

ANNUAL REPORT
OF THE
STATE HIGHWAY
DEPARTMENT

OF THE
STATE OF DELAWARE



1925

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December 31, 1925

Members of the State Highway Department
Dover, Delaware

Gentlemen:-

In compliance with the statute relating thereto, I have the honor to submit for your consideration the annual report of the State Highway Department for the year Nineteen Hundred and Twenty-five. The report as prepared contains a resume of the work accomplished during the year, together with a statement of monies received and disbursed by the Department from January 1, 1925 to December 1, 1925; included also are minor recommendations closely related to the interest of the State.

The accomplishments of the year being of first importance, an attempt has been made to record them before touching upon recommendations for the ensuing year.

SURVEYS AND PLANS

During the year approximately 136 miles of preliminary line and detail have been run by this Department in different sections of the State. Of this total 80.7 miles were complete surveys, including alignment, detail, cross sections, bench marks and check levels. The remainder were only partially completed, some including base line and detail, others base line and profile. In addition to this work 76.6 miles of construction surveys were necessary. Other duties of the survey parties consisted of cooperating with the resident engineers in staking out borrow pits and final cross sections of 54.8 miles of roadway. As occasion demanded they also surveyed right of way plots for condemnation purposes.

Since January 1st our draftsmen and office engineers platted, planimetered and worked up quantities for 54.84 miles of final cross sections and in addition completed the following:

- 106.0 miles of detail
- 76.8 miles of profile
- 76.8 miles of cross sections
- 76.8 miles of grade established
- 76.8 miles of cross sections planimetered
- 82.7 miles of plans traced

The above record is creditable in view of the small force of men engaged and was partly made possible by improved methods of platting.

BRIDGES AND CULVERTS

The year has been an active one for the Bridge Division.

The Seaford Bridge (a bascule) spanning the Nanticoke River was completed in March at a cost of approximately \$80,000.00.

The new bascule bridge over the Lewes and Rehoboth Canal west of Rehoboth is 85% completed and should be in operation during February. The estimated cost of this structure is \$65,000.00

The contract awarded this month for a moveable bridge over the Broadkill River will provide a safe and appropriate structure for an important highway and replaces the present bridge which is quite unsuitable for the motor traffic the new highway leading to and from it will carry.

Preliminary surveys and plans for a new bridge over the Christiana River on South Market Street, Wilmington, have been made and prepared. Much data was collected for this work including careful and extensive borings—several

to a depth of 60 feet. If our present plans suffer no serious interruptions the actual work on this structure should be underway in the spring.

In addition to the important projects named, plans for 32 small bridges were prepared and 226 pipe culverts recommended and entered on plan and profile sheets; these structures, not including the moveable bridges, cost \$162,500.00.

This year's work of the Bridge Division has been efficiently and economically handled.

RIGHT OF WAY

The policy of the Department in securing adequate right of way and straightening highways, with a view to future developments, is gaining more favorable recognition each year. An unusually good illustration of the benefits from such a policy, is available;—during the year just ended the Highway Department by relocation on one project, shortened the distance 1.3 miles;—right of way for the new alignment cost \$12,517;—at the current contract prices the actual saving in construction was \$50,300, and the net saving to the State \$37,783; likewise the saving in time and distance to those using this road in years hereafter is worthy of mention and appraisal.

Of the 71.67 miles of road, under contract this year, on which right of way was secured, 25.56 miles are on relocation.

During 1925 right of way was obtained on twenty-one contracts; to accomplish this required the securing of 448 individual properties, of which 423 were by gift, 25 by purchase, and 10 by condemnation, at a cost of \$58,475.50.

The total cost, as given, includes not only all damages paid to property owners, but all costs and salaries in connection with the securing of options, the searching of titles, the preparation, execution and recording of deeds and re-

leases, the cost of resetting and erecting fences, erecting retaining walls, moving buildings, digging wells, and all work made necessary by the widening and straightening of the improved highways.

The average cost per mile for right of way this year is \$816.00. The cost in 1924 was \$850.50 and in 1923, \$842.39 per mile.

Following is an accurate tabulation of monies spent for right of way since January 1, 1925:

CN Contracts	\$1,273.80	\$2,360.55	\$2,585.00	\$1,163.00	\$4,946.89	\$3,559.29	\$15,888.53
CK Contracts	1,026.45	932.43	1,275.00	3,791.77	5,755.62	1,648.31	14,427.58
CS Contracts	436.87	1,164.37	1,388.50	192.72	130.96	614.08	3,927.50
State Contracts	1,427.58	4,206.42	11,415.00	1,032.12	2,879.44	1,879.44	22,625.23
Cont. 3 & 4	857.71	97.50	100.00		515.16	36.29	1,606.66
	\$5,022.41	\$8,761.27	\$16,763.50	\$6,179.61	\$14,288.07	\$7,520.64	\$58,475.50

TESTING LABORATORY

Throughout the United States, those charged with the building of good roads are beginning to recognize more clearly the need of the testing of materials used in construction. The adage that "one test is worth a hundred opinions" is being deeply rooted in facts. Tests are a protection to the State against claims which would probably be made if materials were rejected without test.

Our specifications for the testing of cement were revised at the beginning of the year and made more difficult. 201,111 barrels of this material were tested during construction season and under the present restrictions we have assurance that only the most carefully manufactured brands are purchased for our work.

The cost of operating and maintaining our laboratory was only a fraction of one per cent of the cost of road construction and compares favorably with the expense in previous years. Nine thousand specimens were tested.

CONSTRUCTION

The work remaining from 1924 contracts, totalling 13.78 miles was practically completed by June 1st. During this year 27 contracts for concrete roads comprising 77.84 miles and estimated to cost \$2,567,218 were awarded. Of the total mileage, 92.52, under construction—the close of our working season found 71.6 miles finished.

Slag as a coarse aggregate was used with excellent results on 9 projects.

Eight other contracts, consisting of, a one mile slag road, 4300 feet of sidewalk, a bascule bridge over the Rehoboth canal, one fourth mile fill at Lums Pond, the removal of an old bridge at Drawyers Creek, the grading of the Summit Bridge Approaches, and the purchasing of a 20-ton Heavy Duty Trailer, were awarded.

The character of this year's workmanship has shown improvement, especially in riding qualities. The use of two screeds with well graded stone and the omission of the finisher's roller has tended to produce smoother roads.

Center line plate or non-metallic joint has been used on all contracts fifteen feet or more in width. This feature has entirely eliminated longitudinal cracks and serves admirably as a center marker.

Including this year's work, our system of State highways now comprises 504.1 miles or about 13½% of all the public roads in the State.

Following is a tabulation of contracts, their mileage and costs, awarded in 1925.

TABULATION OF CONTRACTS AWARDED IN 1925

Contract No.	LOCATION	Length (Miles)	Date of Opening	CONTRACTOR	
52	Sidewalk, Claymont	.....	3/18/25	Dominick Fontana, Wilmington, Del.	5' PL
37D	Surfacing-Drawyers	0.24	4/22/25	R. H. Johnson, Wilmington, Del.	20' A
53	Five Points-Waples Mill	8.92	5/27/25	Hannaman & Burroughs Co., Salisbury, Md.	16' PL
54	6th Street, New Castle	1.06	7/1/25	D. E. O'Connell & Sons, Ridley Park, Pa.	18' PL
55	White Oak Road	1.00	8/5/25	Smyrna Cement Products Co., Smyrna, Del.	12' SL
37E	Removing Drawyers Bridge	.....	.....	.....	.....
CN19A	Lum's Pond	.....	4/22/25	Lee & Marvel, Townsend, Del.	.....
CN22	Merman-Milltown	1.35	5/20/25	Stewart & Donohue, Wilmington, Del.	16' PL
CN25	Washington Street, New Castle	0.45	7/1/25	D. E. O'Connell & Sons, Ridley Park, Pa.	16' PL
CN26	Valley Road-Penn. Line	0.97	7/1/25	Wm. W. Truitt, Lincoln City, Del.	16' PL
CN27	Christiana-Newark	4.87	7/1/25	D. E. O'Connell & Sons, Ridley Park, Pa.	16' PL
CN28	Point Breeze Sch.-Faulk Road	1.49	7/1/25	E. Riley Mixner Co., Goshen, N. J.	16' PL
CN19B	Lum's Pond Surfacing	0.25	9/7/25	F. W. Lovett, Newark, Del.	16' PL
CN19C	Grading Summit Bridge	0.41	9/7/25	Wm. T. Staats, York, Pa.	.....
CK24	Little Creek-Dover	4.92	3/18/25	Wm. Eisenberg, Camden, N. J.	15' PL
CK25	Maryland Line-Kenton	5.18	5/20/25	George & Lynch, Dover, Del.	15' PL
CK27	Thru Woodside	0.64	5/27/25	Wm. W. Truitt, Lincoln City, Del.	16' PL
CK28	Maryland Line-Willow Grove	7.04	7/1/25	Field, Barker & Underwood, Phila., Pa.	15' PL
CK11	Blackiston-Clayton	3.73	8/5/25	McNichol Pavg. & Constr. Co., Phila., Pa.	16' PL
CK29	Thompsonville-duPont Road	3.40	8/5/25	McNichol Pavg. & Constr. Co., Phila., Pa.	15' PL
CK30	Maryland Line-Hartly	2.60	9/16/25	Highway Engr. & Const. Co., Selbyville, Del.	15' PL
SC30A	Bridge at Rehoboth	.....	3/18/25	Al. S. Fox, Dayton, Ohio	.....
CS40	duPont Road-Lincoln City	1.09	4/22/25	Old Line Construction Co., Chestertown, Md.	16' PL
SC30B	Rehoboth Bridge Superstructure	.....	5/20/25	Al. S. Fox, Dayton, Ohio	.....
CS39	Waples Mill-Brick Granary	5.12	5/20/25	Roberts Paving Co., Salisbury, Md.	16' PL
CS37	Harmon School-Oak Orchard	2.00	8/19/25	Old Line Construction Co., Chestertown, Md.	14' PL
CS41	Bethany Beach	1.40	8/19/25	Wm. W. Truitt, Lincoln City, Del.	14' PL
CS42	Lowes "X" Rds.-Mission	2.89	8/19/25	Field, Barker & Underwood, Phila., Pa.	14' PL
CS43	Blades Connection	.32	8/19/25	E. P. Downing, Seaford, Del.	14' PL
CS44	duPont Road-Stockley	1.10	8/19/25	Old Line Construction Co., Chestertown, Md.	14' PL
CS30C	Rehoboth Connection	0.87	9/16/25	Smyrna Cement Products Co., Smyrna, Del.	16' PL
CS38	Vines Creek-St. Georges Church	3.05	10/7/25	George & Lynch, Dover, Del.	14' PL
CS46	Cannon-Atlanta	2.12	10/7/25	George & Lynch, Dover, Del.	15' PL
		68.48			
CS45	Laurel-Sharptown	7.95	12/16/25	Estimated Cost	.....
CS47	Milton-Waples Mill	2.50	12/16/25	Estimated Cost	.....

LETTING TO BE HELD DECEMBER 16th

MAINTENANCE

The consistent addition of new roads to the system and the annual increase in traffic requires extensive and vigilant maintenance to conserve our roads in perfect condition. The work as now carried on is done by crews each with a foreman and assistants who serve directly under a maintenance engineer. Nineteen crews and an engineer for each county, were employed during the year. In addition to the necessary repairs to the concrete pavements, shoulders, ditches and culverts, they are held responsible for the prompt removal of snow, the mowing and brambling of the rights-of-ways, erection and repair of direction and warning signs, the placing and maintenance of a center stripe, the removal of all advertising signs and other miscellaneous work necessary to the life and appearance of improved roads.

During the year, 433 miles were maintained at an average cost of \$307 per mile which includes snow removal during the winter months.

REPAIR SHOP

The amount and character of work performed by our mechanics during the year surpasses that of any previous year.

Surplus War Equipment received from the Federal Government has all been overhauled in addition to the necessary work furnished for the upkeep of 40 trucks, 26 cars, 5 tractors, and 42 motorcycles, almost all of which, excepting tractors, are in daily use.

This work was accomplished by nine men, which in itself is a credit to their ability and reflects conscientious service to the State.

EQUIPMENT

In June the Department purchased one twenty-ton heavy duty trailer. This is leased to contractors who at times, of necessity, must move a part or all of their heavy outfits over our improved roads; danger of damage to the

highways is materially lessened when such loads are transported by the trailer. This equipment should never be leased for private use.

Several Ford trucks with special bodies were purchased and placed on maintenance work primarily to reduce equipment operating cost. The trial conducted now over a period of 6 or 8 months has proven surprisingly satisfactory and I recommend purchasing a sufficient number of these light trucks to allow one for each maintenance crew—the heavy Government trucks now in use to be stored for heavy work such as snow removal for which the light truck is useless.

STATE HIGHWAY POLICE

This Division of the Department continues to render valuable public services. Through the year their work has been effective and satisfactory. If public opinion is a measure of their usefulness, they have enjoyed a busy year. Much time was devoted to instructing motorists in some of the first rules and State laws promoting safety. That the efforts expended had beneficial results is found in a comparison of the accident charts for this year and last:

	1924	1925
Fatal accidents	33	22
Seriously injured	58	28
Pedestrians seriously injured..	12	6

From a training school, for which 115 recruits reported, 15 men satisfactorily qualified and were immediately commissioned for active service. With this quota the force obtained its full complement of men, totalling 35, which number has since been retained to good advantage.

Five stations are now maintained, all but one giving 24 hour service.

During the year the men patrolled 224,306 miles of highways and were on duty for a total of 89,833 hours.

Beside 385 special assignments, the members of the force found it necessary to issue 3,095 reprimands and to make 1881 arrests.

A tabulation of the latter follows:

Assignments

Investigations (Miscellaneous)	118
Robberies	62
Traffic duty	55
Raids	55
Fires	14
Escaped prisoners	6
Convoying ambulances	6
Runaways	6
Murder	8
Riots	3
Drowning	2
Insane to Farnhurst	5

Arrests for Violations of the Motor Vehicle Law

Reckless driving	507
Operating while under the influence of intoxicating liquor	178
No operators license	178
Improper lights	128
No mirror on trucks	125
Improper tags	102
Overloaded trucks	75
Unregistered cars	72
Leaving accident without complying with the law	22
Horse drawn vehicles no lights	19
Operating car with defective brakes	16
Failing to stop on entering Main highways from Lateral roads...	14
Passing on the right	12
Having stolen car in their possession	7
Taking car without owners consent	7
Operating car after license had been revoked	6
Parking on highways without lights	5
No photograph on paid drivers license	4
Passing cars at intersections	3
No public permit	2
Throwing glass on highway	2
Dirty tags	2
Improper title	2
Unregistered tractor	1
Operating unsafe car	1
Operating car, under age	1
Failing to stop at request of officer	1
No signature on paid drivers license	1

Unregistered trailer	1
Overloaded trailer	1
Held pending the outcome of an accident	1
Altering title	1
No title	4

Arrests for Violations Other Than the Motor Vehicle Laws

Drunk	55
Illegal possession of liquor	29
Assault and Battery	28
Larceny	28
Transporting liquor	27
Playing crap	26
Disorderly conduct	24
Carrying concealed deadly weapon	17
Felonious assault	18
Breaking and entering	10
Manufacturing liquor	9
Murder	8
Selling liquor	8
Held as witnesses	8
Runaways	6
Non-support	6
Possession of stolen goods	5
Highway robbery	5
Keeping gambling device	5
Violating game laws	3
Pointing gun	3
Breaking jail	3
Breach of peace	3
Inciting to riot	2
Defrauding	2
Insane	2
Peddling without license	2
Accessory to a crime	2
Prostitute	1
Sodomy	1
Rape	2
Resisting arrest	1
Robbery	1
Perjury	2
Aiding a prisoner to escape	1
Embezzlement	1
Involuntary manslaughter	1
Disturbing religious worship	1
Threatening to do bodily harm	1
Issuing worthless checks	1
Malicious mischief	1
Selling dope	1
Possession of drugs	1
Violating age of consent law	1
Interferring with an officer	1
Keeping a disorderly house	1
Assault	3
Assault with intent to ravish	4

One of the most important services the police render is in protecting the highways against overloaded trucks. Their activities in this direction during the year resulted in 17,217 trucks being weighed. A record of the cargoes each truck was transporting was kept and an interesting insight to the amount of freight using the improved roads is available.

As a result, of efforts expended and work done by our police and engineers in their attempts to educate the motorizing public in how to safely drive and when to observe caution, fatal highway accidents in the State during the year were reduced 33%.

Such an accomplishment is encouraging and in itself may be said to justify the expense of maintaining the highway police force. It should not be overlooked, however, that certain accidents will continue to occur regardless of any precautions the State can take, as the fault at times rests entirely with the drivers whose temperament, physical or mental condition should properly deter them from driving, but does not.

A tabulation of this year's accidents in which 22 persons lost their lives, 242 were injured and property damage done, amounting to \$75,894, is submitted.

Fatalities

Motor Vehicles	11
Railroad Crossings	3
{ In towns	4
Pedestrians {	
} Highways	4

Injured

Slight	195
Serious	28
{ Slight	13
Pedestrians {	
} Serious	6

Condition of Highway

Wet	155
Dry	433

Location

Tangent	396
Curve	43
Intersections	136
Railroad crossing	13

Causes

Recklessness	182
Carelessness	119
Inattention	70
Intoxication	42
Skidding	39
Glaring headlights	27
Loss of control	23
Defective steering gear	14
Inexperienced operator	13
Jay walking	11
No tail light	11
Defective brakes	11
Parking on highway	9
Operating while asleep	5
Horse drawn vehicle, no lights	3
Blow out	2
Obstruction on highway	1
Obstructed view at intersection	1
Animal on highway	1
Snow on windshield	1
Fog	1
No lights	1

Highways

State	456
County	76
Towns	45
Railroad crossings	11

Children

Injured	8
Fatal	2

Time

Day	321
Night	267

ADMINISTRATION AND ENGINEERING

The volume of the year's work made it impossible to further reduce the administration forces. The value of the work performed during the year fixes the administration cost at 1½%.

Recognition is formally acknowledged of the efficient manner in which the Department's business has been handled by the engineer selected to serve during the leave of absence granted the Chief Engineer.

Field and office engineers, furnished drawings, detail plans and other information needed to intelligently bid on proposed work—likewise provided inspection and engineering supervision for work valued at \$2,305,494.58 for 1¾% of the cost.

FINANCES

An attempt to show in a brief comprehensive and accurate form the monies received and spent by the State Highway Department between January 1, 1925 and December 1, 1925 is contained in the following statements:

STATE HIGHWAY DEPARTMENT

Financial Statement to December 1, 1925

INCOME

Balance from 1924	\$744,314.74
Federal Aid Contracts	354,077.89
Motor Vehicle Fees	673,448.00
Gasoline Tax	317,980.29
\$500,000.00 Bond Issue Proceeds	486,613.00
Accrued Interest	4,277.90
Traffic Police Fines	33,774.00
New Castle County State Aid "Construction"	141,784.52
Kent County State Aid "Construction"	355,139.67
Sussex County State Aid "Construction"	62,389.02
duPont Road	
New Castle County State Aid "Maintenance"	5,469.13
Kent County State Aid "Maintenance"	8,948.85
Sussex County State Aid "Maintenance"	11,096.51
Wilmington and Philadelphia Traction Co.	3,341.44
Plant and Equipment, Rental	2,255.32
Right of Way, Rental	99.20
Maintenance, Labor and Material	55.35
Reimbursements (Pouring Center Line and Town and Freight, Telephone, Etc.)	26,945.54
Returned premium Insurance	88.54
Compensation Insurance	
Use of Officer and Returned Salaries	7.74

STATE HIGHWAY DEPARTMENT
Financial Statement to December 1, 1925

EXPENDITURES

Administration and Legal	\$28,948.01
Preliminary Surveys and Plans	4,535.67
Engineering General	8,141.82
Engineering Construction	20,316.16
Engineering Maintenance	2,233.90
Stock Room	1,376.96
Construction	1,030,302.61
Maintenance	90,101.95
Plant and Equipment	30,215.52
Laboratory	712.05
Automobile	20,857.81
Traffic Police	76,729.27
State Aid—New Castle	413,403.52
State Aid—Kent	760,662.30
State Aid—Sussex	173,108.91
Interest and Sinking Fund	169,210.00
duPont Road	26,981.29
Total Expenditures	\$2,857,837.75

FEDERAL AID AND FEDERAL EXCISE TAX

The first appropriation made by the Federal Government for participation in the building of highways in the different States was in 1917 and the amount, \$5,000,000. Since then a total of \$685,000,000 has been appropriated by the several Congresses. On January 30th last the Dowell bill carrying \$75,000,000 for 1926 and \$75,000,000 for 1927 was passed by Congress.

Delaware shares in Federal Aid highway appropriations to the extent of $\frac{1}{2}$ of 1% and her proportional part for each of the two fiscal years, 1926 and 1927, was \$375,000, or actually \$365,625, after deducting certain expenses for the Bureau of Public Roads. At the close of the fiscal year ending June 30, 1925—the 1926 appropriation was available and our share has since been put under contract. The 1927 appropriation can be applied to those Project Statements which will be due during our coming construction season.

The last Congress made a reduction of \$25,000,000 in the excise taxes on automobiles and their accessories, but the American Automobile Association and other organizations have joined in an effort to induce the present Congress to eliminate entirely such taxes. The Government during the past year collected \$124,000,000 in excise taxes of this kind.

Some confusion exists in the minds of the general public that there is a relationship between these excise taxes and the Federal appropriations for building roads—such, however, is not the case. Federal Aid was in existence before the Government used this method of securing funds for the War. There is a probability that these excise taxes will be eliminated, what effect it may have upon later authorization for highways remains to be seen.

TRANS-CONTINENTAL AND INTERSTATE HIGHWAYS

The Joint Board on Interstate Highways created at the request of the American Association of State Highway Officials, the appointments to which were made by the Secretary of Agriculture—having completed their deliberations and published a record of their findings and recommendations, it may be of interest to show the through roads in Delaware included in their system. Possibly of special interest is a trans-continental road which has its beginning in New Castle County, north of State Road Station and its ending in San Francisco. The other United States highways of which our roads form a part are clearly interstate highways. Classification follows:

1. National Route No. 40—State Road Station-Baltimore-St. Louis, Kansas City-Denver-Salt Lake City-San Francisco. State Road Station-Glasgow-Maryland State Line.
2. National Route No. 13—Philadelphia-Wilmington-North Carolina-Pennsylvania-Delaware State Line at Claymont-Wilmington-Dover-Delmar.

3. National Route No. 113—Dover-Pocomoke-Virginia-Dover-Selbyville.

CONCRETE ROADS BORED

Further proof of the cooperation and valuable assistance which the Bureau of Public Roads has consistently tendered this Department was evidenced in January and February last when they loaned the State their Calyx Core Drill. With this machine, cores 4" x 6" in diameter were cut from concrete roads in different parts of the State. The primary purpose of the investigation was to check the thickness and quality of the concrete—but in addition to this we acquired interesting and valuable data as to which sands, stones, and cements when used together produced the better and stronger roads. The investigation was the first of its kind made in the State and the information obtained established the work to have been greatly worth while and of value to us in our future selection and proportioning of aggregates and cements for concrete roads.

A total of 29 State projects were examined in which 133 test specimens were taken. Seventy per cent of the roads bored showed them to be one half inch or more thicker than the contracted depth.

MAINTENANCE STATE AID ROADS

Concurring in the proposal advanced by the Department a year ago, that the Counties be relieved of any expense in the maintenance of State Aid roads, the 100th General Assembly amended the original State Aid Act to provide that beginning January 1, 1926 the State shall at its sole expense maintain all such roads. This places an annual burden of approximately \$32,000 at this time, on the State and relieves the Counties of a like amount, which during 1926 and thereafter should be reflected by a reduction of the individual assessment rate.

SECONDARY SLAG ROADS

The year just ended marks the first attempt by the State Highway Department to construct a road suitable for secondary highways at a moderate cost. Authorization making this possible was obtained from the last General Assembly and work on a one mile contract was started in July. A dirt road known to be unusually bad during most of the year was purposely selected for improvement. The new road as built is 24 feet wide with a 12 foot one course crushed slag wearing surface, bound together with the local soil which was a low grade high refractory clay. As was to be expected it has carried light traffic for several months without any ill effects and the real test of its value will be reached during the winter months. The total cost of this one mile of road was \$8,487.00 and the same type can be built in longer contracts on the average unimproved dirt road for less than \$7,000 a mile.

AN IRRETRIEVABLE LOSS

In the year just ended the Department has suffered an irretrievable loss by the untimely death of two most excellent men; our Chairman, Honorable Wm. G. Taylor, Secretary of State, whose disappearance in October caused State wide grief—and Assistant Engineer Cleveland Justis whose death in September was a severe blow to this Department.

Through Mr. Taylor's death the State Highway Department lost a valuable Commissioner—one who as Chairman of the Board for a number of months brought talent to the administration of departmental business and who as its leader manifested rare foresight and displayed such a spirit of fairness in all transactions that he early gained the admiration of all who were associated with him. By his tragic death the Highway Department lost an able leader and the State a valuable citizen.

The fatal accident resulting in Mr. Justis' death was a shock to his many friends and associates; by his death the Highway Department was deprived of a loyal, ener-

getic and competent engineer, one who had faithfully and ably served the State for a number of years on important and difficult work. He was a young man of sterling worth and enviable principles who is sadly missed by all who knew him.

FUNDS FOR NEW WORK

A copy of the Department's 1925 certified budget which was presented by the Secretary December 1st is made a part of this report, for convenient reference. With the excess of revenue as shown, the State Highway Department can if it is deemed expedient, borrow \$1,557,000 for the construction of highways in 1926.

Budget for the Year 1926

ESTIMATED REVENUES

LICENSE FEES of motor vehicles and operators of same for year 1926	\$675,000.00
TAX ON MOTOR FUELS	325,000.00
	<hr/>
	\$1,000,000.00

ESTIMATED EXPENDITURES

FIXED CHARGES

Interest and Sinking Fund

Bond Issues of 1918, 19, 20, 21, 22, 23	\$6,244,000.00
Interest at 4½% and Sinking Fund Charges at 2½% or 7% on	6,244,000.00
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Bond Issues of 1922, 24, 25	\$2,436,000.00
Interest at 4% and Sinking Fund Charges at 2½% or 6½% on	2,436,000.00
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Total Bond Issues to 12/31/25	\$8,680,000.00
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Total Interest and Sinking Fund, year 1926 (exclusive of Bonds to be issued in 1926)	\$595,420.00

Maintenance of Roads

State Highways, completed or under contract, 501 miles at \$325.00	162,825.00
State Highways proposed, 70 miles at \$325.00 (includes Market Street Bridge)	22,750.00
	<hr/>
	185,575.00

TOTAL FIXED CHARGES

\$780,995.00

ORGANIZATION

Salaries not chargeable to particular work, Expenses and Incidentals, Equipment and Supplies	\$27,000.00
Legal	5,000.00
Traffic Police	78,000.00

TOTAL ORGANIZATION

\$110,000.00

TOTAL ESTIMATED EXPENDITURES

\$890,995.00

EXCESS OF REVENUE for year 1926

\$109,005.00

EXCESS OF REVENUE warrants Bond Issue of

\$1,557,000.00

RECOMMENDATIONS FOR 1926

There will be found to follow a list of roads recommended for improvement. Funds to be available in 1926 for new work will not be sufficient to build many of them, but because of their importance they are respectfully offered for your consideration.

New Castle County

Lincoln Highway-Wilmington, Marshallton, Newark-Maryland Line (Maint.)
Mt. Pleasant-Middletown (Widen)
Lincoln Highway-Staunton
Bear-Corbit Station
Continuation Marsh Road-Naamans
Relocation Lincoln Highway thru Marshallton
Hares Corner-Christiania
Red-Lion-Porters
Middletown-Ginn's Corner
Limestone Road-Milford Cross Roads
Summit Bridge Connection
duPont Road (Richardson Park, Elsmere, Lancaster Pike,
Kennett Pike)
Wilmington-New Castle Road
Adam's Dam-Perry Tavern
Newport and Gap Turnpike from Brandywine Sanitarium to
Lancaster Pike
Townsend-Delaney Road
Odessa-Middletown Road
Bradford's Corner-River Road

Kent County

Smyrna-Woodland Beach
Sandtown—"The Big Ash"
Blackistons-Maryland Line
Canterbury-Magnolia
Farmington-Andrewsville
Leipsic-Magnolia via Little Creek
Viola-Petersburg
Hartly-Kenton
Wyoming-Hazletville
Lebanon-Rising Sun
Thompsonville-South Bowers
Whiteleysburg-Cain's Corner
Hickman-Kent Sussex Line
Houston-Williamsville
Dover-Smyrna (duPont Boulevard) widen to 20 feet
Dover-Kitt's Hammock

Sussex County

Harbeson-Fairmount
Harmon School-Westcoat's Cor.-Rehoboth Boulevard via Fairmount
Concord-Laurel-Georgetown Road
Lowes Cross Roads-Gumboro
Greenwood-Scott's Store
Greenwood-Hickman
Dublin Hill-Woodenhawk
Delmar-Columbia
Columbia-Laurel-Sharptown Highway
Selbyville-Williamsville
Shawnee School-Owens Station
Milton-Ellendale
Greenwood-Owens Station
Bridgeville-Sunny Side School
South Bedford Street, Georgetown
Sidewalks—Seaford-Blades

AUDIT

In 1921 the Department obtained the services of a well known firm to undertake an extensive audit of its business. In due time a report of their findings was carefully prepared and still remains on file for reference.

As a matter of good business—also for the information of our citizens and taxpayers—and in justice to those officials who were entrusted and have accepted the responsibility for the expenditure of approximately \$14,000,000 in the past four years—I recommend again obtaining the services of a competent firm to examine our accounts and records dating back to 1921.

WIDEN PRIMARY ROADS

One of the first roads built by the State after the organization of the Highway Department was from Dover to Smyrna. Could the Department at the time have foreseen the traffic that would use this highway in 1925, only seven years later, the width of the road at least would have been differently designed; and could we now accurately forecast what the volume of traffic on this road will be ten years hence we would, in all probability take early steps to double

track this section without waiting longer; however it is difficult to reconcile if not improper to permit the expenditure of public funds on visionary requirements and we can safely confine our efforts to the actual needs at this time for wider roads, when such exists, by widening the present pavements.

Our system of roads as now built, provides below Dover, two north and south trunk lines—these converge at Cooper's Corner on the outskirts of the Capitol and the traffic each carries is turned into our principal highway between Dover and Wilmington.

I recommend that all sections of the boulevard between Wilmington and Dover, previously built with a concrete pavement less than eighteen feet in width be widened to 20 feet and that the work be undertaken immediately funds are available. To support my conviction that the narrow sections of this main artery of travel should be improved—I offer the following reasons:

- 1st The tremendous increase in the volume of summer and holiday traffic which when at its greatest in 1925 averaged, over a period of twelve hours, a car every 6 seconds.
- 2nd Additional use for the highway because of the 1925 interstate connections (a) consisting of a ferry between New Castle and New Jersey—two new roads opening into Pennsylvania and three into Maryland.
 - (b) Selection of it by the Joint Board on Interstate Highways, as a part of U. S. Highway Route No. 13, Philadelphia to Wilmington, North Carolina.
- 3rd Statistics which show that 25% of the highway accidents occurring between Dover and Wilmington during 1925 occurred where the concrete pavement was less than 18 feet wide.

ROADSIDE BILLBOARDS

The annual reports of the State Highway Department for the two preceding years have contained the recommendation that the business of erecting bill boards along State highways be licensed by the State. The last General Assembly did not concur with the idea as presented to them, but quite properly so, as it was pointed out the bill before them would have interfered to an extent, with the private rights of property owners; such a thing should not be nor was it so intended. I still maintain, however, that the value of road side advertising is absolutely dependent upon the use made of the highway it faces. The better the road, the more the traffic—the more the traffic, the greater the value a sign has—but under increased traffic, the cost of maintenance likewise increases, and I, therefore, repeat that certain classes of road side advertising should be taxed to assist in defraying the maintenance cost of the improved roads along which they are erected.

Equity to the State in this matter is of such importance that it should be made a matter of business of the next General Assembly.

ROADSIDE TREES

With our system of State highways fast nearing completion it seems appropriate to suggest that some consideration be now given to making them avenues of beauty—at least in so far as the cost will permit. In their construction the greatest care has been taken to make them smooth, safe and durable and there yet remains the work of beautifying them before the undertaking is successfully finished.

I recommend a conservative, systematic program of tree planting for each spring and fall—trees selected to be purchased only through reliable nurserymen and transplanted by experienced horticulturists.

WILMINGTON CAUSEWAY, SOUTH MARKET STREET

We do not have anywhere in our system of 504 miles of highways a section of road whose surroundings are less attractive, more disreputable, ill-kept and thoroughly disgusting than the South Market Street Causeway in Wilmington. Representing as it does the first link in the boulevard through the State and one of the main gateways to the City, over which several hundreds of thousand motorists pass yearly, it is surprising that an organized effort has not been made to so improve this street that its appearance would be less objectionable and more in keeping with the improvements and good taste displayed in the construction of other important avenues of entrance to Wilmington.

South Market Street, by city ordinance is eighty feet in width. Pave this street sixty feet wide, from the new proposed Market Street Bridge to the city limits, construct sidewalks with curbs, and lights on attractive standards, and the existing objectionable conditions will, as it were, change over night. To replace the many dump heaps, delapidated shacks and hovels will be stores, show rooms, garages, and other presentable places of business.

State and public pride in our system of highways allows me to recommend that negotiations be started with the officials of the City with the view to improving the South Market Street Causeway and that insofar as may be proper and possible this Department offer to assist in defraying the expenses of such work as might be authorized in accordance with plans, approved jointly by the Wilmington City Council and the State Highway Department.

Before concluding this report, I wish to acknowledge the unfailing cooperation and courtesy extended to me, by each member of your highly efficient Commission, in my administration of the affairs of this Department during the year just ended—my thanks to the engineer acting in

my stead during my leave of absence, for the commendable manner in which the work was carried on—and to all my assistants due recognition of the indispensable service each has rendered.

Respectfully submitted,

STATE HIGHWAY DEPARTMENT

C. D. BUCK

Chief Engineer