

# Appendices

## PERFORMANCE AUDIT OF THE PIERCE COUNTY SHERIFF'S DEPARTMENT

for

Pierce County Performance Audit Committee

June 8, 2001

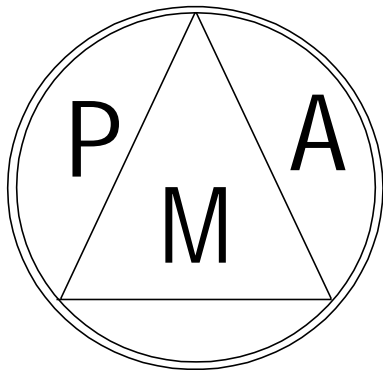
George J. Sullivan

Peter Bellmio

George Hubler

Scott Somers

Ben Adkins



**Police Management Advisors**

7308 Calle de Fuente

Carlsbad, CA 92009

## Table of Contents—Appendices

<i>Chapter Title and Appendix Number</i>	<i>Appendix Title</i>	<i>Page</i>
<b>I. Introduction</b>		
I	Detailed List of Potential Performance Measures	1
<b>II. Information Issues</b>		
II-A	Information and Analysis Assessment: Survey of Pierce County Sheriff's Department	6
II-B	Detailed List of Crime Analysis Products and Services	13
II-C	Detailed List of Information Systems Data and Reports	19
<b>III. Patrol</b>		
III-A	Overview of Managing Patrol Performance	25
III-B	Staffing Adjustment Factors Worksheets	29
III-C	Patrol Staffing Level Options	31
<b>IV. Investigations</b>		
IV-A	Clearance Rates of Major Crimes, 1999	61
IV-B	Investigative Outcomes for Part I Crimes, 1998	66
IV-C	Investigative Staffing Analysis	69
IV-D	Investigative Case Management System	70
<b>V. Support Services</b>		
V-A	Air Support Unit Activity, 1999	76
V-B	Traffic Workload	77
V-C	Community Policing Capability Survey	79
<b>VI. Organization</b>		
VI	Organizational Models	86

## Appendix I Detailed List of Potential Performance Measures

### PATROL

Performance Measures	
Type	Description
Outcome	<ul style="list-style-type: none"> <li>A. Part one crimes committed per 1,000 population by patrol zone (and whether this is an increase or decrease over previous year). Depending on area, develop a target or objective and state it as "achieved objective of reducing crimes per 1,000 by_____."</li> <li>B. Achieved patrol zone customer satisfaction survey results objective of 75 percent + indicating patrol activities good or excellent.</li> <li>C. Achieved objective of seven (or 6.5) minute response time to priority one (1) calls throughout the county.</li> <li>D. Achieved objective of 40 percent proactive time for community oriented problem solving.</li> <li>E. Number of injuries resulting from crime in patrol zone(s) (and whether this is an increase or decrease over last year).</li> <li>F. Percentage of citizens who feel safe or moderately safe (customer survey) and whether this is an increase or decrease over last year.</li> <li>G. Decreased in calls from repeat locations.</li> <li>H. Increased directed patrol activities such as school and store checks.</li> <li>I. Percentage of calls for service for domestic quarrels and other disturbances with no arrest and no second call within eight hours.</li> <li>J. Percentage of adult arrests resulting in conviction on at least one charge.</li> <li>K. Percentage of adult arrests that survive prosecutor review and preliminary hearing.</li> <li>L. Number of accidents.</li> <li>M. Number of fatal accidents.</li> <li>N. Injury accidents as a percentage of total accidents.</li> <li>O. Occurrence of DUI related fatality accidents.</li> <li>P. Percent of traffic accidents in which seat belts were not in use.</li> <li>Q. Number of assists provided to other units.</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>A. Patrol response time to critical emergencies (priority one calls).</li> <li>B. Gang related incidents cleared by arrest or other.</li> <li>C. Number of substantiated internal investigation complaints of police misconduct.</li> <li>D. Total number of citizen complaints.</li> <li>E. Victims per capita.</li> <li>F. Percentage of seat belt use violators attending seat belt education class.</li> <li>G. DUI arrests versus DUI related accidents.</li> <li>H. Percentage of DUI arrestees convicted in court.</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>A. Cost per call for service.</li> <li>B. Average time per call for service.</li> <li>C. Average administrative time of officers on patrol County wide.</li> <li>D. Percent of time all cars are busy.</li> <li>E. Average uncommitted time per car.</li> <li>F. Average number of free cars.</li> <li>G. Ratio of citations issued per hour of traffic patrol time.</li> <li>H. Cost per citation issued.</li> <li>I. Number of accidents investigated per officer.</li> <li>J. Number of accident reports written per officer.</li> </ul>

Workload	<ul style="list-style-type: none"> <li>A. Number of dispatched emergency and non-emergency calls.</li> <li>B. Number of complaints taken.</li> <li>C. Number of felony arrests.</li> <li>D. Number of misdemeanor arrests.</li> <li>E. Number of warrant arrests.</li> <li>F. Number of officer self-initiated activities.</li> <li>G. Number of gang family interventions.</li> <li>H. Number of problem solving exercises undertaken with community.</li> <li>I. Percent of time officers spend in court.</li> <li>J. Citations issued.</li> <li>K. Accidents investigated and reports written.</li> <li>L. Traffic service requests.</li> <li>M. Traffic safety presentations made.</li> </ul>
----------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## INVESTIGATIONS

Performance Measures	
Type	Description
Outcome	<ul style="list-style-type: none"> <li>A. Achieved case quality control objectives of Sheriff and Prosecutor.</li> <li>B. Achieved objective of clearing an average of 70 percent of all cases.</li> <li>C. Achieved objective of 75% good or excellent ratings from survey of victims of crimes against persons or property (by type) in which the victim comes in contact with a detective.</li> <li>D. Percentage of cases cleared, where the perpetrator was identified as compared with the number of cases assigned.</li> <li>E. Property recovered as a percentage of property stolen measured by value.</li> <li>F. Number of individuals being monitored by detectives arrested again for criminal activity.</li> <li>G. Percentage of cases that survive preliminary court hearing.</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>A. Number and percentage of cases cleared by detectives by all means.</li> <li>B. Number and percentage cleared by detectives by arrest.</li> <li>C. Number and percentage of cases cleared by exception.</li> <li>D. Percentage of cases where property is recovered.</li> <li>E. Value of property recovered.</li> <li>F. Percentage of crimes against persons/juvenile assault cases cleared (where the perpetrator was identified).</li> <li>G. Percentage of cases prosecuted where conviction was obtained.</li> <li>H. Percentage of cases by type cleared within 30 days.</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>A. Cost per investigation.</li> <li>B. Average caseload of detectives over reporting period.</li> </ul>
Workload	<ul style="list-style-type: none"> <li>A. Number of assigned cases over the reporting period.</li> <li>B. Percent time spent in court on cases.</li> <li>C. Percent of cases having the lowest potential for solvability.</li> <li>D. Number of property crimes where items are stolen.</li> <li>E. Number of hours required searching pawn shop records.</li> <li>F. Number of person crimes/juvenile assault cases cleared (where perpetrator was identified).</li> </ul>

## COMMUNITY POLICING AND COMMUNITY SERVICE

Performance Measures	
Type	Description
Outcome	<ul style="list-style-type: none"> <li>A. Number of neighborhood problems defined and solved or resolved.</li> <li>B. Number of "assists" provided in organizing or revitalizing neighborhood associations and neighborhood watch programs.</li> <li>C. Achieved objective of receiving good or excellent ratings in neighborhood satisfaction surveying.</li> <li>D. Achieved objective of receiving good or excellent ratings in school teacher/principal satisfaction surveying. (DARE/SCHOOL RESOURCE)</li> <li>E. Number of graduates from the Citizens Academy annually.</li> <li>F. Assists provided in reclaiming and revitalizing neighborhoods.</li> <li>G. Reduction of calls for patrol service in neighborhoods serviced.</li> <li>H. Reduction in crime rate in neighborhoods serviced.</li> <li>I. Positive changes in site plan/projects due to CEPTED reviews.</li> <li>J. Citizen participation increases in community affairs programs.</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>A. Reduction of calls for service due to decrease in juveniles and others congregating and creating nuisances in commercial areas.</li> <li>B. Number of juveniles arrested for drug or alcohol offenses.</li> <li>C. Percent of false alarms reduced.</li> <li>D. Requests from residents for assistance from COPS personnel in resolving problems with other county agencies.</li> <li>E. Number of participants in police youth activity vs. activity in previous year.</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>A. COPS Unit budget per capita.</li> <li>B. Number of hours per problem project.</li> <li>C. Percent of volunteer hours to total COPS Unit FTE hours.</li> <li>D. Dollar cost per citizen academy.</li> <li>E. Dollar cost per DARE student.</li> <li>F. Crime prevention budget per capita.</li> <li>G. Cost per CEPTED survey.</li> <li>H. Number of neighborhood projects undertaken coactively (in collaboration with) neighborhood residents.</li> </ul>
Workload	<ul style="list-style-type: none"> <li>A. Number of citizen academy hours worked by officers.</li> <li>B. Number of complaints taken by the COPS officer.</li> <li>C. Number of arrests made by COPS officer.</li> <li>D. Number of false alarm responses.</li> <li>E. Number of meetings and presentations sponsored by COPS program.</li> <li>F. Number of DARE and School Resource surveys returned annually.</li> <li>G. Number of reported criminal incidents at middle schools and high schools.</li> </ul>

## BUDGET AND FISCAL

<b>Performance Measures</b>	
<b>Type</b>	<b>Description</b>
Outcome	<ul style="list-style-type: none"> <li>A. Budget provides for sufficient funding to accomplish PCSD's basic program without requesting supplemental funding from County Council.</li> <li>C. Budget is submitted in a timely manner in accordance with time lines and meets County and professional (GFOA) budget requirements.</li> <li>D. Achieves and enforces, on behalf of the Chief, budget implementation objective of providing timely notice to operating and management officials of potential overruns and excessive use of overtime.</li> <li>E. Establishes and enforces on behalf of the Sheriff internal controls that comply with professional standards and those of the County.</li> <li>F. Achieves objective of no material internal control deficiencies in the annual audit.</li> </ul>
Effectiveness	<ul style="list-style-type: none"> <li>G. Number of bids and contracts administered and magnitude of contracts.</li> <li>H. Number of and percentage of contracts administered that are completed in accordance with the timeline in the contract.</li> <li>I. Number of budget betterments approved.</li> <li>J. Number of budget amendments requested of County</li> <li>K. Number and value of grants "financially administered."</li> <li>L. Number and type of material deficiencies reported in financial audits of grants.</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>M. Hours spent to develop annual budget.</li> <li>N. Hours spent on grant financial administration and cost.</li> <li>O. Grants canceled due to inadequate financial administration.</li> </ul>
Workload	<ul style="list-style-type: none"> <li>P. Magnitude of overall budget.</li> <li>Q. Number of budget betterments and changes requested.</li> <li>R. Number and type of annual audits.</li> <li>S. Activity/transaction levels.</li> <li>T. Number of special projects assigned.</li> </ul>

## Support and Services

Performance Measures	
Type	Description
Outcome and Outputs	<p><b><u>Records</u></b></p> <p><b><u>Record/Case Filing</u></b></p> <p>A. Total reports filed.</p> <p>B. Total documents processed.</p> <p>C. Number of customers serviced at counter.</p> <p>D. Number of complaints for poor service at the counter by the public.</p> <p>E. Number of complaints for poor service by law enforcement/criminal justice personnel.</p> <p>F. Total money from sale of records and service.</p> <p>G. Ratio of actual costs of service to revenues received.</p> <p>H. Annual update of fees and charges to maximize revenue.</p> <p>I. Number of internal control and material deficiencies in annual and special financial audits.</p> <p><b><u>Record Data Input</u></b></p> <p>J. Achieved initial quality control goal of less than 6 percent overall error rate in entering data into computer system.</p> <p>K. Established quality control checks to further reduce error rate to 2%.</p> <p>L. Entered data from a total of _____ reports.</p> <p><b><u>Property and Evidence</u></b></p> <p>Q. Total evidence submissions during reporting period.</p> <p>R. Gun submissions.</p> <p>S. Narcotic submissions.</p> <p>T. Number of auctions held and funds received.</p> <p>U. Total annual forfeitures.</p> <p>V. Achieved passing evaluation on audits and command and staff inspections and on independent audits</p> <p>W. Number of chain of evidence violations.</p> <p>X. Total weapons and contraband destroyed.</p>

## Appendix II-A

### Information and Analysis Assessment: Survey of Pierce County Sheriff's Department

The following pages present a number of items that relate to Pierce County Sheriff's Department's present capability to provide officers, supervisors, and administrators with information that could support the Department's *administrative, strategic, and tactical* responses to crime and disorder problems.

You are asked to grade each item with respect to what extent Pierce County has that capability, *FROM YOUR PERSPECTIVE*.

Please use the following definitions as you assign grades to each item.

- A = Excellent:** Nearly no improvement needed
- B = Good:** Little improvement needed
- C = Fair:** Moderate improvement needed
- D = Marginal:** Much improvement needed
- F = Poor:** Considerable improvement needed
- U = Unknown:** Not sure of Department's capability

Please use the following criteria, *when appropriate*, while assigning a grade to each item:

1. **RELEVANCE** – Information/Analysis supplied by Pierce County Sheriff's Department is pertinent to the problem.
2. **COMPLETENESS** – All important data items are provided in sufficient detail.
3. **TIMELINESS** – Information is easily accessible most of the time with little or no delay, and it is reasonably up-to-date.
4. **USER FRIENDLY** – Information is presented in a way that is clear and easy to understand.

*Please grade ALL items, if you are unsure of any capability circle U (unknown)*

To the best of your knowledge, The Sheriff's Department:

**Circle How Well It's Done**

#### **Part I – Supporting Strategic Responses to Crime/Disorder**

- |                                                                       |   |   |   |   |   |   |
|-----------------------------------------------------------------------|---|---|---|---|---|---|
| 1. Forecasts when and where crime is likely to increase.              | A | B | C | D | F | U |
| 2. Identifies many of the factors that affect crime trends.           | A | B | C | D | F | U |
| 3. Provides statistics that identify emerging crime/disorder problems | A | B | C | D | F | U |

- |                                                                                                   |             |
|---------------------------------------------------------------------------------------------------|-------------|
| 4. Suggests patrol deployment levels by area, time, day of week.                                  | A B C D F U |
| 5. Relates calls-for-services to crime/disorder problems                                          | A B C D F U |
| 6. Calculates detective workload based on crime trends.                                           | A B C D F U |
| 7. Produces in-depth analysis of persistent crime problems                                        | A B C D F U |
| 8. Presents profiles of geographic areas including problems, resources, and subjects of interest. | A B C D F U |
| 9. Gives the recent crime picture by geographic area.                                             | A B C D F U |
| 10. Analyzes & interprets community survey results.                                               | A B C D F U |
| 11. Provides statistics on arrests and case clearances.                                           | A B C D F U |
| 12. Projects patrol & detective workload on seasonal trends.                                      | A B C D F U |
| 13. Identifies physical/environmental conditions that contribute to crime/disorder problems.      | A B C D F U |
| 14. Produces patrol workload and performance measurements.                                        | A B C D F U |
| 15. Computes likelihood of victimization for various target groups and specific locations.        | A B C D F U |
| 16. Develops crime pattern information for citizens at risk.                                      | A B C D F U |
| 17. Calculates patrol allocation by geographic area.                                              | A B C D F U |
| 18. Correlates Field Interview, citation, and arrest data with crime/disorder problems.           | A B C D F U |

## **Part II – Supporting Administrative Responses to Crime/Disorder**

- |                                                                                              |   |   |   |   |   |   |
|----------------------------------------------------------------------------------------------|---|---|---|---|---|---|
| 19. Provides data to determine feasibility of new laws and ordinances.                       | A | B | C | D | F | U |
| 20. Determines if particular crime/disorder efforts are working.                             | A | B | C | D | F | U |
| 21. Computes cost-effectiveness of particular programs and procedures.                       | A | B | C | D | F | U |
| 22. Assesses how well current case screening is working.                                     | A | B | C | D | F | U |
| 23. Evaluates law enforcement strategies and tactics.                                        | A | B | C | D | F | U |
| 24. Calculates long-term workload and staffing projections.                                  | A | B | C | D | F | U |
| 25. Supports training efforts by supplying statistics and examples.                          | A | B | C | D | F | U |
| 26. Develops systems for regular exchange of crime and offender data with other agencies.    | A | B | C | D | F | U |
| 27. Generates statistics/analyses for licensing decisions.                                   | A | B | C | D | F | U |
| 28. Assesses impact of community redevelopment, annexations, and growth on police resources. | A | B | C | D | F | U |
| 29. Forecasts service levels based on community changes.                                     | A | B | C | D | F | U |
| 30. Presents training programs on information gathering and utilization.                     | A | B | C | D | F | U |

## **Part III – Supporting Tactical Responses to Crime/Disorder**

- |                                                                                                      |   |   |   |   |   |   |
|------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|
| 31. Determines if a particular case is part of a series.                                             | A | B | C | D | F | U |
| 32. Lists possible suspects to current investigations.                                               | A | B | C | D | F | U |
| 33. Lists cases an in-custody suspect may be good for.                                               | A | B | C | D | F | U |
| 34. Lists cases where a particular weapon may have been used.                                        | A | B | C | D | F | U |
| 35. Provides all want/warrant data on particular suspects.                                           | A | B | C | D | F | U |
| 36. Verifies identities of in-custody suspects.                                                      | A | B | C | D | F | U |
| 37. Identifies cases where recovered property (with or without serial numbers) may have been stolen. | A | B | C | D | F | U |
| 38. Lists crimes or persons associated with a vehicle.                                               | A | B | C | D | F | U |

- |                                                                                         |             |
|-----------------------------------------------------------------------------------------|-------------|
| 39. Provides names of possible suspects from latent prints.                             | A B C D F U |
| 40. Lists possible suspects from tattoo, oddity, or other descriptions                  | A B C D F U |
| 41. Lists suspects names from drawings, photographs, and composites                     | A B C D F U |
| 42. Names persons F.I.'d or cited by geographic area, time span, and crime potential.   | A B C D F U |
| 43. Lists possible vehicles a person may be associated with.                            | A B C D F U |
| 44. Lists cases of different types that may be related.                                 | A B C D F U |
| 45. Provides profiles of likely targets for on-going problems.                          | A B C D F U |
| 46. Identifies addresses/specific locations as potential targets.                       | A B C D F U |
| 47. Relates one fraudulent document to other ones.                                      | A B C D F U |
| 48. Names and describes associates of a particular subject.                             | A B C D F U |
| 49. Gives possible identities from nickname or AKA.                                     | A B C D F U |
| 50. Gives probable locations where a subject may be found.                              | A B C D F U |
| 51. List items pawned, by date, for any given subject.                                  | A B C D F U |
| 52. Gives names of anyone pawning certain items/number of items.                        | A B C D F U |
| 53. Provides <u>complete</u> work-up on any current crime pattern.                      | A B C D F U |
| 54. Lists possible suspects on the basis of M.O.                                        | A B C D F U |
| 55. Identifies vehicles from partial license numbers or unique descriptors.             | A B C D F U |
| 56. Alerts concerned personnel when a particular subject is F.I.'d, cited, or arrested. | A B C D F U |
| 57. Forecasts locations, dates and times of emerging crime patterns.                    | A B C D F U |
| 58. Draws links among criminal associates/locations/events                              | A B C D F U |
| 59. Identifies residents/owners of potential crime targets.                             | A B C D F U |
| 60. Detects or verifies emerging crime patterns.                                        | A B C D F U |

## Summary Results of Survey

On average, respondents rated each informational support category in the "marginal" or "D" range, although some items scored higher or lower than the category averages. In compiling the results, it seemed advantageous to use the ratings of the groups most familiar with the category of decision making. It was therefore decided to use the scores from the manager and supervisor groups for the Administrative and Strategic decision making support.

For the Tactical decision making support, it was thought that those personnel closest to tactical problems on a day-to-day basis—patrol officers and detectives—would be more accurate in their perceptions. To better reflect the magnitude of those informational issues in need of attention, it was further decided to list each item on the survey with the corresponding letter grade averaged from the above groups. These expanded ratings appear below.

<u>Information/Analytical Capability</u>	<u>Average Rating</u>
<i>I - Strategic Support</i>	<u>N = 20</u>
1. Forecasts when and where crime is likely to increase.	D
2. Identifies many of the factors that affect crime trends.	D+
3. Provides statistics that identify emerging crime/disorder problems.	D+
4. Determines patrol deployment by area, time of day, day of week.	D
5. Analyzes & interprets community survey results.	D+
6. Calculates detective workload based on trends.	D
7. Produces in-depth analysis of persistent crime problems.	D
8. Presents profiles of geographic areas including problems, resources, and subjects of interest.	C-
9. Gives the recent crime picture by geographic area.	C-
10. Analyzes & interprets community survey results.	D
11. Provides statistics on arrests and case clearances	D
12. Projects patrol & detective workload based on upcoming events and seasonal trends.	F
13. Identifies physical/environmental conditions that contribute to crime/disorder problems.	D
14. Produces patrol workload and performance measurements.	D
15. Computes likelihood of victimization for various target groups and for specific locations.	D-
16. Develops crime pattern information for citizens at risk.	D-
17. Calculates patrol allocation by geographic area.	D
18. Correlates F.I's, cite and arrest data with crime/disorder problems.	F

*II - Administrative Support*

N = 20

- |                                                                                            |    |
|--------------------------------------------------------------------------------------------|----|
| 19. Provides data to determine feasibility of new laws and ordinances.                     | D  |
| 20. Determines if particular crime/disorder controls are working.                          | D  |
| 21. Computes cost effectiveness of particular programs and procedures.                     | D  |
| 22. Assesses how well current case screening is working.                                   | D  |
| 23. Evaluates law enforcement strategies and tactics.                                      | D  |
| 24. Calculates long-term workload and staffing projection.                                 | D- |
| 25. Supports training efforts by supplying statistics & examples.                          | D  |
| 26. Develops systems for regular exchange of crime and offender data with other agencies.  | D  |
| 27. Generates statistics/analyses for licensing decisions.                                 | D+ |
| 28. Assess impact of community redevelopment, annexations, and growth on police resources. | D+ |
| 29. Forecasts service levels based on community changes.                                   | D- |
| 30. Presents training programs on information utilization.                                 | D- |

*III - Tactical Support*

N = 55

- |                                                                                                      |    |
|------------------------------------------------------------------------------------------------------|----|
| 31. Determines if case is part of a series                                                           | C  |
| 32. Lists possible suspects to current investigation                                                 | C  |
| 33. Lists cases an in-custody suspect may be good for.                                               | D+ |
| 34. Lists cases where a particular weapon may have been used.                                        | D+ |
| 35. Provides all want/warrant data on suspects                                                       | D+ |
| 36. Verifies identities of in-custody suspects                                                       | C  |
| 37. Identifies cases where recovered property (with or without serial numbers) may have been stolen. | D  |
| 38. Lists crimes or persons associated with a vehicle                                                | D+ |
| 39. Provides names of possible suspects from latent prints                                           | C  |
| 40. Lists possible suspects from tattoo, oddity or other description.                                | C- |
| 41. Lists suspect names from drawings, photos, and composites                                        | D+ |
| 42. Names persons F.I.'d. or cited by area, time span and crime potential                            | D  |
| 43. Lists possible vehicles a person may be associated with                                          | D  |
| 44. Lists cases of different types that may be related.                                              | D+ |
| 45. Provides profiles of likely targets for on-going problems.                                       | D+ |
| 46. Forecast addresses/specific locations of potential targets.                                      | D+ |
| 47. Relates one fraudulent document to others.                                                       | D  |
| 48. Names and describes associates of a particular subject                                           | D+ |
| 49. Gives possible identities from nickname or AKA                                                   | C  |
| 50. Gives possible locations where a subject may be found                                            | D+ |

- |                                                                                         |   |
|-----------------------------------------------------------------------------------------|---|
| 51. Lists articles pawned, by date, for any given subject.                              | C |
| 52. Gives names of anyone pawning certain items/number of items.                        | C |
| 53. Provides <u>complete</u> work-up on any current crime pattern.                      | D |
| 54. Lists possible suspects on the basis of M.O.                                        | D |
| 55. Identifies vehicles from partial license numbers or unique descriptors.             | D |
| 56. Alerts concerned personnel when a particular subject is F.I.'d, cited, or arrested. | D |
| 57. Forecasts dates and times of emerging crime patterns.                               | D |
| 58. Draws links among criminal associates/locations/events.                             | D |
| 59. Identifies residents/owners/ of potential crime targets.                            | D |
| 60. Detects or verifies emerging crime patterns.                                        | D |

From these ratings assigned by Sheriff's Department personnel, it is clear that major improvements are needed in information support.

## Appendix II-B

### Detailed List of Crime Analysis Products and Services

Chapter II discusses information support in the Sheriff's Department, focusing on the need for crime analysis. This appendix reviews various kinds of crime analysis products and services that the Department should consider.

#### Administrative Crime Analysis

These activities involve developing statistics, providing UCR reports, and preparing reports for Department and County managers, contract city officials, and the press. These reports can be used for resource management. They also can allow the public to compare their community with others. Some specific crime analysis applications for administrative decision making are shown below.

*Program Evaluations* provide valid, precise and applicable information for managerial decision making. Program evaluations should include process evaluation, which is essentially a systematic observation and documentation of plans, operations, decisions, and activities. Outcome evaluation, in contrast, is an assessment of the ultimate results of the same. Crime analysis data may be used to assess the impact or success of strategic plans or tactical operations. Examples include evaluating special department operations, hidden camera or alarm programs, or the effect of field interviews on street crime. Recently, many crime analysis units have begun evaluating the implementation of Community Policing and problem solving within their departments. This is an activity well suited to a full-service crime analysis unit.

*Cost-Effectiveness Studies* link organizational resources to the intended impact. These studies provide a "common denominator" to assist in choosing between two or more alternatives. However, a cost effectiveness study presupposes a competent evaluation and defensible assumptions to avoid the dangers of making decisions based on economics alone. Examples include assessing teleserve call responses *versus* mobile responses, or comparing random patrol to directed patrol.

*Long Range Planning Support* provides reports that assist in developing effective contingency and strategic plans. The role of crime analysis is to define issues and variables, select a forecasting model, gather and analyze data, and interpret the results. Applications include analyzing workload to determine the most advantageous use of available staff, providing data upon which to base assignments in response to varying shift, geographic, seasonal and day of week demands, and developing patrol deployment models, workload equalization, staff adjustments, hiring cycles, and budget support.

*Governmental Support Studies* help administrators assess the potential impact of decisions regarding licensing of certain businesses or particular establishments, zoning, annexations, laws and ordinances, new development projects, contracting for police services, and so forth.

## **Operational Crime Analysis**

These activities involve performing analytical techniques on field-generated data (crime and arrest reports, field interviews, calls for service, citations, etc.) to assist operating units. The analysis and resulting reports are intended to assist problem solving and decision making in both the short term or narrow scope (tactical) and longer term or broad scope (strategic).

*Strategic Crime Analysis* provides studies, reports, and planning support which benefit long term operations and is often broad in scope or is meant to support a wide range of tactical operations.

1. *Exception Reports* highlight increases in crime/disorder frequencies without many specifics such as times, addresses, suspects, and serve as an alert to prompt further actions. Exception reports can assist in prioritizing problems by a number of variables such as: an increase in a particular type of crime, crime frequencies which exceed pre-established limits, or ranking with other types of crimes or other geographical areas. They should be used to identify problems that are suppressible in nature, such as vandalism, larceny, burglary, and auto theft. This information can then be used to initiate problem-solving activities.
2. *Crime Trend Forecasts* provide reasonably quick and accurate estimates of trends without assuming causation. They are useful as bases for long-range planning, program evaluation, cost effectiveness studies, and exception reporting. They are typically based on cycles, seasonal variations, and recent events in the area of interest. More exhaustive forecasting includes external factors such as demographic, economic, and social variables. Examples include forecasts of crime increases in coming years based on the increased number of individuals approaching teen years, or the number of radio calls on the evening shift during the summer.
3. *Patrol Deployment Studies* determine the most advantageous use of resources for patrol car deployment. As a means of supporting community policing, some of the more sophisticated models determine how many patrol cars should be deployed to reach specific performance levels for any given day, shift, or area and how much time will be available for problem solving. They can distribute a fixed number of patrol officers across areas, shifts, or day of the week; and, utilizing a workload forecasting routine, determine minimum staffing levels. Crime analysts can generally assist with these activities by creating data files, running these software packages, presenting the output to managers, and interpreting the results.

4. *Criminal Investigations Management* tracks a number of components, such as case screening, case enhancements, and case assignment, all of which are integral parts of the investigative process, from the preliminary investigation through the detective follow-up. The crime analysis role is particularly critical in the case enhancement process, as analysts often establish and perform many of the computer searches that are part of the process.
5. *Situational Analyses* are in-depth presentations of chronic or widespread problems to provide background information dealing with underlying factors and dynamics, as opposed to summarizing recent incidents. Their purpose is to generate a better understanding of the subject matter before tactical action is decided. This crime analysis function can be generally divided into two categories.
  - *Crime Specific Analyses* report crime frequencies and recent changes: crime scene ecology such as the presence of bus benches, unguarded parking lots, or unlocked back doors; victim and suspect physical and social characteristics; and victim/suspect interaction, such as suspects posing as customers.
  - *Area Specific Analyses* report crime history; topographical traits such as parks, lakes, freeways, forests etc.; and demographics such as census data. An example of an Area Specific Analysis is a Community Profile, which provides a necessary background of understanding for problem solving efforts in any neighborhood.

*Tactical Crime Analysis* includes studies, reports, planning support, and specific information which benefits operational decision making in a shorter term or for a very specific crime/disorder problem.

*Crime Pattern Detection* involves analysis of a number of offenses or incidents that have some common characteristics, but which are not necessarily unique to a particular offender or group of offenders. Most crime patterns are initially detected by an increase in the frequency of a crime, in a given area, as observed by officers working there, or with the aid of an exception report or an automated mapping system. Pattern analysis typically suggests the need for some further problem solving. It is possible for a crime pattern to be a crime series as well. However, the common characteristics of the pattern may simply be the type of target, geographic area, method of entry, type of property targeted, or time of day.

*Crime Series Detection* involves a number of offenses believed to be committed by the same individual or group of individuals as identified by similar characteristics unique to the offender(s). The objective is offender identification and apprehension. Both patterns and series analyses involve the extensive use of profiling after the common factors have been identified.

*Profiling* necessitates the creating by statistical and composite means the identification and description of specific characteristics associated with crime/disorder incidents. Two types of profiling are commonly used:

*Target Profiles:* These specify the nature of the objects that might be targeted, such as structure type, victim type, typical crime scenes, and ecological characteristics that may facilitate crime.

*Suspect Profiles:* These are developed from a number of incident reports aggregated and summarized and describe the M.O., physical, sociological, or behavioral characteristics of the suspect(s).

*Crime-Suspect Correlation* is more than just addressing “who dun it” questions. Analysts can help eliminate possible suspects as well as suggest likely candidates. This crime analysis function includes two variants:

*Unknown Suspect:* Matching suspect physical, vehicle, or M.O. information from crime reports with data from offender-based files such as personal history, traffic citations, pawn information, field interviews, etc. The analyst can then generate a list of possible suspects. The length of the list will depend on the type of crime, the investigator's needs, and the amount of time available to investigate each possible suspect.

*Identified Suspect:* Given an arrested suspect, search incident files for additional cases that might be associated with the suspect. This can result in clearing more cases, recovering additional stolen property, and strengthening prosecution efforts. Such analysis can be particularly useful in building cases involving larceny, robbery, burglary, auto thefts, fraud, and vandalism.

(Currently there are excellent software packages available which enable analysts to assist investigators in complex cases through link analysis, visual investigative analysis, telephone toll analysis, and graphics programs which render court-quality visual presentations. The information can then be presented in a variety of charts or diagrams designed to aid both the analysis and also any subsequent presentations in court.)

*Crime Potential Identification* employs historical data to predict future occurrences. As distinct from present or past crime problems, there exists a need to determine future crime events. Although this forecasting will depend primarily on the historical analysis of cyclical, periodic, or special events, it will involve more than a straight-line continuation of historical data. In order to identify these crime potentials, historical data must be viewed in the context of present and anticipated settings, while focusing on probable locations, target types and time ranges.

Information from crime pattern analyses aids immeasurably in the prediction of future target locations and times, and prioritizing the use of staff accordingly. Crime potential can be predicted on a combination of the following:

- Location (e.g. car thefts at certain parking areas)
- Victims (the elderly, public assistance recipients)
- Type of structure (apartments, vulnerable back windows, commercial buildings)
- Type of property stolen (bicycles, computer equipment, jewelry)
- Time (during special events or a particular hours and days of the week).

For example, daytime motel and nighttime auto burglaries might be forecast to rise significantly during tourist season, especially at locations which border on areas drug users are known to frequent. Another example might be the forecast of a crime potential occurring on welfare or military paydays in certain neighborhoods and commercial areas.

*Tactical Action Planning Support* is provided by crime analysts who maintain regular contact with patrol and investigative units is to produce crime bulletins, which may be both periodic and by special request. Some of these common crime analysis products are listed below.

1. *Exception Reports*, which typically come in weekly or biweekly formats, are produced for each area or sector. In some jurisdictions, STAT (Sergeants' Tactical Action Targets) reports are produced biweekly, and review commercial and street robberies, commercial, residential and vehicle burglaries, and vehicle thefts. The cover sheet is written by the analyst, who alerts officers as to significant crime frequency increases, possible patterns, series, and other notable findings. The body of the report is computer generated and compares the frequency for each crime type with the four previous STAT periods (for trend). The crimes are sorted by community, patrol shift and the listings include location of occurrence, time of day, day of week, and, in the case of vehicle thefts, vehicle description and recovery location.
2. *Crime Pattern Alerts* are produced when an ongoing crime pattern or series is identified, either by an officer, an investigator, or an analyst. The purpose of these reports is to provide a complete picture of the problem, so that any tactical plan is based on a thorough analysis, and not simply the perceptions of the patrol officers or investigators. Most crime pattern bulletins are similar in that they contain the crimes included in the pattern or series, M.O. information, suspect, target and victim profiles, day of week, time of day, map, analyst summary and in certain departments, analyst suggestions for possible tactics to be used in the tactical plan. Typically, these bulletins accompany a briefing given by the analyst to the affected patrol and investigative units.

3. *Wanted Persons Bulletins* or P.A.L. (Parolee At Large) bulletins are produced as needed for use by field officers to locate and/or apprehend particular subjects wanted on warrants or in connection with an on-going investigation.
4. *Vehicle Hot Sheets* are typically produced on a weekly basis to provide field personnel with pertinent data regarding stolen vehicles that may be seen in their district. Also associated with this product is a listing of locations where vehicles were recovered and their condition when found as well as the location where they were originally stolen.
5. *Known Offenders Notices* present detailed information on persistent offenders or sex offenders released in a district. With photos, crime potential, current status (parole, probation, special conditions, etc), and possible locations listed, such notices alert officers as to who may be working a given area.
6. *Crime Analysis Alerts* are occasional reports that include items of interest to field personnel such as B.O.L.O.s (Be-On-the-Look-Out), stolen property descriptions, new scams being introduced to the area, hazards to officers, requests for F.I.R.s on particular investigations, and description of vehicles involved in recent crimes.
7. *Hot Spot Reports* list the specific locations in a sector or jurisdiction where an inordinate number of police service calls or repeat offenses have been recorded over a given period of time. Often produced monthly, these reports list the top ten locations or those exceeding a certain number of calls. In either case, it is helpful to include the call type, disposition code, and amount of time consumed on each call. It is also helpful to present a map illustrating the hot spots.
8. *Area Crime Evaluations* or "ACE" reports as they are known in some jurisdictions, describe or "profile" a given neighborhood, district, or jurisdiction with an emphasis on crime and disorder problems -- past and present. Also included are descriptions of vulnerable targets, most likely offenders, and the ecology of the problems such as time of day, day of week, season, levels of guardianship or safeguards in place, as well as topographic and demographic features. Such reports can be invaluable in helping problem solving efforts by focusing on the most productive responses.

## Appendix II-C

### Detailed List of Information Systems Data and Reports

#### Calls for Service

A complete CAD management reporting program should have the flexibility of producing the following reports by any given geographic area from the smallest building block to the entire County. The reporting scheme should allow one to select any date range—from one day to one year. This flexibility will give patrol commanders the ability to redefine the boundaries of their precincts and districts from time-to-time. Moreover, date range comparison will be needed, as deployment periods may not be aligned with months or quarters. It would also offer managers the ability to assess the productivity of a particular patrol group over an evaluation period.

At a minimum, the following list of reports should be produced by the new system.

- **Frequency of Citizen Generated Calls for Service.** This report should list the number of citizen CFS incidents responded to by one or more patrol units. Typically, this will be in table form by hour-of-day and day-of-week with marginal totals and averages. A further requirement is that row, column, and cell percentages be displayed under the frequencies. A separate table should be produced for CFS by priority of call with the percentage by priority for each call. This would illustrate what proportion of CFS are high priority for any given hour or day.
- **Frequency of Incidents with N-Units Responding.** Similar in form to the discussed above, this table should display the number and percent of CFS that require one, two, three, four, five, or six plus units by hour-of-day and day-of-week. This report shows when multiple unit dispatches are to be expected and, therefore, allows administrative duties to be held to a minimum.
- **Elapsed Time, Received to Dispatch.** This report should display the queue delay time by hour-of-day and day-of-week. Each call would also display the number of CFS used to make this calculation, as well as the 25th, 50th, 75th, and 99th percentile values.
- **Elapsed Time, Dispatch to Arrival and Elapsed Time, Received to Arrival.** Dispatched to arrival time results in the computation of time to travel to CFS locations, while received to arrival times produces response time. This is a combination of queue delay (unit locate time and intentional delay) plus travel time. For priority one calls, this is a primary performance factor by which patrol work is judged.

- **Elapsed Time, Primary Unit Arrived to Clear.** Whereas the above reports pertain to the first unit responding to a citizen generated CFS, this report shows only the time spent by the unit charged with the primary responsibility of handling the call. As such, it is typically the longest at scene and/or follow-up. Using the same format as the other elapsed time reports, this report also requires a combining of all priorities into a separate table.
- **Elapsed Time, All Units Dispatched to Clear.** In order to reflect the entire patrol time spent on citizen generated CFS, minutes consumed per call are averaged for the first unit responding, second unit, and so on until the last unit is accounted for. These data are presented in table format by hour-of-day and day-of-week.
- **Frequency of Incidents by Type of Call.** By selecting particular categories of CFS, an hour-of-day and day-of-week matrix listing frequencies can be produced with marginal totals and averages. By not selecting specific categories, all categories are listed in one table by day-of-week, and by time-of-day in another table.
- **Consumed Time by Type of Call.** Similar to the report immediately above, this report shows the total minutes consumed and the average consumed time per incident.
- **Frequency of Disposition by Type of Call.** In contrast to the two reports directly above, this report lists the number of times that any of the disposition codes have been recorded for any of the selected CFS categories. If no call category is selected, a call type by call disposition matrix is created. Besides frequencies, there are percentages computed for each call row-wise and column-wise.
- **Frequency of Incidents by Address.** By selecting the number of addresses to list, the most frequent CFS addresses will be produced. For each location, a listing of the call type, date, day of week, time of call, total consumed time spent, and disposition of call is displayed.
- **Frequency of Diverted Calls.** Similar to the Frequency of Disposition by Call Type report above, this report lists calls by type and disposition for those calls handled by a TeleServe function.
- **Consumed Time on Administrative Activities and Consumed Time on Proactive Activities.** Both of these reports display the number of events and the average amount of time each incident consumed for the categories chosen, by day-of-week and time-of-day. If no categories are selected, then all the categories are listed in that group by day-of-week in one table and the time-of-

day in another.

- **Frequency of Response Units.** The total number and average number of patrol cars deployed as primary response units and those as secondary response units (emergencies only) are displayed in a time-of-day and day-of-week matrix. The marginal values also show the percent of the grand total for this category.
- **Frequency of Cross District Dispatches.** Given a particular sector or zone and time-of-day, a day-of-week matrix is produced which shows district units handling calls out of their district. Also, a sector by sector matrix can be produced that illustrates the frequency of sectors sending and receiving aid to and from other areas.
- **Frequency and Consumed Time of Unit Activity.** By selecting a unit or squad designator, the number of calls handled and the average time consumed is reported by type of activity. In addition, a call by disposition matrix can be produced for a unit or squad.
- **Frequency of Patrol Performance.** Reports by precinct, city, district, or RD for the number and duration of citizen generated CFS, proactive events, crime occurrences, and arrests will be produced by time of day. A separate listing is produced by day of week. Also shown is the average response time to priority one CFS.
- **Frequency of CFS Exceptions.** By shift and day of week, the number of events that could not be included in various computations because one or more times were not properly logged, events were not categorized, or dispositions were not recorded.

## Computer-Based Crime Mapping

Modern Computer Aided Dispatch systems all have mapping capability or modules, but the capability alone does not result in effectively mapping crime.

Crime mapping has become an increasingly hot topic in police agencies since the success in 1998 of a COMPSTAT (Computer Statistics) Unit in the NYPD that was put in place to measure performance as relates to the City of New York's Zero Tolerance Program, and similar ones in other major cities such as Los Angeles, Chicago, and San Diego, which were funded through Justice department grants.

**Why Map Crime?** Crimes are human phenomena; therefore, their distribution across the landscape is not geographically random. For crimes to occur, offenders and their targets--the victims and/or property--must, for a period of time, exist at the same location. Several

factors, from the lure of potential targets to simple geographic convenience for an offender, influence where people choose to break the law. Therefore, an understanding of where and why crimes occur can improve attempts to fight crime. Maps offer crime analysts graphic representations of such crime-related issues.

Mapping crime can help law enforcement protect citizens more effectively in the areas they serve. Simple maps that display the locations where crimes or concentrations of crimes have occurred can be used to help direct patrols to places they are most needed. Policy makers in police departments might use more complex maps to observe trends in criminal activity, and maps may prove invaluable in solving criminal cases. For example, detectives may use maps to better understand the hunting patterns of serial criminals and to hypothesize where these offenders might live.

Using maps that help people visualize the geographic aspects of crime, however, is not limited to law enforcement. Mapping can provide specific information on crime and criminal behavior to politicians, the press, and the general public.

Crime computer mapping has included the following types.

1. **Mapping crime locations.** Some of the most helpful maps for those persons who patrol and investigate crimes simply indicate where incidents have occurred. Prior to recent technological advances, police typically placed pushpins in wall maps to examine the spatial distribution of crime locations. Modern geographic information system (GIS) software, however, allows police to produce more versatile electronic maps by combining their databases of reported crime locations with digitized maps of the areas they serve.
2. **Density of crime.** The same GIS software used to map crime locations can also be used to calculate crime density values, such as the number of crimes per square mile. These density values can be used to create a choropleth map, which uses color to represent different values among land units within the study area, such as police precincts, city voting districts, or census tracts. Density maps offer the map user a broader look at where crimes occur without his having to interpret a large number of individual locations.
3. **Combining data from multiple sources.** Spatial data from sources other than law enforcement can be very relevant in crime analysis. For example, the following three types of maps combine data from a police department with U.S. Census data to examine the location of homicides with respect to demographic factors. A choropleth map can show the correlation of densely populated census tracts, highlighted in color, with numbers of homicides, represented individually.  
As an alternative, a second map can show homicides and the percentage of housing units that are vacant in each census tract. A large percentage of vacant homes can be an indicator of poverty in an area; vacant buildings can also relate more directly to certain crimes by serving as places where illegal activity can take place. A third map can

compare domestic violence with the percentage of persons in each tract that fall 50% or more below the poverty level.

4. **Hot spots.** Today, police departments frequently use computer-mapped crime locations to delineate hot spots, or areas with high concentrations of crime. Highlighting such areas helps police direct patrols where they are most needed, thereby optimizing the deterrent effect of police presence. Although concentrations of crime locations may be discernible on a relatively simple point-map of crime locations, multiple crimes occurring at a single address may deceptively be represented by a single point on such a map. Hot spot analysis is frequently performed using special software, such as the Spatial and Temporal Analysis of Crime (STAC) program developed by the Illinois Criminal Justice Information Authority.
5. **Keeping neighborhood patrol officers informed.** Patrol officers in some departments are briefed regularly with the aid of maps on recent crime trends. In addition to crime location and hot spot maps, some departments provide officers with several other types of spatial information.

This could encompass a map that shows the locations of three types of crimes over a 12-day period, and also highlights the more recent incidents in larger, red icons. Additionally, icons representing crimes whose locations have been positively identified can be shaded with the boldest colors; locations that had to be approximated receive lighter shading to signify the decreasing certainty of their location. Gradient shading in the background can be used to indicate the crime trends of the previous four weeks.

6. **Interpolating crime data.** To spot geographic trends more easily, mapping software can interpolate crime data for locations between the places where the events actually occurred and create an isopleth map. This type of map represents the data through color-coded classes, just as with choropleth maps, but eliminates the need for figures to be calculated within boundaries that are not related to crime, such as those of political jurisdictions or census tracts. Basically, by treating crime data as if it occurred continuously over the surface of an area, interpolated maps highlight specific places with high concentrations of crime events without regard to unrelated land units. Here, interpolation serves as a convenient way to observe change over time.
7. **The offender/commuter.** Certain offenders tend to commit crimes in proximity to their residences. This can be “mapped.”
8. **Mapping and closed circuit TV.** Some police departments in the United States are beginning to implement closed circuit television (CCTV) cameras that are strategically positioned in public areas. This tool for crime prevention, investigation, and evidence collection is used extensively by law enforcement in Great Britain. The tasks of placing cameras where they can be most helpful and then understanding the limits of their use can be facilitated through the use of maps.

9. **Recovery locations.** Many crime analysts consider the locations where stolen vehicles are recovered to be more relevant in solving crimes than the locations from where they are stolen. Unless a thief has an alternate mode of transportation, he will likely leave a stolen automobile close to some desired destination—quite possibly a chop shop, where stolen cars are stripped down for parts.
10. **Proximity.** The applications of spatial crime analysis extend beyond the production of maps displaying crime locations for police; they provide analytical functions of interest to the general community as well.
11. **Tracking serial offenders.** Crime maps can aid in the apprehension of serial criminals. These maps, called criminal geographic targeting (CGT) models, help investigators in their attempt to determine where serial criminals most likely reside given the locations of their crimes.

The CGT model adheres to the assumption that a distance relationship exists between the residences of serial offenders and where they chose to commit their crimes. Serial criminals, like everybody else, conduct their routine activities—traveling to and from work, shopping, etc.—within a certain space with which they have become familiar. Within this routine activity space, most people identify with a single anchor point, or place of central importance in their lives, usually the home. The CGT model assumes that serial criminals commit their crimes within their areas of routine activity, but at the same time they are careful not to conduct this activity in the immediate proximity of their residences.

A crime analyst using a CGT model would delineate a hunting area, the region where serial offenders seek out or encounter potential victims. With the aid of special software, each point within this area is assigned a probability of being the residence of the offender. If crime analysts have a significant number of crime locations with which to work, a serial offender's residence can be narrowed down to a small number of probable locations using such a CGT model.

## Appendix III-A

### Overview of Managing Patrol Performance

The Managing Patrol Performance (**MPP**) system was developed by Police Management Advisors to simulate how varying levels of workload and staffing affect patrol performance. This is the key element of *Patrol Planning*, the process by which patrol officers are deployed and allocated in police and sheriff's departments. The **MPP** capability is essentially a series of formulas designed to mathematically model the patrol force in any area of the jurisdiction, for any day of the week, for any time period, for any season. **MPP** transforms dispatch and other patrol data into useful information about patrol performance.

#### Current Practices Mode

There are three features produced in this mode. First, there are the workload -related facts that are used as input in the **MPP** model. These facts are entered or modified in the BLOCK DATA SETUP feature. This list contains such things as the number of Calls For Service (CFS)/hour; percent CFS by priority level; how many units were deployed to handle the work; how much time was spent on the calls by the first unit, second unit, and so on; how much time was spent on other duties; how long the unit locate times and the travel times were; and certain specific characteristics of the geographic region that is patrolled.

The second feature is the PERFORMANCE characteristics of those patrol units deployed to handle the workload presented above. This includes such factors as: the average number of units available to answer calls or perform other patrol duties; how often all units are simultaneously busy; how long the average call takes and how many units, on average, are needed to handle it; how much uncommitted time is available for each unit; and what proportion of the CFS work is handled by secondary or non-primary units.

The third feature allows you to determine what the performance of the patrol units could be if certain aspects of the work load, such as the demands from the geographic region or patrol practices were different. This could be very beneficial if one is looking for ways to better manage patrol performance. Some of the aspects that one might want to change are the rate of incoming calls; the amount of Non-CFS work desired (such as administrative activity); the percentage of low priority calls handled by response units; the number of units deployed; the amount of CFS work handled by secondary units; and the percentage of calls classified as emergencies. This capability is referred to as the "*What-If*" feature.

### **Forecasting Mode**

In contrast to the Current Practices mode where patrol performance aspects are described with various changes in the input elements, the "Forecasting" mode tells how you should distribute the response units to meet the patrol performance characteristics you require. There are two features in this mode. First, is the DEPLOYMENT feature. What this does is specify the number of response units that need to be deployed, for any specific area and time, in order to meet the particular patrol performance characteristics you deem important. These performance characteristics require that either minimum or maximum levels be specified for each measure of interest. Typical levels of the most common performance characteristics are 7 minutes Response Time to emergency CFS; and an average of 24 minutes/hour (40%) of Problem-Solving Time/ Unit. This method of forecasting deployment requirements, also known as "Bottom-Up" staffing, will be discussed in the Applications section of this manual.

Once you know how many units you should (or can) deploy, the second feature of the Forecasting mode, DISTRIBUTION, can be used. This feature tells you how to best distribute those units over comparable time periods, days of week, or geographic areas using only *one* primary performance characteristic.

This feature can help balance the workload or provide the jurisdiction with the most equitable performance over hours, days, or areas, given the number of personnel that can be deployed. The performance characteristics that can be used to distribute patrol units are the same as those used to determine deployment levels. But in this case, the value of that performance measure is not specified; only the measure is selected and the DISTRIBUTION routine determines the levels that one could expect. For example, if one wanted to distribute patrol units across a number of sectors so that each of the sectors would experience about the same levels of response time to Emergency CFS, the DISTRIBUTION feature would tell you how many units would have to be deployed in each sector. This process, known as “Top-Down” staffing, will also be discussed in greater detail in the Applications Section.

## MPP Windows

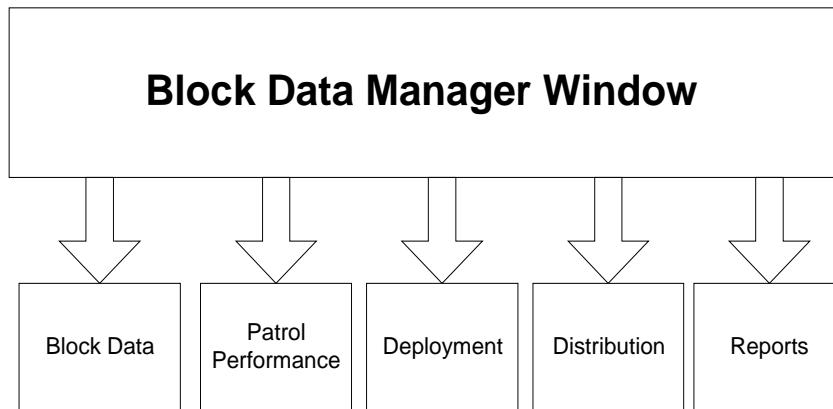
MPP begins at the main BLOCK DATA MANAGER window. At the bottom of the screen, you will see five icon buttons. Each button uses information from the blocks of data selected in the BLOCK DATA MANAGER (by geographic area, day of week, and time period). Clicking on an icon button will show the window that is associated with it.



Each icon button also has the equivalent function listed under the View menu. This allows more convenient access from the keyboard.

- BLOCK DATA MANAGER - Describes the selection of block of patrol data
- BLOCK DATA SETUP - Details the individual elements contained in a patrol data block
- PERFORMANCE- Describes the Performance output screen
- DEPLOYMENT - Explains the use of the Deployment screen
- DISTRIBUTION - Explains the use of the Distribution screen
- REPORTS - Describes the Reports screen
- HELP

All of the individual windows are accessed using the main BLOCK DATA MANAGER window (as shown in the diagram below). Click on any of the window icons or selecting the particular window from the View Menu will show that window.



**MPP DATA INPUT ELEMENTS** SOUTH HILL PCT AVERAGE DAY SOUTH HILL PCT AVERAGE DAY SOUTH HILL PCT AVERAGE DAY  
 DAY SHIFT EVENING SHIFT NIGHT SHIFT

- Service Time for 1 Unit
- Service Time for 2 Units
- Service Time for 3 Units
- Service Time for 4 Units
- Service Time for 5 Units
- Service Time for 6 Units
- % CFS for 1 Unit
- % CFS for 2 Units
- % CFS for 3 Units
- % CFS for 4 Units
- % CFS for 5 Units
- % CFS for 6 Units
- % Emergency CFS
- % Urgent CFS
- % Routine CFS
- Response Speed for Emergency
- Response Speed for Urgent
- Response Speed for Routine
- Response Units
- Dispatch Policy
- Lowest Category Level
- Maximum Response Units
- Administrative Time per Unit
- Patrol Area (sq. Miles)
- Patrol Speed
- Call Rate
- Street Miles

## Appendix III-B

### Staffing Adjustment Factors Worksheets

#### STAFFING ADJUSTMENT FACTORS WORKSHEET

BASE PERIOD:

1999-2000



shift length

8

 hours

FORECAST PERIOD:

2001

% "1/0" cars

95

 percent

UPDATE THESE  
FIGURES:



**budgeted strength**

349

 positions

**assigned personnel**

322

 officers

**daily deployment**

75.4

 units

ENTER BASE  
PERIOD DATA



**anticipated absences**

vacation	120.80
comptime	40.00
holidays	92.10
training	45.60
military	6.50
<b>sum</b>	<b>305.00</b>

hrs/officer

ENTER BASE  
PERIOD DATA



**unanticipated absences**

iod	27.00
sick	40.00
family leave	10.00
personal	2.8
admin	17.30
<b>sum</b>	<b>97.10</b>

hrs/officer

**PIERCE COUNTY SHERIFF STAFFING ADJUSTMENT FACTORS WORKSHEET**

*Patrol Response Units*



**"BOTTOM-UP" STAFFING FLOW**

					<b>Staff Levels</b>
	<b>Authorized Positions</b>				<b>148.8</b>
		<b>Replacement Factor</b>	<b>1.084</b>		
	<b>Personnel Assigned</b>				<b>137.3</b>
		<b>Scheduling Factor</b>	<b>1.400</b>		
	<b>Number Scheduled</b>				<b>98.1</b>
		<b>Availability Factor</b>	<b>1.171</b>		
	<b>Available To work</b>				<b>83.7</b>
		<b>Show-up Factor</b>	<b>1.058</b>		
	<b>Officers Deployed</b>				<b>79.2</b>
		<b>Duty Factor</b>	<b>1.050</b>		
	<b>Cars Fielded</b>				<b>75.4</b>
		<b>Deployment Factor</b>	<b>1.821</b>		
		<b>Relief Factor</b>	<b>1.734</b>		
		<b>Allocation Factor</b>	<b>1.880</b>		
		<b>annual shift hrs</b>			<b>2920.00 hrs</b>
		<b>annual personnel hrs</b>			<b>2085.71 hrs/officer</b>
		<b>anticipated absences</b>			<b>305.00 hrs/officer</b>
		<b>potential patrol hours</b>			<b>1780.71 hrs/officer</b>
		<b>unanticipated absences</b>			<b>97.10 hrs/officer</b>

## Appendix III-C

### Patrol Staffing Level Options

This appendix presents alternative deployment levels for patrol officers as calculated by Managing Patrol Performance, a patrol operations simulation software. The deployment levels are based on two kinds of performance standards:

1. Average response time to emergency calls for service
2. Average problem-solving time per hour available to patrol officers.

Using the software, one can choose various response times and problem-solving times and then calculate the required number of patrol staff based on the particular standards that are chosen. Many staffing level options can be calculated based on various combinations of the performance standards. This appendix presents the following options.

	Response Time to Emergencies (minutes)	Problem-Solving Time Minutes per Hour	Percent of Hour	Notes
<b>LAKESIDE</b>				
Option 1	6.5	24	40%	Recommended
Option 2	5	24	40%	Faster emergency response time than recommended
Option 3	6.5	21	35%	Less problem solving time than recommended
Option 4	6.5	18	30%	Less problem solving time than recommended
<b>UNIVERSITY PLACE</b>				
Option 1	6.5	24	40%	Recommended
Option 2	5	24	40%	Faster emergency response time than recommended
Option 3	6.5	21	35%	Less problem solving time than recommended
Option 4	6.5	18	30%	Less problem solving time than recommended
<b>EDGEWOOD</b>				
Option 1	6.5	24	40%	Recommended
Option 2	5	24	40%	Faster emergency response time than recommended
<b>SOUTH HILL PRECINCT</b>				
Option 1	6.5	24	40%	Recommended
Option 2	5	24	40%	Faster emergency response time than recommended
Option 3	7	21	35%	Slower response time and less problem solving
Option 4	7	18	30%	Slower response time and less problem solving
Option 5	8	15	25%	Slower response time and less problem solving
Option 6	11.5	21	35%	This level is recommended for Foothills, Mountain, and Peninsula, and is included here for illustration.

	Response Time to Emergencies (minutes)	Problem-Solving Time Minutes per Hour	Percent of Hour	Notes
<b>FOOTHILLS DETACHMENT</b>				
Option 1	11.5	21	35%	Recommended
Option 2	12	18	30%	A little slower response time and less problem solving
Option 3	10	21	35%	Faster emergency response time than recommended
Option 4	6.5	24	40%	This is the level recommended for urban areas and is included here for illustration.
<b>MOUNTAIN DETACHMENT</b>				
Option 1	11.5	21	35%	Recommended
Option 2	12	18	30%	A little slower response time and less problem solving
Option 3	10	21	35%	Faster emergency response time than recommended
Option 4	6.5	24	40%	This is the level recommended for urban areas and is included here for illustration.
<b>PENINSULA DETACHMENT</b>				
Option 1	11.5	21	35%	Recommended
Option 2	12	18	30%	A little slower response time and less problem solving
Option 3	10	21	35%	Faster emergency response time than recommended
Option 4	6.5	24	40%	This is the level recommended for urban areas and is included here for illustration.

**LAKEWOOD**  
**Option 1—Recommended**

**6.5 minute average response time to emergency calls**  
**24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
LAKEWOOD, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	7	12.8
Response Time Emergency	6.5	4	7.3
LAKEWOOD, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	5	9.2
Response Time Emergency	6.5	5	11
LAKEWOOD, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	11	20.1
Response Time Emergency	6.5	5	9.2
LAKEWOOD, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	12	22
Response Time Emergency	6.5	6	11
LAKEWOOD, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	12	22
Response Time Emergency	6.5	7	12.8
LAKEWOOD, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	11	20.1
Response Time Emergency	6.5	8	14.6
<b>Total</b>		<b>29.0</b>	<b>53.1</b>

**LAKEWOOD  
Option 2**

**5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
LAKEWOOD, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	7	12.8
Response Time Emergency	5	5	9.2
LAKEWOOD, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	5	9.2
Response Time Emergency	5	8	14.6
LAKEWOOD, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	11	20.1
Response Time Emergency	5	7	12.8
LAKEWOOD, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	12	22
Response Time Emergency	5	8	14.6
LAKEWOOD, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	13	23.8
Response Time Emergency	5	7	12.8
LAKEWOOD, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	11	20.1
Response Time Emergency	5	10	18.3
<b>Total</b>		<b>31.0</b>	<b>56.7</b>

**LAKEWOOD  
Option 3**

**6.5 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
LAKEWOOD, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	7	12.8
Response Time Emergency	6.5	4	7.3
LAKEWOOD, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	5	9.2
Response Time Emergency	6.5	6	11
LAKEWOOD, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	9	16.5
Response Time Emergency	6.5	5	9.2
LAKEWOOD, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	11	20.1
Response Time Emergency	6.5	6	11
LAKEWOOD, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	11	20.1
Response Time Emergency	6.5	7	12.8
LAKEWOOD, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	10	18.3
Response Time Emergency	6.5	8	14.6
<b>Total</b>		<b>27.0</b>	<b>49.4</b>

**LAKEWOOD  
Option 4**

**6.5 minute average response time to emergency calls  
18 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
LAKEWOOD, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	18	6	11
Response Time Emergency	6.5	4	7.3
LAKEWOOD, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	18	4	7.3
Response Time Emergency	6.5	6	11
LAKEWOOD, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	18	8	14.6
Response Time Emergency	6.5	5	9.2
LAKEWOOD, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	18	9	16.5
Response Time Emergency	6.5	6	11
LAKEWOOD, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	18	10	18.3
Response Time Emergency	6.5	7	12.8
LAKEWOOD, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	18	9	16.5
Response Time Emergency	6.5	8	14.6
<b>Total</b>		<b>24.0</b>	<b>44.0</b>

**UNIVERSITY PLACE**  
**Option 1—Recommended**

**6.5 minute average response time to emergency calls**  
**24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
UNIVERSITY PLACE, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	2	3.7
Response Time Emergency	6.5	1	1.8
UNIVERSITY PLACE, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	2	3.7
Response Time Emergency	6.5	1	1.8
UNIVERSITY PLACE, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	6.5	2	3.7
<b>Total</b>		<b>9.0</b>	<b>16.5</b>

**UNIVERSITY PLACE  
Option 2**

**5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
UNIVERSITY PLACE, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	2	3.7
Response Time Emergency	5	3	5.5
UNIVERSITY PLACE, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	2	3.7
Response Time Emergency	5	3	5.5
UNIVERSITY PLACE, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	5	4	7.3
UNIVERSITY PLACE, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	5	4	7.3
UNIVERSITY PLACE, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	5	4	7.3
UNIVERSITY PLACE, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	5	4	7.3
<b>Total</b>		<b>11.0</b>	<b>20.1</b>

**UNIVERSITY PLACE  
Option 3**

**6.5 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
UNIVERSITY PLACE, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	6.5	1	1.8
UNIVERSITY PLACE, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	1	1.8
Response Time Emergency	6.5	1	1.8
UNIVERSITY PLACE, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	4	7.3
Response Time Emergency	6.5	2	3.7
<b>Total</b>		<b>8.0</b>	<b>14.7</b>

**UNIVERSITY PLACE  
Option 4**

**6.5 minute average response time to emergency calls  
18 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
UNIVERSITY PLACE, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	18	2	3.7
Response Time Emergency	6.5	1	1.8
UNIVERSITY PLACE, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	18	1	1.8
Response Time Emergency	6.5	1	1.8
UNIVERSITY PLACE, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	18	2	3.7
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	6.5	2	3.7
UNIVERSITY PLACE, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	6.5	2	3.7
<b>Total</b>		<b>7.0</b>	<b>12.9</b>

**EDGEWOOD**  
**Option 1—Recommended**

**6.5 minute average response time to emergency calls**  
**24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
EDGEWOOD, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	1	1.8
EDGEWOOD, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	1	1.8
EDGEWOOD, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	1	1.8
EDGEWOOD, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	1	1.8
EDGEWOOD, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	1	1.8
EDGEWOOD, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	1	1.8
<b>Total</b>		<b>3.0</b>	<b>5.4</b>

**EDGEWOOD  
Option 2**

**5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
EDGEWOOD, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	5	3	5.5
EDGEWOOD, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	5	3	5.5
EDGEWOOD, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	5	4	7.3
EDGEWOOD, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	5	4	7.3
EDGEWOOD, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	5	4	7.3
EDGEWOOD, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	5	4	7.3
<b>Total</b>		<b>11.0</b>	<b>20.1</b>

**SOUTH HILL PRECINCT  
Option 1—Recommended**

**6.5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
SOUTH HILL PCT, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	9	16.5
Response Time Emergency	6.5	8	14.6
SOUTH HILL PCT, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	7	12.8
Response Time Emergency	6.5	7	12.8
SOUTH HILL PCT, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	15	27.5
Response Time Emergency	6.5	10	18.3
SOUTH HILL PCT, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	15	27.5
Response Time Emergency	6.5	10	18.3
SOUTH HILL PCT, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	15	27.5
Response Time Emergency	6.5	10	18.3
SOUTH HILL PCT, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	13	23.8
Response Time Emergency	6.5	15	27.5
<b>Total</b>		<b>38.0</b>	<b>69.5</b>

**SOUTH HILL PRECINCT  
Option 2**

**5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
SOUTH HILL PCT, AVERAGE DAY, 0000-0359			
Problem Solving Time/Unit (min/hour)	24	9	16.5
Response Time Emergency	5	11	20.1
SOUTH HILL PCT, AVERAGE DAY, 0400-0759			
Problem Solving Time/Unit (min/hour)	24	7	12.8
Response Time Emergency	5	10	18.3
SOUTH HILL PCT, AVERAGE DAY, 0800-1159			
Problem Solving Time/Unit (min/hour)	24	15	27.5
Response Time Emergency	5	15	27.5
SOUTH HILL PCT, AVERAGE DAY, 1200-1559			
Problem Solving Time/Unit (min/hour)	24	16	29.3
Response Time Emergency	5	15	27.5
SOUTH HILL PCT, AVERAGE DAY, 1600-1959			
Problem Solving Time/Unit (min/hour)	24	15	27.5
Response Time Emergency	5	15	27.5
SOUTH HILL PCT, AVERAGE DAY, 2000-2359			
Problem Solving Time/Unit (min/hour)	24	13	23.8
Response Time Emergency	5	16	29.3
<b>Total</b>		<b>41.5</b>	<b>76</b>

**SOUTH HILL PRECINCT  
Option 3**

**7 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
SOUTH HILL PCT, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	8	14.6
Response Time Emergency	7	7	12.8
SOUTH HILL PCT, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	6	10.9
Response Time Emergency	7	6	10.9
SOUTH HILL PCT, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	15	27.5
Response Time Emergency	7	11	20.1
SOUTH HILL PCT, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	14	25.6
Response Time Emergency	7	11	20.1
SOUTH HILL PCT, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	15	27.5
Response Time Emergency	7	11	20.1
SOUTH HILL PCT, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	12	22
Response Time Emergency	7	10	18.2
<b>Total</b>		<b>35</b>	<b>63.7</b>

**SOUTH HILL PRECINCT  
Option 4**

**7 minute average response time to emergency calls  
18 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
SOUTH HILL PCT, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	18	7	12.8
Response Time Emergency	7	7	12.8
SOUTH HILL PCT, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	18	6	11
Response Time Emergency	7	6	11
SOUTH HILL PCT, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	18	12	22
Response Time Emergency	7	10	18.3
SOUTH HILL PCT, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	18	13	23.8
Response Time Emergency	7	10	18.3
SOUTH HILL PCT, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	18	13	23.8
Response Time Emergency	7	10	18.3
SOUTH HILL PCT, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	18	10	18.3
Response Time Emergency	7	12	22
<b>Total</b>		<b>31.5</b>	<b>57.6</b>

**SOUTH HILL PRECINCT  
Option 5**

**8 minute average response time to emergency calls  
15 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
SOUTH HILL PCT, AVERAGE DAY, 0000-0359			
Problem Solving Time/Unit (min/hour)	15	6	10.9
Response Time Emergency	8	6	10.9
SOUTH HILL PCT, AVERAGE DAY, 0400-0759			
Problem Solving Time/Unit (min/hour)	15	5	9.1
Response Time Emergency	8	5	9.1
SOUTH HILL PCT, AVERAGE DAY, 0800-1159			
Problem Solving Time/Unit (min/hour)	15	12	21.8
Response Time Emergency	8	10	18.2
SOUTH HILL PCT, AVERAGE DAY, 1200-1559			
Problem Solving Time/Unit (min/hour)	15	12	21.8
Response Time Emergency	8	10	18.2
SOUTH HILL PCT, AVERAGE DAY, 1600-1959			
Problem Solving Time/Unit (min/hour)	15	12	21.8
Response Time Emergency	8	10	18.2
SOUTH HILL PCT, AVERAGE DAY, 2000-2359			
Problem Solving Time/Unit (min/hour)	15	10	18.2
Response Time Emergency	8	9	16.4
<b>Total</b>		<b>28.5</b>	<b>51.8</b>

**SOUTH HILL PRECINCT  
Option 6**

**11.5 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
SOUTH HILL PCT, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	7	12.8
Response Time Emergency	11.5	5	9.2
SOUTH HILL PCT, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	6	11
Response Time Emergency	11.5	4	7.3
SOUTH HILL PCT, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	14	25.6
Response Time Emergency	11.5	9	16.5
SOUTH HILL PCT, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	14	25.6
Response Time Emergency	11.5	8	14.6
SOUTH HILL PCT, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	14	25.6
Response Time Emergency	11.5	9	16.5
SOUTH HILL PCT, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	11	20.1
Response Time Emergency	11.5	9	16.5
<b>Total</b>		<b>32.5</b>	<b>59.5</b>

**FOOTHILLS DETACHMENT**  
**Option 1—Recommended**

**11.5 minute average response time to emergency calls**  
**21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
FOOTHILLS DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	11.5	2	3.7
FOOTHILLS DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	1	1.8
Response Time Emergency	11.5	1	1.8
FOOTHILLS DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	11.5	2	3.7
FOOTHILLS DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	11.5	2	3.7
FOOTHILLS DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	4	7.3
Response Time Emergency	11.5	2	3.7
FOOTHILLS DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	11.5	2	3.7
<b>Total</b>		<b>8.0</b>	<b>14.6</b>

**FOOTHILLS DETACHMENT  
Option 2**

**12 minute average response time to emergency calls  
18 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
FOOTHILLS DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	18	1	1.8
Response Time Emergency	12	1	1.8
FOOTHILLS DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	18	1	1.8
Response Time Emergency	12	1	1.8
FOOTHILLS DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
FOOTHILLS DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
FOOTHILLS DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
FOOTHILLS DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
<b>Total</b>		<b>7.0</b>	<b>12.8</b>

**FOOTHILLS DETACHMENT  
Option 3**

**10 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
FOOTHILLS DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	10	3	5.5
FOOTHILLS DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	1	1.8
Response Time Emergency	10	3	5.5
FOOTHILLS DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	10	4	7.3
FOOTHILLS DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	10	4	7.3
FOOTHILLS DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	4	7.3
Response Time Emergency	10	4	7.3
FOOTHILLS DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	10	3	5.5
<b>Total</b>		<b>10.5</b>	<b>19.2</b>

**FOOTHILLS DETACHMENT  
Option 4**

**6.5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
FOOTHILLS DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	2	3.7
Response Time Emergency	6.5	7	12.8
FOOTHILLS DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	6	11
FOOTHILLS DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	6.5	7	12.8
FOOTHILLS DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	6.5	7	12.8
FOOTHILLS DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	6.5	7	12.8
FOOTHILLS DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	6.5	7	12.8
<b>Total</b>		<b>20.5</b>	<b>37.5</b>

**MOUNTAIN DETACHMENT**  
**Option 1—Recommended**

**11.5 minute average response time to emergency calls**  
**21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
MOUNTAIN DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	11.5	2	5.5
MOUNTAIN DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	11.5	2	5.5
MOUNTAIN DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	5	9.2
Response Time Emergency	11.5	5	9.2
MOUNTAIN DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	5	9.2
Response Time Emergency	11.5	5	9.2
MOUNTAIN DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	6	11
Response Time Emergency	11.5	6	11
MOUNTAIN DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	4	7.3
Response Time Emergency	11.5	4	7.3
<b>Total</b>		<b>12.0</b>	<b>22.0</b>

**MOUNTAIN DETACHMENT  
Option 2**

**12 minute average response time to emergency calls  
18 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
MOUNTAIN DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	18	2	3.7
Response Time Emergency	12	2	3.7
MOUNTAIN DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	18	2	3.7
Response Time Emergency	12	2	3.7
MOUNTAIN DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	18	5	9.2
Response Time Emergency	12	5	9.2
MOUNTAIN DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	18	5	9.2
Response Time Emergency	12	5	9.2
MOUNTAIN DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	18	5	9.2
Response Time Emergency	12	5	9.2
MOUNTAIN DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	3	5.5
<b>Total</b>		<b>11.0</b>	<b>22.1</b>

**MOUNTAIN DETACHMENT  
Option 3**

**10 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
MOUNTAIN DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	10	4	7.3
MOUNTAIN DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	10	4	7.3
MOUNTAIN DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	5	9.2
Response Time Emergency	10	6	11
MOUNTAIN DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	5	9.2
Response Time Emergency	10	6	11
MOUNTAIN DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	6	11
Response Time Emergency	10	6	11
MOUNTAIN DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	4	7.3
Response Time Emergency	10	5	9.2
<b>Total</b>		<b>15.5</b>	<b>28.4</b>

**MOUNTAIN DETACHMENT  
Option 4**

**6.5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
MOUNTAIN DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	6.5	8	14.6
MOUNTAIN DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	2	3.7
Response Time Emergency	6.5	9	16.5
MOUNTAIN DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	6	11
Response Time Emergency	6.5	11	20.1
MOUNTAIN DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	6	11
Response Time Emergency	6.5	11	20.1
MOUNTAIN DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	7	12.8
Response Time Emergency	6.5	12	22
MOUNTAIN DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	6.5	10	18.3
<b>Total</b>		<b>30.5</b>	<b>55.8</b>

**PENINSULA DETACHMENT  
Option 1—Recommended**

**11.5 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
PENINSULA DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	11.5	2	3.7
PENINSULA DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	1	1.8
Response Time Emergency	11.5	1	1.8
PENINSULA DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	11.5	2	3.7
PENINSULA DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	11.5	2	3.7
PENINSULA DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	4	7.3
Response Time Emergency	11.5	2	3.7
PENINSULA DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	11.5	2	3.7
<b>Total</b>		<b>8.0</b>	<b>14.6</b>

**PENINSULA DETACHMENT  
Option 2**

**12 minute average response time to emergency calls  
18 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
PENINSULA DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	18	2	3.7
Response Time Emergency	12	1	1.8
PENINSULA DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	18	1	1.8
Response Time Emergency	12	1	1.8
PENINSULA DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
PENINSULA DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
PENINSULA DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
PENINSULA DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	18	3	5.5
Response Time Emergency	12	2	3.7
<b>Total</b>		<b>7.5</b>	<b>13.75</b>

**PENINSULA DETACHMENT  
Option 3**

**10 minute average response time to emergency calls  
21 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
PENINSULA DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	21	2	3.7
Response Time Emergency	10	3	5.5
PENINSULA DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	21	1	1.8
Response Time Emergency	10	1	1.8
PENINSULA DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	10	2	3.7
PENINSULA DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	10	2	3.7
PENINSULA DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	21	4	7.3
Response Time Emergency	10	2	3.7
PENINSULA DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	21	3	5.5
Response Time Emergency	10	3	5.5
<b>Total</b>		<b>8.5</b>	<b>15.6</b>

**PENINSULA DETACHMENT  
Option 4**

**6.5 minute average response time to emergency calls  
24 minutes per patrol unit per hour problem solving time**

<b>Data Block/Performance Measure</b>	<b>Performance Standard</b>	<b>Deploy Units</b>	<b>Deploy Personnel</b>
PENINSULA DET, AVERAGE DAY, AM1: 0000-0359			
Problem Solving Time/Unit (min/hour)	24	2	3.7
Response Time Emergency	6.5	7	12.8
PENINSULA DET, AVERAGE DAY, AM2: 0400-0759			
Problem Solving Time/Unit (min/hour)	24	1	1.8
Response Time Emergency	6.5	5	9.2
PENINSULA DET, AVERAGE DAY, DA1: 0800-1159			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	6.5	6	11
PENINSULA DET, AVERAGE DAY, DA2: 1200-1559			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	6.5	6	11
PENINSULA DET, AVERAGE DAY, PM1: 1600-1959			
Problem Solving Time/Unit (min/hour)	24	4	7.3
Response Time Emergency	6.5	6	11
PENINSULA DET, AVERAGE DAY, PM2: 2000-2359			
Problem Solving Time/Unit (min/hour)	24	3	5.5
Response Time Emergency	6.5	6	11
<b>Total</b>		<b>18.0</b>	<b>33.0</b>

## **Appendix IV-A**

### **Clearance Rates of Major Crimes**

The charts on the following pages show how many major (Part I) crimes in the jurisdictions served by the Pierce County Sheriff's Department are cleared (solved).

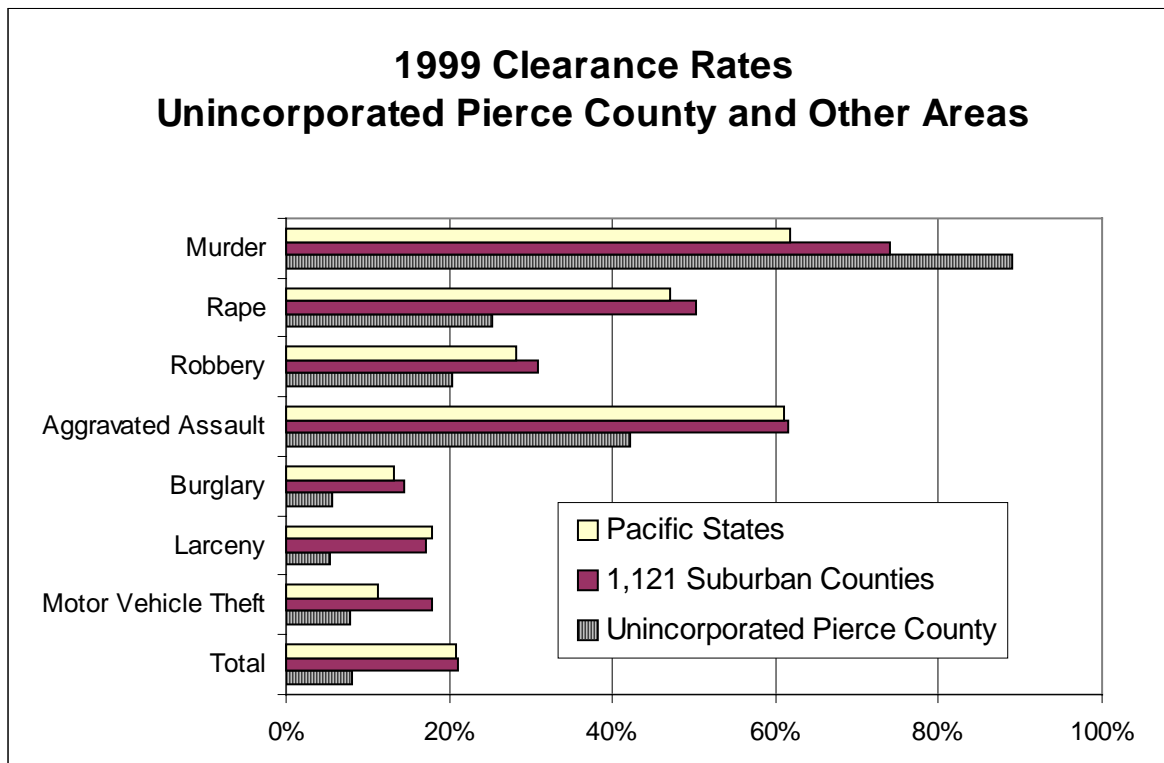
Cases are cleared mainly by arrests. Cases may also be cleared by exceptional means, such as when an offender has been identified but cannot be arrested.

The data refer to 1999 crimes in unincorporated Pierce County and the three cities (Lakewood, University Place, and Edgewood) that the Sheriff's Department serves under contract.

## Unincorporated Pierce County Crimes Reported and Cleared, 1999

Sources: Uniform Crime Reports, 1999, and Pierce County Sheriff

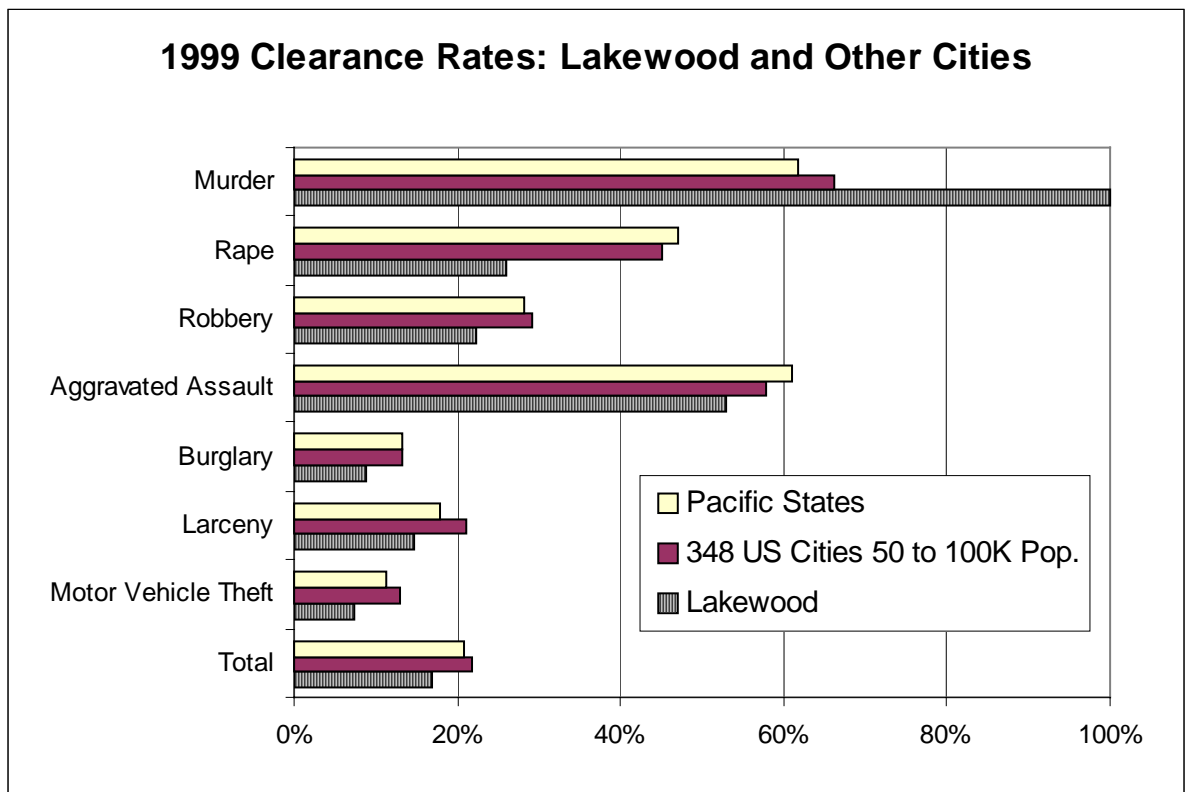
Part I Crimes	Crimes Reported	Crimes Cleared	Percent Cleared
Murder	9	8	89%
Rape	99	25	25%
Robbery	142	29	20%
Aggravated Assault	698	294	42%
Burglary	3,040	175	6%
Larceny	7,581	415	5%
Motor Vehicle Theft	1,425	111	8%
<b>Total</b>	<b>12,994</b>	<b>1,057</b>	<b>8%</b>



## Lakewood Crimes Reported and Cleared, 1999

Sources: Uniform Crime Reports, 1999, and Pierce County Sheriff's Department

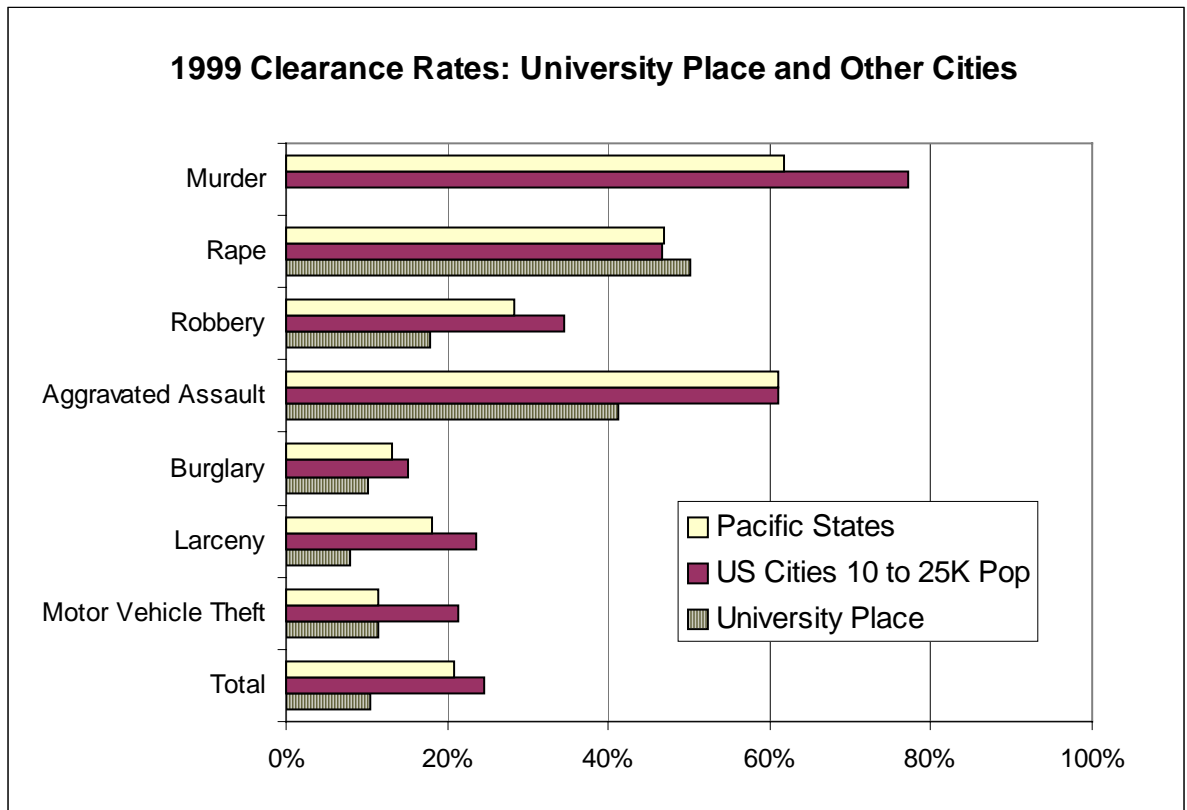
Part I Crimes	Crimes		Percent
	Reported	Cleared	Cleared
Murder	5	5	100%
Rape	46	12	26%
Robbery	179	40	22%
Aggravated Assault	492	260	53%
Burglary	1,026	91	9%
Larceny	2,958	438	15%
Motor Vehicle Theft	569	42	7%
<b>Total</b>	<b>5,275</b>	<b>888</b>	<b>17%</b>



## University Place Crimes Reported and Cleared, 1999

Sources: Uniform Crime Reports, 1999, and Pierce County Sheriff's Department

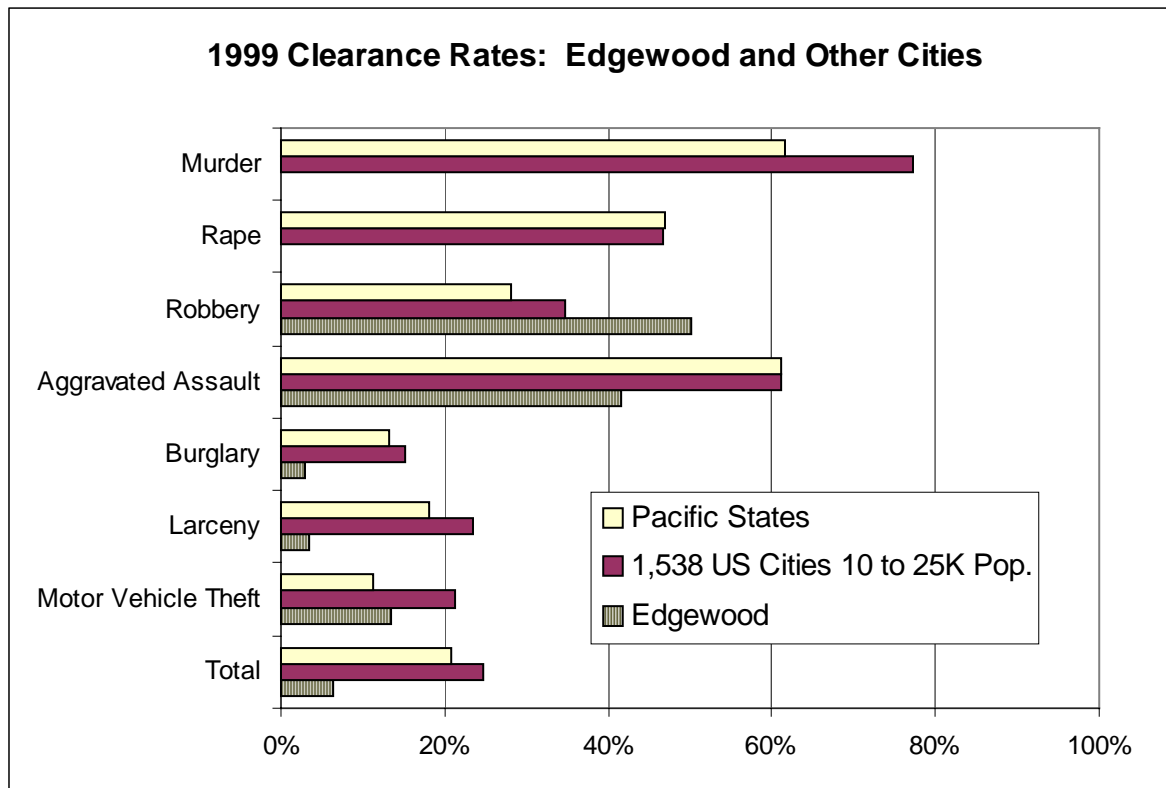
Part I Crimes	Crimes Reported	Crimes Cleared	Percent Cleared
Murder	0	0	N/A
Rape	8	4	50%
Robbery	28	5	18%
Aggravated Assault	56	23	41%
Burglary	227	23	10%
Larceny	863	68	8%
Motor Vehicle Theft	131	15	11%
<b>Total</b>	<b>1313</b>	<b>138</b>	<b>11%</b>



## Edgewood Crimes Reported and Cleared, 1999

Sources: Uniform Crime Reports, 1999, and Pierce County Sheriff's Department

Part I Crimes	Crimes Reported	Crimes Cleared	Percent Cleared
Murder	0	0	--
Rape	1	0	0%
Robbery	4	2	50%
Aggravated Assault	12	5	42%
Burglary	70	2	3%
Larceny	179	6	3%
Motor Vehicle Theft	30	4	13%
<b>Total</b>	<b>296</b>	<b>19</b>	<b>6%</b>



## Appendix IV-B

### Investigative Outcomes for Part I Crimes, 1998

NOTE: The crimes occurred in the area listed, but it was not possible to determine where the cases were assigned for investigation. Thus the data do not compare performance among investigative units of the Sheriff's Department.

CONTRACT CITIES	Reported	Adult	Exceptional	Juvenile	Exceptional	Unfounded	Total Cleared		Not Cleared	
	Crimes	Arrest	Clearance	Arrest	Clearance		Number	Percent	Number	Percent
<b>Lakewood</b>										
Murder	7	6	-	-	-	-	6	86%	1	14%
Rape	42	9	5	-	1	-	15	36%	27	64%
Robbery	216	37	-	6	-	-	43	20%	173	80%
Agg. Assault	1,497	629	24	85	1	3	742	50%	755	50%
Burglary	988	55	3	28	-	-	86	9%	902	91%
Larceny	2,870	272	13	174	2	4	465	16%	2,405	84%
M.V. Theft	532	24	1	15	-	13	53	10%	479	90%
Arson	39	7	-	1	1	-	9	23%	30	77%
<b>Total</b>	<b>6,191</b>	<b>1,039</b>	<b>46</b>	<b>309</b>	<b>5</b>	<b>20</b>	<b>1,419</b>	<b>23%</b>	<b>4,772</b>	<b>77%</b>
<b>Edgewood</b>										
Murder	-	-	-	-	-	-	-	-	-	-
Rape	1	-	-	-	-	-	-	-	1	100%
Robbery	1	-	-	-	-	-	-	-	1	100%
Agg. Assault	13	4	-	-	2	-	6	0	7	54%
Burglary	26	3	-	6	-	-	9	0	17	65%
Larceny	236	2	-	4	-	-	6	0	230	97%
M.V. Theft	47	1	-	-	-	-	1	0	46	98%
Arson	2	-	-	-	1	-	1	1	1	50%
<b>Total</b>	<b>326</b>	<b>10</b>	<b>-</b>	<b>10</b>	<b>3</b>	<b>-</b>	<b>23</b>	<b>7%</b>	<b>303</b>	<b>93%</b>
<b>University Place</b>										
Murder	-	-	-	-	-	-	-	-	-	-
Rape	11	-	1	-	-	1	2	0	9	82%
Robbery	38	13	-	-	-	1	14	0	24	63%
Agg. Assault	54	23	-	3	1	-	27	1	27	50%
Burglary	218	9	2	12	-	1	24	0	194	89%
Larceny	842	45	15	29	3	2	94	0	748	89%
M.V. Theft	124	2	2	5	-	4	13	0	111	90%
Arson	10	-	-	-	-	-	-	-	10	100%
<b>Total</b>	<b>1,297</b>	<b>92</b>	<b>20</b>	<b>49</b>	<b>4</b>	<b>9</b>	<b>174</b>	<b>13%</b>	<b>1,123</b>	<b>87%</b>

UNINCORP. AREAS	Reported Crimes	Adult Arrest	Exceptional Clearance	Juvenile Arrest	Exceptional Clearance	Unfounded	Total Cleared		Not Cleared	
							Number	Percent	Number	Percent
<b>South Hill</b>										
Murder	5	4	-	-	-	-	4	1	1	20%
Rape	50	8	7	2	-	-	17	0	33	66%
Robbery	152	19	5	5	-	-	29	0	123	81%
Agg. Assault	430	109	12	39	3	1	164	0	266	62%
Burglary	1,894	55	6	32	2	-	95	0	1,799	95%
Larceny	5,255	219	74	114	3	3	413	0	4,842	92%
M.V. Theft	1,054	27	10	18	-	6	61	0	993	94%
Arson	56	6	-	8	1	-	15	0	41	73%
<b>Total</b>	<b>8,896</b>	<b>447</b>	<b>114</b>	<b>218</b>	<b>9</b>	<b>10</b>	<b>798</b>	<b>9%</b>	<b>8,098</b>	<b>91%</b>
<b>Foothills</b>										
Murder	2	-	1	-	-	-	1	1	1	50%
Rape	14	2	1	-	-	-	3	0	11	79%
Robbery	6	-	-	-	-	-	-	-	6	100%
Agg. Assault	58	19	16	4	3	-	42	1	16	28%
Burglary	404	10	8	4	3	3	28	0	376	93%
Larceny	847	10	24	8	5	2	49	0	798	94%
M.V. Theft	132	4	34	-	1	1	40	0	92	70%
Arson	7	-	-	-	1	1	2	0	5	71%
<b>Total</b>	<b>1,470</b>	<b>45</b>	<b>84</b>	<b>16</b>	<b>13</b>	<b>7</b>	<b>165</b>	<b>11%</b>	<b>1,305</b>	<b>89%</b>
<b>Mountain</b>										
Murder	1	-	-	-	-	-	-	-	1	100%
Rape	9	1	-	-	-	-	1	0	8	89%
Robbery	4	-	-	2	-	-	2	1	2	50%
Agg. Assault	450	126	9	33	2	1	171	0	279	62%
Burglary	520	23	6	11	1	-	41	0	479	92%
Larceny	771	7	11	3	-	1	22	0	749	97%
M.V. Theft	175	5	1	8	-	2	16	0	159	91%
Arson	9	1	1	2	-	-	4	0	5	56%
<b>Total</b>	<b>1,939</b>	<b>163</b>	<b>28</b>	<b>59</b>	<b>3</b>	<b>4</b>	<b>257</b>	<b>13%</b>	<b>1,682</b>	<b>87%</b>
<b>Peninsula</b>										
Murder	1	1	-	-	-	-	1	1	-	0%
Rape	7	1	2	-	-	1	4	1	3	43%
Robbery	7	1	-	1	-	-	2	0	5	71%
Agg. Assault	65	18	2	4	1	1	26	0	39	60%
Burglary	537	14	10	11	-	1	36	0	501	93%
Larceny	920	19	13	15	1	2	50	0	870	95%
M.V. Theft	102	4	3	2	-	-	9	0	93	91%
Arson	16	-	-	-	-	-	-	-	16	100%
<b>Total</b>	<b>1,655</b>	<b>58</b>	<b>30</b>	<b>33</b>	<b>2</b>	<b>5</b>	<b>128</b>	<b>8%</b>	<b>1,527</b>	<b>92%</b>

<b>Contract Cities Combined</b>	Reported Crimes	Adult Arrest	Exceptional Clearance	Juvenile Arrest	Exceptional Clearance	Unfounded	Total Cleared		Not Cleared	
							Number	Percent	Number	Percent
Murder	7	6	-	-	-	-	6	86%	1	14%
Rape	54	9	6	-	1	1	17	31%	37	69%
Robbery	255	50	-	6	-	1	57	22%	198	78%
Agg. Assault	1,564	656	24	88	4	3	775	50%	789	50%
Burglary	1,232	67	5	46	-	1	119	10%	1,113	90%
Larceny	3,948	319	28	207	5	6	565	14%	3,383	86%
M.V. Theft	703	27	3	20	-	17	67	10%	636	90%
Arson	51	7	-	1	2	-	10	20%	41	80%
<b>Total</b>	<b>7,814</b>	<b>1,141</b>	<b>66</b>	<b>368</b>	<b>12</b>	<b>29</b>	<b>1,616</b>	<b>21%</b>	<b>6,198</b>	<b>79%</b>

**Unincorporated  
Areas Combined**

Murder	9	5	1	-	-	-	6	67%	3	33%
Rape	80	12	10	2	-	1	25	31%	55	69%
Robbery	169	20	5	8	-	-	33	20%	136	80%
Agg. Assault	1,003	272	39	80	9	3	403	40%	600	60%
Burglary	3,355	102	30	58	6	4	200	6%	3,155	94%
Larceny	7,793	255	122	140	9	8	534	7%	7,259	93%
M.V. Theft	1,463	40	48	28	1	9	126	9%	1,337	91%
Arson	88	7	1	10	2	1	21	24%	67	76%
<b>Total</b>	<b>13,960</b>	<b>713</b>	<b>256</b>	<b>326</b>	<b>27</b>	<b>26</b>	<b>1,348</b>	<b>10%</b>	<b>12,612</b>	<b>90%</b>

**Pierce County Sheriff's  
Department Entire Service Area**

Murder	16	11	1	-	-	-	12	75%	4	25%
Rape	134	21	16	2	1	2	42	31%	92	69%
Robbery	424	70	5	14	-	1	90	21%	334	79%
Agg. Assault	2,567	928	63	168	13	6	1,178	46%	1,389	54%
Burglary	4,587	169	35	104	6	5	319	7%	4,268	93%
Larceny	11,741	574	150	347	14	14	1,099	9%	10,642	91%
M.V. Theft	2,166	67	51	48	1	26	193	9%	1,973	91%
Arson	139	14	1	11	4	1	31	22%	108	78%
<b>Total</b>	<b>21,774</b>	<b>1,854</b>	<b>322</b>	<b>694</b>	<b>39</b>	<b>55</b>	<b>2,964</b>	<b>14%</b>	<b>18,810</b>	<b>86%</b>

## Appendix IV-C

### Investigative Staffing Analysis: Case-Carrying Detectives

Excludes proactive units and investigative support units: General Narcotics, Meth, Forensics, Pawn/Property Recovery, and Sex Offender Reporting

AUGUST 2000 STAFFING				ESTIMATED WORKLOAD				RECOMMENDED STAFFING					
Detective	Total			Part I	Part I	Part II	Part II	Estimated	New	Crimes	Total	Increase	New Cases (*)
Sergeant	Detective	Investigator		Crimes	Crimes	Offenses	Fraud	Cases	Cases	Assigned	Investigators	over	per Week
		s						per Week				August 2000	per Investigator
<u>Criminal Investigations Division</u>													
Major Crimes			13	1,379		522	711	2,612	50.2	2,612	16	3	3.1
Homicide/Missing	2												
Sex crimes	2	4											
Arson	2												
Juvenile	1	2											
<u>South Hill Precinct</u>	3	3	6		8,259			8,259	158.8	2,065	8	2	5.0
<u>Lakewood</u>	3	8	11	1,762	4,429	202	5	6,398	123.0	3,071	16	5	3.7
<u>University Place</u>	1	1	2		1,194			1,194	23.0	299	1.5	-0.5	3.8
<u>Foothills Detachment (**)</u>		1	1		1,390			1,390	26.7	348	1.5	0.5	4.5
<u>Mountain Detachment (**)</u>		1	1		1,475			1,475	28.4	369	1.5	0.5	4.7
<u>Peninsula Detachment (**)</u>		1	1		1,575			1,575	30.3	394	1.5	0.5	5.0
<b>Total FTE</b>	<b>14</b>	<b>21</b>	<b>35</b>	<b>3,141</b>	<b>18,322</b>			<b>21,463</b>	<b>412.8</b>	<b>9,157</b>	<b>46</b>	<b>11</b>	<b>3.8</b>

(\*) Assumes that major crimes investigators will be able to work three cases and property crimes investigators will be able to work five cases.

(\*\*) As of August 2000, the three detachments did not have detective positions strictly speaking as shown in the chart, but each had one deputy assigned to investigations.

## Appendix IV-D

### Functional Specifications for Automated Investigative Case Management System

Functional specifications are a plain language description of the way in which people would use equipment to do work. Once completed, function specifications can be used to develop a system design and application software. In this case, automation is to be applied to the work of:

- Rating the solvability of preliminary investigations completed by patrol deputies.
- Allowing patrol deputies to retain cases based on department screening policies.
- Assigning cases to detectives and monitoring case progress.
- Assessing the performance of individuals, investigative units, and patrol precincts in completing preliminary and follow-up investigations.

The remainder of this document will describe how information from automated information systems could be used to reach these goals. A set of conclusions is offered that should be considered in developing an approach for providing automation support for the collaborative as it develops over time.

#### Data Sources

Once a preliminary investigation is completed by a patrol deputy and approved by a field sergeant, that report should contain the best available information about the crime that was committed. Along with basic identification information about the victim/reporting person, that information should include:

- Time of day and day of week when the crime occurred.
- Activities of the victim before the crime occurred.
- Specific evidence of modus operandi to include weapons, points of entry, and tools used.
- Physical evidence obtained from the crime scene.
- Specific property loss and victim injuries.

- Names, addresses and statements of witnesses, if any.
- Suspect descriptions and suspect vehicle descriptions.
- Victim-suspect relationship.
- Special circumstances such as gang or drug involvement.
- Degree to which the crime is part of an ongoing crime pattern or community problem.

These factors would be used to rate the potential for making an arrest if a case is assigned for follow-up investigation. Additional information would need to be collected after a case has been assigned and as it is investigated.

- The investigator or patrol officer who will conduct the follow-up investigation.
- The solvability score of the case as when it was scored after preliminary investigation was completed.
- Assignment date.
- Due date for a progress report.
- Progress made in completing the investigation.
- Case status.
- Case disposition.
- Supervisory case notes.

This information would be used to monitor the progress of investigations and record the results of those efforts. Uniform categories should be developed for recording information about case status and dispositions. Later in these specifications, reports and searches will be described that will make use of this information.

## Users

Patrol supervisors should be able to access case management information to:

- Score a case for solvability.
- Check to see what similar cases are already assigned to other Department staff.
- Assign a case to patrol for short-term follow-up.
- Assign a case to a patrol officer for follow-up over the next 30 days.
- Make a recommendation on early closure.
- Make a recommendation on the assignment of a team for conducting the follow-up investigation.
- Enter changes in dispositions as the result of patrol follow-up investigations.
- Determine when follow-up reports are due from patrol officers.

First line investigative supervisors who review police reports and the recommendations of patrol sergeants should have access to the case management system to:

- Modify the solvability score for a case based on new information or discretionary points left to patrol supervisors.
- Check to see what similar cases are already assigned to other Department staff.
- Assign a case to an investigator for follow-up.
- Equitably distribute workload among investigators.
- Set deadlines for follow-up reports.
- Make a recommendation on early closure.
- Make a recommendation on the assignment of a team for conducting the follow-up investigation.
- Enter changes in dispositions as the result of follow-up investigations.
- Determine when follow-up reports are due from investigators or officers.

Upper level management (lieutenant and above) should have access to the case management system to:

- Respond to citizen inquiries regarding the status of cases being investigated.
- Allow managers to assess the timeliness of investigations by units or for specific crime types.
- Allow managers to assess the caseloads and case clearances by units or for specific crime types.

Investigators assigned to patrol and all criminal investigations units (to include intelligence) should be able to use the case management system as a tool to:

- Coordinate their efforts with other investigators and patrol officers.
- Determine if cases under investigation linked based on victim names, offender names, suspect names, witness names, and addresses.

Investigators should be able to use the system to plan their work based on when progress reports are due.

## **Data Entry**

All data for the case management system should be entered once only. Information about reported crimes should be obtained from the Department's CAD system, computerized mapping system, and records management system.

Listed below are some of the desirable capabilities for the information collection process.

- Information from other systems should be moved into the case management system automatically.
- To minimize training time, the system should be easy to use.
- There should be extensive edit checks that catch logical conflicts among data entered.
- Help files should explain department policies and procedures for investigative case management.
- It should be possible to easily add pictures of offenders, crime scenes, and victims to the system.

- Updates of records from other systems should be made automatically in the case management system.

## Data Storage

The case management system must be centralized so it will not be necessary to check individual files for specific investigative and patrol units.

Along with convenience, other factors that should be considered in developing a database are:

- ◆ The database needs to be secure so that people who do not need access to data cannot obtain it.
- ◆ It needs to be a true multi-user database that allows more than one authorized person to access the database and generate reports.
- ◆ The database should include cases up to ten years old because of the number of repeat offenders in the County.

## Information Retrieval

Access to case management data is a critical need. Listed below are some examples of products/reports that are typically used to monitor the investigative case management process. Some but not all of these products are generated to varying degrees already.

- ◆ Case intake report. This report describes new cases reviewed, cases assigned, those not assigned, cases cleared by patrol, and cases carried over from previous months. This report would contain information on the number of active cases being carried by each investigator.
- ◆ Case aging report. This report would contain information on the percentage of active caseloads reach thresholds such as 10, 20, 30, 40 or 60 days old or older. This report helps assure cases are not held open too long and add to the workload of investigators who must deal with new incoming cases.
- ◆ Performance report. Results of the investigative process would be reported for both patrol and criminal investigations and by individual investigator. These reports would be based on a standard set of disposition codes.

- ◆ Prosecution Outcome Report. Disposition information obtained from the courts should be used to report on the degree to which cases moved past first judicial screening and on to trial or other disposition. Once again, this report should be available for a unit or an individual investigator.

Aside from formal products, users should be able to conduct searches of the database to obtain information they need to do their work such as:

- Checking for supplemental reports due within a certain time period.
- Linking related cases based on victim name, offender name or witnesses.

Those searches should be easy to make and fast. Users should be able to print out the results of those searches or transfer data electronically to standard business software for word processing and spreadsheets.

Special consideration should be given to the level of training users will need to search data, design reports, or convert data to different formats for analysis purposes.

## **Conclusions**

Over time, it will be important for the managers and supervisors to make use of automated systems in attempting to fulfill the performance goals the Department has set for criminal investigations. This draft version should be shared with a wide range of line and supervisory staff who are involved in case management. Their ideas and needs should be used to modify these functional specifications. A set of system performance goals should be developed based on that input.

Once completed, the functional specifications should be used to develop a system design and automation plan that should be used to guide system development. To be useful, the automation plan should contain a specific set of goals and tasks, a timetable for reaching those goals, and fix responsibility for completing tasks.

## Appendix V-A

### Air Support Unit Activity, 1999

Type of Mission	Aircraft 182	Aircraft 206
Photograph		
SWAT	2	
Special Investigations Unit	3	3
Health Dept.	1	
Detectives		3
Land Use		1
Surveillance		
Lakewood	1	1
Community Support Team	9	
Special Investigations Unit	1	1
Detachment 21		1
Air Tracking		
Community Support Team	1	
PCSD	1	1
Search and Rescue		5
Transports		
Warrants	1	1
PCSD		2
Honor Guard		2
Wildlife Survey		1
Searches/Detectives	1	2
Total Missions	21	24
Total Flight Hours	51.7	83.3

## Appendix V-B

### Traffic Workload

This appendix contains available workload or activity data on (1) Pierce County Traffic Unit, stationed at the South Hill precinct, and (2) Lakewood Traffic Unit.

#### Pierce County Traffic Unit—Monthly Data for 1999

Month	Infractions	Criminal Citations	Accidents	Patrol Assists	Reports	Arrests	Complaints	Details
Jan	1163	13	24	84	36	40	151	156
Feb	1023	19	37	39	41	35	106	129
Mar	1096	21	45	42	28	39	119	142
Apr	821	30	147	45	21	43	172	375
May	742	22	137	38	19	12	86	436
June	689	26	162	29	30	23	101	458
July	890	35	137	52	41	32	168	360
Aug	910	38	160	46	38	41	310	153
Sep	1048	42	215	60	38	29	151	220
Oct	860	28	140	38	48	31	108	196
Nov	920	36	180	52	36	28	113	142
Dec	790	18	135	66	43	17	98	116
Total	10,952	328	1519	591	430	370	1705	2878

From this data, the following annual averages per traffic officer can be calculated. The unit had 12 positions, but there was one vacancy. Thus, the averages are computed based on 11 officers.

Average	Infractions	Criminal Citations	Accidents	Patrol Assists	Reports	Arrests	Complaints	Details
Per Year	995.6	29.81	138	53.7	39	33.6	155	261.6
Per Month	83.0	2.48	11.5	4.5	3.25	2.8	12.9	21.8

#### Lakewood Traffic Unit

The Lakewood data refer to January-September 2000 and are shown in detail on the next page. We extrapolated an annual average per traffic officer, as shown below.

Average	Infractions	Criminal Citations	Accidents	Patrol Assists	Reports	Arrests	Complaints	Details
Per Year	694.8	62.8	118.8	66.7	24	19.8	No data	No data
Per Month	57.9	5.2	9.9	5.6	2	1.65	No data	No data

LAKEWOOD TRAFFIC UNIT																														
Date 01/01- 09/30/00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Fatal Collision Inv					1	1							1						1											
Hours					7	15							7						6											
Fatal Collision Follow-up		1			1	2	1	1		1		1	1	2	2	2	1	1	1	1	2		2	1	2	2	4		2	3
Hours		4			4	12	8	4		4		5	13	10	5	7	7	5	3	9	10		10	10	16	13	26		4	11
Injury Collision Inv	9	5	9	4	9	6	4	4	5	12	8	7	4	2	7	5	5	2	5	6	2	3	4	9	2	13	6	3	5	5
Hours	13	7	19	8	20	0	5	9	8	31	13	6	6	3	12	8	8	4	10	8	2	4	8	12	5	22	7	4	12	6
Injury Collision Follow-up	1	1			4	1	1		2	2	5	2	1	1		4	2		1	1		1	1	1		1	1			
Hours	3	1			6	2	2		4	3	12	3	1	1		14	4		1	1		4	2	4		2	2			
All other Collision Inv	22	24	25	16	12	20	17	17	17	24	28	15	19	14	24	19	24	15	8	12	9	15	11	16	13	13	23	14	25	19
Hours	30	32	31	21	16	29	26	25	32	24	31	19	24	16	28	20	33	18	11	13	10	18	11	18	20	16	26	18	34	24
D.U.I.	7	3	2	1	3	3	1	3	2	1	3	3	2	3	4	2	3	1		4	1	5	2	2	1	5	1	2	4	2
DWLS 1,2,3/RECK/NEG	15	8	10	6	8	12	11	6	9	10	5	12	9	6	5	14	16	10	10	9	3	8	8	8	15	15	12	4	11	9
NOI's			1			1	2							4	3	1					2	5	1					1	1	2
Criminal Reports	9	10	6	3	3	5	3	4	3	3	8	5	5	4	2	4	9	4	8	5	1	7	5	5	4	5	1	3	6	4
Hours	11	16	9	5	9	12	4	8	7	5	13	6	12	6	3	5	19	7	13	6	1	13	7	5	6	9	2	6	17	7
Misdemeanor Arrests	1	3	5	1	2	1		1	1	2	3	1	4	3	1	1	7	1	1				2	3	1			3	4	
Felony Arrests	2	1	1		2				1			1	3	1	2	1	3		1	2		1	1		1	3	3			1
Arrest Warrants Cleared		1	7		1				1	1		2	4			1	7		1			2			2	3				1
Patrol Calls	29	29	8	18	10	7	7	14	14	11	16	18	15	15	12	12	16	17	17	15	13	14	16	10	10	5	4	1	8	18
Hours	22	32	7	14	7	5	9	18	14	7	22	25	13	10	13	16	12	14	15	15	14	12	19	17	15	7	7	1	14	20
Seatbelt NOI	17	10	9	12	11	10	4	9	8	7	10	7	12	8	5	4	10	4	11	2	2	3	5	8	1	10	8	10	8	7
Child Restraints NOI	3	1						1					1	2			2	8	1	1	1	1		2			2			1
Parking Complaints		7	3	2		4	7	1	3		4	2	2	4	3	7	3	2	1		2	2	6	1		2	2	5	3	5
Collision NOI	17	9	16	11	12	10	9	13	10	16	17	10	12	8	11	16	13	16	9	16	6	14	4	9	7	12	12	8	10	22
All other NOI's	90	52	40	61	29	49	22	27	63	50	66	62	60	20	40	41	69	51	54	45	21	24	28	60	52	40	66	24	36	45
Criminal Citation	1									1				1		1	1			2			1						1	
Fail to StopRED LIGHT	1			1		1				2	1	1	6		1		2	2		1	2	2	2			1	1	3	2	1
Radar NOI	104	72	58	62	60	78	44	90	61	80	102	79	91	41	47	49	78	82	70	67	37	39	51	88	47	65	74	70	58	68
Total NOI/Citations	225	141	135	150	106	154	105	155	162	157	175	147	186	97	110	126	166	150	148	132	78	103	102	156	111	131	159	121	132	137
Enforcement Hours	150	88	79	85	71	89	65	91	88	111	120	103	117	52	62	75	84	98	80	83	43	58	64	91	72	77	84	83	71	105
Hours Worked	311	260	218	201	201	303	214	246	226	229	268	212	290	204	252	246	209	216	211	227	207	158	217	228	214	214	230	216	219	211
Vacation/Furlough	28	7	40	20	58	22	52	60	61	30	20	18	38	48	28	28		20	20	80	28	20	10	30		10	42	40	50	50
Sick	10	32	30	10		10	10	10		10	21	30					20	10	20	30	20	20	20			10	10	10	18	12
Training In-Service	20	14				44	20	20	8	20	36	34	36	26	56	38	8	18	18	38	8	48	46	36	46	34	68	8	5	18
Training Extra Duty (EDA)		30	18	35		40	30	10		28	16	16	26	42	26	28	20	20	10	20	60	50		20	25		30			
EDA? HDS, SWAT,							10																							6
Detail EDA Hours	6	15	19	16	29	18		10		4		10	17	13	18	8	45	55	18	29	52	18	30	56	56	46	24	14	19	3
Detail Traffic Hours	6	1	35	4	30	11		3	16	23		2	15	16	12	2	5	12	20	10	20	20	19	14		4		15	13	4
Detail Instructor Hours			5				8	16	8	8	8	28	38	13	8	16	37	10	18	18	26	32	16	20	15	10	26	26	8	8
Overtime Traffic Hours	4		2		4	9			8	12	6		14	16	5	10	14	2	19	14		5		18	10	12	9			4
Overtime EDA Hours	24	6	12	9	11	18	11	15	10	7	24	6	20	26	3		17	19	15	16	10	8	7	12	24	6	15	9	8	
Date 01/01-09/30/00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

## Appendix V-C

### Community Policing Capability Survey

Much has been said about the "new" policing approach. However, much is not new about it; in many ways it asks the police agency to go back to the basics of policing. Although some police agencies have seen Community Policing as consisting of a new group of specialist police officers acting somewhat independently of the rest of the agency, those that embraced problem oriented policing methods view it differently. This latter view recognizes that the whole notion of engaging the community is to get a better handle on local crime/disorder problems.

As such, the police personnel best suited for this task is not a small cadre of specialists that move about the city dealing with different groups and issues from time to time. Rather, it should be the officer who deals with the same neighborhood problems day after day and interacts with the same people on a frequent basis: The beat officer, the generalist, the neighborhood patrol officer. It is for this reason that the examination of Community Policing is presented in the Patrol Operations section of this report.

Stripped to its essentials, Community Policing is used here to mean the capability and willingness for a police agency to use the resources of neighborhoods, public and private agencies, other city and county departments, as well as its own resources, to jointly address crime, disorder, and community safety problems. Where appropriate, this problem solving might be unilateral, bilateral, or multi-lateral with the various entities. For convenience sake, four levels of police-community involvement in neighborhood problems are presented below.

#### Community-Police Problem Solving Approaches

Levels of Community Oriented Policing and Problem Oriented Policing, when combined, form four basic approaches, or "styles" an agency may use in accomplishing its mission. It is important to stress that there is *no best approach for all situations*. A particular policing approach can be beneficial only when the agency has the capacity to adopt it, the community and employees are ready to accept it, and the nature of the particular policing situation is appropriate for it. The four approaches are defined below.

**Reactive: acting as a response.** "We attempt to answer all calls for police service as soon as we can and as expeditiously as possible. When particular crime or disorder incidents are brought to our attention, our department expends a great deal of effort to solve them. We have a number of experts whose respective specialties cover just about every type of situation encountered in modern policing. If we can't solve the case within a given amount of time we put in more resources or suspend action on it; we then move on to the next one because there always seems to be many more radio calls, complaints, and cases waiting for us than we have resources to handle the way we would like to."

**Interactive: reciprocal action.** “When we fail to resolve crime or disorder incidents, we turn to the community for help. We tell them specifically what they should and should not do and to report immediately to us any information relative to the problem at hand. We recognize the police can't "protect and serve" without a great deal of help from citizens, so we developed a number of programs for them to adopt reasonable security measures, obey laws and ordinances, report offenses promptly to us, and cooperate with us in the investigation and prosecution of criminal cases. We also help citizens organize their neighborhoods for self protection, and work to achieve environments that inhibit crime and disorder.”

**Proactive: acting in advance.** “An incident that we can't deal with effectively is promptly checked to see if it is part of a pattern. Depending on where or what type of pattern is identified, the problem is assigned to an employee accountable for its solution. Since that person is accountable for the resolution of the problem, supervisory follow-up and support is expected by our management, as well as periodic progress reports, and a final assessment of the total effort. Our systems and procedures facilitate problem solving, including the full cooperation of other city departments as well as public and private agencies.”

**Coactive: acting together.** “Problems identified by, or assigned to, an employee are routinely checked with the people likely affected by those problems in the community. This serves as a validity check and better defines the problem. Together with community members, our personnel further analyze the problem and develop goals, strategies, and action plans. Members of the community may also collect data, implement solutions, and monitor activities associated with the action plan. If the solution to the problem doesn't seem to be working, community members are usually the first to know and do not hesitate to contact their district or beat officer(s). A second round of joint problem solving may then begin.”

As discussed above, an agency should not select one particular policing approach and attempt to adopt it for all situations. Rather, depending on the nature of the problem, the willingness of the community to participate, and the ability of the police to move beyond being merely reactive, different policing approaches become appropriate. Attempting to implement a particular policing approach when the conditions do not support it (situation, community, and police) is likely to end in failure and the mistaken notion that community police problem solving just doesn't work.

## **Capability Survey**

In an attempt to determine the capability of the Pierce County Sheriff's Department to engage in the several policing approaches discussed above, a survey was conducted to determine the extent to which certain departmental practices and support systems would facilitate each of the four approaches. A total of 18 supervisors and managers anonymously completed a 20-item rating form, which appears below. The responses were entered into a spreadsheet by rank prior to analysis. The survey attempts to capture the two main dimensions imbedded in the four policing approaches: the agency's Relationship with the Community and the agency's Relationship with its Employees.

The questions and their respective overall rating scores are presented in the exhibit below.

P/O \_\_\_ SGT \_\_\_ LT \_\_\_ CAPT. \_\_\_ CHIEF \_\_\_

### PIERCE COUNTY SHERIFF'S DEPARTMENT ASSESSMENT

Rate your Department—AT YOUR ASSIGNED LOCATION— on each of the 20 statements below using the following scale:

4 = This description fits my division almost perfectly;

3 = This describes my division fairly well,

2 = This is true of my division to a moderate extent;

1 = This is like my division only to a small degree;

0 = This is not like my division at all.

(Please circle the number corresponding to your rating)

- |                                                                                                                                                                                                                        |   |   |   |   |   |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|--------------|
| 1) Our officers have a detailed knowledge of the communities they serve - including locations, residents, businesses, offenders, groups, resources, and events that are likely to impact public safety.                | 0 | 1 | 2 | 3 | 4 | <b>(3.4)</b> |
| 2) Our Department tries to keep field officers and supervisors associated with specific neighborhoods for extended periods of time.                                                                                    | 0 | 1 | 2 | 3 | 4 | <b>(2.4)</b> |
| 3) There is a high level of mutual respect and trust between our field officers and the people in the neighborhoods in which they work.                                                                                | 0 | 1 | 2 | 3 | 4 | <b>(2.7)</b> |
| 4) We make it very easy and comfortable for citizens to contact precinct officers and discuss issues with them.                                                                                                        | 0 | 1 | 2 | 3 | 4 | <b>(2.7)</b> |
| 5) The political climate in our community promotes harmonious relationships between the police and residents, students, workers, visitors, and other groups.                                                           | 0 | 1 | 2 | 3 | 4 | <b>(2.7)</b> |
| 6) In our community, both the public and our employees understand that the people we "protect and serve" are our customers and we take great pains to prove this to them – if we fail, we find out why and correct it. | 0 | 1 | 2 | 3 | 4 | <b>(2.3)</b> |
| 7) When we discuss safety issues with the community, we make it clear we sincerely want to work closely with them in resolving those issues.                                                                           | 0 | 1 | 2 | 3 | 4 | <b>(3.2)</b> |
| 8) We take pride in our low rates of citizen complaints against sworn and civilian employees for lack of courtesy, respect, or helpfulness.                                                                            | 0 | 1 | 2 | 3 | 4 | <b>(3.1)</b> |

- 9) Our deployment practices provide the patrol force with adequate time for productive contacts between our officers and the public. 0 1 2 3 4 **(1.2)**
- 10) Members of our Department are expected to take part in community events and to foster good relationships with the public in both formal and informal settings. 0 1 2 3 4 **(2.2)**
- 11) The leaders in our Department continually remind us that police incidents are usually symptoms of deeper problems in the community and it is our main job to identify and address those problems. 0 1 2 3 4 **(1.4)**
- 12) We have "state-of-the-art" information systems and adequately staffed technical support that are responsive to the information needs of officers and supervisors. 0 1 2 3 4 **(0.7)**
- 13) In our Department, employees closest to the source of problems are expected, encouraged, and supported in developing plans to resolve those problems. 0 1 2 3 4 **(2.4)**
- 14) All our employees have received and continue to receive problem solving training pertinent to their particular assignments. 0 1 2 3 4 **(1.7)**
- 15) Field officers, in particular, as part of their anticipated workload, are allotted enough time to work on specific problems at least once weekly. 0 1 2 3 4 **(0.9)**
- 16) The system of recognition and rewards in our division has been adjusted to facilitate identifying and solving problems as well as promoting effective teamwork. 0 1 2 3 4 **(1.1)**
- 17) Our Department continues to maintain a high level of cooperation with other governmental and private agencies so as to increase the level of problem solving resources our people can draw upon. 0 1 2 3 4 **(2.7)**
- 18) Our supervisors and managers are evaluated on the basis of how well their people embrace the problem solving processes in their daily work. 0 1 2 3 4 **(0.9)**
- 19) Our Department has been successful in obtaining the necessary equipment, proper tools, and facilities for our people to do the best job they are capable of. 0 1 2 3 4 **(1.8)**
- 20) We encourage our field officers to have a specific plan for how they are going to approach their work on any given shift. This would include a written list of tasks that directly supports achieving an objective. 0 1 2 3 4 **(0.7)**

**Survey Results.** As shown in the above table, the first ten items relate to the Sheriff's Department's *Relationship with the Community*. In that dimension, the average scores for each survey item varied between 2 and 3, the highest rating, 3.2, was given to #7, communicating a willingness to work with the community; while the lowest rating, 1.2, was given to providing of adequate time to officers to work with the public. With respect to the Department's *Relationship with its Employees*, average item ratings were considerably lower, ranging from 1 to 2. The highest #13, expectation to do some problem solving by personnel closet to the source of problems; while the lowest #12 and #20 with a score of 0.7, relate to supporting the information needs of officers and supervisors, and encouraging officers to plan their proactive work. Also scoring very low (0.9) were items # 15 and #18, which referred to the allotment of time to work on problems, and supervisors being evaluated on the basis of employee problem solving.

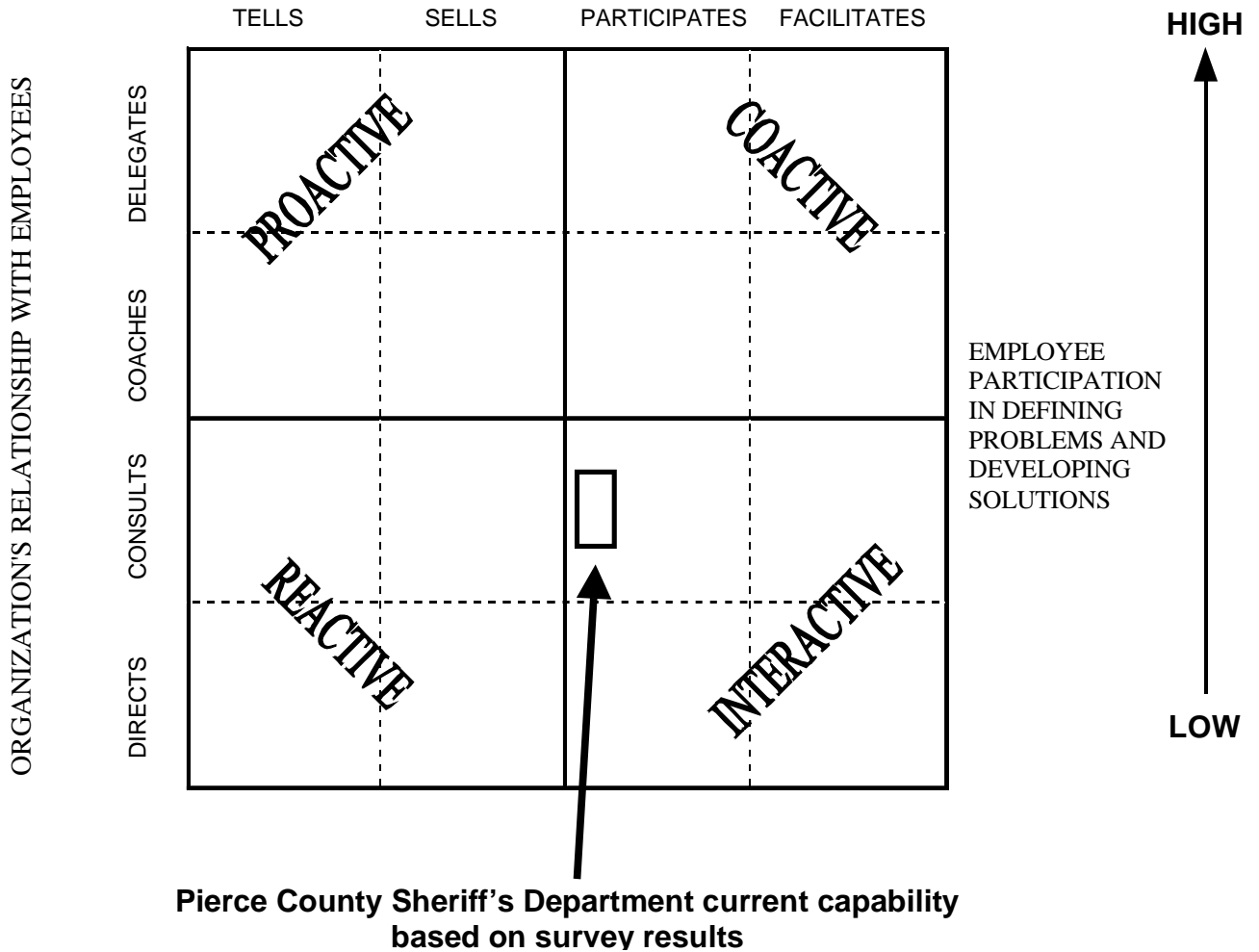
Summing the ten item ratings on each dimension yields scores that can range from 0 = lowest, to 40 = highest. Overall, the Department rated considerably lower on its support for employees to actively support Community Policing. In particular, behavioral expectations, organizational support, providing time, and information technology were seen as severely lacking. The Department did rate higher, however, in attempts to reach out and establish a partnership with the community.

The Department's ratings relative to the two main Community Policing concepts discussed in this section are also presented as a graphic below (next page). The Department rating is indicated by the small box (marked by an arrow). It is in on the edge of the *Interactive* quadrant, close to the *Reactive Approach*. This suggests that the capability to engage in a greater level of *Interactive* policing could soon become a reality—providing the areas of organizational weakness are addressed.

Officers are seen as more entrenched in the *Reactive Approach* when it comes to problem solving. The *Proactive Approach* is more difficult to realize because of the organizational impediments. In spite of a culture that does not facilitate neighborhood problem solving, many officers in interviews showed a very strong interest and enthusiastic attitude toward the *Proactive and Coactive Approaches*.

# COMMUNITY-POLICE PROBLEM SOLVING APPROACHES

ORGANIZATION'S RELATIONSHIP WITH COMMUNITY



From the preceding discussion and graphics, we readily discern that the Pierce County Sheriff's Department is approaching the capability of being more **interactive** with the community, and to a lesser extent becoming more **proactive**. But it is also clear that much more will need to be done to get the agency capable of adopting the **coactive** policing approach when truly needed. It should be mentioned that by on-site observations, interviews, and group discussions, the study team validated the results of this survey.

It is our conclusion that rank and file officers are appreciative and supportive of more positive interactions with the community, and appeared to be quite respectful and courteous to residents and visitors. We also found that supervisors and managers in the Sheriff's Department truly want a problem solving partnership with the public. These attitudes, though necessary, are not sufficient to reach the more efficacious levels of Community Policing that is within this vision.

## Appendix VI

### Organizational Models

This appendix is intended to supplement the broader discussion of organizational issues in Chapter VI. The appendix focuses on internal organizational issues and discusses various options for organizing sheriff's departments.

There are a few common models for organizing local law enforcement agencies, and of course many variations. The appendix reviews the key models, their characteristics, and the circumstances under which each is normally employed.

Sheriffs are usually elected officials, as was the situation in Pierce County until the Home Rule Charter took effect in 1981. The Pierce County Sheriff is an appointed official who is selected by and reports to the County Executive.

#### Grouping of Law Enforcement Functions

Certain functions are usually grouped together organizationally, as listed below.

**Administrative and Support Functions.** Certain functions are usually grouped together under an administrative unit. They include:

- Budget, purchasing, accounting and finance
- Personnel and training
- Organization development
- Facility and vehicle maintenance
- Uniforms and equipment/quartermaster
- Police records
- Communications/dispatch
- Computer services and management information systems
- Court liaison
- Property and evidence
- Planning and crime analysis.

Some of the principal variations in this grouping are as follows.

- Placing personnel and/or training directly under the Sheriff.
- Placing organization development directly under the Sheriff.
- Placing planning and crime analysis directly under the Sheriff.
- Placing crime analysis within a detective bureau instead of, or in addition to, other placements.
- Placing property and evidence within a detective bureau.

- Communications/dispatch may be either a combined police/fire/rescue unit operated under a “public safety” department, by another police department on a contract basis (for smaller departments), or by a regional agency on behalf of a number of agencies.

Another variation, usually limited to large departments, is to have two separate support units: one for general administrative functions (such as budgeting and purchasing) and a “technical support” unit for dispatch, crime lab, and some specialty units).

**Patrol Functions.** A Patrol or Uniformed Services division is usually a major element in sheriff’s departments. Typically, this division will include:

- Patrol cars assigned to beats
- Foot or bike patrols
- Special units such as K-9, SWAT, and others
- Community policing units or carried out by generalist patrol officers.

These units are usually organized on a geographic and shift basis. Some of the main variations include:

- Combining traffic enforcement and accident investigation with Patrol.
- Separating out specialized services, if there are several of them, such as helicopter units, marine units, SWAT units, bomb squads, and other highly specialized functions.

**Criminal Investigations.** Police or sheriff’s departments almost always have a separate criminal investigations unit or a detective bureau. Typically, the functions include:

- Crimes against persons
- Crimes against property
- Youth divisions
- Narcotics units
- Vice squads
- Identification (fingerprinting, mug shots)
- Crime scene processing

In larger departments, specialty units are created within the Investigations unit. In smaller departments, these functions may be combined in undifferentiated fashion.

Some of the principal variations are the following:

- Having a crime analysis unit within Criminal Investigations.
- Placing court liaison officers, property, evidence, and internal affairs within Criminal Investigations.

**Specialty Units.** Some functions may be located in various places within a police or sheriff's department. Common specialty functions include the following.

- **Internal affairs.** This unit is focused on controlling corruption within the department and major infractions of acceptable conduct. The unit usually reports directly to the Sheriff or Chief of Police.
- **Public information.** Larger departments usually have a staffed public information office. In smaller departments, an individual who has other duties may be tasked with this responsibility.
- **Legal affairs.** Larger departments may have their own lawyers. Smaller ones usually get their legal support from other agencies of local government or from local lawyers on a contract basis. The function normally reports directly to the Sheriff.
- **Labor relations.** Some larger departments have a specialized unit for labor relations which may include only personnel administration or may also include contract negotiations, grievance handling, and related matters.

## **Models and Variations**

The above functions can be combined variously into different arrangements of major and subordinate units of varying numbers, levels, and spans of control according to the size and complexity of the department. Several major models exist, each with variations.

**The Undersheriff Model.** In this arrangement, one executive officer or general chief deputy is positioned between the Sheriff and all (or most) subordinate units. This position may be called Undersheriff, First Chief Deputy, or Director. A few staff or specialty functions may be placed directly under the Sheriff, but essentially all the major functions are organized under a general deputy.

This model is most common in departments with elected sheriffs. This division of labor allows the Sheriff to attend to major "outside" duties (such as political issues, press, and policy) while leaving the Undersheriff to deal with the "inside" issues of day-to-day management of running a law enforcement agency. The inside/outside arrangement has merit in larger organizations where each assignment can be a full-time job.

**The Multiple Director or Chief Model.** An alternative is the multiple deputy model. Directors or chiefs are appointed to head two, three, or four major divisions. These are top management positions. In some states, all personnel up through the rank of Captain (but not Directors, Chiefs, or Assistant Chiefs) are included within a bargaining unit.

**The Field Service/Administrative Service Model.** In this arrangement, there are two major divisions under the Sheriff, the Field Service Division and the Administrative Service Division. The Field Service Division typically includes patrol, traffic, and investigatory responsibilities. The Administrative Service Division includes the support functions such as budgeting, communications, records, equipment, and others.

The advantage of this arrangement is that it ties together the major operational “police service” responsibilities of patrol, traffic, and detectives under one head. Theoretically, this may improve cooperation and coordination of these units. The head of operations is responsible for the major functions, leaving the Sheriff able to attend to other duties.

This model may have additional applicability where the “community policing” model is used. In community policing, the distinction between patrol, traffic, prevention, and investigation is reduced to some degree, as generalist officers are expected to perform a variety of functions.

**The Patrol, Traffic, Detective, General Services Model.** In this model, there are four major units under the Sheriff (or Undersheriff): Patrol, Traffic, Detective, and General Services.

**The Uniformed Services, Investigation, Support Services Model.** This model integrates patrol and traffic into a uniformed services unit. It thus has three major divisions: uniformed services, investigations, and support services.

### **Additional Staff Units**

On top of any one of these basic structures may be grafted one or more staff units or positions that report directly to the Sheriff. Some of the more important positions include the following.

- **Executive Assistant.** A sworn officer or a civilian can fill this position. The Sheriff can use this position to help with assignments that he/she prefers not to assign to line departments. Typical projects include helping to implement change, performing budget analysis or administrative research, writing reports, preparing grant applications, serving as a public information officer, handling citizen complaints, or other special assignments.
- **Internal Affairs.** This unit, usually staffed at the level of sergeant or lieutenant, is used to conduct investigations into police corruption and infractions related to conduct. This position frequently is a direct report to the Sheriff.

- **Personnel and Training.** Some sheriffs prefer to maintain direct control of personnel and training. This would include recruitment, selection, evaluation, promotion and related human resource functions such as training that are instrumental in building a workforce of the type desired. The purpose is to keep these important functions from becoming “bureaucratized.” Often the Sheriff will reserve certain “critical” activities associated with these functions to his office with a very lean staff and assign the more mundane elements such as record keeping to the Administrative Services Bureau. A lot depends on the style of the sheriff and the confidence he/she places in the administrative service head.
  
- **Planning and Research.** A sheriff may also want to have direct control over planning and research. Law enforcement agencies collect an enormous amount of information on calls for service, crimes, clearance rates, and other topics. The information can be used to determine optimum staffing levels, develop beat structures and deployment patterns, and support related decisions that can dramatically affect a department’s efficiency and effectiveness. The routine records functions can still be performed within the Administrative Services Division, while utilizing a highly trained professional under the Sheriff’s personal control to perform special analysis.