinced (1) that there will be no additional fees assessed to them,

(2)that other services will not be cut to pay for the development, and (3) that a real need exists for the development of the issue. They will support the assessment of fees charged to the developer of new construction. They will encourage the city council to support the plans of the police administration.

8. Land Developers: Generally speaking they will oppose the issue because of the possibility presented for additional assessment fees on their projects. If, however, the issue improves the city's image, it may be seen as a plus by the developers; then they may support the issue. The individual developer who is directly involved in the project will be in complete support because of the monetary rewards involved.
9. Architects: The architects will not only support the issue but help sell it to those in need of convincing. They are impatiently waiting to show the industry what can be accomplished with proper planning combined with the advanced technology of today.
10. American Civil Liberties Union (SD): The A.C.L.U. may attack the issue with regard to design concepts to all areas that relate to the detention and confinement of those arrested. They will attempt to influence the issue with a slant

towards their liberal ideals. They may be a major obstacle if they become involved in the planning stages too early.

11. City Public Works Commission: The support of this group is crucial. If it is convinced of the merits of the issue, it will recommend to the city council that the project warrants further discussion and planning. Further, it may recommend special assignment fees to help finance the issue.
12. Chamber of Commerce: It will be in favor of the issue if it will improve the image and security of the community. Its priorities involve creating a healthy atmosphere in the business community.
13. Building Material Manufacturers: From a purely monetary reward standpoint, manufacturers will support the issue with the latest technology available. They will make every effort to comply with the demands and even offer advice when appropriate.
14. Electronics Experts: This group will be involved with the issue from the earliest stages of project planning. They will offer immense levels of technical advice that will be extremely beneficial. Their pride and self-esteem will be at stake.
15. Computer Experts: The technology this group

possesses is one of the cornerstones of the issue and sub-issues. Current knowledge will be offered along with the future capability plans to guide the issue to reality. They want to have major input at issue planning meetings.

16. Interior Designers: They will work with architects to develop the latest design concepts that will be compatible with the overall goals of the issue. They want to be consulted at the earliest planning stages so their input has some bearing on the concepts.

Mission. Two mission statements, macro and micro, have been formalized to manifest the purpose and intent of the organization. The macro statement outlines the basic mission of the organization. The micro statement will support the macro statement while addressing the mission of the organization in relationship to the issue being addressed.

Macro Statement - The organization is committed to the general welfare of the citizen and the apprehension of criminals, while maintaining a safe environment in which to live.

Micro Statement - Provides service for the citizens of the community by protecting life, property and constitutional rights while striving to control the impact of crime by seeking out, developing and applying innovative approaches to law enforcement operations through technology, equipment, systems and management. Taking these steps can assure

FIGURE 10

Stakeholders

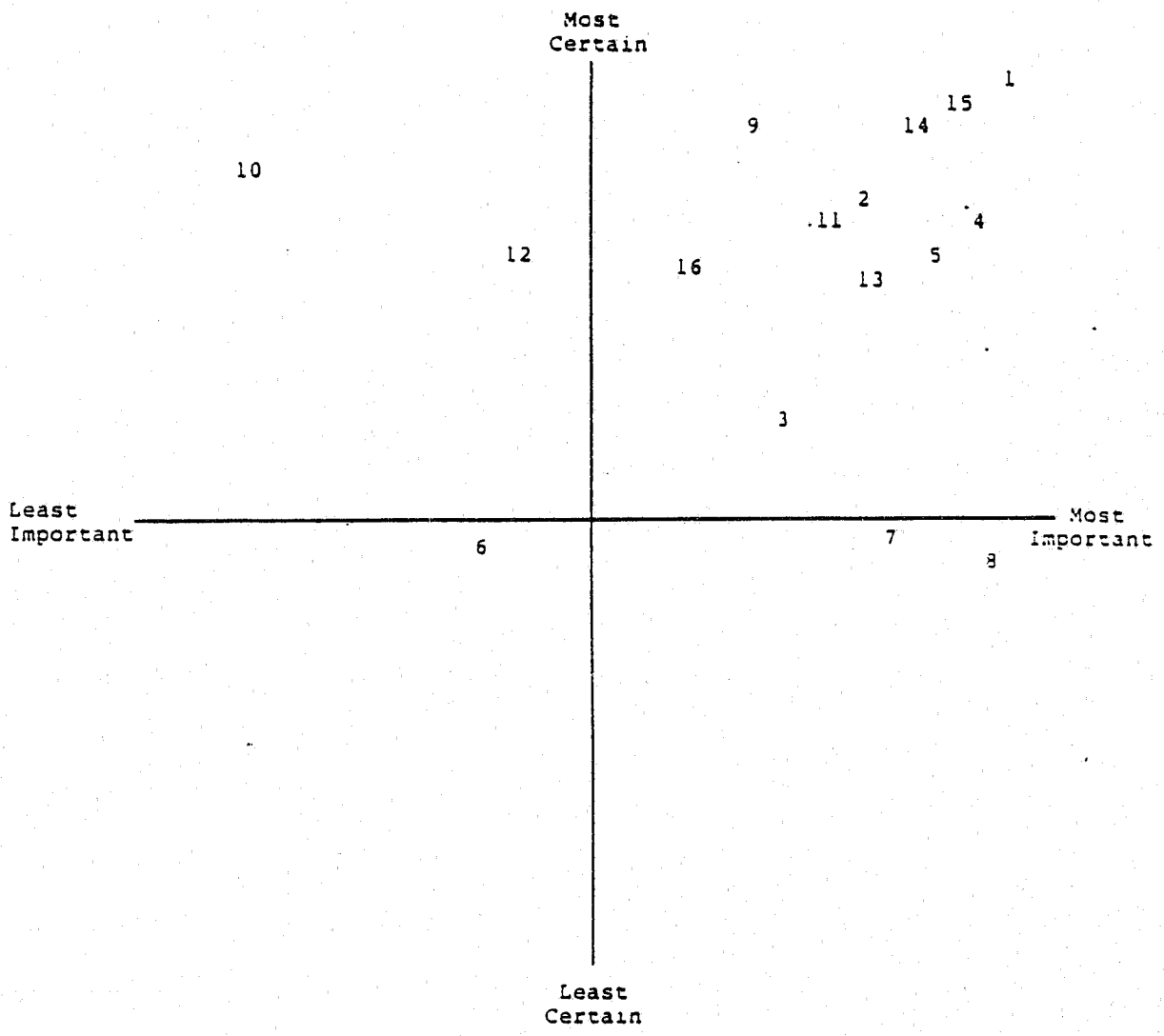
Critical Stakeholders (*) - Snail-Darters (SD)

*	1.	Police Administrator		21.	Minority Groups
*	2.	Police Officers		22.	Employee Groups
*	3.	Non-sworn Police Personnel		23.	Senior Citizens
*	4.	City Council		24.	Defense Attorneys
*	5.	City Manager		25.	Mounted Police Unit
	6.	City Finance Director		26.	Police K-9 Unit
	7.	City Treasurer	*	27.	Print Media
*	8.	City Engineer		28.	Civilian Volunteers
	9.	City Building Inspectors		29.	Office Furniture Vendors
	10.	City Planning Department		30.	Building Material Vendors
	11.	City Utility Commission		31.	Construction Companies
*	12.	Citizens of the Community	*	32.	Electronic Experts
	13.	Business Community	*	33.	Computer Experts
	14.	Commercial District		34.	Homeowners
	15.	Land Developers	*	35.	Chamber of Commerce
*	16.	Architects	SD	36.	School District
	17.	Communications Experts		37.	State Legislators
SD	18.	American Civil Liberties Union	*	38.	Civil Courts
*	19.	Taxpayers Groups	*	39.	Interior Designers
	20.	Reserve Police Officers		40.	Police Service Users

FIGURE 11

Strategic Assumption Surfacing Technique Map

1. Police Administators
2. Police Officers
3. Non-Sworn Personnel
4. City Council
5. City Manager
6. City Engineer
7. Citizen of the Community
8. Land Developers
9. Architects
10. A.C.L.U.
11. City Public Works Commission
12. Chamber of Commerce
13. Building Material
14. Electronic Experts
15. Computer Experts
16. Interior Designers



organizational effectiveness and responsiveness, which will enable the department personnel to continuously improve their service to the community.

Execution. In this section, strategic policy alternatives designed to address the issue will be generated, examined, and selected.

The modified Policy Delphi has been used to ensure that a variety of alternative strategies have been identified and explored. To accomplish this task, a group of seven individuals with diverse backgrounds has been brought together to develop alternative strategies, rate the alternatives on their feasibility and desirability, and analyze the pros/cons of the recommended strategies.

The following is a list of eight alternatives that were developed:

1. A statewide committee of law enforcement officials is formed to plan and design the futuristic police facility for all medium-size agencies.
2. Police facility design will be dictated by the needs and resources of the community combined with those of the organization, along with the availability of high technology. A project planning team will be appointed to determine needs and develop design concepts.
3. Regional criminal justice centers will be established as an alternative to localized facilities to reduce expenses and combine resources.

4. Small neighborhood facilities will be constructed to better serve the unique needs of each geographical area.
5. Private consultants shall be hired by the state to design a facility to the specifications they determine as appropriate.
6. Police facility design shall be based on the technology needs of the organization and not the needs of the community.
7. To eliminate construction and land acquisition costs and to help preserve history throughout the state, historic buildings will be renovated into police facilities.
8. Future police facilities will consist of small headquarters complexes with enough work space for administrative staff and their support personnel while the remaining personnel will have work stations at their residences.

It has been determined that the highest scores were given to Alternative One and Two with the most polarized being Alternative Three. The above results are illustrated in Figure 12.

Alternative 1: A statewide committee of law enforcement officials is formed to plan and design the futuristic police facility for all medium size agencies.

Pros	Cons
Force consistency	Does not address individual organizational needs and capabilities.
Save design costs	Does not consider local budgetary restrictions
Makes planning	Lacks consideration for unique community needs
	Lacks consideration for unique community needs
	Diminishes local control
	Creates more bureaucracy within the state
	Ignores area demographics

Alternative 2: Police facility design will be dictated by the needs and resources of the community combined with those of the organization along with the availability of high technology.

Pros	Cons
Is supported by the Community	Requires a large commitment from individuals involved in the planning
Is supported by the staff	
Is concerned with the needs and capabilities of everyone involved	
Creates positive motivation	
Uses more effectively limited tax dollars	

Alternative 3: Regional criminal justice centers will be established as an alternative to localized facilities to reduce expenses and combine resources.

Pros	Cons
Saves tax dollars	Involves too many governing bodies
Allows State-of-the-art facility being designed and built with combined resources	Creates too much red tape
	Not supported by department heads
	Loss of local control
	Citizens would be required to respond to a central location for service

Selected strategy. Alternative Two has been selected as the strategy that most appropriately addresses the issue. The decision is based on two factors: (1) the high rating it has received during the Policy Delphi and, (2) the direct correlation with the normative scenario which more accurately illustrates the most desirable future as related to the issue. Further, the emergence of the critical issue and sub-issues has brought to light the need for a strategic plan that will provide organizational direction needed to achieve the desired future. As a result, the following policy has been adopted.

A law enforcement facility project planning committee shall be established by the chief executive officer to properly assess the needs and capabilities of both the organization and the community. The committee shall be comprised of the

FIGURE 12

RATING SHEET FOR POLICY DELPHI

Alternative 1: A statewide committee is formed to plan and design facilities.

Feasibility	DF	PF	PI	DI	SCORE=32
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

Alternative 2: Facility design is dictated by community and organizational needs and the availability of technology

Feasibility	DF	PF	PI	DI	SCORE=40
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

Alternative 3: Regional criminal justice centers replace localized facilities.

Feasibility	DF	PF	PI	DI	SCORE=19
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

Alternative 4: Small neighborhood facilities shall be built to meet geographical needs.

Feasibility	DF	PF	PI	DI	SCORE=24
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

Alternative 5: Private consultants shall be hired to design the facility to their specifications.

Feasibility	DF	PF	PI	DI	SCORE=15
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

Alternative 6: Facility design is based on technological needs vs. the needs of the community.

Feasibility	DF	PF	PI	DI	SCORE=13
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

Alternative 7: Historic building will be renovated as police facilities.

Feasibility	DF	PF	PI	DI	SCORE=23
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

Alternative 8: Small headquarters complex with work stations at home for majority of personnel.

Feasibility	DF	PF	PI	DI	SCORE=12
	(3)	(2)	(1)	(0)	
Desirability	VD	D	U	VU	
	(3)	(2)	(1)	(0)	

following members: city council, city manager, chief executive officer, police planner (chairman), police staff, architects, engineers, city project manager, planning department, fire department, police association, and citizen volunteers.

It will be the primary responsibility of the planning team to analyze and distill all critical data that is assembled and translate it into present and future operational requirements by setting goals, collecting facts, uncovering concepts and by conducting a feasibility study on the available financial resources, space and quality of work required.

The facility design shall incorporate five basic qualities:

Economy: The design of the facility shall be based on the most effective and economical use of available resources. Present and future programs must be given careful consideration. A 25-35 year life span of the facility must be projected into the plans.

Flexibility: The facility shall be constructed to allow for modifications without excessive cost. As operations become modified and new department programs are introduced, structure changes may be needed. The design must be flexible to respond to the requirements.

Security: The overall design and physical layout of the facility shall contribute to the physical safety of the employees and the other resources needed to provide continuous and reliable emergency service to the community through any catastrophe, ranging from sabotage to natural disasters.

Appearance: The facility shall provide a pleasant working environment for all employees. The interior design in all operational areas ought to reflect an image of professionalism and efficiency. The aesthetic quality of the facility is an important factor in maintaining high employee morale. The attractiveness of the building reflects the dignity of law enforcement and the philosophy of the community towards the accomplishment of service related goals.

Operational Efficiency: All of the operational areas shall be designed in a manner that will promote a highly efficient work flow. Plans for each area shall be developed only after a thorough analysis of the tasks that will be performed in that part of the building. This analyzing will require architects and all others involved in the actual design process to be familiar with the details of all major departmental operations. Every detail of the facility shall be consistent with the goal of maximum operational efficiency.

Prior to the pre-design phase being completed, all of the officers and civilians who will eventually use the new facility shall have been given an opportunity to make suggestions to the project planning committee. The chairman of the committee shall designate one member to elicit written suggestions from all employees of the organization. Those who are engaged in conducting specific programs are an excellent source of ideas for developing the design criteria for the facilities needed for those operations.

A list of major components that will be incorporated into

the building shall be devised, i.e., lobby/reception area, communications center, records section, etc. Once tentative agreement has been reached concerning the major components the facility planning team shall begin to develop the design criteria. However, the following requirements of each operation that will be conducted in the building must be thoroughly evaluated for activities, ambience, occupancy, essential architectural feature, required equipment and furniture, spatial relationships, and estimated area required.

The project planning team shall then prepare/obtain five basic planning documents that are required at this stage in the process and that will be used in later programs and architectural design phase.

Organizational Chart: This chart must include all programs or operational components that will be assigned space in the proposed facility. At least a ten year frame reference should be used in preparing the chart.

Table of Personnel and Equipment: A table indicating the number of department employees assigned to each of the operational components on the organizational chart shall be prepared. It shall also indicate all of the major items of furniture and equipment that are located in the area of the building that is used for each operation. A ten year need projection must also be included.

Department Policy Manual: This document will be used by each member of the project planning team to completely familiarize themselves with department operations.

Security Plan: This document will contain a statement of the procedures that will be followed to insure the safety of personnel and equipment in the proposed facility.

Guidelines for Public Tours: The planning team shall give careful consideration to the procedures that will normally be followed in escorting groups through the proposed facility. Proper design will enable the department staff to conduct tours without disrupting operation or jeopardizing building security.

Once the programs and operations that will be conducted in the various parts of the facility have been determined, along with their requirements and the availability of funds, the actual design phase will take place.

Site Selection: The site shall have access to at least two different thoroughfares. This will allow the free flow of vehicles in case of an accident, street repairs, or act of terrorism that blocks one exit. Immediate street access for the emergency response force must also be analyzed. Adequate parking must be provided for the staff and the public which shall be separated to provide essential security for personnel equipment. The site must be large enough to accomodate future expansion of 25-30 percent that will occur in the 30-40 year projected life span of the facility. Strong consideration must be given to the cost and any political factors which may be involved in the purchase.

Materials of Construction: Proper material selection throughout the facility is crucial. It must be based on affordability, security and durability as well as life cycle

costs. Exterior walls must provide sniper protection while not presenting a fortress-like appearance to the general public. Interior corridor walls must be durable enough to withstand the casual and unintentional abuse of equipment rubbing against them. In contrast, the executive office areas must be warm, dignified and offer proper lighting and acoustic properties.

Entrances: Building entrances must be carefully designed to separate staff and the public. Entrances must also be designed to discourage vehicle ramming and offer adequate protection from hostile elements.

Glazing: Window sills shall be sloped to prevent placement of explosives. Window sill heights must also be carefully analyzed to assure that a seated individual's head will not become a sniper target. Bullet resistant, one way and obscure glazing will be utilized where deemed appropriate.

Ventilation Systems and Air Intakes: Air intakes for the facility air circulation system must be carefully protected to avoid potential vulnerability to smoke and noxious fume attack.

Roof Surfaces: These will be substantially constructed to support helipad operations, offer fire blast protection and possibly a support systems tower.

Lighting Systems: Flexible, energy-efficient, task-oriented lighting must be provided. Engineers will design the system to conform to the individual needs of the users and the location within the facility.

Electronic Systems: A closed-circuit television system, CCTV, will be installed in all prisoner handling areas

including the sally port and booking/processing areas. This system will provide additional safety for both officers and prisoners. The CCTV will also be integrated with other facets to include training, intra-department communications, internal and external security and state-of-the-art remote transmissions of incidents occurring elsewhere in the City. .Computerized door access control system that will be linked to the department's management information system will be installed to provide maximum facility security. Also required is discrete interview room audio and video monitoring devices tied to central recording areas. Further, paging/intercom call stations that link areas not covered by the telephone network must be provided. Panic and intrusion alarms shall be required in key areas such as the communications center and the department armory. Additional electronic systems may be installed as deemed necessary.

Sound Isolation: Acoustical criteria will be provided to assure that critical areas, such as polygraph examination rooms, are isolated from airborne or vibration related low frequency noises. Sound transmission in the narcotics investigation section will also need to be properly controlled to allow necessary undercover telephone conversations.

Emergency Power: A secondary and redundant power supply system shall be installed to provide emergency power during power system failures. An uninterruptible power system shall also be installed to protect the department's computer software.

Evidence Storage: The evidence storage area must be highly organized and secure with viewing areas to help reduce the possibility of evidence tampering and to maintain proper chain of custody.

In addition to the eleven previously mentioned design aspects, there are other highly specialized needs which must be considered:

1. Photographic studios and darkrooms
2. Firearms proficiency range
3. Dispatch and communication centers
4. Short and long term detention facilities
5. Witness protection facilities
6. Court approved wiretap facilities
7. Video recording facilities for public service announcements
8. K-9 kennels
9. Computer environment for specialized equipment
10. Bio-hazard quarantine investigative spaces in the forensic lab due to AIDS
11. Training facilities
12. Library
13. Physical conditioning and locker facilities

At this point in the process, the architect shall begin to prepare a standard set of programming documents. The information that he will require is contained in the report of the project planning committee. However, it may be necessary for him to conduct further research as he begins to determine

the architectural details of the proposed facility.

Once the program documents are complete, they shall be submitted to the facility project committee for review and final approval before the architect begins to develop preliminary drawings for the project. The architectural program shall include the following documents:

1. An activity relationship diagram indicating work and traffic flow within the proposed building
2. A relationship matrix indicating the desire level of proximity between all of the major operational areas
3. A summary statement of the design criteria for each operational component
4. A relationship diagram for each major facility component indicating the spatial relationship
5. Personnel, equipment, and space analysis for each of the major facility component
6. Appropriate building codes
7. Zoning ordinances
8. Restrictive covenants
9. Subsurface investigation to determine site characteristics

The preliminary drawings of the proposed facility shall indicate in a schematic design, scale and relationship of the building components. At this time the architect shall also prepare an estimated cost for the project and a proposed time schedule for site preparation and construction.

When the project planning committee approves the schematic

design and site plan, the architect shall proceed with the development of a set of final drawings and other construction documents. He will then be in a position to enter into the building and negotiation phase of the project. Contract documents prepared by the architect should include specification of the material to be used, as well as equipment, construction systems and standards of workmanship.

Most facility building projects take several years to complete because of the complexity of the process. It is not uncommon for some projects to take up to ten years from the time the idea is first conceived. During this period of time, the organization can strengthen its financial position by taking a proactive role in the planning process.

The amount of public revenue that is available to the organization at the time of construction will depend greatly on the priority level the project is awarded by the community. The assessed priority is a direct reflection of the community's confidence in the ability of local law enforcement to accomplish police service goals in an effective manner. It is therefore incumbent upon the managers and staff personnel of this organization to continue to present the department's programs and services at an optimum level. The support of the community will be a great asset if the approval of a general bond is required to subsidize the funding of the building project.

In addition to public funds, the managers of this organization shall seek out different forms of creative

FIGURE 13

Commitment Planning

- WHAT DO YOU NEED FROM THE "CRITICAL MASS"?
- WHERE DOES "CRITICAL MASS" (INDIVIDUALLY) STAND NOW REGARDING THE CHANGE?

Actors in Critical Mass	TYPE OF COMMITMENT			
	Block Change	Let Change Happen	Help Change Happen	Make Change Happen
Chief of Police				
City Council		X →	→ O	
City Manager			OX	
Admin. Division Comm.			X →	→ O
Operations Division Comm			X →	→ O
Middle Managers			OX	
Police Officers Assoc.		O ←	← X	
Citizen Representatives		O ←	← X	
Land Developers	X →	→ O		

O = The minimum commitment for change to occur

X = Present degree of commitment

financing that will be available. They shall explore the financial aspects of the public private partnership (PPP) process, to include the positive and negative elements. This form of financing may be used as either an alternative or supplement to the available public revenue.

It is extremely important that all members of this organization not lose sight of the fact that the final project design will be strongly influenced by the amount of revenue that is attainable at the time of construction. This department must exhaust every alternative to assure organizational readiness when the challenges of the facility project are undertaken.

One key factor to remember when developing proactive philosophy is that the history involving the relationship between the organization and the community must first be understood, before you can successfully proceed into the future. This will enable the organization to make the appropriate course corrections as deemed necessary to achieve maximum effectiveness.

Based on the planning and proposed facility design aspects, as stated in this strategic plan, the prototypical design of the future high tech police facility must allow for inevitable changes by being viable, flexible and durable. It should be constructed on a site that allows for both horizontal and vertical expansion. It should be energy and space efficient, while taking advantage of all available and affordable high technology.

Administration and control. This aspect will provide specific detail to the implementation of the selected policy. Issues such as time lines, resource requirements, and action steps will be addressed.

Transition management plan - Prior to effective complex change taking place, the Chief Executive must have a clear assessment of the "Existing State" of the organization and those problems which currently manifest a need for change. It is imperative that he also possess a clear vision of both the organization's "Future State" as related to the change and those crucial steps that must be taken to achieve the "Desired State."

The successful arrival at the "Desired State" depends greatly upon a well defined transition plan which must include the following elements:

Management structure - To achieve the desired state of change, the Administration Division Commander was appointed to the role of Project Manager to lead the organization through transition period. He was selected because the changes did not require the hands on leadership of the C.E.O. nor can it be entrusted, due to its level of complexity to a lower management level in the organization.

The chief executive officer strongly believes that the Administration Division Commander has the managerial, technical and personal skills to facilitate the efficient and effective achievement of the desired state. In addition, the change involves the ongoing operation of the organization and a major

portion of the critical mass works under his command.

The administration division commander will be the "R" actor to see that decisions and actions occur while effectively identifying and using organizational resources. He is responsible for the coordination of activities and monitoring progress and feedback.

Critical mass identification. The identification of the minimum number of individuals or groups, who, if they support the change, ensure the project's success, and if they oppose the change.

In the selected strategy, several of the key individuals who comprise the critical mass relevant to the success of the change have been identified. Figure 13 illustrates their current level of commitment toward the strategic plan and also the minimum desired commitment that must be obtained before the change can occur.

1. Chief of Police: His level of commitment at all times is make change happen. As chief executive, he will take the lead role in defining the current state of affair as related to the facility and all the problems that exist. Further, he will clearly explain his vision and why he feels strongly about the need for change. He will appoint the administrative division commander as the transition manager to facilitate the effective achievement of the "Future State." The C.E.O. will, however, continue to have the final approval over significant changes or refinement and

the transition plan timetable which will help accomplish the successful change.

2. City Council: The present level of commitment is let change happen. They collectively support the strategic plan which gives them direct involvement in the planning and design phase; however, they are not fully convinced of the need for the plan. They are also concerned with possible political and financial ramifications. Because the City Council is a very powerful critical element with many resources, they must be persuaded to help change happen, which is the desired minimum level.

It is extremely important to the success of the change that the council help the organization develop a proactive plan to recognize and secure potential funding sources to finance the facility construction. To achieve the necessary degree of commitment, the awareness of the city council must be raised by employing the Problem Finding intervention strategy. This mechanism will allow both the organization and the council to get together to identify and clarify all aspects of the perceptual concerns and, thereby, hopefully result in the desired commitment.

3. City Manager: His present and future desired commitment is help change happen. He is not only a strong advocate of the police facility design strategic plan, but he is also actively seeking its

support from his political power base. His help is also required in obtaining the financial resources necessary to carry out the proposed changes.

4. Administration Division Commander: The commander's current level of commitment is helping change happen. As a administration division commander, he is involved in the research and development of the strategic plan. He shares and supports the envisioned "desired state." To successfully achieve the "Future State," the commander will assume the role of transition manager to facilitate the effective accomplishment of the goals. He must therefore have a minimum future commitment level of making change happen.

5. Operation Division Commander: He shares the same current and future levels of commitment as the Administration Division Commander that are required to achieve the "desired state." The operations division commander, however, has not been involved in the planning and does not share the same vision as the C.E.O. and the administration division commander. He perceives many problems that may be incurred in an attempt to reach the "Future State." Therefore, to achieve a minimum commitment of making change happen, the mechanism of problem finding has been used in order to clarify those issues of concern.

6. Middle Managers: The middle managers of the

organization support the change and agree with the desired "Future State." Their commitment, both current and future, is one of helping change happen which is the minimum level required for a successful transition. It is very likely that they will be called upon to be role models by clearly demonstrating their commitment to the organizational goals.

7. Police Officers Association: Selected members of the association have been involved in planning and constructing the strategic plan, which equals the commitment of helping change happen. They support the "desired state" envisioned by the C.E.O. To effect the change, a minimum commitment of the P.O.A. must be one of letting change happen.

   As a group, however, they do not totally support the change and the "desired state." There are several perceptual differences that exist which are leading to frustration and reluctance to change. To assist in solving the problem of resistance, managers must analyze the reasons to determine if there are any valued concerns and then evaluate and weigh them against the outcome. The managers must have a clear understanding of what is causing the resistance in order to work with it and reduce it.

8. Citizen Representatives: This group of individuals concerned with the priority of essential services is

currently helping change happen. They are committed to the strategic plan because they feel it will substantially help the department accomplish their police service goals more effectively. They have taken an active role in formulating the plan from an advisory position, which gives them direct input into the development of the "Future State" for the organization.

In this particular case the critical mass must be reversed to a lower level of letting change happen, which will be the desired level of commitment.

The Educational Intervention approach ought to be utilized to convince the citizens group that the desired "Future State" can best be accomplished with less of a commitment on their part. There must be a direct line of trusted communication established that will unify the interest of the citizens and the goals of the strategic plan. The citizens must be given certain assurances that will reduce their level of uncertainty and misperceptions of the "Future State." They must clearly understand their role and the importance to the success of the change.

9. Land Developers: The current commitment level of the land developers is one of blocking changes. They oppose the strategic plan on strictly a financial basis. Their one perception and concern is that part of the proactive approach to secure the needed

construction funds will come from raising developer fees. Their commitment level must be raised to a minimum of let change happen.

They must be shown that they stand to benefit economically if the proposed "Future State" is achieved which will help improve the image of the community through better law enforcement services. This will make the area more attractive to potential home buyers and businesses. The awareness level of the developers must be raised through the Educational Intervention process which will clarify the desired goals.

Technologies and methods. The success of the change depends greatly upon the ability of the organization to cope with the intrinsic and extrinsic factors that can erode or defeat the achievement of the desired "Future State." To prevent these setbacks, the environment and capabilities of the organization will be tested before and during the implementation.

There are many methods available that can be employed to prevent or reduce some of the inherent threats caused by change. Focus must be maintained on the change with a clear vision of the "current state" of the organization and the "desired state" planned. Once this has been attained the following steps to change must be followed:

Readiness/capability assessment. The critical mass will be assessed as to their readiness and capability toward

the proposed changes as stated in the facility design strategic plan. The results will then be used to help focus attention on the areas that must be worked on to improve the ability of the organization. Figure 14 illustrates the results of the analysis.

Responsibility charting. Role expectations and responsibilities will be clearly defined during the transition state. To help accomplish this, a responsibility chart has been prepared to reduce ambiguity, wasted energy, and adverse emotional reactions. The chart consists of a list of actions, decisions or activities that are interrelated and a list of actors, the people involved in the action or decision. (See Figure 15.)

Time line. A Program Evaluation Review Technique (PERT) chart will be prepared to help the effected personnel plan their activities and tasks for the correct time period. This chart will serve as a time line mechanism that will illustrate critical events during the transition period, including: when moves will take place, installation of equipment will occur, when meetings will be held, when the new structure will be operational, etc. A key element that will be part of the time line is the "neutral zone," which is the gap between the old ways and the new, a space where both the old and the new overlap but neither works. During this period personnel shall reflect on the success and failure and take advantage of new opportunities. This is also a good point for the organizational managers to evaluate the

progress of change to determine if they have arrived at an acceptable midpoint state.

Resource management. The critical resource that is essential to the success of this transition is money. It is imperative that the financial resource be substantial enough to go from the pre-design phase to the operational phase. The organization vision and mission are both driven by the availability and anticipated availability of capital resources. Without the required financial support the transition process will fail.

Reward system. A reward system will be established to encourage creativity by providing incentives for innovation. This system is designed to keep the people looking forward to new approaches and ideas. The criteria for receiving the rewards will be based on planning, creativity, and active development. Production and stability will continue to be rewarded as in the past.

Flexibility. The organization managers and staff must remain flexible during the change process so they can adapt to contingency plans that may be required if the unexpected occurs. Flexibility will also allow the managers to consider the pace of the change, make adjustments if necessary, and set new directions as needed.

Performance feedback. Two methods to evaluate and review the change process will be employed by the organization. First, a series of meetings will be conducted on a regularly scheduled basis to solicit input from all

FIGURE 14

Readiness/Capability

Fill in the following chart as it applies to your situation. In the left-hand column, list the individuals or groups who are critical to your own change effort. Then rank each (high, medium, or low) according to their readiness and capability with respect to the change.

	Readiness			Capability		
	High	Medium	Low	High	Medium	Low
1. Chief Executive Officer	XX			XX		
2. City Council		XX		XX		
3. City Manager	XX			XX		
4. Administration Division Comm.	XX				XX	
5. Operations Division Comm.		XX			XX	
6. Middle Managers	XX				XX	
7. Police Association		XX			XX	
8. Citizen Advisors		XX				XX
9 Land Developers			XX		XX	

FIGURE 15

Responsibility

R = Responsibility (not necessarily authority)
A = Approval (right to veto)
S = Support (put resources toward)
I = Inform (to be consulted)
— = Irrelevant to this item

Actors

Decision	C.E.O.	Project Team Manager	City Manager	City Council	Project Planning Team	Police Association	Non-Sworn Personnel									
Formulate Strategtic Plan	R	A	I	S	S	S	S									
Financial Resource Planning	S	I	R	A	I	S	-									
Site Selection	A	S	A	A	R	I	I									
Hiring of Consultants	A	R	S	A	S	-	-									
Final Design Concept	A	S	S	A	R	I	I									
Selection of Building Materials	S	R	I	I	A	I	-									
Length of Project	I	A	I	I	R	I	I									

members of the organization. To facilitate the meetings process, the organization will be separated into three sub-groups -- executive, management and staff. Each sub-group will meet and discuss accomplishments, programs that worked well, adjustments, and changes.

The sub-groups will then meet collectively in an open forum to discuss the results of their meetings. The data disclosed will be recorded and utilized as required during the remainder of the transition process. It shall be understood that the feedback data will flow in both directions in the organization, from top to bottom and vice versa.

In addition to the meetings, managers and staff personnel will complete an anonymous monthly progress evaluation form throughout the duration of the transition period. The evaluation will assess the same major components that are discussed in the meetings; for those employees who may be inhibited during the meetings can now give open and honest feedback without fear of reprisal.

It is imperative that the above mentioned technologies and methods be incorporated in the transition plan to reduce the confusion which may lead to frustration, resulting in failed plans.

Lastly, the essential element of all planning is strong leadership that provides the bond which holds the idea (visions) and resources together allowing for a winning conclusion.

Conclusions and Future Implications

This study project provides a comprehensive analysis of the emerging organizational and environmental issues which have a critical impact on the future design of high tech police facilities. The data compiled and distilled has been used to develop the three implementation phases of the project.

The first phase is to develop future scenarios to show what may transpire and have a decisive affect on the issue and sub-issues. Of the three scenarios that were written, the normative "should be" has been selected as the one that best characterizes the "desired state." A future has been portrayed that is attainable through hard work and thorough planning. This is illustrated by the ten year team effort put forth by the organization and the community, combined with the scanning techniques utilized over the entire time period. These determined efforts are what lead to the council's approval of the facility plans.

In the second phase of the project, strategic alternatives have been developed to address the issue. Through the use of the modified policy delphi technique, one strategy has been selected as the most appropriate. This selected policy calls for the formation of a project design team that will analyze all critical data that is assembled and translate it into present and future operational requirements by setting goals, collecting facts, uncovering concepts, and conducting a feasibility study on the available financial resources, space and quality of work required. The policy further states that

three key elements must be incorporated into the design of the structure to allow for a 25-35 year life span; they are viability, flexibility, and durability.

The third phase is the transition plan. The goal of this process is to provide direction for the organization to successfully deal with change. This is achieved through the development of the following steps:

(1) The management structure is selected and put into place; the individual who is chosen as project manager possesses the critical leadership and interpersonal skills that are required.

(2) The critical mass and their level of commitment are identified; these individuals provide the necessary energy for change to occur.

(3) The responsibility of key actors is identified to reduce ambiguity, wasted energy and adverse emotional reactions.

(4) The readiness/capability of the critical mass is assessed as to their abilities toward the proposed changes.

(5) A time line with the aid of a PERT chart is prepared to help personnel plan their activities and tasks for the correct time periods.

(6) Resource management is identified as being essential to the success of transition.

(7) A reward system is established to encourage creativity, and providing incentive for innovation.

(8) Flexibility must be maintained during change, allowing managers to make adjustments if necessary.

(9) Performance feedback mechanisms were employed to for review of the change process.

The above steps are essential to the transition plan to reduce confusion, frustration and the opportunity for failure.

In conclusion, based on all the facts and data as assembled in the project document, it is clear that the planning process of a future high tech police facility is complex. Project planning, however, can be made less complicated if all the environmental factors which may have a direct impact on the planned changes are identified and evaluated for relevance. It is incumbent upon the project manager to recognize the potential for both threats and opportunities that may arise during the process and use them to the organization's advantage. Project managers who fail to read or misinterpret the future emerging issue indicators will have a diminished chance of success.

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APPENDIX A

Candidate Trends

1. Advances in high technology for the public sector
2. Rising crime rate
3. Public demand for services with same or less revenue
4. Imposed spending limits on local and state government
5. Declining public support for law enforcement
6. Legislative requirements impacting law enforcement
7. Work at home alternative on the rise
8. The widespread use of laser technology
9. Limited alternative funding sources for public safety
10. The rising cost of high tech equipment
11. The development of true artificial intelligence
12. Demographic changes in the community
13. House arrest
14. Voice input computers
15. Expert law enforcement computer-based system
16. True portable computers
17. Direct broadcast satellites
18. AIDS related deaths
19. Escalating construction costs
20. Technological advances in building materials

APPENDIX B

Candidate Events

1. Point-to-point portable satellite telephone system for commercial use is developed.
2. Wristwatch size computers and radios with the capabilities of receiving, storing and transmitting information becomes available for law enforcement use.
3. The commercial use of nuclear fission becomes technically feasible.
4. The "artificial reality" training simulators are in use by law enforcement.
5. Use fees for municipalities is capped by the courts.
6. Mass production occurs of hybrid automobiles for law enforcement which utilize battery power plus an auxiliary fuel source.
7. The use of optical laser disc technology is becoming widespread.
8. Electronic libraries. Professional libraries are all electronic, with books or articles printed on demand.
9. Software is developed that allows communication between all major computers regardless of data format.
10. Construction costs are reduced by 25% due to the widespread use of prefabricated building materials.
11. The State legislature mandates that all new public safety buildings must be constructed to withstand an 8.5 earthquake.

12. The law requires that all jail and holding facilities install television surveillance to improve staff and inmate safety.
13. A local area ordinance is passed requiring all municipal buildings be designed and constructed by local firms.
14. Courts ruled that general obligation bonds can no longer be used for the construction of government buildings.
15. The State legislature mandates the ratio of sworn officers per 1,000 population.
16. A taxpayers revolt occurred (e.g., Proposition 13 type) which dictated the percentage of expenditure of public funds for public safety construction.
17. Computers capable of orally translating simple sentences spoken in one language to another language are developed.
18. The State legislature mandates new laws increasing the responsibility of law enforcement which puts a strain on existing resources and reducing the amount of funds allocated for building expenses.
19. County services (helicopter crime lab, etc.) are no longer provided by the Sheriff's Department.
20. Staff mandated growth controls are imposed on local area communities which limit annual growth.