

OCCUPATIONAL HAZARDS

TO

STATE EMPLOYEES

A Report

of the

JOINT STATE GOVERNMENT COMMISSION



to the

GENERAL ASSEMBLY

of the

COMMONWEALTH OF PENNSYLVANIA

SESSION OF 1951

REPORT OF THE

OF

THE COMMISSION

REPORT

The Joint State Government Commission was created by Act of 1937, July 1, P. L. 2460, as amended 1939, June 26, P. L. 1084; 1943, March 8, P. L. 13, as a continuing agency for the development of facts and recommendations on all phases of government for the use of the General Assembly.



1943

REPORT OF THE

1943

JOINT STATE GOVERNMENT COMMISSION

Honorable BAKER ROYER, *Chairman*

Honorable JOHN M. WALKER, *Vice Chairman*

Honorable W. STUART HELM, *Secretary-Treasurer*

Senate Members

JOSEPH M. BARR
LEROY E. CHAPMAN
JOHN H. DENT
G. GRAYBILL DIEHM †
ANTHONY J. DISILVESTRO
JAMES A. GELTZ
FREDERICK L. HOMSHER *
A. EVANS KEPHART
JOHN G. SNOWDEN
O. J. TALLMAN
M. HARVEY TAYLOR
PAUL L. WAGNER
JOHN M. WALKER
T. NEWELL WOOD

House Members

HIRAM G. ANDREWS
ADAM T. BOWER
HOMER S. BROWN ‡
CHARLES H. BRUNNER, JR.
EDWIN C. EWING
W. STUART HELM
EARL E. HEWITT, SR.
THOMAS H. LEE
JAMES E. LOVETT §
ALBERT S. READINGER
BAKER ROYER
CHARLES C. SMITH
HERBERT P. SORG
IVAN C. WATKINS

GUY W. DAVIS, *Counsel and Director*

PAUL H. WUELLER, *Associate Director in Charge
of Research and Statistics*

ANTOINETTE S. GIDDINGS, *Administrative Assistant*

* Deceased.

† Appointed to fill the vacancy created by the death of Frederick L. Homsher.

‡ Resigned.

§ Appointed to fill the vacancy created by the resignation of Homer S. Brown.

JOINT STATE GOVERNMENT COMMISSION
SUBCOMMITTEE ON RETIREMENT COSTS AND
OCCUPATIONAL HAZARDS

Honorable PAUL L. WAGNER, *Chairman*

Honorable NORMAN WOOD, *Vice Chairman*

Senate Members

ANTHONY J. DISILVESTRO

GEORGE N. WADE

PAUL L. WAGNER

House Members

ANTHONY J. PETROSKY

CHARLES R. REAGAN

NORMAN WOOD

LETTER OF TRANSMITTAL

To the Members of the General Assembly of the Commonwealth of Pennsylvania:

Following the directive of the General Assembly expressed in House of Representatives Concurrent Resolution No. 74, of the 1949 Session of the General Assembly, the Joint State Government Commission has investigated the occupational hazards to state employes in the performance of their official duties and the results of that investigation have been incorporated in the report which follows.

A subcommittee to assist in the study of occupational hazards was appointed by the Commission in accordance with Act of 1943, March 8, P. L. 13, Section 1. The helpfulness and cooperation of the members of the subcommittee are gratefully acknowledged by the Commission.

BAKER ROYER, *Chairman.*

*Joint State Government Commission
Capitol Building
Harrisburg, Pennsylvania*

CONTENTS

	<i>Page</i>
SUMMARY OF FINDINGS	1
INTRODUCTION	3
SECTION I. THE PATTERN OF COMPENSATION OF STATE EMPLOYEES	5
A. Average Earnings of Selected State Employes	5
B. Workmen's Compensation Insurance	6
C. Retirement Provisions of the State Employes' Retirement System and the State Police Retirement System	7
SECTION II. RELATIVE HAZARDS OF STATE OCCUPA- TIONS	11

LIST OF TABLES

	<i>Page</i>
Table I. Number of Employes and Average Salary for Selected Occupations and All Occupations, 1949	5
Table II. Annual Premiums Paid by the Commonwealth to the State Workmen's Insurance Fund on Account of Employes in All Commonwealth Departments	6
Table III. Commonwealth and Employe Contributions to Retirement Funds	10
Table IV. Injury Experience Rates of Occupations of State Employes for the Five-Year Period, Fiscal Years, 1944 to 1948, Inclusive	12

APPENDICES

Appendix A. Measurement of Occupational Hazards	17
Appendix B. Occupational Classifications	22

APPENDIX TABLE

Appendix

Table I. The Injury Experience Rates of Occupations of State Employes for the Five-Year Period, Fiscal Years, 1944 to 1948, Inclusive	20
---	----

SUMMARY OF FINDINGS

I. The employes of the Commonwealth receive wages or salaries, are entitled to paid vacation periods and sick leave with pay, and in addition, are covered by workmen's compensation insurance and are eligible for superannuation and disability retirement allowances.

II. The financing of workmen's compensation benefits is the exclusive responsibility of the Commonwealth (Commonwealth allocations to the Workmen's Compensation Fund for the calendar year 1949 amounted to \$533,793.07); payments to the State Employes' Retirement Fund are the joint responsibility of the Commonwealth and the employe (Commonwealth contributions \$6,449,858, employes' contribution \$12,620,060 for the biennium 1947-49).

III. The compensation of state employes may be modified by changes in:

- a. Wage and salary scales;
- b. Workmen's compensation benefits;
- c. Retirement and disability allowances.

IV. The General Assembly of 1949 had before it five bills designed to liberalize the retirement allowances respectively of fish wardens, game protectors, institutional employes, Liquor Control Board enforcement officers and mine inspectors. Three of these bills—H. B. No. 200, H. B. No. 260 and H. B. 1166—passed both houses but were vetoed by the Governor on the ground that it had not been established that these employes are subjected to extraordinary hazards in the performance of their official duties.

V. The hazards associated with the enumerated occupations, measured in terms of severity rates (total days lost from work by virtue of disabling injuries per thousand employe hours worked) are shown on following page:

<i>Occupation or Type of Employment</i>	<i>Severity Rate</i>
ALL STATE OCCUPATIONS	1.21
Fish wardens .....	.08
Game protectors .....	.82
Liquor Control Board enforcement officers ..	.11
Mine inspectors .....	.14
Employes of penal, correctional and mental health institutions * .....	.94

* It may be noted that the employes covered by Senate Bill No. 307 do not represent an occupational group but embrace some fifteen distinct occupations. Hence, no significant occupational severity rate can be computed for the aggregate. However, if the aggregate is viewed as defined in the bill, the severity rate is as shown.

VI. The facts show that severity rates for fish wardens, game protectors, Liquor Control Board enforcement officers, mine inspectors and institutional employes are not higher than the average for all state employes.

VII. Number of employes in the occupational classifications shown under V,* above, and their average salary for 1949 are:

	<i>Number of Employes</i>	<i>Average Salary</i>
ALL † COMMONWEALTH EMPLOYES .	39,455	\$2,620
Liquor Control Board enforce- ment officers	209	3,525
Game protectors	137	3,170
Fish wardens	51	2,454
Mine Inspection, Department of Mines	55	6,600

* Employes of penal, correctional and mental health hospitals are not included because they do not constitute an occupational group.

† Only employes who are members of the State Employes' Retirement System are included.

INTRODUCTION

The Commonwealth of Pennsylvania compensates its employes in a number of ways.

All state employes receive salaries or wages; in addition, they are the beneficiaries of paid vacation periods and sick leave with pay.

All state employes are covered by Commonwealth financed workmen's compensation insurance.

All state employes are eligible for retirement allowances, financed jointly by the Commonwealth and the employe; some employes are eligible for occupational disability allowances.

Under the circumstances, the pattern of compensation of employes can be modified by changes in:

1. Wage and salary scales.
2. Workmen's compensation benefits.
3. Retirement allowances.

During the Session of 1949, five bills were before the General Assembly which contemplated the liberalization of retirement allowances for certain specified state employes.

Senate Bill No. 791 and Senate Bill No. 307 provided for liberalized benefits for mine inspectors and institutional employes respectively—that is, men and women employed by penal, correctional and mental health institutions. Neither bill was reported from committee.

House Bill No. 200, House Bill No. 260 and House Bill No. 1166, in effect, extended the principal provisions of the State Police Retirement System to Liquor Control Board enforcement officers, game protectors and fish wardens respectively. These bills passed both houses but were vetoed by the Governor.

In his veto message¹ the Governor observed: . . . "During the recent Session of the Legislature, the question arose that certain State Government employes in the performance of their duties are subject to conditions detrimental to their health and in many cases are exposed to injuries resulting in disability and premature death. In consequence, a resolution was introduced in the House of Representatives on April 5,* providing that the Joint State Government Commission shall be authorized to make the necessary studies to ascertain what these occupational hazards are, and report its findings to the next regular Session of the General Assembly. The resolution was referred to the Rules Committee on the same date where it remained until April 26, when it was incorporated into a General Resolution, Serial No. 86, and adopted by the House on that date and agreed to by the Senate on April 27.

"It would seem, therefore, that although this bill passed both houses in the closing hours of the General Assembly that the legislators felt the matter should be given further study. First, to determine the question of occupational hazards and whether such an employe should be entitled to additional benefits; second, whether the enactment of legislation pertaining thereto, such as the bill in question, would in anywise be discriminatory or prejudicial to State employes not included in such special provisions . . ."

Section I, below, briefly outlines the pattern of compensation of State employes, with special reference to the State Police Retirement System, which apparently served as the model for House Bill No. 200, House Bill No. 260 and House Bill No. 1166.

Section II deals with the measurement of hazards encountered by State employes following different occupations.

¹ Veto Message No. 33, Session of 1949; see also Veto Messages No. 37 and No. 40, Session of 1949.

* "October 5" in original.

Section I

THE PATTERN OF COMPENSATION OF STATE EMPLOYEES

As has been indicated previously, salaries currently paid, workmen's compensation benefits and retirement and disability allowances are all part and parcel of the compensation of state employes. Significant statutory provisions and economic and fiscal facts relating to different parts of the pattern of compensation are shown below.

A. Average Earnings of Selected State Employes

The total number and average salaries of employes in selected state occupations and in all state occupations are shown for 1949 in Table I, below.

Table I

Number of Employes* and Average Salary for Selected Occupations† and All Occupations, 1949

(1)	Number of Employes (2)	Average Salary (3)
ALL COMMONWEALTH EMPLOYES	39,455	\$2,620
Selected Occupations:		
Liquor Control Board enforcement officers	209	3,525
Game protectors	137	3,170
Fish wardens	51	2,454
Mine Inspectors, Department of Mines	55	6,600

* Only employes who are members of the State Employes' Retirement System are included.

† Employes of penal, correctional and mental health institutions are not included, because they do not constitute an occupational group.

B. Workmen's Compensation Insurance

Benefits under the present workmen's compensation law are based upon the wage of the employe and vary with the extent of the disability within certain maximum and minimum limits set by law.

Compensation for total disability amounts to $66\frac{2}{3}$ per cent of wages for a total of 500 weeks after the seventh day of disability, with a maximum payment of \$25 a week and a minimum of \$12.50 a week. Compensation for permanent injuries such as amputations and disfigurement is paid at the above rate and within the same maximum and minimum limits for periods varying from 15 weeks for the loss of a finger to 215 weeks for the loss of an arm or leg.

Table II, below, shows the annual premiums paid by the Commonwealth to the state Workmen's Insurance Fund.

Table II

Annual Premiums Paid by the Commonwealth to the State Workmen's Insurance Fund on Account of Employees in All Commonwealth Departments

<i>Calendar Year</i>	<i>Amount</i>
1947	\$507,308.80
1948	486,482.23
1949	533,793.07

C. *Retirement Provisions of the State Employees' Retirement System and the State Police Retirement System*

Special benefits for *occupational* disability or death are not provided by the Pennsylvania State Employees' Retirement Act. Retirement upon disability may be accomplished, however, *regardless of the source of disability*, if the employe has had five or more years of service as a member of the retirement system.² Payments upon disability are independent of workmen's compensation benefits.

Since 1938, members³ of the Pennsylvania State Police have been under the State Police Retirement System. The following are the most important differences between the State Police Retirement System and the State Employees' Retirement System:

1. Superannuation retirement age is sixty years for state employes and fifty years for members of the State Police.
2. The superannuation retirement allowance consists of a member's annuity and a state annuity. The State Employees' Retirement System provides for a state annuity of 1/100th of the member's final salary multiplied by the number of years of service. The state annuity for members of the State Police consists of an annuity equal to 2/100th of the member's final

² See "School and State Employees' Retirement Systems," Joint State Government Commission Report, March, 1949.

³ Official Opinion No. 389 of the Attorney General, March 5, 1941, states: "A person employed as a clerk, or in an administrative capacity by the Pennsylvania Motor Police, and not having police power, is also eligible for retirement under the Act of June 29, 1937, P. L. 2433, The Motor Police Retirement Act, *supra*."

salary multiplied by the number of years of service, and an additional annuity "which shall be equivalent to the additional member's annuity which the accumulated deductions standing to the credit of the contributor would purchase, if he retired at age sixty, under the State Employees' Retirement System;" Under both systems, the state annuity shall not exceed fifty per cent of the contributor's final salary.

3. A member of the State Police may retire upon disability regardless of his length of service or the source of his disability.

Disability retirement allowance for a member of the State Police consists of: (a) a member's annuity of equivalent actuarial value to his accumulated contributions and (b) a state annuity equal to $2/100$ ths of his *final salary for each year of service*, but in any case not less than thirty per cent nor more than fifty per cent of the final salary. This computation for like salaries and like number of years of service will always produce a larger disability allowance than that of a member of the State Employees' Retirement System.

The disability allowance for a member of the State Employees' Retirement System is computed as follows:

(a) a member's annuity purchased by his accumulated contributions; (b) a state annuity, which, together with the member's annuity, is sufficient to produce $1/90$ th of the final salary multiplied by the number of years of service. The minimum disability allowance is 30 per cent of the final salary unless this product exceeds $8/9$ ths of the allowance pay-

able had retirement been deferred to the age of superannuation. In this case, the state annuity granted is the amount which is sufficient to make the total disability allowance equal to 8/9ths of the allowance had retirement been deferred until superannuation age.

4. The State Police Retirement System, unlike the State Employes' Retirement System, makes specific provision for payments upon death resulting from employment. If a member dies as a "direct and proximate result" of injuries received in the course of his employment, or while on disability retirement allowance resulting from such injuries, his widow or children under 18 years of age or dependent parents are eligible for a retirement allowance. The allowance consists of a member's annuity which is the actuarial equivalent of his contributions and a state annuity equal to 50 per cent of his final salary, less any amount received by the dependents under the Workmen's Compensation Law.

Table III, on the following page, shows both the Commonwealth and employe contributions to the Retirement Funds.

Table III
Commonwealth and Employe Contributions to Retirement Funds

	<i>Fiscal Period</i>		
	<i>Fiscal Year Ending in 1948</i>	<i>Fiscal Year Ending in 1949</i>	<i>Fiscal Biennium 1947-49</i>
(1)	(2)	(3)	(4)
Pennsylvania State Police Retirement Fund:			
State Contributions	\$75,000.00	\$75,000.00	\$150,000.00
Casualty Premium Tax Creditable to Penna. State Police Retirement Fund	116,423.74	127,067.23	243,490.97
Total State Contributions and Casualty Premium Tax Creditable to Penna. State Police Retirement Fund ..	191,423.74	202,067.23	393,490.97
Members' Contributions	202,880.98	227,703.31	430,584.29
State Employes' Retirement Fund:			
State Contributions	2,877,601.43	3,599,108.83	6,476,710.26
Members' Contributions	5,406,170.19	6,783,305.84	12,189,476.03

Section II

RELATIVE HAZARDS OF STATE OCCUPATIONS

The following three yardsticks are commonly used to measure the injury experience of groups of workers:

1. Severity rate—the aggregate days lost from disabling injuries per thousand employe-hours worked.
2. Frequency rate—the number of disabling injuries per million employe-hours worked.
3. Severity average—the number of days lost per disabling injury (total number of injuries divided into total days lost).

Table IV, below, shows the three rates for each major state occupation for the five-year period, fiscal years 1944 to 1948.⁴

When evaluating the rates shown in the table, it should be remembered that they do not measure risk in any absolute sense of the word. Comparison of these rates merely shows that, given personnel of a certain type, the performance of one occupation has been more hazardous, measured in terms of injury experience, than the performance of some other occupation.

⁴ See Appendix A for methods of computation and Appendix B for occupational classifications.

Table IV
Injury Experience Rates of Occupations of State
Employes for the Five-Year Period, Fiscal
Years, 1944 to 1948, Inclusive

<i>Occupational Groups</i>	<i>Severity Rate (Number of Days Lost from Disabling Injuries per Thousand Employe-hours Worked)</i>	<i>Frequency Rate (Number of Disabling Injuries per Million Employe-hours Worked)</i>	<i>Severity Average (Number of Days Lost per Disabling Injury)</i>
(1)	(2)	(3)	(4)
ALL STATE OCCUPATIONS	1.21	8.42	143.27
I. Administration and Supervision:			
A. Duties performed in offices .	.73	1.86	390.37
B. Duties performed in the shop or field .....	.01	.57	20.33
II. Medicine:			
A. Physician	1.67 ^a	2.18	765.13 ^a
B. Nurse .....	.18	6.81	26.99
C. Hospital Attendant .....	.91	12.56	72.30
D. Hospital Technician .....	.17	9.63	17.63
III. Accounting and Auditing .....	.02	1.33	18.75
IV. Law, Education, Public Information, Personnel Service, Library Service	.07	2.11	32.22
V. Engineering, Scientific, and Other Professional Services:			
A. Duties performed in offices ..	.02	1.20	18.31
B. Duties performed in the shop or field .....	.75	8.95	84.06
VI. Liquor Store Sales Personnel ....	.19	5.39	35.36
VII. General Office Services (Purchasing, Stenography, Clerical, Mailing, Statistical, etc.) .....	.21	2.75	77.99

Table IV (Continued)

<i>Occupational Groups</i>	<i>Severity Rate (Number of Days Lost from Disabling Injuries per Thousand Employe-hours Worked)</i>	<i>Frequency Rate (Number of Disabling Injuries per Million Employe-hours Worked)</i>	<i>Severity Average (Number of Days Lost per Disabling Injury)</i>
(1)	(2)	(3)	(4)
VIII. Messenger Service .....	.01	2.17	4.33
IX. Conservation:			
A. Fish Warden .....	.08	10.12	7.60
B. Game Protector .....	.82	8.78	93.19
C. Other Field Conservation ^b ...	.68	26.76	25.28
X. Investigation and Inspection:			
A. State Police .....	.31	8.64	36.04
B. Criminal (except State Police)	.27	4.20	63.67
C. Liquor Control Board Enforce- ment .....	.11	5.99	17.76
D. Mines .....	.14	4.54	30.00
E. Factories and Buildings .....	.01	1.60	6.00
F. Persons .....	.09	6.98	12.60
G. Tax, Rate, Price, Permit ....	.07	1.99	37.25
H. Products .....	..	...	....
I. Other ^c .....	.07	3.16	21.38
XI. Protective (Capitol Police, guard, watchman)	1.19	5.61	211.37
XII. Military Service (National Guard and Pennsylvania Guard) .....	.68	2.27	298.24
XIII. Skilled and Semi-skilled Trades (Cook, Mechanic, Electrician, Farmer, Painter, etc.)	1.90	12.83	148.12

Table IV (Continued)

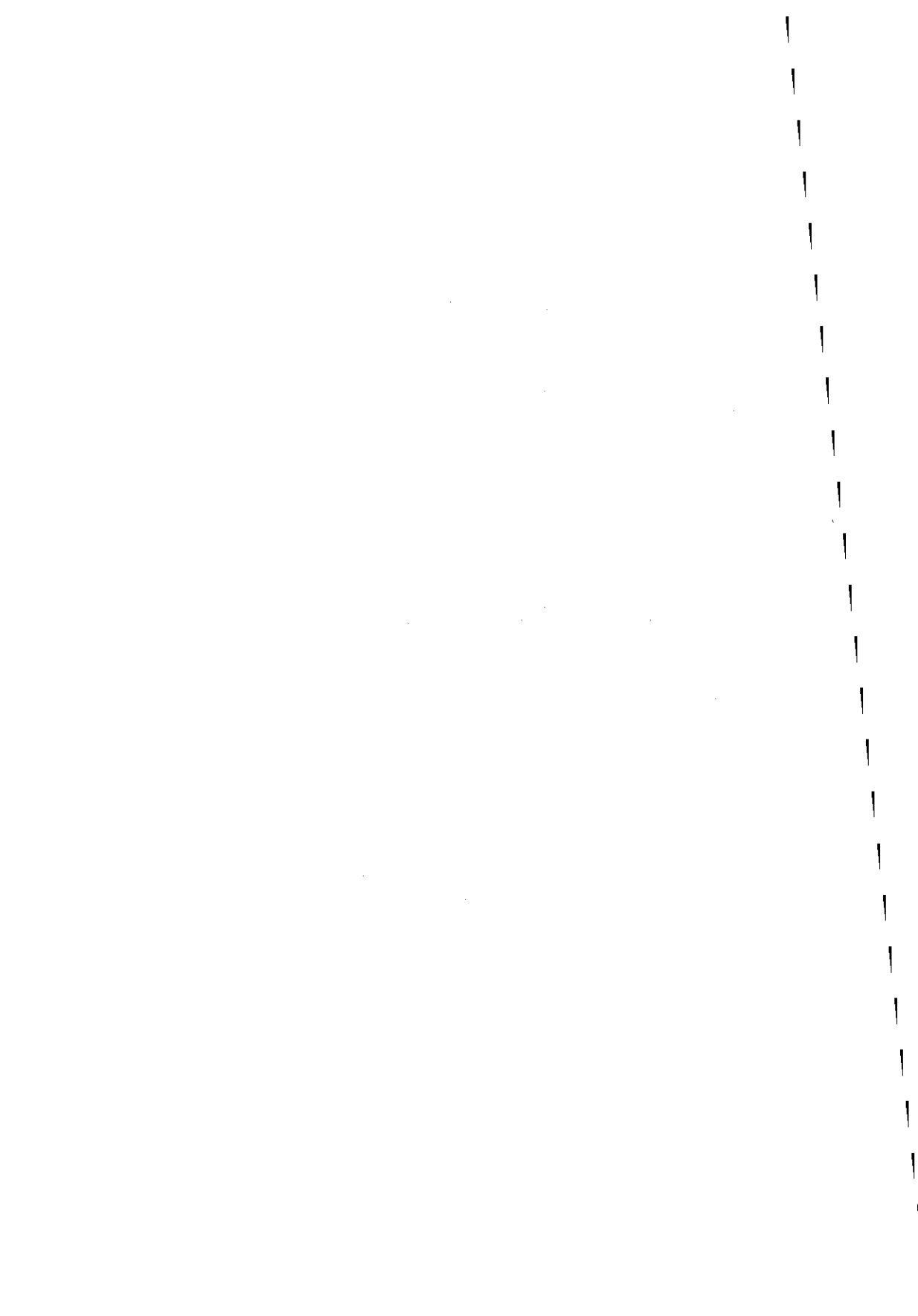
<i>Occupational Groups</i>	<i>Severity Rate (Number of Days Lost from Disabling Injuries per Thousand Employe-hours Worked)</i>	<i>Frequency Rate (Number of Disabling Injuries per Million Employe-hours Worked)</i>	<i>Severity Average (Number of Days Lost per Disabling Injury)</i>
(1)	(2)	(3)	(4)
XIV. Domestic Services (Matron, House Maid, Waiter, Dishwasher, Laundress, etc.) .....	.42	11.39	37.04
XV. Custodial and Janitorial (Guide, Gardner, Caretaker, Usher, etc.)	1.73	9.74	177.68
XVI. Unskilled Labor	3.82	15.75	242.45

^a The comparatively small number of injuries in this classification includes one fatality (6000 days) which increased both the severity rate and the severity average.

^b Includes: In the Department of Forests and Waters: Employes of the Bureau of Forests, employes of the Bureau of Parks and Fire Fighters. In the Department of Agriculture: Soil Conservation employes and Plant Pest Control employes. In the Fish Commission: Hatchery employes, employes engaged in field work and employes engaged in research work.

^c Includes: In the Department of Agriculture: Special Investigator, Food Investigator, Fruit, Vegetable and Poultry Inspector, Livestock Inspector, Disinfector and Dog Law Investigator. In the Public Utility Commission: Motor Vehicle Investigator. In the Department of Commerce, Airport Inspector. In the Treasury Department: Investigator of Lost, Stolen and Forged Checks. In the Department of Public Assistance: Claims Settlement Agents. In the Department of Labor and Industry: Mediators, Women's and Children's Hours and Wages Inspectors, and Private Employment Agency License Inspectors. In the Tax Equalization Board: Assessment Analyst. In the Department of Internal Affairs: Weights and Measures Inspectors and Report Investigators. In the Department of Public Instruction: Investigators of Motion Pictures, Law Enforcement (Examining Boards) and Veterans Training Facilities. In the Department of Health: Sanitary Inspectors.

APPENDICES



APPENDIX A

MEASUREMENT OF OCCUPATIONAL HAZARDS

I. *Method*

In estimating the hazards associated with an occupation, a quantitative analysis of the historical injury experience of employes has been made. If these estimates are to be used in forecasting future accident experience, it must be assumed that the factors affecting accidents—such as distribution of employes by personal characteristics (age, sex, physical condition and the like)—will be relatively similar in the future to the distribution during the period for which the data have been collected.

The historical injury data for Commonwealth employes have been collected from the State Workmen's Insurance Fund and the Bureau of Research and Information, Department of Labor and Industry. Only data on bodily injuries and statutorily defined occupational diseases are included. The presence of occupationally induced mental disorders, unless associated with bodily injuries or statutorily defined occupational diseases, is not reflected in the data. Employee hours have been obtained from the departments, boards and commissions of the Commonwealth.

The following three measures of injury experience have been computed for the several occupations: †

1. Severity rate—the aggregate days lost from disabling injuries per thousand employe-hours worked.
2. Frequency rate—the number of disabling injuries per million employe-hours worked.
3. Severity average—the number of days lost per disabling injury (total number of injuries divided into total days lost).

In the computation of these measures of injury experience the standard definitions of the Federal Bureau of Labor Statistics have

† For details, see Appendix B.

been employed. A disabling injury is defined as an injury by reason of which the employe is absent from work beyond the day or shift when the accident occurred. Injuries resulting in medical expenses but not in time lost are not considered. The determination of frequency rates requires no assumptions. Standard estimates of days lost for death, permanent total disability, and permanent partial disability, as currently employed by the Bureau of Labor Statistics, have been utilized.

II. *Significance Tests*

The stability of an injury rate will vary directly with the number of hours of exposure. For example, if the number of hours worked by a given occupational class were 50,000 in each of two different years, the frequency rate might be zero in one year and 100 in the other, while if 50,000,000 hours had been worked in each of the two years, one would expect the rates in the two years to be approximately the same for each year.

In this analysis, a given occupational rate was defined as being not significantly different from the rate for all state occupations if the difference between the two could have occurred by chance with a probability of at least one per cent. Cases in which the difference between an occupational rate and the rate for the state as a whole could have occurred by chance more than once in 100 trials but not more than five times in 100 trials were also noted.

The distribution from which a given frequency rate was drawn was assumed to be the binomial distribution described by the parameters N and P , N being the number of thousands of hours worked and P the probability of an injury occurring in 1,000 hours. The limits of nondiffering rates are defined as the given occupational rate $\pm 2.58 \cdot \sqrt{NP(1-P)} \frac{1}{N}$. These limits narrow, i.e., approach the given rate, as N approaches infinity. If the average frequency rate for all state occupations falls above the upper limit for a given occupation, the chances are 99 in 100 that the given occupational rate is less than the state average, and conversely, if the state average falls below the lower limit.

The distribution from which a given severity average was drawn was assumed to be Student's *t* distribution. The limits of non-differing averages are defined as the given occupational average $\pm t \frac{S}{\sqrt{N-1}}$, where *N* is the number of injuries and *S* the standard deviation of the distribution of days lost per injury for the given occupation. The .01 probability value of *t* varies with *N*-1, the number of degrees of freedom.

The significance of the severity rates is a function of the significance of the other two measures. The .01 limits of the severity rate are approximated by the products of the .10 limits of the frequency rate and severity average divided by 1000. If, for a given occupation, the frequency rate and severity average are both significantly higher or lower than the rate for the state as a whole, the severity rate will be higher or lower than the state average.

The injury experience rates in Table I are reproduced below with notations showing which rates are significantly higher or lower than the state average.

Appendix Table I

The Injury Experience Rates of Occupations of State Employees for the Five-Year Period, Fiscal Years, 1944 to 1948, Inclusive

<i>Occupational Groups</i>	<i>Severity Rate (Number of Days Lost from Disabling Injuries per Thousand Employee-hours Worked)</i>	<i>Frequency Rate (Number of Disabling Injuries per Million Employee-hours Worked)</i>	<i>Severity Average (Number of Days Lost per Disabling Injury)</i>
(1)	(2)	(3)	(4)
ALL STATE OCCUPATIONS	1.21	8.42	143.27
I. Administration and Supervision:			
A. Duties performed in offices ..	.73	1.86**	390.37
B. Duties performed in shop or field .....	.01**	.57**	20.33*
II. Medicine:			
A. Physician	1.67	2.18**	765.13
B. Nurse .....	.18**	6.81*	26.99**
C. Hospital Attendant .....	.91	12.56**	72.30**
D. Hospital Technician .....	.17**	9.63	17.63**
III. Accounting and Auditing .....	.02**	1.33**	18.75**
IV. Law, Education, Public Information, Personnel Service, Library Service	.07**	2.11**	32.22**
V. Engineering, Scientific, and Other Professional Services:			
A. Duties performed in offices ..	.02**	1.20**	18.31**
B. Duties performed in shop or field .....	.75	8.95	84.06
VI. Liquor Store Sales Personnel ....	.19**	5.39**	35.36**
VII. General Office Services (Purchasing, Stenography, Clerical, Mailing, Statistical, etc.) .....	.21**	2.75**	77.99
VIII. Messenger Service .....	.01**	2.17**	4.33**
IX. Conservation:			
A. Fish Warden .....	.08**	10.12	7.60**
B. Game Protectors .....	.82	8.78	93.19
C. Other Field Conservation ...	.68**	26.76**	25.28**

Appendix Table I (Continued)

<i>Occupational Groups</i>	<i>Severity Rate (Number of Days Lost from Disabling Injuries per Thousand Employe-hours Worked)</i>	<i>Frequency Rate (Number of Disabling Injuries per Million Employe-hours Worked)</i>	<i>Severity Average (Number of Days Lost per Disabling Injury)</i>
(1)	(2)	(3)	(4)
X. Investigation and Inspection:			
A. State Police .....	.31**	8.64	36.08**
B. Criminal (except State Police)	.27*	4.20	63.67**
C. Liquor Control Board Enforce- ment .....	.11**	5.99	17.76**
D. Mines .....	.14**	4.54	30.00**
E. Factories and Buildings ....	.01**	1.60**	6.00**
F. Persons .....	.09**	6.98*	12.60**
G. Tax, Rate, Price Permit ....	.07**	1.99**	37.25*
H. Products .....	..	...	....
I. Other .....	.07**	3.16**	21.38**
XI. Protective (Capitol Police, guard, watchman)	1.19	5.61**	211.37
XII. Military Service (National Guard and Pennsylvania Guard) ....	.68	2.27**	298.24
XIII. Skilled and Semi-skilled Trades (Cook, Mechanic, Electrician, Farmer, Painter, etc.)	1.90**	12.83**	148.12
XIV. Domestic Services (Matron, House Maid, Waiter, Dishwasher, Laun- dress, etc.) .....	.42**	11.39**	37.12**
XV. Custodial and Janitorial (Guide, Gardener, Caretaker, Usher, etc.)	1.73	9.76	177.68
XVI. Unskilled Labor	3.82**	15.75**	246.45**

KEY:

* Significantly different from the state average at the 5% level.

** Significantly different from the state average at the 1% level.

Figures shown without asterisks are not significantly different from the average for all state occupations.

APPENDIX B

OCCUPATIONAL CLASSIFICATIONS

The injury rates of state occupations have been determined by the methods shown in Appendix A. The sixteen major occupational groups used were adapted from the service classifications given in "Classification and Compensation System of Personnel Service" (established by the Executive Board, September 1, 1933). Modifications in the existing classification system were made for the following reasons:

1. To ascertain the injury experience of certain groups of employes covered by bills introduced during the 1949 session of the General Assembly.
2. To present in greater detail occupations within major service classifications which presumably might show significant differences in injury experience.
3. To establish subclassifications which would reflect differences in environment and in the nature of duties.

In compiling this list of sixteen major occupational groups according to actual duties performed, certain of the official service classifications were consolidated, some separately classified, and some divided on the basis of duties performed.

The service classifications consolidated are:

1. Law, Education, Public Information, Personnel Service and Library Service
2. General Office Services, Typing, Stenographic, Correspondence and Secretarial, Supply and Equipment, Mail and File, General Clerical and Record, Office Appliance Operating
3. Engineering, Scientific and Technical Services

Occupational groups separately classified are:

1. Liquor Store Sales Personnel
2. Domestic Services
3. Military Service—National Guard and Pennsylvania Guard

4. Protective Services—Capitol Police, Guard, Watchman
5. Medical Services
 - a. Physician
 - b. Nurse
 - c. Hospital Attendant
 - d. Hospital Technician

Occupational groups divided on the basis of duties performed are:

1. Administration and Supervision
 - a. Duties performed in offices
 - b. Duties performed in shop or field
2. Medicine
 - a. Physician
 - b. Nurse
 - c. Hospital Attendant
 - d. Hospital Technician
3. Engineering, Scientific and Other Technical Services
 - a. Duties performed in offices
 - b. Duties performed in shop or field
4. Conservation
 - a. Fish Warden
 - b. Game Protector
 - c. Other Field Conservation
5. Investigation and Inspection
 - a. State Police
 - b. Criminal, exclusive of State Police
 - c. Liquor Control Board enforcement
 - d. Mines
 - e. Factories and Buildings
 - f. Persons
 - g. Tax, Rate, Price, Permit
 - h. Products
 - i. Other

