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DEPARTMENT OF JUSTICE
NATIONAL LABORATORY

ALABAMA'S MASTER PLAN FOR A CRIME LABORATORY DELIVERY SYSTEM

By

C.J. REHLING, Ph.D., Director

C.L. RABREN, Assistant Director

**Alabama State Department of
Toxicology and Criminal Investigation
Auburn University, Auburn Alabama**

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Richard W. Velde, *Deputy Administrator*
Charles R. Work, *Deputy Administrator*

**NATIONAL INSTITUTE OF LAW ENFORCEMENT
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Gerald M. Caplan, *Director*

Contents

	Page
Foreword.....	vii
Acknowledgements.....	viii
Introduction.....	1
Chapter I. A History.....	3
Chapter II. Present Status	7
Chapter III. Present Relationship of the Crime Laboratory System to Other Agencies of the Criminal Justice System	26
Chapter IV. Present Relationship of the Crime Laboratory System to Other Agencies of Government and Community Life	29
Chapter V. Distance and the Crime Laboratory.....	31
Chapter VI. Crime Laboratory Systems Possible in the State of Alabama.....	39
Chapter VII. Proposed Methods for Improving the Crime Laboratory Delivery System Within the State of Alabama.....	46
Chapter VIII. Recommendations for Improving the Crime Laboratory System within the State of Alabama.....	58
Bibliography	61
Appendix A. Job Specifications, Descriptions, and Qualifications.....	62
Appendix B. Five Year Projection of Personnel.....	75
Appendix C. Five Year Projection of Equipment	84
Appendix D. Proposed Records and Data System.....	86
Appendix E. Proposed Legislation for Department of Forensic Science	101

List of Tables

Table	Page
II-1. Utilization of Space	10
II-2. Total Case by Laboratory, Fiscal Years 1970-71 and 1971-72	17
II-3. Type of Evidence Submitted (Percent) 1970-71 Fiscal Year	18
II-4. Type of Evidence Submitted (Percent) 1971-72 Fiscal Year	18
II-5. Percentage of Type Cases by Requesting Agencies Statewide, 1970-71 Fiscal Year	20
II-6. Percentage of Type Cases by Requesting Agencies Statewide, 1971-72 Fiscal Year	21
II-7. Mode of Delivery (Percentage) by Type of Case Statewide, 1970-71 Fiscal Year	23
II-8. Mode of Delivery (Percentage) by Type of Case Statewide, 1971-72 Fiscal Year	23
II-9. Percentage of Toxicology and Miscellaneous Cases Processed at Request of Law Enforcement	24
II-10. Toxicology Cases Processed at Request of Hospitals, Medical Doctors, and Veterinarians ..	25
II-11. Average Number of Examinations by Type of Case	25
VI-1. System One	40
VI-2. System Two	40
VI-3. System Three	42
VI-4. System Four	43
VI-5. System Four-A	43
VI-6. System Four-B	43
VI-7. System Four-C (30 Mile Radius)	44
VI-8. System Four-C (50 Mile Radius)	44

List of Illustrations

Figure	Page
II-1. Alabama Crime Laboratory System	8
II-2. Organizational Chart	12
II-3. Cases/County 1970-71 Fiscal Year.....	17
II-4. Cases/County 1971-72 Fiscal Year.....	17
II-5. Cases Per Officer Per Laboratory 1970-71 Fiscal Year	22
II-6. Cases Per Officer Per Laboratory 1971-72 Fiscal Year	22
V-1. Distance vs. Percent of Physical Evidence Identified at Scene by Police Investigators but not Secured and/or not Submitted to a Crime Laboratory for Evaluation.....	32
V-2. Distance vs. C.P.O. and C/1000 Population Statewide Request of Law Enforcement Only 1970-71 Fiscal Year	33
V-3. Distance vs. C.P.O. and C/1000 Population Statewide Request of Law Enforcement Only 1971-72 Fiscal Year	33
V-4. Distance vs. C.P.O. and C/1000 Population Statewide Request of Law Enforcement Only 1971-72 Fiscal Year	33
V-5. Relationship of Percentage of Total Cases Requested by Law Enforcement to Percent of Total Population as Affected by Distance from Labs	34
V-6. Ratio of Percent of Total Drug Cases to Percent of Total State Population, as Affected by Distance from Labs	34
V-7. Distance vs. C.P.O. and C/1000 Population Statewide Drug Cases Only 1971-72 Fiscal Year	35

Figure	Page
V-8. Distance vs. C.P.O. and C/1000 Population Statewide Drug Cases Only 1971-72 Fiscal Year	35
V-9. Percent of Positive Drug Cases vs. Distance Statewide 1970-71 Fiscal Year	36
V-10. Percent of Positive Drug Cases vs. Distance Statewide 1971-72 Fiscal Year	36
V-11. Distance vs. C.P.O. and C/1000 Population Statewide, Death Cases Only 1971-72 Fiscal Year	36
V-12. Ratio of Percent of Total Serology Cases to Percent of Total State Population, as Affected by Distance from Labs Statewide, Serology Cases Only 1970-71 Fiscal Year	37
V-13. Ratio of Percent of Total Cases Involving Physical Evidence to Percent of Total State Population Statewide, Physical Evidence Only 1970-71 Fiscal Year	37
V-14. Distance vs. C.P.O. and C/1000 Population Huntsville Lab, Physical Evidence Only 1970-71 Fiscal Year	37
V-15. Percent of Total Cases Received vs. Distance Statewide, All Cases 1970-71 Fiscal Year	38
V-16. Percent of Total Cases Received vs. Distance Statewide, All Cases 1971-72 Fiscal Year	38

Foreword

This report is an abbreviated version of Alabama's master plan for a statewide forensic science laboratory system, developed under grants from the Law Enforcement Assistance Administration.

The report describes the history which shaped the growth of the Alabama system. Ultimately, the State will have ten regional crime laboratories capable of processing evidence within 24 hours within a 30-mile radius of the requesting criminal justice agency.

A number of issues relating to effective crime laboratory systems are explored, including the effects of the distance of the laboratory from the crime scene. The master plan also takes into consideration the role of the crime laboratory in relation to other criminal justice agencies, to other government agencies and to the community.

The experiences of the laboratories now in operation are reviewed. Also included in the report are recommendations for improving the current system, including proposals for collecting data on the impact of the laboratory system on crime.

The National Institute of Law Enforcement and Criminal Justice is publishing this report as a guide for other jurisdictions interested in developing statewide laboratory systems.

Gerald M. Caplan
Director,
National Institute of Law
Enforcement and Criminal Justice

Acknowledgments

This self-study and consequent Master Plan for a crime laboratory delivery system in the State of Alabama was funded by the Alabama Department of Toxicology and Criminal Investigation and the Alabama Law Enforcement Planning Agency.

Personnel of the State Department of Toxicology and Criminal Investigation are responsible for the successful completion of the Master Plan. The study was initiated by C. J. Rehling, Ph.D., Director of the Department, and conducted under the auspices of C. L. Rabren, Assistant Director of the Department. Personnel at the headquarters and Auburn Regional Laboratory devoted many hours, often after regular duty, to complete this study and without their assistance the project could not have been concluded.

The assistance of all laboratory directors and their staff is gratefully acknowledged. Most of the data collected from individual police agencies was the result of the several laboratories unselfish efforts to aid in the common goal.

To the numerous people within and without the criminal justice system who gave of their time to discuss aspects of this project and, particularly, to the police chiefs and sheriffs who so kindly allowed department personnel to review their records, we express deep appreciation and thanks.

Special thanks are extended to F. Earl Wray, Department Fiscal Officer and F. Taylor Noggle, Auburn Laboratory Director, for their counsel and active assistance.

Special acknowledgment and thanks are extended to secretaries Jean Hanson, Jacquelyn Browning, Carolyn Wray, and Whitaker Bryant for their advice and assistance, and for the excellent job of manuscript production.

Introduction

Prior to 1972, the Alabama State Department of Toxicology and Criminal Investigation had never undertaken a comprehensive self-study of its methods of operation, the department's effect on crime, or the extent of the department's role in the criminal justice system. Many short-term studies on various departmental operations had been studied and discussed in the past, but the pressures of case work, time required for court attendance, and shortage of personnel and funds had precluded an extensive study of the agency. Personnel of the department had routinely discussed the problems, needs, priorities, operational concepts, and long-range plans of the agency at department meetings, but the fruits of these discussions had not been reduced to writing.

The Director, State Department of Toxicology and Criminal Investigation, with encouragement and financial assistance from the Atlanta Regional Office, Law Enforcement Assistance Administration, and the Alabama Law Enforcement Planning Agency, committed the department to a comprehensive study, and appointed the Assistant Director, State Department of Toxicology and Criminal Investigation, as project leader.

Each case record of the Alabama State Department of Toxicology and Criminal Investigation for the fiscal years 1970-71 and 1971-72 was reviewed and all possible statistical data extracted. In addition, reports of investigations for the offenses of homicide, robbery, burglary, arson, suicide, and drug possession at eleven city police

departments and two county sheriff offices were reviewed and data extracted. Scores of formal interviews and informative discussions were conducted with officials of government, including the Governor and members of his staff, the Lieutenant Governor, and several State legislators who reviewed and assisted in developing parts of this plan. Members of the legal profession consulted include the State's Chief Justice, the Judicial Study Commission and its subcommittee on coroners, the State Attorney General and members of his staff, district attorneys, and private attorneys. Personnel from the field of law enforcement consulted include the Director, State Department of Public Safety, and members of his staff, police chiefs, county sheriffs, municipal and State patrolmen, deputy sheriffs, detectives, county investigators, State investigators, and Federal law enforcement officers. Forensic scientists in the United States and Canada, several forensic pathologists, and personnel in the State Department of Toxicology and Criminal Investigation made recommendations, suggestions, and discussed various proposals with the project leader at length. Medical personnel consulted on parts of the plan include the Chairman, Department of Pathology, University of Alabama Medical School, the State Health Officer and members of his staff, private pathologists, and private physicians. Numerous discussions were held with the President, Alabama Coroners Association, and many other coroners in the State. Some discussions were also conducted with members of the State

Pardon and Parole system, the Corrections system, and several private citizens of the State. Coordination was always maintained with the Alabama Law Enforcement Planning Agency and through it, with the Atlanta Regional Office of the Law Enforcement Assistance Administration.

The study generated masses of data from the records studied and numerous recommendations and suggestions resulted from the interviews and discussions conducted over a period of six months. Sufficient data on the present effect of the laboratory system on crimes could not be generated, but proposals for collecting such data are included in this plan. It could not be justified financially to include much of the mass of data collected on each laboratory, but all of the information is available and is being analyzed by the department's staff. Action to correct deficiencies noted at individual laboratories will be initiated

by the department. Chapter VIII lists recommendations pertinent to the department, its organization and operation. The recommendations apply to the Alabama State Department of Toxicology and Criminal Investigation as a centralized crime laboratory delivery system providing all forensic science services to the entire State, and may or may not be applicable to other crime laboratories or laboratory systems.

All goals of the project were not realized, but proposals to rectify the reasons for failures are included. This study does not answer a number of questions on crime laboratories, but does identify some needs and deficiencies in Alabama's system which will require several years to correct. Meanwhile, the department will continue to address itself to the question of a crime laboratory's correct and proper slot in the criminal justice system, how it is to be identified, and how it is to be achieved.

Chapter I.

A History

Prior to the inception of the Department of Toxicology in 1935, virtually no services for the scientific investigation of crime existed in the State.

The State Chemist, who was both Director of the State Department of Agriculture's feed and fertilizer assay laboratory at Auburn and also Dean of the School of Chemistry, Alabama Polytechnic Institute, had the legal responsibility to perform chemical analyses of foods and vital organs in cases of human poisoning. No funds, facilities, or remuneration were provided him for this purpose. He used the available facilities of the Agricultural Laboratory in Auburn and traveled at his own expense. Needless to say, the services were very limited and, indeed, an extra burden on an official with many duties.

An employee of the Agricultural Laboratory, a chemist named H. W. Nixon, was assigned the duty of making some of these poison analyses for law enforcement. This involved a wholly new field, toxicology and its allied sciences, which was eagerly accepted as a new challenge. In this new assignment, he consulted with and had the assistance of a friend and chemistry faculty member, C. J. Rehling, on several interesting and very challenging human poisoning cases. The basic need for legal knowledge regarding the special handling of evidence materials promptly became apparent.

In the year 1932, several incidents occurred that were given wide publicity. Alabama was thoroughly involved in one of these, the Scottsboro

cases. In another part of the country, the Lindbergh kidnapping and murder electrified the nation. In the latter case some of the first, dramatic use was made of scientific evidence studies to solve a major crime. This involved mainly handwriting and document studies and the scientific comparison of wood.

In the former cases, no such scientific services were available and the conflicting statements of the involved parties greatly complicated and stalemated the trials. The Attorney General of Alabama, Tom Knight, who prosecuted the cases became acutely aware of this critical need for scientific aids in criminal investigations, both from experience in the Scottsboro cases and the contrasting progress made with such aids in the Lindbergh case. He discussed the situation with the personnel conducting the very limited poison and analytical analyses in Auburn at the Agricultural Laboratory.

The Attorney General actively supported the idea of establishing a scientific State agency with the specific duty of assisting law enforcement and the courts in the investigation and adjudication of criminal matters. It was promptly recognized that this provided the means of obtaining reliable facts not otherwise available for the courts.

The Scottsboro cases continued for several years with retrials and appeals. Little time was available for proper preparation of a legislative bill for the 1933 session. It was decided to give the matter thorough preparation and study, and introduce a

bill in the 1935 Alabama Legislature to establish such an agency.

H. W. Nixon and C. J. Rehling actively pursued and developed the idea, together with the Attorney General's Office. Meanwhile, several homicidal poisoning cases were solved in the embryonic laboratory and successfully prosecuted in the courts to give striking evidence and impetus to their efforts in behalf of a special agency with proper facilities and funding.

Toxicology Agency

The year 1935 found the nation and the world in the midst of a severe economic depression, and Alabama was no exception with its very serious money problems. The financial prospects were gloomy for funding any new agency. However, with the support of the Governor and the Lieutenant Governor the bill was passed and signed into law on July 17, 1935. An appropriation of \$8,500 was provided, out of which the \$3,600 salary of the director was to be paid.

The agency was identified as the state Department of Toxicology because the outstanding need was for toxicologic assistance in numerous human poisonings, some accidental and some homicidal. Realizing that integrity and competence were paramount in the functions and services of the agency and that political influences could not be controlling factors, the department was made a separate State agency. Thus, it receives its own appropriation and, once appointed, the director may be removed for reasonable cause only. The agency was given nominal supervision by the Attorney General and assigned specific duties by statute. The location of the agency was to be at the Alabama Polytechnic Institute in Auburn because of the available assistance of existing libraries and various laboratories.

Criminalistics

There soon followed requests from several Sheriffs' Offices for assistance in the investigation of some serious crimes of aggravated homicide. The dramatic, convincing scientific proof the new agency provided then made the conviction of the guilty parties a new development in Alabama's criminal law. District Attorneys were elated with the new service as close cooperation with them became a standard policy. A new standard of value also developed when, in a few instances, scientific findings clearly proved that the suspect was

wrongly accused, primarily because of prejudice. In one county, then known for its aggravated homicide cases, convictions with death or life sentences were rather regular verdicts following testimony of important scientific findings. The county's record homicide rate diminished dramatically.

Naturally, requests for services began to be varied and required more than toxicologic assistance. Prompt necessity for expansion included firearms studies, serology, microscopy of trace evidence, document examinations, death investigations, and photography. The lack of forensic training and lack of interest of practicing physicians became rather obvious in several cases.

Devoted interest and dedication of the limited staff spurred intensive study, experimentation, and a quest for information from many sources. Assistance and advice were constantly sought from all available competent sources. This trait has persistently been a trademark of the department's policies and efforts to provide the best, most competent scientific findings possible from the available physical evidence.

Postmortem Examinations

Dr. Herman Jones, a member of the faculty in biochemistry at Auburn, had completed graduate studies that included anatomy, pathology, and physiology. His keen interest in the new agency resulted in his association in the specialty of postmortem examinations of human bodies, thus greatly strengthening the services in this aspect of physical evidence. Homicide by gunshot could now be rather completely solved, in most instances through availability of all the major required scientific aids. New appellate decisions confirmed and approved the admissibility and probative value of these findings, thereby confirming the new agency, its value, and its efforts.

Appropriation increases were obtained from the legislature quite regularly to permit gradual expansion of facilities and personnel. However, these increases did not meet the demands made for services, and growth was always seriously hampered and restricted.

The advent of World War II was in due time followed by Governor Sparks' directive to all State agencies to assist the war effort wherever possible through the particular specialties of their State functions. Accordingly, the Department of Tox-

icology and Criminal Investigation gave scientific assistance to the pilot training program of the Air Force by aiding the Counter Intelligence Corps headquartered at Maxwell Air Force Base, Montgomery. To further liaison in these efforts, a CIC agent was stationed at the Auburn laboratories. Many items of evidence were submitted from training bases over the southeastern United States, and investigative assistance was repeatedly rendered on the scene by employees of the department with transportation provided by the Air Force. The Training Command at Maxwell Air Force Base repeatedly expressed their appreciation for the valued scientific assistance rendered.

On August 1, 1945, Mr. H. W. Nixon resigned his position as director of the department to enter the practice of law. The Attorney General then appointed Dr. C. J. Rehling as the new director. Continued department growth presented an ever-present problem of housing and adequate space. Thus, Alabama Polytechnic Institute was pressed to provide the necessary facilities as specified by statute. With the governorship of John Patterson and his active support, the legislature appropriated funds for the establishment of a more adequate facility at Auburn. The new facilities were occupied in February 1962.

Mobile Regional Laboratory

The distances traveled by scientific personnel to make scene investigations of serious crimes or to give court testimony became a major problem in the effective use of the highly specialized manhours of employees that were in great demand. As early as 1939, several serious crimes in Mobile, together with the prominent part played by the department in their solution and successful prosecution, caused the District Attorney to push for a regional office and laboratory there to more effectively provide the services needed to meet the local crime problem. With the assistance of the County of Mobile, a regional office and laboratory was initiated and housed in the county courthouse. Due to the numerous vital services rendered the courts and law enforcement over the years in that area, larger and more suitable quarters for the regional office were included in the new courthouse completed in 1958. The laboratories were renovated in 1971 with new laboratory furniture and additional equipment.

Birmingham Regional Laboratory

Similar demands and travel distances to the northern part of Alabama from Auburn resulted in establishing a second regional office and laboratory in Birmingham. Immediately after the end of World War II, planning and construction of the Jefferson County Health Building provided new and larger quarters which are still occupied. However, due to an increasing number of cases, expansion is desperately needed. The Birmingham regional office handled a large case load with a significant portion originating in the Tennessee Valley area.

Montgomery Regional Laboratory

The City and County of Montgomery, together with other counties in that area, required much time and travel in providing scientific services and in court appearances. In 1952 the City of Montgomery provided quarters and another regional laboratory was established to serve the immediate area and a geographical section westward. These quarters were increased in size and moderately upgraded in 1972.

Huntsville Regional Laboratory

With the training of additional personnel and the ever-growing demands for scientific services in the Tennessee Valley area, the City of Huntsville actively sought the establishment of a regional office for that area by providing and furnishing quarters that permitted the opening of the office in 1956. The city was later drastically remodeled and a new city hall complex constructed that included more ample and modern quarters. The number of cases increased dramatically and laboratory personnel also assisted with police training for Huntsville and surrounding police departments. These laboratories were further modernized in 1972.

Satellite Laboratories

Because of the rapidly growing drug problem in the area as well as increasing demands for criminalistic services and travel distances involved, a satellite office with laboratories was opened in 1971 at Enterprise State Junior College, Enterprise, Alabama. This location is near a large military base and also near the largest city in southeast Alabama, viz., Dothan. Increasing numbers of cases are being submitted to the laboratory and the training of law enforcement officers through association and cooperative efforts

are becoming increasingly evident. Satellite laboratories at Selma and Jacksonville State University are nearing completion and a fourth satellite laboratory at Florence State University has been initiated.

The five regional laboratories have assumed responsibility of all scientific law enforcement assistance supplied by the Department of Toxicology and Criminal Investigation in their assigned geographic areas. The satellite laboratories will process physical evidence and drugs generated within their assigned geographic areas. This has more nearly equalized the case load of the department and thereby permitted the headquarters office and laboratories in Auburn to

develop personnel training facilities, provide special assistance to all of its laboratories when needed, improve departmental administration, improve financial and supply functions, and program more participation in law enforcement training within the State.

For many years department personnel have participated in State, area, and local police training schools and seminars providing numerous lectures and demonstrations. Qualified teachers in these areas of scientific expertise are not to be found elsewhere in the State. Consequently, demands for assistance in law enforcement training have reached prominent proportions in a multi-faceted service in the investigation and prosecution of crime in Alabama.

Chapter II.

Present Status

A. DUTIES

The duties of the Department of Toxicology and Criminal Investigation were established by House Bill 425 sponsored by Denson and approved by Governor Bibb Graves on July 17, 1935, as Act 225, Regular Session of Alabama Legislature, 1935. The original bill was revised in 1939 and again in 1951. Presented below are the specific duties of the department as defined in Act 225 and as revised in 1939 and 1951.

ACT 225

1. Make toxicologic examinations or chemical analyses of
 - a) any dead human bodies
 - b) any human foods
 - c) any human beverages
 - d) any human medicinesthat are suspected of containing poisons or substances of harmful character.
2. Make examinations of bloodstains or other stains of legal significance to the State of Alabama.
3. Cooperate with the State Veterinarian in his investigations of deaths of domestic animals in cases of suspected poisoning.
4. Prescribe and issue rules and regulations governing the taking and transmission to and

from his office of any and all specimens or substances referred to in Section 3 of Act 225.

5. Cooperate with coroners and county solicitors of Alabama in their investigations of deaths from unnatural causes.
6. Visit, within his discretion, the scene of death for the purpose of securing medico-legal evidence for the State of Alabama.

CODE OF ALABAMA 1940, TITLE 14, SECTION 388

1. To make such investigations of deaths and crimes as are ordered by the Governor, the Attorney General, any Circuit Judge, or any Circuit Solicitor in the State of Alabama.
2. Cooperate with coroners, sheriffs, and other police officers in Alabama in their investigation of crimes and deaths from unnatural causes.
3. Visit, within his discretion, the scene of any crime for the purpose of securing evidence for the State.
4. Cooperate with Commissioner of Agriculture and Industries and the State Veterinarian in their investigations of deaths of domestic animals in cases of suspected criminal poisoning of such animals.
5. Perform such other duties as are prescribed by the Governor or the Attorney General.

**CODE OF ALABAMA 1958,
RECOMPILED, TITLE 14, SECTION 388**

1. To make such investigations of deaths and crimes as are ordered by the Governor, the Attorney General, any Circuit Judge, or any Circuit Solicitor in the State of Alabama.
2. Cooperate with coroners, sheriffs, and other police officers in Alabama in their investigation of crimes and deaths from unnatural causes.
3. Visit, within his discretion, the scene of any crime for the purpose of securing evidence for the State.
4. The State Toxicologist shall furnish a certified copy of his report of any investigation that he conducts to the person or persons who ordered the investigation conducted.
5. The State Toxicologist shall keep the original report of all investigations that he conducts in his office.
6. Such report shall be public record and shall be open to public investigation at all reasonable times and any person desiring a copy of a report shall be furnished the same upon payment of the fee now prescribed by law.
7. Cooperate with Commissioner of Agriculture and Industries and the State Veterinarian in their investigations of deaths of domestic animals in cases of suspected criminal poisoning of such animals.
8. Perform such other duties as are prescribed by the Governor or the Attorney General.

B. FACILITIES

The State of Alabama has six operational laboratories and three additional laboratories under development. Figure II-1 illustrates the location of the nine laboratories within the State.

The laboratories at Auburn, Birmingham, Huntsville, Mobile, and Montgomery are complete regional laboratories which provide full services of death investigation through autopsy, criminalistics, and toxicology through the criminal justice system. The satellite laboratories of Enterprise, Selma, Jacksonville, and Florence will provide criminalistic services, including drug identification. Completion of the Florence laboratory has been suspended pending approval of this Master Plan. A



satellite laboratory at Tuscaloosa is discussed in Chapter VI.

1. Headquarters and Auburn Regional Laboratory

The facility was designed in 1960, constructed in 1961, and occupied in February, 1962. Initial cost of the building, furniture, and some new equipment was \$205,875. The facility provides 15,620 square feet but only the top floor, or 10,400 square feet, was placed in a finished condition in 1961. The basement or first floor, consisting of 5,220 square feet, is currently undergoing renovation for use as a criminalistics laboratory and a morgue.

The Auburn regional laboratory has responsibility for providing scientific assistance to law enforcement in thirteen (13) Alabama counties. In addition, the laboratory provides technical support to all regional laboratories on an as-needed basis and presently handles all handwriting and document cases for the State. The department staff member specializing in serology is also located at Auburn. The headquarters staff bears primary responsibility within the department for research and development, training, and quality control.

The Auburn laboratory also processes the majority of animal toxicology cases received by the department.

All administrative duties of the department, such as budget, payroll, and procurement of supplies and equipment are handled by the headquarters staff members. Therefore, the staff at Auburn consists of personnel who assist and are responsible to the director for routine operation of the department and other personnel who are responsible to the local laboratory director for the processing of cases received at the laboratory. At the present time some personnel, both secretarial and professional, have overlapping responsibilities.

2. Birmingham Regional Laboratory

The regional laboratory in Birmingham, established in 1946, is now located on the fifth floor of the Jefferson County Public Health Building which was constructed in 1949. The Department of Toxicology and Criminal Investigation pays a share of the maintenance cost of the building, three hundred twenty-six and 60/100 dollars (\$326.60) per month, but does not pay direct rent to the Jefferson County Health Department for use of the space. The department has a contract with the Jefferson County Health Department which stipulates the laboratory will occupy the present space on the fifth floor of the Jefferson County Public Health Building unless a change is mutually agreed to by both agencies. All utility costs are paid by Jefferson County with the exception of the cost for telephone services.

3. Huntsville regional Laboratory

The Huntsville regional laboratory, established in 1956 and serving northern Alabama, is located on the second floor of the Municipal Building which also houses the police and fire departments. The building was constructed in 1965. Minor renovations of the Huntsville regional laboratory, including the addition of laboratory furniture, were completed in 1972. The Department of Toxicology and Criminal Investigation has a contract with the City of Huntsville which stipulates the laboratory will occupy the present space unless a change is mutually agreed to by both agencies. The City of Huntsville does not charge the department rent on the occupied space and provides all utilities free of charge with the exception of telephone service.

4. Mobile Regional Laboratory

The Mobile regional laboratory, established in 1939, is located in the Mobile County Courthouse, which was constructed in 1958. In 1971 the laboratory was renovated and provided with additional furniture and equipment. The Department of Toxicology and Criminal Investigation has a contract with Mobile County which stipulates the laboratory will occupy the present space unless a change is mutually agreed to by both parties. The present space is donated free of charge by Mobile County. The department pays no rent and no utilities except the telephone. Mobile County also provides custodial assistance at the laboratory.

5. Montgomery Regional Laboratory

The Montgomery regional laboratory, established in 1952, is located in the City Hall Building, downtown Montgomery. The brick building was constructed in 1936 and is in reasonably good condition. The building presently contains the administrative offices for the City of Montgomery, including the offices of the City Commissioners and Mayor. In 1971 the City allocated the regional laboratory an additional 529 square feet of space and the entire laboratory was modestly renovated to provide additional capabilities for both furniture and equipment. The Department of Toxicology and Criminal Investigation has a contract with the City of Montgomery wherein the space provided in the City Hall will not be vacated or otherwise altered unless by mutual agreement of both parties. The City of Montgomery does not charge the Department of Toxicology and Criminal Investigation any rent for the space provided and also provides all utilities with the exception of telephone service.

6. Enterprise Satellite Laboratory

The satellite laboratory at Enterprise, Alabama, established in 1971, is located in a wing of the Science Building constructed in 1966 at Enterprise State Junior College. The wing of the building utilized for the laboratory space was renovated for such use as a criminalistics laboratory in 1971. The Department of Toxicology and Criminal Investigation has a contract with Enterprise State Junior College which stipulates the laboratory will occupy the present space unless a change is mutually agreed to by both parties. The college does not charge the laboratory rent and all utility and

janitorial expenses, with the exception of telephone service, are borne by Enterprise State Junior College.

7. Jacksonville Satellite Laboratory

The satellite laboratory at Jacksonville State University is located in Albert P. Brewer Hall, which is the newly constructed facility (1972) paid for with State funds and utilized by the university for its law enforcement program. The first floor of the facility consists of one classroom, a room for self-defense instruction for law enforcement officers, photographic facilities for the university, and the crime laboratory. The crime laboratory for the Jacksonville area will be operational by May, 1973. The Department of Toxicology and Criminal Investigation has a contract with Jacksonville State University wherein the present space will not be denied or otherwise altered unless by mutual agreement of both parties. The Department of Toxicology and Criminal Investigation does not pay any rent to the university and the university has agreed to provide all utilities with the exception of telephone service.

8. Selma Satellite Laboratory

The satellite laboratory at Selma is located in the L & N Railroad Depot which was acquired by the City of Selma on a ten year lease with a renewal option. The city leased the building for \$1 per year with the understanding that it would be used for the public's benefit. The building was constructed in the 1930's but it is of sound construction with brick walls and very strong supporting timbers. The Department of Toxicology and Criminal Investigation occupies the first floor and the basement in the building. Access to the second floor is by an outside stairway. The Department of Toxicology and Criminal Investigation has a contract with the City of Selma wherein the laboratory space, as occupied, will not be denied or altered unless other arrangements are made by mutual consent of both parties. No rent is paid by this department for the use of the space. The building was renovated in 1972 and the laboratory is scheduled to be operational by April, 1973.

C. Utilization of Space

Presented in Table II-1 is a breakdown of area by utilization for each laboratory. As can be seen, the

TABLE II-1
UTILIZATION OF SPACE*

	Auburn	Birmingham	Enterprise	Huntsville	Jacksonville	Mobile	Montgomery	Selma	Total
Administrative	1,490								1,490
Chemistry and Toxicology	1,325	400		338		437	439		2,939
Criminalistics and Drug Identification	2,265	417	1,276	412	1,204	715	529	1,223	8,041
Evidence Storage	531		126	150	450	225	108	560	2,150
Instrumentation	1,018		407	110	450	175	140	374	2,674
Photography	216	175	118	98		82	104	114	907
Offices (Professional and Secretarial)	553	308	409	240	400	286	436	654	3,286
Supply Storage (Lab and Office)	386	30			100	110		218	844
Mortuary	315								315
Conference/Classroom	524							163	687
Library	345								345
Serology	220								220
Other	1,284	195	96			78		598	2,251
Total	10,472	1,525	2,432	1,348	2,604	2,108	1,756	3,904	26,149

* All Figures Represent Square Feet Utilized

department occupies a total of 26,149 square feet statewide. Statewide, a total of 8,041 square feet, or 30.7 percent, is utilized for criminalistics and drug identification involving the examinations, analyses, and comparisons of physical evidence and drugs. Chemistry and toxicologic analyses are performed in a total of 2,939 square feet, or 11.2 percent of total area statewide. Office space for professional and secretarial employees consists of 3,286 square feet, or 12.5 percent of the total area.

As can be noted from the table, only the satellite laboratories (Jacksonville, Selma, and Enterprise) established recently and the headquarters and regional laboratory at Auburn have sufficient space. Space provided in the other regional laboratories is inadequate for the proper functioning of the department. The Huntsville laboratory, handling approximately 19.0 percent of the total statewide case load, is the smallest laboratory in area, occupying only 1,248 square feet or 5.0 percent of the total area provided statewide. The Birmingham laboratory, handling approximately 20.3 percent of the statewide case load, occupies only 1,525 square feet of space or 5.8 percent of the total area.

A number of other inequities can be observed from Table II-1. For example, no space is provided in the Birmingham laboratory for evidence storage, and the Huntsville and Montgomery laboratories have insufficient space provided for this vital purpose. Inadequate space is provided in Birmingham and Mobile for instrumentation. In both of these laboratories, instruments are maintained in the toxicology and criminalistics working areas. Space for instrumentation is also insufficient at the Huntsville and Montgomery laboratories.

D. Organization and Staff

Presented in Figure II-2 is an organization chart depicting the current structure of the Department of Toxicology and Criminal Investigation and outlined below are the responsibilities of the personnel listed in the chart.

The Director, State Department of Toxicology and Criminal Investigation, is appointed by the Attorney General upon nomination of the State Chemist and is responsible for establishing and executing a state-wide system of crime laboratories. The director is responsible to the Attorney General and the Governor for the administration and

operation of the department. The director coordinates the department's functions with other agencies of local, county, and State government. The director is responsible for insuring that the department is staffed with adequately trained personnel who are properly equipped and supplied so that they can provide scientific assistance to law enforcement within the State. As the chief administrative officer, the director serves on a number of State and National committees in the area of forensic science and related fields. The preparation and presentation of the department's budget to the legislature is also one of his duties.

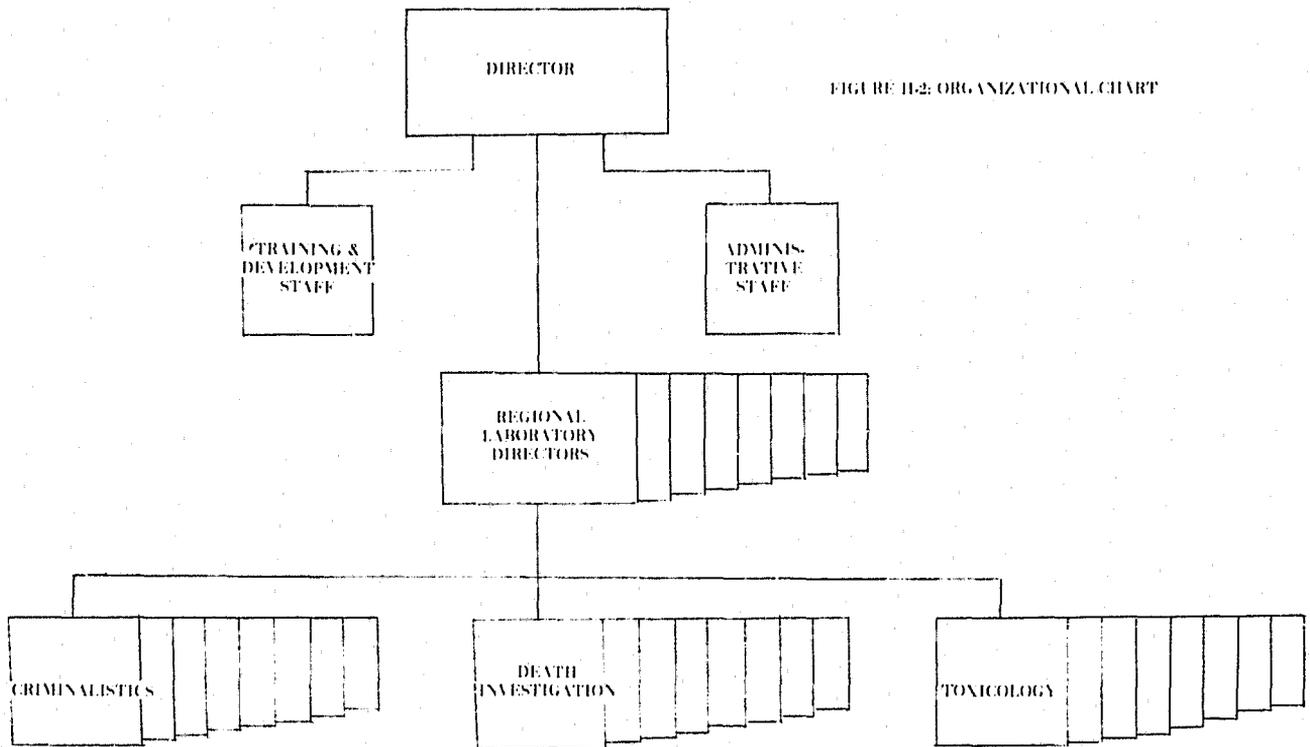
The Assistant Director, State Department of Toxicology and Criminal Investigation, coordinates the activities of the administrative and training and development staff. He is charged with the responsibility for organizing and developing long-range plans and goals for the agency under the supervision of the director. The assistant director performs other duties as needed and requested by the director, and acts for the director in his absence.

Each director of a regional or satellite laboratory is responsible for proper administration and operation of his individual laboratory. The laboratory director bears a moderate administrative load and case load and is responsible to the department director for the activities of his laboratory. These activities, in addition to case work, include encouraging some research by his professional staff, local quality control, and insuring continuous self-improvement of all members of his staff.

Personnel specializing in criminalistics are responsible for examining, analyzing, comparing, or relating physical evidence received from law enforcement. These personnel prepare written reports which are public records and testify on their findings and conclusions in the courts as required.

Personnel specializing in the area of death investigation perform postmortem examinations or autopsies on dead bodies whose death is known or suspected to have resulted from unnatural causes. These employees also recover any physical evidence or other items from the body which are needed by personnel in other divisions as evidence or by the courts in adjudication of the case. Personnel in the Death Investigation Division also

FIGURE 11-2: ORGANIZATIONAL CHART



prepare detailed reports on their findings and testify in the courts of law as required.

Personnel specializing in toxicology provide toxicologic assistance to other divisions of the department and other agencies as requested. These employees also prepare detailed reports which are public records and testify on their findings in the courts as required.

The administrative staff at Auburn is responsible to the director for the routine administrative functions of the department. The administrative staff assists the department director in preparation of the budget, the requisition of supplies and equipment, the payment of all bills, and other routine functions of the department.

The training and development staff at Auburn is responsible for coordinating all personnel training activities, including on-the-job training, and further development of permanent employees. The training and development staff coordinates department-wide research and development and quality control.

E. Personnel Classifications

The State Department of Toxicology and Criminal Investigation presently has the director

classified as State Toxicologist. As provided in the legislative act, the department utilizes personnel classified as criminalists, pathologists, toxicologists, crime laboratory technicians, statisticians, clerk-stenographers, clerk-typists, custodial workers, and morticians. The detailed job descriptions, specifications, and qualifications for these various positions are included as Appendix A to this Master Plan.

F. Professional Training

The majority of new employees with the crime laboratory system have never worked in a forensic science facility prior to their employment with this department. Therefore, the Department of Toxicology and Criminal Investigation has an on-the-job training program which all new employees immediately enter upon employment. This on-the-job training is divided into three major areas—criminalistics, death investigation, and toxicology. Emphasis in the last three years has been on training new personnel in criminalistics. Two people have been trained in death investigation and one person has been trained in toxicology. The on-the-job training program in each area consists, in part, of a self-study and self-improvement program with literature and journals furnished by

the laboratory. On-the-job training includes many sessions where trainees perform, under the direct supervision of a qualified criminalist or toxicologist, all the tests and procedures which he will later be required to use for the analysis, examination, and comparison of evidence. The trainee will also assist professional personnel in the analysis, examination, and comparison of evidence. During the on-the-job training program, the trainee will receive unknown samples of evidence which he will analyze, examine, compare, or relate and report his findings in writing to his supervisor.

After approximately one year, a new trainee who has made satisfactory progress will begin to handle simple cases which are not anticipated to involve intense or severely contested litigation. After two years of training, an employee should develop the professional expertise necessary to process cases that involve moderately difficult items of evidence. A person normally assumes a fully professional status after three years of experience and training.

It is the policy of the department to send a new employee to training courses which are deemed necessary to further qualify him for the area of work in which he will specialize. For instance, if his educational background does not include adequate training in operating and interpreting data from infrared or ultraviolet spectrophotometers, then the department will send the individual to a training course sponsored by one of the major manufacturers of such equipment. If an individual is to specialize in drug identification, the department will send him as part of his training program to the Forensic Chemists School conducted by the Bureau of Narcotics and Dangerous Drugs in Washington, D.C. If an individual is to specialize in criminalistics, it will be desirable for him to attend schools presented by McCrone Research Institute on microscopy. The short courses are intended to further round out the employee's educational qualifications for professional work in forensic science.

Several times a year professional groups or instrument manufacturing companies conduct one or two day seminars on a particular matter of interest to forensic scientists. Whenever possible, the department sends trainees and professional personnel to these seminars to further expand their professional qualifications. Seminars are also utilized to maintain the professional competence

of personnel operating instruments and conducting procedures used in their respective areas of specialty. Attendance at professional meetings, such as held by the Southern Association of Forensic Scientists and the American Academy of Forensic Sciences, is encouraged and expenses are borne by the department when possible. Promising young trainees need to become acquainted with professional people in the field of forensic science. The technical meetings give both trainees and permanent employees an opportunity to expand their knowledge through discussions with highly competent forensic scientists. Not only do employees benefit by exposure to new knowledge and ideas, but the meetings also provide employees with opportunity to expand relationships with other forensic scientists and, thus, help establish within their own conscience a sense of belonging to the professional group. A sense of self-satisfaction with his profession is highly desirable for retention of qualified people.

All employees of the Department of Toxicology and Criminal Investigation are encouraged to continue their formal education on a part-time basis if arrangements with a local institution of higher learning are possible. Most of the crime laboratories in the State are located adjacent to or on the campus of a college or university and many personnel take one course per quarter to further expand their educational qualifications. Several employees have completed the requirements for the Master of Science degree in such a manner and several more are currently enrolled in similar programs. The continuous formal education is highly desirable to qualify the individual as an expert witness in court and to further his technical knowledge of areas such as chemistry, physics, toxicology, and microscopy so that he may better examine, analyze, compare, or relate evidence submitted to the laboratory.

All scientific specialties are constantly in a state of revision and improvement with regard to techniques, procedures, and instrumentation. An economical and feasible approach to maintaining a current knowledge of technical advances is to provide scientific literature specializing in the technical area of interest. Each regional and satellite laboratory subscribes to a number of professional journals in the area of forensic science and all professional personnel are encouraged to review these journals and study the articles related to special areas of work. Self-study and self-im-

provement are stressed at each laboratory by the laboratory director and are considered necessary for satisfactory performance by the departmental director. The reference library is a very necessary ingredient for self-improvement of professional personnel.

G. Secretarial Training

As in the professional area, only secretarial assistants who exhibit the necessary skills and abilities are considered for employment. In addition, the department has a rigid set of rules and regulations pertaining to each laboratory concerning quality of records which are maintained and the quality of reports which are generated and mailed to the requesting law enforcement agencies. A new secretarial employee is placed in an on-the-job training program for familiarization with the policies and procedures of the department and the large quantity of records which are maintained at each laboratory and at the headquarters laboratory in Auburn. After initial indoctrination into the record keeping and reporting procedures, the new secretarial employee assists in the preparation of records and reports but is closely supervised and checked. After exhibiting to the supervisor a thorough understanding of the records and reporting procedures and an appreciation of the obligations of the job, the secretary assumes the responsibilities of the varied tasks. Secretarial employees must also understand the duties of the department, for many times initial contact with requesting agencies and the public originates through such employees. A knowledgeable secretarial employee can handle many communications with the public, thus, saving professional employees valuable time.

The secretarial staff at each laboratory is encouraged to participate in seminars in their local area which are designed to improve secretarial abilities and knowledge. These seminars are usually sponsored by universities, the Federal or State government, and local chapters of the National Secretaries Association (International). Therefore, since many of the laboratories are located near colleges or universities, the department's secretarial staff has excellent opportunity to attend such seminars.

Members of the secretarial staff in each laboratory are also encouraged to participate and become a member of such organizations as the National Secretaries Association (International).

Group participation in a professional organization of this nature introduces personnel to new ideas and techniques. These ideas and techniques enable the secretarial staff to make useful and helpful suggestions to the department on ways to improve the records and reporting procedures. The department also provides financial assistance to secretaries attending schools such as those conducted by the Federal Civil Service Commission.

Secretarial assistants must also have proper reference materials to aid in answering questions which arise in the performance of duties. The reference library for secretarial employees is not as large as that for professional employees but does include texts on grammar, vocabulary, filing procedures, office procedures and techniques, and reference materials such as dictionaries, including medical dictionaries and the "Physicians' Desk Reference" of pharmaceutical products.

H. Equipment

Minimum equipment for each regional laboratory consists of one ultraviolet spectrophotometer, one infrared spectrophotometer, one atomic absorption spectrophotometer, two gas chromatographs with pyrolysis accessory, one emission spectrograph, one brightfield microscope, one polarizing microscope, one forensic comparison microscope, thin layer chromatography capability, photographic capabilities, vehicles for travel, typewriters, and many smaller items of equipment utilized in both criminalistics and toxicology. Funding shortage has thus far precluded purchase of pyrolysis accessories for two regional laboratories. At the present time, only the Auburn regional laboratory has atomic absorption instrumentation. Each regional laboratory will soon be equipped with one spectrofluorometer.

The Auburn regional laboratory also has one x-ray diffraction spectrophotometer, one automated tissue processor, and one medical microscope. The latter two instruments are utilized primarily by the pathologist in the Death Investigation Division at Auburn but the tissue processor is also utilized by criminalistics personnel. The Auburn and Huntsville laboratories also have gel electrophoresis capabilities and the serologist at Auburn is further developing enzyme electrophoresis capability.

Instruments listed above as the minimum major items of equipment at each regional laboratory are

criminalistics oriented but do not preclude an adequate toxicology capability at the five regional laboratories. Toxicology personnel at these five laboratories utilize the ultraviolet, visible, and infrared spectrophotometers, gas chromatographs, and thin layer chromatography and, soon, the spectrofluorometer to process their cases. Criminalists also routinely need the same items of instrumentation listed for toxicologists and share such equipment with them.

Appendix C lists the approximate cost of each of the above items and also lists other items of equipment projected for purchase during the next five years as discussed in other chapters of this Master Plan.

I. Equipment Utilization

The ultraviolet spectrophotometers are utilized extensively for the analyses of drugs extracted from solid dosage compounds and from body fluids and tissues. They are also used extensively to compare extracts of physical evidence, such as fibers, paints, and other solid materials submitted to the criminalists for identification and comparison. The infrared spectrophotometers are used for similar work but reveal more exact information about the materials. Infrared comparison also requires large samples which are not always available. Gas chromatographs are used for the analysis and comparison of arson evidence, drugs, and paints and other solids when equipped with a pyrolysis accessory. The gas chromatographs are also utilized for the detection of volatiles, such as alcohol, in blood or urine and in many cases for the detection and comparison of drugs or poisons extracted from tissues or body fluids.

Emission spectrographs are used primarily to compare and analyze solid materials, such as paint, soil, and safe filler. The diffraction spectrophotometer is used to compare or analyze any crystalline material and finds its major utilization with physical evidence and solid dosage form drug compounds.

Criminalists use thin layer chromatography primarily for the comparison of substances such as tars, asphalt, drugs, or any other extractable material. Toxicologists use thin layer chromatography for the separation and tentative identification of drugs or poisons extracted from body tissues and fluids.

The atomic absorption spectrophotometer is utilized for analyses and quantitation of metallic poisons in body fluids and tissues. These instruments have extensive applications in criminalistic analyses.

The brightfield and polarizing microscopes are utilized by criminalists for the examination, analysis, and comparison of physical evidence, such as hairs, fibers, soil, glass, and particles of all kinds. The forensic comparison microscopes are utilized primarily for the examination and comparison of spent cartridges and bullets. They are also utilized to compare toolmarks on doors, safes, etc., and can be utilized for the comparison of almost any two objects.

Photographic equipment in each laboratory is used primarily by the criminalist and death investigation personnel to document findings on physical evidence or at a crime scene for later presentation in a court of law.

Physical evidence generated from any crime in the State would require the use of some or all of the instruments described above. The department maintains each instrument in a standby status throughout the work day or the work week as appropriate to reduce dead time. Even with all instruments ready to function, the necessary pre-instrument evidence preparation precludes actual utilization of any instrument more than 50 to 60 percent of the average working day. Discussions with the individual laboratory director and a survey of instrument supplies purchased over the last two years reveal a steadily increasing utilization of all department equipment, including automobiles.

J. Operational Standards

The Department of Toxicology and Criminal Investigation is a professional organization whose duties are to provide scientific assistance to law enforcement. The employees are all scientists first and law enforcement officials second, and then only to the extent necessary to perform their duties. The training of employees, both at educational institutions and within the department, stresses the point that all examinations, comparisons, analyses, opinions, and reports must be based upon scientific facts and the laws of probability. Training of employees in the scientific methods used by the department also insures that only recognized tests and procedures are utilized for the basis of reports. The department

also has a quality control program in which all professional members participate. Continuous and successful quality control indicates that the methods, procedures and results of the professional members are current, proper, and accurate. The department also stresses through referee samples that each professional employee be qualified and capable to accurately use instrumentation provided each laboratory.

The Department of Toxicology and Criminal Investigation does not hire full-time professional personnel unless they are educationally qualified for full-time professional work in the field of forensic science. This educational requirement is the minimum of a B.S. degree in chemistry, pharmacy, or a related field. Most personnel have their first degree in chemistry or pharmacy with a few having a major in biology and a minor in chemistry. The minimum educational requirement prior to employment is not interpreted as the minimum education desired by the department. As stated earlier, the department encourages and provides assistance when possible so that every employee, professional or secretarial, can further their formal education.

Personnel who are employed by the Department of Toxicology and Criminal Investigation or any forensic science laboratory must, of necessity, be of the highest moral integrity. The forensic scientist must be the caliber of person of whom it can be truly said that he cannot be compromised.

As scientists the members of the department are not a part of the adversary system existing between the prosecutor and the defense attorney. Reports of the department are based on facts as determined in the laboratory and all opinions rendered are based on the results of the analyses and comparisons made in the laboratories with no regard as to whom the report might help or hinder. The members of the department are just as anxious to prove someone's innocence as they are to prove someone's guilt. The basic aim of the department is to determine true facts as revealed by scientific study and analyses of the evidence.

I. Reports Are Public Records

When a professional employee has determined beyond a reasonable doubt and within scientific certainty the true relationship of any evidence which he is asked to examine, analyze, or compare, then it is the department's responsibility to place

these findings in an accurate and concise report which reflects the high standards of the agency. These reports, being public records, are many times introduced as evidence in a court of law and are studied and reviewed by the jury when determining its verdict. For these and other reasons, it is necessary that the department maintain both accurate and concise reports of the highest quality of composition and typing.

2. Chain of Custody

Throughout the analyses and performance of the work necessary to process a case, the department must maintain a chain of custody which is beyond reproach in a court of law. Therefore all personnel, both professional and secretarial, must be thoroughly familiar with the legal requirements regarding evidence.

3. Research and Development

While the department strives to process its work load and meet the requirements placed upon it by law, it also conducts limited research to develop new techniques and procedures which will improve and expand its capabilities to assist law enforcement.

4. Hours of Operation

The laboratories are open regularly from 8:00 A.M. to 5:00 P.M. five days per week. However, all professional personnel in each laboratory remain on continuous call and may be contacted at their homes or through the local police department or the highway patrol.

5. Economy Conscious

While the operational standards discussed above are maintained, the Department of Toxicology and Criminal Investigation also strives to perform its services with minimum expense to the taxpayers of Alabama. The agency serves law enforcement and the criminal justice system but the public funds its operations and demands that they be performed in the most efficient and expedient manner possible.

K. Work Load

To provide a greater understanding of the department's role in the criminal justice system of the State of Alabama, it is necessary to provide details on the cases or work load which the department processed during the last two fiscal years. A general way to begin this discussion and analysis is to look at the total number of "cases"

which each laboratory handled or processed during the past two fiscal years. This information is presented in Table II-2.

TABLE II-2
TOTAL CASES BY LABORATORY
FISCAL YEARS 1970-71 AND 1971-72

Laboratory	Fiscal Year 1970-71	Fiscal Year 1971-72
Auburn	1,356	1,441
Birmingham	1,607	1,528
Huntsville	1,349	1,258
Mobile	1,834	2,018
Montgomery	724	829
Enterprise	—	396
Total No. of Cases	6,870	7,500

It can be seen from the table that the department's work load increased by 630 cases during the last fiscal year. Table II-2 also reveals that the new satellite laboratory operating at Enterprise State Junior College processed a total of 396 cases during its first year of existence. The opening of the Enterprise satellite laboratory enabled the department to adjust regional assignments which were designed to afford relief to the Huntsville and Birmingham regional laboratories. As the table illustrates, the relief in case load during fiscal year 1971-72 was small at both laboratories and will be neutralized by natural growth during fiscal year 1972-73.

Presented in Figure II-3 is a map depicting the counties within the State of Alabama, together with the number of cases processed for each county during fiscal year 1970-71. It can be seen from Figure II-3 that case load per county ranged from an upper extreme of 1,215 cases for Mobile County to a lower extreme of only six cases for Lamar County. Figure II-3 also reveals that the counties where laboratories are located have by far the largest utilization of crime laboratory services as can be seen in the case of Mobile, Madison, Jefferson, Montgomery, and Lee Counties. The map also illustrates in general terms two characteristics which will be discussed extensively in Chapter V. These are 1) case load is directly related to population,

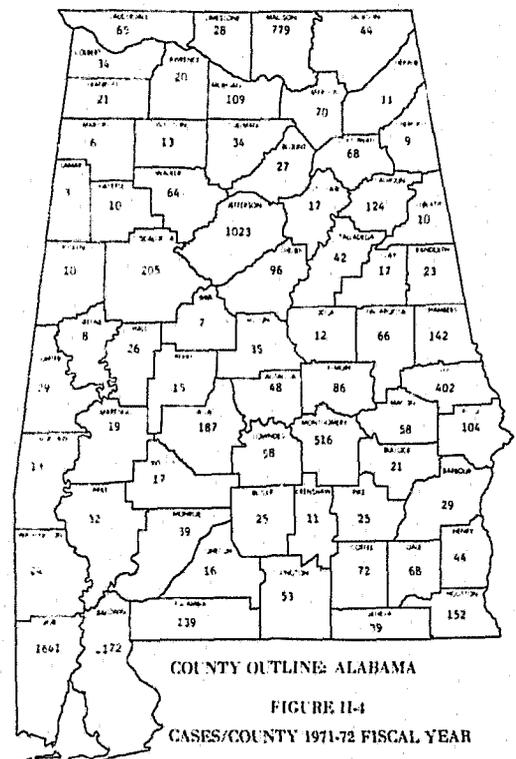


TABLE II-3
TYPE OF EVIDENCE SUBMITTED (PERCENT)
1970-71 FISCAL YEAR

Lab	FA	BA	H-TOX	A-TOX	TE	PE	DI	SER
Auburn	5.0	29.4	16.6	6.5	7.5	10.6	32.2	3.3
Birmingham	4.2	27.9	12.7	2.7	4.5	3.8	55.5	1.7
Huntsville	3.8	49.7	4.3	2.6	1.3	3.8	55.5	1.7
Mobile	3.5	35.2	19.2	3.2	5.0	4.4	32.8	1.1
Montgomery	7.5	29.7	21.4	6.3	10.5	7.2	29.8	4.0
Statewide	4.8	34.3	14.8	4.3	5.8	6.0	36.6	2.3

Legend: FA - Firearms;
 BA - Blood Alcohol;
 H-TOX - Human Tissues and Body Fluids;
 A-TOX - Animal Tissues and Body Fluids;
 TE - Trace Evidence;
 PE - Physical Evidence;
 DI - Drug Identification;
 SER - Serology;

TABLE II-4
TYPE OF EVIDENCE SUBMITTED (PERCENT)
1971-72 FISCAL YEAR

Lab	FA	BA	H-TOX	A-TOX	TE	PE	DI	SER
Auburn	5.8	28.6	16.2	12.0	7.2	7.8	33.5	4.7
Birmingham	5.3	23.0	11.7	3.8	9.6	3.3	62.0	1.1
Enterprise	4.1	17.8	14.2	4.1	6.6	5.7	53.8	1.0
Huntsville	4.2	36.8	4.8	6.7	1.7	1.6	46.3	1.5
Mobile	3.0	37.3	8.6	4.0	4.8	2.2	42.3	1.3
Montgomery	7.3	23.0	24.0	7.3	9.0	7.7	30.3	5.0
Statewide	4.9	27.8	13.6	6.3	6.5	4.7	44.5	2.4

Legend: FA - Firearms;
 BA - Blood Alcohol;
 H-TOX - Human Tissues and Body Fluids;
 A-TOX - Animal Tissues and Body Fluids;
 TE - Trace Evidence;
 PE - Physical Evidence;
 DI - Drug Identification;
 SER - Serology;

and 2) case load is inversely related to distance from the laboratory. Figure II-4 presents the same information for fiscal year 1971-72.

The department has compiled information on each county in Alabama which shows the total number of cases worked for that county and whether the case originated within a city or town within the county or within the rural portion of the county itself. It was found that the vast majority of cases processed by the Department of Toxicology and Criminal Investigation originates within the police jurisdiction of a city or town. The department also compiled a breakdown of the percent of cases received from each county which involve firearms, fingerprints, blood alcohol analyses, toxicology, trace evidence, toolmarks, larger items of physical evidence, drug identification, serology, or other types of examinations. These tables also identify the drugs submitted by each county as to whether they were depressants, narcotics, psychotropics, stimulants, Cannabis sativa L., or non-controlled. The other information is of particular value to the department for administrative decisions and to help establish training needs and priorities on a county-to-county basis.

1. What Constitutes "Case"

The nomenclature "case" can be completely misleading. Before any further data is presented concerning the department's involvement in the criminal justice system and its assistance to law enforcement, a more detailed study of the department's work load or cases is mandatory. Therefore, the following statistics, provided in Tables II-3 and II-4, are summaries of the type of evidence received by each laboratory during fiscal years 1970-71 and 1971-72.

Tables II-3 and II-4 were developed using the following criteria: FA - the evidence received contains some firearms evidence; BA - a blood alcohol analysis was performed as part of the case; H-TOX - some toxicologic analysis was performed on human tissues or fluids or substances utilized by humans; A-TOX - some toxicologic analysis was performed on animal tissues or fluids or substances utilized by animals; TE - trace evidence, such as hairs, fibers, or paint, was received; PE - physical evidence, such as safe filler, tools and toolmarks, fingerprints, or plaster prints, were received; DI - solid dosage form drug samples or Cannabis sativa L. was received; SER - bloodstains or other stains were received and

processed. It should be noted that a particular case can include more than one type of evidence.

The tables shown reveal that the department has a high percentage of cases which involve a blood alcohol determination. Only 27.7 percent of these cases in fiscal year 1970-71 and 18.8 percent in fiscal year 1971-72 involve live subjects and case records reveal only a small percent of the live subjects were arrested for driving while intoxicated. The majority (68.6 percent in fiscal year 1970-71 and 75.6 percent in fiscal year 1971-72) of blood alcohol analyses involve a death investigation and are requested by a county coroner or a police officer in the case of a traffic fatality.

Further study of Tables II-3 and II-4 indicates that the department should continue to stress physical evidence and serology capabilities to law enforcement. Numerous law enforcement personnel interviewed throughout the State did not fully understand the capabilities of the department and further orientation and training designed to improve this situation need immediate attention. This subject will be discussed in greater detail in Chapter VII of this plan.

A general review of the tables also indicates a need to reduce the percent of cases involving toxicology, particularly animal toxicology. The current State statute requires cooperation with veterinarians but efforts to reduce this percentage of total case load is required and suggestions on techniques to accomplish such are also presented in Chapter VII.

The percentage of cases containing drug evidence is high but if physical evidence is increased and toxicological analyses are decreased, the level of drug work would be within the expected value for today's drug-oriented society or approximately one-third of the total case load.

Efforts were made during the study to determine the exact percent of total cases which were related to an index crime as defined by the Federal Bureau of Investigation. However, the Department of Toxicology and Criminal Investigation classifies cases by request, nature of the evidence, and, in some instances, by offense. Therefore, no exact data could be collected on the department's involvement in index crimes within the State but the study revealed that all cases received from law enforcement were related to a crime or suspected crime. The study also reveals that the department's participation in index crimes, other than

TABLE II-5
 PERCENTAGE OF TYPE CASES BY REQUESTING AGENCIES STATEWIDE,
 1970-71 FISCAL YEAR

TYPES OF CASES	Military	Attorney	Coroner	Court	State Trooper	State Inv.*	State Fire Marshall*	State Narcotic Agent*	Other State Agency	Hospital	Misc.	Federal Agency	Police	Sheriff	District Attorney	Veterinarian	Medical Doctor
Arson											68.7	1.0	18.7	12.5			
Assault to Rape													100.0				
Assault to Murder											11.2		44.4	44.4			
Burglary					22.9						0.9		62.4	13.8			
Death			39.9		2.5						0.3		10.2	16.2	30.9		
Hit & Run					32.8								63.8	3.4			
Identification		0.9	1.9		17.0					0.9	9.4		44.4	19.8	3.8		1.9
Id. of Firearms		1.1	7.7		11.0						2.2	1.1	54.9	20.9	1.1		
Id. of Blood			8.0		20.0						8.0		48.0	16.0			
Id. of Fingerprints					25.0							3.6	60.7	10.7			
Id. of Substance					13.4			3.5			5.0		56.9	17.6	0.1		3.5
Id. of Marks					20.0								60.0	20.0			
Document Examination					16.7						25.0		25.0	25.0	8.3		
Drug Identification	0.2			0.1	10.5			1.0		0.2	2.9	0.2	62.4	21.9	0.2		0.4
Photography													50.0	50.0			
Forgery											6.3		75.0	18.7			
Animal Poison	0.3				0.6						10.8		2.2	1.3		84.8	
General Toxicology	0.7		0.1		0.8					32.9	15.8		3.0	2.7	0.1		43.9
Postmortem Toxicology			64.7		1.5					5.0	0.3		5.0	2.8			20.7
Rape			2.6		7.7						2.6		66.7	17.8			2.6
Robbery	5.3				15.8								68.4	10.5			
VPL			8.8							11.8	20.6		58.8				
Blood Alcohol	1.6		47.7		19.6					0.9			19.1	9.9			1.2
Grand Larceny					9.1								72.7	18.2			
Miscellaneous		2.1	2.1		2.1					3.1	49.0		21.9	12.5	1.0	1.0	5.2
Intoximeter Analysis			11.1		33.3								44.5	11.1			

* Agencies added just prior to end of 1970-71 fiscal year.

TABLE II-6
PERCENTAGE OF TYPE CASES BY REQUESTING AGENCIES STATEWIDE,
1971-72 FISCAL YEAR

TYPES OF CASES				State Inv.	State Fire Marshall	State Narcotic Agent	Other State Agency	Hospital	Misc.	Federal Agency	Police	Sheriff	District Attorney	Veterinarian	Medical Doctor
Arson	1.4				26.4				54.2		9.7	8.3			
Assault to Rape				7.7	7.7						50.0	50.0			
Assault to Murder											46.1	38.5			
Bone Identification		33.4									33.3	33.3			
Burglary				9.0					2.0		76.0	13.0			
Death		43.0		1.3	0.9						4.9	18.3	31.6		
Exhumation		20.0											80.0		
Hit & Run	1.8			23.2					3.6		58.9	12.5			
Identification				4.3	2.2	2.2	2.2				63.0	26.1			
Id. of Firearms		10.8		1.0	5.9		2.0				59.7	20.6			
Id. of Blood		6.7			6.7				6.7		60.0	19.9			
Id. of Fingerprints				13.3					4.4		60.0	22.3			
Id. of Substance				5.3					10.5		47.4	36.8			
Id. of Marks				16.7							66.6		16.7		
Document Examination				6.1	3.0		36.4				24.1	15.2	15.2		
Drug Identification	0.1	0.1	0.2	2.9	3.7	0.1	1.6	0.4	3.0	0.1	64.4	22.2	0.4		0.4
Photography										75.0	25.0				
Forgery									25.0		50.0		25.0		
Animal Toxicology							1.9	0.2	8.0	0.5	3.8	0.6		85.0	
Emergency Toxicology	1.4			7.0			1.4	50.8	1.4		7.0	2.8			
General Toxicology	0.1	35.6	0.6	2.2			1.5	0.3	24.3	0.9	5.5	1.3	0.1		27.6
Rape					1.9						79.6	18.5			
Robbery					4.8						66.7	28.5			
VPL				1.8			12.5		5.4		26.8	53.5			
DWI				10.5				0.9			64.2	24.4			
Blood Alcohol	0.6	61.4		17.6	0.1			1.5			14.3	1.7			2.8
Miscellaneous	0.6	1.3		7.7		1.3	3.2	4.5	28.2		32.0	10.3	1.3	3.2	6.4

FIGURE II-5: CASES PER OFFICER PER LABORATORY 1970-71 FISCAL YEAR

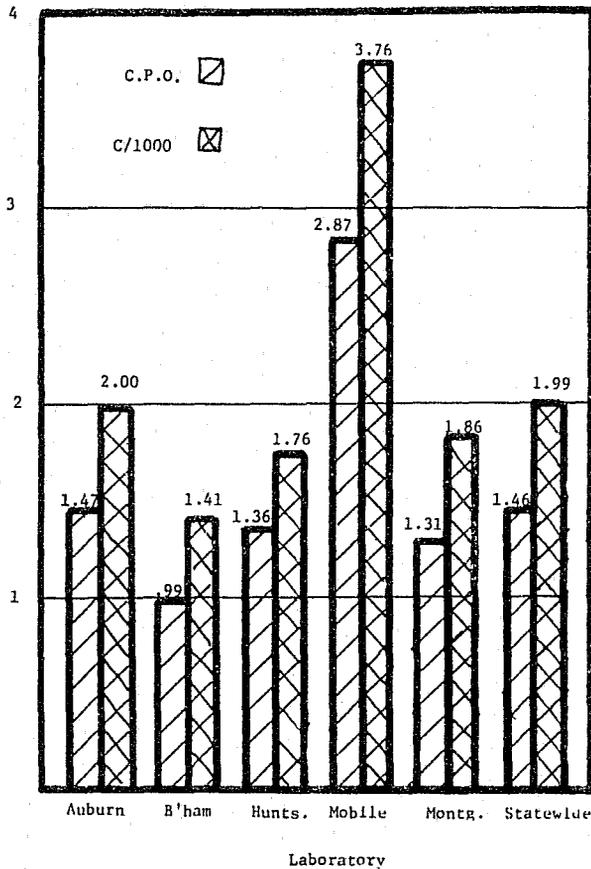
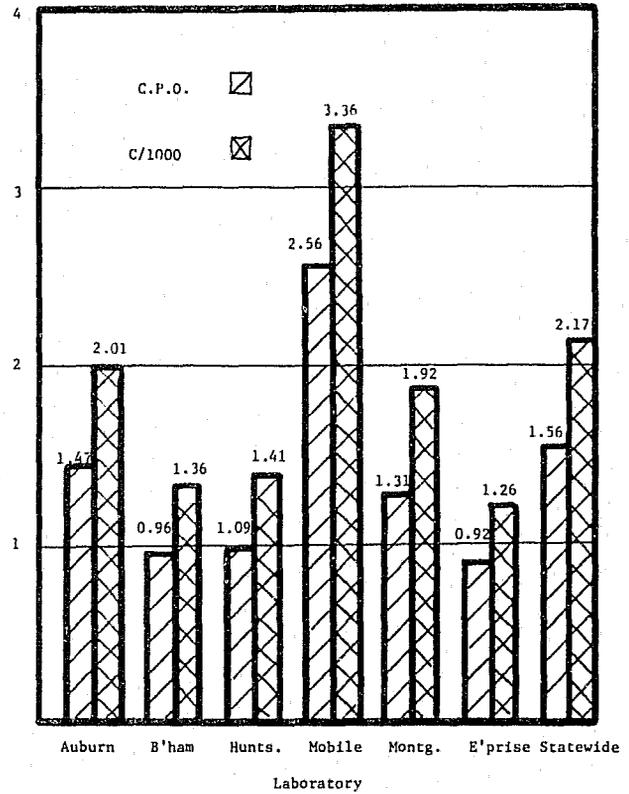


FIGURE II-6: CASES PER OFFICER PER LABORATORY 1971-72 FISCAL YEAR



homicide, decreases sharply with increasing distance from a regional laboratory.

2. Cases Per Officer and Cases Per 1000 Population

Case load for crime laboratories has been the subject of many papers during the past 18 months. On the basis that officers generate evidence the criteria of cases per officer or CPO has been utilized by many writers. Other persons reason that people commit crimes and, therefore, the criterion of cases per 1000 population has also been utilized. Throughout this study, the utilization of laboratory services was determined by both criteria and found to yield very similar data.

Figures II-5 and II-6 reflect the CPO and C/1000 for each laboratory and the average CPO and C/1000 for the department for the fiscal years 1970-71 and 1971-72. The tables reflect significant differences in each laboratory's CPO and C/1000. The values for the regional laboratories at Bir-

mingham, Huntsville, and Montgomery are not acceptable even though due consideration is given to the fact that those laboratories only in 1970 received any significant increase in personnel. The department must strive to increase the CPO and C/1000 value for each laboratory by better orientation and training of law enforcement officials, including both supervisory and line officers. The department must also strive to reduce the turn-around time for cases and through this and other means illustrate to law enforcement that they will receive valuable, efficient, and timely service. Again, more attention to possible techniques to accomplish these goals will be discussed in Chapter VII.

3. Case Origin

The State Department of Toxicology and Criminal Investigation in its semiannual and annual reports, lists the origin of cases by requesting agency. Tables II-5 and II-6 reflect the percent of

TABLE II-7
MODE OF DELIVERY (PERCENTAGE) BY TYPE
OF CASE STATEWIDE, 1970-71 FISCAL YEAR

TYPE CASE	IP	DEL	PL	MAIL
Arson	84.4	15.6	—	—
Assault to Rape	100.0	—	—	—
Assault to Murder	88.9	11.1	—	—
Burglary	84.3	13.0	0.9	1.8
Death	11.3	4.9	83.8	—
Hit & Run	79.3	11.3	0.9	8.5
Identification	70.4	14.8	—	14.8
Id. of Firearms	85.7	12.6	—	1.7
Id. of Blood	73.1	15.4	—	11.5
Id. of Fingerprints	78.6	17.8	—	3.6
Id. of Substance	61.5	33.4	—	5.1
Id. of Marks	83.3	16.7	—	—
Document Examination	77.8	—	—	22.2
Drug Identification	73.4	19.6	0.4	6.6
Photography	33.3	33.3	33.4	—
Forgery	75.0	25.0	—	—
Animal Poison	30.0	36.5	0.7	32.8
General Toxicology	6.5	54.3	4.6	34.6
Postmortem Toxicology	47.0	25.7	5.5	21.8
Rape	71.1	26.3	—	2.6
Robbery	92.3	7.7	—	—
VPL	66.0	32.0	—	2.0
Blood Alcohol	19.0	40.2	30.0	10.8
Grand Larceny & Larceny	81.8	18.2	—	—
Miscellaneous	47.8	32.6	—	19.6
Intoximeter Analysis	33.3	44.5	—	22.2
All Cases	46.7	13.9	28.0	11.4

total cases of each classification which was requested by a certain type of agency. The tables reveal that most cases are received from the three basic law enforcement agencies in the State, that is, State police, municipal police, and county sheriffs. The next large group of work comes from the county coroners and the district attorneys. A significant amount of work is performed for medical doctors and veterinarians, about which more data will be presented later in this chapter.

Very little work is performed for federal agencies, including the military. Defense attorneys request work on a small scale but their requests for examinations or comparisons reflect a belief that the department is non-biased and reports only what can be determined to a scientific or medical certainty.

The amount of work received from miscellaneous agencies reflects some non-uniformity of record keeping between the various laboratories and explains the high percentage of arson and forgery cases so listed. These actually were received from State Fire Marshalls in the former, and officials of State or local government in the latter.

L. Mode of Delivery

How does the State Department of Toxicology and Criminal Investigation receive its cases was another question this study addressed. Tables II-7 and II-8 present the mode of delivery for each type

TABLE II-8
MODE OF DELIVERY (PERCENTAGE) BY TYPE
OF CASE STATEWIDE, 1971-72 FISCAL YEAR

TYPE CASE	IP	DEL	PL	MAIL
Arson	90.3	9.7	—	—
Assault to Rape	50.0	50.0	—	—
Assault to Murder	92.9	—	7.1	—
Bone Identification	25.0	—	50.0	25.0
Burglary	69.0	28.0	—	3.0
Death	5.9	4.2	89.9	—
Exhumation	—	20.0	80.0	—
Hit & Run	51.8	21.4	5.4	21.4
Identification	83.6	7.3	—	9.1
Id. of Firearms	85.6	13.5	—	0.9
Id. of Blood	66.6	26.7	—	6.7
Id. of Fingerprints	73.3	26.7	—	—
Id. of Substance	68.7	31.3	—	—
Id. of Marks	85.7	14.3	—	—
Document Examination	32.4	14.7	23.5	29.4
Drug Identification	72.0	24.8	—	3.2
Photography	66.7	—	33.3	—
Forgery	—	50.0	—	50.0
Animal Toxicology	33.2	47.5	—	29.3
Emergency Toxicology	—	73.6	13.2	13.2
General Toxicology	27.2	33.9	4.7	34.2
Rape	76.2	4.8	—	—
Robbery	76.2	4.8	—	19.0
VPL	71.4	23.2	5.4	—
DWI	13.2	81.3	—	5.5
Blood Alcohol	25.3	20.3	42.3	12.1
Miscellaneous	55.3	29.6	2.5	12.6
Intoximeter Analysis	66.7	11.1	11.1	11.1
All Cases	47.8	15.4	26.7	10.1

of case with no regard for the distance the requesting agency was located from a laboratory. The mode of delivery was divided into: IP - delivered by investigating officer(s); DEL - delivered by member of requesting agency other than principal investigator; PL - personnel of laboratory picked up evidence at scene or at the office of the requestor; and MAIL - which is self-explanatory.

The tables clearly reveal a large number of manhours and travel cost are routinely absorbed by requesting agencies in delivering evidence. Chapter VII will discuss proposals to reduce the percentage of evidence which is physically delivered to the laboratories by requesting agencies.

Table II-8 reveals an increase in laboratory personnel receiving evidence outside the laboratory. The department has a policy of assisting local officials by picking up evidence while employees are traveling to court, etc. All vehicles are equipped with State police radios and many times when an employee travels to another county for court he will be requested by radio to stop at a local police department or sheriff's office and receive evidence. The State police make good use of this system for delivering blood alcohol specimens from traffic fatalities to the department. The Auburn laboratory currently utilizes a departmental vehicle to transport bodies to the Auburn regional morgue for postmortem examination. Such vehicles are on order for two additional laboratories. It is still necessary for laboratory personnel from the remaining two laboratories to travel to the county of origin in order to perform post-mortem examinations. Thus, death cases and exhumations reflect a high percentage of PL classification.

M. Toxicology Work Load

Several references have been made in this chapter to the amount of human toxicology work performed by the State Department of Toxicology and Criminal Investigation. Data was collected to determine what percent of all toxicology and miscellaneous cases were received and processed at the request of law enforcement agencies, including the coroners. Table II-9 reflects the compiled data for each laboratory. It can be seen that every laboratory except Auburn (headquarters) restricts most of approximately one-half of human toxicology and miscellaneous cases to the request of law enforcement. Animal toxicology as a general

TABLE II-9
PERCENTAGE OF TOXICOLOGY
AND MISCELLANEOUS CASES PROCESSED
AT REQUEST OF LAW ENFORCEMENT

TYPE CASE	AB	BH	HV	MB	MG
1970-71 FISCAL YEAR					
Emergency Toxicology	Classification not utilized in 70-71 Fiscal Year				
General Toxicology	3.1	41.2	15.7	11.2	12.3
Postmortem Toxicology	2.0	93.5	81.1	84.4	42.9
Animal Toxicology	2.0	27.3	—	5.0	61.5
Miscellaneous	27.6	—	—	57.8	71.4
1971-72 FISCAL YEAR					
Emergency Toxicology	—	100.0	50.0	15.6	6.7
General Toxicology	20.9	87.5	60.0	58.5	30.2
Postmortem Toxicology	25.9	89.4	100.0	100.0	75.0
Animal Toxicology	6.4	20.0	—	4.9	40.0
Miscellaneous	40.6	—	—	57.6	75.0

rule is performed at the request of a veterinarian or the School of Veterinary Medicine at Auburn University. The Auburn laboratory handles the burden of human toxicology cases for many medical doctors and pathologists statewide and, thus, has a lower percent of such cases requested by law enforcement.

Table II-9 reveals that 38.7 percent of all human toxicology cases in 1970-71 were processed for law enforcement. Thus, 61.3 percent of all personnel time and supplies utilized by the department in 1970-71 fiscal year for toxicologic analysis involving humans was expended at the request of a medical doctor, a pathologist, or a hospital. Similar calculations based on Table II-9 reveal that 45.3 percent of all human toxicologic effort by the department in the 1971-72 fiscal year was applied at the request of medical doctors, pathologists, and hospitals. The table reveals a very significant decrease in human toxicology cases processed at the request of physicians, pathologists, and hospitals. However, a continuing program to lower the percent of medical doctor and hospital requests is indicated and is in progress by the department.

If one studies the annual toxicology figures, he determines that in 81.2 percent of all such work in 1970-71 fiscal year was performed at the request of veterinarians, the Auburn University School of Veterinary Medicine, and other non-law enforcement agencies. In fiscal year 1971-72, an in-

crease to 85.7 percent for similar work is noted. State statute requires the State Department of Toxicology and Criminal Investigation to cooperate with the Commissioner of Agriculture and Industries by the State Veterinarian but the above percentages reflect a larger load of animal toxicology than the law requires. Suggestions to alter the animal toxicology work load will be discussed in detail in Chapter VII.

TABLE II-10
TOXICOLOGY CASES PROCESSED AT
REQUEST OF HOSPITALS, MEDICAL
DOCTORS, AND VETERINARIANS
STATEWIDE

AGENCY	NO. OF CASES	
	Fiscal Year 1970-71	Fiscal Year 1971-72
Hospitals	293	264
Medical Doctors	345	290
Veterinarians	275	368

The cost of toxicologic analyses performed for hospitals, medical doctors, and veterinarians was also addressed during this study. Table II-10 reflects the total number of such cases processed during the past two fiscal years. The number of cases processed for hospitals and medical doctors decreased during fiscal year 1971-72 and is due to 1) greater emphasis placed on criminalistics by the department, and 2) larger hospitals developing some toxicology capability in their clinical laboratories. However, the number of cases processed for veterinarians continued to increase.

N. Examinations Per Case

Some forensic science laboratories record the number of examinations performed on each piece of evidence received. The State Department of Toxicology and Criminal Investigation maintained similar data during fiscal year 1971-72 and this data is enclosed as Table II-11. The department determined that each case required an average of 7.5 examinations. However, it was discovered that a definition of an "examination" in criminalistics was difficult and sometimes impossible. It was also noted that a slow increase in the number of examinations was reflected in monthly reports when no additional work could be verified through other

TABLE II-11
AVERAGE NUMBER OF EXAMINATIONS
BY TYPE CASE
1971-72 FISCAL YEAR

TYPE CASE	AB	EP	HV	MB	MG
Arson	10.2	*	—	1.8	3.2
Assault to Rape	8.0	—	—	—	—
Assault to Murder	11.0	4.5	—	2.3	4.5
Bone Identification	4.0	3.0	—	1.3	—
Burglary	6.1	11.8	8.7	2.3	20.6
Death	*	*	*	*	*
Exhumation	1.0	1.0	—	1.0	1.0
Hit & Run	6.1	14.4	6.0	3.0	4.7
Identification	28.8	*	7.1	2.0	3.0
Id. of Firearms	6.0	34.0	8.3	3.2	5.6
Id. of Blood	3.0	*	5.6	3.0	22.0
Id. of Fingerprints	5.9	9.7	4.2	13.0	1.3
Id. of Substance	—	6.5	5.0	1.2	3.7
Id. of Marks	1.0	—	21.0	—	—
Document Examination	2.6	4.0	—	2.0	1.5
Drug Identification	22.2	9.7	6.5	11.1	12.6
Photography	5.0	3.0	2.0	—	—
Forgery	1.3	—	—	—	—
Animal Poison	9.2	20.0	4.8	3.1	7.2
General Toxicology	11.8	15.3	8.0	7.8	4.4
Rape	7.2	10.0	—	4.4	24.5
Robbery	3.0	6.0	—	1.8	6.0
VPL	*	4.9	—	*	1.5
Blood Alcohol	4.1	3.2	2.7	1.3	4.4
Grand Larceny & Larceny	9.5	—	—	3.5	—
Miscellaneous	2.0	—	—	1.5	3.2
Bombing	—	—	—	—	5.0
Laboratory Average	10.3	8.4	5.1	6.2	7.7
Department Average	7.5				

*Not Determined

means. The department is convinced that reliable data can and should be maintained by forensic science laboratories to generate managerial information and to reflect cost accountability. No record of the number of examinations is presently maintained by the department and a different data system is discussed in Chapter VII. The suggested system addresses itself to 1) present duplication and triplication of routine case information, 2) classification of cases, 3) managerial information, and 4) cost accountability data needed by the agency.

Chapter III.

Present Relationship of Crime Laboratory System to Other Agencies of the Criminal Justice System

A. Local Law Enforcement

The Department of Toxicology and Criminal Investigation, as the State's crime laboratory system, is directly responsible for scientific assistance to local law enforcement in the investigation of crimes. Assistance rendered ranges from determining the cause of death to examination and evaluation of evidence connected with a particular crime, suspect, or suspect weapon. The crime laboratory system is also responsible to local law enforcement for the identification of solid dosage drug compounds. In addition, the crime laboratory bears some responsibility for the training of local law enforcement, particularly in the areas of evidence, crime scene investigation, and the identification of illegal drug compounds.

The crime laboratory system is not and cannot serve as a routine field investigative arm of local law enforcement. Field investigation and interrogation properly belong with the investigation division of the local agency requesting assistance. Criminalists of the crime laboratory system work closely with these investigators when the investigation centers around the identification of or the comparison of physical evidence pertinent to a particular case. The investigative technique of information gathering is also a function of the local law enforcement investigative division and not that of the crime laboratory.

B. State Law Enforcement

The crime laboratory system also serves State law enforcement, particularly the Division of Inves-

tigation and Identification of the of the State Department of Public Safety. State Investigators, as they are commonly called, are usually well-trained, skilled, intelligent personnel who seldom need assistance at a crime scene, but who quite often require assistance by immediate analyses or comparisons of physical evidence. The role of the crime laboratory system is to assist the State Investigators or other State officers in their investigations by furnishing them scientific assistance. Again, crime laboratory personnel are not qualified to act a field investigators and must restrict their services to the area of scientific assistance.

C. Federal Law Enforcement

The State's crime laboratory system maintains a very good rapport with federal law enforcement agencies within the State of Alabama. On numerous occasions, State and local agencies work hand-in-hand with the federal agencies and crime laboratory personnel enter into this relationship in a very comfortable manner. On a routine basis, federal agencies within the State utilize their own scientific laboratories and not those of the State of Alabama. Local offices of federal law enforcement agencies have utilized the State's crime laboratory system when items of evidence in their possession required quick analysis and time did not permit delivery of the evidence to their own laboratories in other states.

D. District Attorneys

District Attorneys have the opportunity by legislative statute to order the crime laboratory system to assist in the investigation of any crime within the District Attorney's jurisdiction. This authority has rarely been used and only when, in the opinion of the District Attorney, local law enforcement was not requesting proper assistance or conducting a proper investigation into a serious crime. Under these situations, the District Attorney has ordered crime laboratory personnel to enter into the investigation of a local crime. In all cases, the District Attorney has also requested and received assistance from State Investigators on these same crimes. The State's prosecutors utilize the crime laboratory system to further prove and place beyond a reasonable doubt criminal charges against defendants. However, it should be noted that in many cases each year, the findings of the crime laboratory prove the innocence of a suspect and occasionally the innocence of an individual charged with a crime. In the latter cases, without exception, the charges have been dropped or nolle prossed and the defendant released. The District Attorneys of the State of Alabama and the staff members of the crime laboratory system have a friendly, but professional, relationship.

E. County Coroners

Coroners in the State of Alabama are charged with the responsibility of certifying the cause of violent deaths or deaths resulting from unlawful acts, plus various other duties. In 66 of the State's 67 counties, the Department of Toxicology and Criminal Investigation, at the request of the coroners, either determines or assists in determining the cause of such deaths. Coroners and personnel in the Death Investigation Division work as a close-knit team. The coroner, acting with local law enforcement officials, makes the initial investigation at the scene of the dead body. If questions should arise or an autopsy is desired, they will consult the nearest regional laboratory. All laboratories will provide assistance at the scene if requested and upon approval of the request by the local laboratory director.

The fact that the vast majority of coroners are elected officials who do not have to meet any minimum qualifications or training and who receive very little remuneration for their work has precipitated some problems of communication and understanding between the department,

law enforcement officers, and the coroners themselves. Coroners strive to establish a proper cause of death as members of a death investigation system which includes the crime laboratory system and the county health officers. This system, however, leaves much to be desired on a statewide basis and begs for consolidation of resources and improvement.

F. Judiciary

Judges of the State courts, particularly the circuit courts where felony cases are tried, have expressed high respect for the expert testimony rendered by members of the State's crime laboratory system. Members of the department conduct themselves in a professional manner during testimony and during consultations with the trial judge and attorneys at all times. A circuit judge has the authority to direct the laboratory to enter into an investigation and to use its scientific abilities to aid local or State law enforcement. This authority has been utilized only rarely in the 37 year history of the department and then only when it was known or indicated that a local law enforcement agency was not satisfactorily performing its duties in the investigation of a crime.

G. Corrections

The State Board of Corrections and the State crime laboratory system work closely together in several areas. If a prisoner in a State institution dies by violent or unlawful means or under suspicious circumstances, members of this department conduct a postmortem examination of the dead body. Another area of common interest is the use and abuse of illegal drug compounds among prison inmates. Quite often substances suspected to be illegal drugs are delivered to crime laboratories for identification at the request of the State Board of Corrections. The Montgomery regional laboratory is conducting a pilot program in which routine urine analyses on inmates are conducted in cooperation with the Board of Corrections. The crime laboratory system has also assisted the Board of Corrections in the training of prison guards with respect to the identification and physiological effects of controlled drug substances on humans.

The Pardon and Parole Board to date has not utilized the scientific services of the crime laboratory to any great extent. There have been discussions focusing on a program of screening the

urine of parolees for illegal drug compounds but neither the Pardon and Parole system nor the crime laboratory system is officially committed to such a project. However, both have agreed to explore the benefits of the idea further.

H. Defense Attorneys

The relationship of the crime laboratory system to defense attorneys within the State of Alabama is professional and courteous and reflects a common respect for each other. In the majority of cases, when members of a crime laboratory testify in the courts, their testimony is of primary benefit to the prosecutor. As stated previously, all reports of the department's investigations are public record and are available to the defense. Defense attorneys have no resentment for the crime laboratory and in several cases where a criminal charge is under investigation, defense attorneys have submitted evidence to the crime laboratory on behalf of the defendant. This evidence has been processed by the crime laboratory with the same scientific expertise and enthusiasm as evidence submitted by law enforcement. A number of defense attorneys have toured the crime laboratories to enhance their understanding of the department's capabilities in criminalistics, including identification of drugs, and toxicology. The crime laboratory system encourages a more enlightened understanding of its role and capabilities by defense attorneys.

I. Law Enforcement Training

The crime laboratory system as described earlier is fully qualified and has presented segments of training to law enforcement agencies on crime scene investigation and processing physical evidence. In addition, laboratory personnel have presented instruction regarding the physiological effects of alcohol and controlled drug compounds. Members of the department also present numerous lectures each year at law enforcement schools and short courses on the field recognition

and securing of controlled drug substances. At the basic police schools of the State, lectures are also presented on the recognition of poisons and the symptoms of different poisons when administered to animals or humans.

It is the duty of the crime laboratory to further expand its role in the training of law enforcement officers within the State of Alabama. One such expansion has been the assumption of instruction in credit courses which are part of the basic curriculum at several State regional police academies. Instruction, including crime scene investigation, the recognition, documentation, and securing of physical evidence, and the identification and recognition of controlled drugs, has thus been assumed periodically by several members of the crime laboratory system. The crime laboratory system should give particular attention to the development of crime scene officers at the local police level in order that evidence may be properly generated by the local law enforcement officials during their investigations of crimes.

J. Other Crime Laboratories

The crime laboratory system of the State of Alabama has a professional, but friendly and personal, relationship with members of all crime laboratories in adjoining states and with many other laboratories in the United States and abroad. In several instances, the Alabama crime laboratories have requested and received assistance from adjoining state laboratories. In cases where other state laboratories have requested assistance, it has been the policy of the Alabama crime laboratory system to render all assistance possible. The Alabama crime laboratory system participates fully with the laboratories of the southeastern states and other laboratories nationwide in the professional meetings of the Southern Association of Forensic Scientists and the American Academy of Forensic Sciences.

Chapter IV.

Present Relationship of the Crime Laboratory System to Other Agencies of Government and Community Life

A. State Department of Public Health

The crime laboratory system participates with the State Department of Public Health in a number of areas, one of which is the breath testing program for drinking drivers. The Director, State Department of Toxicology and Criminal Investigation, is a member of the Implied Consent Commission which governs the breath testing program within the State. Crime laboratory personnel and personnel from the Department of Public Safety, assist the Department of Public Health in the training of photoelectric intoximeter operators. Crime laboratory personnel also analyze perchlorate tubes obtained by photoelectric intoximeter operators to confirm the accuracy of the operator's report and analyze perchlorate tubes where a manslaughter charge is involved. The crime laboratory system has assisted the Department of Public Health in the past on such health problems as the "Mercury poisoning" scare of several years ago. When the Department of Public Health was unable to handle the large number of analyses requested by agencies over the State, toxicologists within the Department of Toxicology and Criminal Investigation performed analyses to meet the needs of the State.

Occasionally the Department of Public Health has probable cause to believe that foods or drugs have been poisoned. In such situations, they submit samples of the suspected material to a crime laboratory so that it might be properly analyzed.

B. Agriculture and Industries

By legislative statute, the State Toxicologist and his assistants shall cooperate with the Commissioner of Agriculture and Industries and the State Veterinarian in the investigation of deaths of domestic animals in cases of suspected criminal poisoning of such animals. This responsibility constitutes our major relationship with the State Department of Agriculture and Industries. Numerous animal toxicology cases are delivered to the State's crime laboratories throughout a fiscal year in which domestic animals are dead or dying and the investigating veterinarians and other officers determine a poison is indicated. In such cases, the veterinarians or other officials will send samples of the animal tissues or body fluids to the headquarters laboratory at Auburn or occasionally to another regional laboratory for analyses.

C. Alcoholic Beverage Control Board

The quantity of case work performed by the crime laboratory system for the State Alcoholic Beverage Control Board is very small. Occasionally, agents submit samples of illegal whiskey for analyses to insure proper identification of the liquid as "moonshine whiskey" in a court of law. The Alcoholic Beverage Control Board also submits to the crime laboratory system samples of various beverages suspected of not containing the alcoholic content specified on the label. The crime laboratory system then determines the true alcoholic content of said beverages.

D. State Department of Mental Health

The Department of Toxicology and Criminal Investigation has very few professional contacts with the State Department of Mental Health as the areas of responsibility are vastly different. Some tissue samples from deceased mental health patients are delivered to crime laboratories and analyzed for poisons and drugs. These analyses are performed when mental health officials and medical doctors feel that a drug overdose or a poison is indicated as the cause of death. The Department of Toxicology and Criminal Investigation, the Department of Mental Health, and the Auburn University School of Pharmacy are coordinating a drug abuse program to serve agencies and citizens other than law enforcement. The School of Pharmacy will bear primary responsibility for this program.

E. State Department of Conservation and Natural Resources

The crime laboratory system also receives few requests for assistance from the State Department of Conservation and Natural Resources. Again, the areas of responsibility are vastly different. Where poisoning of wild animals is suspected, animal tissues or suspected poison materials are delivered to a crime laboratory for analyses and identification.

F. Environmental Agencies

As stated earlier, the Department of Toxicology and Criminal Investigation assisted in the analyses of water samples and fish tissues during the "Mercury poisoning" scare in Alabama a few years ago, but environmental problems are not within the normal jurisdiction of the crime laboratory system. The State of Alabama has established a pesticide residue laboratory and other laboratories capable and qualified to analyze solids, liquids, and gases suspected of containing materials detrimental to the health of the State's inhabitants. The crime laboratory system does not encourage environmental samples to be delivered and rejects such samples and recommends they be processed by other State agencies having the capability and responsibility to conduct such analyses.

G. Other State Agencies

The Department of Toxicology and Criminal

Investigation has also assisted a number of State agencies in the investigation of frauds within their agency. Assistance rendered by the crime laboratory in such cases has consisted of examinations and comparisons of handwritten and typed documents.

H. Education

Personnel of the Department of Toxicology and Criminal Investigation are not educators, but do possess knowledge in certain areas, particularly drugs of abuse and dangerous compounds, which can be utilized by the educational system within the State. A number of high schools and colleges have utilized the expertise available within the department in the areas of criminalistics, drug identification, and toxicology to expand the knowledge of their students with more factual, legal information. The Department of Toxicology and Criminal Investigation will, whenever possible, deliver such lectures at the request of educational institutions.

I. Physicians and Pathologists

The Department of Toxicology and Criminal Investigation, especially the toxicology section, assists medical doctors over the State by analyzing urine and blood samples from comatose patients to determine what, if any, drugs are present in the patient's body. Often, the substance identified is also of interest to law enforcement officials. The toxicology section also assists pathologists within the State by analyzing tissues removed from dead bodies for drugs and poisons. In the past, analyses conducted by a crime laboratory have identified a poison as the cause of death and subsequent investigation by law enforcement officials identified the perpetrator of the homicide.

J. Hospitals

The crime laboratories have borne the burden of toxicology for many of the State's hospitals, particularly when patients are admitted to the hospital in a comatose condition. The crime laboratory system has encouraged hospitals to develop clinical toxicology laboratories, but only the larger hospitals have such laboratories at this date. The department continues to assist smaller hospitals in emergency situations when the life of a patient is in jeopardy.

Chapter V.

Distance and the Crime Laboratory

The effects of distance on the generation of evidence and its submission to a crime laboratory for examinations or comparisons has been the subject of much discussion throughout the history of crime laboratories in the United States. The self-study and data collected on the State Department of Toxicology and Criminal Investigation revealed a great deal of information on the effect of distance and the utilization of a crime laboratory. The data collected was based on information from each laboratory within the State and has been compiled for the several laboratories and the State as a whole. In this chapter, only a represented sample of this data will be presented for lack of space. A greater volume of the data will be presented in the appendix to this plan and all information was submitted to the Director, State Department of Toxicology and Criminal Investigation, for use by the agency.

A. Law Enforcement Files

Data collected on the utilization of crime laboratories in the State of Alabama versus distance was not restricted to information contained within the case records of the State Department of Toxicology and Criminal Investigation. In addition to a complete study of the department's records for fiscal years 1970-71 and 1971-72, a detailed study of reports of investigation at eleven cities and two sheriff's offices within the State was also undertaken. The cities studied were Huntsville, Montgomery, Auburn, Opelika, Talladega, Phenix City, Dothan, Enterprise, Shef-

field, Florence, and Livingston. The records of the Lee County Sheriff's Office and the Houston County Sheriff's Office were also analyzed. Each agency's report of investigation on suicide, robbery, burglary, arson, homicide, and drug cases was examined. Cases which included an official written report and statements of the crime scene investigation were analyzed. The purposes of the study were 1) to determine from the investigator's written report what physical evidence, if any, was identified at the scene of the selected crimes, 2) to determine if the evidence was secured, and 3) to determine what portion of the secured evidence was submitted to a crime laboratory. A fourth objective of this study was to analyze the disposition of the various cases in an attempt to establish the relationship between the crime laboratory's report and/or testimony in a case and the verdict of the jury. Regrettably sufficient information could not be generated from the records examined to establish this relationship. The State Department of Toxicology and Criminal Investigation has initiated a record keeping system designed to provide such information in the future.

The data compiled revealed a large quantity of physical evidence which was identified by the investigating officer at the scene but was not collected by the officer and/or not submitted to a crime laboratory for evaluation. In addition, it was noted that as the distance of the police agency from a crime laboratory increases, there is a sharp percentage decrease in the collection and submission of physical evidence for evaluation. Ad-

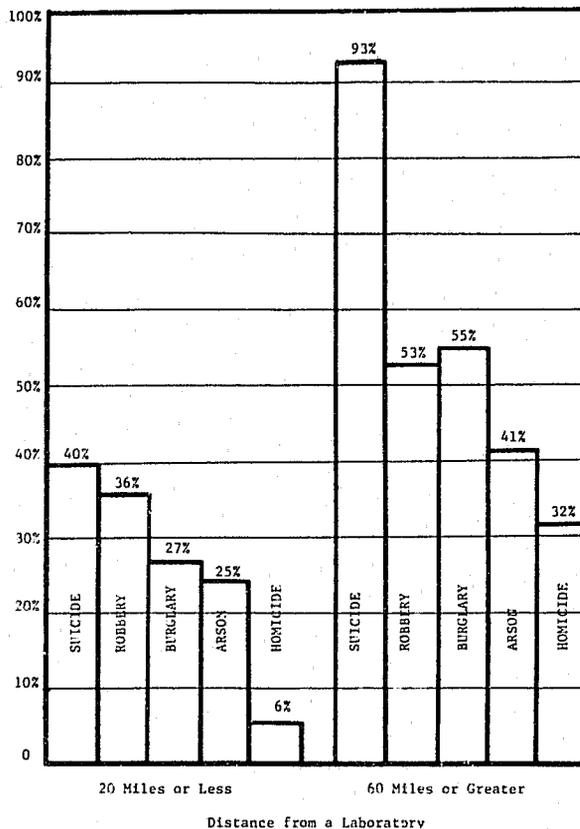
mittedly, two of the larger police departments in the State, that is, Huntsville and Montgomery, which were studied have crime laboratories located within their cities. However, cities of similar and dissimilar population and located at various distance from crime laboratories were also studied to eliminate any bias between small and large cities. Figure V-1 illustrates the striking decrease of physical evidence collection and submission to a crime laboratory over a 40 mile distance. For homicides occurring within 20 miles or less of a laboratory, an average of 6 percent of all physical evidence identified in the investigator's report was collected and/or not submitted to a crime laboratory for evaluation. For homicides occurring 60 miles or greater from a crime laboratory, an average of 32 percent of all physical evidence identified in the investigator's report was not collected and/or not submitted to a crime laboratory for evaluation. A similar situation is noted for the crimes of robbery, burglary, and arson, but an even more shocking deterioration was documented for cases which were ruled as suicides. Even police agencies within 20 miles of a laboratory failed to secure and/or submit for evaluation 40 percent of physical evidence which they, themselves, identified at the scene of suicides. Police agencies located 60 miles or greater from a crime laboratory failed to secure and/or submit for evaluation 92 percent of physical evidence which they identified as present at the scene of suicides.

Such statistics reveal a very serious need for training of officers throughout the State on the benefits of proper evaluation of physical evidence. This study and Figure V-1 made no allowances for physical evidence which was not identified in the written reports and/or not recognized by the investigating officer. Figure V-1 also illustrates that the crime laboratory does have a substantial positive effect upon the quantity of evidence collected and submitted from crime scenes within its immediate radius, that is, within 20 to 30 miles. It also illustrates that in Alabama very large quantities of physical evidence are not being secured and/or not being submitted to a crime laboratory even for the serious crimes of homicide, arson, burglary, robbery, and the often questionable case of suicide.

B. Cases Per Officer and Cases Per 1000 Population

Most studies on the effects of distance on utilization of crime laboratory services rely heavily

FIGURE V-1. DISTANCE AS PERCENT OF PHYSICAL EVIDENCE IDENTIFIED AT SCENE BY POLICE INVESTIGATORS BUT NOT SECURED AND/OR NOT SUBMITTED TO A CRIME LABORATORY FOR EVALUATION



upon the cases per officer and the case per 1000 population at various radii from the crime laboratory. During this study, the cases per officer and cases per 1000 population were also evaluated for each laboratory and the entire State for each fiscal year. Data was collected on the total number of cases submitted to each laboratory, the total number of cases submitted at the direct request of law enforcement officers, and the total number of cases involving particular types of evidence. Figures V-2 and V-3 reflect the average CPO and the C/1000 versus distance values for cases processed at the direct request of law enforcement during fiscal years 1970-71 and 1971-72 respectively. The effect of distance was evaluated at 25 mile increments for each laboratory. The figures illustrate that the State Department of Toxicology and Criminal Investigation statewide suffers a very sharp decrease in utilization by law enforcement officers at the distance interval of 25 to 50 miles. The figures also illustrate that utilization continues to

decrease or remain the same at the distance interval of 50 to 75 miles.

During fiscal year 1971-72, utilization by law enforcement officers continued to decrease at greater than 75 miles distance. However, during fiscal year 1970-71 as illustrated in Figure V-2, the CPO and C/1000 value increased slightly at the distance of over 75 miles. From the studies conducted, it was concluded that this was due to one factor, which was eliminated during fiscal year 1971-72. In fiscal year 1970-71, several counties were located at a distance of 75 miles or greater from the Auburn laboratory and officers in these counties had a very good rapport with members of the Auburn laboratory. The Enterprise satellite laboratory served these counties during fiscal year 1971-72 and, therefore, their COP and C/1000 data is reflected at the distance of 25 to 50 miles in Figure V-3.

FIGURE V-2: DISTANCE vs C.P.O. and C/1000 POPULATION STATEWIDE REQUEST OF LAW ENFORCEMENT ONLY 1970-71 FISCAL YEAR

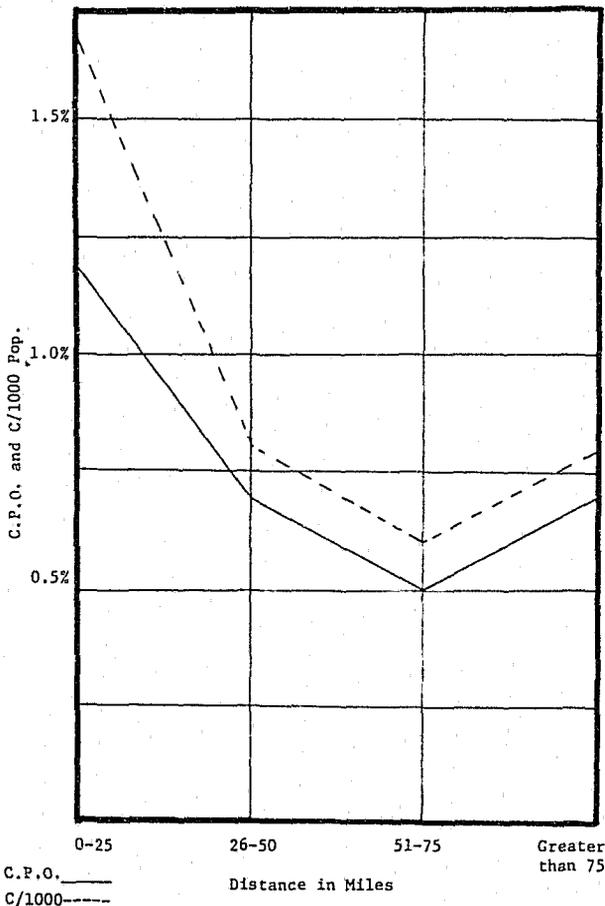


FIGURE V-3: DISTANCE vs C.P.O. and C/1000 POPULATION STATEWIDE REQUEST OF LAW ENFORCEMENT ONLY 1971-1972 FISCAL YEAR

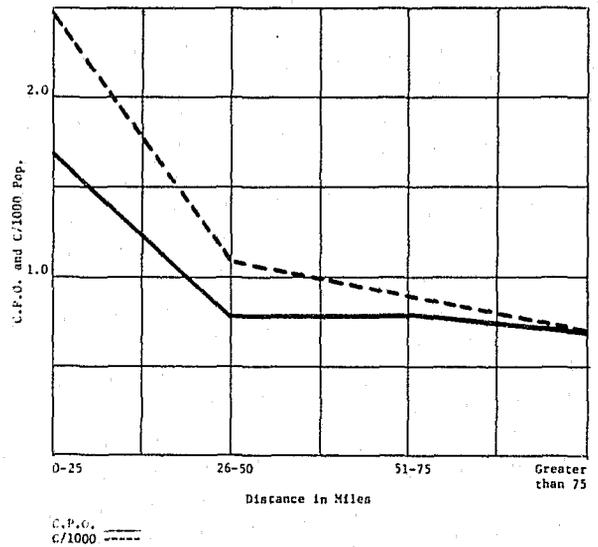


FIGURE V-4: DISTANCE vs C.P.O. and C/1000 POPULATION STATEWIDE REQUEST OF LAW ENFORCEMENT ONLY 1971-1972 FISCAL YEAR

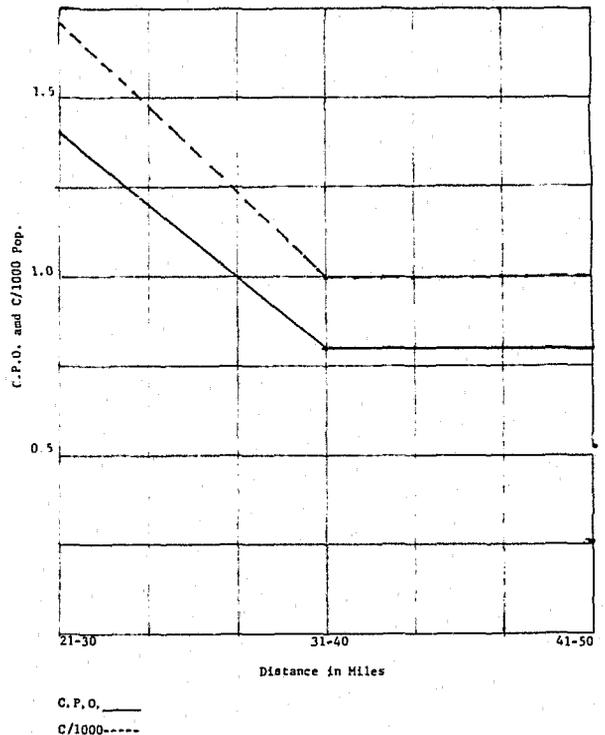
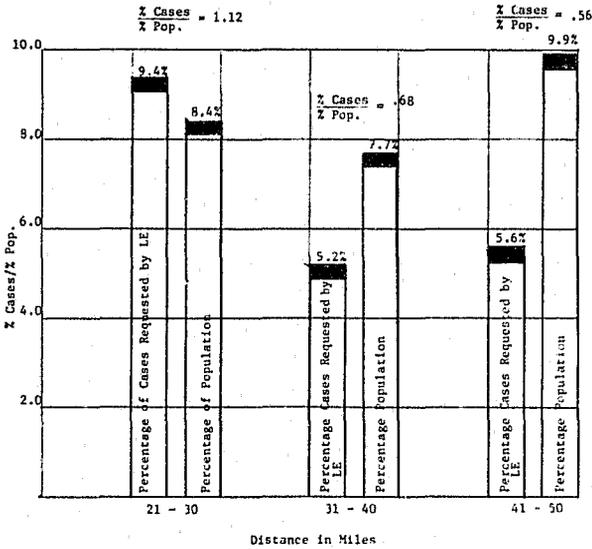


FIGURE V-5: RELATIONSHIP OF PERCENTAGE OF TOTAL CASES REQUESTED BY LAW ENFORCEMENT TO PERCENT OF TOTAL POPULATION AS AFFECTED BY DISTANCE FROM LABS
STATEWIDE 1970-1971 FISCAL YEAR



It was assumed at the beginning of this study, based upon reviews of similar studies conducted in a number of states, that the magic distance for the utilization of a crime laboratory's services, particularly criminalistics, was 50 miles. The sharp slope noted between 25 and 50 miles in Alabama indicated that further study was warranted. Therefore, cases requested by law enforcement officers at increments of 21 to 30, 31 to 40, and 41 to 50 miles of a laboratory were evaluated. Figure V-4 reflects the data collected on cases processed during fiscal year 1971-72 for law enforcement officers. The figure illustrates that the utilization of a crime laboratory sharply decreases between 30 to 40 miles distance. Figure V-4 also illustrates that there was constant utilization of services between 40 and 50 miles radius.

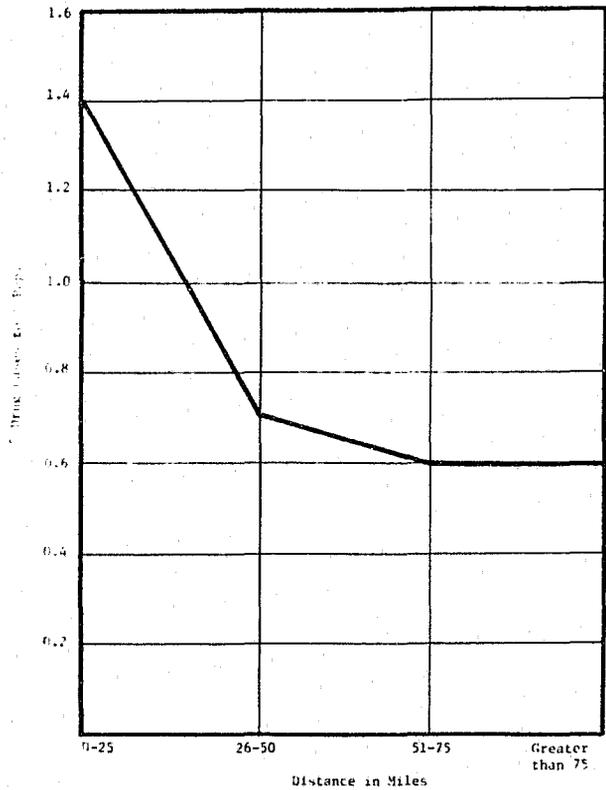
The cases per officer concept is based upon cities employing a number of officers proportional to the crime problem within their area. Cases per 1000 population is based upon the criteria that crime is proportional to people and their density. The question arose as to whether the effect of urban versus rural areas was responsible for this sharp decrease in utilization of services beyond 30 miles and, therefore, the ratio of percent of total laboratory cases requested by law enforcement to the percent of the total laboratory population served within a certain distance was plotted using

increments of 21 to 30, 31 to 40, and 41-50 miles for the fiscal year 1970-71. This data is illustrated in Figure V-5 and confirms that there is, indeed, a sharp decrease in utilization of laboratory services between 30 and 40 miles with a lesser slope to the curve between 41 and 50 miles. The information collected confirms that, in the State of Alabama, a crime laboratory's effective radius is approximately 30 miles. The data also confirms a sharp decrease in utilization by law enforcement officers beyond 30 and 40 miles and progressive deterioration of utilization beyond that point.

C. Drug Cases Versus Distance

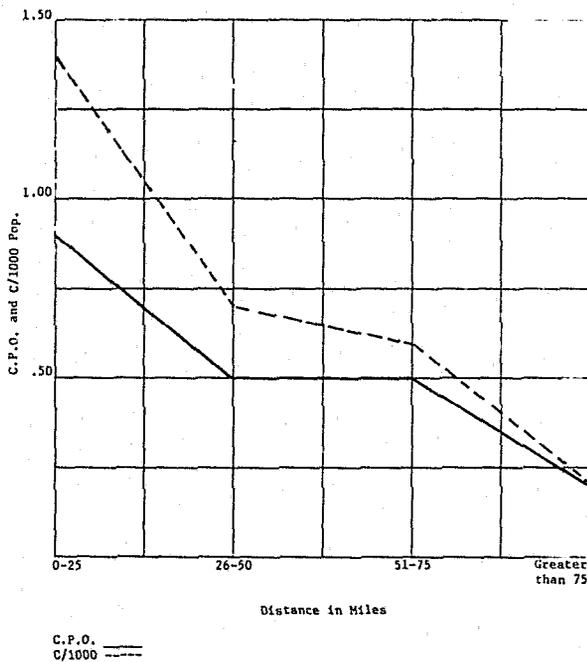
Naturally, it became of interest to the persons conducting this self-study to determine if various type cases or evidence were similarly affected by distance. Therefore, data was collected on drug cases versus distance submitted to each laboratory. Figure V-6 represents the ratio of percent of total drug cases to the percent of total laboratory

FIGURE V-6: RATIO OF PERCENT OF TOTAL DRUG CASES TO PERCENT OF TOTAL STATE POPULATION AS AFFECTED BY DISTANCE FROM LABS
STATEWIDE, DRUG CASES ONLY 1970-1971 FISCAL YEAR



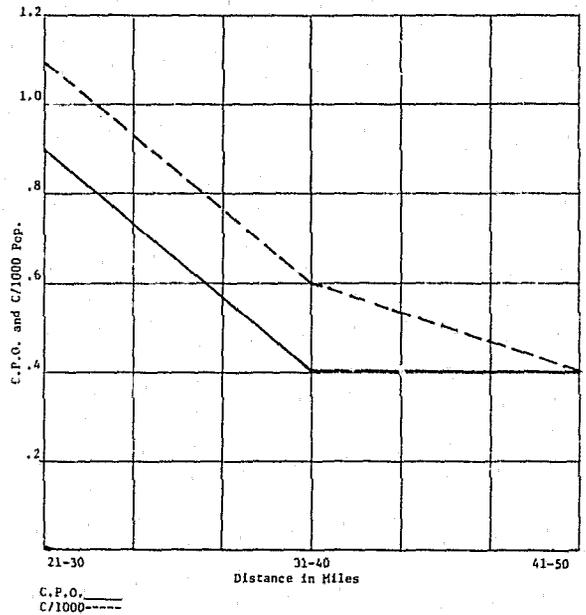
population served for certain distance increments. Figure V-6 reveals a sharp decrease in utilization of drug identification services between 25 and 50 miles and progressive deterioration of utilization up to 75 miles. From that point during fiscal year 1970-71, average utilization of the laboratory system for drug identification services was constant. Data on drug cases for fiscal year 1971-72 was then tabulated based upon the CPO and C/1000 population criteria. Figure V-7 represents a summary of the data and again reveals a sharp decrease in submission of drug evidence at a radius of 25 to 50 miles with decreasing utilization as distance increases.

FIGURE V-7: DISTANCE vs C.P.O. and C/1000 POPULATION STATEWIDE DRUG CASES ONLY 1971-1972 FISCAL YEAR



For fiscal year 1971-72, drug cases were also studied at increments of 21 to 30 miles, 31 to 40 miles, and 41 to 50 miles from various laboratories. Figure V-8 reveals that the sharp decrease reflected in Figures V-6 and V-7 occurs between 31 and 40 miles. Therefore, for drug cases also, the data reveals that officers in Alabama apparently do not properly utilize drug identification services if the laboratory is located at a distance of over 30 miles from the local agency.

FIGURE V-8: DISTANCE vs C.P.O. and C/1000 POPULATION STATEWIDE DRUG CASES ONLY 1971-1972 FISCAL YEAR



While the investigators were collecting data on drug cases from the various laboratories, they also analyzed the effect of distance on laboratory reports on drug evidence submitted. All drug cases for each laboratory during fiscal years 1970-71 and 1971-72 were reviewed and it was determined whether the evidence submitted did contain a controlled drug compound. If such was the case, it was labeled a "positive" drug case and if the material submitted was negative for controlled substances, the case was labeled "negative." The origin of the drug evidence was subdivided into increments of 25 miles from the various laboratories and averaged to obtain the data presented in Figures V-9 and V-10. These figures illustrate that as distance increased, the percent of positive cases submitted to the laboratory decreased. Figures V-9 and V-10 also illustrate that during the latter fiscal year, the percent of positive cases slightly decreased from that of the previous year at the shorter distance. The percent decrease was not large and probably is not significant.

D. Death Cases Versus Distance

Data on death cases from all laboratories was also compiled. Figure V-11 represents the effect of distance on the death cases per officer and the death cases per 1000 population served for fiscal year 1971-72. Figure V-11 illustrates that submission of

death cases is not significantly affected by distance from the crime laboratory.

E. Serology Cases Versus Distance

Data was also collected on serology cases from each laboratory for the fiscal year 1970-71. Figure V-12 illustrates that requests for serological examinations and analyses like death cases is not too seriously affected by distance from the laboratory.

F. Physical Evidence Versus Distance

Criminalistics support to law enforcement is vitally concerned with physical evidence. Therefore, data from each laboratory was also collected to determine the present effective distance for physical evidence submissions. Figure V-13 reflects the ratio of percent of total cases involving physical evidence to the percent of total State population versus distance. The figure represents the statewide situation and again indicates a very sharp decrease in cases submitted over the distance of 25 to 50 miles. One will note that at the distance of 50 to 75 miles, the rate of submissions is fairly even and increases at a point greater than 75 miles. Earlier in this chapter, it was noted that in the fiscal year 1970-71, the Auburn

FIGURE V-10: PERCENT OF POSITIVE DRUG CASES vs DISTANCE STATEWIDE 1971-1972 FISCAL YEAR

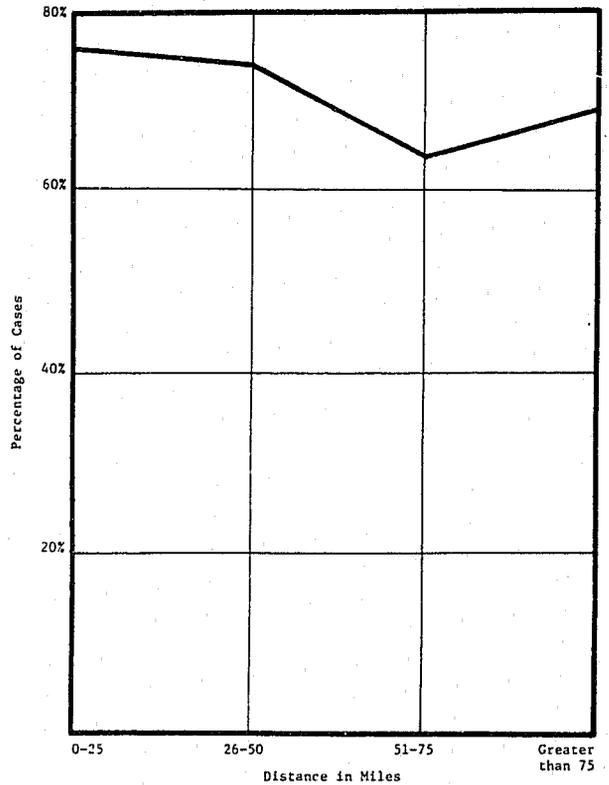


FIGURE V-11: DISTANCE vs C.P.O. and C/1000 POPULATION STATEWIDE, DEATH CASES ONLY 1971-1972 FISCAL YEAR

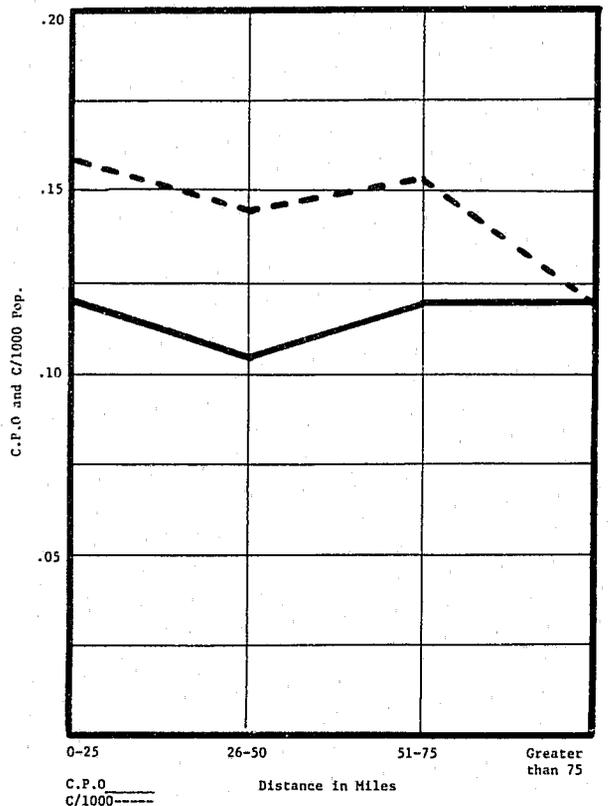


FIGURE V-9: PERCENT OF POSITIVE DRUG CASES vs DISTANCE STATEWIDE 1970-1971 FISCAL YEAR

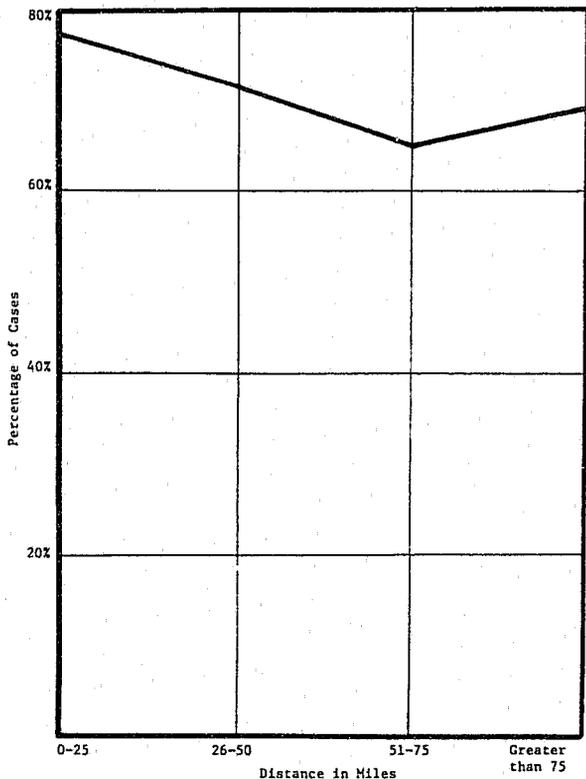


FIGURE V-12: RATIO OF PERCENT OF TOTAL SEROLOGY CASES TO PERCENT OF TOTAL STATE POPULATION, AS AFFECTED BY DISTANCE FROM LABS

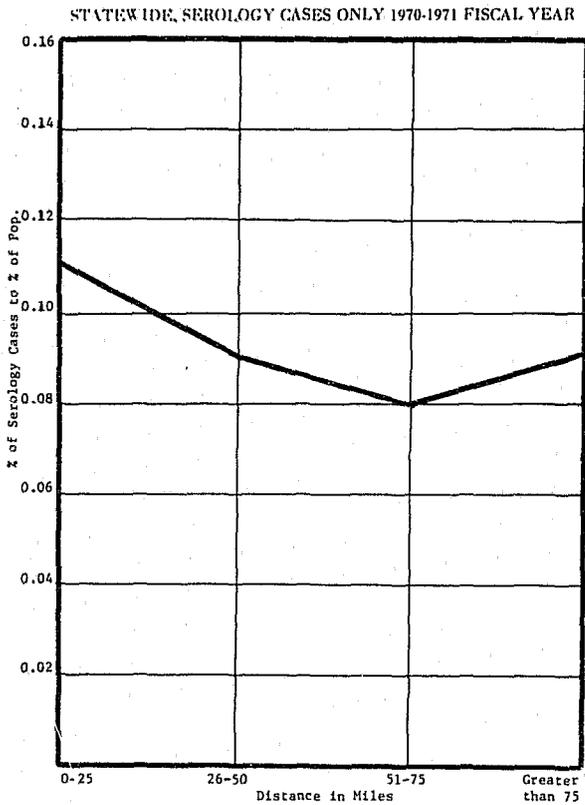
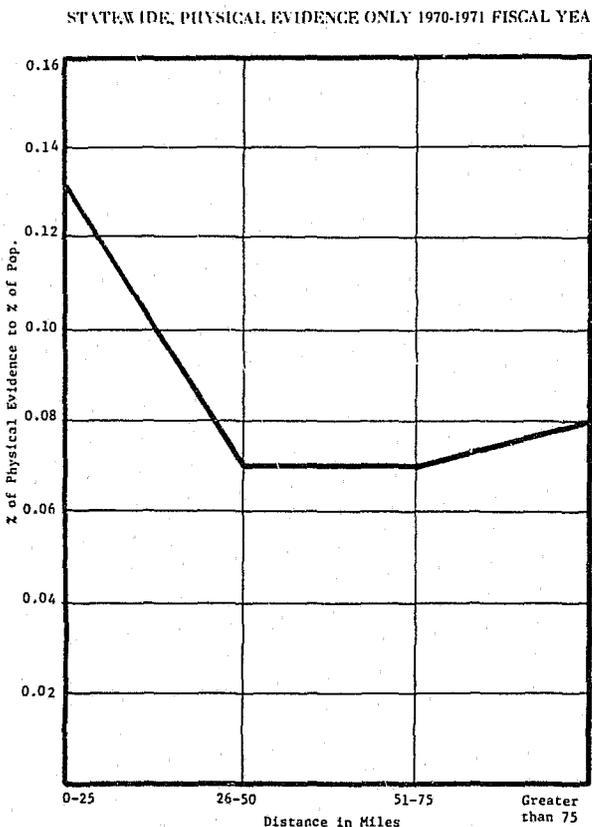


FIGURE V-13: RATIO OF PERCENT OF TOTAL CASES INVOLVING PHYSICAL EVIDENCE TO PERCENT OF TOTAL STATE POPULATION, AS AFFECTED BY DISTANCE FROM LABS



laboratory served several counties in southeastern Alabama with which the laboratory had excellent rapport and who submitted a large number of cases. During fiscal year 1971-72, the Enterprise laboratory in southeast Alabama was operational and this particular situation was not observed in the data collected.

Figure V-14 illustrates the cases per officer and cases per 1000 population data collected for the Huntsville regional laboratory on physical evidence versus distance. Figure V-14 illustrates again a sharp decrease in physical evidence cases submitted to the laboratory at the distance of 25 to 50 miles. Beyond 50 miles, the utilization of the laboratory steadily decreases for cases involving physical evidence. Figures V-13 and V-14 reveal that physical evidence submission to the laboratory is greatly dependent upon the distance of the requesting officer from the laboratory and is not altered by rural versus urban population.

The effect of distance on different type cases submitted to a laboratory has been well illustrated in this chapter. Figures V-15 and V-16 illustrate the percent of total cases received at distance in-

FIGURE V-14: DISTANCE vs C.P.O. and C/1000 POPULATION HUNTSVILLE LAB, PHYSICAL EVIDENCE ONLY 1970-1971 FISCAL YEAR

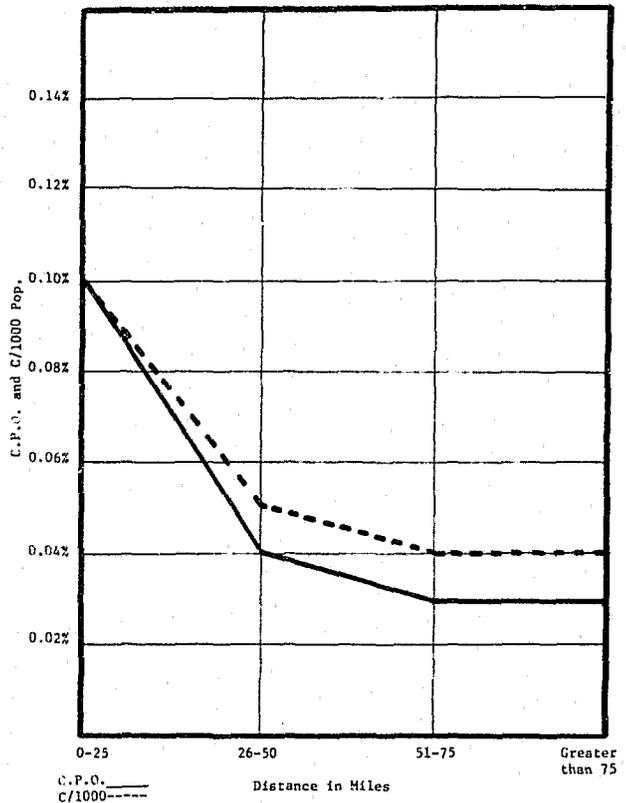


FIGURE V-15. PERCENT OF TOTAL CASES RECEIVED vs DISTANCE STATEWIDE, ALL CASES 1970-71 FISCAL YEAR

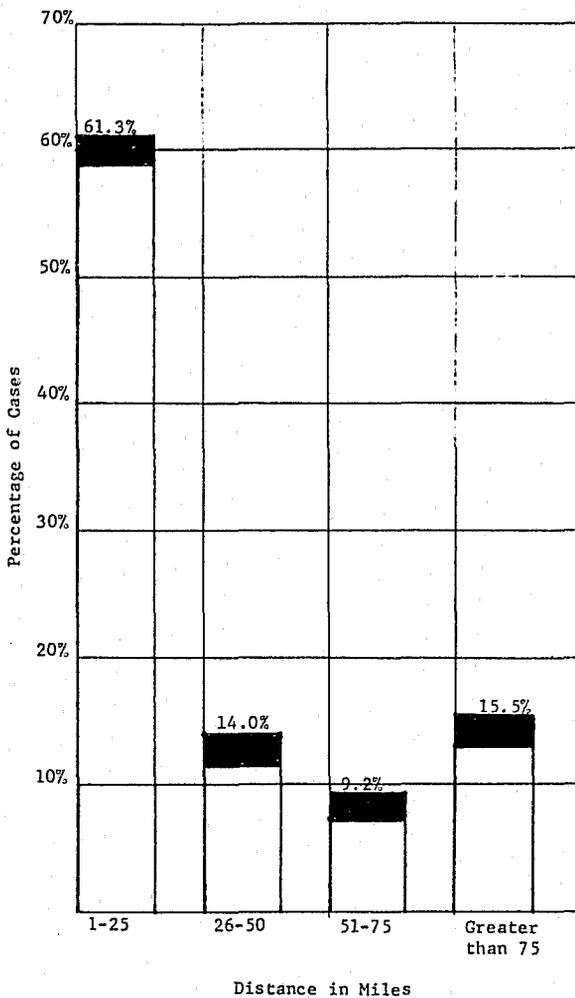
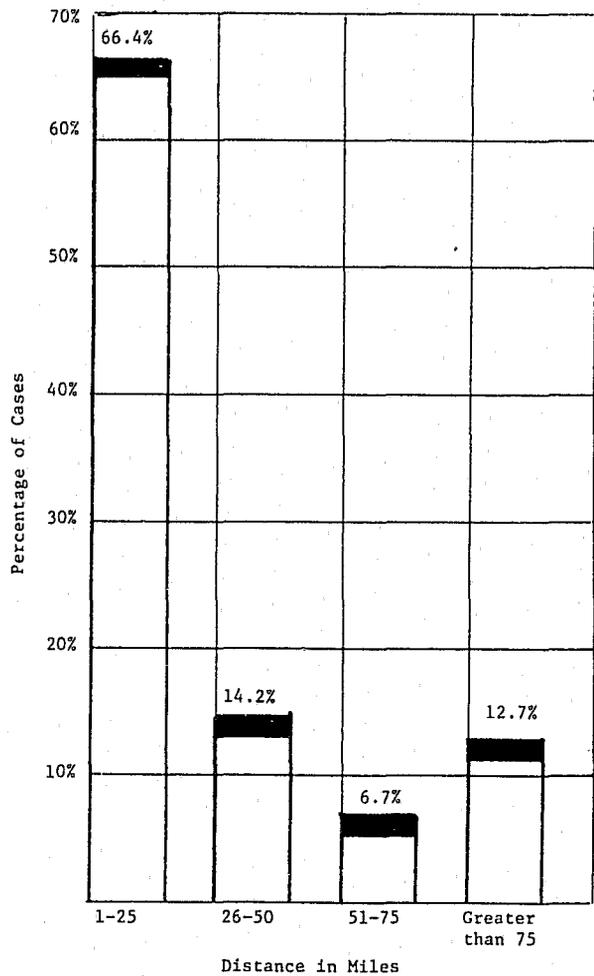


FIGURE V-16. PERCENT OF TOTAL CASES RECEIVED vs DISTANCE STATEWIDE, ALL CASES 1971-72 FISCAL YEAR



crements of 25 miles. These two figures illustrate that in fiscal year 1970-71, 61.3 percent of all cases received originated within 25 miles of the various laboratories. Figure V-16 reveals that during fiscal year 1971-72, 66.4 percent of all cases received originated within 25 miles of the various laboratories. Therefore, it is apparent that not only does distance greatly affect the submission of many types of cases, it apparently is becoming more important, even with the additional training of officers are now receiving, within the State of

Alabama. Figures V-15 and V-16 indicate that police agencies located at distances greater than 25 miles from laboratories are slowly being denied effective service in the competition between police agencies for laboratory assistance. Each laboratory is working at a maximum pace and, therefore, if officers within the immediate area continue to increase their percentage of the laboratory's total work, then officers at distances greater than 25 miles will be denied effective laboratory services unless new criminalistic laboratories are realized.

Chapter VI.

Crime Laboratory Systems Possible In the State of Alabama

During the six months that this study was in progress, personnel of the Department of Toxicology and Criminal Investigation had opportunity to discuss and exchange ideas with other forensic scientists in the United States and Canada, and with many agencies and persons within and without the criminal justice system. During the same period, several similar studies conducted by other agencies were reviewed. As a result of these exchanges, it was determined that basically a state has four principal systems for providing forensic science services to law enforcement and to the remainder of the state's criminal justice system. These four systems are as follows:

- A single laboratory serving the entire state,
- Several independent regional laboratories serving regions of the state and located in major metropolitan areas,
- Several regional laboratories located in the major metropolitan areas of the state controlled and operated by a single administration, and
- Several regional laboratories and satellite (criminalistics) laboratories located in the metropolitan areas of the state controlled and operated by a single administration.

A. System One

The first system would offer a few positive contributions, the most important being a possible lower cost of forensic science services to the state.

By placing all equipment and personnel in one facility, the state could provide the most economical approach to scientific assistance to law enforcement. However, the quality and degree of service rendered by a single laboratory to the entire state would be poor.

Hypothetically, if Alabama were served by a single laboratory offering full services, the most logical location would be in Birmingham, the most populous city, together with a north central location. Jefferson County and contiguous counties would no doubt receive a high quality forensic service, but as the distance from the laboratory increased the services to law enforcement would rapidly decrease as indicated by the data and information provided in Chapter V. This concept was confirmed in the paper by Benson, Stacey, and Nicol entitled "Systems Analyst Look at the Crime Laboratory" published in the *Journal of Forensic Science*, Volume 16, January 1972.

In Chapter V, the concept was developed and proven that the most effective radius with respect to criminalistic services of a crime laboratory in Alabama is 30 miles, and that utilization sharply decreases at a radius of 50 miles. Based on this concept, it can be seen in Table VI-1 that System One would provide effective forensic science services to only 20.9 percent of the State's population and 22.8 percent of the State's law enforcement officers within a 30 mile radius.

The goal of any crime laboratory delivery system for the State of Alabama is to deliver adequate and

TABLE VI-1
SYSTEM ONE

Service Provided	Percentage of Pop. Within 30 Miles	Percentage of L.E.O Within 30 Miles
Criminalistics	20.9	22.8
Death Investigation	20.9	22.8
Toxicology	20.9	22.8

timely forensic service to the criminal justice system and to be an active partner in providing that service on a statewide basis. Therefore, a single large laboratory to serve the entire State is precluded.

B. System Two

The second system of several independent laboratories located in the major metropolitan areas of the state can more effectively accomplish the goal of service to law enforcement at the local level as illustrated in Table VI-2.

TABLE VI-2
SYSTEM TWO

Service Provided	Percentage of Pop. Within 30 Miles	Percentage of L.E.O Within 30 Miles
Criminalistics	47.6	52.8
Death Investigation	47.6	52.8
Toxicology	47.6	52.8

For the purposes of providing data for Table VI-2, independent laboratories were proposed for the four major metropolitan areas of the State (Birmingham, Huntsville, Montgomery, and Mobile). Thus, 47.6 percent of the State's population and 52.8 percent of the law enforcement officers would be within a radius of 30 miles from a laboratory.

However, such an organization has inherent problems or potential problems which eventually will lead to difficulty or even chaos among the different laboratories within the State. For instance, if each laboratory is independent, the staffing personnel will become very competitive within the State and can lead to ill feelings between the personnel of the various laboratories. Also, if personnel in each laboratory are not subject to centralized control, the door is open for "experts" from each laboratory to be available for hire by attorneys to testify against experts from another

laboratory. Independent laboratories preclude centralized planning and result in duplication of equipment, personnel, and other resources. With independent laboratories, centralized data systems to serve the entire State are very difficult and an unnecessary loss of time in many investigations would be the result. Such independent laboratories would also create competition for the State Law Enforcement Planning Agency's funds for development and expansion of crime laboratory services within the State. Competition for funds might have a positive result in more imaginative programs, but these programs would only be designed to apply to a localized region of the State.

Quality control is a recognized national problem in the field of forensic science. Reducing this problem to a statewide level, if every laboratory is independent, it would be difficult, if not impossible, for an organized statewide quality control program to prosper or even survive. Therefore, the quality of service rendered by these independent laboratories would be subject to question.

A crime laboratory delivery system should have the capability of developing a positive training program, not only for its employees but for law enforcement officials within the State. This program must address the need for training of law enforcement officials, i.e., police chiefs and sheriffs, on the capabilities of and proper utilization of the crime laboratory services in addition to the training of crime scene officers at the local level. If laboratories within the State are under separate administration, then a coordinated, uniform, statewide training program for crime scene officers is made much more difficult. A management training program for top officials in law enforcement would be virtually impossible under System Two, and the initial on-the-job training of new employees within the various forensic science laboratories would not be coordinated or uniform.

Such uncoordinated training, both to laboratory personnel and law enforcement officials, would result in confusion in the law enforcement rank and file within the State and would inevitably result in a loss of confidence in the crime laboratories. This loss of confidence would precipitate a sharp decline in the effective utilization of the crime laboratory services and, thus, a wasteful expenditure of funds.

Another difficulty presented by independent laboratories would be the problem of maintaining neutral crime laboratory agencies throughout the State. Independent laboratories funded locally are normally the puppets of their fiscal masters, such as the mayor, the city council, the sheriff, the police chief, or in some instances, the District Attorney. These fiscal masters, from professions other than forensic science, ultimately dictate the planning priorities and the activities of the crime laboratory.

C. System Three

The third system provides for a crime laboratory delivery system comprised of the same four regional laboratories within the state, but with each being administered and controlled by a single state agency. It is first necessary to clarify the neutrality and the capability for self-determination which must be built into a single state system. The director of a centralized crime laboratory system within the state must have the authority and the responsibility of coordinating, planning, developing, and directing all activities of the department and must not be subject to removal except for reasonable cause. The entire agency must be law enforcement oriented and should have as its nominal head a law enforcement official at a high level within the state. However, this law enforcement official should not have day-to-day operational control over the laboratory system nor authority to decide its budget or priorities. He and other state officials, such as the governor and top officials in the state's criminal justice system, should be consulted on any expansion programs and long-range planning projects.

System Three will provide service to the same percent of law enforcement officers as System Two, but through centralized administration will correct, or provide the capability to correct, all the administrative or professional problems and difficulties of System Two. For instance, there will be no competition for personnel within the State for all will work for the same agency. Expert testimony against a fellow employee in civil court will be precluded by a simple directive from the head of the agency.

Duplication of equipment which can be utilized on a statewide basis will be eliminated by proper management of the resources of the entire system. The headquarters laboratory under a centralized system can maintain all master data systems for the

entire agency and can insure that such systems provide the statistical data necessary for proper management decisions and long-range planning. A predetermined, coordinated, and uniform training program for crime scene officers statewide is easily provided under a centralized agency. With this knowledge and uniform training, less confusion in the ranks of law enforcement would result and their interest and faith in the crime laboratory delivery system would continually grow. A training division could also familiarize the top management of law enforcement with their own responsibilities for direction of subordinates in the generation of clue material at the scene of crimes, and also orient them on the capabilities of and services available from the crime laboratory system. As a logical consequence, the increased participation of the crime laboratory system in the investigation of crimes perpetrated within the state would assist in reducing the crime rates and improving the criminal justice system.

A quality control program administered under a central authority would insure that all professional personnel within the department are qualified and are maintaining their expertise in selected areas of specialty. Centralized control also insures that all personnel receive equal opportunity to attend seminars, professional meetings, and short courses, and obtain further formal training in the State's universities and colleges.

A centralized crime laboratory delivery system further insures that forensic science services are provided for the citizens of the State without regard to geography, political climate, or the victim's or defendant's race, color, creed, sex, or national origin. Centralized administration will recognize that all forensic science services do not need to be provided at each laboratory, and this efficient consolidation of resources for services, where warranted, will save thousands of dollars annually for a state in personnel and equipment costs.

Centralized administration of a crime laboratory delivery system would also assist in insuring that laboratory locations are based upon meaningful criteria and not upon local or state political pressures or priorities.

Under a centralized system, the headquarters laboratory should be responsible for 1) administration of the department, 2) quality control within the department, 3) maintenance of master

files for the entire agency, 4) all inter-departmental training, 5) research and development programs within the department, 6) long-range planning, and 7) all re-occurring statewide law enforcement training programs such as training of crime scene officers and orientation programs for police management personnel. Each laboratory should shoulder some of the training responsibilities for law enforcement, such as 1) participation in the basic police schools conducted by police academies throughout the State, and 2) special night schools, short courses, and seminars for law enforcement conducted within their geographic area of the State.

A consolidated crime laboratory system also allows for statewide planning which is so necessary to provide a coordinated, phased implementation of the goals and objectives of the crime laboratory system within the framework of the entire criminal justice system.

From the above discussion, it is apparent that the only system which will provide adequate forensic science services to 1) effect in a positive sense the administration of justice in the State, 2) effectively assist in the correct solution of crimes statewide, and 3) contribute statewide in the efforts to reduce crimes, is a centrally controlled, multi-lab crime laboratory system. Such a system will also provide the necessary ingredients for training, administration, neutrality of services, and a total commitment to serve and support the State's criminal justice system.

The State of Alabama, is fortunate that in 1935 when the original Department of Toxicology was formed by the legislature, and in later years when expansion programs were realized, this centralized idea of administration and planning was always maintained. In 1968, when the Safe Streets Act was passed by the U.S. Congress, Alabama had three regional laboratories operating in the major metropolitan areas of Birmingham, Huntsville, and Mobile, a passive regional laboratory at Montgomery, and a headquarters/regional laboratory operating at Auburn. The Montgomery laboratory was reduced to a passive state due to personnel and equipment shortages. Through State and Federal assistance (the Alabama Law Enforcement Planning Agency), the Montgomery regional laboratory was upgraded and became an effective member of the system. As reflected in Table VI-3, these five laboratories provided

TABLE VI-3
SYSTEM THREE

Service Provided	Percentage of Pop. Within 30 Miles	Percentage of L.E.O Within 30 Miles
Criminalistics	52.2	57.3
Death Investigation	52.2	57.3
Toxicology	52.2	57.3

services within 30 miles of their location to 52.2 percent of the State's population and 57.3 percent of the State's law enforcement officers. An estimated 80 percent of index crimes occurring within the State of Alabama in 1971 were within 30 miles of these five laboratories.

The data presented in Chapter V clearly indicates that more officers in the State must be provided criminalistic services at shorter distances. An effective statewide crime laboratory system should provide criminalistic services which can be properly utilized by at least 80 percent of the State's law enforcement officers. By this moderate and reasonable criteria, System Three is judged inadequate.

D. System Four

In 1970, the Alabama Department of Toxicology and Criminal Investigation acquired the financial capability, through the assistance of the Alabama Law Enforcement Planning agency, to develop a satellite criminalistics laboratory within the State. Extensive studies on case load, population, officers covered, and index crimes within the State illustrated that the first priority for the development of such a laboratory should be in the northeastern portion of the State adjacent to the cities of Gadsen and Anniston. The second priority was in the southeastern portion of the State adjacent to the cities of Dothan, Enterprise, Ozark, and Opp. Inquiries were initiated and discussions were held with officials in both localities, including the president of Enterprise State Junior College and the president and other officials of Jacksonville State University. No city possessed adequate facilities which they could provide free of charge to the State for a crime laboratory in either of these two designated regions of the State. Jacksonville State University, likewise, did not have adequate facilities to offer the State at that time but they were planning for a new criminal justice building which they stated would include space for a crime

laboratory. Discussions held with the president of the Enterprise State Junior College revealed that he did not have adequate space available and the State funds necessary to renovate such space to the requirement of a crime laboratory. Therefore, the first criminalistics laboratory placed in operation by the department was at Enterprise State Junior College. With the addition of this sixth laboratory, as Table VI-4 reveals, the State provided

TABLE VI-4
SYSTEM FOUR

Service Provided	Percentage of Pop. Within 30 Miles	Percentage of L.E.O Within 30 Miles
Criminalistics	57.1	62.3
Death Investigation	52.2	57.3
Toxicology	52.2	57.3

criminalistic services within a 30 mile radius of its crime laboratories to 57.1 percent of the population and 62.3 percent of all law enforcement officers. An estimated 83 percent of index crimes which occurred within the State in 1971 were within 30 miles of these laboratory locations.

1. System Four-A

The system was still far short if its goal, so in 1972 attempts were made to establish two more criminalistics laboratories at the University of Alabama (Tuscaloosa) and at Jacksonville State University. The department and the University of Alabama were unable to generate the necessary local funds, resources, and facilities for the development of a crime laboratory that year at Tuscaloosa. Therefore, it was determined that the west central and northwestern sections of the State had the next highest priority based upon case load, population, law enforcement officers, and index crimes occurring in the State in 1971. Neither Florence State University nor the local counties could provide adequate space during the 1972 but began to collect funds for such a facility. Also, a junior college located in Selma was unable to provide a facility and the local funds to renovate said facility to properly house a crime laboratory. Therefore, in 1972, satellite crime laboratories were initiated at Jacksonville State University and in Selma, Alabama.

With the addition of these two criminalistics laboratories, the crime laboratory delivery system within the State of Alabama consisted of five

TABLE VI-5
SYSTEM FOUR-A

Service Provided	Percentage of Pop. Within 30 Miles	Percentage of L.E.O Within 30 Miles
Criminalistics	66.2	71.0
Death Investigation	52.2	57.3
Toxicology	52.2	57.3

regional and three satellite laboratories and provided criminalistic services within a 30 mile radius to 66.2 percent of the State's population and 71.0 percent of the State's law enforcement officials (Table VI-5). Also, an estimated 90 percent of index crimes occurring within the State in 1971 were within a 30 mile radius of the eight laboratory locations.

2. Systems Four-B and Four-C

System Four-A provides close-knit coordination between the laboratory and law enforcement for slightly over two-thirds of the State's law enforcement officials. However, there are two major metropolitan areas, Tuscaloosa and the Florence, Sheffield, Tuscumbia, and Muscle Shoals, which are not provided adequate criminalistic services by the present laboratory delivery system. The completed crime laboratory delivery system should provide more easily accessible criminalistic service to these areas as well as a further reduction of the criminalistic work load at the Birmingham and Huntsville regional laboratories so that their respective areas of responsibility for criminalistic services can be reduced to Jefferson and Shelby Counties and Limestone, Madison, and Jackson Counties. With the addition of the Florence satellite laboratory as programmed in 1973, the State would provide very effective criminalistics services to 70.6 percent of its population and 75 percent of law enforcement officials (Table VI-6).

TABLE VI-6
SYSTEM FOUR-B

Service Provided	Percentage of Pop. Within 30 Miles	Percentage of L.E.O Within 30 Miles
Criminalistics	70.6	75.0
Death Investigation	52.2	57.3
Toxicology	52.2	57.3

With the addition of the Tuscaloosa satellite laboratory in 1974, the crime laboratory delivery system of ten laboratories (System Four-C) would be able to provide effective criminalistics services to 74.7 percent of the population and 78.4 percent of the law enforcement officers within the State (Table VI-7). At the present time, this laboratory system would provide effective criminalistics services to an estimated 97 percent of index crimes as they occurred within the State in 1971.

TABLE VI-7
SYSTEM FOUR-C
(30 Mile Radius)

Service Provided	Percentage of Pop. Within 30 Miles	Percentage of L.E.O Within 30 Miles
Criminalistics	74.7	78.4
Death Investigation	52.2	57.3
Toxicology	52.2	57.3

The addition of the two laboratories at Tuscaloosa (University of Alabama) and the Quad-Cities (Florence State University) would provide effective criminalistics services to the last two major metropolitan areas within the State and, as stated earlier, would also greatly reduce the criminalistics case load at two major regional laboratories. Indeed, if one studies the percent of population, law enforcement, and index crimes covered under the crime laboratory delivery system proposed above using the criteria of a 50 mile radius from each laboratory, it will be seen in Table VI-8 that 93.9 percent of the State's population, 95.5 percent of the State's law enforcement officials, and an estimated 99 percent of index crimes will be located within a 50 mile radius of a crime laboratory.

TABLE VI-8
SYSTEM FOUR-C
(50 Mile Radius)

Service Provided	Percentage of Pop. Within 50 Miles	Percentage of L.E.O Within 50 Miles
Criminalistics	93.9	95.5
Death Investigation	70.8	73.1
Toxicology	70.8	73.1

System Four-C will provide for the State of Alabama a comprehensive, but economically feasible, crime laboratory delivery system. It will also insure that law enforcement officials can either carry evidence to or receive assistance from a crime laboratory within a reasonable distance or within a short period of time. There is one small portion of the State ranging across the southwest between Mobile and Selma where crime laboratory service is not available within a 30 mile or a 50 mile distance. The population of the State within this area is small and, thus, the number of officers affected is also small. However, it will be doubly important that a training program for crime scene officers, developed and implemented by the crime laboratory delivery system, be initiated to provide these officers adequate training. Training alone will insure that evidence from a crime scene within their jurisdiction will be properly evaluated and documented, and worthy clue material delivered to the nearest laboratory.

It will not be necessary and, indeed, is economically impractical for every laboratory to provide full serological and handwriting and document services. These capabilities should be concentrated at one or two of the laboratories. It is imperative that each regional laboratory have the facilities, equipment, and personnel necessary to provide the majority of routine services requested by law enforcement in criminalistics and toxicology. The emphasis at the satellite laboratories should be on criminalistic support, including drug identification, to law enforcement. Each laboratory must have the capability to properly process clue materials submitted by law enforcement officials within its geographic territory and it must also have the capability to properly assist these law enforcement officials when necessary at the crime scene.

The staff and equipment for each of the ten laboratories are programmed in Appendix B and C to this plan. The development of the comprehensive crime laboratory delivery system as outlined above will require five years to: 1) develop the facilities and purchase the necessary equipment, and 2) develop adequate personnel with the expertise required to process all evidence submitted within their areas of specialty. It will also be necessary to program this crime laboratory delivery system over a five year period so that the State can gradually assume the complete fiscal responsibilities of such a system. Appendixes B and

C also illustrate the cost of the entire system for personnel and equipment through the five year program. It is planned for facilities to be provided locally. If this plan is implemented as described, the State can expect a reasonably stable Forensic Science Department which would require only small increases in personnel and operating expenses, and moderate equipment funds annually.

Implementation of this crime laboratory system,

including the acceptance of proposals for modification of goals, priorities, and concepts as recommended in Chapter VIII, will insure that the State of Alabama has a model system providing forensic science services to all criminal justice agencies. The laboratory system will also insure that forensic science services is an integral part of the entire criminal justice system effort to control and reduce crime within the State of Alabama.

Chapter VII.

Proposed Methods for Improving The Crime Laboratory Delivery System Within the State of Alabama

The proposals discussed in this chapter are the result of detailed analyses of data generated by this study and conclusions based on numerous conversations and interviews which the department has conducted with people in other crime laboratories in the United States and Canada, police chiefs, sheriffs, patrolmen, deputy sheriffs, Pardon and Parole personnel, the Attorney General and his staff, District Attorneys, defense attorneys, judges, including the State's Chief Justice, members of the Governor's cabinet, department heads for State agencies, private citizens, and detailed discussions among present department personnel from both the upper and lower echelons of the staff.

Various proposals are discussed in a factual and objective manner to indicate, in most cases, whether or not a proposal should be implemented. The basic recommendations of the study are listed in Chapter VIII. Proposals which present the minority opinions are also included for objectivity.

A crime laboratory delivery system is law enforcement oriented, certainly, to the extent that it receives the majority of its work from law enforcement officials. Thus, its criminalistic capabilities and services should receive high priority and will be discussed first. Criminalistics deals with a number of different services and includes the matter of firearms, which is hotly debated today. Therefore, this discussion begins with proposals for change in the crime laboratory

delivery system's firearm and toolmark comparison capabilities.

A. Firearm and Tool Comparisons

A basic purpose of a firearms comparison capability is to provide to law enforcement the services of relating a spent cartridge or a spent bullet to a particular type of weapon or to a particular weapon. Tool and toolmark comparison service have similar goals and objectives.

The crime laboratory's approach to providing this capability has been basically of two types. The first of these is to hire, train, and thus provide personnel classified as firearms and toolmarks examiners. An individual classified as a firearm and toolmark examiner specializes only in the examination, comparison, and identification of firearms, spent bullets, spent cartridges, tools, and toolmarks. His duties do not lie in any other area of criminalistics and his educational background does not necessarily require any college training and, particularly, he is not required to possess university level training in the physical sciences. Firearm examiners presently employed in forensic science laboratories have varied educational backgrounds and their common basic qualifications are training and on-the-job experience.

The second approach in proving a firearm and toolmark examination and comparison capability is to develop this expertise through training and experience in individuals such as criminalists who

also have developed the expertise necessary to qualify them in the courts as experts on some other class of physical evidence. To place such a burden of responsibility on an individual requires the minimum attainment of a bachelors degree from an institution of higher learning with a major field of study in one of the sciences. An excellent educational background is mandatory for the criminalist to qualify as an expert in more than one area of scientific examination.

The requirement for training at the university level and the additional responsibilities enable criminalists to demand a higher wage scale than the firearm and toolmark examiner. Normally, a criminalist having expertise in more than one area of physical evidence, including firearm and toolmark comparison, receives one to two thousand dollars per year more than the individual possessing only expertise for firearm and toolmark comparisons.

Regardless of the personnel classification a crime laboratory system utilizes, it is necessary that each laboratory performing examinations and comparisons of firearms and toolmarks have on hand an adequate reference collection of firearms, tools, test bullets, and test cartridges. Each laboratory within the system should be apprised of the contents of each of the reference collections on a routine basis. It is also necessary that each laboratory within a crime laboratory system have a routine method of communicating to other laboratories information on unidentified weapons or bullets from crimes so that every laboratory is acquainted with the unsolved crime and the physical evidence associated with it.

B. Firearms Control

Another firearms problem area of interest to a forensic science facility is firearms control. A crime laboratory system is a full-fledged member of the criminal justice system. However, it is not and should not be an active partner in the prosecution of criminals or play an active role in interrogation or information gathering in the field. The crime laboratory system can actively assist the criminal justice system in firearms control through passive measures. Studies in the past have proposed, for instance, that crime laboratories maintain fired bullets and spent cartridges from each weapon that is sold. It has been pointed out that the identifying characteristics of such weapons will change with time, use, and abuse. However, if the owner knew

that a test bullet was on file, it might deter the illegal use of the weapon. Such a system in the State of Alabama would require several additional personnel to assist in the cataloging, filing, and inventorying of such test bullets or test cartridges. Where test bullets are fired, who fires them, and who delivers them to the nearest crime laboratory are yet additional problems incurred in this system.

A second approach to firearms control, which tends toward control of illegal weapons and not those being lawfully possessed by law abiding citizens, could utilize the services of the crime laboratory system and become an integral part of it. The State legislature could designate that every condemned weapon within the State be delivered within a certain period of time to the nearest crime laboratory. A major result of the law other than the removal of illegal and condemned weapons from the public would be a comprehensive reference collection within the crime laboratory system. The law should also state that no public official could order a condemned weapon returned to its original owner if the owner was the violator, or delivered to any person or agency other than the crime laboratory system. The law should charge the crime laboratory system with the responsibility of maintaining a public inventory of such weapons and tools. Every effort must be made to insure that no fraud, deceit, or wrongful use of such condemned weapon is possible.

The law should also recognize the fact that many law enforcement agencies could use some condemned weapons in the performance of their duties and should provide the means whereby the crime laboratory system could issue weapons to such law enforcement agencies upon verification of the weapon's serviceability and the department's need. The receiving department should be required to maintain the issued weapon on a public inventory for such time as the weapon is utilized. The law should also assure that the law enforcement agency issued a weapon of this nature does not have the authority to destroy the weapon. The weapon should be returned to the crime laboratory system which would be charged with the responsibility of destroying all condemned weapons when they are no longer of value or interest to the State or the crime laboratory system. Of course, the law must recognize the fact that as long as a weapon or tool is needed by the State for prosecution purposes, these items cannot be de-

stroyed and, therefore, must be properly maintained by the crime laboratory system.

The crime laboratory system would be wise to insure that the destruction of weapons is witnessed by disinterested personnel and that the verification of the destruction is accomplished by serial number, adequate description, or photograph and done upon the signature of the crime laboratory agent and the verifying agent. The destruction of a weapon would be a matter of the same record as the initial receipt and inventory.

The cost of the firearms control measure, as described here, would be minimal to the State. Local officials would bear the cost of transportation of weapons and tools to the nearest crime laboratory. Delivery could be easily accomplished when the officers are transporting other clue materials to the laboratory. To properly destroy weapons would necessitate the purchase of a suitable tool, such as a heavy-duty cutter. The records maintained could be handled by the present and programmed staff of the crime laboratory system.

C. Serology

The ability to properly analyze and compare blood and other stains is a service which any crime laboratory delivery system must be capable of providing to law enforcement and other agencies of the criminal justice system. Under a multi-lab organization, the approach to providing this service can be in one of two ways.

In order to perform analyses and comparisons of stains, including blood and seminal fluids, the laboratory system could provide a serologist at each regional laboratory. Serologists at each laboratory would not be fully utilized in the performance of these duties and would, therefore, have to perform other services, such as the examination and comparison of hair and fibers.

The laboratory system could train and require personnel at each laboratory to examine and compare blood and characterize it through its ABO grouping. These same personnel could also analyze and compare other stains, such as semen and seminal fluid. Expertise of this limited nature can be developed in each laboratory by criminalists possessing the necessary biological background and adequate training. A system utilizing limited expertise in all laboratories should also provide qualified serological expertise at one or more

laboratories, depending upon the need. Such serologists should be able to further characterize bloodstains through sub-groups and by such techniques as enzyme electrophoresis.

The cost of qualified serologists for each laboratory would require approximately one hundred thousand dollars (\$100,000) above the present staffing requirements of the crime laboratory system as identified in Chapter VI as System Four-C. The requirement of competent criminalists at each laboratory to identify blood through ABO grouping and the examination of seminal fluids and stains would not require additional funds above that programmed. Crime Laboratory Delivery System Four-C in Chapter VI also programs one qualified serologist at the headquarters laboratory with additions later at the Birmingham regional laboratory. Such a program would provide sufficient serological expertise statewide to properly serve law enforcement at a minimal cost to the State. Initially, one salary and special serological instrumentation, chemicals, and supplies, would be required with the same expenditures to follow later at a second laboratory.

D. Trace Evidence

Attention is now shifted to evidence comprised of small items, such as hairs, fibers, soils, paint particles, and safe filler, etc., which are secured at crime scenes by law enforcement officials throughout the State. Trace evidence identification and comparison involves many complicated techniques using both chemical analyses, microscopic analyses, and other instrumentation, such as ultraviolet and infrared spectrophotometry, x-ray diffraction, emission spectroscopy, and gas chromatography with pyrolysis analyses. Examination and analysis of clue materials, such as those described above, are time consuming and require considerable expertise. These examinations, comparisons, and analyses are often the "nuts and bolts" assistance rendered to law enforcement officers in their investigations of crimes. In many cases, law enforcement within the State of Alabama have not utilized these services fully, and recommendations for increased utilization will be discussed in detail later in this chapter. Let us now focus our attention upon the proposals which will enable the crime laboratory to better provide forensic science services on trace evidence.

The crime laboratory could employ technicians with limited educational training and laboratory experience to aid in processing trace evidence. These technicians could be supervised by criminalists or other trained employees. A criminalist would write the laboratory report regarding trace evidence and respond to any subpoena received as a result of the investigation by the laboratory. While this system is more economical in regard to personnel funding, it disregards the well-known fact that each case requires original thought and study. Oftentimes, a variation of approach is mandatory to properly analyze or compare the evidence. Therefore, the few dollars saved on personnel salaries by employing semiskilled technicians would result in substandard evaluation of the evidence. Improper evaluation would lead to inaccurate reports and, thus, would be detrimental to proper justice. Such a system should neither be encouraged nor allowed.

Criminalists could provide all the man-hours necessary to process trace evidence received in each laboratory. As seen on the personnel projection, Appendix B, for the crime laboratory delivery system discussed in Chapter VI, several crime laboratory technicians (II) specializing in criminalistics are included. These personnel have the educational qualifications for criminalists, but lack experience. Such persons are ideal to assist the criminalist in the analyses, comparisons, and examinations of trace evidence materials. Indeed, experience is necessary to properly qualify crime laboratory technicians (II) for promotion to the rank of criminalist. Crime laboratory technicians (II), assisting the criminalist in the processing of trace evidence, would not bear responsibility for the written report on the evaluation of the evidence. The criminalist would maintain complete control of the written report and would respond to any subpoena resulting from the work in the laboratory.

E. Fingerprints

Another area of criminalistics which is vital to law enforcement is that of fingerprint comparison. Since law enforcement officials rely heavily upon latent fingerprints, the State must maintain an extensive reference collection of known fingerprints in order to screen possible suspects. The State Department of Public Safety headquarters, located in Montgomery, Alabama, maintains an extensive

fingerprint file system for the State. This agency receives known fingerprints from law enforcement agencies throughout the State and classifies and maintains these known fingerprints on file at their headquarters. Also, the State Department of Public Safety employs one fingerprint expert to classify and compare fingerprints.

The Department of Toxicology and Criminal Investigation also has personnel in each laboratory qualified to compare fingerprints. The department does not presently employ any personnel for the classification of fingerprints nor does the department maintain any large central files of known fingerprints. The only known prints maintained by the department are those which have been submitted by law enforcement agencies for comparison with latent fingerprints in a particular case. Such known cards are maintained at each laboratory in alphabetical order by the suspect's last name. Proposals for improving the capability within the State for fingerprint comparison are as follows:

The State Department of Public Safety could assume all responsibility within the State for the classification and filing of known fingerprints. The State Department of Public Safety could also compare all latent prints from crime scenes with known prints of suspects and present all testimony in court for such comparisons. To accomplish this, the Department of Public Safety would be required to increase the number of fingerprint personnel.

The second proposal is that the State Department of Toxicology and Criminal Investigation assume responsibility for the maintenance of all master files of known fingerprints and that the department employ fingerprint technicians to classify and file known fingerprint cards received from law enforcement agencies throughout the State. Each laboratory would continue to provide criminalists capable of comparing known and latent fingerprints and testifying in courts concerning such comparisons. To expand the crime laboratory system to maintain a central file of fingerprints would require the employment of at least four fingerprint technicians and one secretary. It would also require additional space for storage of such files.

The third proposal is to continue the present system within the State with modifications designed to improve the capabilities and to improve the efficiency. Under this proposal, the

Department of Public Safety would expand the present master file system of fingerprints, which would involve the employment of additional personnel to classify and file known fingerprints. The Department of Public Safety could also employ additional personnel to compare latent fingerprints and testify upon these comparisons in the courts. The Department of Toxicology and Criminal Investigation would also continue to provide personnel in each laboratory capable of comparing latent fingerprints with known fingerprints and testify in the courts concerning these comparisons. The close cooperation presently existing between the Department of Public Safety and the Department of Toxicology and Criminal Investigation on fingerprint evidence would be maintained and improved, if possible. Both agencies would strive unselfishly to insure that all latent prints are screened against possible suspects. The director of each agency should further insure that close coordination of fingerprint evidence always exists on crimes investigated by either or both agencies. The third proposal would require additional funds for the Department of Public Safety, but would not require any additional funds for the Department of Toxicology and Criminal Investigation.

F. Handwritings and Documents

The State Department of Toxicology and Criminal Investigation does not have a sufficient staff to provide adequate handwriting and document examination and comparison to law enforcement in the State. Handwriting and document evidence is normally of the type which can be mailed and, therefore, this service is one which, like serology, can be concentrated at one or two laboratories. One proposal presented during the course of this study involved and necessitated the placing of handwriting and document personnel at many of the laboratories throughout the State. Dispersion of personnel would shorten travel to court and, therefore, lessen "down time" from the laboratory directors in other states, persons charged with crimes involving handwriting and document evidence will generally enter a plea of guilty upon certification by the laboratory expert that, in his opinion, such individual did alter or forge the document. With this knowledge in mind, the argument for dispersion to lessen the "down time" for court becomes less valid and the argument for consolidation of these services at one

or two laboratories is the more attractive of the two. The proposal for the consolidation of the handwriting and document staff at one or two laboratories would also save the State money on the purchase of photographic equipment necessary for handwriting and document comparison. Vital space would also be conserved as the darkroom for document work must be larger than that normally utilized for other photographic needs.

G. Photography

While the subject of photographic capability for handwriting and document work is discussed, it follows that proposals for improving the photographic capability and services of the crime laboratory to law enforcement and to its own staff should also be discussed. At the present time, the crime laboratory system within the State maintains a darkroom capability at each laboratory. Each laboratory has the capability to develop and print black and white photographs and to process color slides. No laboratory within the system has the capability to print color photographs.

The recommendation has been made that the Department of Toxicology and Criminal Investigation employ a qualified photographer. This photographer would be employed at one laboratory to handle the vast majority of photographic work generated by the Death Investigation Division. If consolidated at the same facility with the handwriting and document staff, this photographer could provide photographic support to said staff. A single, consolidated photographic capability is not feasible in criminalistics; for in the process of investigating physical evidence, the criminalist must determine that the required information has been documented before proceeding with his examinations. A department photographer located with the document and handwriting staff could handle color prints for the department on a statewide basis. Criminalists in the process of working cases normally use black and white film but, on occasion, are requested to expose color film. This film could then be sent to the central laboratory for processing. Photographic capabilities under this concept would be economical to the State, requiring only the purchase of color photography equipment at one laboratory. At the same time, the capability for developing and printing black and white photographs and processing color slides would be maintained at each laboratory.

H. Drug Identification

Criminalists within the crime laboratory system are also responsible for the analyses and identification of drug compounds delivered by law enforcement officers. Tables on case load in Chapter II reveal that such cases constitute an average of 44 percent of all cases received by the system. Discussion of the drug identification capability of the crime laboratory system with a number of officials throughout the State left no doubt that this function should remain with the crime laboratory system and should be provided at each laboratory. However, as the figures in Tables II-7 and II-8 illustrate, a vast majority of drug evidence is delivered to the laboratory, either by the investigating officer or by another member of his agency. Drug evidence, much like document evidence, could in many cases be mailed to the laboratory and still not compromise the chain of custody. An advantage in the deliverance of such evidence to the crime laboratory by a member of the requesting agency is that the investigating criminalist can discuss, if necessary, the circumstances of the case. Many times, such information will give the criminalist helpful clues to tentatively identify a substance which will shorten his analysis time.

I. Mobile Crime Laboratories

During discussions with various officials within the State and other members of crime laboratories in the United States and Canada, the question of mobile crime laboratories was entertained at length. Various crime laboratories, for example the Dade County Crime Laboratory in Miami, Florida, provide limited mobile crime laboratory capability at crime scenes. However, this could be more accurately referred to as a crime scene vehicle and not a mobile crime laboratory, as the actual analyses are not performed at the crime scene. Some officials within the State of Alabama are of the opinion that the mobile crime laboratories are useful and should be purchased, particularly for the larger cities. In discussions with laboratory personnel, however, the majority opinion seems to be that a mobile laboratory at the scene is not necessary. The urgency at the crime scene subjects personnel to such pressures that they cannot be reasonably expected to perform their jobs accurately. It is the majority opinion that a suitably equipped van or automobile staffed by the local law enforcement agency or the crime laboratory could provide assistance at a crime scene in the

areas of evidence recognition, documentation, and collection. The evidence should then be delivered to a crime laboratory for proper examinations, analyses, and comparisons. The cost for this system would be much less (approximately one-half) for the local agency, and the results are equal to and usually surpass those achieved with mobile crime laboratories.

J. Crime Scene Investigation

The mobile crime laboratory, whether encouraged or discouraged by an individual agency, is still recognized as an attempt to provide more assistance at the crime scene. Many times, the most critical stage in the solution of crimes of violence and crimes against property is the initial investigation of the scene. Emphasis on the proper training of personnel who process the crime scene is most important.

The role of the crime laboratory system in crime scene investigation has been the subject of much debate that centers around three basic proposals. The first proposal was that the crime laboratory should assist local law enforcement in the investigation of serious crimes when so requested. Local law enforcement, with or without the assistance of other State investigative agencies, would continue to investigate the majority of crime scenes and deliver to the laboratory any clue materials generated from such investigations.

Another suggestion is that the crime laboratories provide personnel to assist local law enforcement in all crime scene investigations and that the crime laboratory personnel be furnished vehicles equipped to assist local law enforcement in these investigations. A third proposal suggested by the minority of persons contacted was that the crime laboratory, due to a shortage of personnel, should never go to a crime scene and should depend strictly upon local and other State authorities for such investigations.

The opinion of most persons consulted on this question was that local law enforcement had to assume the greater burden of crime scene investigations and that the crime laboratory system could only provide assistance at the scene of major crimes or where the evidence was very complicated.

K. Law Enforcement Training

It is concluded that a crime laboratory system can best provide assistance to local law en-

forcement in crime scene investigations by training crime scene officers at the local law enforcement level. The crime laboratory system could, thus, establish as part of its headquarters staff, a law enforcement training officer with the responsibility of developing a crime scene officer school of one or two weeks duration. This school would be primarily oriented toward developing detective or patrolmen capable of properly recognizing, documenting, and securing clue materials from crime scenes. The law enforcement training officer should also consider the problem of communications which the local crime scene officer may face with his supervisor after the officer returns to his normal duty station. It was suggested that the law enforcement training officer develop a two or three day seminar for supervisors, chiefs of Detective Divisions, police chiefs, and sheriffs or the heads of the sheriffs' Investigative Divisions. The seminar should concentrate on developing in supervisors an understanding of the capabilities of the crime laboratory, particularly with respect to the analyses, examinations, and comparisons or clue materials delivered to the agency by law enforcement. The seminar for management personnel in law enforcement should also instill an appreciation for the value of a proper crime scene search for clue materials. Law enforcement management personnel need to be made aware in this seminar of the serious shortcomings of the present crime scene investigations in Alabama. Only when law enforcement supervisors understand the value of the crime scene search, the value of clue material, and the proper utilization of the crime laboratory, will the necessary orientation and support to the crime scene officer be provided.

Training should not be restricted to crime scene officer schools and law enforcement management seminars, but should also include participation in basic police schools taught at the various regional police academies within the State. The law enforcement training officer should also develop advanced schools for certain investigations and the special evidence generated from these investigations. From officials interviewed, the general consensus was that although participation in law enforcement training by the State Department of Toxicology and Criminal Investigation was commendable, the needs were for even greater participation and a more active role by the laboratory system in law enforcement training. Suggestions were voiced that the crime laboratory

system coordinate more closely with institutions of higher learning, particularly the Extension Divisions of the University of Alabama and Auburn University, to help insure the broadest possible coverage of training to law enforcement officers.

Expansion of the crime laboratory system's participation in short courses and seminars directed toward the various levels of judicial authority throughout the State was also proposed. Presentations should enlighten jurists on the current State situation concerning the abuse and effects of alcohol, other drugs and narcotics, as well as matters pertaining to robberies, burglaries, and homicides.

Involvement by the crime laboratory system in the training of correctional personnel on the recognition of drug abusers, lethal drugs, and dangerous drugs which might be smuggled into correctional institutions was also suggested.

L. Employee Training

Additional personnel at the headquarters laboratory to assume basic responsibilities for training, quality control, referee sample collection, and research and development within the divisions of toxicology and criminalistics were suggested. These personnel could be assigned the titles of chief criminalist and chief toxicologist and be placed on the director's staff at the headquarters laboratory. These individuals would provide professional support to department personnel and the director, but would not be members of the chain of command for administration and operation of the department. The chief criminalist and chief toxicologist should be professionals with advanced education and years of experience, who have demonstrated the ability to develop and coordinate programs among scientific personnel. The law enforcement training officer described earlier could coordinate schools and short courses with the chief criminalist and the chief toxicologist. The law enforcement training officer could also assist the chief criminalist and the chief toxicologist in the development of training aids, etc., in order to better train criminalists and toxicologists within the department.

Suggestions that the Department of Toxicology and Criminal Investigation stress training, both for department personnel and law enforcement, to State officials and personnel of the Alabama Law Enforcement Planning Agency were emphasized.

Emphasis was placed on the fact that the crime laboratory system has a necessary and important role in this training. To assume responsibility for training of crime scene officers and to properly train departmental personnel will require some additional funding. The overall effect of the training programs will be an increase in clue material, an increase in correct factual findings and identification of the guilty party, swift and sure justice of the guilty, and reduction of crime within the State.

M. Toxicology

This chapter is devoted extensively to services provided by a crime laboratory delivery system to law enforcement in relation to criminalistic services and the need for departmental training as well as the participation by the department in training for law enforcement officers. The crime laboratory delivery system must also provide toxicologic services to law enforcement and, particularly, to death investigations within the State. At the present time, the Department of Toxicology and Criminal Investigation performs toxicological analyses for hospitals and medical doctors when these analyses are not available through the local hospital or other State agencies. The department also assists veterinarians statewide and the Auburn University School of Veterinary Medicine in the analyses of animal tissues suspected of containing poisons.

A review of Section 388, Title 14, Code of Alabama 1958, Recompiled, reveals that the law does not specifically state that the department will perform toxicological analyses for hospitals and medical doctors in emergency or non-emergency cases. The law does state that the department will cooperate with the Commissioner of Agriculture and Industries and the State Veterinarian in cases of suspected criminal poisoning of domestic animals. Section 388 further states that the department will cooperate with coroners, from whom many toxicology cases are received. Tables II-3 and II-4 in Chapter II reveal that 14.8 percent of all cases received in fiscal year 1970-71 and 13.6 percent of all cases received in fiscal year 1971-72 involved some human toxicology. These same tables reveal that in fiscal year 1970-71, 4.3 percent of all cases received involved some animal toxicology, and in fiscal year 1971-72, this work increased to 6.3 percent. The percentage of cases involving at least some human or animal toxicology indicates that a

large proportion of total department man-hours are devoted to such analyses. The commitment to toxicologic assistance illustrated by these tables is above that required by the duties of the department as stated in Section 388. The quantity of work performed clearly reveals a need, above that required by law enforcement, for these services throughout the State.

The Department of Toxicology and Criminal Investigation desires to further orient its toxicology services directly to law enforcement. The technique of increasing services to law enforcement involves expansion of the Criminalistics and Death Investigation Divisions, but should also involve an equal reduction in toxicological services provided agencies other than law enforcement. A reduction in toxicologic services could be realized in one or more of the several methods outlined below:

1. The laboratory could provide animal toxicologic services for animals that have died under suspicious or criminal poisoning, providing such animal tissues are delivered to the department through law enforcement channels, the State Veterinarian's Office, or the Commissioner of Agriculture and Industries' Office. The laboratory could refuse to process any cases for private veterinarians or the Auburn University School of Veterinary Medicine.

2. The laboratory could provide animal toxicologic services free of charge to the three agencies listed above, and to private veterinarians and the Auburn University School of Veterinary Medicine on a fee basis only, with the fees being returned to the State Treasury.

3. The department could refuse to perform toxicological analyses on human tissues or body fluids with the exception of those requested by law enforcement agencies, including county coroners.

4. The laboratory could conduct toxicological analyses in emergency situations for medical doctors and/or hospitals on a non-fee basis when the medical doctor personally states that the results of the analyses will affect his course of treatment for the patient. Under these conditions, the department would also continue to provide toxicological

services to law enforcement agencies on a non-fee basis.

5. The department could refuse to conduct even emergency toxicology except on a fee basis and would continue to perform toxicologic services on a non-fee basis to law enforcement.

Several of these proposals would be contrary to the present law as expressed in Section 388, Title 14, Code of Alabama. Therefore, in order to further orient the crime laboratory system to law enforcement, the possibility of the passage of a new law by the State legislature with these goals in mind should be reviewed.

In the event the crime laboratory system does curtail services on animal toxicology and emergency human toxicology, the possibility of diverting man-hours saved to other areas of the criminal justice system such as the Board of Corrections and the Pardon and Parole Board, should be investigated. The screening of parolees' and prison inmates' urine for drugs and narcotics was valued by many personnel interviewed as very important and would be a significant contribution to the criminal justice system. The additional work load for the toxicology personnel is potentially very large, but the possible benefits likewise are enormous. Elimination of a large portion of the non-law enforcement oriented human and animal toxicology cases would relieve present toxicology personnel sufficiently to assume the additional load of a urine screening program. The Board of corrections and the Pardon and Parole Board could then more properly evaluate and guide parolees and inmates. The vast majority of persons interviewed on this question were of the opinion that such service would come under the purview of service to law enforcement and be within the responsibilities of the crime laboratory delivery system.

N. Death Investigation

The only service not previously discussed in this chapter is death investigation. The death investigation capabilities of the department, as well as that of the State, are in dire need of improvement, expansion, and upgrading.

Alabama presently operates under a coroner system with elected coroners in almost every county. The Death Investigation Division of the Department of Toxicology and Criminal Investigation works closely with the coroners and other law enforcement officials in the investigation of deaths where death is known or suspected to be the result of violence, poisoning, or other unlawful means. The department presently has one part-time forensic pathologist, one part-time clinical pathologist, several consulting clinical pathologists, and five forensic toxicologists who work in the area of death investigation and perform postmortem examinations. The department has discussed death investigation services with numerous groups in Alabama, including the University of Alabama Medical School, forensic pathologists, private pathologists, the Alabama Coroners Association, District Attorneys, the Attorney General, the Chief Justice of the Alabama State Supreme Court, and a subcommittee appointed by the Chief Justice to study the coroner system in the State. As part of an effort to upgrade death investigation within the State of Alabama, the department has initiated a system whereby bodies are transported to morgues by department vehicles, and, after autopsy, returned to the county of origin. The department has also initiated the development of morgue facilities owned by the State of Alabama where adequate and complete postmortem examinations can be performed. The Death Investigation Division closely coordinates all cases and associated evidence with the Criminalistics and Toxicology Divisions. Discussions held with all parties mentioned indicated that there were two basic approaches to improving death investigation within the State of Alabama.

1. The Department of Toxicology and Criminal Investigation and the county coroners could merge into a Department of Forensic Science providing more formalized divisions of responsibility. One of these divisions would be the Death Investigation Division and would be headed by the chief medical examiner, a forensic pathologist, qualified by the American Board of Pathology in forensic pathology. The chief medical examiner should have the authority to appoint, with the consent of the director of the department, his deputy assistants, who preferably would be forensic pathologists. The department could also employ qualified investigators to handle the initial field

investigation of deaths wherein the department has jurisdiction.

The Department of Forensic Science should have jurisdiction in all deaths of interest to law enforcement and the public. Penalties for any persons changing, mutilating, or molesting a dead body or related evidence should also be provided. The chief medical examiner and his designated deputies should be placed in the major population areas of the State. These personnel would certify all deaths under the jurisdiction of the department.

The chief medical examiner would not be located at the headquarters laboratory in Auburn, but at the Birmingham regional laboratory. From this location, coordination with the University of Alabama Medical School and provisions for a residency program in forensic pathology could be accomplished, thereby developing potential future employees in the Death Investigation Division. The chief medical examiner would be responsible for upgrading and training deputy assistants. Therefore, the chief medical examiner must stay abreast of the latest developments in forensic pathology which could be best accomplished in close proximity to the medical school.

The field investigators for the Death Investigation Division would be merit system employees of the State requiring minimum standards and qualifications of training and education before being certified for the position. The Department of Forensic Science could promptly present a specialized school to the field investigators for further qualification in the duties required of field investigators in this modified medical examiner system proposed for a rural state. The field investigators would replace the coroner system, but fair treatment should be provided the present coroners.

The cost to implement the above proposal would be approximately \$650,000 to the State of Alabama. Each county would be relieved of the salary and expenses paid to the coroner. This system would provide a medical examiner system within the State along slightly modified lines necessary for such a system to be effective in a rural population.

2. Another proposal to provide expanded death investigative services to the State is to develop a medical examiner system as a separate entity of State government. The chief medical examiner and

his assistants would perform all postmortem examinations at the request of law enforcement within the State and would depend upon the Department of Toxicology and Criminal Investigation for criminalistics support and toxicological analyses on evidence and tissues removed from bodies. The medical examiner and his assistants would coordinate with law enforcement officials and criminalists within this department to provide the necessary scientific assistance to law enforcement on physical evidence generated by crimes of homicide. The medical examiner could appoint, or the counties could designate, a local practicing physician or county health officer, as the local medical examiner who would be responsible for field death investigations. This system, while providing medical pathologists in all regions of the State, would require close cooperation between the two departments in order to provide full forensic science services to law enforcement. Since this State has, at the present time, only 16 health officers in its 67 counties, this system would also, of necessity, depend upon the cooperation of local medical doctors in each county, who would not be forensic science oriented. This proposal would not offer any hope of a proper place for the present coroners, with or without additional training, in the system.

The cost to implement a separate medical examiner system within the State of Alabama would be a minimum of \$1,500,000 because the present facilities and death investigation personnel of the State Department of Toxicology and Criminal Investigation would not be utilized.

O. Data Collection

The preceding paragraphs contain proposals for improving the services of the various divisions of the crime laboratory system and the training needs of personnel within and without the system. Interviews conducted during this study also indicated a need for statistical data which should be generated by a crime laboratory system, both for management use and for the benefit of law enforcement and other agencies of State and Federal government.

Attention should be directed to the statistical data which a crime laboratory system should generate for management purposes. Such data should be directed toward providing information for the director and the headquarters staff to

facilitate decisions concerning personnel, equipment, training, planning, and future priorities. The data collection system should be simple in concept, requiring minimum personnel time and minimum compilation time at the headquarters laboratory. The data should be easily converted into a computerized form.

Improving the statistical data generated by a crime laboratory system involves a simplification of case classification. The department presently classifies cases into 32 categories. These categories are based upon a combination of offense, nature of the evidence, and nature of the request, and, therefore, provide no common basis for evaluation of the work load of the department. The present case classification is not compatible with statistical reports, such as the National Uniform Crime Reports, compiled by the Federal Bureau of Investigation. The department should design a new case classification system which will indicate or provide information on: (1) the participation of the department in index crimes throughout the State, (2) the participation of the department in drug cases, (3) the effectiveness of the breath testing program for driving while intoxicated within the State, (4) the participation of the department on death investigations within the State, and (5) the amount of toxicologic assistance the department renders to various agencies within the State. A proposed case classification and instructions for use are included in Appendix D.

The laboratory should develop a case record system that would provide statistical information on the man-hours required for each type of case and evidence. This information should be available on a statewide basis, laboratory basis, and an individual basis. The data derived from this system can be compared to an average time equivalent or man-hour equivalent allotted to each type of case or each type of examination performed. The standard time equivalent or man-hour equivalent should be a value agreed on by section chiefs of the department and would constitute a goal for all members of the department to achieve. Most important is that placing a time element per case or examination must not conflict with or hamper in any way the quality of work performed. If properly administered and managed, such a data system can provide useful managerial data on the performance of the department, the cost per particular type of case, the man-hours in any particular laboratory

devoted to criminalistics, death investigation, or toxicology, or the man-hours devoted to the various phases of criminalistics, such as firearms, toolmarks, hairs, paints, fibers, serology, etc. Information of this type will be a solid basis on which to project manpower needs for the future and to analyze the current manpower allocations per laboratory for possible imbalance between the laboratories or between the divisions of criminalistics, death investigation, and toxicology. Appendix D also includes summary sheets for criminalistics toxicology, and drug evidence. One or more of these summary sheets could be placed with each case and the information included on the summary sheets would provide the raw data from which the above information can be obtained. The summary sheets are organized to require a minimum of the professionals' time and would be completed at the time the results of the investigation in the laboratory were dictated and reduced to a written report.

The monthly report of the agency would be a simple summary of each laboratory's report and, additionally, may include other items of information of interest and value to the entire department. An example of items which might be of interest and value to other laboratories would be drugs previously unidentified in the State. This information should be made available to all other laboratories in the State and to laboratories such as the Bureau of Narcotics and Dangerous Drugs in Washington. The monthly report should contain a list of any firearms and/or bullets or other evidence involved in unsolved cases. Appendix D contains a proposed monthly report based upon the above criteria. Page 6 of the report provides a list for any unreported cases more than thirty days old. This is managerial information necessary for proper administrative decisions to relieve any backlog of cases at a particular laboratory.

The record system of the crime laboratory agency should provide information on the court appearances of personnel and attempt to establish the relationship of the crime laboratory to the disposition of cases. Appendix D also includes a proposed form which could be attached to subpoenas as they are received at the laboratory. With minimum personnel time and a small follow-through, the relationship of the laboratory to case disposition can be determined.

P. Staff

Implementation of proposals discussed in this chapter and as recommended in Chapter VIII will require a moderate increase in laboratory and office staff over the present staff of the State Department of Toxicology and Criminal Investigation. The staff increases will be directed toward expanding and upgrading death investigation and criminalistic services. Personnel projections in Appendix B are considered adequate to reduce turnaround time for most cases to seven (7) working days.

Q. Equipment

The State Department of Toxicology and Criminal Investigation has fairly well-equipped laboratories at the present time. Equipment needs of the Birmingham regional laboratory must receive priority for funds received for existing laboratories in 1973. During the next five years, the

department will have to expand its equipment inventory somewhat in order to stay abreast of new techniques and procedures and also to replace some old and non-functioning equipment. Appendix C presents the entire equipment needs for a Department of Forensic Science over the next five-year period.

R. Facilities

Several pages of information on the present facilities of the State Department of Toxicology and Criminal Investigation were presented in Chapter II. It was stated at that time that the regional laboratories of Birmingham, Huntsville, Mobile, and Montgomery will have to be provided additional laboratory space and space for a morgue. Additional space for these four regional laboratories will be coordinated with the local governments served and, thus, no projected cost to the State is included with this Master Plan.

Chapter VIII.

Recommendations for Improving the Crime Laboratory System Within The State of Alabama

Based on analyses of data compiled during the self-study and communications with numerous people within and without the criminal justice system, the Department of Toxicology and Criminal Investigation submits the following recommendations for improving the crime laboratory delivery system in relation to personnel, facilities, services, and principles of operation and organization.

1. The Department of Toxicology and Criminal Investigation develops with proper assistance new legislation for a Department of Forensic Science which, at a minimum, would provide for or continue the following services and principles:

- a) An adequate Criminalistics Division.
- b) A Death Investigation Division utilizing the medical examiner system.
- c) An adequate Toxicology Division.
- d) A strong capability for training and professional development of departmental employees.
- e) A strong capability for training law enforcement officers to deal with crime scenes, physical evidence, drugs, including alcohol, and other matters on which forensic scientists possess expertise.
- f) An adequate staff and proper organization for a comprehensive quality control program.
- g) A capability for a moderate research and development program.

h) An adequate collection system for all condemned firearms and tools by the department. Such firearms and tools to be destroyed upon termination of need by the State and the department.

i) The entire department to remain law enforcement oriented but not subject to day-to-day control by any other agency of State government and to prepare its own budget for presentation to the Governor and the legislature.

2. The State of Alabama complete, with the assistance of the Alabama Law Enforcement Planning Agency, a crime laboratory delivery system consisting of five regional laboratories located in Huntsville, Birmingham, Montgomery, Mobile, and Auburn, and five satellite or criminalistics laboratories located at Florence, Tuscaloosa, Jacksonville, Selma, and Enterprise.

3. Continue to concentrate expansion programs in the areas of criminalistics and death investigation. Particular emphasis to be placed on immediately expanding criminalistics services in the Birmingham regional laboratory.

4. Utilize every possible technique to reduce turnaround time on cases received from law enforcement officers to seven (7) working days for most cases.

5. Locate the headquarters of the Department of Forensic Science, with the exception of the chief medical examiner, at the present headquarters facility in Auburn. The staff at Auburn to consist

of the director, deputy director, chief criminalist, chief toxicologist, law enforcement training officer, and fiscal officer.

6. Locate the chief medical examiner in Birmingham in order to coordinate some activities of the Death Investigation Division with the University of Alabama Medical School.

7. The regional laboratories to provide criminalistics support, including drug identification, death investigation through autopsy, and toxicologic support to law enforcement.

8. The satellite laboratories to provide only criminalistics support, including drug identification, to law enforcement.

9. Continue to utilize criminalists and not firearms examiners for firearms and toolmark comparisons.

10. Initially provide extensive serological analyses only at the headquarters laboratory. Later develop this capability in the Birmingham regional laboratory if funds, personnel, and facilities are available. Each laboratory should be capable of analyzing dried bloodstains through the ABO grouping.

11. Continue to utilize criminalists and crime laboratory technicians (II) training in criminalistics to evaluate all physical evidence, including trace evidence received from law enforcement.

12. Maintain criminalists who are capable of comparing fingerprints, but the Department of Public Safety should continue to maintain all master files of known prints in the State of Alabama. These two agencies continue to coordinate closely on fingerprint comparisons for local law enforcement.

13. Immediately employ one handwriting and document expert.

14. Continue to provide in every laboratory adequate photographic capability for the development and printing of black and white film and the processing of color slides. Provide color photography capability at one laboratory and consider employment of a qualified photographer to handle all color processing for the agency.

15. Encourage law enforcement officials to mail drug evidence with adequate information on history or analyses indicated to the nearest laboratory.

16. Do not purchase or recommend purchase of mobile crime laboratories.

17. Develop, in conjunction with the Alabama Law Enforcement Planning Agency, a list of model equipment for a crime scene vehicle for use by local agencies.

18. Assist in the investigation of crime scenes associated with very serious crimes or where the nature of the evidence is complicated and indicates the need for scientific evaluation. Encourage local officers to process crime scenes, particularly when such officers have received adequate training.

19. Develop and implement a crime scene officer school of approximately 80 hours, which should be conducted throughout the State under the direction of the law enforcement training officer on the headquarters staff. In the course of the school, instruct local officers on the proper procedures and techniques used to recognize, document, and secure physical evidence. Also, train the officers in the use of the common equipment purchased statewide for crime scene vehicles.

20. Develop and implement a seminar of approximately three (3) days directed toward supervisors of law enforcement officers on the proper utilization and capabilities of the crime laboratory system.

21. Continue to devote time, whenever possible, to other forms of law enforcement training in the State, such as regional police academies, special night courses, and law enforcement extension courses of Auburn University, the University of Alabama, and other universities throughout the State.

22. Continue to assist in the training of guards at State correctional institutions on the effects and identification of drugs and other dangerous compounds.

23. Continue to formalize and expand on-the-job training programs for new employees and the professional development program for all employees. These programs to be directed by the professional chief of each division and all programs to be directed by the professional chief of each division and all programs to be coordinated by the deputy director.

24. Initiate a rigorous quality control program and an expanded research and development

program under the direction of the deputy director and the professional chief of each division.

25. The deputy director and the professional chief of each division are to bear primary responsibility for the development of adequate reference sample collections for each laboratory in the State as appropriate.

26. The Toxicology Division to provide toxicologic analyses and assistance to other departmental divisions and to law enforcement. All requests for toxicologic assistance from hospitals, private physicians, private veterinarians, and the Auburn University School of Veterinary Medicine should be refused or coordinated through the director in a case of vital interest to the State.

27. Continue to investigate the possibility of a screening program of inmate and parolee urine samples for drugs of abuse.

28. Expand the Death Investigation Division by hiring competent forensic pathologists to perform the postmortem examinations.

29. Employ, train, and equip medical examiner investigators to conduct and upgrade the field investigation of deaths of interest to law en-

forcement and the public. These personnel would replace the coroners presently elected within the State of Alabama by each county with a few exceptions.

30. Develop morgue facilities at the Huntsville, Birmingham, Mobile and Montgomery laboratories for the performance of postmortem examinations.

31. Simplify its record system to shorten required personnel time in the recording of each case.

32. The simplified record system to provide adequate data for the proper evaluation of the department's effect on crime within the State of Alabama.

33. The department's record system should provide sufficient managerial data to identify problem areas to the director and his staff, and to indicate trends, future needs, and priorities of the crime laboratory system.

34. Simplify the monthly report of the crime laboratory system to include only useful statistical data and those items of immediate value to other laboratories or other agencies of the criminal justice system within the State.

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Appendix A.

Job Specifications, Descriptions, and Qualifications

CLERK TYPIST II

Definition

This is typing and clerical work which usually involves varied and moderately complex work methods and problems.

Employees in this class perform a variety of moderately complex typing and clerical duties. Work normally involves the application of initiative and independent judgment to procedural questions which are encountered, although decisions made are limited by established precedents and departmental policies. The variety and difficulty of the work differs among positions, but where work is more repetitive, there is an added responsibility for finality of action taken. Supervision may be exercised over a small group of employees assisting on more routine details. Until the more difficult phases of work are learned, the employee works under moderately close supervision, but thereafter, detailed instructions are received only when changes in procedure are made.

Examples of Work Performed

Sets up and types from copy, rough drafts, or general instructions, a variety of accounting and financial statements, letters, payrolls, medical records, briefs, vouchers, departmental reports, or other materials frequently requiring independent action of judgment on problems encountered.

Composes and types form letters and other routine correspondence and prepares rough drafts

and tabulations.

Maintains less complex accounting, financial, and cost records where no technical knowledge is required.

Plans, assigns, and supervises a small clerical staff performing routine clerical work.

Checks computations for accuracy and makes moderately complex or varied calculations, adjustments, and tabulations.

Performs difficult coding of filing material and maintains a complex filing system.

Prepares requisitions and specifications from files and catalogues.

Interviews the public and employees of other departments on matters requiring the interpretation of departmental policies and regulations.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Working knowledge of business English, spelling, and arithmetic.

Working knowledge of office practices and procedures.

Skill in typing rapidly and accurately.

Ability to maintain departmental clerical records and to prepare reports from such records.

Ability to make minor decisions in accordance with laws and regulations and to apply these to work problems.

Ability to understand and follow moderately complex oral and written instructions.

Ability to make arithmetic computations and tabulations accurately and with reasonable speed.

Ability to assign, supervise, and review the work of other clerical employees.

Ability to establish and maintain effective working relationships with other employees and the public.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a standard senior high school, including or supplemented by courses in business practice and typing.

Experience in typing and clerical work.

Approved: March 1, 1952

Reviewed & reprinted: June, 1971

CLERK STENOGRAPHER I

Definition

This is routine stenographic and clerical work in taking and transcribing dictation and in related general office duties.

Employees in this class take routine dictation and transcribe notes in typed form, although the amount of time spent on this work varies considerably among positions allocated to this class. Employees usually perform additional office work which follows prescribed or well established procedures that can be learned within a reasonable time by training on the job. Detailed instructions are given by a supervisor at the beginning of work and on subsequent new assignments; however, after employees become familiar with procedures, they work with some independence. Work is normally reviewed or verified upon completion by a supervisor.

Examples of Work Performed

Takes and transcribes dictation given at a normal speaking rate.

Cuts stencils; types correspondence, articles, reports, forms, tabulations, bulletins, manuals, and other documents from copy or rough drafts; proofreads typed materials for accuracy.

Performs simple clerical work such as posting to routine records, keeping attendance and personnel records, and computing and compiling payroll data.

Assists the supervisor in special studies and analyses by performing routine clerical work.

Contacts persons in the department or in other agencies to collect or give information of a routine nature.

Prepares outgoing correspondence from fairly complete and well organized rough notes or verbal instructions.

Maintains files of reports, records, corres-

pondence, and other materials according to established classifications; maintains manuals, books of procedures and bulletins.

Operates a small switchboard which involves receiving telephone calls and acting as a receptionist; screening and referring phone calls and visitors; giving and obtaining routine and non-technical information; opens, sorts, and distributes mail.

Operates general office equipment such as a typewriter, adding machine, mimeograph, duplicator, and calculator.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Some knowledge of business English, spelling, punctuation, and arithmetic.

Some knowledge of office practices, procedures and equipment.

Skill in the taking and transcription of oral and machine dictation and in the operation of a typewriter.

Ability to make arithmetical computations and tabulations accurately with reasonable speed.

Ability to understand and follow oral and written instructions.

Ability to learn assigned clerical tasks readily and to adhere to prescribed routines.

Ability to establish and maintain effective working relationships with other employees and the public.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a standard senior high school, including or supplemented by courses in stenography, typing, and business practices.

Approved: March 1, 1952

Revised: June, 1971

CLERK STENOGRAPHER II

Definition

This is difficult and varied clerical or secretarial work which includes taking and transcribing dictation.

Employees in this class perform clerical and secretarial work which is differentiated from the class of Clerk Stenographer I by the greater difficulty or importance of assignment to be carried out and the greater independence of work action; however, decisions made by employees are limited by established precedents and departmental policies. The variety and difficulty of the work may differ among positions, but where work is more repetitive, there is an added responsibility for finality of action. Supervision may be exercised over a few employees assisting on more routine details. Until the more difficult phases of the work are learned, the employee works under close supervision, but thereafter detailed instructions are received only when changes in procedures are made.

Examples of Work Performed

Takes and transcribes dictation of correspondence, articles, reports, or other material, usually requiring considerable knowledge of technical terminology; takes shorthand notes of proceedings, conferences, and statements, and transcribes them for the supervisor's review.

Reads incoming mail and controls its distribution.

Independently collects information for the purpose of drafting replies to routine requests for information, or, from own knowledge, answers such requests, giving the request and reply to the supervisor for his review and signature; reviews mail prepared for supervisor's signature, noting format, grammar, and completeness of files; brings discrepancies to the supervisor's attention.

Assists the supervisor in the planning and analysis of special studies of limited nature and scope, and compiles and types reports, tabulations, and summaries, frequently checking against a variety of records in order to secure complete and accurate information.

Screens telephone calls and visitors, handling recurring but not necessarily routine matters, and referring, through proper channels, those which

cannot be handled; assists visitors in filling out forms and applications; gives information on departmental services and functions; arranges appointments.

Supervises a small group of subordinate clerical personnel by determining and delegating work assignments and checking work upon completion; maintains office records and files.

Transmits assignments requiring little interpretation from the supervisor to his staff; contacts representatives of other departments to collect or give information on other than routine matters.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Working knowledge of business English, spelling, punctuation, and arithmetic.

Working knowledge of office practices, procedures and equipment.

Skill in typing and the taking and transcription of dictation.

Ability to maintain departmental clerical records and to prepare reports from such records.

Ability to make arithmetic computations and tabulations with speed and accuracy.

Ability to understand and follow moderately complex oral and written instructions.

Ability to compose routine letters and memoranda without dictation.

Ability to assign, supervise, and review the work of clerical subordinates.

Ability to make minor decisions in accordance with the laws and regulations and to apply these to work problems.

Ability to establish and maintain effective working relationships with other employees and the public.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a standard senior high school including or supplemented by courses in stenography, typing, and business practices.

Experience in stenographic and clerical work.

Approved: March 1, 1952

Reviewed & reprinted: June, 1971

CLERK STENOGRAPHER III

Definition

This is supervisory secretarial and clerical work or independent clerical work of comparable responsibility, involving related typing and stenography.

Employees in this class usually are assigned a variety of clerical tasks requiring independent judgment and action, including the making of frequent decisions in accordance with departmental policies and practices. Primary emphasis is placed upon relieving an administrative superior of operational details such as the conduct of considerable correspondence, although work may involve taking dictation only occasionally. Employees may supervise clerical assistants engaged in more routine office details. Employees of this class frequently develop and refine their own work routine and are expected to carry assignments through to completion with only unusually important or complicated tasks reviewed in detail. Directions are received in the form of suggestions or general outline with detailed instruction only upon occasions of unprecedented situations.

Examples of Work Performed

Takes and transcribes dictation; reads incoming mail, routes that not requiring the supervisor's attention to proper officials or composes non-routine replies independently.

Approves and signs requisitions, vouchers, and other documents for the supervisor.

Supervises a medium size clerical staff performing stenographic duties, keeping varied clerical records, preparing varied reports relating to department or division operation, and indexing and filing office records.

Prepares board or commission meeting agenda, attends meetings, keeps records, and prepares draft of minutes for administrative review; plans itineraries of field representatives; coordinates flow of correspondence and other material to field representatives.

Checks expense accounts, keeps a small set of department fiscal records; arranges for transportation or accommodations for staff.

Prepares complex clerical records and reports from a variety of material.

Interviews callers and prospective employees, answering questions, making and cancelling ap-

pointments for a superior, and processing confidential matters.

Gathers source materials from a wide variety of material for articles or speeches, and assists supervisor; proofreads and signs outgoing letters of a routine nature.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Considerable knowledge of business English, spelling, punctuation, and arithmetic.

Considerable knowledge of office practices, procedures, and equipment.

Working knowledge of departmental rules, regulations, procedures, and functions and ability to apply these to work problems.

Some knowledge of the principles of office management and supervision and ability to apply this knowledge to work problems.

Skill in taking and transcribing dictation and in typing from rough draft or plain copy at a working rate of speed.

Ability to work independently on difficult or complex clerical tasks.

Ability to keep complex clerical records and to prepare accurate reports from varied statistical or accounting information.

Ability to compose correspondence and to deal with routine supervisory matters, such as assigning and reviewing work of others without recourse to a supervisor.

Ability to orient and train other clerical employees and to interpret departmental policies and procedures to them.

Ability to deal with the public in a pleasant but effective manner, and to maintain effective working relationships with other employees.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a standard senior high school including or supplemented by courses in stenography, typing, and business practices.

Considerable responsible experience in clerical and stenographic work.

Approved: March 1, 1952

Reviewed & reprinted: June, 1971

CLERK STENOGRAPHER IV

Definition

This is secretarial work of an administrative nature involving responsibility for facilitating general department management details for a major administrative officer.

Employees in this class serve as personal secretaries to heads of large state departments or independent agencies responsible for major central administrative functions of the state and act as intermediaries for the supervisor with important delegated administrative detail duties. Employees must use independent judgment in determinations on varied problems which do not involve major deviation from established policy or procedure. Employees usually act with authority on office management functions in the absence of the superior. Responsibility for the conduct of varied public contacts is also an important element of work. Work instructions and the evaluation of work results are conducted through discussions with the supervisor.

Examples of Work Performed

Sorts and allocates all mail delivered to the general office of the department to the proper divisions; answers correspondence which is not sent on to particular sections or units and does not require attention of the superior.

Takes and transcribes dictation as secretary to the head of a department; prepares and signs the supervisor's name to correspondence, interoffice forms, requisitions and similar papers; assigns and reviews work of a small clerical or stenographic staff.

Attends board or commission meetings; records official action and significant parts of discussion and prepares draft of minutes for review by administrator; performs miscellaneous secretarial tasks for commissioners or board members.

Transmits orders to department personnel, orients employees as to departmental policies and procedures; confers with employees to solve problems relating to coordination of work, personnel, and other matters in order to relieve the administrator of as much detail as possible.

Keeps personnel, financial, statistical, and other important records, and develops office forms and

procedures; assists the superior in making decisions on personnel problems.

Coordinates departmental clerical services by temporarily assigning personnel to special tasks and by recruiting temporary assistants.

Maintains frequent contacts for the administrator with public and private executives, professional persons, and other officials.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Thorough knowledge of departmental rules, regulations, procedures, and functions.

Thorough knowledge of business English, spelling, and arithmetic.

Thorough knowledge of modern office practices, procedures, and equipment.

Skill in taking and transcribing dictation and in typing from rough draft or plain copy at a working rate of speed.

Ability to orient and train other employees and to interpret departmental policies and procedures to them.

Ability to compose a variety of memoranda or letters with only general instructions.

Ability to understand and follow complex written or oral instructions.

Ability to assign and supervise the activities of clerical subordinates.

Ability to receive, screen, or admit and give varied information to callers, many of whom are important in professional, public, or community groups.

Ability to establish and maintain effective working relationships with other employees and the public.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a standard senior high school including or supplemented by courses in stenography, typing, and business practices.

Considerable progressively responsible clerical and secretarial experience, including responsible supervisory or managerial experience.

Revised: April 6, 1967

Reviewed & reprinted: June, 1971

STATISTICIAN III

Definition

This is advanced technical and supervisory work in gathering, analyzing, and reporting of statistical data.

Employees in this class are responsible for the effective direction of the activities of a branch office of metropolitan size or a unit within the central office engaged in the preparation of statistical data applied to the planning and implementation of programs of both public and private agencies. Work involves the application of complex statistical methods and procedures in the handling of both research and routine assignments. Employees supervise technical and clerical assistants engaged in the preparation of data and also render technical advice to public and private agencies regarding matters pertaining to the compiling, interpreting, reporting, and record keeping of data. Detailed oral and written instructions are received with respect to unfamiliar and special problems, but employees are normally expected to exercise professional judgment in working out methods and details for most assignments. Completed reports, applied techniques, and project plans are reviewed by associates and superiors.

Examples of Work Performed

Plans and supervises the work of technical and clerical assistants engaged in compiling, analyzing, editing, and reporting periodically collected statistical data; reviews and revises methods, tabulations, reports and evaluations of assistants.

Controls procedures and methodology of field or county personnel engaged in the preparation of statistical data; interprets both federal and state instructions and regulations; prescribes in detail methods and forms to be used in collecting, recording, and reporting data; trains and instructs field and county personnel in statistical duties; reviews and supervises others in the review and correcting of reports and summaries of field and county personnel.

Performs special research in connection with complex statistical problems; determines types, sources, and methods of obtaining data requested; designs questionnaires and determines distributions; contacts public agency and private business sources as needed; corrects, adjusts, and interpolates statistical summaries in accordance

with accepted formulae; prepares punch card layouts and tabulation forms; evaluates reports, and prepares recommendations on findings.

Advises outside public and private agencies regarding required or accepted methodology involved in compiling, interpreting, reporting and record keeping of statistical data and also regarding the substance and significance of the results of particular statistical studies.

Prepares professional papers and periodic reports for publication on both recurring statistical analyses as well as special research.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Thorough knowledge of mathematical and statistical methods and a working knowledge of the more complicated methods and formulae.

Thorough knowledge of research techniques and of the sources and availability of information in the assigned field.

Thorough knowledge of the media and use of graphic presentation.

Considerable knowledge of departmental administrative routines and procedures.

Considerable knowledge of machines and equipment useful in performing statistical operations.

Ability to supervise a small staff of employees in clerical and statistical activities.

Ability to collect, compile, and analyze complex statistical data and to present conclusions derived therefrom with clarity and precision in written and graphic form.

Ability to establish and maintain effective working relationships with other employees, outside agencies, and the public.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a four year college or university with major course work in the social sciences and including courses in statistics and mathematics.

Considerable responsible experience in the analysis and presentation of statistical data with at least one year of supervisory experience.

Revised: April 3, 1958

CRIME LABORATORY TECHNICIAN I

Definition

This is sub-professional forensic laboratory and field work assisting in the preparation of evidence.

Employees in this class are responsible for assisting criminalists and crime laboratory analysts in crime scene work, in taking and seating evidence, in preparing evidence in the laboratory, and in performing photographing and other laboratory work. Work in this class is designed for training and encouragement in criminalistics for mature college students who desire to enter the field of forensic science as a profession. Employees work under direct supervision with a professional superior maintaining the chain of evidence and providing the necessary legal training.

Examples of Work Performed

Accompanies criminalists or other superiors in the field at crime scenes, automobile search and examination, etc.

Assists in laboratory work by test firing weapons, collecting and labeling the resulting products.

Prepares and makes preliminary microscopic review of clothing, weapons, etc., reviews microscopic items for further detailed study.

Makes special latent fingerprint search on evidence as instructed.

Assists in making detailed search of vehicles for stains, erased numbers, fingerprints, and loose

micro-evidence.

Prepares specimens for spectrographic analysis according to instructions.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Some knowledge of the principles and practices of general science.

Skill in the use and application of the microscope and in working with limited specimens.

Skill in the use of fragile glass and instrumental equipment.

Ability and personal integrity to work with or around dangerous drugs.

Ability to describe items of evidence and prepare accurate records thereof, including procedures followed.

Ability to establish and maintain effective working relationships with others.

Ability to receive and follow instructions, both orally and written.

Qualifications

Graduation from a standard senior high school supplemented by completion of or enrollment in college level courses in chemistry, biochemistry, pharmacy, or related subjects, including evidence of a good academic college record.

Approved: November 5, 1970

CRIME LABORATORY TECHNICIAN II

Definition

This is responsible technical work in forensic science relating to the handling and processing of physical evidence related to criminal investigation.

An employee in this class makes preliminary examination of clothing, bedding materials, weapons, automobiles, etc. for stains, fibers, and various other materials in the preliminary steps of search and identity of evidence. Work involves describing the materials received and handled in order to make necessary detailed records and to observe the legal requirements in processing such evidence. Such employee also serves as assistant to other technical laboratory personnel in preparing materials of evidential nature for final, decisive examinations and analyses, and performing tests and procedures specified by superiors. Work is performed under the general supervision and planning of superior crime laboratory personnel.

Examples of Work Performed

Receives physical evidence in accord with instructions of toxicologists, criminalists or other ranking staff members; tabulates and describes each item for the case record; removes and secures foreign materials for further specialized processing as instructed.

Acts as assistant to professional and technical superiors in packaging, storing, and securing upon direction a great variety of physical evidence related to criminal acts.

Cooperates in preparation and firing of tests using firearms weapons under investigation; similarly prepares tests with burglarly tools and related evidence, and makes microscopic comparisons.

Assists with the systematic search of suspect automobiles for evidence by detailed examination and dismantling of parts, making number res-

tations, etc.

Makes detailed search for drug residues in clothing, etc. and removes and secures such evidence, under supervision, making further analyses; sorts, prepares, and describes for record miscellaneous drugs and narcotics; makes preliminary identification of these by correlating descriptive specifications; processes under supervision through further analytical procedures.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Working knowledge of principles and practices of chemistry, physics, and biology, and ability to apply these to problems in evidence.

Working knowledge of use and application of basic rules of evidence.

Ability to closely observe, and to use the microscope for identifying and collecting micro-evi-

dence through application of the above principles.

Ability to work with others in the investigation and processing of evidence in criminal cases.

Ability to desire to continuously learn new techniques in order to stay abreast of his area in the rapidly growing field of forensic science.

Qualifications

Graduation from a four-year college or university with major course work in chemistry, pharmacy, or related field.

Necessary Special Requirements

Good character, integrity, and personal habits consistent with security requirements of crime laboratory.

Revised: 8-3-72

CRIMINALIST I

Definition

This is responsible professional work in microscopic analysis and comparison of physical evidence as it relates to scientific criminal investigation.

Employees in this class perform a wide variety of microscopic, physical and some chemical identification and comparison of trace evidence on firearms, burglary tools, weapons, clothing, automobiles, buildings, etc. Work involves both laboratory and travel to crime scene to collect the evidence deemed necessary for testing. Work involves the supervision of professional and clerical assistants. Assignments are usually received with limited instructions in the case of routine work; however, detailed instructions may accompany unusual problems. Finished work and reports are checked upon completion by a superior.

Examples of Work Performed

Inspects crime scene for evidence falling within his scientific specialty along with other investigators; collects items and materials for laboratory inspection.

Makes decisions as to what tests are to be applied to specific items of evidence, and performs or supervises others in performing these tests; checks results, and makes proper photographic record of these findings.

Performs chemical and instrumental procedures to identify dosage from drugs.

Tests and fires weapons in evidence for identity and function; identifies burglary tools and connects these by proper physical and chemical tests to burglary scene or to suspects; makes microscopic preparation and study of textile fibers, hair, soil, dust, etc., related to crimes; selects, examines, tests and photographs materials used as evidence in automobile death cases.

Performs special and non-routine physical and chemical tests to determine identity of stains, dusts, soil, fibers, etc.

Designs and prepares photographic exhibits of laboratory or other findings, prepares his findings and materials for proper court presentation at criminal trial wherever required.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Considerable knowledge of principles and practices of scientific-legal work.

Considerable knowledge of principles of physics and chemistry.

Considerable knowledge of principles, and application of microscope and other optical instruments in field of specialty.

Considerable knowledge of principles of photography, including the ability and talent to produce good color transparencies.

Demonstrated skill in handling and preserving trace evidence in specialized field of assignment.

Ability to do original research work and devise new procedures for identification and comparison.

Ability to supervise work of subordinates in criminalistic work.

Ability to present scientific information in clear, understandable manner to lay persons and legal personnel.

Ability to understand and follow complex written and oral instructions.

CRIMINALIST II

Definition

This is highly responsible technical and professional supervisory work in the area of criminalistics in a crime laboratory.

Employees in this class are responsible for planning and supervising the work of other employees doing criminalistic procedures on many kinds of physical evidence related to crimes. Duties involve supervision of technical and professional personnel doing forensic work in a specialized area of crime laboratory activity. Certain evidence materials are received or obtained by personal crime scene search, and assignments are made to employees who perform analytical studies somewhat independently according to established policies. Work also involves responsibility for planning the processing procedures for evidence in each case in his scientific area, and in checking results obtained for accuracy and interpretation. Employees supervise those graduate college students doing their thesis problems with the laboratory in the area of criminalistics. Duties are performed with considerable independence under departmental policy.

Examples of Work Performed

Plans, organizes and develops procedures into a working program for the criminalistics division of a crime laboratory.

Supervises and performs various identification, comparative, and analytical procedures covering drug dosage forms, blood and seminal stains, tool marks, firearms, hairs, fibers, paints, soil residues, etc. presented by various items of physical evidence related to crimes.

Advises employees and directs development of laboratory procedures for identification of unusual unknown marks, paint residues, stains, etc.

Coordinates criminalist responsibilities and activity of the crime laboratory with law enforcement

Qualifications

Graduation from a four-year college or university with major course work in chemistry or a related field, preferable with some graduate work in this field.

Experience in criminalistics or related fields of scientific criminal investigation desirable.

Revised: 8-3-72

agencies and investigators. This duty may involve activity at the crime scene as well as laboratory investigation.

Reviews and approves reports of other employees under his direction.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Thorough knowledge of the principles and practices of chemistry and the biological sciences.

Thorough knowledge of microscopic techniques as applied to identifications and comparisons of a wide variety of substances and objects constituting physical evidence in criminal cases.

Considerable knowledge and skill in applying specialized instrumental analysis to the identification of drugs, paint residues, fibers, plastics, tool marks, stains, etc.

Working knowledge of mathematics, chemistry, physics, criminal investigation and legal principles.

Ability to coordinate criminalistics services and maintain effective working relations with other functions of the same or other division of the crime laboratory, other officers, and law enforcement agencies. This also includes the giving of lectures to officers in law enforcement schools.

Ability to testify as an expert witness and to explain scientific and applicable legal matters in understandable manner.

Ability to supervise and direct a division or regional laboratory supplying scientific services in criminalistics, and to coordinate these activities with the parent crime laboratory, the courts, and the public.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a four-year college or university with major course work in chemistry or a

related field, preferably supplemented by one or more courses in law.

Considerable progressively responsible ex-

perience in scientific criminal investigative work in criminalistics, or forensic science.

Approved: November 5, 1970

TOXICOLOGIST I

Definition

This is beginning professional work in conducting investigations into the causes of deaths and examinations of physical evidence in criminal cases.

Employees of this class provide technical assistance to a professional superior in handling the activities of a branch office covering a major section of the state. Employees handle less complex and less responsible field assignments and perform unassisted a wide variety of routine laboratory assignments. Frequent instructions are received as to the work to be performed and as to how it shall be performed in the case of unfamiliar types of assignments. Work is checked by a professional superior occasionally during its progress and thoroughly upon its completion.

Examples of Work Performed

Assists in performing certain forensic post-mortem examinations and toxicologic analyses of organs and tissues of bodies to determine cause of death in cases of violence, poisoning, or suspicious circumstances. Performs and directs others in the toxicologic analyses of bodies, materials, and foods for poisons and various drugs.

Makes analytical determinations to chemically identify various dosage form drugs and characterizes their nature, source, relationships, and legal significance.

Prepares evidence for court presentation. Serves as expert witness in court.

Prepares or assists in the preparation of detailed reports of findings.

Definition

This is responsible professional work in conducting toxicologic investigations into the cause of death, examinations of related physical evidence, and the identification of drugs.

Employees of this class direct the activities of a regional office and laboratory covering a major sec-

tion of the state. Employees are responsible for conducting the scientific processing of physical evidence related to deaths and crimes as may be requested by law enforcement agencies, district attorneys, and the medical profession. Work involves the supervision and direction of technical and clerical personnel. Duties are performed independently according to departmental policy

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Required Knowledges, Skills, and Abilities

Thorough knowledge of the chemical content of drugs and poisons and their toxic effects on human beings and animals.

Thorough knowledge of state and municipal laws as related to deaths and forensic investigations.

Considerable knowledge and skill in performing toxicologic and other chemical analyses, including the application of specialized instrumentation procedures.

Knowledge of technical principles and practices applied in determining causes of death, in collecting and processing physical evidence, and in prosecuting criminal cases.

Ability to testify as an expert witness, and to explain scientific and applicable legal matters in an understandable manner.

Qualifications:

Graduation from a four-year college or university with major course work in chemistry or a closely related field. Graduate courses in chemistry or related fields are desirable. Courses in law are desirable.

Considerable experience in toxicologic and scientific criminal investigation.

Revised: 8-3-72

TOXICOLOGIST II

tion of the state. Employees are responsible for conducting the scientific processing of physical evidence related to deaths and crimes as may be requested by law enforcement agencies, district attorneys, and the medical profession. Work involves the supervision and direction of technical and clerical personnel. Duties are performed independently according to departmental policy

and employee makes his own formal reports of findings, which are reviewed by a professional superior.

Examples of Work Performed

Conducts forensic postmortem examinations and laboratory analyses of human tissues and organs to determine cause of death or intoxications in cases of violence, poisoning, or suspicious circumstances. Performs and directs others in the toxicologic analyses of body materials and foods for poisons and various drugs.

Makes analytical determinations to chemically identify various dosage form drugs and characterizes their nature, source, relationships, and legal significance.

Prepares or supervises others in preparation of evidence for court presentation. Serves as expert witness in court.

Prepares detailed reports of findings.

Advises enforcement officers, district attorneys, and other public officials in regard to the utilization, effectiveness, and legality of various kinds of evidence.

Provides training lectures on forensic topics including drug problems.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Thorough knowledge of technical principles and practices applied in determining causes of death, in collecting and processing physical evidence, and in prosecuting criminal cases.

Definition

This is a semiprofessional forensic laboratory and field work assisting in the delivery of evidence and the delivery, autopsy, and return of cadavers.

Employees in this class are responsible for assisting pathologists and other staff members in the taking and sealing of evidence, in receiving and transporting cadavers, assisting during the autopsy, embalming the body, and returning the body to the county of origin. Work involves responsibility for the custodial maintenance of autopsy quarters and is performed in accordance with specific instructions under supervision of a professional superior.

Examples of Work Performed

Receives and properly documents the receipt of evidence from law enforcement authorities.

Thorough knowledge of the chemical content of drugs and poisons and their toxic effects on human beings and animals.

Thorough knowledge of state and municipal laws as related to deaths and forensic investigations.

Considerable knowledge and skill in performing toxicologic and other chemical analyses, including the application of specialized instrumentation procedures.

Ability to supervise and direct a division or regional laboratory supplying scientific services in its various facets, and to coordinate these activities with the parent crime laboratory, the courts, and the public.

Ability to testify as an expert witness, and to explain scientific and applicable legal matters in understandable manner.

Qualifications

Graduation from a four-year college or university major course work in chemistry or a closely related field, preferably supplemented by graduate academic courses with some courses in law.

Considerable progressively responsible experience in toxicology or a closely related field including responsible criminal investigative experience in toxicology, drugs, or related area of forensic science is deemed a basic requirement for this position.

Revised: 8-3-72

MORTICIAN

Receives and properly documents the receipt of cadavers.

Transports the bodies from county of origin to a laboratory morgue.

Maintains chain of custody on physical evidence and cadavers from receipt until personally delivered to the designated receiving member of this Department.

Assists in the performance of the autopsy.

Embalms the body and prepares it for transport.

Transports the body back to the county of origin and properly receipts its return in writing.

Maintains the hearse and the morgue in a proper state of order and sanitation.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Knowledge of legal requirements on transfer

and custody of physical evidence and cadavers.

Ability to describe items of evidence and prepare accurate and legally valid records thereof.

Ability to establish and maintain effective working relationships with others.

Ability to testify in a court of law and in a competent manner explain the receipt and transportation of the physical evidence and cadavers.

PATHOLOGIST

Definition

This is specialized professional medical work in the study of human tissues removed at autopsies for the purpose of establishing the cause and nature of death.

The employee in this class performs highly technical and complex pathological work in making diagnoses from human organs and tissues removed at autopsies. Work involves consultation with toxicologists, criminalists, physicians, and law enforcement officers in establishing evidence of a medical nature and in furnishing expert medical assistance in the investigation of deaths and crimes within the State of Alabama. Assignments are carried out independently or in consultation with other experts and findings are subject to review through reports submitted to the Director of the State Crime Laboratories.

Examples of Work Performed

Examines human bodies and the organs and tissues removed at autopsy for evidence of disease and trauma, poisoning or drug overdose, its nature, duration, and the relationship of each to the cause of death.

Removes any portion of the body or any item of evidence found on or in the body for examinations, analyses, and comparisons at the laboratory.

Selects and prepares specimens from human organs through successive processing and makes detailed microscopic examinations of prepared tissues under a microscope.

Prepares reports of pathology or trauma, its origin, course, development, relation to other bodily functions, and its relationship to the death of subject; consolidates reports of findings and comprehensive interpretations and submits them to the Director of the State Crime Laboratories.

Consults toxicologists, criminalists, physicians,

Qualifications

Graduation from a standard senior high school.

Necessary Special Requirements

Licensed embalmer by the State of Alabama.

Valid Alabama drivers license and excellent driving record.

Approved: 10-6-72

and law enforcement agents in establishing evidence to answer legal and factual questions arising in criminal cases.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Extensive knowledge of pathological anatomy and clinical pathology.

Extensive knowledge of medical laboratory techniques and the use of general laboratory equipment.

Extensive knowledge of the legal requirements on the control and custody of evidence involved in a criminal case.

Considerable knowledge of state and local laws relating to postmortem examinations and criminal investigations.

Skill in solving complex problems arising in the performance of autopsies and pathological studies in the laboratory.

Considerable ability to evaluate the relationships of pathology or trauma to other evidence of crime.

Ability to work harmoniously and effectively with professional and technical personnel in the criminal justice system and ability to testify as an expert witness.

Ability to express ideas clearly and concisely, orally and in writing.

Qualifications

Any combination of training and experience equivalent to:

Graduation from a recognized school of medicine supplemented by graduate work in pathology and Board certification in pathology.

Considerable responsible experience in the field of pathological anatomy and clinical pathology.

Approved: September, 1971

CUSTODIAL WORKER

Definition

This is manual work involving the custodial care of public buildings and premises.

Employees in this class perform cleaning and minor maintenance work in state buildings and stores. Primary responsibility is for the use of proper methods and materials in cleaning and otherwise caring for buildings and equipment. A number of positions in this class involve the performance of heavy but unskilled porter work in retail stores operated by the Alcoholic Beverage Control Board. Employees work under close supervision or work follows a well established routine.

Examples of Work Performed

Scrubs, mops, waxes and polishes floors, and dusts and polishes furniture; washes windows, woodwork, toilets, washrooms and fixtures.

Replaces burned out light bulbs; assists in making simple repairs to buildings and equipment.

Performs a variety of unskilled tasks as a porter at a liquor store in unloading and unpacking liquor shipments, placing stock on shelves and disposing

of used shipping cartons.

Sweeps and cleans walks, mows lawns, rakes leaves, and generally assists in keeping outside premises in an orderly condition.

Acts as relief operator on passenger or freight elevator.

Performs related work as required.

Required Knowledges, Skills, and Abilities

Some knowledge of materials, methods and equipment used in janitorial work.

Ability to understand and follow simple oral and written instructions.

Ability to make minor repairs and adjustments to cleaning equipment.

Sufficient physical strength to perform a variety of routine manual tasks in the care, cleaning and limited maintenance of buildings and equipment.

Qualifications

Any combination of training and experience equivalent to:

Completion of the sixth school grade.

Some experience in related work.

Appendix B.

Five Year Projection of Personnel

Tables presented in this appendix reflect the personnel requirements for a Department of Forensic Science providing all services proposed in Chapter VIII. In fiscal year 1973-74 the State Department of Forensic Science will have to expand the total number of laboratory and office employees to 73½, which represents an increase of 17½ over the current staff of the State Department of Toxicology and Criminal Investigation. The new Department of Forensic Science will also require 32 medical examiner investigators for field investigation of deaths and an additional 7½ mortician/drivers to handle and transport dead bodies.

**PERSONNEL
1973-74 FISCAL YEAR**

Title	Average	No. of	Cost by
	Salary	Salary	Category
	Employees	Employees	
Director			Paid out of other funds
Deputy Director			Paid out of other funds
Chief Medical Examiner	\$35,000	1	\$ 35,000
Chief Criminalist	19,000	1	19,000
Chief Toxicologist	19,000	1	19,000
Law Enforcement Training Officer	15,500	1	15,500
Fiscal Officer	14,000	1	14,000
Deputy Assistant to Chief Medical Examiner (P)*	30,000	5	150,000
Deputy Assistant to Chief Medical Examiner (F.T.)**	18,000	5	90,000
Criminalist II	13,300	6	79,800
Criminalist I	11,200	9	100,800
Crime Lab. Tech II (Crim)	9,300	5	46,500
Toxicologist II	13,300	1	13,300
Toxicologist I	11,200	6	67,200
Crime Laboratory Tech II (Tox)	9,300	4	37,200
Doc. Examiner II	13,300	1	13,300
Doc. Examiner I	11,200	0	0
Serologist II	13,300	0	0
Serologist I	11,200	1	11,200
Medical Examiner Investigator I	8,000	31	248,000
Medical Examiner Investigator II	12,000	1	12,000
Building Custodian	7,500	2	15,000
Mortician (Driver)	6,000	10	60,000
Clerk Steno IV	7,900	1	7,900
Clerk Steno III	6,600	3	19,800
Clerk Steno II	5,700	11	62,700
Clerk Steno I	4,900	4	19,600
Clerk-Typist II	5,200	2	10,400
Totals		113	1,167,200

**PERSONNEL
1974-75 FISCAL YEAR**

Title	Average	No. of	Cost by
	Salary	Salary	Category
	Employees	Employees	
Director			Paid out of other funds
Deputy Director			Paid out of other funds
Chief Medical Examiner	\$35,000	1	\$35,000
Chief Criminalist	19,000	1	19,000
Chief Toxicologist	19,000	1	19,000
Law Enf. Training Officer	15,500	1	15,500
Fiscal Officer	14,000	1	14,000
Deputy Assistant to Chief Medical Examiner (P)*	30,000	6	180,000
Deputy Assistant to Chief Medical Examiner (F.T.)**	18,000	4	72,000
Criminalist II	13,300	9	119,700
Criminalist I	11,200	9	100,800
Crime Lab. Tech II (Crim)	9,300	6	55,800
Toxicologist II	13,300	1	13,300
Toxicologist I	11,200	6	67,200
Crime Laboratory Tech II (Tox)	9,300	4	37,200
Doc. Examiner II	13,300	1	13,300
Doc. Examiner I	11,200	0	0
Serologist II	13,300	0	0
Serologist I	11,200	1	11,200
Medical Examiner Investigator I	8,000	31	248,000
Medical Examiner Investigator II	12,000	1	12,000
Building Custodian	7,500	2	15,000
Mortician (Driver)	6,000	10	60,000
Clerk Steno IV	7,900	1	7,900
Clerk Steno III	6,600	3	19,800
Clerk Steno II	5,700	11	62,700
Clerk Steno I	4,900	4	19,600
Clerk-Typist II	5,200	2	10,400
Totals		117	1,228,400

*Pathologist
**Forensic Toxicologist

**PERSONNEL
1975-76 FISCAL YEAR**

Title	Average Salary	No. of Employees	Cost by Category
Director			Paid out of other funds
Deputy Director			Paid out of other funds
Chief Medical Examiner	\$35,000	1	\$35,000
Chief Criminalist	19,000	1	19,000
Chief Toxicologist	19,000	1	19,000
Law Enforcement Training Officer	15,500	1	15,500
Fiscal Officer	14,000	1	14,000
Deputy Assistant to Chief Medical Examiner (P)*	30,000	9	270,000
Deputy Assistant to Chief Medical Examiner (F.T.)**	18,000	3	54,000
Criminalist II	13,300	10	133,000
Criminalist I	11,200	10	112,000
Crime Lab. Tech II (Crim)	9,300	6	55,800
Toxicologist II	13,300	1	13,300
Toxicologist I	11,200	6	67,200
Crime Laboratory Tech II (Tox)	9,300	5	46,500
Doc. Examiner II	13,300	1	13,300
Doc. Examiner I	11,200	1	11,200
Serologist II	13,300	0	0
Serologist I	11,200	1	11,200
Medical Examiner Investigator I	8,000	31	248,000
Medical Examiner Investigator II	12,000	1	12,000
Building Custodian	7,500	2	15,000
Mortician (Driver)	6,000	10	60,000
Clerk Steno IV	7,900	1	7,900
Clerk Steno III	6,600	3	19,800
Clerk Steno II	5,700	12	68,400
Clerk Steno I	4,900	4	19,600
Clerk-Typist II	5,200	2	10,400
Totals		124	1,351,100

*Pathologist
**Forensic Toxicologist

**PERSONNEL
1976-77 FISCAL YEAR**

Title	Average Salary	No. of Employees	Cost of Category
Director			Paid out of other funds
Deputy Director			Paid out of other funds
Chief Medical Examiner	\$35,000	1	\$35,000
Chief Criminalist	19,000	1	19,000
Chief Toxicologist	19,000	1	19,000
Law Enforcement Training Officer	15,500	1	15,500
Fiscal Officer	14,000	1	14,000
Deputy Assistant to Chief Medical Examiner (P)*	30,000	10½	315,000
Deputy Assistant to Chief Medical Examiner (F.T.)**	18,000	2	36,000
Criminalist II	13,300	10	133,000
Criminalist I	11,200	11	123,200
Crime Lab. Tech II (Crim)	9,300	6	55,800
Toxicologist II	13,300	1	13,300
Toxicologist I	11,200	6	67,200
Crime Laboratory Tech II (Tox)	9,300	5	46,500
Doc. Examiner II	13,300	1	13,300
Doc. Examiner I	11,200	1	11,200
Serologist II	13,300	0	0
Serologist I	11,200	1	11,200
Medical Examiner Investigator I	8,000	31	248,000
Medical Examiner Investigator II	12,000	1	12,000
Building Custodian	7,500	2	15,000
Mortician (Driver)	6,000	10	60,000
Clerk Steno IV	7,900	1	7,900
Clerk Steno III	6,600	5	33,000
Clerk Steno II	5,700	12	68,400
Clerk Steno I	4,900	4	19,600
Clerk-Typist II	5,200	2	10,400
Totals		127.5	1,384,700

**PERSONNEL
1977-78 FISCAL YEAR**

Title	Average Salary	No. of Employees	Cost of Category
Director			Paid out of other funds
Deputy Director			Paid out of other funds
Chief Medical Examiner	\$35,000	1	\$35,000
Chief Criminalist	19,000	1	19,000
Chief Toxicologist	19,000	1	19,000
Law Enforcement Training Officer	15,500	1	15,500
Fiscal Officer	14,000	1	14,000
Deputy Assistant to Chief Medical Examiner (P)*	30,000	11½	345,000
Deputy Assistant to Chief Medical Examiner (F.T.)**	18,000	1	18,000
Criminalist II	13,300	10	133,000
Criminalist I	11,200	11	123,200
Crime Lab. Tech II (Crim)	9,300	6	55,800
Toxicologist II	13,300	2	26,600
Toxicologist I	11,200	6	67,200
Crime Laboratory Tech II (Tox)	9,300	5	46,500
Doc. Examiner II	13,300	1	13,300
Doc. Examiner I	11,200	1	11,200
Serologist II	13,300	1	13,300
Serologist I	11,200	1	11,200
Medical Examiner Investigator I	8,000	31	248,000
Medical Examiner Investigator II	12,000	1	12,000
Building Custodian	7,500	2	15,000
Mortician (Driver)	6,000	10	60,000
Clerk Steno IV	7,900	1	7,900
Clerk Steno III	6,600	6	39,600
Clerk Steno II	5,700	12	68,400
Clerk Steno I	4,900	4	19,600
Clerk-Typist II	5,200	2	10,400
Totals		130.5	1,447,700

*Pathologist
**Forensic Toxicologist

HEADQUARTERS STAFF PERSONNEL

Title	Fiscal Year Salary	Fiscal Year				
		73-74	74-75	75-76	76-77	77-78
Director*	Prescribed by law	1	1	1	1	1
Deputy Director*	Prescribed by law	1	1	1	1	1
Fiscal Officer	\$14,000	1	1	1	1	1
Chief Criminalist	19,000	1	1	1	1	1
Chief Toxicologist	19,000	1	1	1	1	1
Law Enforcement Training Officer	15,000	1	1	1	1	1
Clerk-Steno IV	7,900	1	1	1	1	1
Clerk Steno III	6,600	1	1	1	1	1
Clerk-Steno II	5,700	1	1	1	1	1
Clerk Typist II	5,200	1	1	1	1	1
Total Personnel		8	8	8	8	8
Total Salaries	\$92,400	92,400	92,400	92,400	92,400	92,400

*Positions and salaries of Director and Deputy Director not included in above totals.

AUBURN LABORATORY PERSONNEL

Title	Fiscal Year Salary	Fiscal Year				
		73-74	74-75	75-76	76-77	77-78
Criminalist II	\$13,000	1	1	1	1	1
Criminalist I	11,200	1	1	1	1	1
Deputy Assistant Chief Medical Exam. (Pathologist)	30,000	1	1	1	1	1
Deputy Assistant Chief Medical Exam. (Toxicologist)	18,000	1	1	1	1	1
Toxicologist I	11,200	2	2	2	2	2
Serologist II	13,300	0	0	0	0	1
Serologist I	11,200	1	1	1	1	1
Medical Examiner Investigator I	8,000	2.6	2.6	2.6	2.6	2.6
Clerk-Steno III	6,600	1	1	1	1	1
Clerk Steno II	5,700	1	1	1	1	1
Clerk-Typist	5,200	1	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1	1
Building Custodian	7,500	1	1	1	1	1
Total Personnel		14.6	14.6	14.6	14.6	14.6
Total Salaries	\$157,600	157,600	157,600	157,600	157,600	157,600

BIRMINGHAM LABORATORY PERSONNEL

Title	Salary	Fiscal Year				
		73-74	74-75	75-76	76-77	77-78
Chief Med. Exam.	\$35,000	1	1	1	1	1
Deputy Assistant Chief Med. Exam. (Pathologist)	30,000	1	1	2	3	3
Deputy Assistant Chief Med. Exam. (Toxicologist)	18,000	1	1	1	1	1
Criminalist II	13,300	0	1	1	1	1
Criminalist I	11,200	2	2	2	3	3
Crime Lab. Tech. II (Criminalist)	9,300	2	2	2	2	2
Toxicologist II	13,300	1	1	1	1	1
Toxicologist I	11,200	1	1	1	1	1
Crime Lab. Tech. II (Toxicologist)	9,300	1	1	2	2	2
Medical Examiner Investigator I	8,000	5.6	5.6	5.6	5.6	5.6
Medical Examiner Investigator II	12,000	1	1	1	1	1
Clerk-Steno III	6,600	1	1	1	1	1
Clerk-Steno II	5,700	1	1	2	2	2
Clerk-Steno I	4,900	1	1	1	1	1
Building Custodian	7,500	1	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1	1
Total Personnel		21.6	22.6	25.6	27.6	27.6
Total Salaries		245,300	258,600	303,600	344,800	344,800

HUNTSVILLE LABORATORY PERSONNEL

Title	Salary	Fiscal Year				
		73-74	74-75	75-76	76-77	77-78
Deputy Assistant Chief Medical Exam. (Pathologist)	\$30,000	1	1	3	3	3
Deputy Assistant Chief Medical Exam. (Toxicologist)	18,000	1	1	0	0	0
Criminalist II	13,300	0	1	1	1	1
Criminalist I	11,200	1	12	2	2	2
Crime Lab. Technician II (Criminalist)	9,300	1	1	1	1	1
Toxicologist II	13,300	0	0	0	0	1
Toxicologist I	11,200	1	1	1	1	1
Crime Lab. Technician II (Toxicologist)	9,300	1	1	1	1	1
Medical Exam. Investigator I	8,000	4.6	4.6	4.6	4.6	4.6
Clerk-Steno III	6,600	0	0	0	1	1
Clerk-Steno II	5,700	1	1	1	1	1
Clerk-Steno I	4,900	1	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1	1
Total Personnel		13.6	14.6	16.6	17.6	18.6
Total Salaries		142,400	155,700	208,900	215,500	228,800

MOBILE LABORATORY PERSONNEL

Title	Salary	Fiscal Year				
		73-74	74-75	75-76	76-77	77-78
Deputy Asst. Chief Medical Exam. (Pathologist)	\$30,000	1	1	1	1.5	2.5
Deputy Asst. Chief Medical Exam. (Toxicologist)	18,000	1	1	1	1	0
Criminalist II	13,300	0	1	1	1	1
Criminalist I	11,200	1	1	1	1	1
Crime Lab. Technician II (Criminalist)	9,300	0	1	1	1	1
Toxicologist I	11,200	1	1	1	1	1
Crime Lab. Technician II (Toxicologist)	9,300	1	1	1	1	1
Medical Exam. Investigator I	8,000	4.0	4.0	4.0	4.0	4.0
Clerk-Steno III	6,600	0	0	0	1	1
Clerk-Steno II	5,700	1	1	1	1	1
Clerk-Steno I	4,900	1	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1	1
Total Personnel		12	14	14	15.5	15.5
Total Salaries	128,300	150,900	150,900	172,500	184,500	

MONTGOMERY LABORATORY PERSONNEL

Title	Salary	Fiscal Year				
		73-74	74-75	75-76	76-77	77-78
Deputy Asst. Chief Medical Exam. (Pathologist)	30,000	1	2	2	2	2
Deputy Asst. Chief Medical Exam. (Toxicologist)	18,000	1	0	0	0	0
Criminalist II	13,300	0	0	1	1	1
Criminalist I	11,200	1	1	1	1	1
Crime Lab. Technician II (Criminalist)	9,300	0	0	0	0	0
Toxicologist II	13,300	0	0	0	0	0
Toxicologist I	11,200	1	1	1	1	1
Crime Lab. Technician II (Toxicologist)	9,300	1	1	1	1	1
Medical Exam. Investigator I	8,000	2.8	2.8	2.8	2.8	2.8
Clerk-Steno III	6,600	0	0	0	0	1
Clerk-Steno II	5,700	1	1	1	1	1
Clerk-Steno I	4,900	1	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1	1
Total Personnel		10.8	10.6	11.8	11.8	12.8
Total Salaries	118,700	130,700	144,000	144,000	150,600	

ENTERPRISE LABORATORY PERSONNEL

Title	Fiscal Year				
	Salary 73-74	74-75	75-76	76-77	77-78
Criminalist II	13,300	1	1	1	1
Criminalist I	11,200	1	1	1	1
Document Exam. II	13,300	1	1	1	1
Document Exam. I	11,200	0	0	1	1
Med. Exam. I	8,000	2.3	2.3	2.3	2.3
Clerk-Steno II	5,700	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1
Total Personnel		7.3	7.3	8.3	8.3
Total Salaries		67,900	67,900	79,100	79,100

FLORENCE LABORATORY PERSONNEL

Title	Fiscal Year				
	Salary 73-74	74-75	75-76	76-77	77-78
Criminalist II	13,300	1	1	1	1
Crime Lab. Technician II (Criminalist)	9,300	1	1	1	1
Medical Exam. Investigator I	8,000	2	2	2	2
Clerk-Steno II	5,700	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1
Total Personnel		6	6	6	6
Total Salaries		50,300	50,300	50,300	50,300

JACKSONVILLE LABORATORY PERSONNEL

Title	Fiscal Year				
	Salary 73-74	74-75	75-76	76-77	77-78
Criminalist II	13,300	1	1	1	1
Criminalist I	11,200	1	1	1	1
Medical Exam. Investigator I	8,000	2.8	2.8	2.8	2.8
Clerk-Steno II	5,700	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1
Total Personnel	6.8	6.8	6.8	6.8	6.8
Total Salaries	58,600	58,600	58,600	58,600	58,600

SELMA LABORATORY PERSONNEL

Title	Fiscal Year				
	Salary 73-74	74-75	75-76	76-77	77-78
Criminalist II	13,300	1	1	1	1
Crime Lab. Technician II (Criminalist)	9,300	1	1	1	1
Medical Exam. Investigator I	8,000	1.8	1.8	1.8	1.8
Clerk Steno II	5,700	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1
Total Personnel	5.8	5.8	5.8	5.8	5.8
Total Salaries	48,700	48,700	48,700	48,700	48,700

TUSCALOOSA LABORATORY PERSONNEL

Title	Fiscal Year				
	Salary 73-74	74-75	75-76	76-77	77-78
Criminalist II	13,300	1	1	1	1
Criminalist I	11,200	1	1	1	1
Medical Exam. Investigator I	8,000	2.5	2.5	2.5	2.5
Clerk-Steno II	5,700	1	1	1	1
Driver (Mortician)	6,000	1	1	1	1
Total Personnel	6.5	6.5	6.5	6.5	6.5
Total Salaries	56,200	56,200	56,200	56,200	56,200

Appendix C.

Five Year Projection of Equipment

PROJECTED COST OF EQUIPMENT

1973-77

Laboratory	1973	1974	1975	1976	1977	Total
Auburn	\$ 11,000	11,300	31,500	21,200	5,500	80,500
Birmingham	33,600	44,000	29,500	3,800	8,000	118,900
Enterprise	--	--	6,700	2,000	4,500	13,200
Florence	86,400	--	4,500	--	--	90,900
Huntsville	22,700	8,900	9,800	5,500	15,500	62,400
Jacksonville	--	--	4,500	1,200	15,300	21,000
Mobile	13,000	8,200	11,900	17,500	15,500	66,100
Montgomery	13,500	7,800	9,300	16,000	17,000	63,600
Selma	--	--	4,500	--	15,300	19,800
Tuscaloosa	86,400	--	4,500	--	--	90,900
Total	\$266,600*	80,200	116,700	67,200	96,600	627,300

*Includes the equipment cost of establishing two satellite crime laboratories in Florence and Tuscaloosa.

**PROJECTED EQUIPMENT NEEDS FOR THE
ALABAMA STATE DEPARTMENT OF TOXICOLOGY AND CRIMINAL INVESTIGATION
1973-77**

Item	Cost	Auburn	Birmingham	Enterprise	Florence*	Huntsville	Jacksonville	Mobile	Montgomery	Selma	Tuscaloosa
Infrared Spectrophotometer	\$ 7,000	PA	PA	PA	1973	PA	PA	PA	PA	PA	1973
Ultraviolet Visible Spectrophotometer	9,000	PA	PA	PA	1973	PA	PA	PA	PA	PA	1973
Gas Chromatograph	4,000	PA	PA	PA	1973(2)	PA	PA	PA	PA	PA	1973(2)
Stereomicroscope	1,800	PA	1974	PA	1973	1975	PA	PA	1974	PA	1973
Polarizing Microscope	3,000	PA	1973	PA	1973	PA	PA	PA	PA	PA	1973
Comparison Microscope	7,000	PA	PA	PA	1973	PA	PA	PA	PA	PA	1973
Autopsy Table	3,500	PA	1975-77	NR	NR	1975	NR	1975	1975	NR	NR
Mettler Hot Stage	2,000	PA	1973	PA	1973	PA	PA	1975	PA	PA	1973
Refractometer	800	1974	1973	1976	1973	1974	1977	1975	1975	1977	1973
Monochromator	1,200	1976	1974	1976	1973	1973	1976	1976	1976	PA	1973
Electrophoresis Apparatus	3,000	1973	NR	NR	NR	NR	NR	NR	NR	NR	NR
Photographic Equipment	1,500	PA	1973	PA	1973	PA	PA	PA	PA	PA	1973
Copy Camera	1,100	PA	1973	PA	1973	1974	PA	1975	PA	PA	1973
Laboratory Washer	500	PA	1973	NR	NR	1974	NR	1974	PA	NR	NR
Water Still	500	PA	1973	PA	1973	1974	PA	1974	1975	PA	1973
Thin Layer Chromatography Apparatus	500	PA	PA	PA	1973	PA	PA	PA	PA	PA	1973
Pyrolysis Unit	1,200	PA	1973	1975	1973	PA	PA	1974	PA	PA	1973
Atomic Absorption Spectrophotometer	8,000	1976	1973	NR	NR	1973	NR	1976	1976	NR	NR
Emission Spectrograph	10,000	PA	PA	PA	1973	PA	1977	PA	PA	1977	1973
Digital Integrator	2,800	PA	1976	PA	1973	PA	PA	1976	1976	PA	1973
Recorders	1,000	PA	PA	PA	1973(2)	PA	PA	PA	PA	PA	1973(2)
Laboratory Furniture	21,000	PA	1975	PA	1973	PA	PA	PA	PA	PA	1973
Laboratory Furniture	5,000	PA	1974	PA	PA	1974	PA	1974	1974	PA	PA
Automobile with Police Radio	4,500	1974-75 -76-77	1973-74 -75-77	1975-77	1973-75 -77	1973-75 -77	1975-77	1973-75 -77	1973-75 -77	1975-77	1973-75
Medical Microscope	5,000	1974	1973	NR	NR	1973	NR	1973	1973	NR	NR
Typewriter	500	1973	1973-75	PA	1973	1973-76	PA	1976	1973-77	PA	1973
Slide Processor	3,500	1976	1974	NR	NR	1975	NR	1973	1973	NR	NR
Magnetic Typewriters (MT-ST)	3,750	1973(2)	NR	NR	NR	NR	NR	NR	NR	NR	NR
Office Equipment	1,000	1974-77	1973-74 -76	1975	1973	1974-76	PA	1974-76	1974-77	PA	1973
Auto Technicon	4,000	1976	1973	NR	NR	1976	NR	1976	1976	NR	NR
Gas Chromatograph/ Mass Spectrophotometer	27,000	1975	1974	NR	NR	NR	NR	NR	NR	NR	NR
Spectrofluorometer	11,000	PA	PA	NR	NR	1977	NR	1977	1977	NR	NR

*Funds providing for the purchase of the 1973 Florence equipment were programmed in the 1972 Comprehensive Criminal Justice Plan of the Alabama Law Enforcement Planning Agency. However, purchase of the equipment has been suspended pending approval of this project.

Legend:

PA -- indicates the item of equipment is presently available.

NR -- indicates that we do not anticipate a need for the item within the next five years.

Appendix D.

Proposed Records and Data System

NEW CASE CLASSIFICATIONS

Death Investigation	1
Rape	2
Robbery	3
Burglary	4
Grand Larceny	5
Drug identification	6
Analyses	7
D.W.I.	8
Other Crimes Against Person	9
Other Crimes Against Property	10
Toxicology - Human	11
Toxicology - Animal	12

Effective Date—March 1, 1973

INSTRUCTIONS FOR USE OF NEW CASE CLASSIFICATIONS

1) *Death Investigation*: This classification should be used when law enforcement agencies or other agencies submit evidence to laboratories pertaining to a death investigation or personnel from this Department collect such evidence by assisting in a death investigation, including the performance of a postmortem examination. A case involving a postmortem examination, external or internal, and which includes a postmortem examination memorandum will be styled 1(P) for the record. An example is: 1(p)-30-43-1/12/73-91629.

2, 3, 4, 5, & 6) The classifications of *Rape*, *Robbery*, *Burglary*, *Grand Larceny*, and *Drug Identification* are self-explanatory. The emphasis is on the offense and not the evidence.

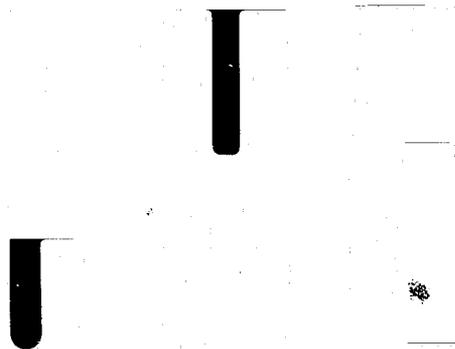
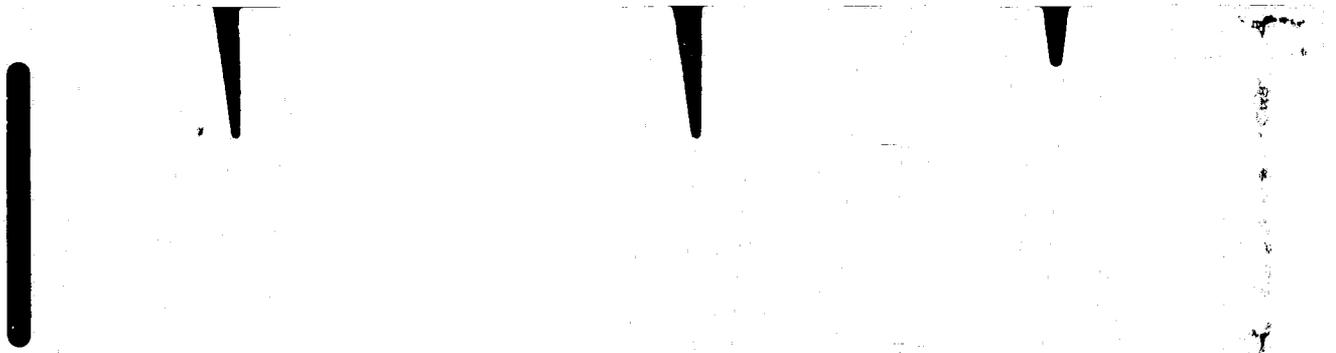
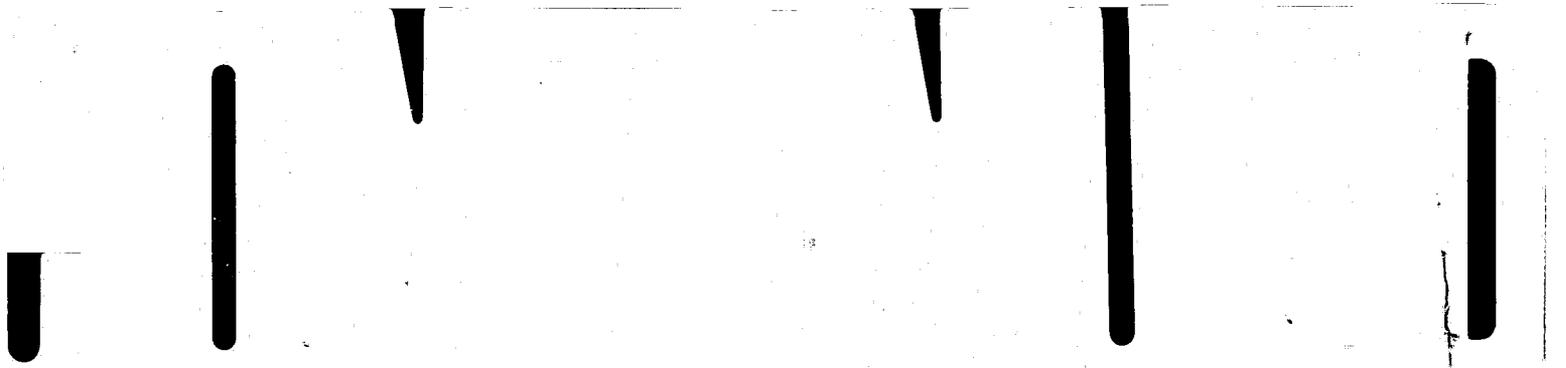
7) *Analyses*: This classification will include a number of instances where we presently use the Miscellaneous classification. One example of an *Analyses* case would be a perchlorate tube for alcohol content.

8) The classification of *D.W.I.* will only be used when a *blood* or *urine* sample is submitted to the Department for alcohol analyses and the suspect is charged with *Driving While Intoxicated*. Perchlorate tube analyses will be classified as *Analyses* cases.

9 & 10) *Other Crimes Against Person* or *Other Crimes Against Property* include the vast realm of evidence submitted to the laboratory pertaining to a number of petty and serious crimes which are not covered in the above listed specific offenses.

For example, the suspect might be charged with or have charges pending for aggravated assault, auto theft, or non-fatal hit and run. If the charge against the suspect, pending or formally placed, involves person and property, then the Department will classify the case as a *Crime Against Person*.

11 & 12) *Toxicology—Human—Animal*: These classifications will be utilized when the specimens submitted are body fluids from a human or an animal, or where it is requested that other materials such as food for humans or animals be subjected to analyses for poisons and/or drugs. If material from a human or animal body and other fluids or solid substances are also submitted, a classification of *Toxicology* will be placed upon such



evidence. If tissues or body fluids are received from a deceased human body, then the classification will be *Death Investigation* and not *Toxicology—Human*.

Case Numbers: Evidence involving one scene, one subject, and/or one suspect, but more than one crime should be classified by the most serious

crime. When evidence involves more than one scene, more than one suspect, more than one subject, or a combination of these factors, the laboratory will assign a case number or numbers in the most efficient manner for our records to correlate with the records of the police and the courts.

INTEROFFICE MEMO

Date: February 20, 1973

To: Laboratory Directors

From: C.J. Rehling, Ph.D., State Toxicologist

Re: New SDT-1 Form and New Case Summary Sheets

Instruction for New SDT-1 (Temp. SDT-2)

The purpose of this form is to replace the old forms SDT-1, 1-A, and 2. Form SDT-1 will be the receipt and will also be the form which will initiate the case file. Therefore, it is very important that *all* blanks on the form are filled out when the evidence is being receipted. The blanks on the form are self-explanatory.

We have on hand a supply of SDT-2 forms which contain *all* information needed on the new SDT-1 with the exception of the requesting agency and the Department Investigator's name. We will utilize the present supply of SDT-2 forms. In handwritten notes, add the name of the investigating member of the Department at the top of the form and add agency's name immediately following the address of the requesting officer. When the present supply of SDT-2 forms is exhausted, they will be re-ordered as SDT-1 and will include the above revisions. Examples are enclosed for your further clarification.

Instructions for New Summary Sheets

The summary sheets under the new system will be a very critical portion of the records which are to be maintained. The summary sheets will provide all management and statistical data for the Department and thus, greatly influence decisions as to future needs and priorities.

Criminalistics Summary Sheet—Criminalistics Summary Sheet will cover a large variety of different types of evidence. One case might involve fibers, fingerprints, and glass and the Summary Sheet will indicate the different work performed. The word "comparison" on the Criminalistics Summary Sheet in no way implies the same meaning as

the word "test." An example of how this Summary Sheet would be utilized is as follows:

The laboratory receives one evidence bullet and one weapon. The maximum number of comparisons would be "1." The laboratory might receive hair from the suspect and hair from the scene of the crime. If samples of hair were taken from two different locations at the crime scene, the number of comparisons would be "2." If only one hair sample from one location was taken from the crime scene, even though the sample consists of more than one hair, the number of comparisons would only be "1." If the laboratory receives two weapons and three evidence bullets all of the same caliber, the total number of comparisons would be "6."

Evidence not covered on the first part of the Criminalistics Summary Sheet will be written in on the lower portion.

Drug Summary Sheet—Drug Identification Cases require the tabulation of data for the Federal Bureau of Narcotics and Dangerous Drugs. Therefore, the summary sheets must reflect the following information:

- Compound Identified
- Total Quantity
- Form of Compound
- Number of Samples Analyzed

An example might be a case where three bottles, each containing 500 LSD tablets, were received for identification. The compound identified would be "LSD," the total quantity would be "1500," form would be "tablet," and number of samples analyzed would probably be "3." Another example might be

a marihuana case where four different plastic bags of vegetable material were received. The compound identified would be "Cannabis sativa L.," the total quantity would equal the total weight of each bag's contents, form would be "vegetable," and number of samples analyzed would probably be "4."

Toxicology Summary Sheet—Toxicology Cases, whether animal or human, have been subdivided by nature of the analysis. The first is classified as a *Specific Analysis* where only one compound is requested for analyses. An example would be a blood for barbiturates. The second subdivision is classified a *Moderate Analysis*. An example might be a blood for barbiturates and amphetamines. The third is a *Complex Analysis* which involves cases where the requesting agency desires that the substance be examined for more than three compounds. An example might be a general unknown or a large specimen of blood with a request that it be analyzed for drugs. The analysis for each case received will be one type—either *Specific*, *Moderate*, or *Complex*—just check the one which is appropriate. The results of each case will require a minimum of writing, listing only the specimen analyzed, the compound identified, and the quantity detected. If the requested analysis was *Specific* but the actual work done was *Moderate* or *Complex*, then correct the Summary Sheet before you sign the reporting memorandum.

Use any one or more summary sheets for any particular case. This is particularly true for *Analyses* cases and, perhaps, *Other Crimes Against Person* and/or *Property* cases.

If the reporting memorandum contains findings or statements which add to the requestor's knowledge of the evidence submitted, then the laboratory report should be classified as conclusive. If the

memorandum is inconclusive or the memorandum does not add to the investigator's knowledge of the evidence submitted, then the laboratory report should be listed as inconclusive on the Summary Sheet. Examples are as follows:

1) A piece of stained cloth was submitted with the request that it be checked for blood. Examinations reveal the presence of human blood. The Criminalistics Summary Sheet would list a positive comparison with a conclusive report.

2) A weapon and an evidence bullet were submitted for comparisons. The weapon was test fired and it was determined that the bullet was not fired from the weapon submitted. Comparison would be negative; the report would be conclusive.

3) A blood specimen was submitted with a request that it be analyzed for alcohol. The specimen was found to contain .10 milligrams percent. Results of the analyses would be listed on the Toxicology Summary Sheet and the case report would be conclusive.

4) Two specimens of paint, one from the suspect car and one from the subject car, were submitted for examination and comparison. Paint from the subject car consisted of known blue paint with gray undercoat and the paint from the suspect car was foreign particles of blue paint with gray undercoat found in the damaged area. It was therefore, obvious to the officer beforehand that the paint was the same color and general texture to the eye. The laboratory reporting memorandum reveals no information on the chemical composition of the paint. The comparison would be positive, but the report would be inconclusive because it did not add to the investigator's knowledge of the evidence.

DRL:jh/13/04

RECORD OF SUBPOENA

FILL OUT & MAIL TO AUBURN REGARDLESS
OF WHETHER YOU ATTEND COURT OR NOT

SUBP. # _____ TRIAL DATE _____ OFFICE _____

CASE # _____ TYPE CASE _____

SUSPECT(S) _____

SUBJECT(S) _____

TYPE OF COURT (CIRCLE)

PRELIMINARY	JUSTICE	COMMON PLEAS	GRAND JURY
CITY	CIRCUIT	APPELLATE	FEDERAL

LOCATION _____

DID YOU GO TO COURT? YES NO

DID YOU TESTIFY? YES NO HOW LONG? _____

DATE ATTENDED COURT _____

NO. OF HRS. OUT OF LAB FOR COURT DUTY? _____

CASE DISPOSITION (IF KNOWN) _____

INSTRUCTIONS FOR MONTHLY REPORT USING
NEW CASE CLASSIFICATIONS AND SUMMARY SHEETS

Before a case is filed, the SUMMARY SHEET should be removed from the case file. Separate SUMMARY SHEETS according to CASE CLASSIFICATION. If a case has more than one SUMMARY SHEET, staple together, and post accordingly to the proper MONTHLY REPORT page. Count as one case only on Page 1 - No. of Cases Reported. Forward MONTHLY REPORT and all SUMMARY SHEETS to Auburn when report is completed.

The cover page is to be used for News Items and General Comments from each office. The car mileage may be omitted and reported only Semi-Annually and Annually.

Page 1 - List number of cases received, number of cases reported, and number of postmortem examinations performed during month. To obtain number of cases reported, count SUMMARY SHEETS for the month.

Page 2 - List number of cases received by COUNTY and REQUESTING AGENCY.

NOTE: Breakdown of Death - (P) Cases need only be reported Semi-Annually and Annually.

Page 3 - List criminalistic work performed during month. This includes DEATH INVESTIGATION, RAPE, ROBBERY, BURGLARY, GRAND LARCENY, O.C.A. PERSON, O.C.A. PROPERTY, and certain ANALYSES cases. Indicate # of Conclusive Reports and # of Inconclusive Reports.

Page 4 - List like substances only once indicating Total Quantity and Form. If drugs are submitted in a Death case, then a DRUG SUMMARY SHEET would be used and posted to this page. Indicate # of Conclusive Reports and # of Inconclusive Reports.

Page 5 - List toxicology work performed during month. This includes DEATH INVESTIGATION, D.W.I., HUMAN TOXICOLOGY, ANIMAL TOXICOLOGY, and certain ANALYSES cases. Indicate # of Conclusive Reports and # of Inconclusive Reports.

Page 6 - List unreported cases received prior to month of report.

NOTE: If a DEATH INVESTIGATION involves a postmortem examination only, the CRIMINALISTIC SUMMARY SHEET should be used. Under "Other Evidence or Analyses" write in "Postmortem Examination." Indicate whether report is Conclusive or Inconclusive. A DEATH INVESTIGATION case may require utilization of all three types of summary sheets.

STATE OF ALABAMA
DEPARTMENT OF TOXICOLOGY
AND
CRIMINAL INVESTIGATION
AUBURN, ALABAMA

C.J. Rehling, Ph.D.
State Toxicologist

MONTHLY NEWSLETTER AND REPORT

Date _____

NEWS ITEMS AND GENERAL COMMENTS:

End of _____ Mileage: _____

Car # _____	Mileage _____	Assigned to: _____
Car # _____	Mileage _____	Assigned to: _____
Car # _____	Mileage _____	Assigned to: _____

TOTAL NO. OF CASES BY CLASSIFICATION FOR

MONTH OF _____

TYPE CASE	# OF CASES RECEIVED	# OF CASES REPORTED
DEATH INVESTIGATION	_____	_____
RAPE	_____	_____
ROBBERY	_____	_____
BURGLARY	_____	_____
GRAND LARCENY	_____	_____
DRUG IDENTIFICATION	_____	_____
ANALYSES	_____	_____
D.W.I.	_____	_____
O.C.A. PERSON	_____	_____
O.C.A. PROPERTY	_____	_____
TOXICOLOGY - HUMAN	_____	_____
TOXICOLOGY - ANIMAL	_____	_____
TOTALS	_____	_____

POSTMORTEM EXAMINATIONS
PERFORMED DURING MONTH _____

JEFFERSON _____	COVINGTON _____	LOWNDES _____	WINSTON _____
MOBILE _____	CRENSHAW _____	MACON _____	OUT-OF-STATE _____
MONTGOMERY _____	CULLMAN _____	MADISON _____	TOTAL _____
AUTAUGA _____	DALE _____	MARENGO _____	AGENCY _____
BALDWIN _____	DALLAS _____	MARION _____	MILITARY _____
BARBOUR _____	DEKALB _____	MARSHALL _____	ATTORNEY _____
BIBB _____	ELMORE _____	MONROE _____	CORONER _____
BLOUNT _____	ESCAMBIA _____	MORGAN _____	COURT _____
BULLOCK _____	ETOWAH _____	PERRY _____	STATE TROOPER _____
BUTLER _____	FAYETTE _____	PICKENS _____	STATE INVESTIGATOR _____
CALHOUN _____	FRANKLIN _____	PIKE _____	STATE FIRE MARSHALL _____
CHAMBERS _____	GENEVA _____	RANDOLPH _____	STATE NARCOTIC AGENT _____
CHEROKEE _____	GREENE _____	RUSSELL _____	OTHER STATE AGENCY _____
CHILTON _____	HALE _____	SHELBY _____	HOSPITAL _____
CHOCTAW _____	HENRY _____	ST. CLAIR _____	MISCELLANEOUS _____
CLARKE _____	HOUSTON _____	SUMTER _____	FEDERAL AGENCY _____
CLAY _____	JACKSON _____	TALLADEGA _____	POLICE _____
CLEBURNE _____	LAMAR _____	TALLAPOOSA _____	SHERRIF _____
COFFEE _____	LAUDERDALE _____	TUSCALOOSA _____	DISTRICT ATTORNEY _____
COLBERT _____	LAWRENCE _____	WALKER _____	VETERINARIAN _____
CONECUH _____	LEE _____	WASHINGTON _____	MEDICAL DOCTOR _____
COOSA _____	LIMESTONE _____	WILCOX _____	TOTAL _____

BREAKDOWN OF DEATH (P) CASES ONLY

HOMICIDE (determined) _____	SUSPECTED HOMICIDE, but undetermined to be natural, suicide, accidental, or homicide _____
SUSPECTED HOMICIDE, but determined to be natural, suicide, or accidental _____	
EXHUMATIONS _____	AUTOPSIES AND POSTMORTEM EXAM. _____

YEARLY TOTAL _____

MONTHLY REPORT PAGE INVOLVING TOXICOLOGY

LAB _____

CONCLUSIVE
REPORTS _____

INCONCLUSIVE
REPORTS _____

TOXICOLOGY - HUMAN

- a) Specific _____
- b) Moderate _____
- c) Complex _____

TOXICOLOGY - ANIMAL

- a) Specific _____
- b) Moderate _____
- c) Complex _____

NOTE: Includes Death Investigation, Analyses, D.W.I., Human & Animal Toxicology

CASES RECEIVED PRIOR TO

(Month of Report)

UNREPORTED - PENDING FURTHER ANALYSES

NAME OF INVESTIGATOR

CASE NO.

TYPE CASE

DATE OF CASE

TOTAL NUMBER OF UNREPORTED CASES RECEIVED PRIOR TO MONTH OF REPORT: _____

Appendix E.

Proposed Legislation for Department of Forensic Science

Synopsis:

This bill creates the State Department of Forensic Science and provides for certain divisions within said department. It provides for the duties and authority of such department with respect to death, criminalistic and toxicologic investigations associated with deaths and crimes. It transfers all of the rights, duties, powers and authority now vested in the State Toxicologist to the State Department of Forensic Science and places all authority for the investigation of public interest deaths and deaths of interest to law enforcement in a certain division of the department. It provides for continuation of scientific assistance to all law enforcement agencies of this State. It repeals all laws in conflict with this Act, including laws respecting the authority of coroners to make investigations of death and specifically repeals Code of Alabama 1940, Title 14, Sections 387 through 390, inclusive. It appropriates \$651,000 for the fiscal year 1973-74 and \$680,000 for the fiscal year 1974-75, over and above the presently provided biennial appropriation of the State Department of Toxicology and Criminal Investigation (State Toxicologist). Thereafter all appropriations for the department will be included in the general appropriation bill.

A BILL TO BE ENTITLED AN ACT

To create the State Department of Forensic Science and to provide for certain divisions within

said department; to provide for the duties and authority of such department with respect to death, criminalistic and toxicologic investigations associated with deaths and crimes within this State; to transfer all of the rights, duties, powers and authority now vested in the State Toxicologist to the State Department of Forensic Science; to place all authority for the investigation of public interest deaths and deaths of interest to law enforcement in a certain division of said department; to provide for continuation of scientific assistance to all law enforcement agencies in this State; to provide for the qualifications of certain officers and employees of said department; to appropriate funds and to repeal all laws in conflict with this Act, including all laws respecting the authority of coroners to make investigations of death and specifically repealing Code of Alabama 1940, Title 14, Sections 387 through 390, inclusive, relating to the State Toxicologist.

Be It Enacted by the Legislature of Alabama:

Section 1. Creation of Department, Director and his Qualifications—There shall be a State Department of Forensic Science headed by a director who shall be appointed by the Attorney General upon nomination by a committee composed of (1) the State Health Officer, (2) one member appointed by the State Medical Board of Censors, (3) the Director of the State Department of Public Safety, (4) one jurist from a circuit court or the State Court of Criminal Appeals appointed by the Chief Justice of the State Supreme Court,

and (5) one District Attorney in the State of Alabama appointed by the Attorney General. The director shall appoint the Deputy Director, State Department of Forensic Science, who shall be responsible to him. If the position of director becomes vacant, then the deputy director shall become Acting Director, State Department of Forensic Science, until such time as a permanent director is appointed. The director may be removed by impeachment as required for removing a District Attorney under the constitution and laws of this State.

The Director, State Department of Forensic Science, shall hold an earned degree in a natural or physical science from an accredited institution of higher learning, shall have completed at least 50 quarter hours of graduate studies in either medicine, toxicology, biology, pharmacology, chemistry, or a combination of these subjects, shall have some formal training in criminal law, shall have demonstrated the ability to effectively organize and lead people in a common goal, shall be knowledgeable of the needs, value, and inter-relationship of each departmental division, and shall be knowledgeable of the entire criminal justice system. The Director, State Department of Forensic Science, shall not concurrently hold the position of chief medical examiner, chief criminalist, or chief toxicologist.

Section 2. Basic Departmental Organization—The department shall have as a minimum three basic divisions consisting of Death Investigation, Criminalistics, and Toxicology. The director, at his discretion, may add other divisions to provide the services required by law or as needed to provide proper forensic science services to law enforcement in this State. All divisions shall be directly responsible to the director for administration and departmental policy.

Section 3. Appointment of Assistants—The director shall appoint a professional chief of each division, medical examiners, criminalists, toxicologists, and medical examiner investigators subject to the provisions of Sections 4, 5, and 6 of this Act and the state Merit System. The director shall also appoint, subject to the provisions of the State Merit System, other professional, administrative, or stenographic assistants as may be required for the performance of the department's duties.

Section 4. Qualifications of Chief Medical Examiner, Certification of Deputy Assistants and

Medical Examiner Investigations—The chief medical examiner shall be a competent medical pathologist and preference shall be given to pathologists certified by the American Board of Pathology in forensic pathology. The chief medical examiner shall certify an individual as professionally competent prior to such individual being appointed as a deputy assistant to the chief medical examiner by the director. The chief medical examiner, subject to the provisions of Section 8 of this Act, shall also certify medical examiner investigators prior to their assumption of on-the-scene investigation duties.

Section 5. Qualifications of Chief Criminalist and Certification of Criminalists—The chief criminalist shall be a competent criminalist who is qualified by advanced education, training, and experience. The chief criminalist shall certify an individual as professionally competent prior to such individual being appointed as a criminalist by the director.

Section 6. Qualifications of Chief Toxicologist and Certification of Toxicologists—The chief toxicologist shall be a competent toxicologist who is qualified by advanced education, training, and experience. The chief toxicologist shall certify an individual as professionally competent prior to such individual being appointed as a toxicologist by the director.

Section 7. Training and Professional Development of Personnel—The director will provide a training program designed to develop and improve professional competency in all employees.

Section 8. County Coroners, Opportunity to Serve as a Medical Examiner Investigator, and Training—County coroners or their deputies on the date this Act becomes effective, who have been so employed for six months preceding such date shall become medical examiner investigators of the State if they so desire and shall remain as such during good behavior and satisfactory performance; but nothing herein shall be construed to prevent or preclude the removal of a medical examiner investigator for cause in the manner provided by law. No coroner or deputy coroner shall receive less salary as a medical examiner investigator for the State than he presently receives as coroner or deputy coroner of a county. Coroners or deputy coroners who become medical examiner investigators will promptly complete a training program designed to

develop their skills and abilities equal to other medical examiner investigators certified by the chief medical examiner. The training program will be conducted by the Department of Forensic Science.

Section 9. *Duties of Department*—The duties of the State Department of Forensic Science shall be:

A. To investigate by any necessary means deaths resulting from violence, whether apparently homicidal, suicidal, or accidental, including but not limited to deaths due to thermal, chemical, electrical, or radiational injury; deaths due to criminal abortion, whether apparently self-induced or not; sudden or unexpected deaths; deaths under suspicious circumstances; deaths of persons whose bodies are to be cremated, buried at sea, or otherwise disposed of so as to be thereafter unavailable for examination; deaths of inmates of public institutions not hospitalized therein for organic or mental disease; and deaths related to diseases resulting from employment or to accident while employed; and

B. To examine, analyze, compare or relate evidence, including drugs or compounds, received from law enforcement officials within the State; and

C. To provide toxicologic assistance to departmental divisions and to law enforcement agencies within the State; and

D. To assist in the scientific investigation of crimes as are ordered by the Governor, the Attorney General, any Circuit Judge, or any District Attorney within the State of Alabama; and

E. To visit, at the discretion of the director and upon proper authorization, the scene of any crime within the State of Alabama for the purpose of securing evidence for the State; and

F. To perform such other duties as are prescribed by the Governor or the Attorney General of Alabama; and

G. To cooperate, with the consent of the director, with other agencies on matters of vital interest to the State; and

H. To assume other duties as specified by the director; and

I. In addition, the director may examine, analyze, compare, or relate evidence received from defense attorneys where the evidence is

pertinent to a criminal charge against the attorney's client in the State of Alabama.

J. Medical examiner investigators shall be primarily responsible for conducting the initial external examination of the dead body and the initial investigation into the circumstances of deaths where the department is responsible by law to investigate such deaths. In the absence of the next of kin, the medical examiner investigator shall take possession of the personal property found on the deceased and make an exact inventory thereof. The medical examiner investigator also shall take possession of any article which, in his opinion, may be useful in establishing the identity of the deceased person or the cause and manner of death. The medical examiner investigator will report his findings to the chief medical examiner or a deputy assistant who will issue instructions for disposition of the body.

K. If an investigation reveals any evidence of a crime or that a deceased person came by his or her death by unlawful means, then the District Attorney who has jurisdiction in the case shall be notified and shall render legal assistance and advice as the investigation continues. Reports of such investigations shall be made available to the responsible District Attorney.

L. Professional personnel in each division shall have the responsibility to report their findings and conclusions. Such findings and conclusions shall be subject to review by the professional chief of the appropriate division.

Section 10. *Authority and Powers*—The authority and powers of the State Department of Forensic Science shall be:

A. Members of the department shall exercise all police authority necessary to perform their duties up to and including the same police authority as any deputy sheriff or highway patrolman within the State of Alabama, but are excluded from the provisions of Act No. 1981, H. 732, 1971 Regular Session (1971 Acts, p. 3224), as amended.

B. The chief medical examiner and his deputy assistants shall be empowered to conduct autopsies upon dead bodies. The medical examiner investigator, when so ordered by the chief medical examiner or a deputy assistant, shall be empowered to remove blood and other fluids from dead bodies.

C. The chief medical examiner shall have the authority to complete certifications of deaths under his jurisdiction.

Section 11. *Reports are Public Records*—The director shall furnish a copy of the department's official report of any investigation to the person or persons who ordered or requested the investigation. The director shall also maintain at the headquarters office in Auburn, Alabama, the original report or a microfilm record of all investigations conducted by the department. Reports of such investigations shall be public records and any person desiring a certified copy of the report shall be furnished same upon payment of a reasonable fee prescribed by the director. The director is hereby empowered to photograph, microfilm, or otherwise record any record required to be kept by this or any other provision of law after it is ten years old, or older, and he is specifically empowered to destroy or otherwise dispose of any record that is ten years old, or older.

Section 12. *Immunity for Proper Performance of Duties*—Employees of the Department of Forensic Science shall not be subject to civil prosecution for acts properly performed under the provisions of this Act.

Section 13. *Duty to Report Certain Deaths*—It shall be the duty of any person in the county where a death occurs under the categories described in Section 9-A to report such death and circumstances forthwith to the Department of Forensic Science, or any law enforcement agency. Any person who knowingly fails or refuses to report such death, who refused to make available prior medical or other information pertinent to the death investigation, or who, without an order from the Department of Forensic Science, willfully touches, removes, or disturbs the body, clothing, or any article under or near the body, with the intent to alter the evidence or circumstances surrounding the death, shall be deemed guilty of a misdemeanor.

Section 14. *Offices and Laboratories*—The State Department of Forensic Science shall maintain the headquarters office and laboratories for the scientific investigations of deaths and crimes at Auburn, Alabama, and shall be furnished adequate land for the location of such office and laboratories by Auburn University. The department, with the approval of the Governor and the Attorney General, shall maintain such other offices and laboratories

in this State as are necessary to provide the services required by law.

Section 15. *Certain Salaries and Expenses Paid by State*—The Department of Forensic Science shall be furnished offices and laboratories at the expense of the State and shall be allowed all necessary expenses for the equipment and conduct of the offices and laboratories, including stenographic, administrative, and professional assistance, and such expenses as may be incurred by department personnel, traveling within or without the State for the purpose of carrying out the provisions of this Act. Such expenses shall be paid by warrant approved by the Governor and shall be limited in amount to the sum provided therefor in the general appropriation bill unless other funds are also made available to the department.

The State Department of Forensic Science is hereby authorized to accept any gift, grant, or other appropriation of funds, supplies, or equipment from the United States Government, any foundation or trust, in aid of enforcement of this Act. The director is hereby designated as the agent of the State of Alabama to accept any such gift or grant, and he shall deposit the same in the state treasury to an account of the department. Such gift or grant shall be used only for the purpose or purposes for which the gift, grant, or contribution was made. Nothing herein shall prohibit any county or municipal agency from receiving and expending grants, gifts, and contributions or receiving supplies and equipment from any source whatsoever for the purposes of this Act. The director may use the appropriation hereinafter made to match federal funds in the event it is necessary to do so in order to secure a grant. All funds expended under the provisions of this Act shall be budgeted and allotted in accordance with the provisions of Title 55, Chapter 4, Article 3, Code of Alabama 1940.

Section 16. *Teaching Legal Medicine, Criminalistics, and Toxicology*—The professional staff, with the consent of the director, may be made available to medical schools, universities, and other training institutions within the State for teaching legal medicine, toxicology, criminalistics, or other subjects closely related to their duties. The chief medical examiner or any deputy assistant, with the consent of the director, may engage in a limited private practice of pathology. All personnel of the department, other than the director and the

deputy director, shall be merit system employees of the State. The director may not assume any permanent position with a medical school, university, or other public or private agency for pay. The director may not engage in a private practice of pathology for pay. The salary of the director and the deputy director shall be as fixed by law, payable out of the funds provided therefor in the general appropriation bill or out of any funds in the state treasury not otherwise appropriated, and as the salaries of other state officers are paid.

Section 17. Continuity of Authority, Responsibility, and Service—For the purpose of providing a continuity of authority, responsibility, and service, all records, supplies, equipment, and facilities of the State Department of Toxicology and Criminal Investigation (State Toxicologist) shall become the property of the State Department of Forensic Science; and all the rights, duties, powers and authority now vested in the State Toxicologist are hereby transferred to and vested in the State Department of Forensic Science.

Section 18. First Director—The chief officer of the present State Department of Toxicology and Criminal Investigation (State Toxicologist) shall assume the duties as first Director, State department of Forensic Science, upon passage of this Act by the legislature and its approval by the Governor, or upon its otherwise becoming law.

Section 19. Appropriations—In order to carry out the provisions of this Act, there shall be appropriated Six Hundred Fifty-One Thousand Dollars (\$651,000) for the fiscal year 1973-74 and Six Hundred Eighty Thousand Dollars (\$680,000) for the fiscal year 1974-75. Said appropriation shall be over and above the presently provided biennial appropriation of the State Department of Toxicology and Criminal Investigation (State Toxicologist). Thereafter appropriations for the State

Department of Forensic Science shall be included in the general appropriation bill.

Section 20. Abolishment of the Office and Powers of the Coroner—All powers, duties, and responsibilities for the investigation of deaths presently held and exercised by coroners are hereby abolished and repealed. The office of coroner shall be abolished at the expiration of each coroner's presently elected or appointed term. In no event shall the office of any coroner exist beyond January 14, 1975. At the time each office of coroner is abolished as provided above, but in no event later than January 14, 1975, all other express and implied powers, duties, and responsibilities of the office of coroner shall be abolished and repealed. Nothing contained herein shall prevent a coroner, otherwise qualified from becoming a medical examiner investigator under the provisions of Section 8 above.

Section 21. Other Conflicting Laws Repealed—All laws or parts of laws which conflict with this Act are hereby repealed, and Code of Alabama 1940, Title 14, Section 387 through 390, inclusive, are specifically repealed.

Section 22. Severability—The provisions of this Act are severable and if any part, section, subsection, clause, paragraph, or phrase of this Act shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not affect, impair, or invalidate the remainder of this Act, but shall be confined in its operation to the part, section, subsection, clause, paragraph, or phrase of this Act that shall be directly involved in the controversy in which such judgment shall have been rendered.

Section 23. Effective Date—This Act shall become effective October 1, 1973, upon its passage and approval by the Governor, or upon its otherwise becoming law.