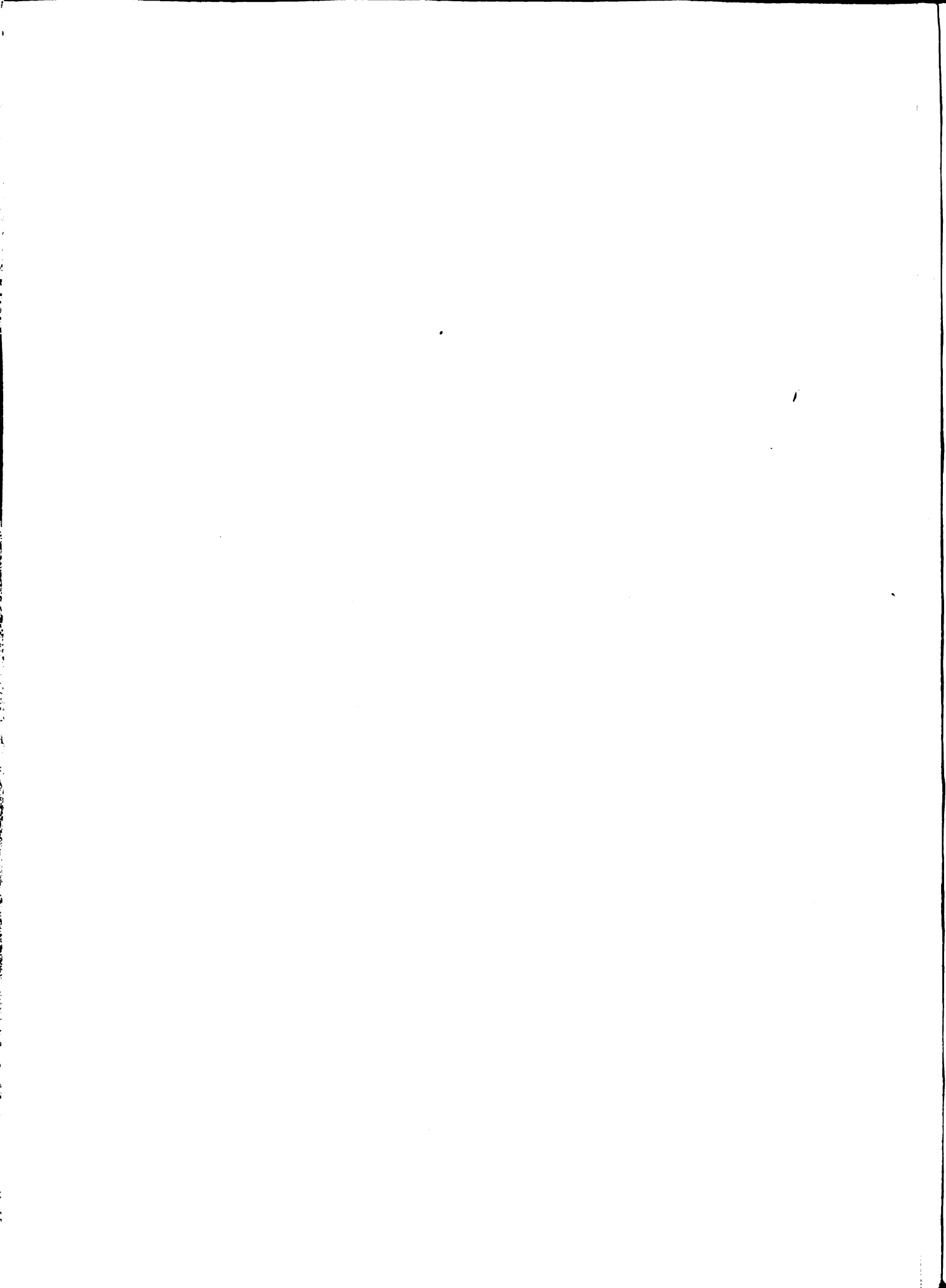


THESIS

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THE HISTORY AND ORGANIZATION
OF THE STATE HIGHWAY DEPARTMENTS
OF THE UNITED STATES

A Thesis Submitted to
The Faculty of
MICHIGAN STATE COLLEGE
of
AGRICULTURE AND APPLIED SCIENCE

By

Roy C. Brigham

Candidate for the Degree of
Bachelor of Science

June, 1930

THESIS

0032

ACKNOWLEDGEMENT

The author wishes to gratefully acknowledge the suggestions and assistance offered by E. A. Finney, W. W. Hitchcock and C. A. Allen; also the various State Highway Departments of the United States which submitted data to make this thesis possible. Reference was made to the text "Highway Administration and Finance" by Agg and Brindley and to the "Highways Green Book" 1920, published by the American Automobile Association, and thus much appreciation is due the writers of these two books.

Roy C. Brigham.

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INTRODUCTION

This thesis was written as a partial fulfillment of the requirements of a Bachelor of Science Degree in Civil Engineering. The author being interested in the administrative as well as the construction phase of highway engineering chose the subject for writing.

To obtain the data it was conceived that the best plan would be to request each Highway Department to submit a similar discussion of the subject. A letter stating the reason for the request and information desired was presented to each State Highway Department of the United States. A majority of the Departments replied promptly and effectively.

This data was digested and assembled in the most brief and concise manner possible to give the history, legislation, organization, financial outline and progress report of the State Highway Departments. This thesis was written with the viewpoint of using it as a reference. Thus care was exercised to submit therein the most recent and correct material.

The data received from the various Highway Departments will be submitted to the Civil Engineering Department of Michigan State College, with whom it may be filed or disposed of as to the judgment of the Department. The author feels that this data is especially valuable in studying various phases of highway engineering.

ALABAMA

HISTORY

Legislation of 1919 passed measures creating a State Highway Commission consisting of three members. Not much available data relating history is at hand at this writing. At first construction contracts were awarded in the name of the county but under a newer law all contract are made by the State. The maintenance of any road constructed by the State is supported by State Funds.

LEGISLATION

No attempt here will be made to reproduce the forty-six legislative acts pertaining to the highways or the department. Under the rules and regulations of the Department power is given the Department to adopt reasonable and necessary rules and regulations for better construction, repair and maintenance of the public roads and bridges. It has power to enter into contracts and agreements pertaining to construction and safety in the use of the public roads. It also has power to prescribe rules for weight or tonage of vehicles used on the roads. Convict labor is used in the construction of roads and the saving is very effective.

ORGANIZATION

The personnel of the Department consists of a Highway Director and two Associate Commissioners. The personnel of employees in general charge of the work of the Department consists of two assistant engineers, a bridge, testing and office engineer, an assistant purchasing agent, a superintendent of maintenance,

auditor, and four division engineers.

FINANCES

Proceeds from gasoline tax, automobile registration, trailer chauffeur and escape make up the resources of the Highway Funds. Appropriations from Federal Aid must be added to the list.

PROGRESS

State projects completed prior to September 30,

1927 684.19 miles

1928 985.74 "

1929 1972.45 "

Federal Aid projects completed prior to September 30,

1927 1740.70 miles

1928 2087.02 "

1929 2461.10 "

State projects under construction October 1, 1929

710.92 miles

Federal Aid projects under construction October 1, 1929

242.92 miles

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Sixth, seventh, and eighth annual report of the

State Highway Commission of Alabama

1927 1928 1929

ARIZONA

HISTORY AND LEGISLATION

State aid was adopted in 1909. The Department has charge of the construction of all work financed wholly, or in part, with State or Federal funds. A system of State highways of 1600 miles has been laid out by a board of County Supervisors with approval of the State engineer.

ORGANIZATION

The State Highway Department is administered by a State engineer appointed by the governor for a term of two years. He is assisted by an office engineer and chief clerk, a chief of location, four division engineers with necessary resident engineers.

FINANCES

In 1919 the Federal Aid funds available exceeded \$2,300,000, the amount of the State funds, so that the State Department cooperated with the county commissions so as to take advantage of all the available Federal funds. Revenue is collected from a tax of one mill on each dollar of the assessed valuation levied annually, 25% of which goes to the State funds and 75% to the counties all to be used on construction and maintenance of roads. Also from the registration of automobiles. Other miscellaneous sources such as appropriations and tolls are at hand annually.

PROGRESS

Arizona has a total mileage of 22,582 miles, 2,031 of which are under the state system. The mileage improved was 1,705 miles in 1928. Approximately 315% are Federal Aid roads. About 58% of the Federal Aid roads are gravel, the remainder being various except 18% being concrete.

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No data was submitted by the State. Thus no history has been compiled at this writing.

ARKANSAS

HISTORY

We find that the motor vehicle was first recognized and defined in Arkansas by Act 134, approved March 24, 1911. This act provided for the registration of motor vehicles, a penalty for non-registration and a maximum speed limit of vehicles. The registration fee was fixed at \$5.00 per vehicle and was payable to the Secretary of State. The initial step in placing road building upon a recognized basis was made when Act 234 was approved May 4, 1911. This act supplemented the general road laws of Arkansas and made provisions for the appointment of a county engineer, with direct supervision over all public roads of the county. With increased demands for highway facilities, the need of a State Department in charge of such activities became apparent, and in 1913 the State Highway Department was created through Act 302, approved March 31, 1913. The newly created department was affiliated with the Department of State Lands and the affiliation termed the Department of State Lands, Highways and Improvements. In connection with this a Highway Commission and a highway improvement fund was formed. The Department operates under the above system and aided by the Federal Aid and other taxation provisions which will be treated under the heading of Legislation.

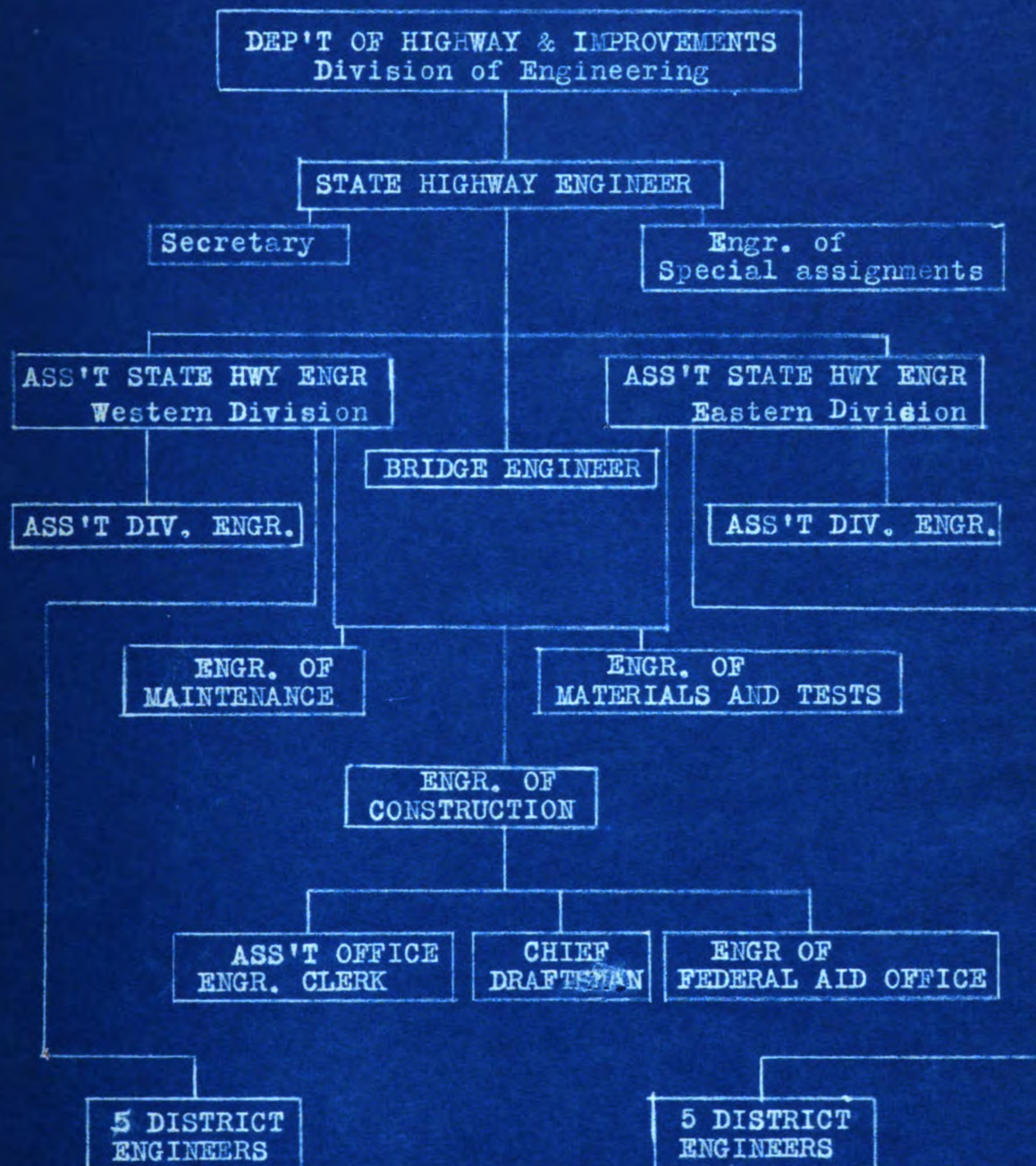
ORGANIZATION

The duties with which the State Highway Department is charged can be briefly expressed as the development and maintenance of the roads embraced in the State system. However, the activities covered by this expression vary widely in scope and the execution of the work. Three major subdivisions have been developed with the Department itself, although no clear line of demarcation exists between either, the relations of each necessarily interlocking and merging with that of the other.

These three subdivisions may be termed the Administrative, composed of the State Highway Commission and directing the policies of the Department in conformance with the legislative acts governing; the Highway, charged with the location, construction and maintenance of highways; and the Business, detailed with the various operations incident to the making of purchases, the registration of motor vehicles and the accounting and auditing.

The commissions are honorary in character, with a term of office of four years, the appointments overlapping as to prevent an entire new commission in any one administration, excepting through resignation or death of the appointees. The Highway division is under the execution of the State Highway Engineer, who is supported by two Assistant State Highway Engineers one of the Eastern and one of the Western

ORGANIZATION OF THE STATE HIGHWAY DEPARTMENT
OF ARKANSAS



division. For further support to the duties of this general line up the organization chart may be consulted.

LEGISLATION AND FINANCES

Some twenty-two acts of Legislation have been approved to make up the fundamentals upon which the Department functions. It is hardly necessary to quote at this writing all the acts in their order and exact wording to show the fundamentals. When the Department was created in 1913 provisions were made to prepare, collect and disseminate information relative to roads, highways, drainage, levees and other public improvements. Also provisions were made for the formation of road improvement districts, specifying the procedure to be followed.

Provisions were made from time to time for funds as the system grew and funds were needed. The sources of revenue come from the registration of motor vehicles, a four cent tax on gasoline and a ten cent tax on motor oils, authorized bond issues, Federal Aid and refunds on the cost of local and State roads.

PROGRESS

STATUS OF IMPROVEMENT OF ALL ROADS OF STATE HIGHWAY

SYSTEM AS OF SEPTEMBER 30, 1928

TOTAL MILEAGE	MILES GRADED	MILES GRAVELED OR SIMILAR TYPES	MILES PAVED	MILES UNDER CONSTRUCTION	MILES UN- IMPROVED
8,717.1	1,707.8	3,566.1	774.0	1,312.9	1,455.2

PROPORTION OF STATE HIGHWAY IMPROVEMENT

Gravel	46.7%
Graded	26.6%
Unimproved	17.5%
Hard Surfaced	9.2%

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Lands

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CALIFORNIA

HISTORY AND LEGISLATION

The people of California voted to raise a bond issue for the improvement of road conditions involving \$73,000,000 cited as the "State Highway Act" in amount \$18,000,000 at the general election of 1910. Other issues followed as the system expanded. The first commissioner was appointed in August 1911. State highway work has been in progress since 1912.

This first bond act provided that highways be acquired and constructed along the Pacific Coast, thru Sacramento and San Joaquin valleys and connecting county seats lying east and west of the main routes. In 1916 the second "State Highway Act" in amount \$15,000,000 was adopted. It added eight specific extensions to the original system.

The third bond act took the form of an amendment to the State Constitution, an amount \$40,000,000 at a special election in July 1919. This third bond measure provided for the completion of the original system, the eight extension of the 1916 Act and thirty additional road projects described in the new bond proposition of 1919.

By the end of the end of the fiscal year 1921 California was allotted \$3,048,000 for Federal Aid. This has increased to the extent that for the biennium July 1, 1926 to June 30, 1928 \$5,412,990 was the allotment.

The use of convicts in State Road building operations was first authorized in 1915. The convicts were compensated by

a reduction on their time to serve in prison, not to exceed one day for each two calendar days that the convict is absent from the prison. In 1923 this measure was amended to permit a money payment to convicts in addition and supplementary to the credits of the 1915 measures. In 1927 the Act was again amended by a special appropriation of \$600,000 to be used exclusively for the payment of convict wages.

ORGANIZATION

The California State Highway Department is directly administered by three appointed members designated as the California Highway Commission. The highway engineer, appointed by the governor, is the executive officer of the commission, and in his charge is placed the construction of the State Highway system. An accompanying chart will convey in general the make up of the organization.

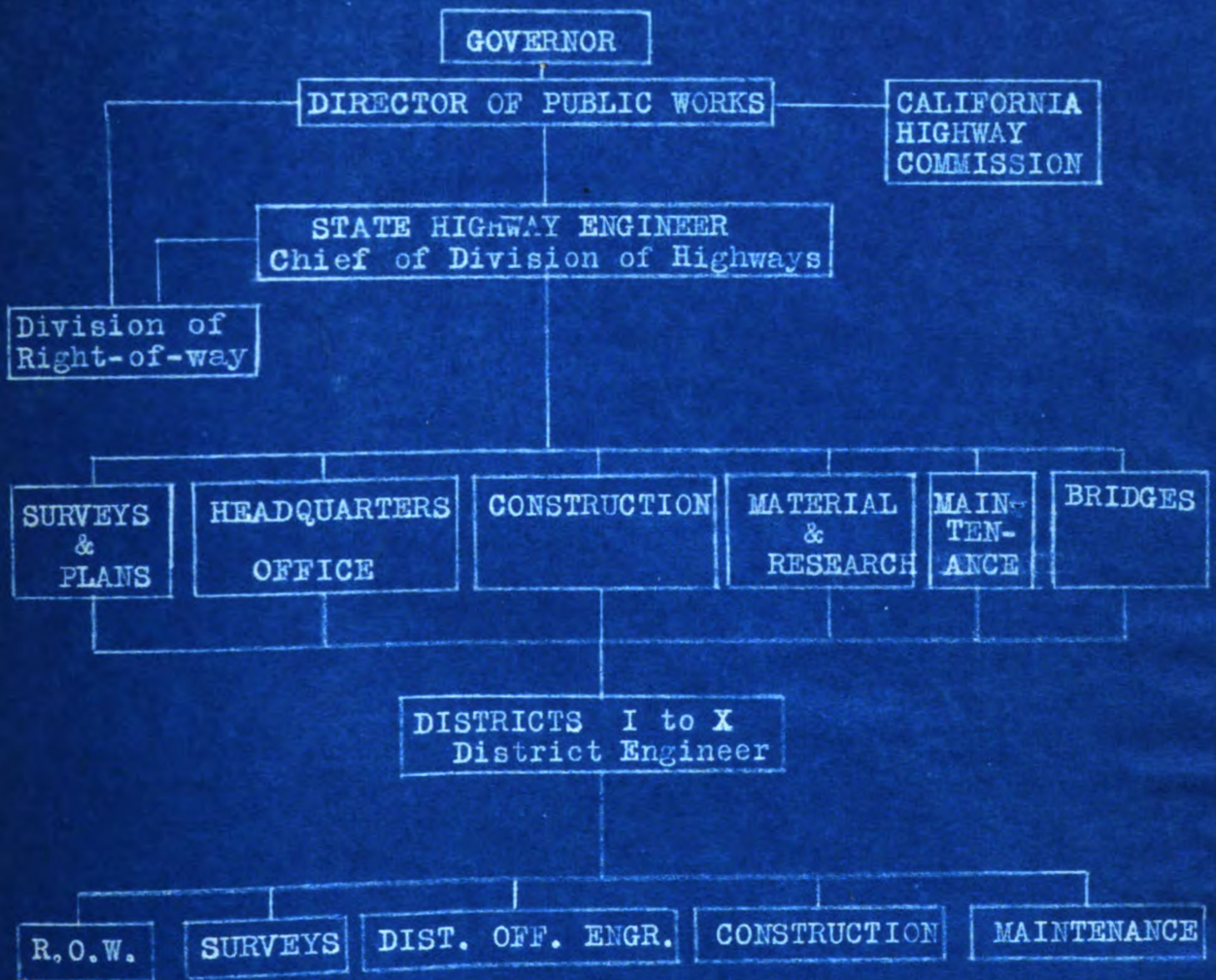
FINANCES

The entire system was constructed and is maintained at the expense of the State, except that each county must pay into the State Treasury 4% under the first bond issue and 4½% under the second and third issues upon the amount expended in the county in the construction of State highways; less such portion as the bonds matured shall bear to the total number sold and outstanding. The cost of maintenance is provided for through funds derived from the State license fee imposed upon motor vehicles.

It is found that in 1928 the sources of revenues are Federal Aid, a one and two-cent gasoline tax, motor vehicle license fee, transportation license tax, franchise tax(stages)

```

graph TD
    GOV[GOVERNOR] --> DPW[DIRECTOR OF PUBLIC WORKS]
    DPW --- CHC[CALIFORNIA HIGHWAY COMMISSION]
    DPW --> SHEL[STATE HIGHWAY ENGINEER  
Chief of Division of Highways]
    SHEL --> DROW[Division of Right-of-way]
    SHEL --> SURP[SURVEYS & PLANS]
    SHEL --> HQO[HEADQUARTERS OFFICE]
    SHEL --> CON[CONSTRUCTION]
    SHEL --> MR[MATERIAL & RESEARCH]
    SHEL --> MA[MAIN- TEN- ANCE]
    SHEL --> BR[BRIDGES]
    SHEL --> DE[DISTRICTS I to X  
District Engineer]
    DE --> ROW[R.O.W.]
    DE --> SUR[SURVEYS]
    DE --> DEO[DIST. OFF. ENGR.]
    DE --> CON2[CONSTRUCTION]
    DE --> MAINT[MAINTENANCE]
  
```



State general fund and other contributions. These sources amount to approximately \$23,000,000 per annum at the present.

PROGRESS

State Highway work has been in progress since the spring of 1912. In 1919 the system included 1853 miles the major portion of which was concrete base with bituminous surfacing. In June 1928 6,563 miles were authorized as the State system. Of this 2465 miles are paved and 2233 miles had not been worked on by the State, the remainder was under various types of surfacing.

COLORADO

HISTORY

The Colorado State Highway Act was approved in 1921. This act created the commission which was required to prepare a map showing the public roads in each county connecting the roads of sufficient importance to receive State Aid and form a connecting system of State routes. A system of some 8000 miles were laid out, from which the commission selected the roads which were to be improved through Federal Aid. A total mileage of 882 miles came under the Federal Aid program at about the time of creation. Since the approval of the act in 1921 this is no available data leading to history except that legislative action to retire the bond issue of 1923. These bonds will be fully paid by 1933.

LEGISLATION

The Commission is given authority to apportion the State Aid road fund among the counties. Surveys and plans and specifications are made by the county commissioners and submitted for approval to the State Highway Commissioner. Contracts are let either by County or State Commissioners. The State does all engineering of Federal Aid projects while construction and maintenance are under the supervision of the County Commissioners subject to approval of the State Highway Commission. In each county a Board of three County Commissioners serving four year terms has jurisdiction over local roads. They may appoint overseers. There is a provision made for the use of State prisoners in highway work. The request by the county commissioner is filed with the warden.

The extra cost of guarding the prisoner is borne by the county.

ORGANIZATION

The highway commissioner is appointed by the governor for a term of four years, a board of five members with terms of five years, the term of one member expiring each year, a secretary and other assistances are employed by the commission. An accompanying chart will convey a general lay out of the organization set up.

FINANCES

Under the highway act there was created a fund known as the State Highway Fund. The forms of revenue are from general taxes; from appropriation made by legislature; from the Internal Improvement Income Fund; from registration of motor vehicles and tax on gasoline; from sale of bonds authorized by the people for highway purposes; from public donations including allotments from the Federal Government.

PROGRESS

There is no available data as to mileage report at this writing but the annual budget for the year 1930 estimates disbursements in amount of \$6,202,202. \$3,592,404 of which is Federal Aid projects. \$1,475,000 for maintenance, the remainder to be used on the remaining accounts.

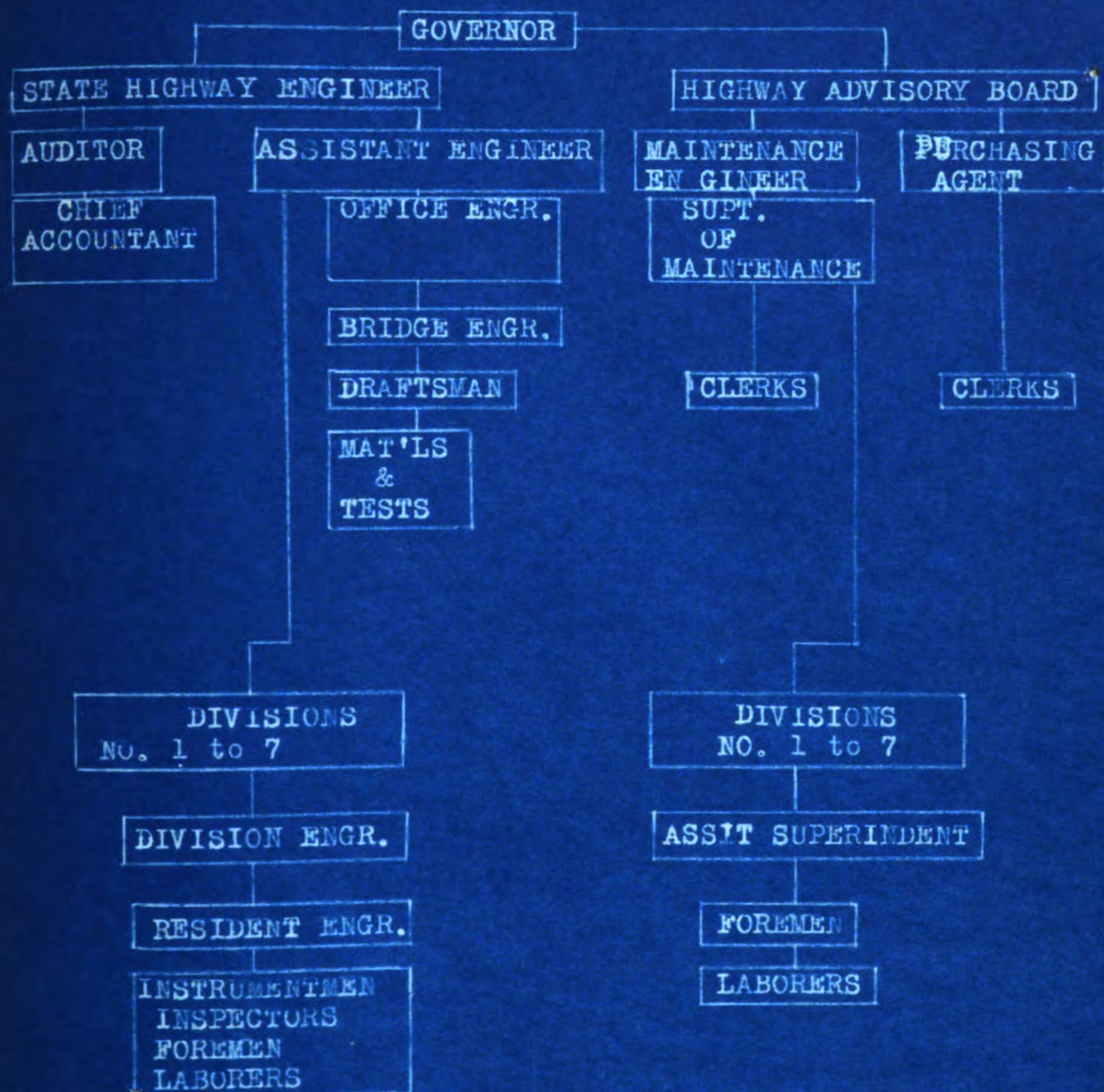
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ORGANIZATION CHART
COLORADO STATE HIGHWAY DEPARTMENT



CONNECTICUT

HISTORY

A bill providing for the appointment of a triple-headed commission was signed by the governor July 3, 1895. Thus the department was organized. It did not meet with favor in Connecticut and the law was amended in 1897 providing for a commissioner appointed for a term of four years.

In the thirty-five years of existence of the highway there has been three distinct periods and classes of development. First, 1895 to 1913, the promotional or educational work, during which time not so much thought was given to refinements of road building as to getting the people and towns out of the mud; the second, 1913 to 1923, building a much larger mileage of highways to meet traffic demands for a largely augmented system of highways; third, 1923 to 1930, the reconstruction period, the replacing and rebuilding of the earlier built roads which were not capable of taking care of the present volume of traffic. A large part of the old roads were water-bound macadam fourteen to sixteen feet wide.

From 1895 to 1917 the towns financed the cost of State Aid roads construction, paying the contractors in full. Since 1907 the state has paid the contractor and after completion of work bills have been sent to the towns and they have refunded their share of the cost.

In 1901 a map was prepared by the commissioner showing a trunk line system. This was revised from year to year when in 1913 a definite map was submitted to and adopted by the legislature. and recorded as the official trunk line system.

In 1927 it was found that the trunk line system aggregated 1554 miles and June 30, 1928 1294 miles of this had been improved. Since 1923 maintenance and repairs have been solely handled by the state and paid by state funds.

Between 1915 and 1924 the state department had charge of toll bridges and ferries; after which all bridges have been made free. Advantage of the Federal Aid appropriations were taken and up to 1928 236 miles have been constructed with the aid of such appropriations. In 1925 the State Laboratory for testing of materials was established. Before that time commercial houses had done the testing. All materials now used in construction and maintenance are thoroughly tested in the State Laboratory.

ORGANIZATION

The commissioner is appointed by the governor. Provisions for a deputy commissioner are enforce but no definite information as to organization lay out is at hand. The commissioner has sole charge and approval of all State Highway operations, including bridges and maintenance of both. A superintendent of repairs and a chief clerk are also aids to the commissioner.

FINANCES

Registration of motor vehicles provides a fee which is used by the State Highway Department. A gasoline tax is in force and for the five fiscal years ending June 30, 1929 the total receipts from this tax was in amount \$14, 197, 268. There are also receipts from ferries.

PROGRESS

The Connecticut State Highway Department is well organized

and functions well to the satisfaction of needs of the highway program. Some 236 miles of Federal Aid road has been constructed. Approximately 1300 miles of the 1550 miles of system has been improved. Much has been done by way of landscaping and defining boundaries. Proper signs are used to meet the recommendation of the American Association of State Highway Officials.

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DELAWARE

HISTORY AND LEGISLATION

The first highway work in Delaware began in 1675 when a road was "laid out one-half way between Augustus Herman's plantation to New Castle." We find that gradually these roads were extended throughout the State. About 1775 the governor divided the State in districts and appointed supervisors. Some sixty-foot roads were laid out, abandoned later or cut down to forty feet. The first toll companies were organized in 1808. However, no real progress in public road building was made until 1903. A State Aid Law was passed what might be the beginning of the State Highway Department. Provisions were made of Offices in Dover. A commissioner was appointed for each county and \$30,000 appropriated for the first years work, the state and county to share equally.

The law was repealed in 1905 and for twelve years the state was without a highway department. Counties carried on, aided by the State, to the amount of \$30,000 annually. Some 27% of the roads were surfaced or approximately 275 miles during the period. During the period 1912 to 1917 General du Pont built a road at his own expense extending the length of the State. When the Department was organized in 1917, some 28 miles had been completed. He was allowed to continue this and was later completed and costing nearly \$4,000,000 but is the backbone of the system.

The State Highway Department was created in 1917 in order to take advantage of the Federal Aid. Legislation provided for layout of permanent highways, and issuance of

State bonds with which to construct the system.

ORGANIZATION

The Department is composed of the governor and four members appointed by the governor. The administrative heads are the chief engineer and a secretary who are appointed by the commission.

FINANCES

Two sources of funds are provided with which to pay the interest and principal of the bonds; and for the support of the State Highway Department, namely the gross receipts from automobile registration fees and gasoline tax, and the gross receipts from the State Income tax less \$250,000 per annum which goes to the public schools. Also funds are appropriated at the discretion of State Highway Department in the budget system.

PROGRESS

The first three years 1917 to 1921 only 105 miles of permanent pavements were completed. Since 1921 to date some 600 miles have been completed. Delaware is experiencing a period of reconstruction and widening and is putting double effort forth to gain the loss sustained in regard to progress of neighbor states during the twelve years, 1905 to 1917, she was without a Department.

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DISTRICT OF COLUMBIA

ORGANIZATION

There are three Commissioners appointed by the President to administer the affairs of the District of Columbia. Roads and streets are administered by one of the Commissioners who is an army engineer.

FINANCES

The National Government owns about one-half the property valuation of the District, so Congress appropriates 50% of the approved estimates and a like proportion is paid from the revenue accruing from the District taxation. The motor vehicle license fee and gasoline tax are also revenues.

PROGRESS

Mileage report of streets and roads in the District of Columbia of 1915, 1916, 1919 : 510.19, 513.69, 517.13. Approximately 31% is asphalt, 23% is water-bound macadam and 31% gravel and dirt roads. No later data is available.

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FLORIDA

HISTORY AND LEGISLATION

The State road commission was created in 1915 and given authority to enter into contracts and make rules and regulations necessary for construction and supervision. It was also authorized to designate certain roads as State roads, to acquire by purchase or condemnation right of way for other roads which be State or Federal roads. In 1919 the Legislature assented to the provisions of the Federal Aid Act and levied a special State-wide tax to meet Federal Aid. In the same year load limits laws were passed and specified for the purpose of protecting road surfaces.

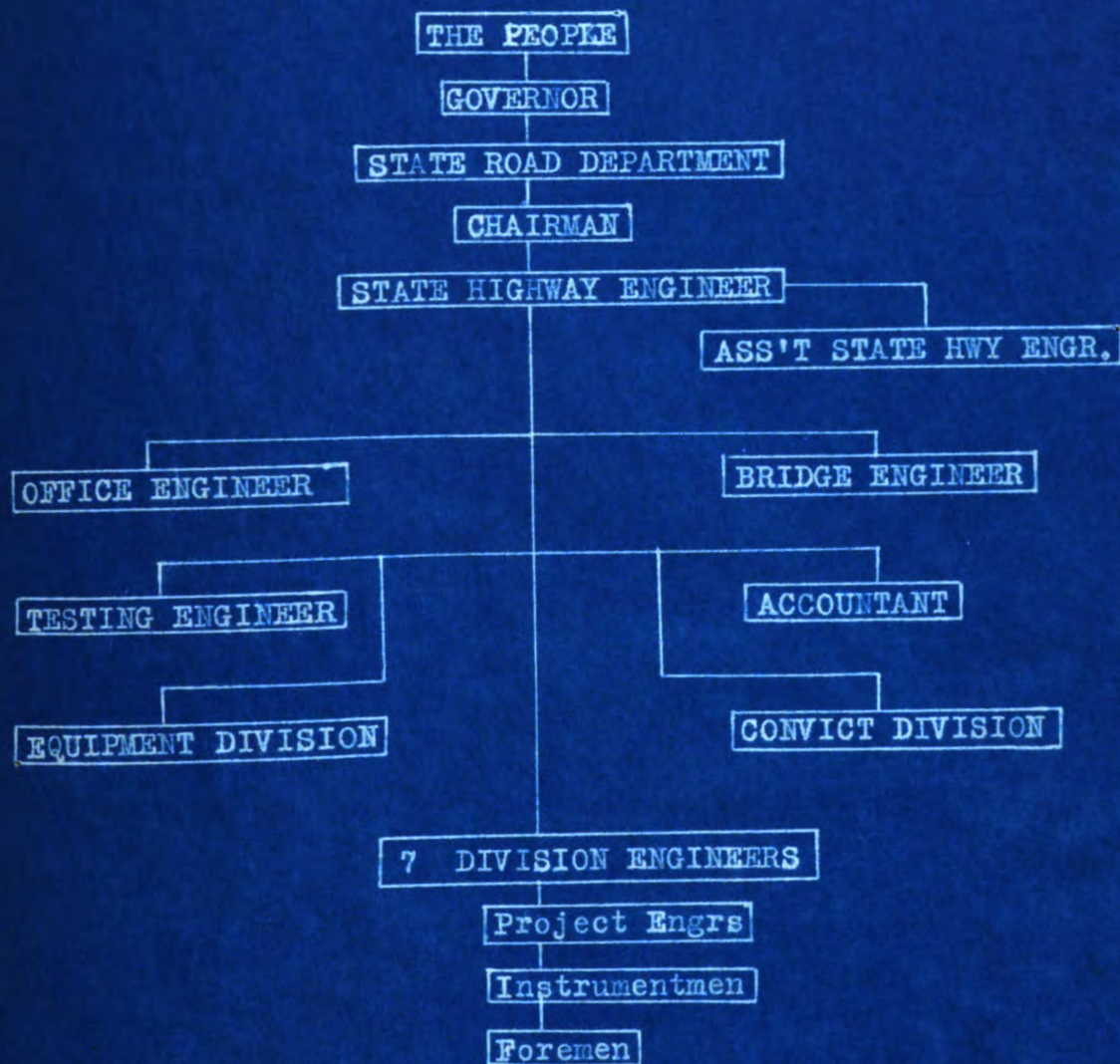
ORGANIZATION

The Commission consists of five members, one representing the State at large and one from each congressional district. They are appointed for a term of four years by the governor. The Department is authorized to employ a State Highway Engineer who is required to have specified requirements, also employ necessary assistants. An organization chart shows the present plant of Department administration.

FINANCES

For resources the State Highway Department depends upon a two-cent gasoline tax, a 70% automobile license fund, a one-eighth gasoline inspection fund, and Federal Aid allot-

ORGANIZATION CHART
of
STATE ROAD DEPARTMENT
of FLORIDA



ments. A 10% reserve for emergency work is maintained with this deduction an available fund of approximately \$10,000,000 annually is in force.

PROGRESS

The total length of approximately 8,524 miles comprises the system.

Projects completed to Dec. 31, 1928 (paved) 1,736.07 miles

Projects under construction " 649.83 "

Projects graded ready for paving " 370.52 "

In general it may be said the majority of mileage paved is of the type rock base surface treated. An intensive use of convict labor at an average cost of \$1.45 per day per man, using a total of 1100 prisoners distributed among 20 camps, is in progress.

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GEORGIA

HISTORY AND LEGISLATION

In 1916 a State Highway Department was created, unsupported by State funds, whose sole function was to handle the Federal Aid allotments to Georgia by acting as agents to counties which furnished the money to match Federal Aid. In 1919 the department was recreated having as a prospective duty of the expending of \$2,000,000 income from motor vehicle license beginning with 1920, in addition to administering the Federal Aid allotment. In 1908 legislation provided that State convicts could be used to work on the county road, the expense being supported by the counties. The use is practiced to a great extent at present and a larger saving on labor is exercised.

ORGANIZATION

The State Highway Department embraces a State highway board of three men appointed by the governor for a term of six years; a State engineer selected by the board; and a staff by the board, but filled by direct employment of the engineer.

FINANCES

Funds are gathered from bond issues, automobile registration fees and taxes on property.

PROGRESS

Georgia has a total mileage of 97,892. The State system comprises 6,729 miles of which 3,904 has been

improved. Under the rapid growth of traffic repair costs and thus a rapid growth of concrete or paved roads is in evidence.

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IDAHO

HISTORY AND LEGISLATION

The early road development followed to a great extent the Indian and pioneer trails, and the same influence is apparent in the present system. The construction of North and South routes and Military roads dates around the period of 1865 to 1899. In 1911 the highway district law was passed providing for organization within the counties for road financing, construction and maintenance initiating a system of local financing that has persisted to the present time.

The first Highway Commission was organized in 1913 which provided for a Commission of five members. In 1915 the commission was reduced to three members. Adequate powers were granted, cooperating with counties, to provide a system of State highways. A State Highway Engineer in charge of an engineering department was established and its duties specified in 1913. In 1919 the Highway Commission was abolished and its powers and duties with those of the State Highway Engineer were delegated to the newly created Department of Public Works. This to be administered by a Commission of Public Works. A Director of Highways was provided, no other changes were made.

Local cooperation has been excellent and an important factor in the development. Maintenance has developed and has handled the changing problem well. Improvement on the

constructed roads provides the credit due the Maintenance Department.

ORGANIZATION

An accompanying organization chart will explain the fundamental organization of the Department.

FINANCES

A motor vehicle license tax 30% of which is apportioned to the State the counties getting the remainder. Federal Aid since 1916 has been taken advantage of and a property tax of two cents per gallon in 1923 and raised to four cents by 1927 also goes to the highway fund.

PROGRESS

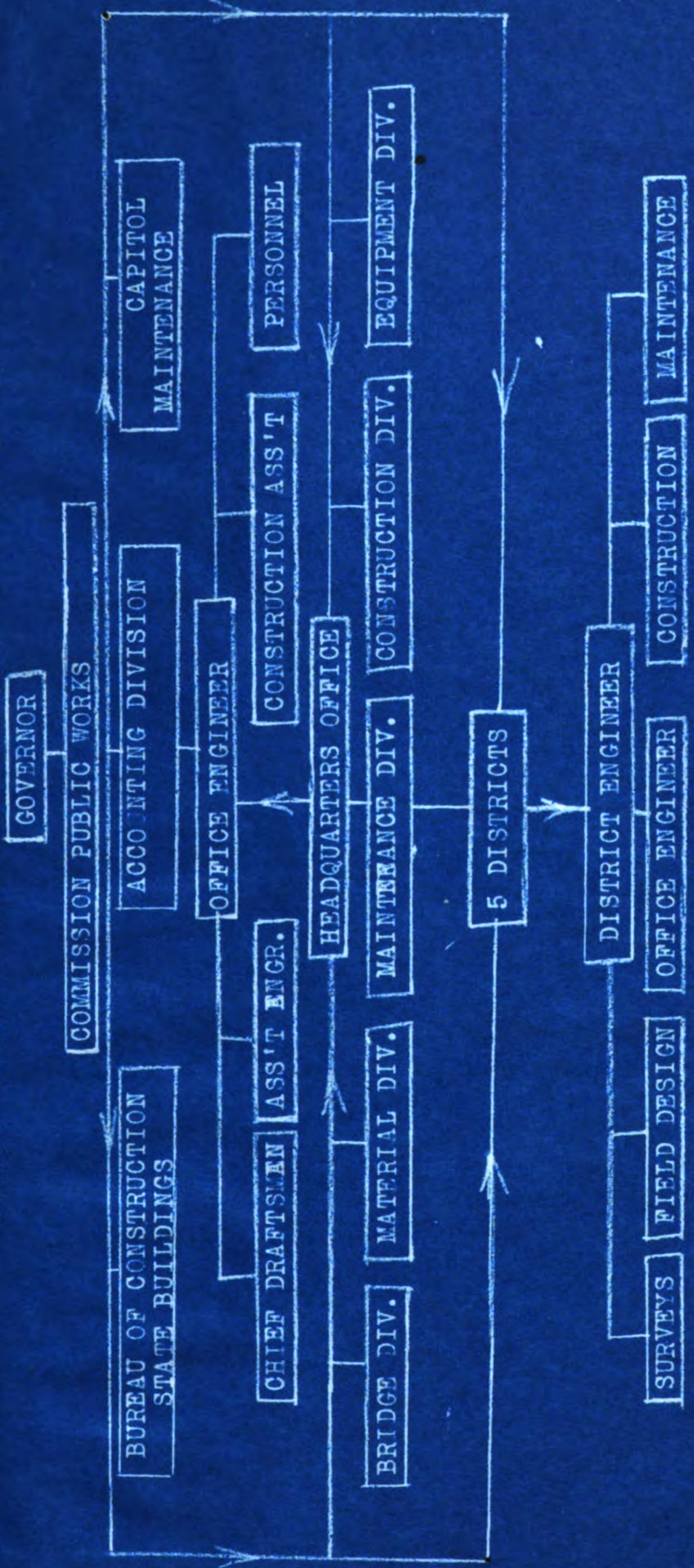
The assumed total mileage of the State is 40,200, 3,183 of which are allowed Federal Aid. Federal Aid to date amounts to approximately \$10,000,000. Many of the older bridges have been replaced by modern standards but, due to the large number, it will be a period of years before they will all meet the traffic requirements of the time. At the close of 1928 the designated State system consisted of 4,259 miles of which 214 miles were paved, 308 miles oiled, 1,821 miles surfaced with gravel or crushed rock and 493 miles graded. These improvements represent an investment of approximately \$35,000,000.

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ORGANIZATION CHART OF DEPARTMENT OF PUBLIC WORKS STATE OF IDAHO



ILLINOIS

HISTORY

The State Highway Department of Illinois was organized under an act passed by the Legislature which became effective July 1, 1913. At the time it was directed by a commission consisting of three members. Four years later (1917) the State Highway Department became the Division of Highways under the Department of Public Works and Buildings.

LEGISLATION

The Division as it now exists is divided into eight bureaus which are organized for the purpose of administering the various duties and functions of the Division. The State is divided into nine districts geographically, a district engineer is in charge of all design, construction, and maintenance and other work of his district. In June, 1929 a motor fuel tax was provided for a levy of three cents per gallon. The State will receive two thirds and one third is allotted to the counties to be used in developing the secondary system of highways.

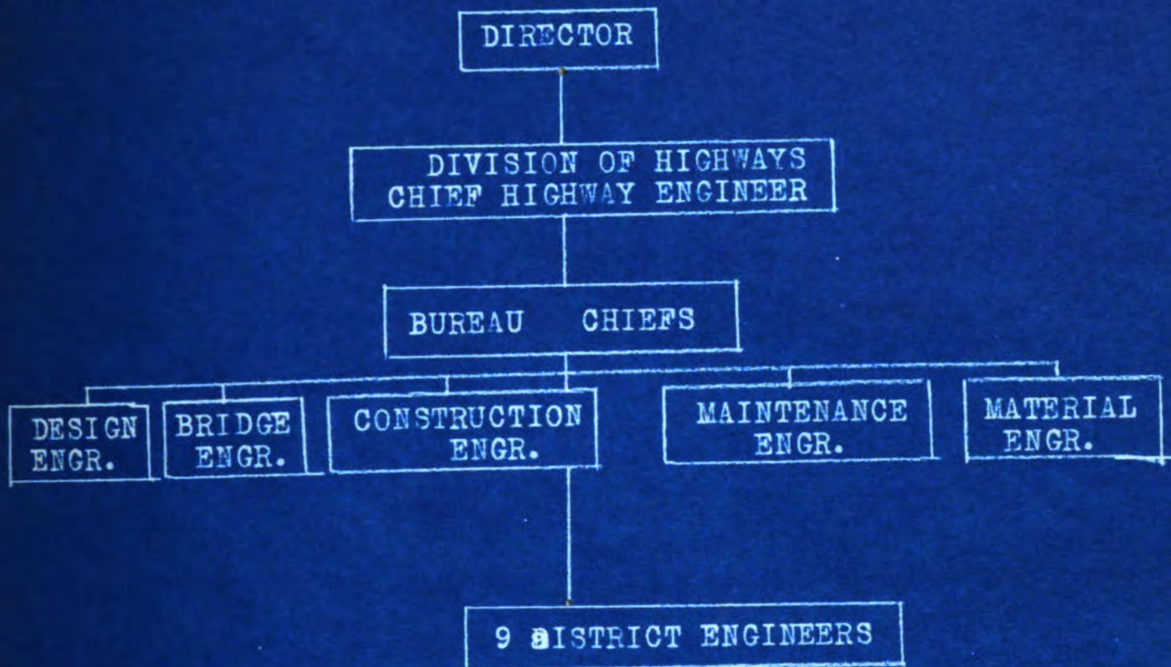
ORGANIZATION

The chief officers of the Department of Public Works and Buildings are the Director and Assistant Director. The Chief Highway Engineer, who also acts as Superintendent of Highways is the executive officer of the Division of Highways.

FINANCES

Funds for the construction of the State primary system

ORGANIZATION CHART OF THE DEPARTMENT OF PUBLIC WORKS
AND BUILDINGS. STATE OF ILLINOIS



are derived from the following sources: 1. From proceeds of bond sales; 2. From Federal Aid receipts; 3. From surplus motor license fees; 4. From motor fuel taxes.

PROGRESS

The State primary system comprises approximately 9,800 miles of highways, of which approximately 6,900 miles have been completed, leaving about 2900 miles to be finished. This is expected to be made from Federal Aid receipts and surplus motor license fees and the State's share of the motor fuel tax revenue. The State Aid or secondary system, which consists of important county roads comprises a total of 16,000 miles of which 1,600 have been improved.

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INDIANA

HISTORY AND LEGISLATION

Under the Acts of 1919 there was created a State Highway Commission consisting of four members appointed by the governor, one member retiring from office each year. Four districts were designated and also three divisions, constructions, maintenance, and auditing. A system of state highways reaching every county seat and each and every city of 5,000 or over population was laid out. These acts were added to and amended under Acts of 1921, 1923, and 1925, applying safety of highways, appropriations of funds, gasoline taxes, registration of motor vehicles, etc.

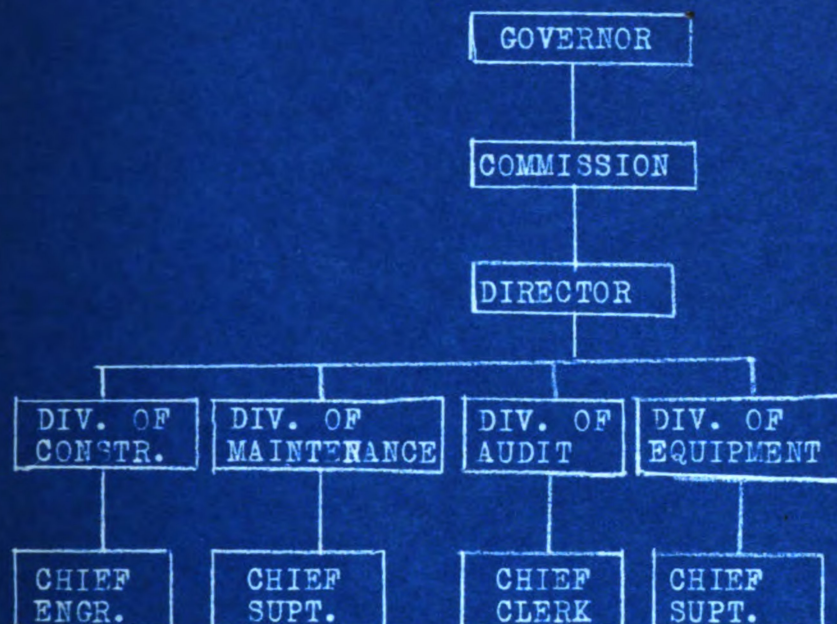
ORGANIZATION

The Commission as was stated above consists of four members appointed by the governor, they in turn appoint a Director whose duties are various being responsible for all Chiefs of Divisions, and assistants and employees. Four divisions consisting of construction, maintenance, audit, and equipment, each having a chief executive. An organization chart is accompanying showing the general make up of the organization.

FINANCES

The sources of highway funds are: 1. The state-wide tax of 0.39 mill per \$1.00 of all assessed property in the State; 2. Net receipts derived from automobile registration; 3. Receipts from the State inheritance tax yielding approx-

ORGANIZATION CHART OF STATE HIGHWAY COMMISSION OF THE
STATE OF INDIANA



imately \$500,000 per year; 4. Federal Aid appropriations.

PROGRESS

The State Highway Commission has selected a state system of 5,000 miles from the 73,000 miles of public highways of the State, and is developing the mileage of this system as rapidly as the available funds permit. There is a daily maintenance in effect over 4500 miles. The Commission is determined to furnish adequate highway service to satisfy the traffic demands. They are looking well ahead into the future and planning is exercised under that result. Testing of materials and bridge construction is well in pace with construction. The total appropriation to Indiana since 1917 to 1929 amounts to over \$22,000,000. Expenditures for 1919 to 1928 amount to over \$99,250,000. Receipts for 1919 to 1928 amount to over \$101,200,000. Leaving a balance in 1928 in amount over \$1,900,000.

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IOWA

HISTORY AND LEGISLATION

The good roads movement in Iowa dates back to 1883 when a State Road Convention was held and road improvement was discussed and endorsed the propositions of payment of property road taxes in money and the appointment of road superintendents and the establishment of county road funds. Legislation passed act providing for the improvement of roads in 1884. In 1902 a marked progress over 1884 was noted and legislation enacted which resulted in the township having supervision of all district road and made mandatory the levying of taxes by the county board for funds to be used on the roads. In 1904 a commission was created, the duties being entirely of an advisory nature. In 1913 the State Highway Commission was established with powers of general supervision of all road and bridge work in the State. In 1917 a system of roads was selected not to exceed 6,000 miles, this being designated as the inter-county system. In 1924 the Commission was given authority to make plans and estimates for improvements. Convict labor has been used since 1915 and found to be a saving on labor in State Aid construction.

ORGANIZATION

The Commission consists of three members appointed by the governor. A chief engineer and bridge engineer have charge of their respective duties.

FINANCES

A financial system providing funds for the primary roads. This is matched with the Federal Aid allotment. Automobile registration fees, and taxes of State and local districts are also sources of revenue.

PROGRESS

The total mileage of the State is over 102,000. Under the State system 7,212 miles are included. Nearly 81% of this system has been improved.

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No data was extended upon request for same from the
State of Iowa.

KANSAS

HISTORY AND LEGISLATION

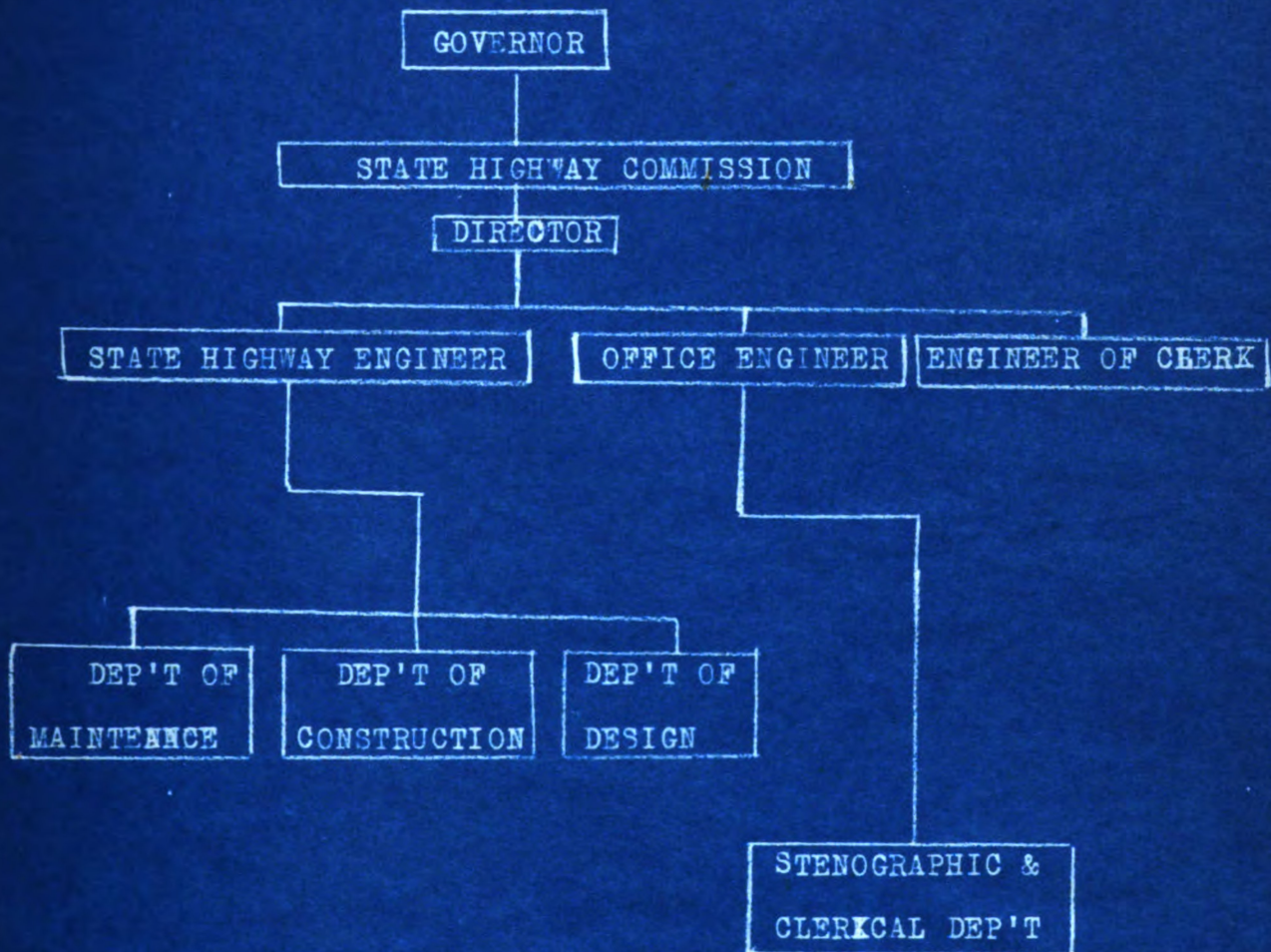
The Kansas State Highway Commission came into existence in April, 1917. Under the law creating the Commission it consisted of two members appointed by the governor, one from each side of the Sixth Principal Meridian and the governor acted as chairman ex-officio. This continued until July, 1925 when the commission was changed to a three man commission appointed by the governor, he giving up all capacities as a member of the Highway Commission. This organization continued until April, 1927, when the State was divided into six commissioner districts, one member from each district appointed by the governor, appointments being for two years.

From the time of the creation of the Department in 1917 until 1929 in April the State Highway Commission was more of an advisor, as the initiation of construction and handling of finances was vested in the various boards of county commissioners. April, 1929 the State Highway System was turned over to the State Highway Department for construction, maintenance and improvements and the State Highway Commission has no jurisdiction over the counties nor the counties over the state highways.

ORGANIZATION

The governor appoints the commission and it in turn appoints a director. He is the executive officer of the

ORGANIZATION CHART OF KANSAS STATE HIGHWAY DEPARTMENT
STATE OF KANSAS



Commission, has full authority to appoint a State Highway Engineer and such other employees as necessary. His supervision of the work and function of the personnel is expected.

FINANCES

The main sources of revenue is from country and township taxes and automobile registration and gasoline tax collections. The Federal Aid allotment is over \$2,068,000 but ranks tenth as compared to other states.

PROGRESS

Kansas, to date, has approximately 1,000 miles of hard surfaced roads, brick, concrete, bituminous macadam on the state system, and approximately 2,300 miles of light-type surfacing. The entire system consists of 8,690 miles and ranks tenth as compared to the other states. However, only 4,145 miles have been improved.

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Data in a letter written by W. L. Dyatt, Office Engineer of the Department.

KENTUCKY

HISTORY AND LEGISLATION

The Department of Public Roads, first established in 1912, was administered by a State Commissioner of Public Roads appointed by the governor. The first appropriation for the administration of the department amounted to only \$25,000 per annum. In 1914 an 8,000 miles system was designated to receive State aid. In 1918 Legislation was passed to provide for cooperation with the Federal government in building Federal Aid roads. The State Highway Department was created by an act of the General Assembly. At this time the State Primary Road system of approximately 3,700 miles was laid out. Since then the acts have been amended from time to time and the State Primary Road mileage has increased to 12,000 or 14,000 miles.

ORGANIZATION

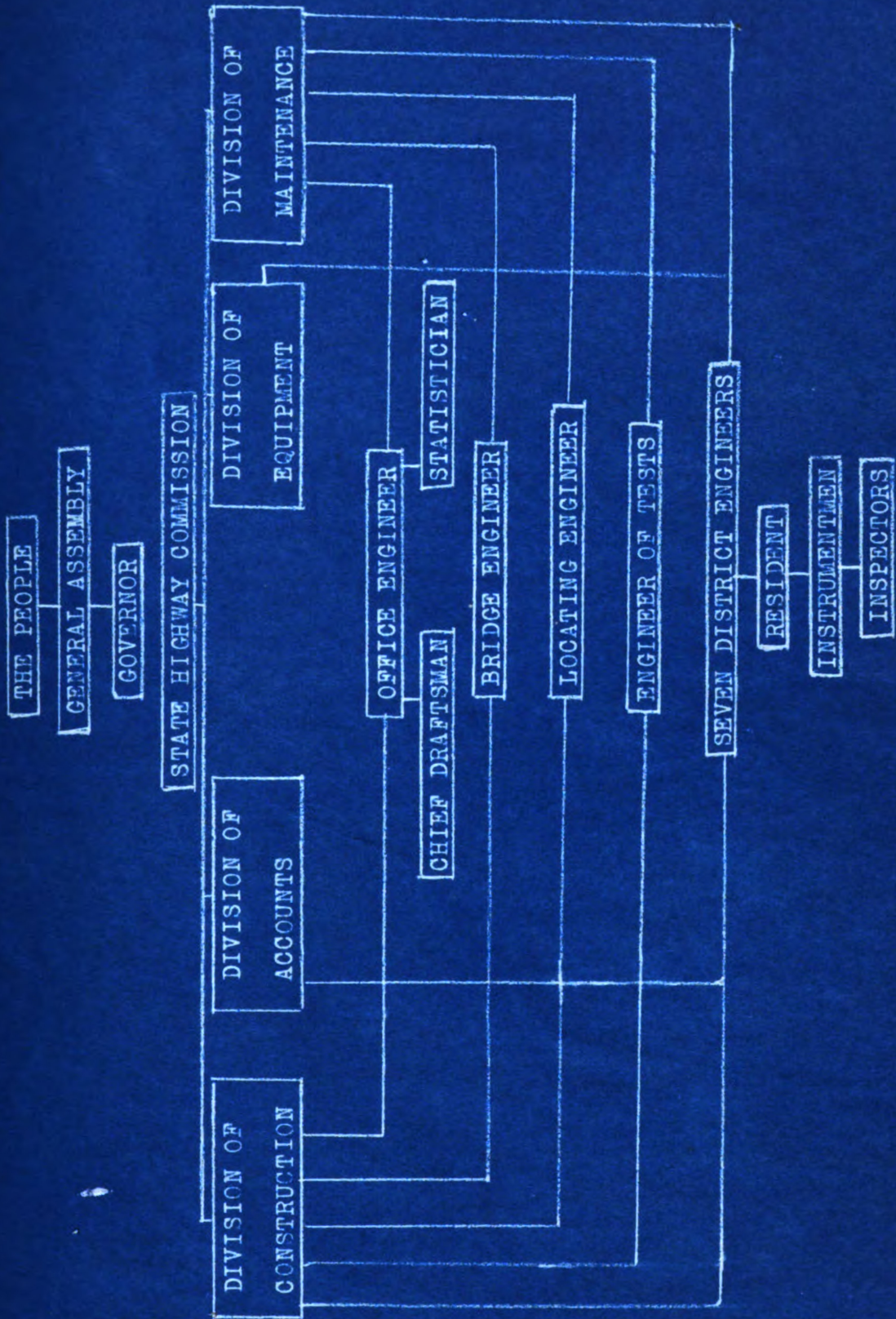
The State Highway Commission is a board consisting of four members from four designated districts of the State. Appointed by the governor the commissioners have control of all matters pertaining to the location, construction, and maintenance and improvement of roads and bridges on or comprising the Primary System of State Highways. An executive inspector is appointed by the governor for a term of four years. An accompanying organization chart will convey how the work is distributed.

ORGANIZATION CHART OF THE SH

STATE HIGHWAY DEPARTMENT OF THE COMMONWEALTH OF KENTUCKY

FOR THE PEOPLE

ORGANIZATION CHART OF THE STATE HIGHWAY DEPARTMENT OF THE COMMONWEALTH OF KENTUCKY



FINANCES

The revenue from a 0.3 mill tax, gasoline tax, motor license tax plus other miscellaneous revenues make up the State fund. Allotment of Federal Aid in amount of \$17,000,000.

PROGRESS

Up to the present year there is in the State of Kentucky a little over 4,475 miles of roads under State maintenance. This shows that less than 35% of their miles have been improved. Kentucky is coming forward under correct ideals in regard to traffic needs and future planning. Beautification of roads and of permanent highways is beginning to be practiced. Standard bridge and highway cross sections can be found on all the newer projects.

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Commonwealth of Kentucky

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Material submitted by W. O. Snyder, Office Engineer.

LOUISIANA

HISTORY AND LEGISLATION

In 1910 the State Highway Department was organized and the same legislation provided a permanent policy for distribution of State aid in the form of money and also the use of convict labor. A state highway engineer selected by the Board of State Engineers, and is executive officer of the State Highway Department. He is vested with the power over improvements, standards of construction, and a designation of a system of State highways.

In 1920 approximately 5,000 miles was included as a State system. Little improved roads were completed at that time, but some 200 miles were under construction. Designated as State Aid are moneys up to 50% of the total cost of the improvement.

ORGANIZATION

A Board of State Engineers is appointed by the governor. The Board selects a State Highway Engineer and under his supervision is the remainder of the employees necessary to complete the organization of construction, maintenance and improvements.

FINANCES

The revenue for State Highway itemizes as automobile licenses, chauffeur's licences, gasoline tax, U.S. Federal Aid, Parish know as county refunds, and interest. At the per cent due to various causes there is a deficit in the

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department.

PROGRESS

The total mileage of the State Highway system is 9,053, 6,520 of which is under maintenance. Louisiana has a small mileage 225 approximately under construction at present due to the fact of making up a deficit of a previous administration.

The unit cost of construction is high as compared to the average unit cost of other states due to existing conditions. However, intensive attempts to build modern, up-to-date highways to meet traffic needs to the upmost is in progress and each year shows an increase over the previous.

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MAINE

HISTORY AND LEGISLATION

The first part the State of Maine took in providing State aid for road construction was by virtue of an act passed in 1901. Only \$15,000 was provided for appropriation. Each Legislature increased the appropriation and of course the work gradually increased. The act provided for State aid to the towns of the State and the work was under the direction of the county commissioners. In 1905 an act was passed providing for the appointment of a State Highway Commissioner. This did not place the work under the immediate direction of the commissioner by his duty was to advise the towns in matters relating to roads or in other words his duty was of an advisory nature. The work was first placed under the direction of the State department or the State Highway Commissioner in 1908. The work still consisted of what we know as State aid road construction, that is, the State cooperated with the town and paid a part of the cost of the construction. The maintenance of the roads built was taken care of entirely by towns and the State aid did not participate in maintenance work. There was also a provision that any funds available after taking care of the apportionments to the towns for State aid road work could be used for the construction of so-called trunk line roads. Very little of this so-called trunk line construction was done however until 1914.

In 1913 the Legislature passed an act which provided for a State Highway Commission which consisted of three members

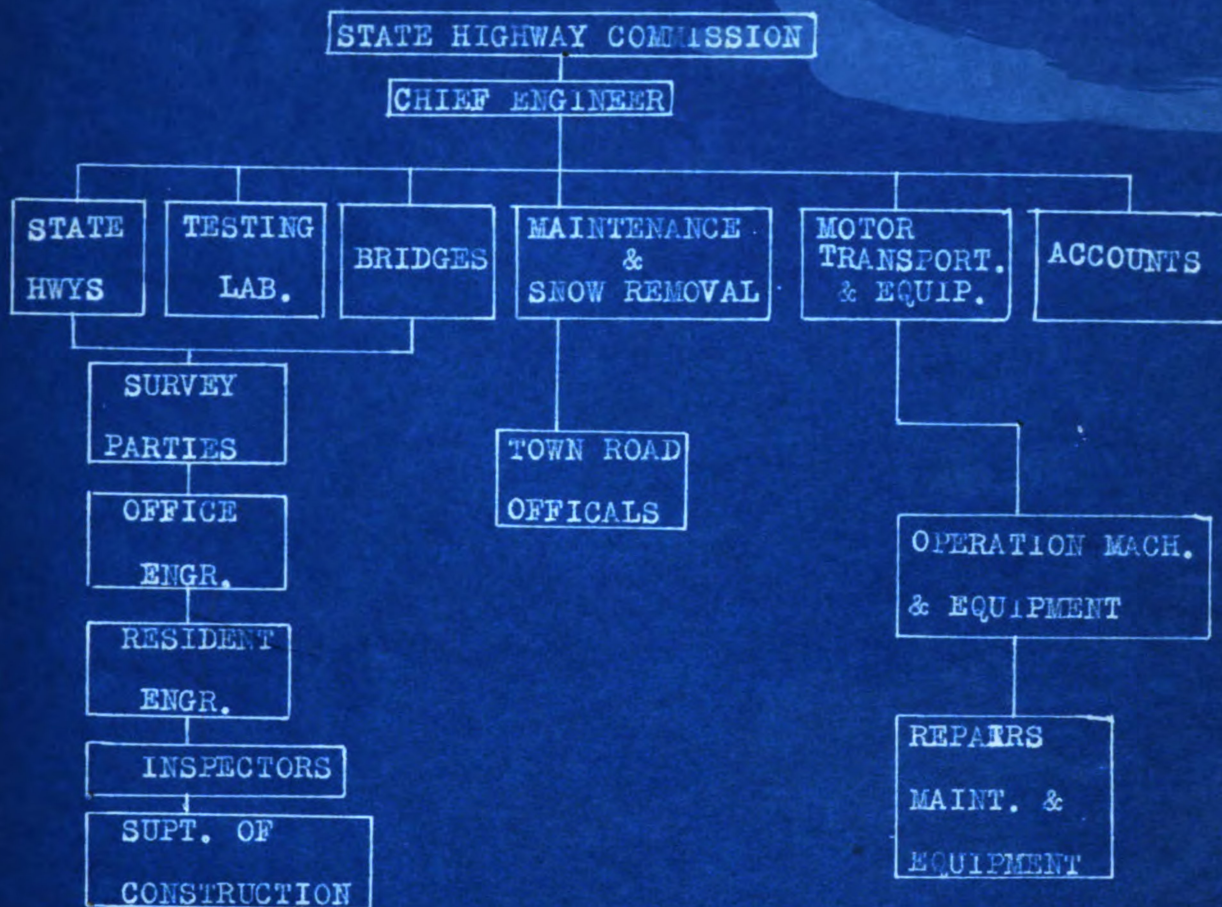
and classified the roads of the State into three general classes: first, State highways; second, State aid highways and third, class highways. Provisions were made to carry on the cooperative work with the towns in the way of State aid road construction and also the construction of State highways. The construction of State highways was financed for a bond issue of \$2,000,000. The commission form of organization has carried on since 1913. Amendments have been made to the State Constitution to increase the limits of bond issues at various times and the last Legislature increased this limit to \$31,000,000. Previous bond issues have been practically exhausted and the latest provision is for a bond issue of \$15,000,000 of which \$10,000,000 is for roads and \$5,000,000 is for bridges. The 1913 law also provided for the maintenance of highways to which the State has contributed in cost. In 1919 the Legislature provided for the construction of third class highways. In 1915 a general bridge law was passed which provided State and county aid for the construction of bridges. There has been various amendments to the laws for the same general scheme of carrying on the work has been followed since 1913.

ORGANIZATION

The State Highway Commission is appointed by the governor consists of three members and their term of office is for three years. The commission selects and appoints a chief engineer who has general charge of the office, the records and all construction and maintenance work. An accompanying chart will convey the general lay out of the organization.

ORGANIZATION CHART OF STATE HIGHWAY DEPARTMENT

STATE OF MAINE



FINANCES

State highway construction is financed by bond issue plus Federal Aid funds. State aid road construction is financed by appropriation funds of \$500,000 plus $37\frac{1}{2}\%$ of the revenue from gasoline tax plus a part of the revenue from automobile fees if required plus town appropriations. For third class highway construction they have part of a mill tax highway fund plus $12\frac{1}{2}\%$ of the gasoline tax receipts. For maintenance 50% of the gasoline tax finds plus town appropriations plus part of the automobile registration fees. For bridge work a bond issue of \$1,000,000 which is supplemented by county and town funds. The State participates in one-half the cost of snow removal up to a maximum of \$25.00 per mile, the balance being paid by the towns. To provide funds for this the receipts from the gasoline tax for December, January, February and March are set aside for snow removal. Any part of these funds not used are transferred back to the other accounts in the proper proportions.

PROGRESS

From 1913 to 1929 inclusive, as a result of construction and reconstruction, there were constructed as State highways 790.97 miles of gravel; 2.1 miles of macadam; 3.77 miles of sand clay; 278.82 miles of bituminous macadam and 121.4 miles of concrete. For the same years the following miles of State roads were constructed: 44.51 miles graded and drained; 3.31 miles of sand clay; 2711.09 miles of gravel; 17.82 miles of water bound macadam; 47.71 miles bituminous macadam; 8.97 miles of block pavement and 29.78 miles of concrete. From 1920 to 1929 as third class roads there were 843.33 miles

CONS

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constructed. There is approximately 5,000 miles under maintenance patrol.

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A LETTER SUBMITTED BY LUCAS D. BARROWS, CHIEF ENGINEER

MARYLAND

HISTORY AND LEGISLATION

The State Roads Commission was created by an act of the General Assembly in 1908 consisting of six members; the governor, ex-officio; and five to be appointed by the governor. Another member was added in 1910. A system was laid out in 1908 mainly to connect Baltimore City with the counties and the county seats with each other. As a result about 1200 miles were determined upon. The next June (1909) the first contract for State road construction was let. By the end of the year construction and design was well under way. In 1910 purchases of a number of turnpikes which meant abolishment of the toll gate thereon. By the end of 1911, 353 miles of new State road had been completed at a cost of over \$4,037,000. When the Commission was created a bond issue of \$5,000,000 was passed. In 1912 another was authorized in amount \$3,170,000. An office of Assistant Chairman was created and filled by appointment. The Right-of-Way Department was also created. The organization of the Purchasing Department took place later in the year. In 1916 Legislation was passed reducing the Commission from 7 to 5 members. \$27,000,000 was also appropriated and the expenditure of this was concentrated on the filling in of gap and plans were laid accordingly by the new Commission. Convict labor was used first in 1917. It proved less expensive and

served as a relief for the labor problem at that time. In 1920 a \$3,000,000 loan for the construction of rural post roads, lateral roads and extension of the State Road System. In 1922 the gasoline tax was passed.

ORGANIZATION

The governor appoints the Commission consisting of a Chairman and two commissioners. A secretary is also appointed and is charged with duties under his title. A chief engineer aided by an assistant, chief auditor, and purchasing agent are also next in line of duty.

FINANCES

The finances come to the use of the State Roads Commission through appropriations. Counties match the State Aid funds. Appropriations from Federal Aid; bond issues and loans are the form the local appropriation take.

PROGRESS

It would be hard to trace the progress exactly in this writing. But a steady increase has taken place since the creation of the Commission. Relocations and improved surfaces are in constant construction. At the end of 1926 over 2,500 miles had been completed. A mileage of new roads added to the system is about 150 miles per year. Maintenance of the entire system is in progress, as well as the project of widening all the shoulders of the 15 foot pavement.

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MASSACHUSETTS

HISTORY AND LEGISLATION

The era of the turnpikes commenced in Massachusetts in 1796, when the General Court passed the first act for the incorporation of a private company for the construction and maintenance of a toll highway, designated as a turnpike. Financially these roads were not a success by they continued until the end of the turnpike era about 1850. An act passed by the Legislature in 1845 authorized the county commissioners to lay out any turnpike as a public way. Some of the turnpikes built between the years 1796 and 1845 are the main roads of the present system. Gradually the present-day demands for high-speed roads is eliminating these old picturesque roads.

An act was passed in 1892 entitled "An Act to Establish a Commission to Improve the Highways of the Commonwealth." This commission consisting of three members was appointed by the governor in the same year. It was instructed to investigate the best and most practical methods for the construction and maintenance of highways, the establishment of State or County highways, and make recommendations in regards to costs, routes and materials. This commission terminated in February 1893 but turned out a most favorable report revealing the exact state of affairs of the highways. In 1893 the Massachusetts Highway Commission was created. Three members were appointed the term of office for three years, one retiring each year. It was authorized to appoint an engineer and to employ experts and assistants necessary. Such powers and duties were delegated to the Commission as were necessary to perform the functions

of the department. Standards were devised and materials selected for construction and maintenance.

Legislative acts followed which were numerous but aided the needs and activities of the commission. In 1918 legislation took place which abolished the Highway Commission as well as the Commission of Waterways and Public Works and created the Department of Public Works. This functioned with four members as Associate Commissioners and one Commissioner. In 1927 the two divisions of Highways and Waterways and Public Lands were consolidated into one Department with only two Associate Commissioners.

ORGANIZATION

A Chief Engineer is designated for the Department with several groups who report to him for carrying out the engineering work. For the highways there seven districts each with a Highway District Engineer, for Waterways there two. Another group is designated to have definite responsibility for certain phases of the highway work. This group includes the Project, Construction, Maintenance and Bridge Engineers. Their titles describe their duties. An accompanying chart will give the general lay out of the personnel.

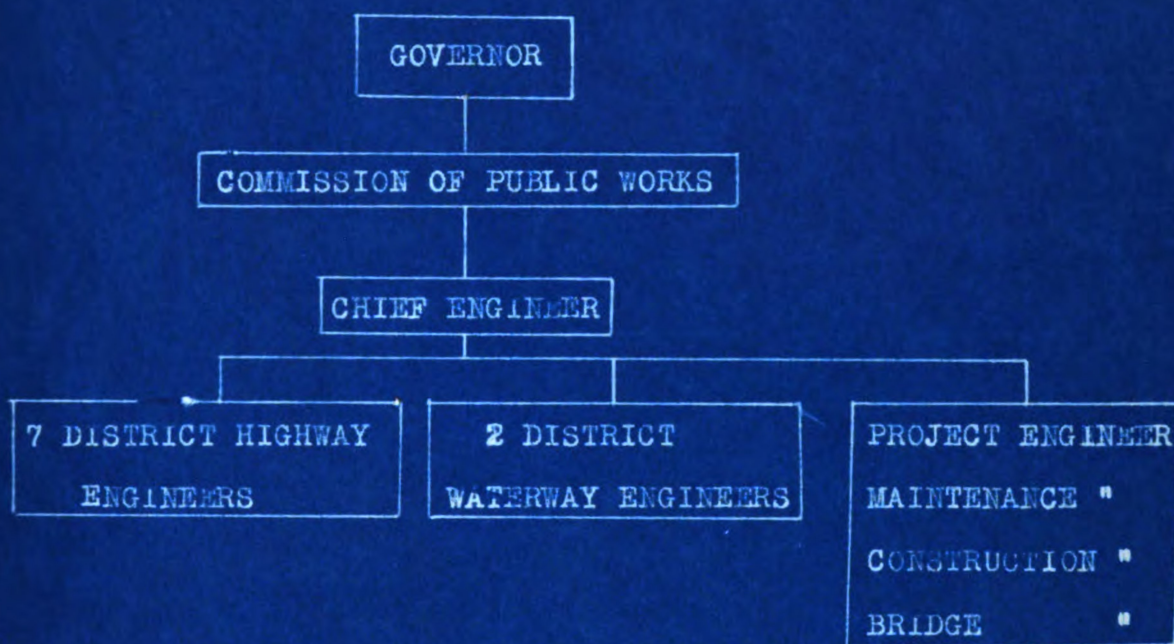
FINANCES

Early financing was done by bond issues consisting of approximately \$14,000,000 to 1918. The form of revenue are receipts of motor vehicle registration, state and local taxes, Federal Aid and gasoline tax.

PROGRESS

The total mileage of the designated State highway routes

ORGANIZATION CHART OF MASSACHUSETTS DEPARTMENT OF
PUBLIC WORKS



The entire engineering force of the Department consists of over 500 engineers, besides the necessary superintendents, clerks and stenographers.

is 2,667. Completed surfaces at the end of 1928 amounted to 1587 miles.

TYPE	MILEAGE COMPLETED	%
Concrete	242.6	15.3
Bituminous	977.4	61.7
Waterbound Macadam	242.1	15.3
Gravel	90.9	5.7
Dirt	7.1	.4
Miscellaneous	<u>26.9</u>	<u>1.6</u>
Total	1587.0	100.0 %

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Chief Engineer

MICHIGAN

HISTORY AND LEGISLATION

The State Highway Department was established in 1905 and the office of State Highway Commissioner was created under the same act. In 1913 the trunk line highway act was passed, which delineated certain highways as State Reward Roads. In 1917 provisions were made to assent to the provisions of Federal Aid and further amendments were made in 1919. The use of convicts is practised with a saving. Both county and state prisoners are used. Further legislation has taken place since to meet the various needs of the Department.

ORGANIZATION

The State Highway Commissioner is elected by the people. He appoints two deputies, one of whom shall be the Chief Engineer, the other the Business Manager. The State is divided into divisions, four in the Lower Peninsula and one in the Upper Peninsula, each having a Division Engineer in charge. There are eleven various departments in charge of the duties executed under the direction of a Departmental Engineer.

FINANCES

Besides the fund for State Highway Department purposes three other funds are used for highway purposes, these are: The Highway Bond Sinking Fund, the Grand Trunk Right-of-Way

Fund, State Ferry Fund. Revenue is derived from motor license fees, gasoline tax, and an appropriated maintenance fund.

PROGRESS

It may be said that the approximate total mileage of the State is 80,000. The trunk line system includes 7,543.8 miles. A division of types is given in the following table:

	mileage	% of total
Unsurfaced	560.9	7.4
Sand Clay Surface	95.7	1.3
Gravel Surface	3,733.9	49.5
Macadam Surface	695.3	9.2
Cement Concrete	2,154.3	28.6
Other pavement	<u>303.6</u>	<u>4.0</u>
	7,543.7	100.0

An intensive movement is in progress to eliminate railroad grade crossings and narrow bridges.

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MINNESOTA

HISTORY AND LEGISLATION

Minnesota adopted State aid in 1905 when a commissioner was appointed who was the chief officer of the State Highway Department. Provisions were made to finance and supervise the work of selecting and constructing a system to which State aid was to be administered.

ORGANIZATION

The Commissioner is the chief officer of the Department. He in turn appoints a deputy commissioner and chief engineer who has supervision of the technical work of the Department. A chief bridge engineer, construction engineer, maintenance and chief clerk have respective offices and duties.

FINANCES

The State road and bridge fund is created by an annual tax levy of one mill on each dollar of taxable valuation, all money accruing from investments of the internal improvement land fund, 5% from the sale of U.S. lands, proceeds from milk and cream testing licenses and the net proceeds from motor vehicle licenses. The Federal Aid allotments amount to over \$2,000,000 per annum.

PROGRESS

The State trunk highway system comprises 6,000 miles. Some 4,700 miles has been improved by the State and is maintained. About 2,100 miles has been improved since 1920.

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No data was secured from the Minnesota Department.

MISSISSIPPI

HISTORY AND LEGISLATION

In 1916 a State Highway Commission was created, but no provisions were made for the use of State funds for road construction. It was designed to carry out plans of expenditure providing a bond issue was approved. The Commission appointed a State Highway Engineer which constituted the State Highway Department.

ORGANIZATION

The governor appoints the Commission who in turn appoints the highway engineer. His duties are to prepare plans for improvement of main roads and bridges and thereby form a complete system of highways thruout the State. He also is required to approve local plans and specifications before they are accepted locally. The Commission consists of a chairman and secretary and two other members.

FINANCES

No State funds are available with which to aid the counties or to meet Federal Aid. Collection of motor vehicle registration fees go to the county in which collected. The State Highway Department acts as agent for the counties in Federal aid construction. An appropriation per annum for the support of the Highway Department.

PROGRESS

Mississippi has a total mileage of 56,100 miles of which 6,720 miles is under the state system. Only 2,600

miles of this has been approved up to 1928.

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No data was secured from the State of Mississippi.

MISSOURI

HISTORY AND LEGISLATION

Prior to 1907 highway improvement was left entirely to the county courts but there was no coordination of plan between the adjoining counties, so laws were passed in that year providing for the appointment of county highway engineers who were to have charge of all work and equipment. At the same time another law was passed providing for a State Highway Engineer to be appointed by the Board of Agriculture. In 1909 a "general state road fund" was created, one-half the same to match county funds.

In 1913 a considerable portion of the old acts were repealed and provisions for the appointment of a Highway Commissioner by the governor were made. He was to select a system of state roads. In 1917 assent to the Federal Aid acts was passed upon. In the same year legislation was passed to provide for a Bi-partison Board of four members to be appointed by the governor, with the consent of the Senate. The Board was empowered to appoint a Highway Engineer. In 1919 this law was ammended to add a State Highway Superintendent and all other necessary employees. The State was divided into six districts, or divisions and a division engineer appointed for each. In 1921 provisions were made to establish a State Highway System and for spending the proceeds of the \$60,000,000 bond issue authorized the previous year.

ORGANIZATION

The Department is headed by the Highway Commission, consisting of four members appointed by the governor and the State Geologist who acts in an advisory capacity. The Commission appoints a chief engineer, secretary, and a legal advisor. An accompanying chart will convey the plan.

FINANCES

The Department is financed by current revenues. These are classified as basic, incidental and advanced revenues. The sources of these revenues are given in a following table. The "road fund" is credited with all above sources except a portion of the automobile registration which goes to another "road bond interest and sinking fund."

Receipts from all sources

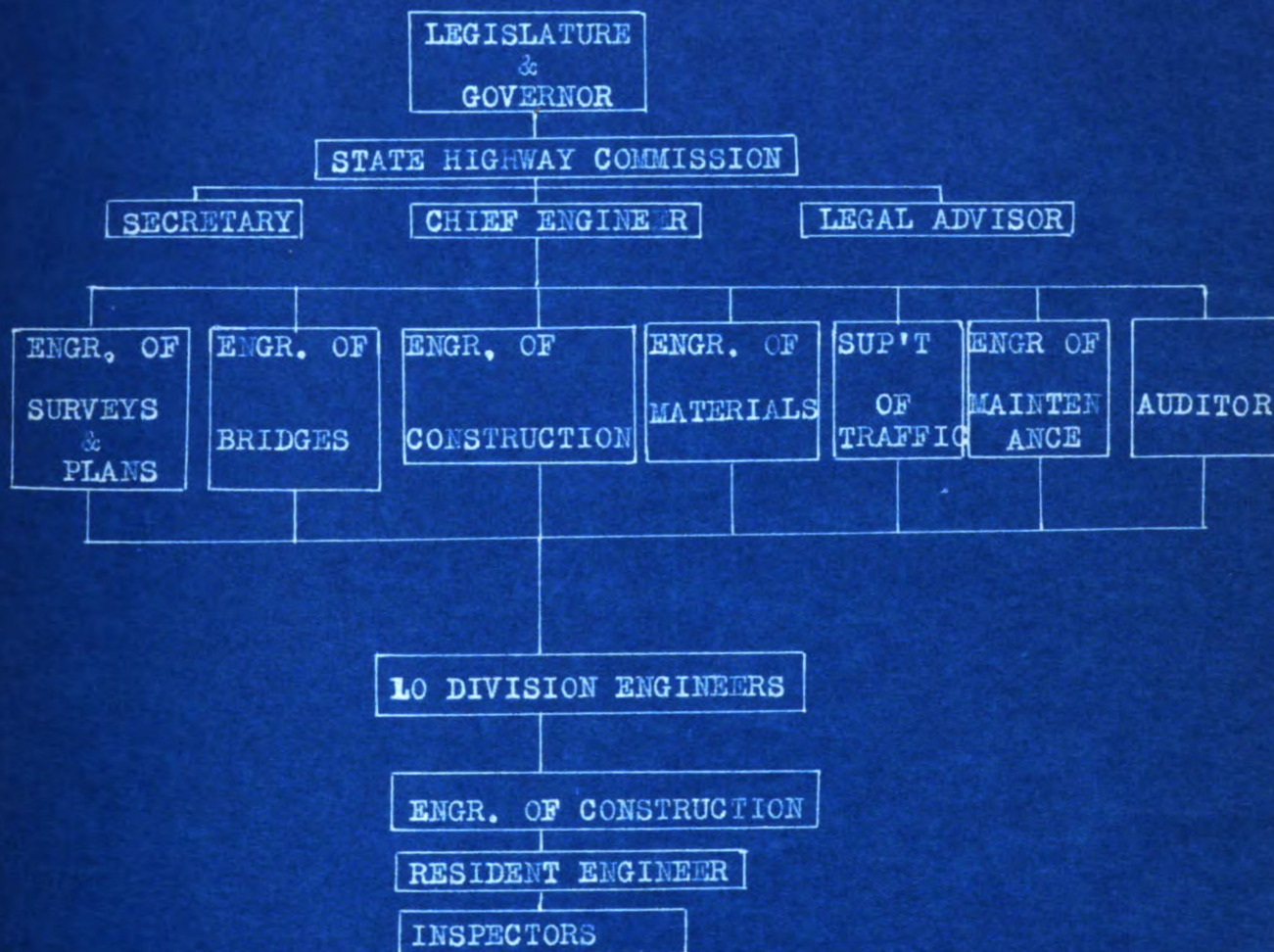
Basic Revenue:

- Motor vehicle law
- Gasoline tax
- Corporation registration fee.

Incidental Revenue:

- Sale of blue prints and federal equipment
- Interest on bank balances
- Refunds on material
- Miscellaneous
- Motor bus fee
- Secretary of State interest
- Accrued bond interest.

ORGANIZATION CHART OF THE MISSOURI STATE HIGHWAY
COMMISSION



Advance Funds:**Federal aid****Sale of road bonds.**

The yearly totals amount to approximately \$24,000,000,
60% of which is basic revenue.

PROGRESS

The system as now located embraces 7,527 miles and
estimated to cost in round numbers \$206,700,000.

70% of this has been graded

55% " " " " surfaced

21% " " " " concreted.

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the State Highway Commission of Missouri, beginning 1920
and ending 1928.

MONTANA

HISTORY AND LEGISLATION

In 1917 the governor appointed a Commission of twelve members of whom not more than six were to belong to the same political party. Three members were appointed each year for a term of four years. One member is appointed from each of the twelve highway districts into which the State is divided. Roads are selected by the Commission for the system to receive State Aid. The Commission also cooperates with the county commissioners and divides the roads into two classes, primary and secondary.

ORGANIZATION

The Commission has three members which are the Executive Committee. The Commission has full power to do all necessary things to fully carry out the cooperation contemplated and provided for by the Federal aid road act. A chief engineer is employed to handle all construction work.

FINANCES

A portion of the automobile registration fees. A \$15,000,000 bond issue produces revenue which is used on State aid. The Federal aid allotments are matched and thus the highway fund is annually established.

PROGRESS

Montana has approximately 67,000 miles in the total mileage of the State. The State system comprises 7,957 miles

of this up to 1928 only 1,562 miles had been improved.

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No answer to the request for data was received from the department of highways.

NEBRASKA

HISTORY AND LEGISLATION

Previous to 1919 all construction work to which the State contributed money aid was carried on under the direction of the State Board of Irrigation, Highways and Drainage. In 1919 a reorganization was effected and the Board was placed under the jurisdiction of the Department of Public Works, under the direction of a secretary who was appointed by the governor for a term of two years. Also a system was established comprising 98 routes and approximately 4,500 miles. The cost of construction was paid by the State highway fund and State and Federal funds combined to construct State highways.

ORGANIZATION

An accompanying organization chart will convey the plan.

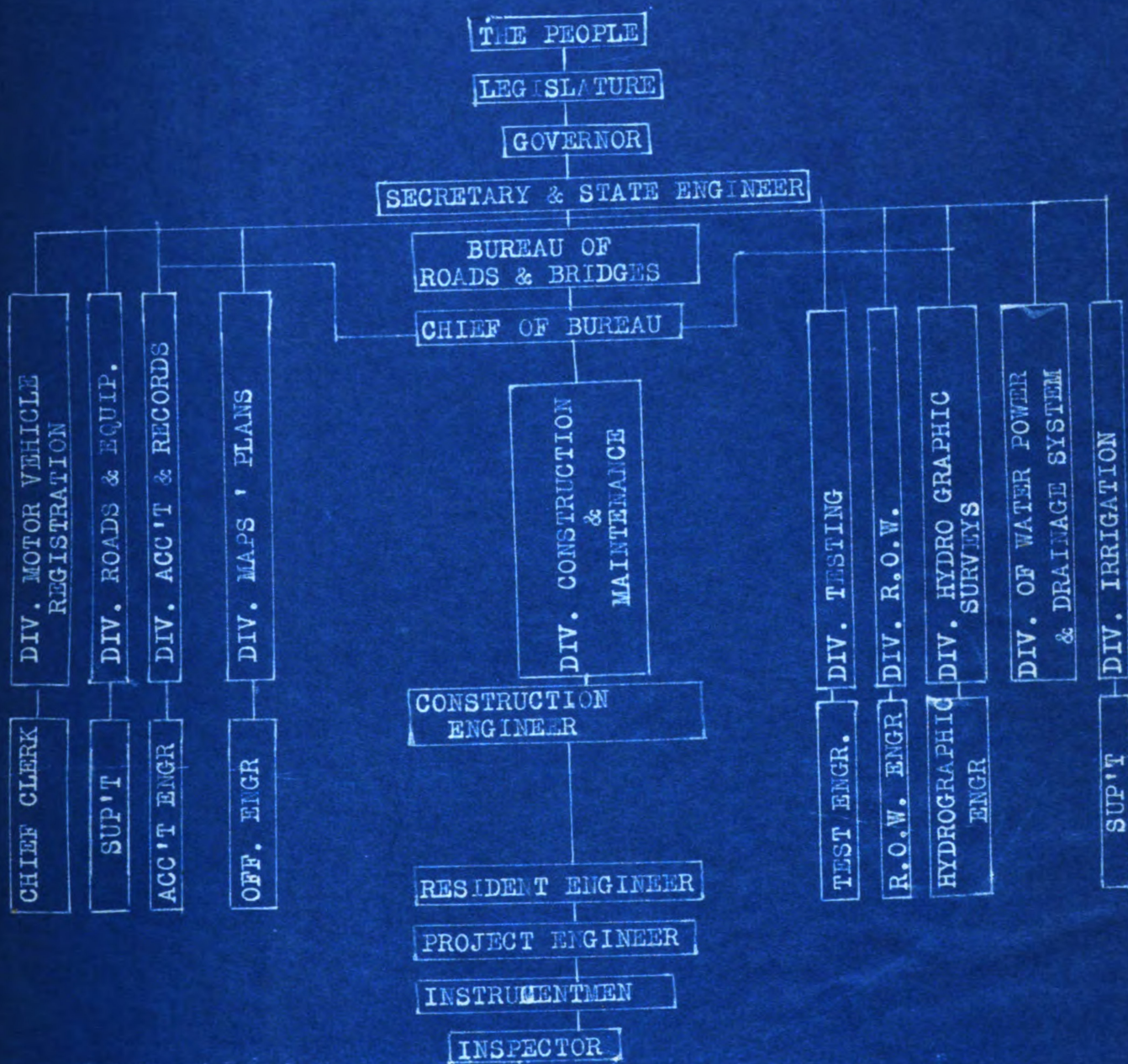
FINANCES

The State derives revenue for State road and bridge purposes by a three mills on the dollar on all assessable property in the State, by one-fifth mill tax on the dollar, which produces what is known as the State aid bridge fund, and by three-fourths of the net receipts from the automobile registration fee. Federal Aid allotments are matched.

PROGRESS

The total mileage of State and Federal highways when completed equals 8,012 miles.

STATE OF NEBRASKA



The following table will give the status of construction in 1928;

Gravel roads	3,761 miles	
Paved "	165	"
Oiled gravel	6	"
Permanent grade without surfacing	750	"
Temporary " " "	1,084	"
Unimproved	<u>532</u>	"
Total maintained	6,298	"
Add mileage on system not maintained	<u>1,714</u>	"
Total state & highway mileage	8,012	"

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of Secretary 1927-1928
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NEVADA

HISTORY AND LEGISLATION

The State Highway Department was created in 1917. It consisted of a board of directors of three members. Provisions were made to designate a system of highways and to finance the improvements thereof. In 1918 the first contracts were let. Not much was accomplished because of the war. 1921 And 1922 proved to show greater progress.

Amendments were made to the original acts as was needed.

Convict labor is used in construction of State highways.

ORGANIZATION

The Board of Directors is appointed by the governor. The Board selects the Highway Engineer who in turn employs necessary assistants.

A personnel table of the Department of Highways:

Chairman of Board of Directors

Two Directors

State Highway Engineer

Assistant Highway Engineer

Office Engineer and Secretary of Board of Directors

Chief Accountant

Departmental Chiefs

Four Division Engineers.

FINANCES

Revenue is derived from:

	% of total
Federal Aid	48.70
County Aid	16.20
Railroad and other aid	2.10
Sales & Service	8.00
State Property tax	1.00
Gasoline tax	11.80
Racing Commission tax	.40
Bond issue	4.80
Miscellaneous	<u>2.00</u>
	100

PROGRESS

A table showing miles completed, under construction, and unimproved as of December 1, 1928:

Federal Aid System			State Highways		
Completed & under const.	Un- Improved	Total	Completed & under Const.	Un- improved	Total
1808.7	255.4	1564.2	252.9	1736.4	1989.3

Entire State

Completed & under Const.	Un- improved	Total
1561.7	1991.8	3553.5

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State of Nevada, 1927-1928

**Laws Relating to Highways, Motor Vehicles, Gasoline
Tax, etc., 1929.**

NEW HAMPSHIRE

HISTORY AND LEGISLATION

In 1897 the legislature authorized a Commission of three members to lay out a highway from Salisbury to Fort Point. A plan and report was submitted in 1900 and the work was completed in 1902. The next year more roads were laid out until in 1905 there were some 500 miles of proposed roads to be built by State moneys costing \$1,000,000. In 1915 the legislature abolished the office of State Engineer and created a State Highway Department, in charge of a highway Commissioner appointed by the governor for five years.

ORGANIZATION

The Commissioner appoints his assistants, consisting of construction, bridge, materials, office and public relations engineers. The State is divided into ten districts, each under a division engineer. An accompanying chart shows the present organization of the Department

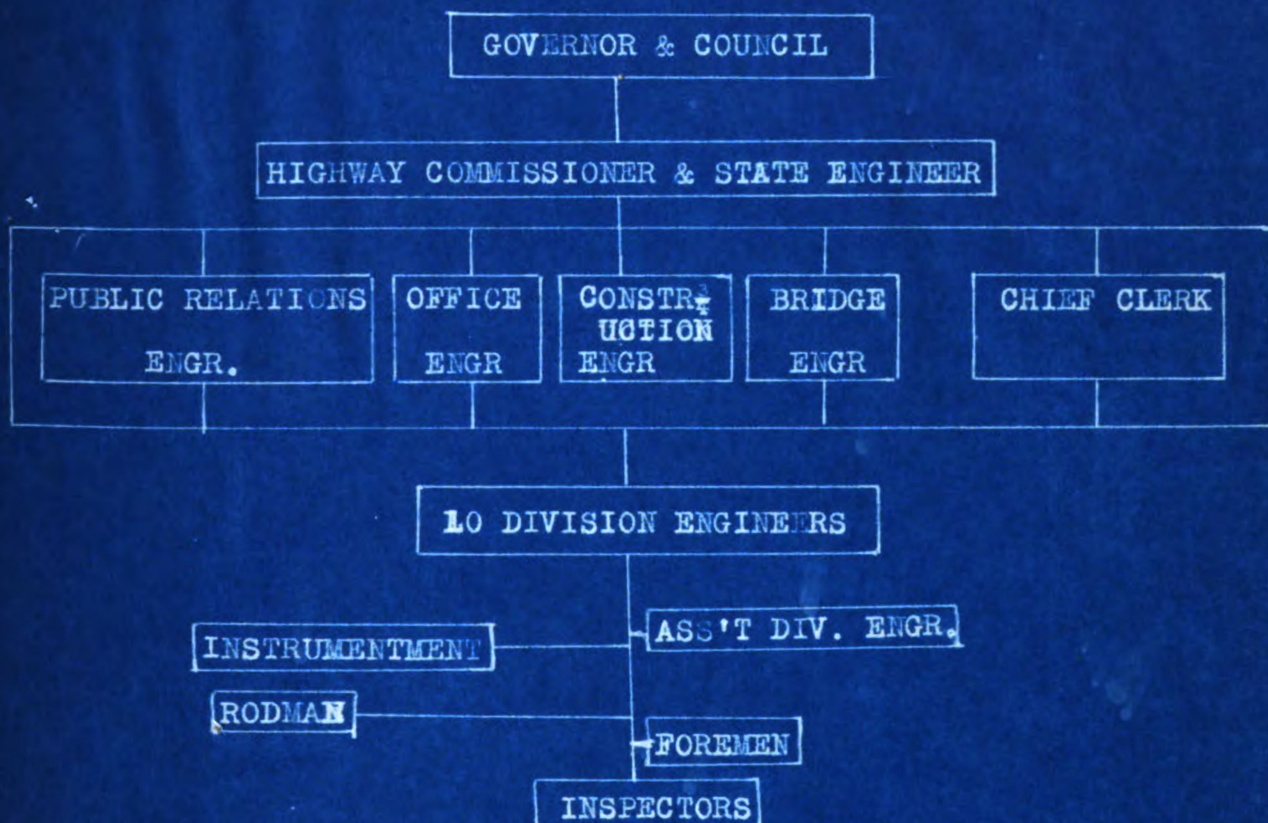
FINANCES

Revenue is derived from motor vehicle fees, Federal aid allotments, gasoline tax, special appropriations, and income to accounts.

PROGRESS

Prior to 1916 improvement of the trunk line roads was largely surfaced with plain gravel of which 499.3 miles had

ORGANIZATION CHART OF THE STATE HIGHWAY DEPARTMENT
STATE OF NEW HAMPSHIRE



been constructed while 128.2 miles had been surfaced with water bond macadam. In 1928 the system contains 2,360 miles, 1,287 of which have been improved.

BIBLIOGRAPHY

Survey of Transportation on the State Highways of New
Hampshire, 1927

New Hampshire Highways, December, 1928

Highways Green Book 1920 A A A.

NEW JERSEY

HISTORY AND LEGISLATION

A State aid law was first passed by the legislature in 1891. Under the original law the administration of the Department of Public Roads was vested in the Secretary of the State Department of Agriculture. In 1894 the State Aid Act was amended to provide for the appointment of a Commissioner of public roads. In 1899 provisions were made for a State Highway Engineer to assist the Commissioner. In 1917 the legislature passed the Edge Highway Act providing for the establishment of a State Highway system. A State Highway Department was established in the same year and a commission of eight members was appointed, also a State Highway Engineer, assistant highway engineer, and a secretary.

Convict labor is used to construct roads.

ORGANIZATION

The work of the Department is divided into four branches, The Administrative, the Engineering, the State Labor Division and the Maintenance Division. The governor is ex-officio member of the Commission.

FINANCES

The State road tax of one mill on each dollar of assessed valuation and is expended for construction of State highways. The income from the motor vehicle, licenses, fines, and fees is appropriated to the Department, to be apportioned for the

repair and maintenance of roads. Federal aid and legislature appropriations.

PROGRESS

Up to 1919, 2,150 miles of State aid roads had been constructed. A large amount of construction and repairing was done by counties and townships.

BIBLIOGRAPHY

Highways Green Book 1920 A A A

No data was received from the State Highway Department upon request.

NEW MEXICO

HISTORY AND LEGISLATION

State aid began in 1909, a Commission, bipartisan, of three members was appointed by the governor, was placed at the head of the State Highway Department. The Commission is required to construct and maintain at the expense of the State road which best serves the needs of the public, working toward a complete system of highways. In 1919 the office of county road superintendent was created. Appointed by the governor the superintendent has full control over all road except those under the control of the State Highway Commission.

Convict labor is used and agreement is made with the penitentiary commissioners to such extent.

ORGANIZATION

The Commission which is appointed by the governor consists of a president, secretary, and a member. It in turn appoints a State Highway Engineer.

FINANCES

The State Road fund is derived from all net automobile license fees, receipts from a 4-1/2 mill State wide tax, and the receipts from an excise tax of 2 cents per gallon on gasoline.

PROGRESS

The total state mileage of New Mexico is over 48,000 miles, 9,200 of which is under the State system. There

has been before 1928 about 5,400 miles completely improved.

BIBLIOGRAPHY

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Data was not received from the Department of Highways,
New Mexico.

NEW YORK

HISTORY AND LEGISLATION

In 1893 a legislative commission was appointed to investigate the problems of State aid, in 1898 laws were passed as a favorable result of the investigation. The purpose of the law was to improve the main traveled roads between population centers. The State was required to pay 50%, the county 35% and the town or adjoining property 15% of the cost of construction as per plans of State engineers. The Department was created upon this basis and as changes were needed legislation was provided.

Convict labor is used in the construction of State aid roads.

ORGANIZATION

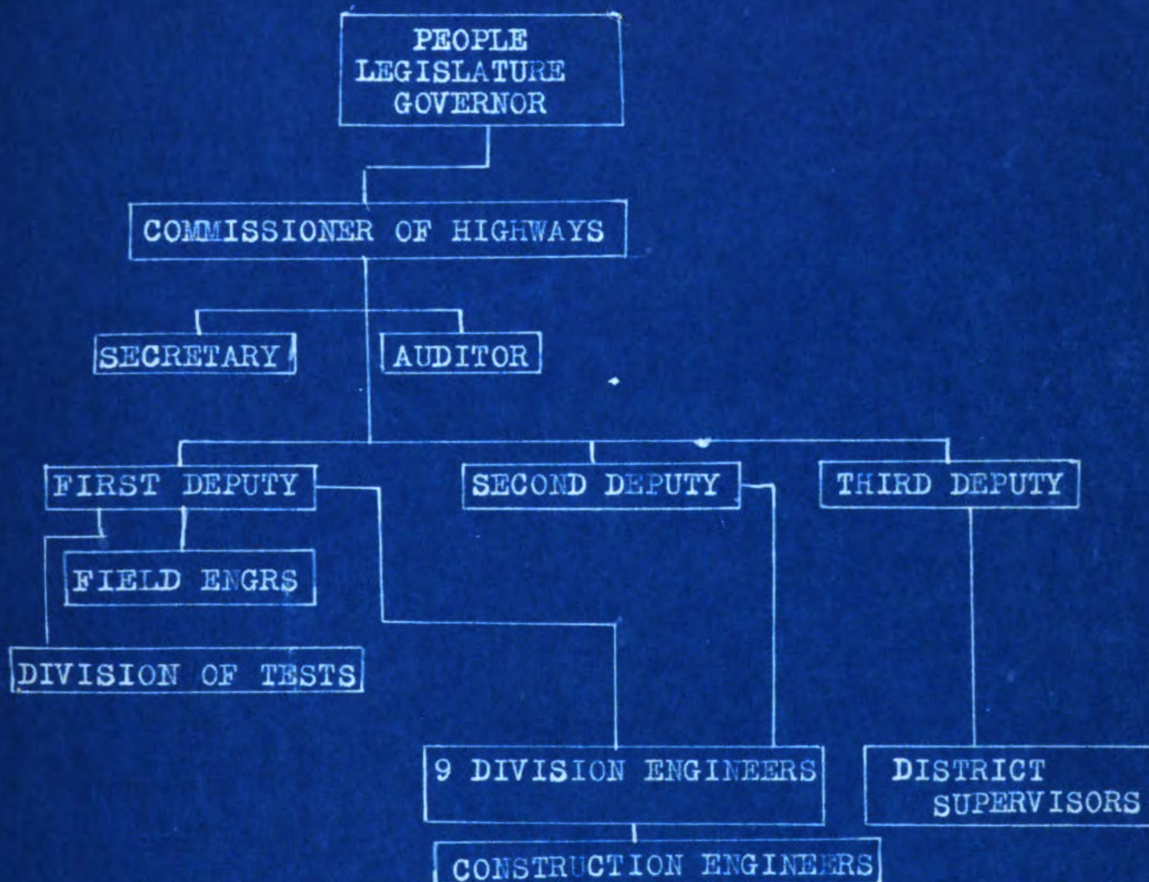
The State Commission of Highways consists of a single commissioner appointed by the governor for a term of five years. In turn the commissioner appoints a secretary, an auditor and three deputy commissioners.

An accompanying chart conveys the make up of the organization.

FINANCES

Funds are derived from receipts of automobile registration, receipts from sale of bond issues, and property taxes. Federal Aid allotments at present amount to approximately \$3,635,000.

ORGANIZATION CHART OF THE NEW YORK STATE HIGHWAY DEPARTMENT
STATE OF NEW YORK



PROGRESS

In 1918, 12,330 miles were included in the State highway system, of which 8,030 miles had been improved. In 1928 the total mileage of the state system included 13,930 miles of which 10,250 miles had been improved.

BIBLIOGRAPHY

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Highways Green Book 1920 A A A

No data was received from the Department.

NORTH CAROLINA

HISTORY AND ORGANIZATION

About 1915 the State Highway Commission was appointed. Cooperation in construction work and advice with the county and local districts were the first activities. Federal aid was taken advantage of and the Department expanded to meet the needs of activities.

Bond legislation in 1917 provided the Department with funds, but were soon found inadequate.

Convict labor is used on the State road system, exercising a great saving.

ORGANIZATION

The Commission is composed of four members appointed by the governor for a term of 2, 4 and 6 years. The Commission employs a State highway engineer and any other assistants as necessary.

FINANCES

Revenue is derived from motor registration fees which is the major portion of the fund. Receipts from the sale of a small bond issue annually and the Federal aid allotments comprise the rest.

PROGRESS

During 1919, 600 miles were built but at the present some 7,300 miles have been improved. No system is selected but the aim is to tie up the most important road to form a system as they are built.

BIBLIOGRAPHY

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NORTH DAKOTA

HISTORY AND LEGISLATION

It may be said that in North Dakota State highway legislation began with the passage in 1909 of the law providing for the establishment of a "good road experiment station" at Bismarck. A law providing for the registration of motor vehicles was passed in 1911. In the same year a law was passed to provide that the State Engineer should furnish information on road conditions. The first State Highway Commission was created in 1913 consisting of the governor (chairman), the State Engineer (secretary) and a member appointed by the governor. This functioned until 1917 mostly on paper when a stronger law was provided which placed it on a working basis. The principal provisions of the law are as follows: Creation of a State Highway Commission composed of the governor, who is chairman, the state engineer who is to be the chief engineer and secretary, and who is to receive \$1,000 annually in addition to his salary as State Engineer, the Commissioner of Labor and Agriculture and two members appointed by the governor, who are to receive \$10 per day when serving and necessary traveling expenses.

The powers and duties of the above legislation resolved into the essential features of the State availed itself of the Federal aid road act and provided State aid for the construction of state highways. This was amended

slightly from time to time but no great changes were made and is the principle functions which the department operates on at present.

ORGANIZATION

An organization chart will convey the make up of the organization. The commission is authorized to create fund layout and construct roads and expend moneys provided for the same.

FINANCES

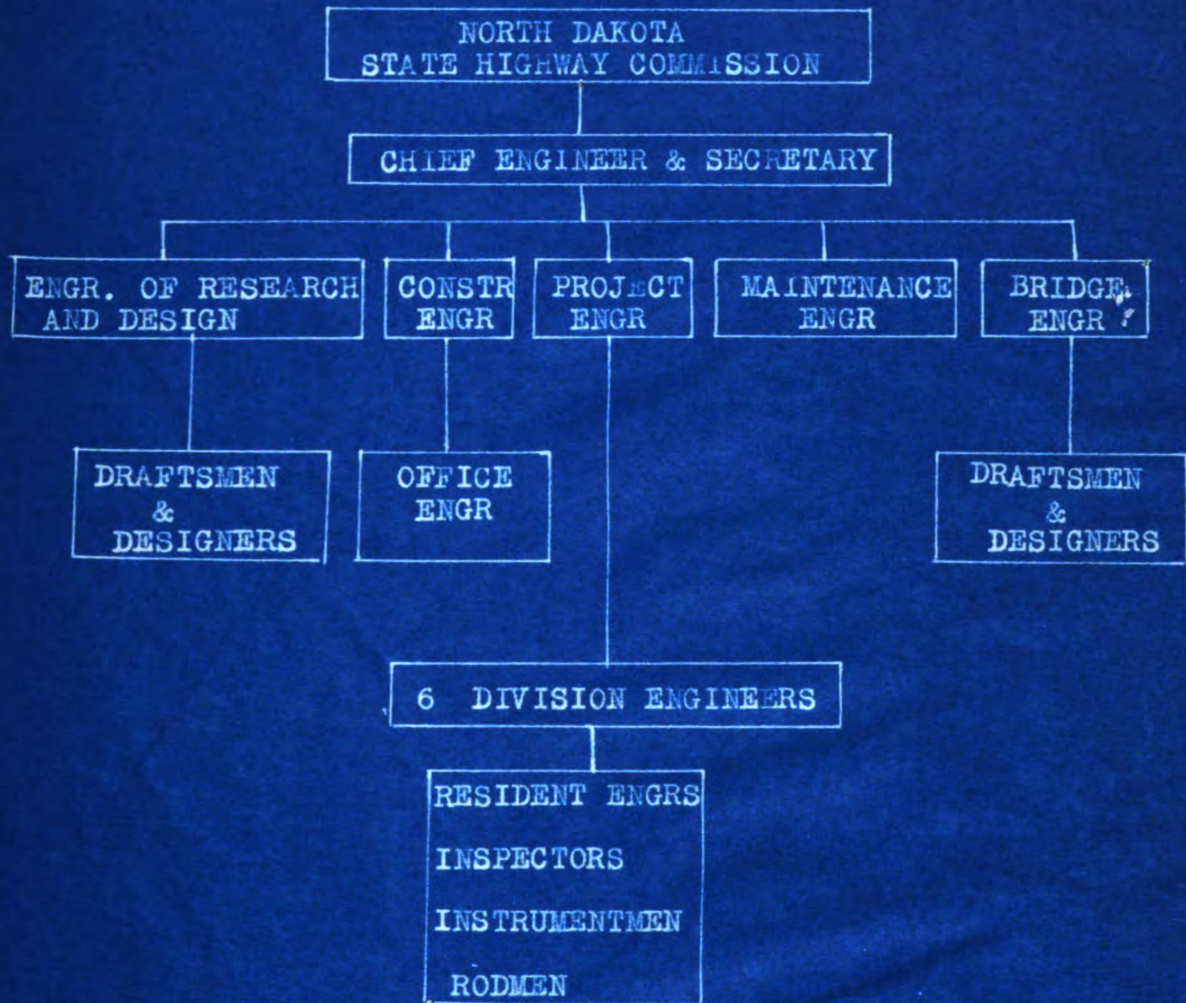
Funds are derived for the automobile registration fees or a portion thereof; maintenance funds which are receipts of a poll tax and property tax; and Federal Aid allotments.

PROGRESS

The State Highway system was limited to 7,500 miles and the construction and maintenance thereof was placed under the entire control of the Commission.

To date there has been completed approximately 4,500 miles of earth graded roads, about 2,500 miles of which is gravel surfaced, about 10 miles paved, and about 30 miles treated with tar. The present funds enables the Department to grade about 500 miles each year and gravel and surface an equal amount. Whether maintenance and construction of the entire system under the present revenues can be carried on is doubtful.

ORGANIZATION CHART OF THE NORTH DAKOTA
STATE HIGHWAY COMMISSION



BIBLIOGRAPHY

Data submitted by the North Dakota State Highway

Commission

Highways Green Book 1920 A A A.

OHIO

HISTORY AND LEGISLATION

The Department was organized in 1904 but the work done was more or less advisor work with the local districts. In the beginning of the war (1917) the establishment of military camps and the truck traffic caused an effective course of operations in program of road construction.

Due to a poorly stablized administration between 1919 and 1921 not much was accomplished and by the fall of 1922 operations began to take form in reviewed spirit. The system was expanded and new standards adopted which produced an increase in the improvement program of the roads. A two cent gasoline tax was enacted in 1925 and raised in 1927.

ORGANIZATION

The organization chart will show the make up of the Department in regard to personnel titles.

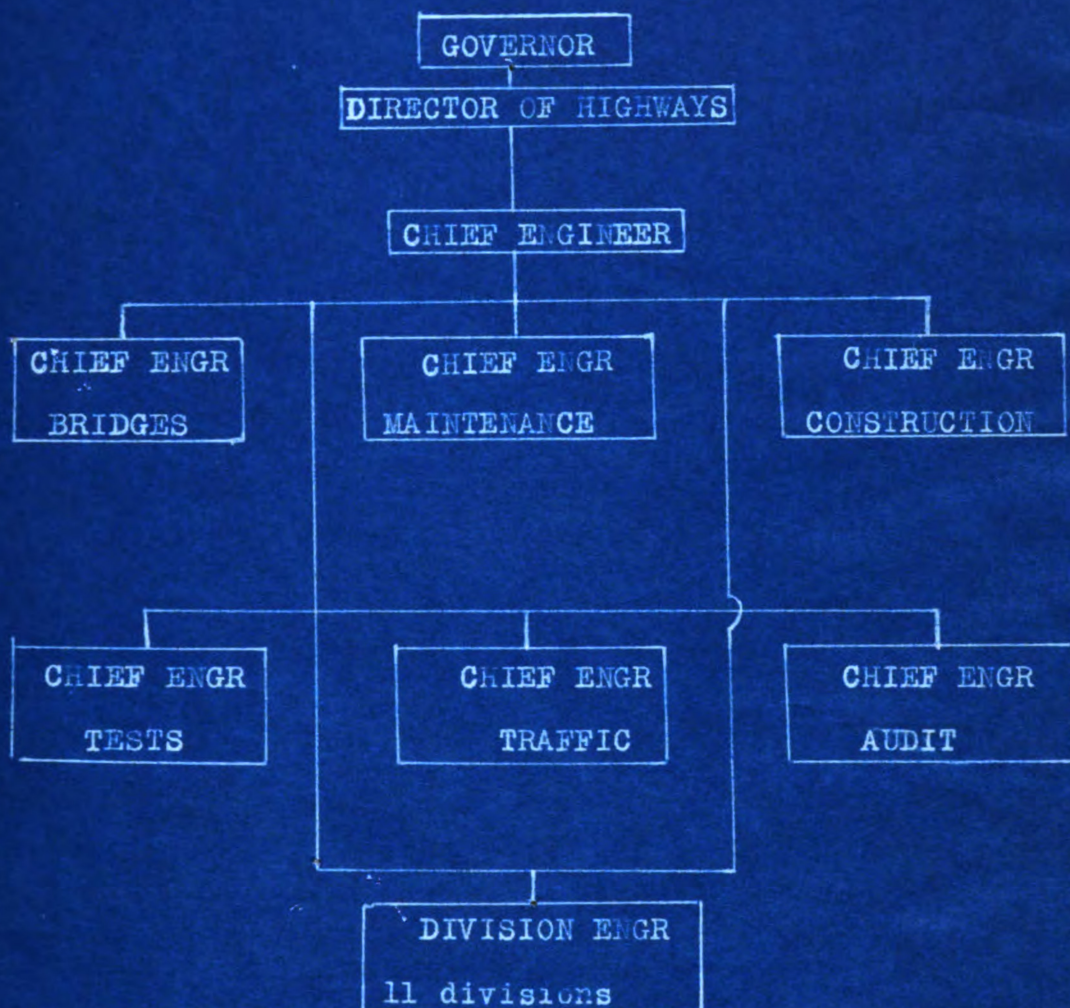
FINANCES

The revenues of the State Highway Department are derived from four sources as follows: auto license fees, motor bus taxes, two cent gasoline tax and one cent gasoline tax. A respective percentage of these go directly to the State fund and the remainder goes to the county from which benefits are derived.

PROGRESS

The following table will give the status of the road mileage to 1928:

ORGANIZATION CHART OF DEPARTMENT OF HIGHWAYS
STATE OF OHIO



State Highway System

2,047.43	Bituminous Macadam
1,420.47	Brick
1,289.17	Water bound Macadam
879.94	Reinforced Concrete
844.17	Concrete
212.34	Sheet Asphalt
173.69	Kentucky Rock Asphalt
63.57	Bituminous Concrete
<u>3,470.27</u>	Traffic bound Macadam
10,401.05	Total Mileage Improved
602.66	" Earth Mileage.

County and Township Systems

2,122.74	Bituminous Macadam
267.57	Brick
5,926.07	Water bound Macadam
185.49	Reinforced Concrete
449.00	Concrete
48.67	Sheet asphalt
22.21	Kentucky Rock Asphalt
47.15	Bituminous Concrete
<u>25,012.24</u>	Traffic Bound Macadam
34,081.14	Total Mileage Improved
39,672.30	" Earth Mileage
40,274.96	Miles Earth Total
<u>44,482.19</u>	" Improved "
84,757.15	" Grand Total of public roads

BIBLIOGRAPHY

Report of Department of Highways, State of Ohio,
1917 to 1928, inclusive.

OKLAHOMA

HISTORY AND LEGISLATION

The highway department was organized in 1915. Its duties were to prepare plans and specifications for construction of roads and bridges and advise counties as to same. In 1917 the department was authorized to accept Federal aid and match funds. In 1919 a \$50,000,000 bond issue was presented to offset Federal aid funds, but failed to be passed because it was unconstitutional.

Convict labor is required to be worked on the public highways and cost is borne by the prison funds.

ORGANIZATION

A Commissioner has charge of the State Highway Department and is appointed by the governor. He in turn appoints a state engineer as well as other assistants.

FINANCES

Property taxes are used to form the construction fund. Another source of revenue is a "gross production tax" of 0.5% of the gross value of asphalt as well as other ores, and 3% of the gross value of oils and natural gas produced in the State. Legislature appropriations and Federal Aid complete the list of revenues.

PROGRESS

Work has been hampered by insufficient appropriations but the total mileage of the State is over 134,000 and only 6,141 miles comes under the State system. The number of improved miles is 3,000.

BIBLIOGRAPHY

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No data was received from the Department upon request.

OREGON

HISTORY AND LEGISLATION

State aid was adopted in 1913 in the State of Oregon. The original act provided that plans for market road work be prepared and submitted to the State Highway Commission for approval and if so the funds be turned over to the counties. There was no division of authority, so amendments in 1925 created the office of county engineer which exercises the authority by their own methods. Other legislation was provided when needed to exercise the principles originally drawn, that of giving State aid toward the improvement of highways.

Convict labor may be used upon request of the county engineers.

ORGANIZATION

The Commission consists of three members appointed by the governor. It in turn appoints the highway engineer and other assistants. An accompanying organization chart will show the make up of the department.

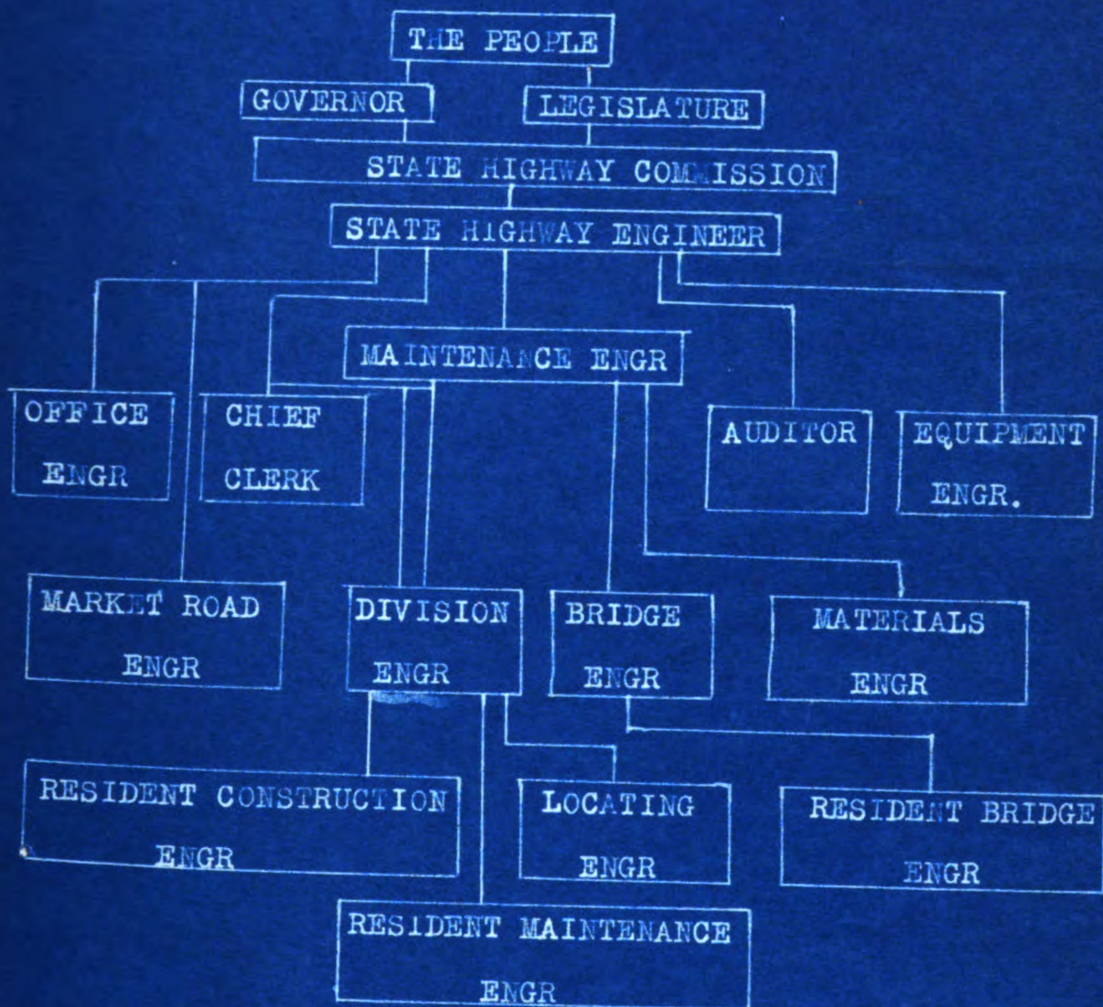
FINANCES

Revenue is derived from the following: motor vehicle license fees, gasoline and distillate tax, motor transportation fees, and interest and fines. The total for biennium 1927-1928 was approximately \$18,219,000.

PROGRESS

The total mileage of the state comprises 49,750 miles.

ORGANIZATION CHART OF THE OREGON STATE HIGHWAY COMMISSION



of this 4,370 miles come under the State system. Some 3,685 miles has been improved.

80.5% of miles of highway under State system paved

2.6%	"	"	"	"	"	"	"	Bit. macadam
25.1%	"	"	"	"	"	"	"	oiled "
31.7%	"	"	"	"	"	"	"	rock or gravel
5.3%	"	"	"	"	"	"	"	graded
14.8%	"	"	"	"	"	"	"	unimproved.

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Eighth Biennial Report of the State Highway Commission

1927-1928 State of Oregon

State Laws Relating to Roads, Highways, Bridges and
Ferries, 1927.

PENNSYLVANIA

HISTORY AND LEGISLATION

In 1911 legislation created a State highway system comprising approximately 10,235 miles composed of main traveled roads leading to the State line. In 1919 a highway commissioner was appointed and a primary system of 3,300 miles was purposed to be completed. The legislature passed a number of acts providing powers for the State, county and township commissioners.

Convicts may be used to work on public roads but not to any extent.

An accompanying chart will show the lineup of personnel.

FINANCES

Revenue is derived from sale of bonds, gasoline tax, motor vehicle registration, operator licenses and aid from the Federal Government and counties. This produces about \$52,000,000 per year.

PROGRESS

At the end of 1928 the system consisted of 12,167 miles, separated into three groups as follows:

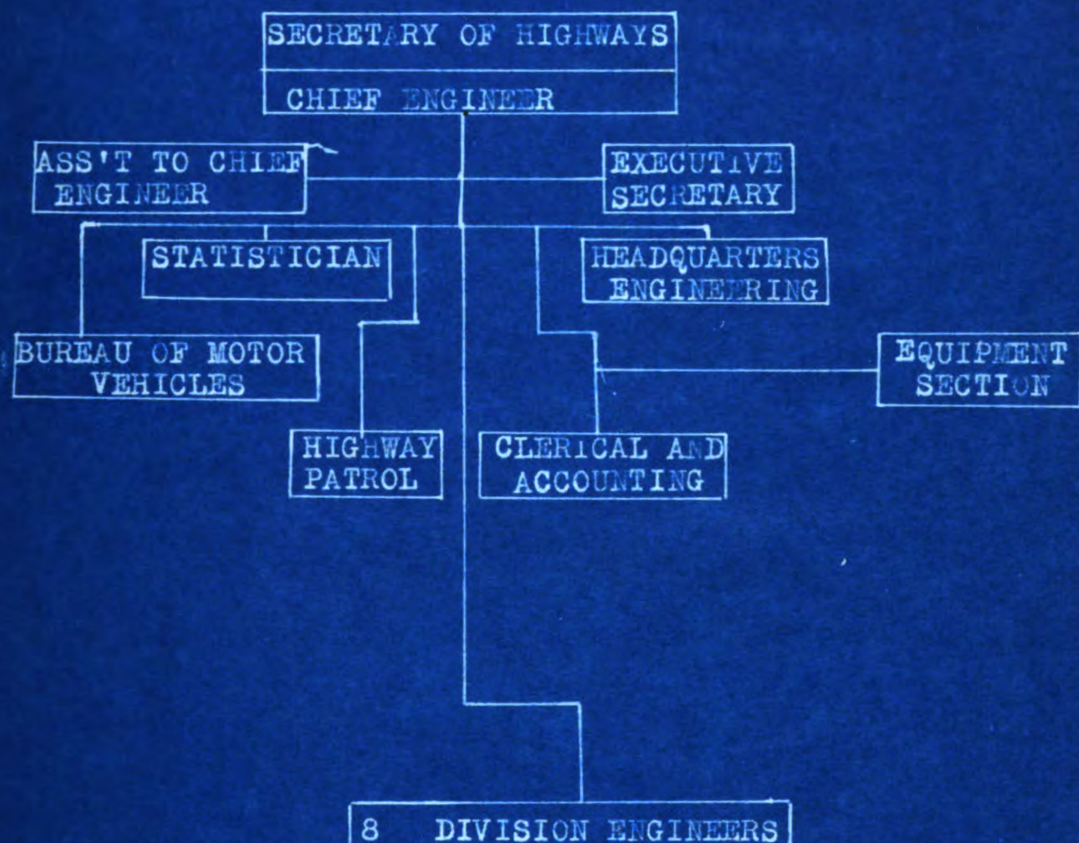
Primary system	-	3,920 miles	3,900 miles hard surfaced
Secondary "	-	7,622 "	3,969 " " "
State Aid	-	624 "	624 " " "

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Biennial Report of the Department of Highways 1927-1928

Highways Green Book 1920 A A A.

ORGANIZATION CHART OF DEPARTMENT OF HIGHWAYS COMMONWEALTH
OF PENNSYLVANIA



RHODE ISLAND

HISTORY AND LEGISLATION

In 1892 a committee was appointed to examine the road conditions and as a result in 1895 a Commissioner was appointed. He supervised sample test roads and was discharged in 1898 and nothing further was accomplished by the State in regard to highways until 1902 when a State Board of Public Roads was appointed and in 1903 appropriations and work began.

From 1903 to 1913, new construction alone prevailed and by the end of the period the State roads had been increased to approximately 325 miles of 14 foot pavement. From 1914 to 1923 both construction and reconstruction prevailed. From 1924 to 1928 there was the phase of changing grades and widening in the construction, which in the previous period seemed impossible.

ORGANIZATION

The Board has charge of and supervision of the work of both the Motor Vehicle Department and the Highway Department. There is a chief clerk of the Motor Vehicle Department, who has charge of the Department subject to approval of the Board. In the Highway Department the chief engineer is the executive officer.

FINANCE

Funds are derived from operators licenses, motor vehicle registration fees, and gasoline tax.

PROGRESS

A steady progress has been maintained since the organization. The system includes about 870 miles or 40% of the total mileage of the State. Approximately 490 miles of this has been improved.

BIBLIOGRAPHY

Twenty-seventh Annual Report of the State Board of
Public Roads, State of Rhode Island, 1929.

SOUTH CAROLINA

HISTORY AND LEGISLATION

The Commission was established in 1917 and participated mostly in the educational, advisory and supervisory capacities until 1921. The Department is composed of two divisions, engineering and automobile licensing and registration.

ORGANIZATION

The Commission is composed of two members appointed by the governor and three ex-officio members. The highway engineer is appointed by the Commission, who in turn appoints two assistants.

FINANCES

Up to 1920 there were no State road funds with which to aid the counties. Revenue is derived from gasoline and motor vehicle registration fees and Federal Aid allotments.

PROGRESS

There has been placed 5,591 miles under the State system of which 4,608 miles are of modern improvement. Much work is being done on mountain grades.

BIBLIOGRAPHY

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No data was received from the Department.

SOUTH DAKOTA

HISTORY AND LEGISLATION

The State Highway Commission was established in 1913 for educational purposes, no State funds or State control of roads being provided. In 1917 a State Highway Commission was established consisting of the governor as chairman, the State engineer as secretary and a third member appointed by the governor. It was given power and funds to construct State and Federal road. In 1919, a new highway Commission of three members was established consisting of the governor, ex-officio, chairman and two members appointed by the governor who were to serve four years. The Commission was organized to lay out a system of not over 5,000 miles of trunk line highways.

ORGANIZATION

The Commission consists, at present of governor, ex-officio chairman, three commissioners and secretary. The engineering staff consists of State Highway engineer, assistant highway engineer, bridge, maintenance, plans, testing and office engineers. There are five district engineers which are in charge of construction and maintenance in their respective areas.

FINANCE

Revenue is derived from motor vehicle tax, motor fuel tax, Federal aid, motor bus tax and general tax levy. The annual revenue amounts to approximately \$4,750,000.

PROGRESS

In 1929 the total designated miles of the system was 5,977 and 3,500 miles were graveled, and 1,600 miles was graded thus leaving 800 miles unimproved.

BIBLIOGRAPHY

Annual Report of the South Dakota State Highway

Commission, 1929

Highways Green Book 1920 A A A.

TENNESSEE

HISTORY AND LEGISLATION

The first Tennessee highways date to the Indian trails and buffalo paths. Boone did the first work on the white man's road in 1775 by cutting a trail with axes thru Tennessee. A route in 1797 was next recorded as the travel as marketing products necessitated a trail. In about 1830 a new impetus to improve facilities and a commission came. More than seventy years passed before the State took any active part in highway improvements. In 1915 the Highway Commission was created. Federal aid was taken advantage of when operated and in 1917 legislature placed the Highway Department in position to cooperate with the counties. Taxes for Highway construction were provided. In 1919 the administration changed replacing a six man nonpay commission with a three man pay commission. This was again reorganized in 1923 and created a Department of Highways and Public Works. The three man commission replaced with a commissioner. The tax levy was replaced with a gasoline tax. In 1927 16 special toll bridges were authorized for construction.

ORGANIZATION

The Department of Highways and Public Works functions under the direct supervision of a commissioner who is appointed by the governor. The Chief Engineer is authorized to correlate the various divisions of work. The necessary engineers have charge of the various divisions.

FINANCES

The sources of income of the Highway Department are Federal aid, gasoline tax, and license tax. An income of between \$10,000,000 and \$11,000,000 is received annually.

PROGRESS

The limit of 7,500 miles is placed on the State system to improve the more important roads. Three divisions are made, Primary, Secondary, and Federal aid. Some 3,800 miles had been improved in 1928.

BIBLIOGRAPHY

Biennial Report of The Commissioner, Department of
Highways and Public Works, 1928.

TEXAS

HISTORY AND LEGISLATION

The State Highway Department was organized in 1917. The Commission consisting of three members was to designate a system of State highways comprising about 12,600 miles upon which State aid from the State highway fund was to be given.

ORGANIZATION

Three commissioners are appointed by the governor. The state highway engineer is appointed by the Commission and is in administrative control of the work.

FINANCES

Funds are derived from Federal aid appropriations, State funds and county funds. The State funds are derived from the share of auto license tax and gasoline tax. County funds are derived by sale of district bonds.

PROGRESS

Completed roads for 1927 were 1002.99 miles, for 1929 - 1251.10 miles, for 1929 - 1872.07 miles.

BIBLIOGRAPHY

Highways Green Book 1920 A A A

No data was received from the State of Texas.

UTAH

HISTORY AND LEGISLATION

The State Road Commission was created in 1909, consisting of originally the governor, the State engineer, the State treasurer and one member of the faculty of the State University and one member of the faculty of the State Agricultural College. The law was modified in 1917, the Commission continued to be the ex-officio type and consisted of the governor, the attorney general, State engineer, State auditor and the secretary of State. In 1921 it was changed again to three members appointed by the governor. It has general administrative powers over the State road system and cooperates with the counties to administer State aid.

ORGANIZATION

The Commission appoints a chief engineer and the general office chiefs. The State has been divided into five districts, each under a district engineer.

FINANCES

The revenue is derived from State tax and appropriations, motor vehicle fees, gasoline tax receipts, Federal aid and miscellaneous receipts.

PROGRESS

A mileage classification of Utah State roads for the last three years:

	<u>1927</u>	<u>1928</u>	<u>1929</u>
Unimproved	628	591	459
Earth graded and drained	1420	1221	1194
Gravel	1085	1291	1305
Oiled gravel	28	68	200
Bituminous macadam	5	5	5
Asphalt	11	11	12
Bituminous concrete	53	53	53
Portland cement concrete	206	215	220
Total surfaced mileage	1388	1643	1795
Total State road mileage	3436	3455	3448

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Utah.

Tenth Biennial Report of the State Road Commission.

VERMONT

HISTORY AND LEGISLATION

The State Highway Department of Vermont was established in 1898 to act in an advisory capacity to the towns. In 1906 the principle of State aid was adopted and the State Highway Department was authorized to assume the supervision of the construction and maintenance of the main thoroughfares upon which the State funds were expended in conjunction with funds of the towns.

From 1906 to 1923 the State aid system was improved almost exclusively with gravel surfaces. In 1926 surveys of needs and improvement were exercised.

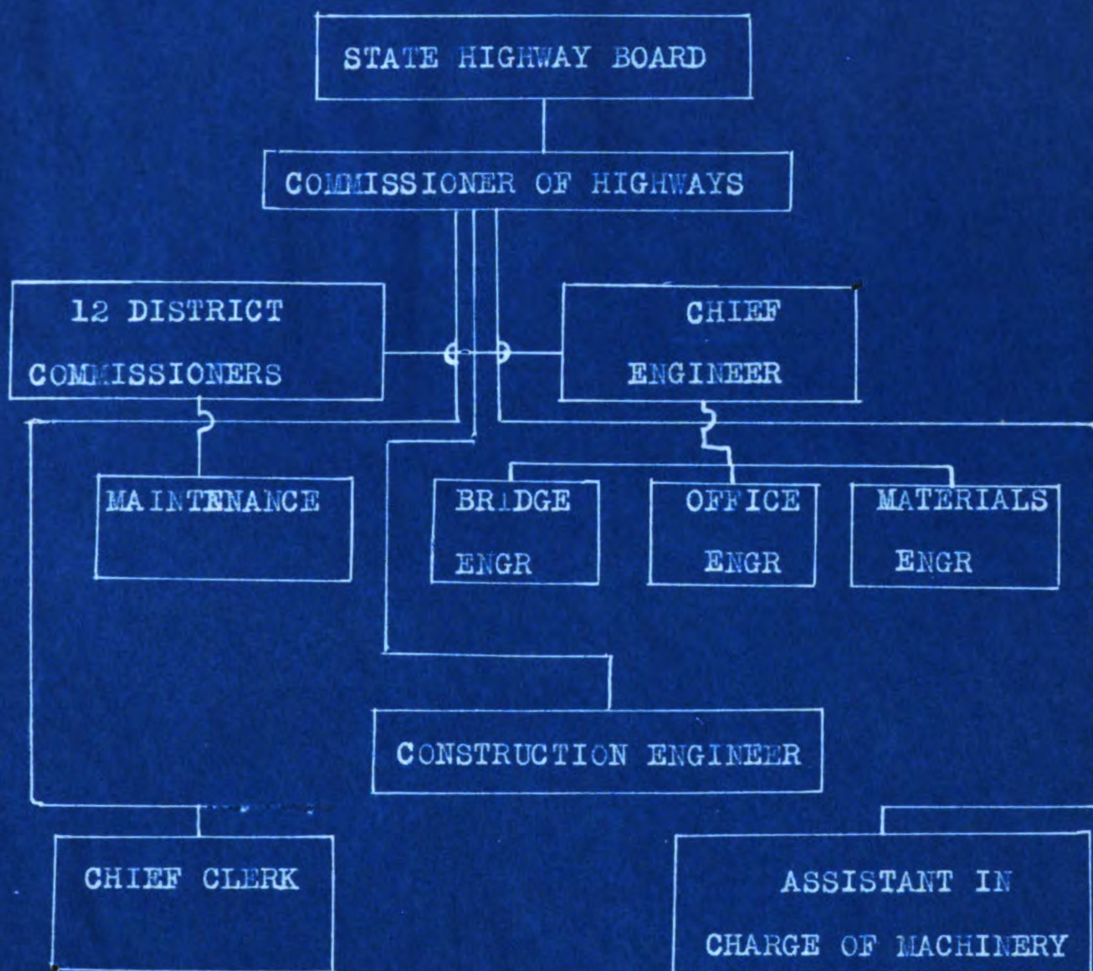
ORGANIZATION

At the present the State Highway Department is organized under the State Highway Board with the commissioner of highways as executive officer of the Board. Under the commissioner of highways the work of the Department is subdivided into four parts as shown by the chart. The chief engineer has supervision of all Federal aid construction.

FINANCES

Revenues for expenditure under the supervision of the State highway department are appropriated by general assembly. In amount it is approximately \$2,000,000 per annum.

ORGANIZATION CHART OF THE STATE HIGHWAY DEPARTMENT
STATE OF VERMONT



PROGRESS

During the period 1907 to 1925 improvements have been made in 2730 miles of State aid highways, 85% of which was gravel and 12% gravel telford base and 3% is concrete.

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Report of a Survey of Transportation on the State
Highways of Vermont, 1927.

VIRGINIA

HISTORY AND LEGISLATION

Many years ago the General Assembly of Virginia realized the fact that what the State needed was transportation facilities, and from 1845 to 1859 appropriations were made under various issues. Road construction continued from that time on, to some extent, but after the completion of several roads interest lagged, the coming of the war between the State retarded progress on all sides, then reconstruction days when no money was available for the purpose of road building.

In 1906 the State Highway Commission was established, at which time the State Convict Road Force was organized, and in addition to the convict forces, there was a small appropriation made by the General Assembly to be used to aid the counties that were not using convict labor.

In 1916 a tax was placed upon automobiles and the funds derived from this source were appropriated to the counties in the same manner as State aid and used for the maintenance of the roads that had been improved under the supervision of this Department. Also a committee was appointed to lay out a State system of roads. Three classes "A", "B", "C" - State, County and District roads respectively. In 1918 an Act provided for the establishment of a State Highway System of roads, and the original system of 4,002 miles laid out. In 1922 only 1,900 miles

were under maintenance, so a gasoline tax was enacted to provide funds for maintenance of all State aid roads.

ORGANIZATION

A five member commission is in charge of the Department. Under the commission is the Engineer of Right-of-Ways, Auditor, and Purchasing Agent. The Engineering Staff consists of seven departmental engineers in charge of the different phases of work. There are eight district engineers and under them are the resident engineers.

FINANCES

Revenue is derived from the receipts of the State motor fuel tax, Federal aid allotments, automobile registration fees, and miscellaneous. They amount to approximately \$10,700,000 per annum.

PROGRESS

The State system consists of 7,000 miles and approximately 5,000 miles has been improved. Many of the roads and bridges are narrow and the ever-increasing number of automobiles and other motor vehicles demand for safety, convenience and rapid transportation and that they be widened and better located.

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The Progress of Virginia Highways by A. H. Pettigrew
Twenty-second Report of the State Highway Commission
of the State of Virginia, 1929.

WASHINGTON

HISTORY AND LEGISLATION

The Highway Department of the State of Washington was created by act of Legislature in 1905. This act provided for a Highway Board consisting of the State auditor, State treasurer, and State highway commissioner. In 1911 the Highway Board was enlarged to consist of the governor, State auditor, State treasurer, State highway commissioner and a member of the railroad commission of Washington. In 1921 laws known as the administrative code abolished the Highway Board and the office of State highway commissioner. Among the other State departments there was created the Department of Public Works in charge of a director appointed by the governor. As a branch of the Department of Public Works there was created the division of highways in charge of the supervisor appointed by the Director of Public Works. The Highway Board was superseded by the State Highway Committee consisting of the governor, State auditor, and State treasurer. The legislature of 1923 amended the administrative code by abolishing the division of highways and the office of supervisor of highways and in place of this office was created the office of state engineer, this office appointed by the governor. The legislature amended the administrative code in 1929 by creating the Department of Highways in charge of the director of highways. The director is appointed by the governor and takes over the

duties previously performed by the State Highway Committee and the State highway engineer.

The first State road was established by the legislature of 1893. This act called for the construction of roads across the State. An unsuccessful attempt was made in 1903 to establish a State highway system but with the creation of the State Highway Department in 1905 the first State highway system was established. Further legislation was passed to designate the roads and mileage of the system.

ORGANIZATION

The State Highway Committee consisting of the Governor, the State auditor and the State treasurer, ex-officio, formulates the general policies of the State Highway Department. It selects routes, approves plans and awards contracts. The State highway engineer is the chief executive officer of the Department. An organization chart will show the general layout of the organization.

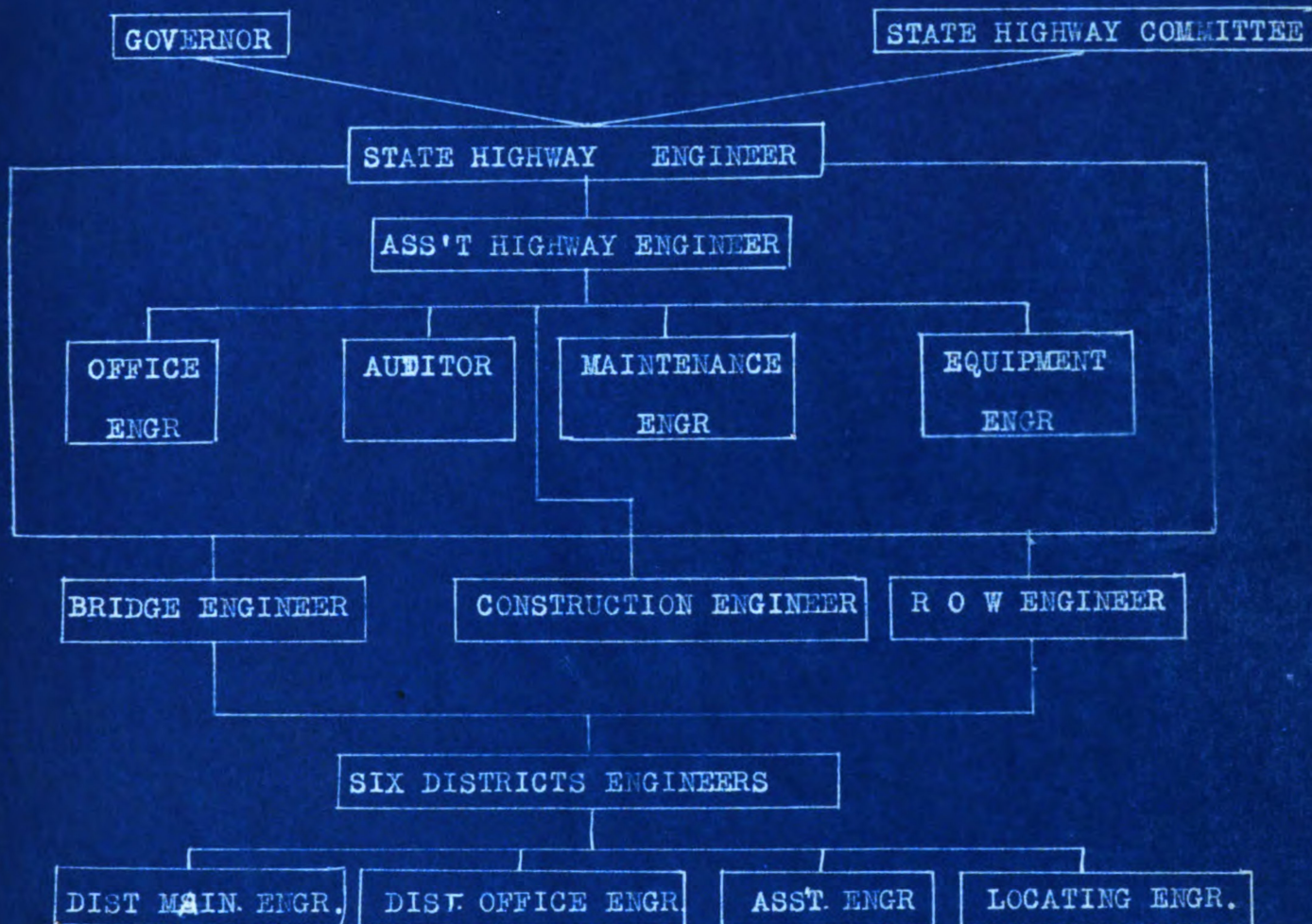
FINANCES

Revenue for the construction and maintenance of State highways is derived from the automobile license fees and gasoline tax. Federal aid allotments are to be added to the list,

PROGRESS

The following table will convey what has been done up to 1928 on the State highways of Washington.

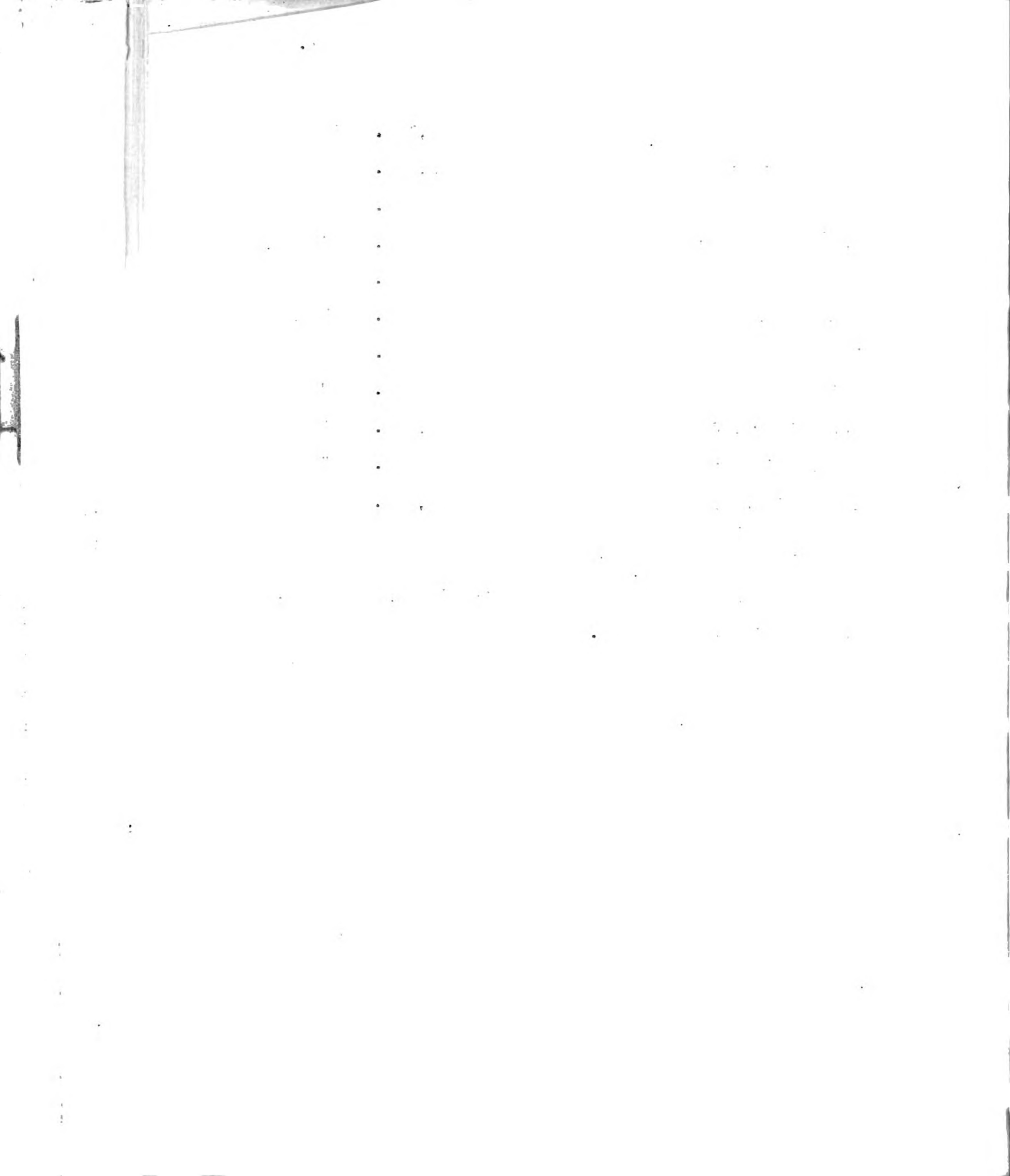
ORGANIZATION CHART OF THE STATE HIGHWAY DEPARTMENT
STATE OF WASHINGTON



Improved earth	1,193.7 miles
Gravel or crushed rock	1,983.2 "
Asphaltic macadam	31.7 "
Asphaltic concrete	43.5 "
Sheet asphalt	1.7 "
Cement concrete	661.7 "
Brick	12.5 "
Bridges	21.3 "
Total Improved	2,949.2 "
Total unimproved	333.9 "
Total miles of State highways	3,283.2 "

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 Data submitted by letter.



WEST VIRGINIA

HISTORY AND LEGISLATION

The first official road building in what is now West Virginia is said to have been in the form of wagon roads in 1781. Other roads followed and when West Virginia became a separate State it took the same road laws as Virginia. The State took interest in 1906 when inspectors inspectors to report road conditions and progress were operated. In 1917 a State system was created and class A, B, and C roads were named. The Road Commission was created, at this time, of two members. In 1921 the Commission was given direct and complete authority over roads which were designated as a part of the State System. Funds were provided by legislation when needed. The gasoline tax law was passed in 1923.

ORGANIZATION

The main heads under which the work of the Commission is carried on are: accounting, purchasing, and equipment; automobile registration; engineering. The Commission consists of a chairman and two commissioners.

FINANCES

State funds are derived from the net receipts from the registration of automobile and special privilege taxes on automobiles and Federal aid.

PROGRESS

The total mileage of the State is 35,250 miles, of which only 3,820 miles comes under the State system. Approximately 3,200 miles have been improved.

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WISCONSIN

HISTORY AND LEGISLATION

The systematic improvement of highways in Wisconsin began in the year 1907. Prior to that time the highways of the State were a mere aggregation of local roads serving purely local needs. The legislature of 1907 also created the first State highway department. This was the highway division of the State Geological and Natural History Survey. The duties were mostly study and advisory. In 1911 a Commission of five members was appointed. In 1917 the selection of a State highway system was made to which Federal aid would apply. Further legislation was enacted to provide needs as the improved method and number of miles were added to the system.

ORGANIZATION

The State highway work is carried out under the joint supervision of the State Highway Commission and the county highway organizations. The State Highway Commission was created by laws of 1911 and consists of five members, three of whom are appointed for a term of six years, and two ex-officio members. There is appointed a chief engineer and he has nine division engineers under his supervision.

FINANCES

The revenue is derived from the net motor vehicle registration fees, net gasoline tax and Federal aid allotment. It amounts to approximately \$15,300,000 annually.

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PROGRESS

The following table gives mileage of public highway,
1928:

Town maintained roads	57,345.3 miles
Village " streets	1,537.9 "
City " "	4,553.1 "
County trunks	13,300.6 "
State trunk highways	<u>10,604.2 "</u>
Total of all highways	87,341.1 "

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Highway Activities - 1924, 1926, 1928.

WYOMING

HISTORY AND LEGISLATION

The Highway Department was organized in 1917. A Commission was appointed. Legislation provided funds and authority to select a system, construct and maintain. In 1922 a bond issue was authorized of \$2,800,000.

ORGANIZATION

The organization of the Department comprises the Commission of five members and a superintendent and the necessary personnel to carry out the work. An accompanying chart will show the makeup.

FINANCES

The finances are derived from the \$2,800,000 bond issue, gasoline tax and automobile registration and Federal aid. Both maintenance and construction are supported by this revenue.

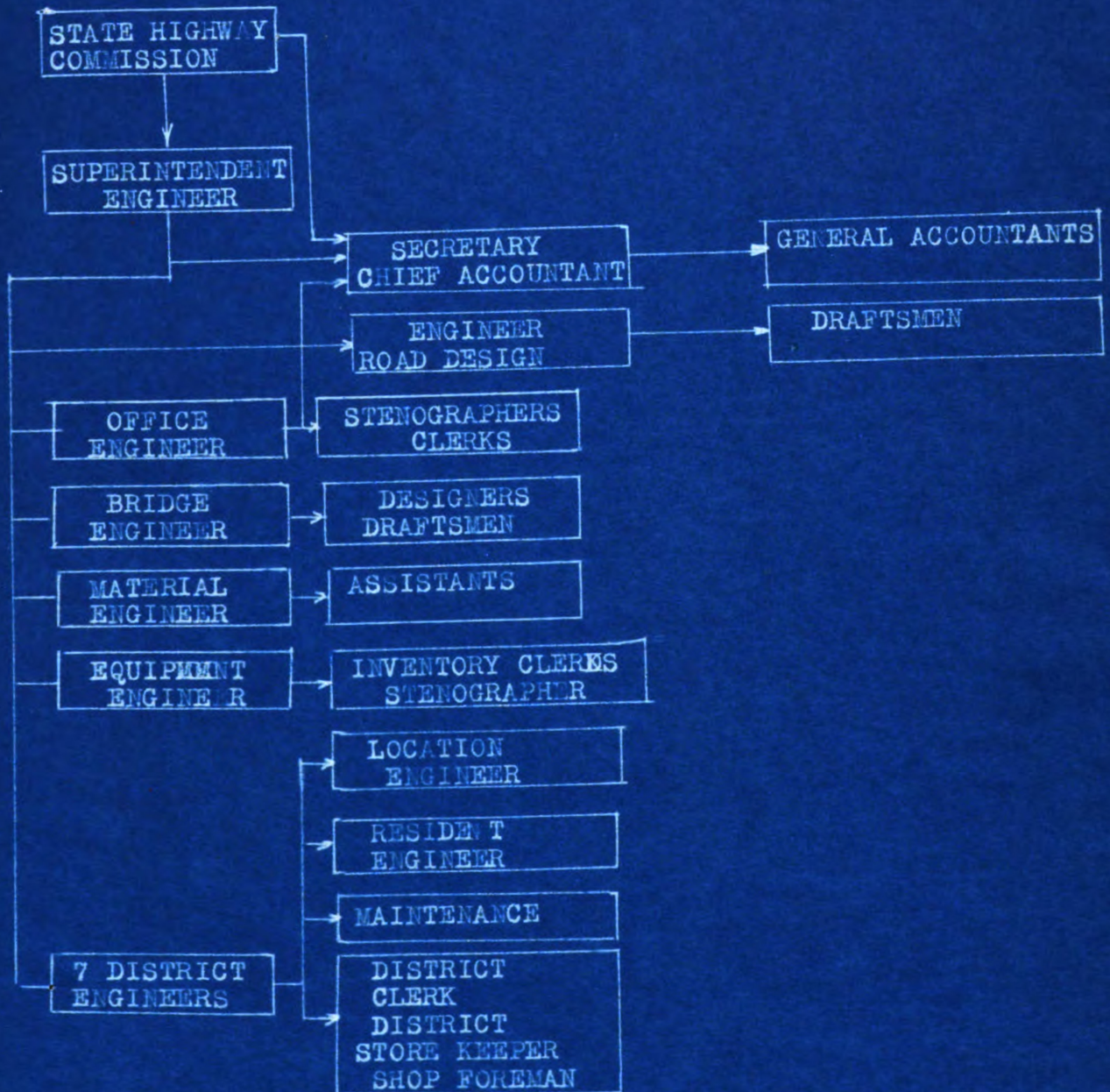
PROGRESS

The total mileage of the State is approximately 46,575 miles, of which 3,115 comes under State highway mileage. About 1,800 miles has been improved.

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ORGANIZATION CHART OF THE STATE HIGHWAY DEPARTMENT
STATE OF WYOMING



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