
Secretary of State

State of Oregon

OREGON STATE POLICE

Personnel Allocation and Deployment



Audits Division

Secretary of State

State of Oregon

OREGON STATE POLICE

Personnel Allocation and Deployment



Audits Division

OFFICE OF THE
SECRETARY OF STATE
Bill Bradbury
Secretary of State
Suzanne Townsend
Deputy Secretary of State



AUDITS DIVISION
John Lattimer
Director

(503) 986-2255
FAX (503) 378-6767

Auditing for a Better Oregon

The Honorable John Kitzhaber, M.D.
Governor of Oregon
State Capitol
Salem, Oregon 97310

Ron Ruecker, Superintendent
Department of State Police
400 Public Service Building
Salem, Oregon 97310

This report contains the results of our audit of the models and processes used by the Oregon State Police for determining staffing levels. The nature of state policing is such that the quantity and allocation of human resources has a direct effect on the agency's ability to affect crime and public safety, as well as its ability to provide support services to local jurisdictions.

Our audit found that the department could make certain adjustments to its police staffing models that would make the models more realistic predictors of actual resource needs. We also noted that deployment of personnel resulted in the Klamath Falls patrol station receiving a disproportionate share of the state police resources available. We further advise the department to take a closer look at the amount of trooper time spent on administrative activities and the department's use of overtime hours.

OREGON AUDITS DIVISION

John N. Lattimer
Director

Fieldwork Completion Date:
November 15, 1999

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY.....	vii
BACKGROUND AND INTRODUCTION.....	1
CHAPTER 1: ANALYSIS OF STAFFING MODELS	9
CHAPTER 2: RESOURCE ALLOCATION IN THE PATROL DIVISION.....	17
CHAPTER 3: OTHER MATTERS	21
OBJECTIVES, SCOPE AND METHODOLOGY.....	23
COMMENDATION	26
APPENDIX A: GLOSSARY OF TERMS.....	27
AGENCY'S RESPONSE TO THE AUDIT REPORT	29

EXECUTIVE SUMMARY

The purpose of this audit was to independently evaluate the models and processes used by the Oregon State Police for determining staffing levels. We also determined whether the current and planned deployment of patrol officers is consistent with the models and statewide calls for service.

Results in Brief

***Improvements
can be made in
utilization of the
allocation
models.***

We determined that:

- Certain adjustments need to be made to the police staffing models to make them more realistic predictors of actual resource needs, (such as including overtime hours and other paid employee hours in calculations of staff hours available where appropriate) and the agency should better utilize historical data to determine the amount of time spent on administrative and other tasks;
- Each model is driven primarily by policy decisions. These decisions should be clearly articulated and validated where possible;
- Deployment of patrol officers appears to be in line with the models and statewide calls for service data, except for the Klamath Falls patrol station, which appears to be proportionately overstaffed; and
- The department should take a closer look at the amount of time spent on administrative activities and its use of overtime.

Agency Response

The Oregon State Police generally agreed with the conclusions and recommendations in this report.

Background and Introduction

The department was created to serve as a rural patrol and assist other jurisdictions.

The department of Oregon State Police was created in 1931 to serve as a rural patrol and to assist local city police and sheriffs' departments. The current mission of the department is to develop, promote and provide protection to the people, property and natural resources of the state, along with ensuring the state's safety and livability by serving, protecting and educating its citizens and visitors through leadership, action and coordination of Oregon's public safety resources.

In order to accomplish this mission, the department is organized into two bureaus, Operations Services, and Intergovernmental Services, which are served by 13 divisions. Some of the agency's specialized programs and services include transportation safety; major crime investigations; forensic services including DNA identification, automated fingerprint identification, and computerized criminal history files; drug investigations; fish and wildlife enforcement; gaming enforcement and regulation; state emergency response coordination; state Fire Marshal Service; statewide Law Enforcement Data System; medical examiner services; and Special Weapons and Tactics.

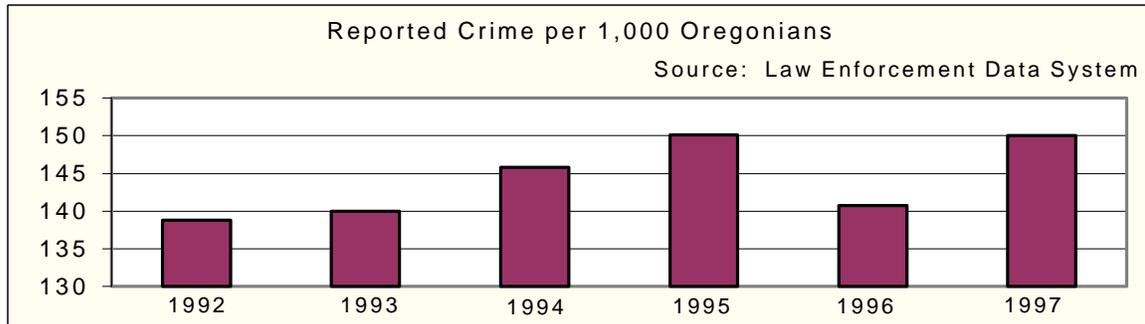
The department's budget of \$346.6 million includes 1380 positions.

The department's 1997-99 estimated budget for expenditures was \$346.6 million. This budget included 1,380 fulltime equivalent (FTE) positions. According to the department, of this \$346.6 million, a significant amount is "other" or "federal funds" that are passed through to local communities in the form of grants, 9-1-1 revenue and federal emergency management dollars. The 1997-99 budget represented an increase in both positions and total funds over the 1995-97 budget (\$287 million and 1,270 FTE). The department budget was reduced by the 1999-01 Legislature to a total of \$339 million but authorized 1,463 FTE. This latest budget included funding for the addition of 100 new patrol officers by the biennium's end.

The increase in reported crime coincides with a significant increase in population.

As Chart 1 demonstrates, the overall reported crime rate in Oregon has increased since 1992. The most significant increases have occurred in the property and behavioral crime categories. These two categories account for nearly 90 percent of all offenses. The third category, crime against persons, actually decreased during the same period. However, the increases in the two larger categories offset any reductions realized. The overall increase in reported crime coincides with a significant increase in Oregon's population.

Chart 1



The Patrol Services Division's primary responsibility is for traffic safety and response to emergency calls on Oregon's highways.

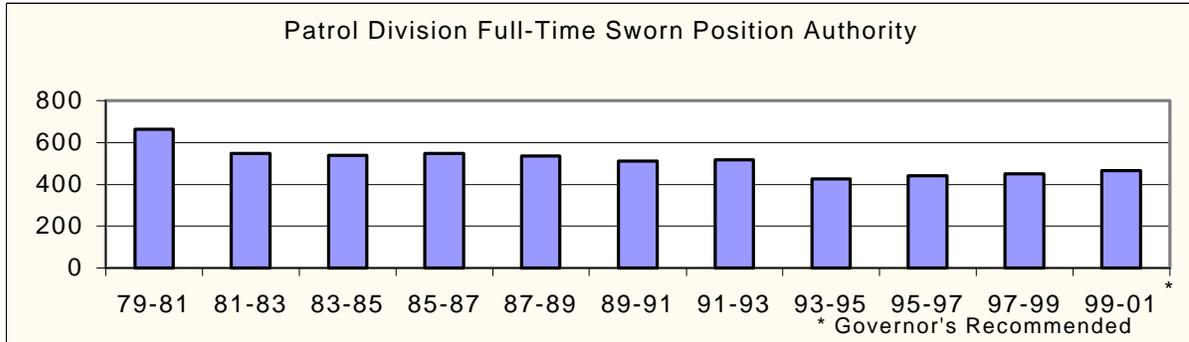
As of 1997, Oregon's vehicle accident and fatality rates, as a percentage of miles traveled, have steadily decreased for the period from 1985 to 1997. Although the number of accidents per mile traveled is decreasing, the number of urban accidents has increased by 12.4 percent during the same period.

Patrol Services Division

The Patrol Services Division is one of the three primary enforcement divisions and provides uniformed police presence and law enforcement services throughout the state with primary responsibility for traffic safety and response to emergency calls on Oregon's highways. Services include enforcement of the Motor Vehicle Code, Motor Carrier Regulations, Public Utility Commission Laws, Criminal Code, Fish and Wildlife Laws, and assistance to local agencies and the public.

During the past 20 years, the Patrol Services Division has declined in the Legislatively authorized sworn trooper positions available for deployment. Chart 2 shows the decline from a high in 1979-81 of 665 positions to the present 1999-01 total of 467 positions.

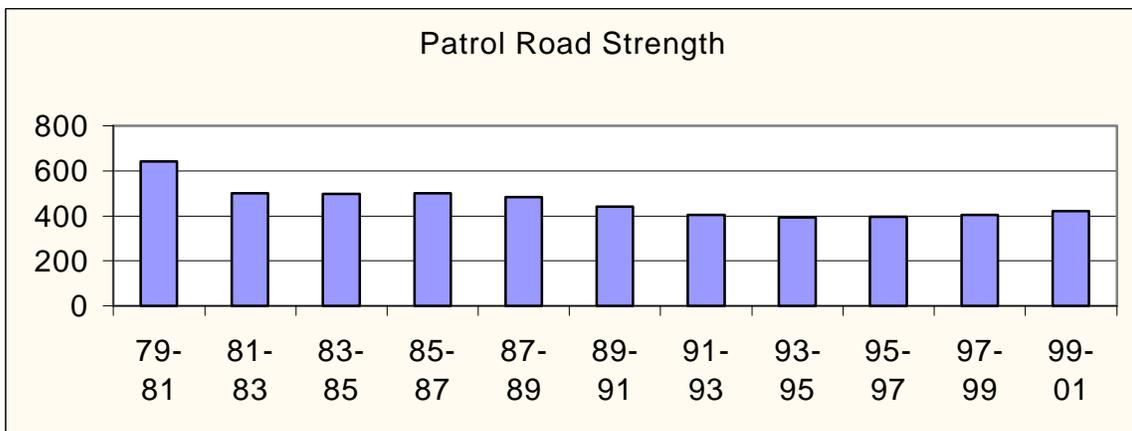
Chart 2



Source: 1999-01 Governor's Budget

Of the positions authorized, the department is mandated to dedicate a specific number to the regular patrol of Oregon's highways. Chart 3 shows the State Police road strength figures and the reduction in routine patrol personnel. The Legislature establishes a patrol service level in each biennial budget. This service level is expected to represent the minimum number of troopers and sergeants dedicated to routine patrol duties. During the 1997-99 biennium, this number was 380. This figure will increase to 405 in July 2000, and to 480 in January 2001.

Chart 3

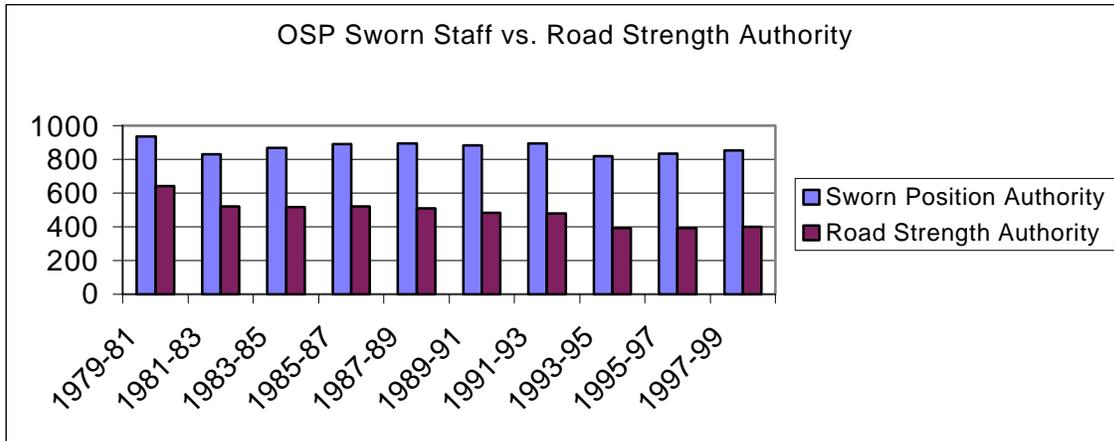


Source: Legislative Fiscal Office

Chart 4 shows the changing percentage of the department's Legislatively authorized sworn staff mandated to perform patrol-related duties. During the last 20 years, this percentage has dropped from 68.4 percent to 46.7 percent. The department pointed out that the reasons for this change include the addition of

numerous programs to the department, such as OSU Security, Capitol Mall Security, Lottery Security, Gaming Enforcement, and the growth in the early 1990's of sworn criminalists.

Chart 4



Source: 1999-01 Governor's Budget

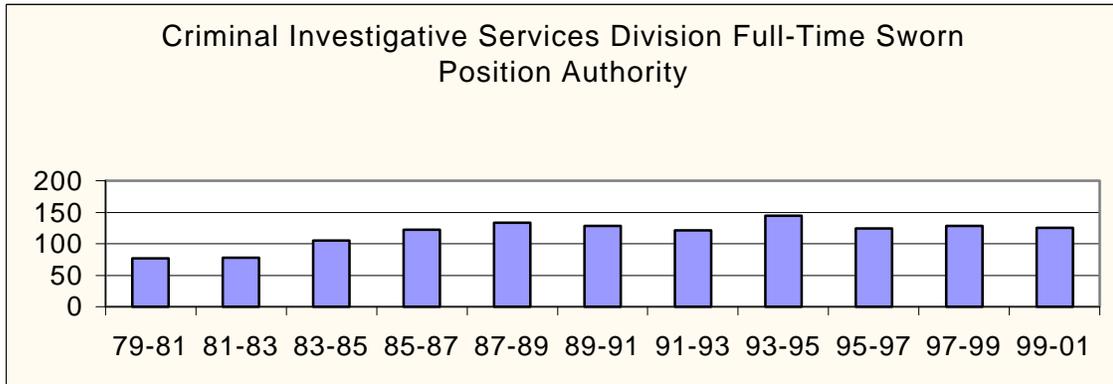
Criminal Investigative Services Division (CISD)

The CISD augments and supports local law enforcement.

The Criminal Investigation Service Division augments and supports local law enforcement through investigation of major crimes, the pursuit and apprehension of criminal offenders, and the gathering of evidence. Specialized units include arson/ explosives, drug investigations, intelligence, missing children, homicide incident tracking system, computer crimes, and gang enforcement.

The department has seen an increase in the number of Legislatively authorized sworn officer positions working for this division. Typically, additional detective positions are recruited from the patrol division. Chart 5 depicts the CISD detective positions during the past 20 years.

Chart 5



Source: 1999-01 Governor's Budget

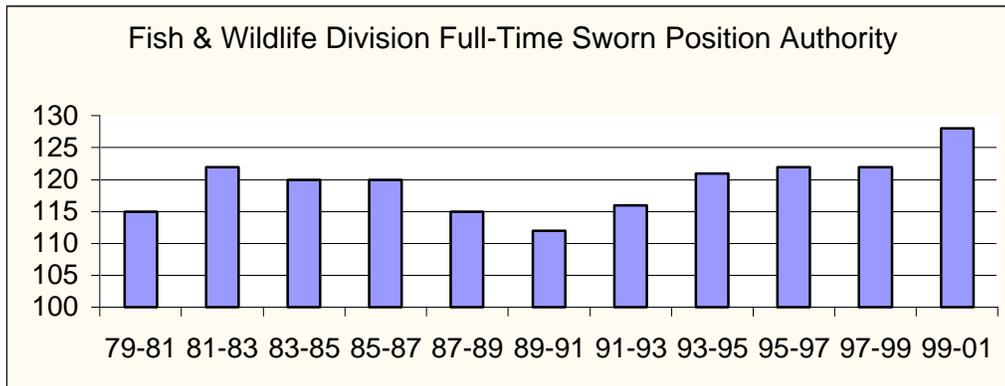
Fish and Wildlife Enforcement Division

The Fish and Wildlife division assures compliance with laws that protect and enhance health and equitable utilization of fish and wildlife.

The purpose of the Fish and Wildlife Enforcement Division is to assure compliance with laws that protect and enhance the long-term health and equitable utilization of Oregon's fish and wildlife resources. The officers routinely enforce traffic, criminal, boating, livestock, and environmental laws.

Staffing of this division has varied during the past 20 years. As seen in Chart 6, the Legislature, in the 1999-01 budget, approved 128 fulltime sworn positions, which is a 20-year high.

Chart 6



Source: 1999-01 Governor's Budget

Statewide Cooperative Policing

A Statewide Cooperative Policing plan was developed as a result of work done by the Public Safety Policy and Planning Council. The council is composed of public safety and criminal justice professionals representing sheriffs, chiefs of police, district attorneys, Oregon State Police, and the Oregon Department of Justice. A major part of the statewide cooperative policing plan is the definition of baseline service to be provided by municipal, county and state law enforcement. The roles and services were defined and then adopted by the Public Safety Policy and Planning Council in September 1994.

Cooperative Policing is a strategic statewide approach.

The purpose of the Cooperative Policing Plan is to provide a strategic statewide approach to policing that will enable law enforcement, public safety and criminal justice agencies to:

- Maximize the value of combined agency resources;
- Provide improved services;
- Provide services appropriate to unique community needs; and
- Enhance communication and partnership among law enforcement, public safety and criminal justice agencies.

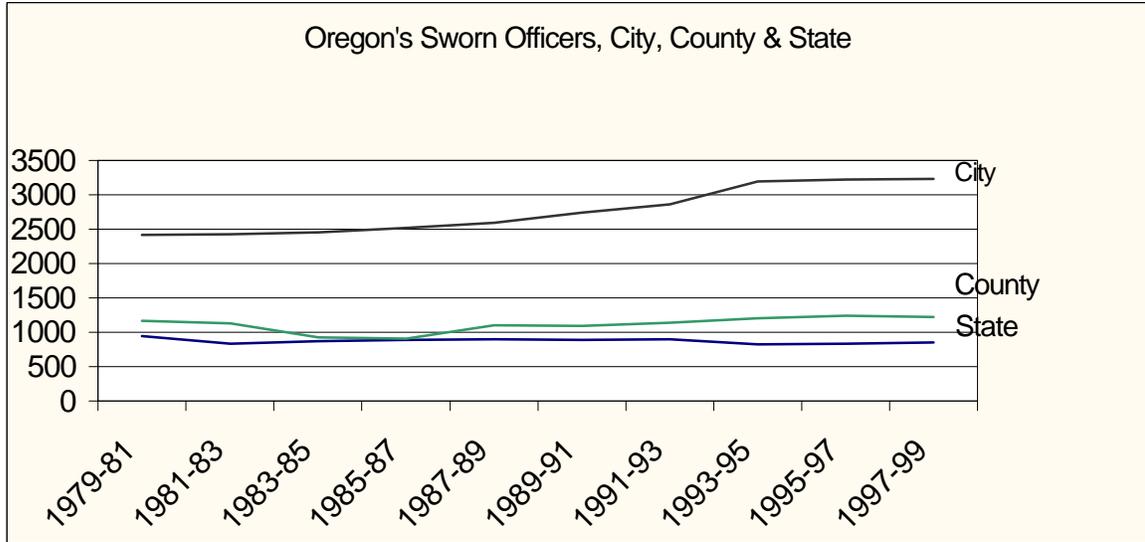
Cooperative Policing must be implemented locally.

A major part of the Cooperative Policing Plan is the assumption that cooperative policing must be implemented locally. In order to deliver cooperative policing plans, the OSP has entered into a series of strategic cooperative policing agreements with local jurisdictions. As of February 2000, 30 of the 36 counties had cooperative agreements in place.

As the state sworn officer workforce has declined, city and county workforces have increased.

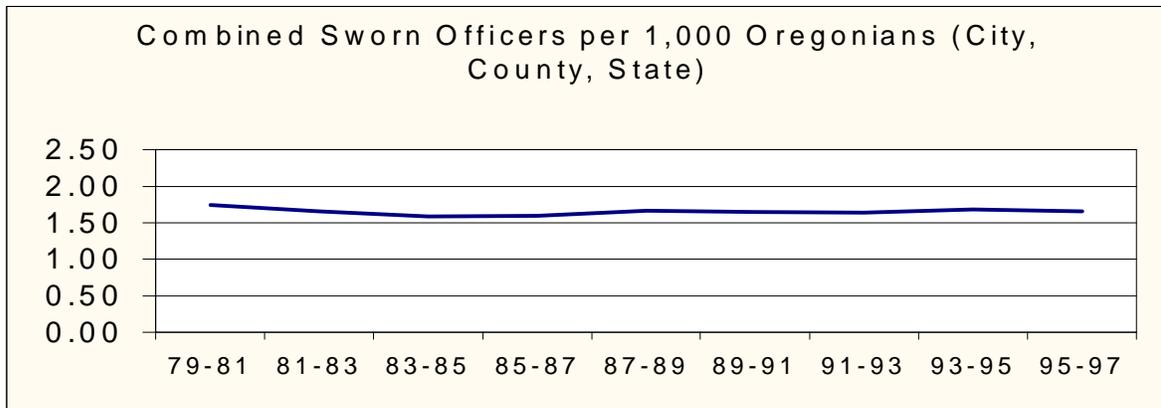
At the same time that state law enforcement has moved to a more cooperative arrangement with local law enforcement, a trend has emerged where more sworn officers are employed at the local level. Chart 7 shows that as the state-sworn officer workforce has declined, the city and county workforce has increased. In fact, even during a period of significant increases in Oregon's population, the number of sworn officers per 1,000 Oregon citizens has remained fairly stable (see Chart 8). However, the current ratio in Oregon of 1.66 sworn officers per 1,000 citizens is still below the national average of 2.5 officers per 1,000 citizens.

Chart 7



Source: Oregon State Police

Chart 8



Data Source: FBI, Uniform Crime Reports and the Oregon State Police

Chapter 1: Analysis of Staffing Models

According to the Oregon State Police, the primary models it uses to determine the number of state police personnel needed are the department's resource gap analysis (Gap), which is used for all divisions, and the nationally-known Police Allocation Manual (PAM), which is used for the patrol division. This chapter consists of our evaluation of these staffing models.

The Resource Gap Analysis

The Resource Gap Analysis is a model used by the department to estimate the number of additional staff resources that the department needs to provide a predefined list of public safety services. This model estimates the hours of staff resources needed to provide a list of services and the hours of staff resources available. The difference is the resource "Gap."

The Resource Gap Analysis is described by the department as:

A method by which the Department of State Police—operating at the Department, division, district, and work site levels in conjunction with its public safety partners—will determine the level of State Police resources needed within each community to fulfill the State's obligations in providing public safety services. The Resource Gap Analysis will start at the Headquarters level with the development of a model for use by the field. The field will use this model in connection with their Cooperative Policing Agreements, public safety partners, and the public in identifying public safety needs and those roles identified for State Police. Once the level of need is established, the current level of State Police resources will be compared against the need. The difference between the need and the services available is defined as the Resource Gap. This service gap will be converted, by managers at work site and district offices, to a statement of the exact number of personnel needed to complete the services. This will be combined with a statement as to the public value created, or added to, when these services are provided.¹

¹ "Service Gap Analysis," Oregon State Police, January 1998, page 2.

We determined that three primary factors drive the Gap model. Those factors are the:

- Number of hours of staff time that can be expected to be available;
- Percentage of staff time that will be spent on “administrative” tasks; and
- Tasks and hours identified as necessary to fulfill the state’s obligations in providing public safety services.

We found that certain adjustments need to be made to the first two factors (hours available and percentage of time devoted to “administrative” tasks) to make the Gap model a more realistic predictor of actual resource needs. In addition, the third factor (tasks and hours needed to provide public safety services) is driven primarily by policy decisions, so these decisions should be clearly articulated and validated, where possible.

Number of Staff Hours Available

The number of staff hours expected to be available is one of the key elements in the Gap model. To calculate this number, the State Police have been multiplying the number of fulltime positions by 2,080 hours (40 hours per week time 52 weeks). During our review, we found that the actual number of hours per officer has been historically higher and there were other paid hours that were not considered in Gap model activities.

Our analysis indicated that the standard hours per fulltime position have been higher than the 2,080 hours used in the Gap model.

Our analysis of officer activity, officer activity reports, and computer generated data as provided by the department’s activity data system indicated that the standard number of hours per fulltime position has been higher than the standard 2,080 hours used in the model. For example, during 1997 the average number of hours worked for all fulltime employees in the Patrol Services, Criminal Investigative Services, and Fish and Wildlife Enforcement Division’s was 2,286 hours. The practice of using overtime to fill service gaps may not be ideal. However, the department should consider whether, due to the nature of the work performed by its officers, it is reasonable to assume that even in a fully staffed situation, overtime would continue to be accrued. If it is reasonable to assume that the practice would continue, then those overtime hours should be included in future Gap calculations (see page 21 for a discussion of the department’s use of overtime).

Using historical numbers in Gap would reduce the staff requested by 22 percent.

In addition to fulltime budgeted staff hours available to perform identified service activities, the department has a significant number of other paid staff hours, most of which are reservists working on a part-time or temporary basis. These hours are not included in the Gap calculations. During 1998, the State Police utilized approximately 43,000 additional paid hours of reservists' services. If the department expects to continue the use of reservists in the future, it should include those hours when estimating resources available.

If it is reasonable to assume that current overtime practices and the current practice of using other paid staff hours to meet service needs would continue in a fully staffed situation, then the failure to include those hours in the Gap analysis has the effect of overstating the number of staff needed to perform public safety services. In our sample, we found that if the department were to use historical numbers of hours worked in the Gap analysis instead of the 2,080 hours that has been used, the estimated number of staff needed to fill the resource gap would be reduced 22 percent.

Percentage of Time Spent on "Administrative" Tasks

To accurately reflect the number of hours officers would have available to devote to baseline, tactical plan and other "non-administrative" tasks, the hours spent performing "administrative" tasks need to be excluded from the total staff hours available. For the purposes of the Gap model, "administrative tasks" include such things as vacation, meals and breaks, report writing time, court time, training, and patrol preparation and termination activities.

For the three enforcement divisions we analyzed, the State Police used the following percentages in the Gap model to estimate the amount of time spent on "administrative" tasks:

- Patrol Division – 33 percent
- Fish and Wildlife Division – 22 percent
- Criminal Investigative Services Division – 35 percent

The administrative adjustment used does not appear attainable.

During our analysis of time data for the 1997 calendar year, we determined the percentage of hours reported to be spent on the “administrative” tasks listed above to be as follows:

- Patrol Division – 53 percent
- Fish and Wildlife Division – 48 percent
- Criminal Investigative Services Division – 24 percent

We do, however, have some reservations regarding the accuracy of these numbers. State police had some of the same concerns after completing its 1997 Gap analysis, so it provided direction to its divisions to more accurately account for its time. The percentage of time spent on “administrative” tasks during 1998 decreased quite a bit, but it was still significantly higher than the percentages currently used in the Gap model.

To determine whether the administrative adjustment used in the Gap model was attainable, we conducted our own analysis to see if such a percentage could be attained, given the nature of state police’s work. We assembled the annual hours that a typical senior trooper would be allowed for vacation, holidays, breaks, meals, patrol preparation and termination. We excluded sick time, but included the average annual hours used for other administrative activities such as court time, report writing, training, and equipment maintenance. The activities in total accounted for 40 percent of the senior trooper’s time, again supporting our contention that the percentages used in the Gap model were not realistic.

Using a more realistic administrative percentage increases staff needed.

The effect of using the administrative percentages listed above in the Gap model, rather than a more realistic percentage, would result in the division’s understating its resource needs.

Tasks and Hours Needed to Provide Public Safety Services

The final factor in the Gap calculation is the tasks and hours needed to provide public safety services. The issues surrounding task identification and allocation of resources was probably best summarized in an article published in *The Police Chief*, July 1985². It stated:

“Adequate police protection, like beauty, lies in the eye of the beholder.”

Adequate police protection, like beauty, lies in the eye of the beholder. The optimal or appropriate ratio of trooper to population, traffic volumes, reported crimes or accidents, etc., is not a matter of mathematics or statistics. It is a matter of human judgement and community resources.

Our review included a test of the sample offices' assumptions by matching the tasks and hours included in their models to those found in the associated cooperative agreement and enabling legislation. In general, we were able to find support. For example, where the Southern Oregon patrol office wanted to patrol I-5 Zone 3, a corresponding task could be found in the cooperative agreement. In several instances, however, we identified tasks that could be justified in an intuitive sense or by enabling legislation, but had no specific link to the cooperative agreement. These are the tasks that we would question as to whether they were subject to the same level of policy and budget scrutiny as those tasks included in cooperative agreements.

Determination of tasks should be based on a blend of professional judgement, local concerns, the Legislature and the Governor.

Furthermore, we were unable to conclude as to whether or not the task hours identified were truly necessary or whether all needed hours had been identified and included in the Gap analysis.

Our primary conclusion was that the determination of tasks and estimation of hours for a given area should be based on a blend of the State Police's professional judgement, consideration of local concerns, and interests of the citizens of Oregon, the Oregon Legislative Assembly, and the Governor.

Because task identification and hour estimation are primary drivers of the resources requested, dedicated and paid for by the department, an agreement on these by the stakeholders listed

² "Allocating State Troopers: The Virginia Experience," *The Police Chief*, July 1985, as shown in, Police Allocation Manual, The Traffic Institute, Northwestern University, April 1993, page 1 – xixiii.

above is an important first step in establishing the Gap model's validity.

Recommendations

We recommend that the Oregon State Police consider actual data from prior years when establishing the number of hours of service that can be expected from each position and the percentage of time spent on "administrative" activities. Also, consider the number of hours that can be reasonably expected from other paid labor.

We also recommend that Oregon State Police clearly articulate the policy decisions that are made in determining the level of public service needed in the Gap model so that all stakeholders can easily understand those decisions and weigh the consequences.

The Patrol Allocation Manual (PAM)

The model outputs are a direct reflection of the model inputs.

The Patrol Allocation Manual (PAM) is a comprehensive model used to determine patrol resource needs and the systematic allocation of those resources. It is a nationally-recognized model used by a significant number of municipal, county, or state patrol entities. The PAM model uses elements such as calls for service, miles of state roadways, vehicle accidents, and desired patrol intervals to identify minimum patrol staffing recommendations. The model outputs, as is typical with models of this type, are a direct reflection of the model inputs. In fact, the instructions for the model caution:

The PAM model can only prescribe how many officers are needed when performance objectives are provided; that is, when someone or some group decides what level of service is desired.³

The 1997 PAM results identified that 621.08 patrol troopers were needed.

The department has used this model for analysis in several years prior to the latest report (1997). In each of those years, the analysis has shown that the department's actual staffing for patrol functions is below the level determined in the PAM analysis. The most recent report showed that 621.08 patrol troopers were needed. The department's staffing as of 1997

³ *Police Allocation Manual Users Guide*, The Traffic Institute, Northwestern University, April 1993, page xiii.

represented 57 percent of that total (355 troopers).

Universal Use of Certain Variables

There are 44 variables that drive the PAM model, such as shift length, hours of patrol coverage, desired response time, hours of self-initiated time, and number of troopers per supervisor. For 19 of those variables (43 percent), the same number was used universally for all of the offices in our sample. On at least two occasions, this universal usage led to an overstatement of patrol resource need.

On at least two occasions, universal usage led to an overstatement of patrol resource need.

- (a) The universal use of 1,902 hours for the average on-duty hours per year per trooper resulted in a net overstatement of 6.6 patrol troopers for the seven sample field stations. In six of the seven offices tested, the actual on-duty figure was higher than the universal figure.
- (b) For all seven sample field offices, the universal input for time that a supervisor spent on patrol tasks was zero percent. Department officials told us that there is a general expectation and policy that supervisors are to spend 50 percent of their time on patrol. Adjusting the model to the 50 percent figure results in a combined overstatement of patrol trooper need of 9.9 troopers for the seven sample offices.

Combining these adjustments reduces the trooper need by 16.1 for the seven sample field stations.

Four of the seven field stations' calculations of troopers needed were in error.

Our analysis of the Department's use of the PAM model also identified an instance in which the model was not being properly used. Four of the seven sample field stations' calculations of troopers needed for patrol related responsibilities were in error.

In all four instances, the value used was not one of the three allowable choices. This misapplication resulted in the selection of a value, which appears to have been the incorrect choice for two of the seven field stations (Bend and Coos Bay). An error of this sort would not lead to an overstatement of need, but could actually result in an understatement of need for the station. These calculation errors do not appear to be significant enough to offset the overstatement found in the prior analysis.

The performance standards and policy choices used significantly affect the model outputs.

As was the case with the Gap model, the performance standards and policy choices used drive PAM results. Our analysis concluded that model inputs such as 24-hour patrols, 12 minutes per hour of administrative time, and 20 minutes per hour of self-initiated patrol time, significantly affect the output of the model. These choices are also performance standards and policy choices that the department should be making in conjunction with the governor, legislators, and other stakeholders. The assumptions used in setting up the model and defining amounts of administrative time directly affect the model's output.

Recommendations

We recommend that the department develop policies and procedures for the use of PAM that assist users with the correct application of the model. These policies should include, where practical and cost effective, steps to help users avoid the use of universal variables and also assist model users in determining the actual values, by station or outpost. These specific values should then be applied to the model when determining the PAM specific trooper recommendations for each field station or outpost.

We also recommend that the department clearly articulates the primary assumptions, variables and performance objectives used in the PAM model so that all stakeholders can easily understand those decisions and weigh the consequences.

Chapter 2: Resource Allocation in the Patrol Division

Patrol resources appear to be deployed proportionately based on service needs, except for the Klamath Falls patrol station.

This chapter consists of our analysis of the allocation and deployment practices currently used by the Patrol Division. We found that deployment of patrol resources appears to be in line with the Gap and PAM staffing models and the department's statewide calls for service data, except for the Klamath Falls patrol station, which appears to be proportionately overstaffed.

The Patrol Division's Allocation and Deployment Analysis

According to the department, allocation of resources is an inexact science that involves the use of the two models, as well as professional judgement. The recently authorized 100 troopers will be allocated to stations based on this same blend of models and judgement, which includes such things as high crash incidence, current vacancies, community and local partner concerns, priority highway location, and the requirements of local Cooperative Policing Agreements.

The field stations base their daily trooper deployment on established tactical plan priorities and on decisions made in coordination with the local Cooperative Policing Agreements with other law enforcement agencies.

Understanding the assumptions used in the Gap and PAM provides some understanding of the department's allocation rationale.

We found that the Patrol Division's allocation of troopers throughout the state was strongly related to calls for service data. In addition, as the available patrol staff was only a portion of the staff requirements calculated in Gap and PAM staffing models, the proportions of staff allocated were a reasonable reflection of the Gap and PAM models. The only exception we noted was the patrol allocation to the Klamath Falls station. Chart 9 shows the results of this analysis.

Chart 9
Proportionate Allocation Analysis

Patrol Station	12/97 actual allocation	Proportion based on Gap	Proportion based on PAM	Proportion based on 1998 Calls for Service
Astoria	6	9.0	9.0	10.5
McMinnville/Banks	15	27.4	11.7	11.1
Portland/outposts	56	52.8	42.5	46.1
Tillamook	8	6.5	8.3	9.1
Albany	18	18.7	14.0	17.1
Florence	8	6.3	6.4	11.2
Newport	7	9.0	10.8	14.6
Springfield/Oakridge	26	24.5	26.1	24.7
Salem	28	24.6	23.1	33.5
Central Point/Grants Pass	26	25.7	25.0	37.8
Coos Bay	13	10.8	12.6	13.6
Gold Beach	6	6.3	7.3	8.4
Klamath Falls/Lakeview	32	18.3	17.8	16.8
Roseburg	17	15.3	17.3	22.1
Baker City/John Day	11	11.9	13.1	10.3
Bend/outposts	25	26.0	31.9	18.8
LaGrande/outposts	10	10.3	12.4	10.8
Ontario/outposts	12.5	15.3	12.8	10.8
Pendleton/outposts	19	19.8	33.8	20.3
The Dalles/outpost	19	24.0	26.6	14.9

The department has deployed a higher proportion of available troopers to Klamath Falls than to other stations.

Our analysis did not conclude that the Klamath Falls station is overstaffed; only that, as compared to other patrol stations, the department has deployed a higher proportion of the available troopers to this station. The department acknowledges this fact and offers an explanation that included its perception that the Klamath Falls area has a unique blend of characteristics that historically required additional State Police attention. The department cites the shortage of Klamath County patrol, significant miles of highway coverage, and a larger than typical rural population growth as factors that require additional policing. The effect of deploying this proportion of officers to Klamath Falls is that other jurisdictions are receiving a less than proportionate share of state police resources.

Recommendations

We recommend that:

The department documents the assumptions supporting the allocation of resources to the stations, especially the Klamath Falls patrol office. This information should be made available to decisionmakers who will ultimately confirm that these assumptions are consistent with statewide resource allocation principles and support the department's contentions, like that the Klamath Falls area has a greater need for state resources than other areas.

Chapter 3: Other Matters

Through our analysis of the factors used in the PAM and Gap models, other issues came to our attention that warrant management attention. These issues include the following: (1) the amount of time officers spend on “administrative” activities, and (2) the department’s use of overtime.

Administrative Activities

“Administrative” activities are defined by the department as holidays, vacation leave, patrol preparation, patrol termination, lunch and rest breaks, court time, report writing, training, equipment acquisition and maintenance, and public relations. The department has established a goal that these activities would take no more than 33 percent of patrol officers’ work time. After reviewing actual time records from 1997 and 1998, we found that actual time spent on these activities was well above the stated goal.

While some of these activities (i.e. holidays, vacation leave, sick leave, lunch and rest breaks) are not under the department’s immediate control, the department should more closely scrutinize the other activities to see if the benefit of those activities outweigh the reduced time available for patrol activities.

Overtime

Our analysis, as summarized in Chapter 1, noted that approximately 84 percent of fulltime employees (of divisions that report to the activity data system, primarily Patrol, Fish and Wildlife, and CISD) reported some overtime each month. While we did find several instances where overtime seemed justified and the best solution to a short-staff situation, overtime is a costly solution to chronic manpower shortages.

Given the department’s heavy use of overtime, department management should study the use of overtime.

Objectives, Scope and Methodology

The objectives of our audit were to:

(1) determine if the department's primary models for evaluation of resource allocations (Gap and PAM) are accurately representing the resource needs for the departments primary enforcement divisions; Patrol, Criminal Investigative, and Fish and Wildlife; and

(2) Determine the basis for allocation and deployment for the department's primary enforcement divisions. Determine if the basis is addressing service needs.

To accomplish these objectives, we reviewed applicable laws, rules, policies and procedures. We reviewed reports prepared by other states regarding allocation of police resources. We attended a PAM user's group meeting and reviewed reports prepared by other states as well as prior Oregon state police reports. We analyzed a sample of tactical plans and cooperative policing agreements as prepared by the department and the local jurisdictions. We interviewed department staff and managers, and local stakeholders, and participated in several patrol shifts in a ride-along capacity.

We judgmentally selected field stations from the four districts and included the three primary enforcement divisions of Patrol, Fish and Wildlife and Criminal Investigative Services (CISD). The offices selected included: Albany, Salem, Tillamook, Central Point/ Medford, Coos Bay, Ontario, and Bend. The analysis incorporated data gathered from interviews and ride-alongs, Gap report information, 1997 and 1998 activity reports, and our independent analysis of 1997 and 1998 Activity System data, as well as analysis of data provided from the department's Computer Automated Dispatch and LEMIS systems.

We undertook an analysis of the logic and mathematics of the models. We recalculated many of the values to both verify their accuracy and to understand the implications of the models' values. We reviewed the models from other states to utilize as comparable. We also considered the findings of independent reports on models used by other states.

Our analysis of the PAM model involved gaining an understanding of how the model functioned, studying the

PAM application manual, attending a PAM users group meeting, interviewing department staff and management, and reviewing reports prepared by OSP as well as other state's state patrols such as Washington, Arizona and Michigan. Our analysis involved a review of PAM analyses prepared by the department for the seven sample field stations and gaining a specific understanding of the variables and assumptions used.

Our analysis of deployment included much of the data gathered from our analysis of Gap and PAM resource allocation models. We obtained the basic daily deployment criteria utilized at the seven sample field stations. We accumulated automated department activity information from the 1998 Activity System data, as well as the Computer Aided Dispatch data for the same period.

Our analysis of the Patrol Division's deployment involved a statistical comparison of staffing levels as of year-end 1997 to the most recent Gap and PAM model results. We did a similar statistical comparison to the 1998 calls for service data provided by the Computer Aided Dispatch system. We also identified the primary assumptions that were utilized by a sample of seven patrol stations for daily deployment of troopers and tested those assumptions for validity.

Our resource allocation analysis initially included the three primary enforcement divisions. Our work ultimately focused on the Patrol Division resources. We felt that the Patrol Division's ability to respond to a dispatched call for service was a primary indicator of good allocation and deployment practices. We further concluded that dispatched calls for service were not good criteria for testing Fish and Wildlife Division and CISD allocation practices, because these divisions do not rely on dispatching and calls for service to the extent that the Patrol Division does.

We determined that the primary criteria for the deployment of Fish and Wildlife Division resources should be responsiveness to environmental enforcement tasks included in the Cooperative Enforcement Plan as negotiated with the Oregon Department of Fish and Wildlife. Similarly, the primary criteria for the deployment of CISD resources should be responding to activities in drug enforcement, interdictions, and investigations, as well as violent offender and other investigative activities. As these tasks are presented in the

Gap schedules and not typically dispatched activities, the Gap testing was the extent of our testing of these divisions' resources allocation.

We verified the reliability and completeness of computer-processed data used in our audit procedures by comparing the data to managerial reports as provided by the department. We also confirmed data entry by tracing a sample of the data from the system to the original time card and officer activity entry sheets.

We conducted our work from March 1999 to October 1999 in accordance with generally accepted government auditing standards.

Commendation

The courtesies and cooperation extended by the officials and staff at the Oregon State Police were commendable and much appreciated.

Audit Team

Drummond E. Kahn, MS, CGFM, Audit Administrator

Charles A. Hibner, CPA

Karen Leppin

Debbie Ferguson

Sarah Meyer

APPENDIX A: GLOSSARY OF TERMS

CISD – Criminal Investigative Services Division of the State Police

FTE – Full Time Equivalent Employee

Gap – Oregon State Police’s Resource Budget Gap analysis

LEMIS –Law Enforcement Management Information System

AGENCY'S RESPONSE TO THE AUDIT REPORT



Oregon

John A. Kitzhaber, M.D., Governor

April 26, 2000

John Lattimer, Director
Secretary of State Audits Division
255 Capitol St NE Ste 500
Salem OR 97310

Department of State Police

General Headquarters
400 Public Service Bldg.
Salem, OR 97310
(503) 378-3720
General FAX
(503) 363-5475
Supt's Office FAX
(503) 378-8282
Personnel/Payroll FAX
(503) 378-2360
V/TTY (503) 585-1452

As Superintendent of the Oregon State Police I am pleased to review and respond to the findings of the recently completed audit of the methods used to allocate Troopers in the Patrol Division throughout the state. The audit process validated our efforts to "right size" the Department to meet the needs of Oregon's communities. We used two methods to ascertain the most appropriate level of staffing for personnel in our divisions. In the Patrol Division we have used the Patrol Allocation Manual (PAM) developed by Northwestern University and the Community Based Resource gap analysis. For our other divisions, we used the community based resource gap analysis.

Resource gap analysis is common to classic strategic planning. We used this proven practice, combined with two important models provided in Oregon government. We used the assumptions contained in the Strategic Plan for Cooperative Policing and the Gap Analysis model developed by the Center for the Study of Social Policy entitled "From Results to Budgets, An Approach to Results Based Decision Making and Budgeting". The Cooperative Policing plan has been recognized by many local governments and the Oregon legislature during our 1997-1999 and 1999-2001 budget hearings. The Gap Analysis model has been presented to the Oregon Legislature on several occasions, sponsored by the Oregon Progress Board and the Department of Administrative Services (DAS).

We fully recognize that our first attempt at this significant change in results based budgeting was not perfect. We intend a process of continuous improvement in the "fine tuning" of the model's components, processes, public and partner involvement, and data that support our calculations and conclusions.

Our leadership team and I have reviewed the final draft of the Audits Division report on the Oregon State Police Personnel Allocation and Deployment completed in March 2000. We appreciate the opportunity to respond to the audit. We will respond specifically to the recommendations of the audit and then provide organizational insight into the findings of the audit.

Recommendation One: *The audit recommends “that the Oregon State Police consider actual data from prior years when establishing the number of hours of service that can be expected from each position and the percentage of each of time spent on ‘administrative’ activities. Also, consider the number of hours that can be reasonably expected from other paid labor.”*

Response: The Department will continue to monitor the hours available for each position by Division. Continued emphasis will be placed on reducing the impact of administrative duties to those reasonably necessary to accomplish the purposes within each Division.

This recommendation calls for the calculated use of “other paid labor” hours. We will calculate the paid reserve hours that supplement patrol troopers hours within patrol division program areas. We believe that it is unwise and not fiscally responsible to budget regular service delivery hours at the overtime rate of one and one-half the hourly wage. It is more efficient to budget for regular paid hours to accomplish the work. Additionally, we believe that overtime hours, from dedicated overtime-funded programs should not be used in the gap calculation. We feel that these are hours that are purchased with special dedicated funding and would not exist if the funding were not available. Examples include federal funding for seat belt enforcement, Intoxicated Driver saturation patrols, etc.

Recommendation Two: *“We also recommend that the Oregon State Police clearly articulate the policy decisions that are made in determining the level of public service needed in the Gap model so that all stakeholders can easily understand those decisions and weight the consequences.”*

Response: Although we feel that the linkage between the local Cooperative Policing Agreements and office operational and tactical plans establishes service roles and levels, we will work to clarify those linkages for each work site. A model will be developed to assist in this clarification.

A more in depth discussion of the above two recommendations is found later in this response.

Recommendation Three: *“We recommend that the department develop policies and procedures for the use of PAM that assist users with the correct application of the model. These policies should include, where practical and cost effective, steps to help users avoid the use of universal variables and assist model users in determining the actual values, by station or outpost. These specific values should then be applied to the model when determining the PAM specific trooper recommendations for each field station or outpost.”*

We agree with this recommendation. The PAM model is calculated with Microsoft Excel spreadsheets. The variable dealing with Patrol availability and response will be locked, thereby forwarding the calculated variable for each station as a consistent calculation.

(Historically, the Department made internal decisions to use a smaller number in this calculation, which in turn lowered the number of recommended officers needed for specific areas.)

Recommendation Four: *“We also recommend that the department clearly articulate the primary assumptions, variables and performance objectives used in the PAM model so that all stakeholders can easily understand those decisions and weight the consequences.”*

We concur with this recommendation, and future publications of the PAM model will address this issue.

Recommendation Five: *“The Department documents the assumptions supporting the allocation of resources to the stations, especially the Klamath Falls Patrol Office. This information should be made available to decision makers who will ultimately confirm that these assumptions are consistent with statewide resource allocation principles, and support the Department’s contentions, like that the Klamath Falls area has a greater need for state resources than other areas.”*

The Klamath Falls Patrol Office, including the Lakeview Outpost had higher staffing levels in recent years due to a variety of operational needs. Since 1997, patrol staffing has been reduced from 32 to 24 Troopers. The current staffing level is now consistent with other office staffing allocations.

General response to the Audits Division report:

The development of the Resource Gap Analysis model was adapted from models provided to the Oregon Legislature by Mark Friedman. Mark Friedman, working with the Oregon Progress Board and Oregon Legislature, developed the Gap Analysis model consistent with the attempt to solve problems that are measured through the Oregon Benchmarks. The Department of State Police was the first police agency, to our knowledge, to ever do a Resource Gap Analysis based on statewide identified goals. This method is premised on the development of the Cooperative Policing Agreements that we desire in all counties. Through the Cooperative Policing efforts, the State Police role was identified generally by the Public Safety Planning and Policy Council and later strongly supported by Governor Kitzhaber and the Oregon Legislature. Cooperative Policing Agreements provide a solid basis for identifying the State Police roles. From these, we calculated the specific number of officers, or non-sworn staff, in all Divisions that were then needed to achieve the goals. The goals are outlined through Oregon Benchmarks, Cooperative Policing Agreements, or other federal or state legislative direction.

The audit report looked strongly at the methodology used in the Gap Analysis. One of the significant issues was the amount of “administrative adjustment” used by each Division. The original development of the administrative adjustment was to calculate the amount of time an officer or Department member was not available for front line emergency response or directed service due to other administrative duties. This would include time in preparing for work, training, or other duties rendering them unavailable. This was not only true for Patrol Services, Fish and Wildlife and Criminal Investigative Services, but also for Deputy Fire Marshals, Emergency Managers and Crime Laboratory and Identification systems staff members. It was necessary to make the administrative adjustment because we were calculating specific workloads that needed to be covered with direct service hours. Although the method is less than perfect, the Divisions set administrative adjustments for each Division based on historic data. Since the original data compilation, many Divisions have improved in reducing the amount of time spent for administrative duties. This is a direct result of improved record keeping and closer attention to the time spent.

The audit noted a change in Patrol staffing over the last 20 years, both in raw numbers and as a percentage of total Department sworn officer strength. The percentage of the Department of State Police total sworn personnel assigned to Patrol has changed from 68.4 percent to 46.7 percent through 1997. Only recently has it leveled off. The legislative action for the 1999-2001 budget significantly increased by the Patrol Division by 100 Troopers. The Troopers are not yet hired due to late scheduling of the hiring dates (July, 2000 and January, 2001.) The addition of the 100 Troopers was based in large part on the results of the PAM study and the Resource Gap Analysis, which documented the value of placing additional Troopers, by location, around the state.

The audit found that overtime hours should be used in the gap calculations. We disagree in part. Our overtime hours are generally segregated into broad categories of reactive time, court, training and dedicated (specially funded) overtime. We believe that the special funds from project specific overtime such as federal highway safety overtime should not be used in the calculation of basic service level staffing. We can not rely on the continued flow of many dedicated overtime funds. Generally funded overtime is expended on callout and shift extensions due to emergencies and criminal events. These are unscheduled events and, as such, are not predictive for determining shift-staffing levels for core services.

The audit, under the Patrol Allocation Manual (PAM) analysis, found there were two different variables used for computation of patrol area size. Those included straight-line calculation or geographic calculation. This factor is an accurate finding by the audit and will be corrected in future PAM applications.

Lastly, the audit found that the Klamath Falls Patrol Office is disproportionately staffed as compared with other offices in the state. The higher allocation of the Klamath Falls Patrol Office was adjusted, through attrition and lateral assignments since 1997. The current allocation is consistent with other offices throughout the state. This rate is currently 62.8% and will raise to 78.9 % (effective January 1, 2001) of the optimum GAP / PAM allocation. Nevertheless, the Superintendent may, from time to time, reallocate manpower and other resources to address operating needs to any given area of the state.

We appreciate the interest and professional manner in which the Secretary of State Audits Division conducted the audit. We will use the insight gained in the audit process to continue to refine the methods of determining optimum sizing of our workforce in each division and program area.

Sincerely,

A handwritten signature in black ink, appearing to read "Ronald C. Ruecker". The signature is written in a cursive, flowing style.

Ronald C. Ruecker, Superintendent

AUDITING TO PROTECT THE PUBLIC INTEREST AND IMPROVE OREGON GOVERNMENT

The Oregon Constitution provides that the Secretary of State shall be, by virtue of his office, Auditor of Public Accounts. The Audits Division exists to carry out this duty. The division reports to the elected Secretary of State and is independent of the Executive, Legislative, and Judicial branches of Oregon government. The division audits all state officers, agencies, boards, and commissions and oversees audits and financial reporting for local governments.

DIRECTORY OF KEY OFFICIALS

<i>Director</i>	John N. Lattimer
<i>Deputy Director</i>	Catherine E. Pollino, CGFM
<i>Deputy Director</i>	Sharron E. Walker, CPA, CFE

This report, which is a public record, is intended to promote the best possible management of public resources.

If you received a copy of an audit report and no longer need it, you may return it to the Audits Division. We maintain an inventory of past audit reports. Your cooperation helps us save on printing costs.

Oregon Audits Division
Public Service Building
255 Capitol Street NE • Suite 500
Salem, Oregon 97310

We invite comments on our reports through our Hotline or Internet address.

Ph. 503-986-2255
Hotline: 800-336-8218
Internet: Audits.Hotline@state.or.us

<http://www.sos.state.or.us/audits/audit hp.htm>

