

*Annual Report of the Chief Engineer
State Highway Department
1937*

Dover, Delaware
January 1, 1938

To the Chairman and
Members of the
State Highway Department,
Dover, Delaware.

Sirs :

In accordance with the statute, I am herein submitting a report of the activities of the Department for the calendar year ending December 31st, 1937.

Included is a list of roads for which petitions have been received asking for their construction, as well as certain recommendations for the year 1938.

As will be noted elsewhere in the report there has been a large reduction from previous years in the mileage of highways placed under contract and the number of men employed on contract work. This reduction has been due to Legislative enactments necessitating the postponement of further obligations until funds had accumulated. But for the fact that approximately \$1,000,000 of unfinished work was carried over from the previous year, highway construction work in Delaware would have been practically at a standstill during 1937.

A resume of the work of each division of the Department is appended.

DIVISION OF PLANS, SURVEYS, ESTIMATES AND FEDERAL AID

During 1937 eleven (11) road projects were awarded in which the Federal government participated. In addition, carried over into 1937 were fourteen (14) projects which were advertised and awarded too late for completion during 1936. On all of these projects weekly payrolls were kept and man hours checked and credit taken to apply on the alternate plan agreement with the Federal government requirements set up during 1936, requiring 1,003,000 man hours of employment from the United States Employment Service. This agreement has been fulfilled and payment therefore can be made in full upon any Works Program projects as soon as completed.

Inspections were made, Project Statements, Sketch Maps and Estimates submitted on thirty-seven (37) railroad grade crossing protection projects. According to Federal regulations the railroads requested bids for materials to be submitted to the Department upon fourteen (14) of these crossings, and contracts were awarded. The railroad companies will install the equipment with their own forces. The entire cost of these projects will be paid by Federal funds under the Federal Aid Grade Crossing Protection allotment.

Forty-eight (48) vouchers for Federal reimbursement were prepared, and employment records and material costs computed for all Works Program projects.

There were nine (9) road lettings during 1937, for which approximately seven hundred and fifty (750) proposal forms were prepared and forwarded to contractors. A total of two hundred and seventy-three (273) bids were received, checked item for item, and tabulated.

A total of one hundred and ninety-two (192) monthly estimates were computed and checked upon active projects during the year.

The following is the detail tabulation showing the work of the Division of Survey and Plans for 1937:

Survey

90.9	Miles	Base Line
88.9	"	Topography
99.1	"	Cross Sections (Preliminary and Final)
82		Borrow Pits (Preliminary and Final)

Draughting Room

92.3	Miles	Base Line and Topography Plotted
93.4	"	Profile Plotted
89.4	"	Index Map Plotted and Traced
83.4	"	Plan and Profile Traced
93.6	"	Cross Section Plotted (Original and Final)
10.5	"	Grade Laid
50.6	"	End Areas Planimetered and Computed
82		Borrow Pits Plotted and Computed

In addition to the above there were fourteen (14) property drawings and miscellaneous charts for this and other State departments.

DIVISION OF TESTS

During 1937 the Division of Tests was operated in the same general manner as in previous years. The established policy of testing and approving all materials at their point of manufacture or preparation was continued and extended insofar as possible. The amount of material rejected after arrival on any of the projects was therefore negligible.

Due to an increase of work handled by the Soil Laboratory and the extension of our inspection governing the preparation of coarse aggregate, an increase was made in the personnel of this division.

Inspectors were maintained at all of the quarries producing appreciable quantities of crushed stone for use in concrete. Our standard specifications require that this

material be prepared and shipped in two definite gradations for recombination immediately prior to use. These gradations are governed by strict requirements which have a definite bearing upon the quality of the concrete in which they are used. By placing laboratory trained men as inspectors at these quarries it was possible at no increased cost of production to secure materials which not only fall within the requirements of the specifications but to secure materials which were ideal in grading for use in concrete.

Sample specimens of all completed concrete highways were secured by means of our core drill and these specimens tested for strength and thickness of roadway before final estimates were paid. In only three cases was it found that the thickness of the roadway was less than the designed thickness. These deficiencies were caused by the character of the subgrade and were small in amount. Adjustments were made in amounts paid to the contractors in accordance with the requirements of the specifications. These core drill specimens were all tested for strength and in every case were found to be entirely satisfactory. The general average was somewhat higher than had been obtained in previous years. This increase in strength was evidently a reflection of not only securing constituent materials which met our specifications but of securing materials which approached the most desirable qualities.

The inspection of fine aggregate for use in concrete followed the same general principles as were followed for the coarse aggregate. Inspectors were maintained at the smaller producing plants where variations in quality were evident and only the best quality materials were accepted for our work. In the inspection of fine aggregate from the larger plants, where from previous experience it has been demonstrated that these variations do not occur, it was possible to control these sources by routine check tests on samples of the material after it was received on the various projects.

Portland cement used in all of our work was shipped from mills at which pre-tested supplies were maintained. At each of these mills a storage bin or silo was set aside for Delaware work and representative samples taken from the newly manufactured cement as it was placed in these storages. The bin or silo was then sealed and held awaiting the results on the samples. At the expiration of the time necessary for all tests to be completed, including the 28-day tensile test and providing all of these results were satisfactory, these bins or silos were then released for shipment to our projects as needed. The bagging of this cement was supervised by our representatives as well as the loading in railway cars for shipment. The individual cars were then sealed with our own seal in addition to the railway seal and all cars arriving on the job with these seals intact were allowed for use without any further tests.

Following a slight change in the specifications, the proportions of the materials used in concrete were determined in the Dover office for each individual project and for each type of work. All concrete was designed with a standard cement content per cubic yard of concrete and the fine and coarse aggregates used according to the individual characteristics of the various materials. In this manner, it was possible to secure more uniform strength and quality throughout the three counties.

The Division of Tests also maintained an inspection of all concrete construction so that the design of the mix could be better correlated with the results obtained and minor changes made to secure better workability whenever necessary.

During 1937 a considerable increase in the use of creosoted timber and creosoted piles was necessary for bridges and structures incidental to our secondary road program. Our inspection at the two plants furnishing these materials was extended accordingly. Six hundred ninety-four thousand (694,000) feet, board measure, of creosoted timber,

and twenty-nine thousand (29,000) linear feet of creosoted piling were inspected and approved for this work. This necessitated the inspection and culling of considerably larger quantities to secure material conforming with our specifications. The materials were selected previous to creosoting, the creosoting operation was supervised and the materials again observed after creosoting. Each accepted pile and accepted stick of timber were stamped with the standard mark of the Division of Tests as evidence of acceptance and as a guide for the construction forces on the projects.

All cold mix bituminous concrete and constituent materials used in the State throughout the year were rigidly controlled at their point of manufacture by representatives of this division. This material was furnished from three permanent commercial plants and from one portable plant which was set up on the job, for a project in Sussex County. Since it was practically all delivered to the jobs by trucks, it was possible to maintain a close contact between the inspectors at the plants and the construction forces and to make minor changes in the process of manufacture within the limits of the specifications, to adapt the material for its best use under hourly changes in temperature and weather conditions. A decided improvement has been made in the local use of this material and in the manner in which it is used in construction.

At the beginning of the year bids were taken by the department for the yearly requirements of gasoline, oils, and greases. These requirements were estimated at 700,000 gallons of gasoline, 16,000 gallons of oil, and 14,500 pounds of grease. Special requirements for these materials were formulated to secure materials best adapted for our needs. Preliminary samples from all companies submitting bids were tested. After the contract was awarded, routine samples of the supplies which were furnished were taken at

regular intervals. By means of these routine samples the quality of these materials has been maintained according to the specifications.

During 1937 certain additions to the equipment of the Soil Laboratory were made and the operations of this laboratory were extended. We continued the policy of investigating new borrow pits and of keeping a close check of those now in use. In addition to this work, the Soil Laboratory continued a survey of Kent and Sussex Counties in an effort to locate desirable roadway surfacing materials in localities where they are most needed. A sufficient number of new pits were located to more than justify the work involved and this investigation will be continued as the opportunity presents itself.

The subgrades of all concrete pavements laid this year were investigated to check their supporting values and to prevent damage to the pavements from frost action. The importance of this work is apparent from the number of undesirable conditions found on various contracts.

As in previous years, the surfaces of many existing roads were examined and recommendations for their improvement were made. This phase of our work is very important and it is to be hoped that in the future we will be able to devote more time to it than has been possible in the past.

The total number of samples obtained and tested this year was 1046. Of this number, 271 samples came from 60 borrow pits. Twenty-six (26) roads were investigated, this work requiring the testing of 365 samples. One hundred and eight admixtures were made and tested in the laboratory. Two hundred and sixty-three samples of an investigative nature were tested, completing the research work begun last year on road surfaces and subgrades. Miscellaneous samples tested included: seven from one earth dam project, ten of marsh material, three of commercial gravel, nine for a cement stabilization project, and ten for a build-

ing foundation. One hundred and six field trips were made to secure these samples and to properly supervise the projects falling within our province.

In addition to our normal work, one sample of paint and three sets of truck flares were tested and eight installations of rubber expansion joints were made.

Also, in addition to our normal work, although directly associated with it, this laboratory conducted a series of tests incidental to the experimental section of soil-cement stabilized road shoulders which were placed near Dover in November. Although tests are still being run on this section, they do not now require much time. However, during the period immediately previous to the processing of this section, it was necessary to abandon routine work and concentrate all efforts on these tests for one month. This fact, together with the increased number of field trips made (23 more than last year), accounts for the slight decrease in the number of samples tested. Taking these facts into consideration, the total output of work by this laboratory was actually considerably more than last year.

The importance of the Soil Laboratory and its bearing on general construction cannot be too strongly stressed. It has been demonstrated that a large number of the failures occurring in the rigid types of roadway surfacing are caused not by any deficiency in the roadway but by insufficient support given by the underlying subgrade. It is economically desirable to thoroughly investigate all subgrades before the roadway surface is laid thereon. Where areas of potential weaknesses are discovered the Soil Laboratory can definitely designate the necessary treatment or required additional materials to secure a satisfactory foundation.

This is a branch of service for which the Soil Laboratory is equipped and is in addition to its regular and better known function, that of controlling the construction of stabilized earth roads.

CONSTRUCTION

Eleven (11) road, bridge and equipment lettings were held during the year, comprising forty-six (46) contracts which were divided as follows:

- 5 Complete roadway contracts
- 4 Concrete road widening contracts
- 1 Separated grade crossing contract
- 3 Major bridge contracts
- 1 Concrete roadside gutters contract
- 1 Driveways for Police Station contract
- 15 Creosoted timber bridge contracts
- 2 Roadside beautification contracts
- 1 Statewide surface treatment (furnishing bituminous materials)
- 1 Statewide surface treatment (applying bituminous materials)
- 2 Statewide stone chips contracts
- 1 Shore protection contract
- 1 Jetty protection contract
- 2 Furnishing motor vehicle contracts
- 1 Creosoted timber and piling contract
- 1 Reinforced concrete pipe contract
- 1 Ferry boat contract
- 1 Scale foundation contract
- 1 Gas and oil contract
- 1 Motor oil and grease contract

Proposals were received from two hundred and seventy-three (273) bidders on the above contracts—an average of six (6) per contract. The total contract bids for the projects amounted to \$953,004.79.

The mileage and types of roadway and sidewalk contracts advertised during the year are as follows:

- 0.514 mi. 40-ft. conc. pavement and widening
- 6.383 mi. 20-ft. conc. pavement
- 1.230 mi. 20-ft. bit. conc. pavement on macadam base



SILVER LAKE MEMORIAL BRIDGE, NORTH ENTRANCE TO DOVER, KENT COUNTY

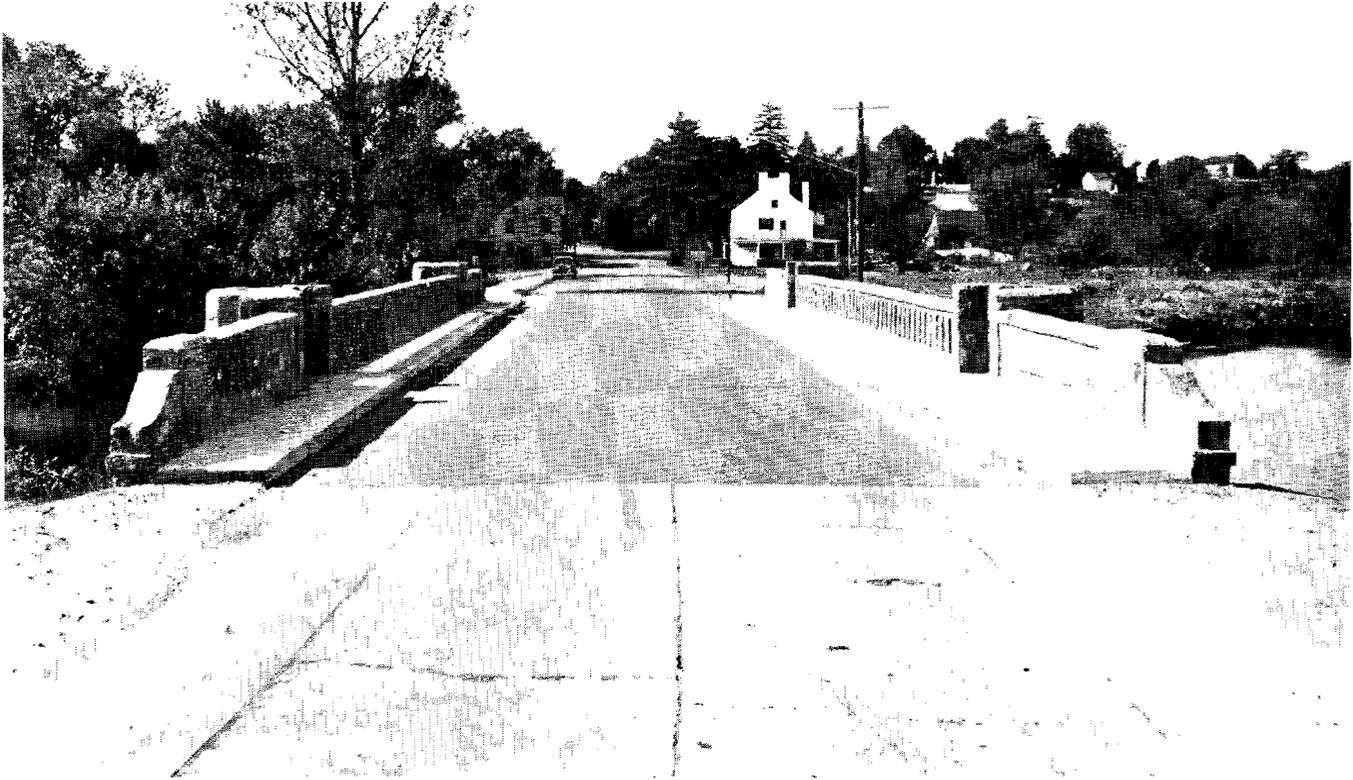
1.485 mi. 9-ft. conc. widening
 8.986 mi. 4-ft. conc. widening
 0.866 mi. 16-ft. traffic slag
 0.928 mi. concrete sidewalk
 0.25 mi. concrete roadside gutters
 6.628 mi. Roadside beautification
 178.0 mi. statewide surface treatment

In addition to the above, uncompleted contracts from the previous year carried on in this year's construction were as follows :

1.521 mi. 40-ft. conc. pavement
 5.034 mi. 22-ft. conc. pavement
 3.892 mi. 10-ft. conc. pavement
 7.014 mi. bit. conc. on cement base course
 5.977 mi. bit. conc. on stone base course
 2.60 mi. 16-ft. traffic slag
 17.583 mi. 12-ft. traffic slag
 3.548 mi. concrete sidewalk

The mileage of roadways and sidewalks completed this year, including those carried over, is as follows :

2.035 mi. 40-ft. concrete pavement
 5.034 mi. 22-ft. concrete pavement
 5.990 mi. 20-ft. concrete pavement
 3.892 mi. 10-ft. concrete pavement
 1.485 mi. 9-ft. concrete widening
 8.986 mi. 4-ft. concrete widening
 5.977 mi. 22-ft. bit. conc. on macadam base course
 1.230 mi. 20-ft. bit. conc. on macadam base course
 7.014 mi. 22-ft. bit. conc. on cement conc. base course
 3.466 mi. 16 ft traffic slag
 17.583 mi. 12-ft. traffic slag
 4.476 mi. 4-ft. conc. sidewalk
 0.25 mi. conc. roadside gutter
 6 628 mi. roadside beautification
 178.0 mi. surface treatment



CHRISTIANA BRIDGE—STONE FACING, CHRISTIANA, NEW CASTLE COUNTY

All contracts advertised and awarded this year have been completed with the following exceptions:

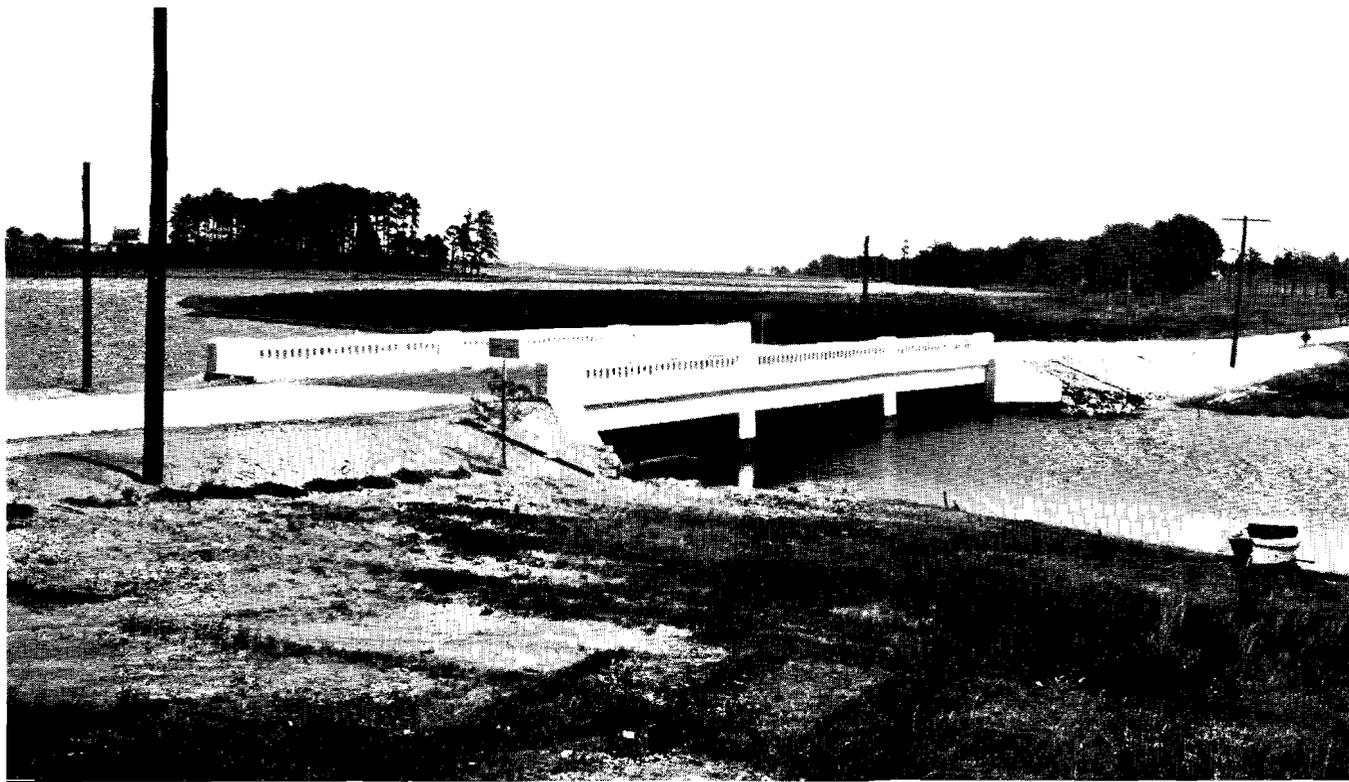
0.393 mi. 20-ft. concrete pavement, Town of Harrington
Wilmington Causeway Separated Grade Crossing

Contract awards in 1937 were but thirty-nine (39) per cent of the year 1936, when total low bids for construction amounted to \$2,475,716.21.

The recession in construction activity is reflected in the comparison of men employed on highway contract work during 1936 and 1937. In 1936, the average of men employed on the highways was 625 men per week, with a maximum peak week of 1,220 men during the week of June 13th. This year this average of men employed on the highways dropped to 408 per week, with the peak of weekly employment of 733 men.

Of major importance in the way of improvement in New Castle County was the building of the Wilmington By-pass Road to the Governor Printz Boulevard. Both tourists and commercial drivers will be benefited by the opening of this new highway from Rogers' Corner to Claymont. Construction on the Heald Street portion and the Claymont section was begun late last year and was completed early this fall. The opening of this road enables thru traffic to avoid the business center of Wilmington over low grades, with a minimum of stop lights and cross traffic flow; a convenience afforded the thru travelling public from points north and south of Wilmington. Traffic count surveys indicate that this route soon will be congested and a dual lane will be needed in the near future to insure legal speeds combined with safety.

Other major improvements in New Castle County were the widening and resurfacing of the roadway from Stanton to Newport and the Cranston Heights to Brandywine Sanitarium project. The first project was a long-needed im-



VINES CREEK BRIDGE—INDIAN RIVER IN DISTANCE, DAGSBORO TO BETHANY BEACH HIGHWAY, SUSSEX COUNTY

provement over a narrow dangerous road, the latter completing with a modern surface the last link of the Gap Road. Both will serve traffic normally during the year, and are ample for the seasonal traffic of racetrack patrons from the north and west. The completion of the widening and resurfacing of the old concrete roadways from Newport to Cranston Heights and from Newport to New Castle and the widening of the Bear to Christiana highway were improvements designed to facilitate the flow of normal and seasonal traffic from points east and south.

The completion of the Wrangle Hill to Glasgow contract gives the public of Delaware City, Port Penn, Odessa, and the military post at Fort duPont, a shorter and more direct route to Baltimore and Washington.

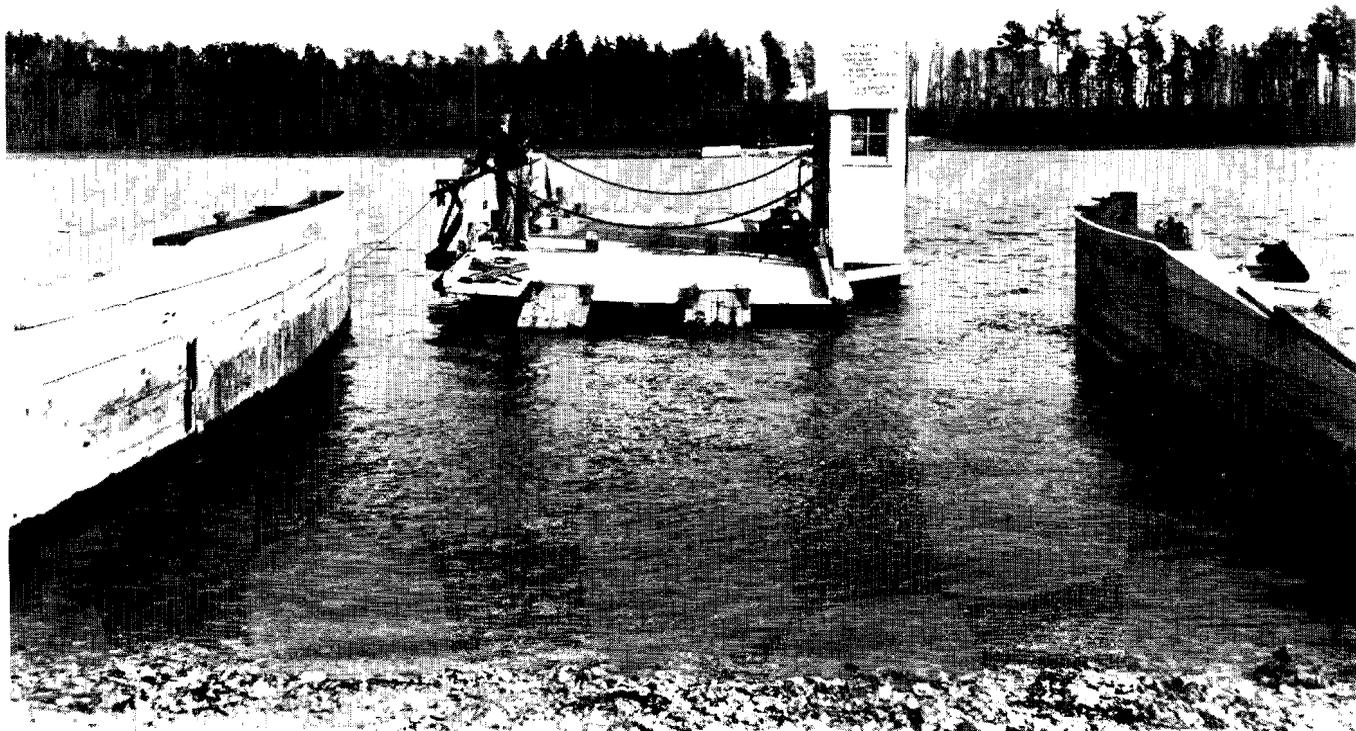
Other projects in the County were the building of Cherry Lane Road and the surfacing of the Alopocas Wood Road connecting Augustine Bridge Cutoff and New Bridge Road.

In Kent County, of prime importance was the roadway over the new bridge recently built at Silver Lake, the northern entrance to the City of Dover. This long-awaited project has completed the last link in the main artery of travel through the State, and the once hazardous, narrow causeway and bridge has been replaced by a paved 42-foot roadway with additional 5-foot sidewalks as a safety feature for pedestrians.

Sidewalks and curbs on South Governors Avenue, Dover, were also built as a protection for pedestrian traffic in a built-up section traversed by a main highway.

The paving of Center Street, Harrington, will act as a cut-off for through east and west traffic now using the very narrow, congested streets of Harrington.

The completion of the Port Mahon Road made accessible a new recreational center, a harbor for fishing boats and a terminal for shipping of products by water.



CANNON'S FERRY AT WOODLAND, NORTHWEST OF LAUREL, SUSSEX COUNTY

In Sussex County, the widening of the concrete road from Bridgeville to the Maryland Line via Atlanta has improved a narrow road, dangerous during seasonal traffic of shore visitors from points in Maryland to Rehoboth, Bethany Beach, and other oceanfront resorts.

Traffic increases from points south of Georgetown have made it necessary to widen that portion of the highway from the County Farm to the Georgetown town limits, a 9-foot width being added to the present 9-foot lane.

Attached is a tabulation giving the location, length, type of roadway, bridge, sidewalk and miscellaneous construction advertised and awarded this year.

RIGHT-OF-WAY DIVISION

During the year ending November 30, 1937, the Right-of-Way Division secured right-of-way on road and overhead bridge projects having a total of 48.969 miles. In addition to the mileage stated this Division has settled numerous properties carried over from previous years. Other work of the Division consisted of writing 207 descriptions, obtaining 88 options, securing the execution of 161 deeds and 85 releases. The Right-of-Way Division also conducted hearings of seven condemnation commissions and the writing and execution of two Town Agreements. Construction work necessitated the moving of seven houses and miscellaneous smaller buildings.

BRIDGE DIVISION

The only large bridge project during the year was the Grade Crossing Elimination on the South Market Street Causeway at Wilmington, where an overhead bridge spanning the Reading and Pennsylvania Railroads has been under construction. In order to comply with Federal regulations, and before the contract could be advertised, an amendment to the Delaware Highway Act of 1917 was necessary. This delayed the undertaking of this project for nearly six months.

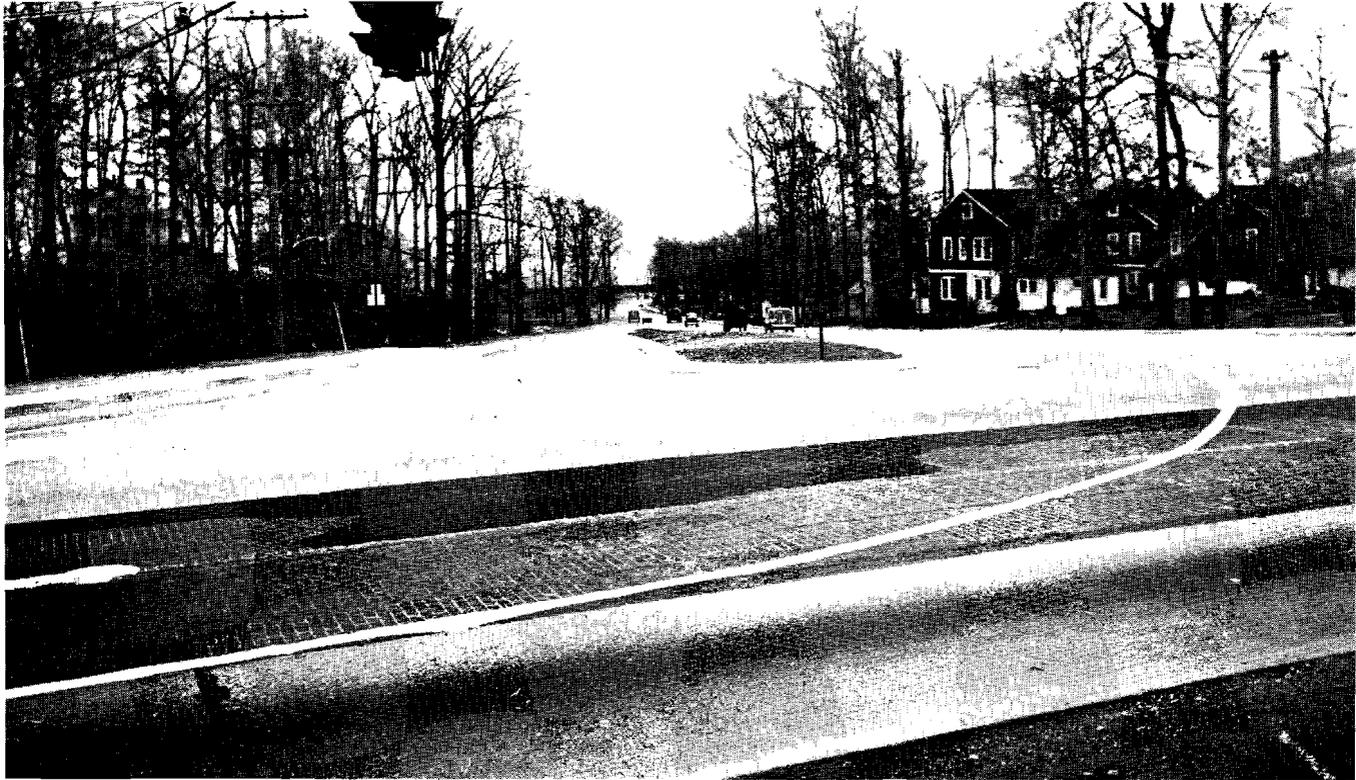


REPAIR SHOP—HIGHWAY DEPARTMENT, GEORGETOWN, SUSSEX COUNTY

Bids finally were received June 9, 1937, and the contract was awarded the low bidder, J. A. Bader and Company, Wilmington, the contract price being \$206,685.00. This bridge with its approaches is seventeen hundred (1,700) feet in length, and is of reinforced concrete construction with two-way reinforced flat slabs, supported by reinforced concrete columns resting on concrete piles. In addition to a 44-foot roadway two 5-foot sidewalks are provided for pedestrian traffic. Traffic is being detoured around the structure by a temporary roadway during construction. The total cost of this construction is borne by Federal funds, the railroads sharing equally with the State the costs of right of way.

The opening of this bridge sometime in the early summer of 1938 will not only eliminate a serious accident hazard and the long delays to which traffic is frequently subjected at this point, but will mark the completion of the most important grade crossing elimination project in the entire State system.

Another important bridge completed during the year is the Silver Lake Bridge on U. S. 13 at Dover. Plans were prepared by the Bridge Division with Mr. E. William Martin, A. I. A., as consulting architect. The structure is one hundred and fifty-five (155) feet in length and consists of three twenty-six (26) foot arches. The design is of the Georgian period in harmony with the Colonial atmosphere of Dover. The combination of red brick and white marble results in a design which is generally admired and makes an appropriate entrance to the capital city of the State. Wrought iron lamp standards not yet in place will add much to the final effect. In connection with this work, the roadway was widened with two extra traffic lanes and sidewalks from Dover City Line to the beginning of the dual highway at the junction of U. S. 13 and U. S. 113.



PHILADELPHIA PIKE AND GOVERNOR PRINTZ BOULEVARD INTERSECTION AT CLAYMONT, NEW CASTLE COUNTY

The completion of the bridge over the Christiana River at Christiana removes one of the few narrow bridges on our State system. The old steel swing bridge, long since immovable, has been replaced by a steel I-beam structure consisting of a 60-foot span faced with stone masonry, with adequate roadway and sidewalks.

Other projects for which plans have been prepared during the year or which are in progress are:

Silver Lake Bridge, Rehoboth
Drainage Control, Silver Lake, Rehoboth
Groins, Bethany Beach
Police Stations, Georgetown and Bridgeville
Garage Buildings, Dover and Georgetown
Indian River Inlet Bridge

as well as smaller culverts and bridges constructed in connection with road contracts.

Fifty-two (52) creosoted timber bridges were constructed on the secondary system to replace inadequate or obsolescent structures.

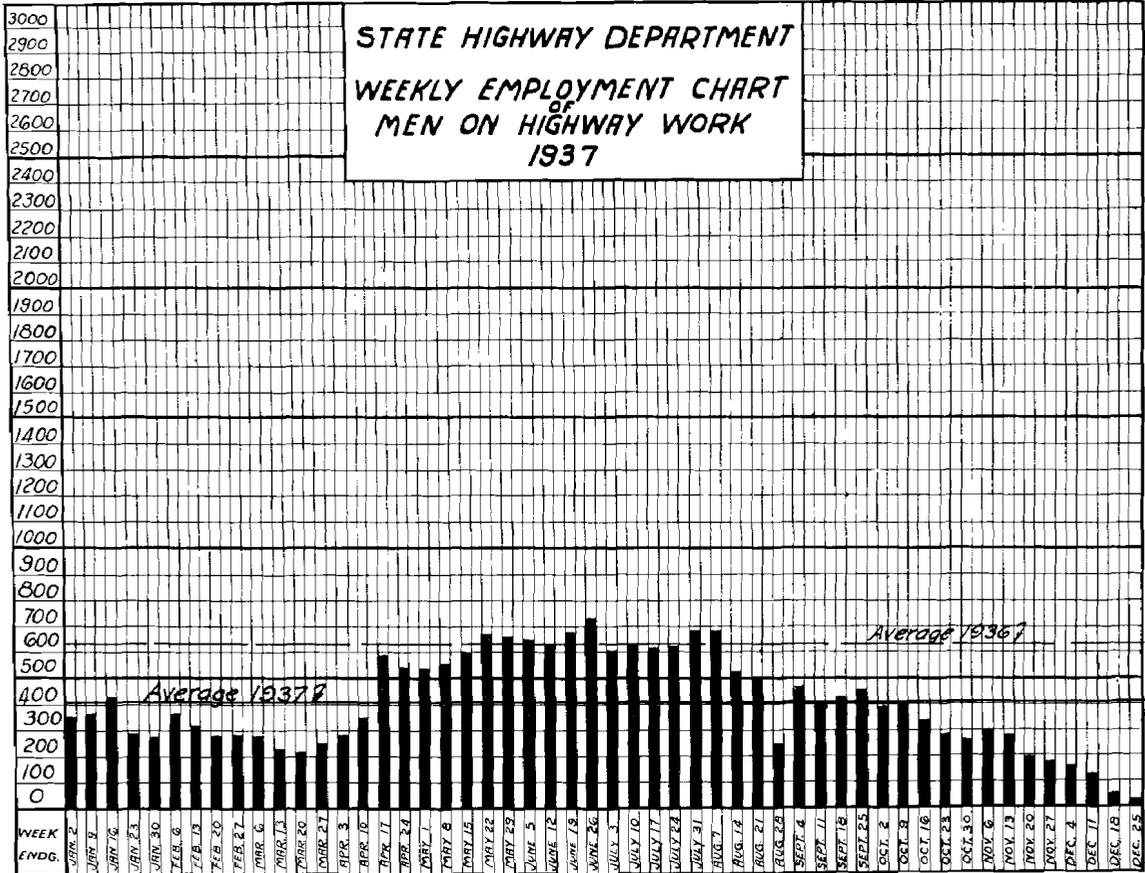
STATE MAINTENANCE

With the exception of a storm of cloudburst dimensions centering near Newark on the evening of July 5, 1937, which swept away five (5) bridges and did much damage to embankments and shoulders in the vicinity, there were no extremes of rain, snow or frost to interfere with the regular maintenance routine; this is reflected in lowered costs of maintenance for the year. The usual work of maintaining shoulders, pouring cracks, painting center lines, patching pavements, mowing rights of way, painting bridges and guard rails, cleaning pipes and ditches, erecting and painting traffic signs and markers, surface treating of bituminous roadways, and trimming and caring for trees and shrubbery has been carried on thoroughly and efficiently throughout the year.



RECONSTRUCTION—4 FOOT CONCRETE EDGES AND BITUMINOUS CENTER, MILLSBORO TO HARMON SCHOOL, SUSSEX COUNTY

STATE HIGHWAY DEPARTMENT
 WEEKLY EMPLOYMENT CHART
 OF
 MEN ON HIGHWAY WORK
 1937



TABULATION OF CONTRACTS AWARDED DURING 1937

Cont. No.	Location	Estimated Cost	Date of Award	Contractor	Length in Miles	Type of Roadway
308C	Sluiceways, Port Mahon Road.....	\$ 1,435.00	4/12/37	Spear Jones & Co., Inc., Dover, Del.....		
326A	Summit Bridge-Glasgow, Road-side Beautification	5,875.75	4/12/37	George & Lynch, Dover, Del.....	4.404	
516	Conc. Brdg. East of Greenwood ..	7,446.60	4/12/37	Gooden & Clark, Dover, Del.....		
518	Conc. Brdg. East of Selbyville.....	5,512.80	4/12/37	Old Line Const. Co., Chestertown, Md..		
529	Kent Co. Bldgs. Nos. 594 & 615..	1,675.25	4/12/37	Spear Jones & Co., Inc., Dover, Del....		
517	Gravel Fork & Deep Creek Bridges	3,771.00	4/13/37	Marvine Cox, Nanticoke, Md.....		
308D	Port Mahon Road	5,813.92	6/ 7/37	Old Line Constr. Co., Chestertown, Md.	0.866	18' T. B. Slag
521	Beam-Christiana Conc. Widening ..	24,339.50	6/ 7/37	D. E. O'Connell & Sons, New Castle, Del.....	2.339	4' Conc. Wid.
527	Industrial Highway Sidewalk	4,460.00	6/ 7/37	P. J. O'Connell, Wilmington, Del.....	0.685	5' Conc. Sdw.
535	Sussex Co. Bridges Nos. 303 & 231	2,655.00	6/ 7/37	Walter Roach & Sons, Georgetown, Del.		
536	Sussex Co. Bridges Nos. 15 & 114	3,495.40	6/ 7/37	Spear Jones & Co., Dover, Del.....		
526	S. Governors Ave., Dover, Sidewalk	3,749.50	6/21/37	Gooden & Clark, Dover, Del.....	0.243	5' Conc. Sdw.
531	Kent Co. Brdg. No. 311B	1,100.00	6/24/37	Gooden & Clark, Dover, Del.....		
538	Gravelly Branch and Bear Trap Canal Bridge	3,238.00	6/24/37	Mexican Petroleum Co., Balto., Md....		
539	Material for 1937 Statewide Surface Treatment	69,682.00	6/24/37	Walter Roach & Sons, Georgetown, Del.		
539A	Applying Material for 1937 State-wide Surface Treatment	9,633.30	6/29/37	Good Roads Co., Inc., Upper Darby, Pa.		
539F	Chips for New Castle County.....	17,020.00	6/24/37	Warner Co., Wilmington, Del.....		
539C	Chips for Kent & Sussex Counties	39,990.00	6/24/37	Bethlehem Steel Co., Phila., Pa.....		
549	Georgetown Pol. Sta. Driveways	6,322.50	6/24/37	Old Line Const. Co., Chestertown, Md.		Bit. Conc.
V-1	Cro. Timber & Piles.....	19,250.00	6/29/37	Morris & Wells, Salisbury, Md.....		
W-1	Reinforced Conc. Pipe.....	11,971.82	6/29/37	Mid-Atlantic Conc. Pipe Co., Dover, Del.		
474	Wilmington Causeway Grade Crossing Elimination	206,685.00	6/29/37	J. A. Bader & Co., Wilmington, Del.		
U-1	Timber Ferry Boat	1,587.00	7/19/37	J. E. Friedel, Scaford, Del.....		
541	Augustine Cutoff-New Bridge	9,456.50	7/19/37	George & Lynch, Dover, Del.....	1.23	20' Bit Conc.
155A	Silver Lake Br. Approaches	25,491.40	7/22/37	W. W. Truitt, Lincoln City, Del.....	.514	22' Conc.
523	Bridgeville-Md. Line via Atlanta	52,883.90	7/22/37	W. W. Truitt, Lincoln City, Del.....	6.617	4' Conc.
530	Md. Line-Glasgow Beautification	4,163.75	7/22/37	Delmarvia Nurseries, Lincoln City, Del		
458A	Conc. Brdg. Surf. Blackbird-Middletown	2,594.00	8/30/37	Wilson Cont. Co., New Castle, Del		20' Conc.
513	Cherry Lane	17,610.00	8/30/37	Wilson Cont. Co., New Castle, Del	6.539	20' Conc.
545	Bridgs. Nos. 131A & 167A, Kent Co.	2,333.50	8/30/37	E. F. Hammond, Delmar, Del.....		

TABULATION OF CONTRACTS AWARDED DURING 1937 (Continued)

Cont. No.	Location	Estimated Cost	Date of Award	Contractor	Length in Miles	Type of Roadway
191A	Georgetown-County Farm	20,181.00	10/25/37	Old Line Const. Co., Chestertown, Md.	1.185	9' Conc.
519	Silver Lake, Rehoboth, Drainage Control	15,815.00	10/30/37	Howland & Sons, Inc., Seabright, N. J.		
551	Newark-Milford X Road, Conc. Gutters	3,905.00	10/25/37	P. J. O'Connell, Wilmington, Del.	0.25	Conc. Gutters
552	Slaughter Beach-Broadkill Beach Motor Truck Scale Foundation		10/25/37	D. E. O'Connell & Sons, New Castle, Del.		
C-2	State Road	820.00	11/ 5/37	Wilson Cont. Co., State Road, Del.		
531	Creo. Timber Bridges Kent Co. Nos. 125A & 215C	2,180.50	11/29/37	E. F. Hammond, Delmar, Del.		
546	Creo. Timber Bridges Kent Co. Nos. 275B & 277B	1,559.90	11/29/37	E. F. Hammond, Delmar, Del.		
553	Center St., Harrington	11,251.10	11/29/37	Old Line Const. Co., Chestertown, Md.		20' Conc.
537	Spillway at Killen's Pond Kent Co. Creo. Timber Bridge No. 260 N. C. Co.	6,055.00	12/10/37	W. W. Truitt, Lincoln City, Del.		
590		2,592.75	12/17/37	M. A. Spear, Farnhurst, Del.		
592	Creo. Timber Bridges Nos. 140A & 409A Kent Co.	3,304.00	12/ 6/37	W. W. Truitt, Lincoln City, Del.		
593	Creo. Timber Bridges Nos. 303B & 307A Kent Co.	1,688.00	12/17/37	Walter Roach & Sons, Georgetown, Del.		
389A	Bethany Beach Groins	25,719.00	12/ 6/37	Wm. P. Short, Bethany Beach, Del.		
88A	Repairs to Little Creek Wharf	2,530.00	12/ 6/37	Gooden & Clark, Dover, Del.		

NEW CASTLE COUNTY
MILEAGE AND TYPES ADVERTISED AND AWARDED DURING 1937

30

Cont.	Location	20-Fl. Conc.	20-Fl. Bit. Conc.	4-Fl. Conc. Widening	4-Ft. Conc. Sidewalk	Conc. Roadside Gutters
521	Bear-Christiana			2.339		
513	Cherry Lane	0.539				
551	Newark-Milford X Rds.					0.25
527	Industrial Highway				0.685	
544	Augustine Cutoff-New Bridge Rd.		1.23			
458A	Conc. Surfaces-Blackbird Bridges	0.06				
		0.599	1.23	2.339	0.685	0.25
590	Creo. Timber Bridges No. 260					
C-2	Motor Truck Scale Foundation, State Road					
326A	Roadside Beautification-Summit Bridge-Glasgow					
530	Roadside Beautification-Md. Line-Glasgow					
474	Wilmington Causeway (Grade Elimination)					
539	Bit. Materials Statewide Surf. Treatment					
539A	Application Bit. Materials Statewide Surf. Treatment					
539B	Stone Chips, New Castle County, 1,000 Tons					

} New Castle Portion, 111 Miles

KENT COUNTY
MILEAGE AND TYPES ADVERTISED AND AWARDED DURING 1937

Cont.	Location	40-Ft. Conc. Rd. and Widening	20-Ft. Conc.	16-Ft. Traffic Slag	Concrete Sidewalks
308D	Port Mahon Road (Lighthouse to Wharf)			0.866	
155A	Silver Lake Bridge Approaches	0.514			
553	Center Street, Harrington		0.393*		
526	S. Governors Avenue Sidewalks, Dover				0.243
		0.514	0.393	0.866	0.243
520	Creo. Timber Bridges 594-615				
545	Creo. Timber Bridges 131A-167A				
531	Creo. Timber Bridges 125A-215C				
546	Creo. Timber Bridges 275-277B				
592	Creo. Timber Bridges 140A-409A				
593	Creo. Timber Bridges 303B-307A				
552	Slaughter Beach-Broadkill Shore Protection				
537	Spillway Killen's Pond				
308C	Sluiceways-Port Mahon Road				
534	Creo. Timber Bridges 311B				
88A	Repairs to Little Creek Wharf				
539	Bit. Material Statewide Surf. Treatment				
539A	Application Bit. Material Statewide Surf. Treatment				
539C	Stone Chips—Kent and Sussex Counties, Kent Portion, 4500 Tons				

*To be carried into 1938 construction season.

SUSSEX COUNTY
MILEAGE AND TYPES ADVERTISED AND AWARDED DURING 1937

Cont.	Location	4-Ft. Conc. Widening	9-Ft. Conc. Widening
523	Bridgeville-Md. Line Via Atlanta	6.647	
191A	Georgetown-Connty Farm		1.485
		6.647	1.485
516	Conc. Bridge East of Greenwood		
517	Creo. Timber Bridges, Gravel Fork and Deep Creek		
535	Creo. Timber Bridges, 303 and 234		
536	Creo. Timber Bridges 15 and 114		
538	Creo. Timber Bridges Gravelly Branch-Bear Trap Canal		
518	Conc. Bridge East of Selbyville		
540	Georgetown State Police Station Driveways		
519	Silver Lake, Rehoboth, Drainage Canal		
389A	Bethany Beach Groins		
U-1	Timber Ferry Boat		
V-1	Creo. Timber Piles		
539	Bit. Material Statewide Surf. Treatment		
539A	Application Bit. Material Statewide Surf. Treatment		
539C	Stone Chips, Kent and Sussex Counties, Sussex Portion, 12,000 Tons		
W-1	Statewide Reinforced Conc. Pipe Contract		

In each county a program of improvement has been carried on consisting of the removal of rough and broken sections of concrete pavement and replacing with new concrete and expansion joints. This has not only greatly improved the riding qualities of the highways but will prolong the life of the pavement as well.

The end of the year finds the State Highway system in excellent condition.

The total cost of maintenance of the 1,180 miles of the State system for the twelve months ending December 31, 1937, was \$443,944.08, or an average cost of \$376.30 per mile. This includes the cost of new additional maintenance equipment.

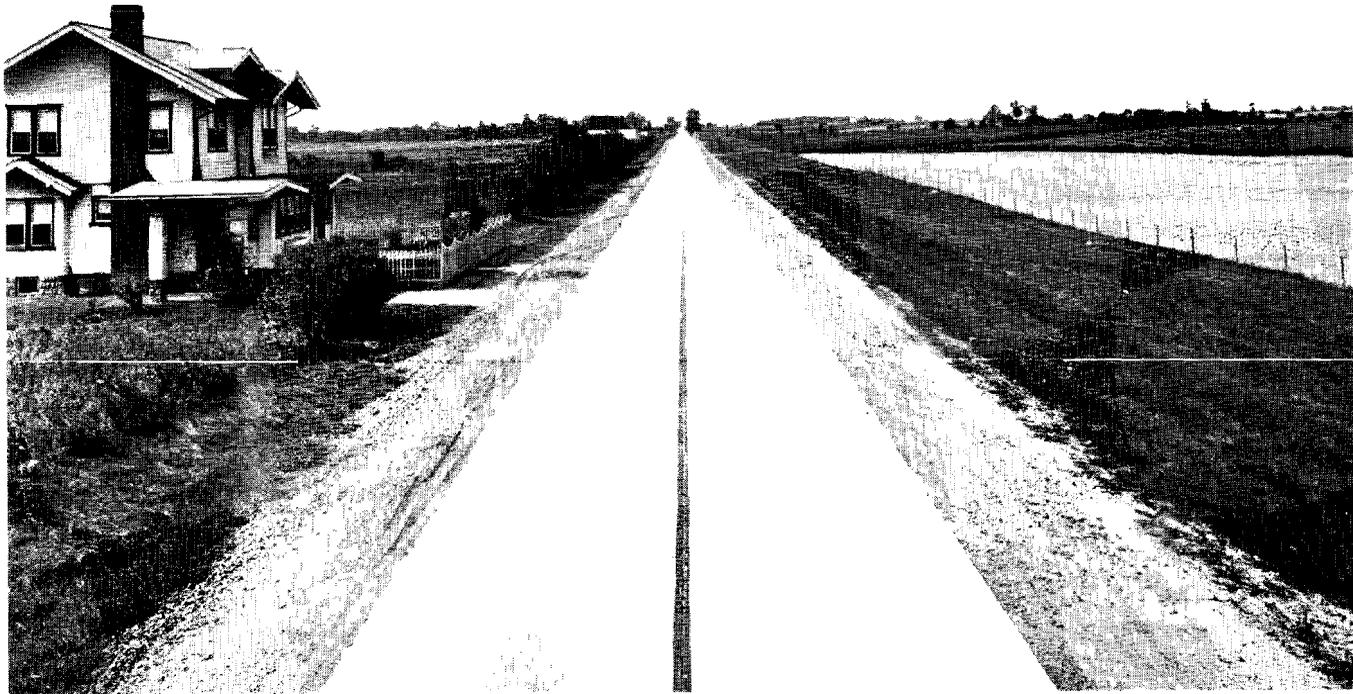
MAINTENANCE SECONDARY SYSTEM

The policy of progressively improving the secondary roads of the State has been continued during 1937. Fifty-two (52) creosoted timber bridges have been constructed, 19,703 linear feet of concrete pipe have been placed and 166,000 cubic yards of gravel and stabilized earth have been spread on the secondary or county system.

Surfacing with selected materials has been carried on throughout the year under the plan of first improving the poorest sections. Information furnished by rural carriers and bus drivers has been very helpful to our maintenance forces. Under the system adopted all dirt roads are systematically scraped on an average of once a week in all seasons, and the general condition of these roads has been far better than in any previous year.

In addition, a large amount of drainage and ditching work has been done. In cooperation with the CCC drainage camps, much has been accomplished; the Department is at present furnishing a crane for this work.

Bushing and trimming the underbrush along the roadsides and at intersections has resulted in a decided improvement in the serviceability and safety of the secondary roads.



U. S. 40, NEW CASTLE TO HARE'S CORNER, NEW CASTLE COUNTY

Seventy-five (75) miles of traffic bound slag and gravel roads were surface treated this season, eliminating dust and greatly improving the riding surfaces.

It is necessary that the surface and subgrades of these roads be thoroughly stabilized before they are treated with bituminous materials, otherwise they will break up under severe winter conditions. However, I recommend that this work be continued where road and traffic conditions are favorable.

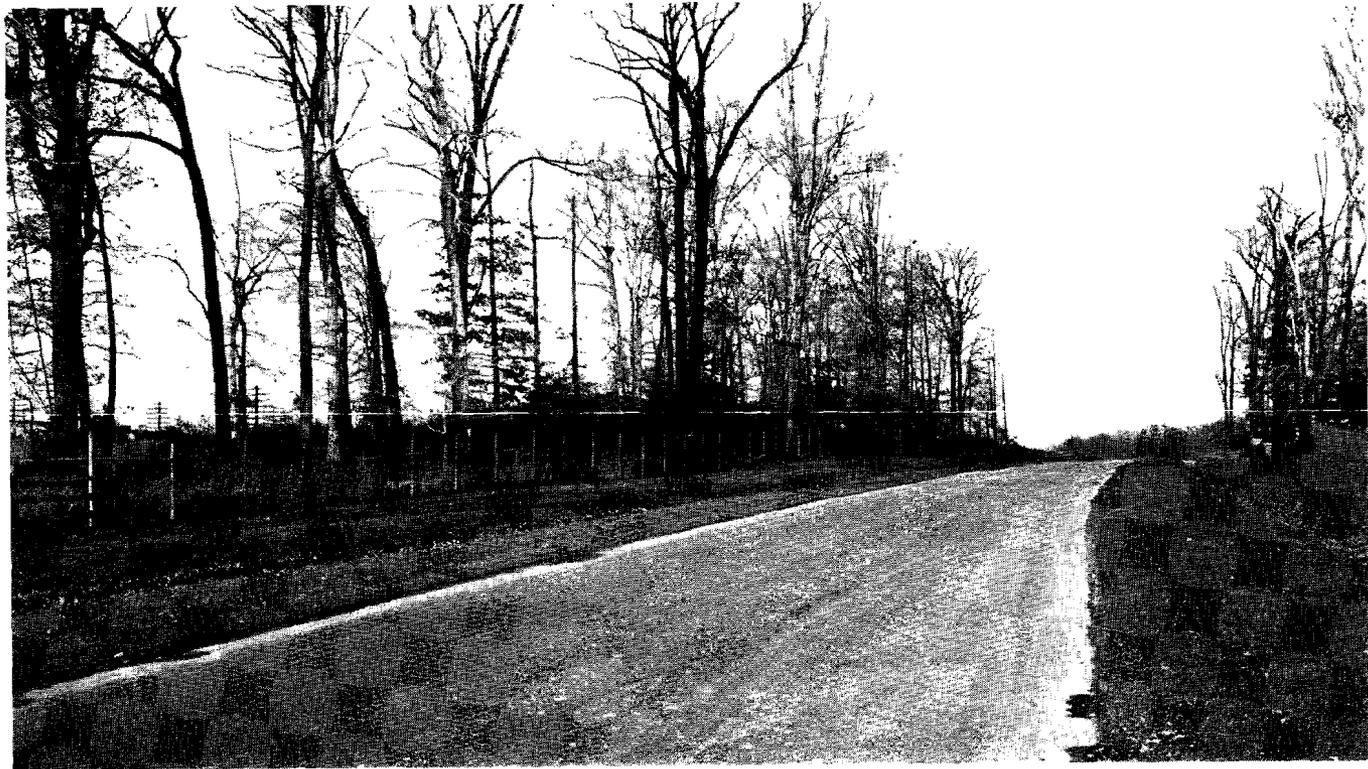
The total cost of maintenance of the secondary or county system of 2,682 miles for the year has been \$464,-302.30, or \$173.12 per mile. This includes the cost of new maintenance equipment. A considerable portion of this cost has been for permanent improvements which should result not only in a steady improvement in the condition of the secondary roads but in a progressive reduction in future maintenance costs.

GRADE CROSSING ELIMINATION AND PROTECTION

Federal funds available for grade crossing elimination and protection have made possible a program for the elimination of some of the more important grade crossings and the installation of protective lights or gates at the less important ones.

Under this program the grade crossing at South College Avenue, Newark, has been eliminated, and the South Market Street Causeway Bridge is under construction.

Forty-four (44) grade crossing protection projects have been programmed and will be installed during 1938, and three (3) grade crossings will be eliminated by the construction of by-pass roads.



CARR ROAD—NEW CASTLE COUNTY

I am attaching a complete list of these projects, the estimated total cost of which is \$232,000.00. The entire expense of this work will be borne by the Federal government.

There is at present \$29,043.00 available for other contracts.

WIDENING HIGHWAYS

The Department's policy of widening all pavements under eighteen (18) feet in width as rapidly as funds permit has been continued and contracts for widening 24.7 miles were completed in 1937. There still remain many miles which are of sufficient importance to justify their improvement in the interest of safety, and public convenience.

I recommend for consideration the widening of the following during the coming year:

New Castle County:

Corbit to Bear
Christiana to Newark
River Road, New Castle to Wilmington

Kent County:

Smyrna to Kenton
Milford to Harrington to Burrsville
Dover to Pearson's

Sussex County:

Greenwood to Milford
Georgetown to Jacob's School
Harmon School to Midway
Dagsboro to Clarksville
Millsboro to Gumboro



NORTH GROIN—PILE CLUSTER ON END, BETHANY BEACH, SUSSEX COUNTY

STATE OF DELAWARE
Partial Program, 1938 Funds
Federal Aid Grade Crossing Projects
Federal Aid Highway System Outside Municipalities

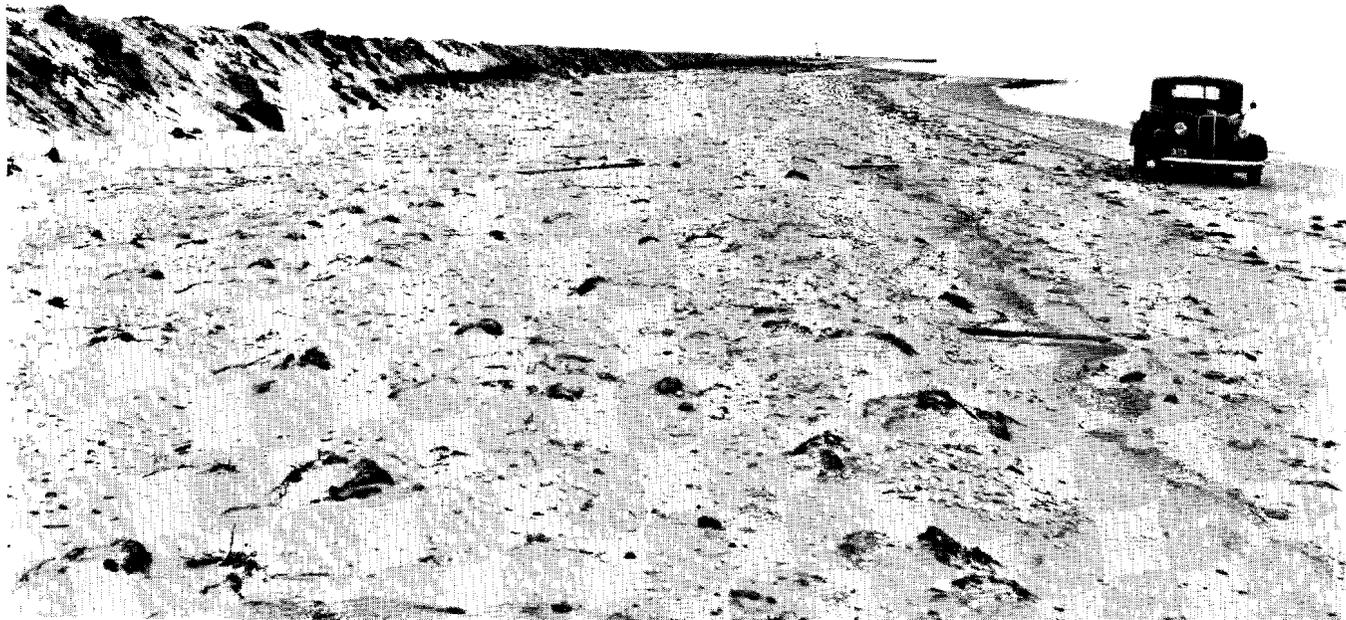
39

County	Proposed F.A.P. No.	Route	Location of Project	Character of Work	Number of Grade Crossings Eliminated	Total Estimated Cost	Grade Crossing Funds Desired
—PENNSYLVANIA RAILROAD—							
Kent	FAGH 93	61	1¼ mi. S. Farmington	Flashing Lights	None	\$4,000	\$4,000
Sussex	FAGH 100B	10	Main Crossing at Stockley	Flashing Lights	None	3,000	3,000
Sussex	FAGH 99B	68	Main Crossing at Lincoln	Flashing Lights	None	3,000	3,000
Kent	FAGH 171	69	Saxton's Crossing 1½ mi. S. Wyoming	Flashing Lights	None	4,000	4,000
Kent	FAGH 172A	27	Jimtown Crossing ½ mi. S. Clayton	Flashing Lights	None	4,000	4,000
New Castle	FAGH 175	37	S. Crossing Townsend, Dexter Road	Flashing Lights	None	1,000	4,000
New Castle	FAGH 82	49	1 mi. S. Porter Station	Flashing Lights	None	3,500	3,500
SUB-TOTAL PENNSYLVANIA RAILROAD.....						\$25,500	\$25,500
—READING RAILROAD—							
New Castle	FAGH 117F	75	½ mi. S. Wilm. (Heald St.).....	Flashing Lights	None	\$4,000	\$4,000
SUB-TOTAL READING RAILROAD						\$4,000	\$4,000
—BALTIMORE & OHIO RAILROAD—							
New Castle	FAGH 48B		Newport Rd., Landenburg Junction	Flashing Lights	None	\$1,000	\$1,000
SUB-TOTAL BALTIMORE & OHIO RAILROAD.....						\$1,000	\$1,000
GRAND TOTAL FAGH PROJECTS.....						\$30,500	\$30,500

STATE OF DELAWARE
Partial Program, 1938 Funds
Federal Aid Grade Crossing Projects
Projects Not on Federal Aid Highway System Outside Municipalities

40

County	Proposed F.A.P. No.	Route	Location of Project	Character of Work	Number of Grade Crossings Eliminated	Total Estimated Cost	Grade Crossing Funds Desired
—PENNSYLVANIA RAILROAD—							
New Castle	FAGS 1		1 mi. No. Middletown (Progtown)	Highway Barrier	None	\$15,000	\$15,000
New Castle	FAGS 5		Ruthby	Flashing Lights	None	10,000	10,000
New Castle	FAGS 15		Harmony	Flashing Lights	None	10,000	10,000
New Castle	FAGS 17		Folly Woods & Walnut St., Newport	Parallel Road	2	20,000	20,000
New Castle	FAGS 18		Chapel St., Newark	Parallel Road	1	25,000	25,000
New Castle	FAGS 29B		Armstrong	Flashing Lights	None	4,500	4,500
SUB-TOTAL PENNSYLVANIA RAILROAD.....						\$81,500	\$81,500
—BALTIMORE & OHIO RAILROAD—							
New Castle	FAGS 4		Price's Rd. Landenburg Junction	Flashing Lights	None	\$1,500	\$1,500
New Castle	FAGS 6		Klamensi	Flashing Lights	None	1,500	1,500
New Castle	FAGS 8		Chiff's (Talley Road)	Flashing Lights	None	3,500	3,500
New Castle	FAGS 9		Harmony	Flashing Lights	None	3,500	3,500
New Castle	FAGS 10		Ruthby	Flashing Lights	None	3,500	3,500
SUB-TOTAL BALTIMORE & OHIO RAILROAD.....						\$13,500	\$13,500
—READING RAILROAD—							
New Castle	FAGS 11		½ mi. S. Wilmington (New Castle Ave.)	Flashing Lights	None	\$3,500	\$3,500
New Castle	FAGS 12		Elsmere Junction	Flashing Lights	None	4,000	4,000
New Castle	FAGS 13		¾ mi. S. Wilmington (Pyle's Road)	Flashing Lights	None	3,500	3,500
New Castle	FAGS 14		duPont Rd. Westover Hills	Flashing Lights	None	5,500	5,500
New Castle	FAGS 16		Montchanin	Flashing Lights	None	4,000	4,000
New Castle	FAGS 19		Hazel Dell Ave.	Flashing Lights	None	5,000	5,000
New Castle	FAGS 20		Maryland Ave.	Flashing Lights & Gates	None	3,700	3,700
New Castle	FAGS 21		Brandywine Springs Road	Flashing Lights	None	3,000	3,000
New Castle	FAGS 22		Lancaster Pike	Flashing Lights	None	4,000	4,000
New Castle	FAGS 23		Greenville (Kennett Pike)	Flashing Lights	None	2,200	2,200
New Castle	FAGS 24		duPont Road (Shifting Area)	Flashing Lights	None	2,700	2,700
New Castle	FAGS 25		West Chester Road	Flashing Lights	None	2,000	2,000
New Castle	FAGS 26		Granogue Road	Flashing Lights	None	1,800	1,800
SUB-TOTAL READING RAILROAD.....						\$ 44,900	\$ 44,900
GRAND TOTAL FAGS PROJECTS						\$142,900	\$142,900



DELAWARE BAY SHORE PROTECTION, TIMBER GROIN, NORTH OF FOWLER BEACH, SUSSEX COUNTY

STATE OF DELAWARE
Partial Program, 1938 Funds
Federal Aid Grade Crossing Projects
Projects Within Municipalities

41

County	Proposed F.A.P. No.	Route	Location of Project	Character of Work	Number of Grade Crossings Eliminated	Total Estimated Cost	Grade Crossing Funds Desired
—PENNSYLVANIA RAILROAD—							
Kent	FAGM 12B	5	Forest Street, Dover	Flashing Lights	None	\$1,500	\$1,500
Sussex	FAGM 168	14	Del. Route 17, Selbyville	Flashing Lights	None	3,500	3,500
Sussex	FAGM 104	58	½ mi. S. Frankford.....	Flashing Lights	None	3,500	3,500
Sussex	FAGM 173	14	Main Crossing at Frankford	Flashing Lights	None	3,500	3,500
Sussex	FAGM 104B	58	Main Crossing at Dagsboro	Flashing Lights	None	3,500	3,500
Sussex	FAGM 107B	29	Lake Avenue, Milford	Flashing Lights	None	3,500	3,500
Kent	FAGM 15	48B	Clark Street, Harrington	Flashing Lights	None	5,000	5,000
Sussex	FAGM 40B	26	Main Crossing at Greenwood	Flashing Lights	None	4,000	4,000
Sussex	FAGM 31	10	Market Street, Laurel	Flashing Lights	None	4,000	4,000
Sussex	FAGM 2 (s)		North Crossing at Seaford	Flashing Lights	None	4,500	4,500
Kent	FAGM 3 (s)		Cheswold	Flashing Lights	None	4,500	4,500
SUB-TOTAL PENNSYLVANIA RAILROAD.....						\$44,000	\$44,000
—BALTIMORE & OHIO RAILROAD—							
New Castle	FAGM 68B	20	Main Street, Newark.....	Flashing Lights	None	\$10,000	\$10,000
New Castle	FAGM 7 (s)		N. College Ave., Newark.....	Flashing Lights	None	2,000	2,000
SUB-TOTAL BALTIMORE & OHIO RAILROAD.....						\$12,000	\$12,000
GRAND TOTAL FAGM PROJECTS.....						\$56,000	\$56,000

REHOBOTH AND BETHANY BEACH GROINS

The General Assembly of 1937 directed the Department to erect additional groins at Bethany Beach. A contract has been entered into by the Department for the construction of four new groins, two north and two south of the present groins, at a contract cost of \$25,719.00.

As pointed out in last year's report, some of the old timber groins at Rehoboth Beach are in bad condition and should be replaced, or the beach will be further eroded.

No provision was made by the Legislature for their construction and in all probability conditions will be less favorable at the end of another season than at present.

I suggest that legislation be presented at the next General Assembly to accomplish this purpose.

OTHER EXPENDITURES

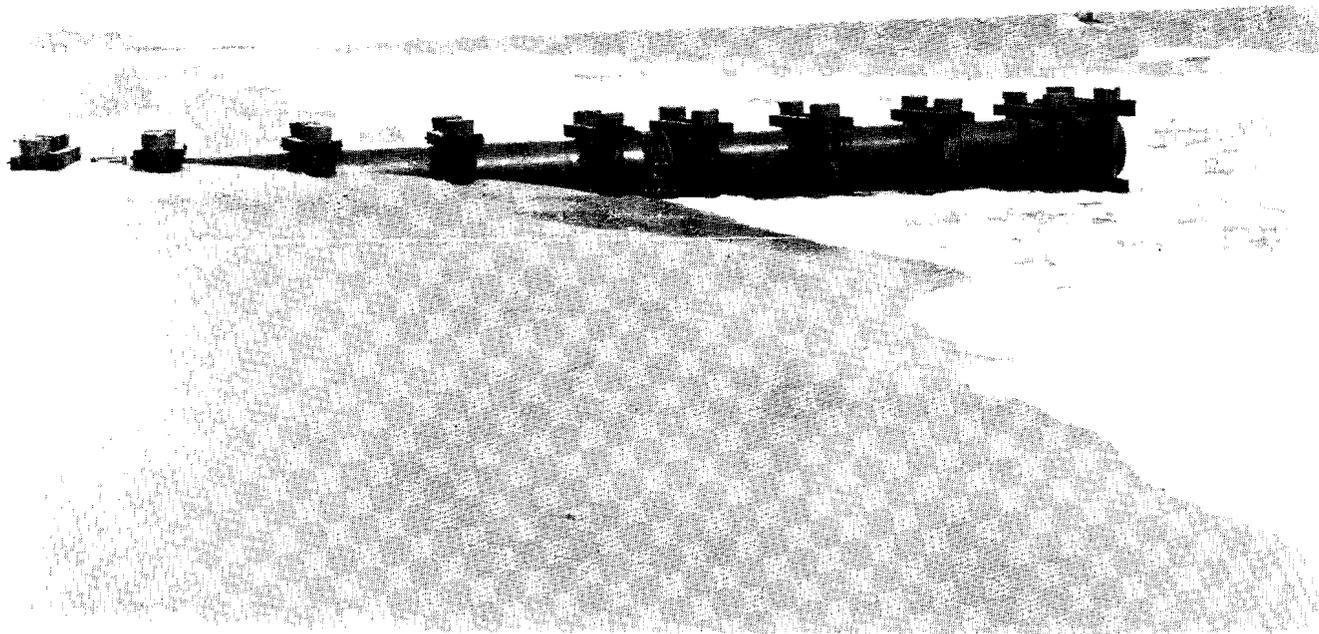
The 106th General Assembly passed seven Acts requiring the expenditure or diversion of State Highway funds:

Chap. 25 appropriates \$500,000 to the General Fund for the fiscal year 1938 and \$300,000 for the fiscal year 1939, \$300,000 of which was taken prior to December 31, 1937.

Chap. 56 appropriates \$500 for repairing the Little Creek Wharf.

Chap. 57 provides for the construction of dikes along Delaware Bay between the Mispillion River and Broadkill Beach at a cost not to exceed \$25,000. This is now under contract.

Chap. 164 appropriates \$10,000 to the Town of Seaford for the construction of a connecting concrete street between State Highways.



SILVER LAKE DRAINAGE CONTROL, REHOBOTH, SUSSEX COUNTY

Chap. 235 provides for the acquisition and development of a State park known as "The Rocks" by the State Highway Department, in accordance with plans to be furnished by the Tercentenary Commission. The State Highway Department acquired the necessary site by condemnation as provided by law at a cost of \$208,736.72.

Bids for the construction of the park will be received as soon as complete plans and specifications are available.

Chap. 237 appropriates not more than \$25,000 for the regulation of the water level in Silver Lake, Rehoboth.

The Department's engineers have prepared plans for this work consisting of a creosoted timber bulkhead along the beach between the lake and the ocean and an iron pipe with gates to control the elevation of the water in the lake, and to allow salt water to flow from the ocean to the lake during periods of high tide. Whether the inflow of salt water will be sufficient to prevent the growth of fresh water plants and algae is questionable.

Chap. 287 appropriates not more than \$35,000 for jetties at Bethany Beach as previously noted. These jetties are now under construction.

FINANCIAL OUTLOOK

In spite of a steady increase in the gross revenues, the coming years bid fair to be critical ones for the Department's finances.

The principal sources of the Department's income are the Motor Fuel Tax of 4¢ which annually produces slightly in excess of \$2,000,000, and the Motor Vehicle Fees, which amount to approximately \$1,200,000.

Legislative measures during the depression period have reduced the funds available for construction to a marked degree. The General Assembly of 1935 increased the gas tax from 3 to 4 cents. At the present rate of consumption each cent of gas tax produces approximately

\$500,000. The same Session placed all county roads and streets under the control of the Department; the cost of maintaining these roads for the last fiscal year was \$478,-801.91, or slightly less than 1 cent of the gas tax.

The Department's budget for 1938 will require \$509,655.00 for interest and retirement of County Highway Bonds, or an amount equal to the second cent of gas tax.

These two expenditures have relieved real estate throughout the State to a marked degree. For Kent and Sussex County, the present tax rate would be nearly tripled were these charges borne by the counties.

Maintenance of State Highways was \$462,132.00, or not quite the third cent for the same period.

Maturities and interest on State Highway Bonds amount to \$165,375.00.

Organization, State Police, and the support of the Motor Vehicle Department amount to approximately \$356,-000 annually. These last two items total a fourth cent, leaving only the registration fees of approximately one million dollars for the construction of State and Federal Aid projects.

However, obligations placed on the Department by the last General Assembly may total \$1,200,000 for the fiscal years of 1938 and 1939, reducing to a narrow margin funds available for construction and emergencies.

Federal funds for highway work have averaged for the past four years approximately \$1,130,000 annually. Federal appropriations have been of two kinds, Regular Federal Aid, which must be matched by State funds and which amounts to \$750,000 annually at present, and special contributions from Relief appropriations. While Regular Federal Aid will probably continue, possibly in lessened amounts, special appropriations are not likely to be repeated.

To match available Federal funds as required will take \$825,000 annually for the next two years, provided Federal contributions are not decreased and Delaware is not penalized for diversions.

Unfortunately, many have the mistaken idea that the Highway Department has funds in excess of its immediate needs, and to some the proposal of a road-building holiday appears desirable, but the fact remains that there is much highway work yet to be done in Delaware if our highway system is to provide adequate transportation facilities and retain the rank it has been holding for many years.

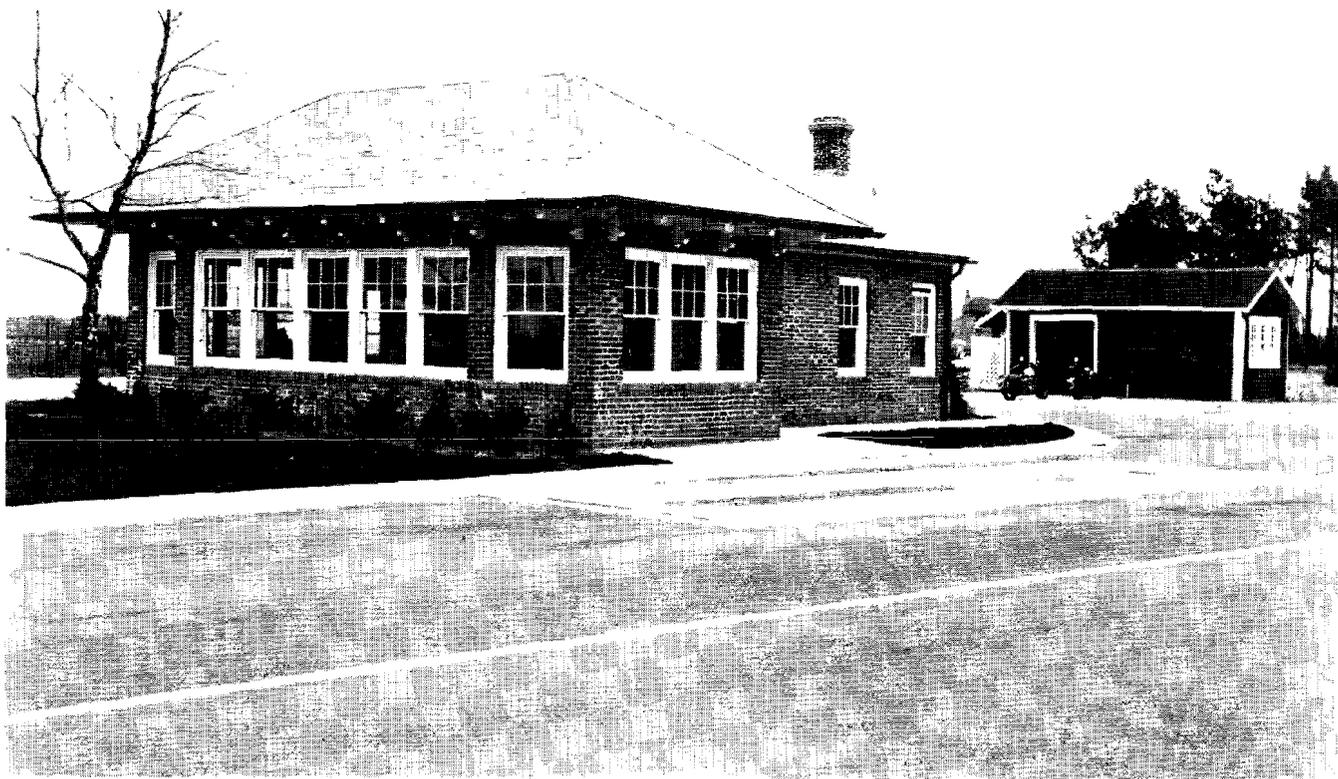
Not only is it necessary to increase and develop our traffic facilities in many locations for reasons of safety and public convenience, but a large mileage of the main trunk roads are approaching twenty years of service and the work of reconstructing and resurfacing them will call for sizeable expenditures in the future.

If legislatures continue to draw on highway funds for other than road purposes, the highway program will be curtailed, and needed improvements and developments will be delayed.

STATE POLICE

The duties and responsibilities of the State Police increase yearly. The year 1937 was no exception and not only was there increased traffic generally but there were more than the usual number of requests to handle traffic at conventions, schools and other civic affairs; in addition, the opening of the Delaware Park at Stanton increased materially the work of the Police during the busiest season.

During the Delaware Park meet of thirty days a detail of ten men was assigned each day to handle the extra traffic. The superintendent and officers of the force should be commended on the successful handling of this problem, which was not marred by a single major accident or injury. Another excellent piece of work was in handling the crowds and traffic at the Kent-Sussex Fair.



STATE POLICE STATION NO. 4, ROUTE 113, NEAR GEORGETOWN, SUSSEX COUNTY

Outstanding also was the record of the week-end of Labor Day when no fatalities were recorded.

Beginning late in August and continuing through the year an intensive drive against reckless drivers was conducted by the Police, in an effort to halt the rising toll of motor deaths; this rigid enforcement was received with favor by the majority of our citizens and its effect was widely noted and approved.

The total number of arrests made during the year totalled 8,294, an increase over 1936 of sixteen (16) per cent; the number of arrests for reckless driving was 3,580, or an increase of forty-nine (49) per cent over the previous year.

This is the greatest number of arrests in any year of the history of the Department, and an increase of two and one-third times in the number of arrests for reckless driving over 1935.

Briefly, the officers of the force during 1937 made 8,294 arrests, issued 31,647 reprimands, weighed 43,676 trucks, covered 1,397,641 miles on patrol duty, inspected 15,139 cars for defective lights and brakes, spent 191,568 hours on duty, 8,200 hours in investigations, 14,430 hours on special duty, recovered 119 stolen cars, and addressed 1,400 school children on Highway Safety. Fines collected amounted to \$74,540.23.

A complete tabulation of arrests and accidents with their causes, and a report of the Bureau of Identification, are appended. A perusal of the causes of arrest indicates the wide range of activities. While eighty-two (82) per cent of the arrests were for motor vehicle violations, there were 1,459 arrests made on 69 different charges for violation of the criminal laws of the State.



BEFORE AND AFTER RECONSTRUCTION NEAR MILLSBORO, SUSSEX COUNTY

Bids will be received on January 12, 1938, for the installation of a 500-watt radio broadcasting station at State Road and the removal and re-erection of the present 250-watt station at Dover. This will be a valuable addition to the equipment of the Department and will increase the efficiency and mobility of the patrols.

A modern fireproof station has been completed at Georgetown; with the construction of a similar station at Bridgeville, all stations will be adequately housed.

Owing to the increasing duties of the State Police both in traffic control and crime prevention, I wish to add my recommendation to that of Superintendent Reynolds for the following increases in the personnel and equipment:

1. That the force be increased by twenty to twenty-five men to be assigned to the stations where most needed.

2. That five additional white cars be purchased and assigned to the different sub-stations, each car to be fully furnished with complete emergency equipment.

3. That civilian clerks be employed for each sub-station to relieve officers of clerical work.

4. That platform truck scales be installed on the Governor Printz Highway to weigh through trucks.

5. That an axle load scale be erected in Route 40 near the Maryland Line.

6. That a new sub-station be built at Bridgeville to conform to those at the other stations.

On December 31, 1937, the force was assigned to duty as follows:

Wilmington Headquarters: Superintendent, Captain, 2 Lieutenants, Statistician and Clerk.

Station No. 1, Penny Hill: Sergeant, 2 Corporals, and 11 Privates.



BRIDGE WASHED OUT AND CARRIED DOWN STREAM DURING FLOOD



NEW TIMBER BRIDGE, DAYETT'S MILL, NEW CASTLE COUNTY

Station No. 2, State Road: Sergeant, 2 Corporals, 12 Privates and 1 Clerk.

Station No. 3, Dover: Lieutenant, Sergeant, Corporal, 10 Privates, and 2 Mechanics.

Station No. 4, Georgetown: Sergeant and 9 Privates.

Station No. 5, Bridgeville: Sergeant, Corporal, 7 Privates, and Weighmaster.

Total, 71, of which 64 are uniformed men.

SAFETY

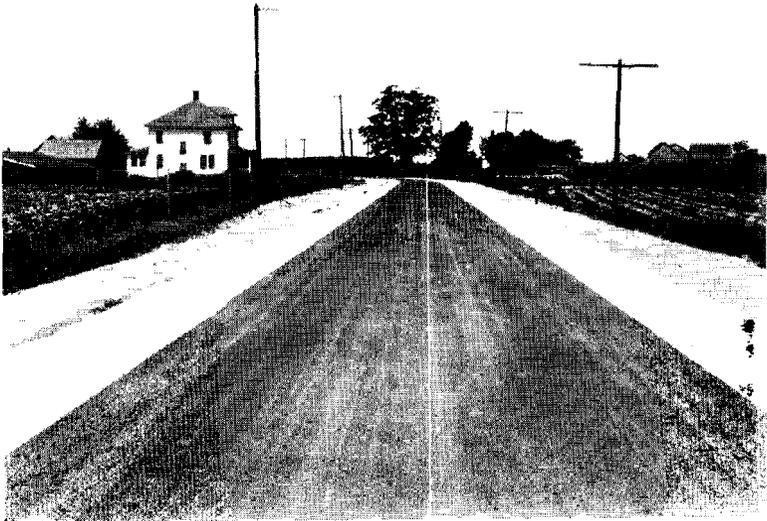
In spite of the increased activity of the State Police and all cooperating agencies, accidents and fatalities on the highways increased beyond any previous year.

The total number of reported accidents was 1,070, compared to 902 in 1936 and 956 in 1929, the previous high. Fatalities reached 88, compared to 61 in 1936 and 72 in 1932, the former record.

The ratio of accidents per fatality of 14.4 to 1 for 1935 and 1936 was reduced to 12.2 to 1 and the ratio of injuries to fatalities was reduced from an average of 12.8 to 1 in 1935 and 1936 to 10.1 to 1 in 1937. The reduction in these ratios indicates clearly the increasing severity of highway accidents, and may point to the cause, viz., **excessive speed**. The fatality rate as measured by gasoline consumption for 1937, however, is lower than for any year previous to 1935.

Pedestrian fatalities totalling 32 showed an increase of 39.1 per cent over 1936, where as there had previously been a general decrease from the former high of 30 in 1932.

The forty-nine (49) per cent increase in arrests for reckless driving would indicate an actual increase in speeding and reckless driving when taken in conjunction with the increase of forty-four (44) per cent in fatalities during the year.



**BEFORE AND AFTER RECONSTRUCTION, MILLSBORO TO HARMON SCHOOL,
SUSSEX COUNTY**

A study of the individual reports of fatal accidents shows that they were widely distributed throughout the State and were caused by many varying circumstances. Twenty-seven and five-tenths (27.5) per cent of fatal accidents were attributed definitely to reckless driving, excessive speed and failure to stop at stop signals; fourteen (14) per cent to intoxicated drivers or pedestrians; while eight (8) per cent were due to faulty tires and lighting equipment.

The study reveals no one remedy for this tremendous problem but emphasizes the necessity of extreme caution on the part of all drivers and pedestrians, reduced speeds, especially at night, and more rigid traffic control.

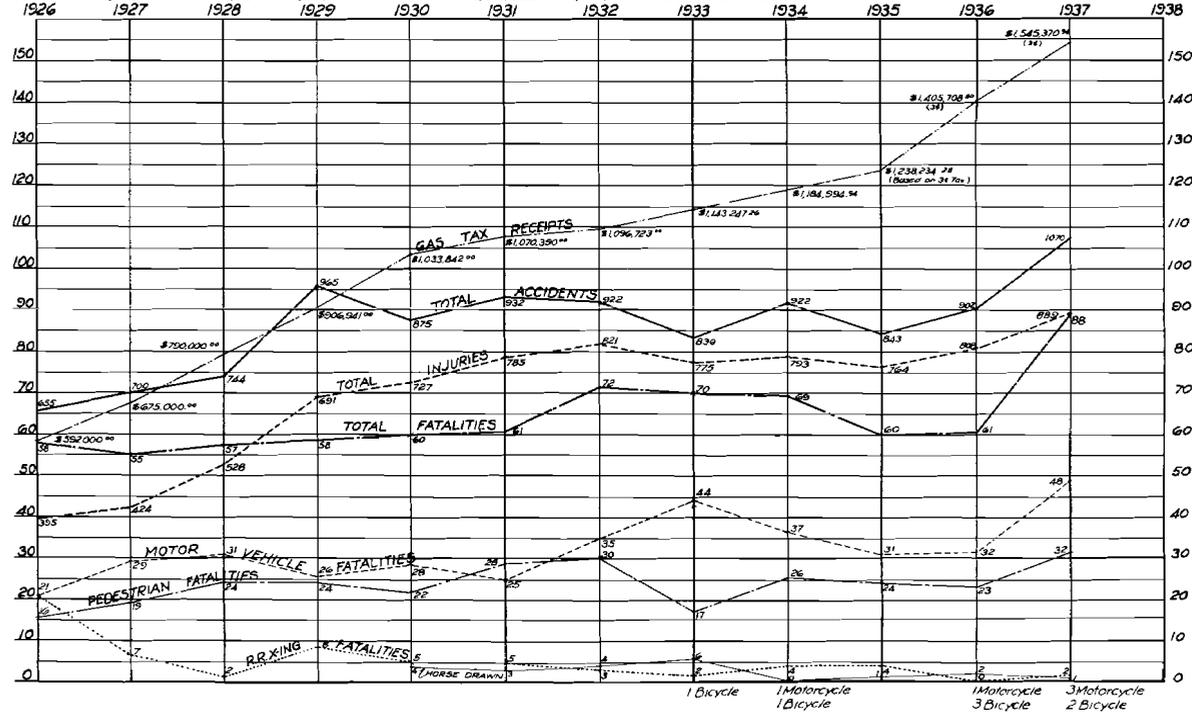
The regulation of speed is one of the most important of highway safety problems, since "speed too fast for conditions" is generally regarded, by traffic authorities, as a contributing cause in the majority of accidents.

Motorists must become familiar with the factors affecting safe speed. To accomplish this end it will be necessary, first, to determine what are safe speeds under various conditions; and, second, to convey this information to the driver. This will require a thorough study of the physical conditions of the highways to locate hazards, the proper location of signs readily understood by the motorist, and the zoning of the most important roads for safe speeds. With strict enforcement to control the minority of reckless drivers and the suspension of operators' licenses as a penalty for reckless driving, progress might be made towards safety on the highways.

I suggest that legislation allowing zoning of the State Highway system and permitting a wider use of the suspension of operators' licenses be presented to the next General Assembly for its consideration, as a part of a program to overcome the most serious problem with which public officials are confronted.

STATE HIGHWAY DEPARTMENT ACCIDENT CHART

ACCIDENTS PER FATALITY —	11.3	12.7	13.1	16.5	14.6	15.2	12.8	11.8	13.3	14.0	14.8	12.2
MILES DRIVEN PER —	3,402,300	4,090,909	4,619,884	5,212,304	5,741,500	5,815,633	5,055,745	5,444,403	5,724,565	7,483,876	7,681,469	5,853,677
FATALITY (10% ¹⁰⁰ GAL.)	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937



ARRESTS FOR THE YEAR 1937

Accessory	1
Adultery	2
Aiding and abetting	2
Allowing body to protrude over side	3
Allowing live stock to run at large	2
Allowing minor to operate	1
Allowing unlicensed person to operate	104
Allowing unregistered car to be operated	1
Assault	3
Assault and battery	233
Assault felonious	4
Assault to murder	4
Assault to rape	1
Arson	3
Attempt to defraud	1
Bastardy	1
Breach of peace	21
Breaking and entering	69
Bigamy	1
Bookmaking	4
Carrying concealed a deadly weapon	15
Conspiracy	32
Contempt of court	1
Cruelty to dumb animals	2
Defective brakes	177
Desertion and non-support	13
Desertion (army)	1
Disorderly conduct	186
Displaying another's license	22
Disregarding stop sign	329
Disturbing the peace	5
Drunk and disorderly	226
Embezzlement	3
Exceeding legal height	9
Exceeding legal length	1
Exceeding legal width	10
Exceeding registered weight	437
Failed to have car inspected	15
Failed to report accident	6
Failed to signal	6

Failed to stop at request of officer	5
Forgery	6
Fugitive from justice	9
Gambling	16
Held as witness	46
Highway robbery	3
Hitch hiking	25
Horse drawn vehicle no light	7
Improper lights	87
Improper tags	30
Incorrigible	2
Indecent exposure	1
Insane	2
Interfering with officer	1
Interfering with operator	20
Keeping disorderly house	3
Keeping gambling device	4
Larceny	234
Larceny as bailee	1
Leaving accident	27
Lending license plates	3
Lending operator's license	11
Leaving vehicle unattended	1
Making false statement	4
Making threats	16
Malicious mischief	9
Manslaughter	6
Murder	4
No flares	57
No windshield wiper	3
No chauffeur's license	84
No clearance lights	2
No horn	10
No mirror	53
No muffler	16
No operator's license	631
No photograph on chauffeur's license	8
No mercantile license	2

Obtaining goods under false pretenses	1
Obtaining money under false pretenses	8
Operating after license had been revoked	7
Operating unregistered motor vehicle	214
Operating while intoxicated	208
Overloaded axle	175
Overloaded semi-trailer	118
Overloaded trailer	10
Overloaded truck	94
Parked on concrete	27
Parked no lights	60
Passing counterfeit money	2
Passing traffic (red) light	32
Passing worthless check	11
Pedestrian no light	10
Perjury	1
Pickpocket	2
Pointing fire arm	5
Policy writing	6
Possession of stolen goods	2
Rape	4
Receiving stolen goods	2
Reckless driving	3580
Resisting arrest	3
Riding without owner's consent	2
Rifling mails	3
Selling car no title	10
Selling goods no license	1
Sex crimes	9
Taking car without owner's consent	48
Tampering with automobile	15
Throwing rubbish on highway	6
Transporting unmarked apples	1
Trespassing	99
Using mails to defraud	1
Vagrancy	62
Violated Dyer Act	2
Violated Health Law	2
Violated Learner's Permit	24
Violated Liquor Law	17
Wife Beating	4

Total number arrests	8,294
Total number reprimands	31,641
Total number trucks weighed	43,676
Total number miles patrolled	1,411,580
Total number cars inspected for lights and brakes	15,139
Total number hours spent on duty	191,967
Total number hours spent on investigation	8,200
Total number hours spent on Special Duty	14,430
Total number stolen cars recovered	119
Total number school children addressed on Safety	900

ACCIDENTS FOR THE YEAR 1937

Total Number Accidents	1,070
Total Number Fatal Accidents	79
Total Number Killed	88
Total Number Injured	889
Estimated Property Damage	\$185,817

Fatalities by Counties

New Castle	39	or	44.3	per cent
Kent	26	or	29.5	per cent
Sussex	23	or	26.1	per cent

Type of Accident

In Collision with:

	Total	Fatal	Non-fatal
Pedestrian	86	32	55
Automobile	588	27	564
Animal or Horse Drawn Vehicle.....	17	1	16
Railroad Train	11	2	9
Street Car	6	1	5
Motorcycle	8	3	5
Fixed Object	202	8	196
Bicycle	15	2	13
Non-collision Accident	137	12	125
Totals.....	1070	88	991

Cause:

Reckless driving	162
Operator had been drinking	113
Inattention	105
Drove or crowded off roadway	72
Skidding	66
Disregarded stop sign	66
On wrong side of road	56
Operator asleep	55
Failed to signal	50
Loss of control ..	43
Tire (blow out)	30
Passing without proper clearance	27
Jay walking	24
Obstructed view	19
Pedestrian had been drinking	15
Animal on highway	14
Cutting in	13
Glaring headlights	13
Operator confused	11
Defective steering gear	9
Inexperienced operator	9
Defective lights	9
Fell or jumped from moving vehicle	9
Pedestrian coming from behind parked car	9
Children playing in roadway	8
Hit and run	8
Following too closely	7
Automobile no lights	6
Defective brakes	6
Operator had physical defect	5
Parked no lights	5
Obstruction in roadway	4
Pedestrian confused	3
Getting on or off vehicle	3
Driver fatigued	2
Horse drawn vehicle no light	2
Bicycle no light	1
Car ran away no driver	1
Not stated	10

Driver's Sex:

	Total	Fatal	Non-fatal
Male	1544	98	1446
Female	148	5	143
Not stated	16	4	12
	<hr/>	<hr/>	<hr/>
Totals.....	1708	107	1601

Driver's Age:

	Total	Fatal	Non-fatal
Under 20 years	178	12	166
20 to 29 years	654	39	615
30 to 49 years	632	39	593
50 to 64 years	172	10	162
65 years and over	48	3	45
Not stated	24	4	20
	<hr/>	<hr/>	<hr/>
Totals.....	1708	107	1601

Driving Experience:

	Total	Fatal	Non-fatal
Less than 3 months	22	1	21
3 to 6 months	19	--	19
6 to 12 months	17	--	17
1 year or more	1594	88	1506
Not stated	56	18	38
	<hr/>	<hr/>	<hr/>
Totals.....	1708	107	1601

Hour of Occurrence:

	Total	Fatal	Non-fatal
12 to 1 A. M.	66	3	63
1 to 2 A. M.	48	3	45
2 to 3 A. M.	39	3	36
3 to 4 A. M.	20	--	20
4 to 5 A. M.	20	2	18
5 to 6 A. M.	22	2	20
6 to 7 A. M.	27	1	26
7 to 8 A. M.	32	--	32
8 to 9 A. M.	34	3	31
9 to 10 A. M.	20	3	17
10 to 11 A. M.	33	1	32
11 to 12 A. M.	31	--	31
12 to 1 P. M.	45	3	42
1 to 2 P. M.	30	4	26

	Total	Fatal	Non-fatal
2 to 3 P. M.	39	--	39
3 to 4 P. M.	65	2	63
4 to 5 P. M.	76	4	72
5 to 6 P. M.	69	7	62
6 to 7 P. M.	77	10	67
7 to 8 P. M.	56	4	52
8 to 9 P. M.	53	9	44
9 to 10 P. M.	52	6	46
10 to 11 P. M.	65	5	60
11 to 12 P. M.	46	3	43
Not stated	5	1	4
Totals.....	1070	79	991

Light Conditions:

	Total	Fatal	Non-fatal
Daylight	512	30	482
Dusk	43	4	39
Artificial light-good	58	5	53
Artificial light-poor	62	9	53
Darkness	394	31	363
Not stated	1	--	1
Totals.....	1070	79	991

Day of Occurrence:

	Total	Fatal	Non-fatal
Sunday	205	15	190
Monday	128	4	124
Tuesday	118	6	112
Wednesday	118	8	110
Thursday	145	11	134
Friday	151	12	139
Saturday	205	23	182
Totals.....	1070	79	991

Road Location:

	Total	Fatal	Non-fatal
Between intersections	20	6	14
Rural intersection	204	14	190
Straight Road	563	44	519
Driveway	47	--	47
Curve	166	12	154

	Total	Fatal	Non-fatal
Street intersection	37	--	37
Railroad crossing	11	2	9
Street car crossing	5	1	4
Bridge	16	--	16
Not stated	1	--	1
	<hr/>	<hr/>	<hr/>
Totals.....	1070	79	991

Road Surface:

	Total	Fatal	Non-fatal
Dry surface	766	61	705
Wet surface	254	17	237
Muddy surface	11	--	11
Snowy surface	31	1	30
Icy surface	7	--	7
Not stated	1	--	1
	<hr/>	<hr/>	<hr/>
Totals.....	1070	79	991

Weather Conditions:

	Total	Fatal	Non-fatal
Clear	692	58	634
Cloudy	115	5	110
Fog or mist	64	4	60
Rain	169	12	157
Snow	21	--	21
Not stated	9	--	9
	<hr/>	<hr/>	<hr/>
Totals.....	1070	79	991

Type of Vehicle

Involved in Accident:

	Total	Fatal	Non-fatal
Passenger car	1316	81	1235
Light delivery car	41	4	37
Bus	10	--	10
Motorcycle	8	3	5
Truck	319	14	305
Wagon	6	1	5
All others	16	3	13
Not stated	14	4	10
	<hr/>	<hr/>	<hr/>
Totals.....	1730	110	1620

**Action of Pedestrian
Contributing to Accident:**

	Total	Fatal	Non-fatal
Getting on or off vehicle	5	--	5
Crossing intersection	5	2	3
In street not at intersection	21	8	12
Children playing in roadway	8	2	6
Coming from behind parked car	7	3	4
At work on car in roadway	1	--	1
Walking on or along highway	38	16	22
Miscellaneous	4	1	3
	<hr/>	<hr/>	<hr/>
Totals.....	89	32	57

RECORD OF FINGERPRINTS

Received, Classified and Filed at the Bureau of Identification
at Station No. 1,

From January, 1935, to December 31st, Inclusive, 1937

	1935	1936	1937
Criminal Wanted Notices received	50	150	300
Photographs on file	--	200	1300
Singleprints on file	--	--	1100
Criminal fingerprint cards on file	335	1179	1899
Civilian fingerprints on file	270	223	25

Civilian Fingerprint Contributors:

	1935	1936	1937
Station No. 1	263	197	25
Station No. 2	5	1	--
Station No. 3	--	9	--
Station No. 4	--	9	--
Station No. 5	2	7	--
	270	223	25

Grand Total 518

Criminal Fingerprint Contributors:

	1935	1936	1937
Station No. 1	73	131	131
Station No. 2	34	229	130
Station No. 3	15	65	67
Station No. 4	*	127	*
Station No. 5	26	41	25
N. C. C. Workhouse	--	182	1257
*Sussex County Prison	187	351	266
State Detective N. C. County	--	2	--
Newark Police Dept.	--	18	14
U. S. Marshal at Wilmington	--	33	9
	335	1179	1899

Grand Total 3,413

The following is a record of persons with and without a previous Criminal Record at the FBI at Washington:

	1935	1936	1937
Without criminal records	205	645	963
Persons with previous records	130	534	936

The following is a record of color and sex of fingerprints received at the Bureau of Identification:

	Male	Female	White	Black	Yellow	Red
1935	?	?	?	?	?	?
1936	1115	64	603	575	1	--
1937	1723	176	955	944	--	--

	1935	1936	1937
Unknown dead persons fingerprinted	5	2	3
Dead persons identified by fingerprints	3	2	2
Escaped prisoners apprehended	4	2	4

RECOMMENDED ROADS

I recommend that the roads chosen for improvement during the coming year be selected from the following list, which includes those for which petitions have been received by the Department:

New Castle County:

Road No.		
421-422	Port Penn-Thomas Corner	3.50 miles
429	Odessa-Armstrong Corner-Bohemia	7.00 "
446	Townsend-St. Ann's-The Levels	4.50 "
465	Blackbird-Corway's Corner	3.50 "
448	St. Andrew's School-Fieldsboro	2.00 "
455	Pine Tree-McCoy's Corner	2.80 "
313	New London-Newark	2.50 "
230	Rockland-Thompson Bridge	3.00 "
318	Milltown-Lincoln Highway	1.80 "
11	Dual Road, Price's corner to Fourth St. Extended.	2.50 "
	Sidewalk: Marshallton west of Red Clay Creek...	.50 "
455	Pine Tree to Naylor's Corner to Taylor's Bridge-	
	Odessa Road	3.00 "
228	Polly Drummond Hill Road	1.75 "
427	Middletown-St. George's-via Jamison's X Roads..	4.00 "
52-428	Shallcross Pond-Armstrong's	2.50 "
412	St. George's-Summit Bridge	4.00 "
400	Porter's-Summit Bridge Road	2.00 "
340	Hog Swamp Road-Newport	3.50 "
205	Naaman's Road, Point Breeze School to Perry's	
	Tavern	1.50 "
	Commonwealth Ave., Overlook, Claymont	
	Northeast Boulevard extended to Ridge Road....	1.90 "
	Replace Curtis Paper Mill Bridge (Covered) at	
	Newark with new structure	
	Replace timber truss bridge back of Hoope's Res-	
	ervoir	
	Replace Smyth's Bridge	
	Sidewalk, Price's Cor.-Oak Grove, on Capital Trail	1.00 "
	Sidewalk, Price's Cor.-Workhouse, Greenbank....	.75 "
	Elsmere to Lancaster Pike on S. duPont Road,	
	Sidewalk	
	Sidewalk, Pennsylvania Ave. to duPont Experi-	
	mental Station, Rising Sun Lane	1.00 "

New Castle County (Continued)

Road No.			
	Sidewalk, Brandywine Boulevard, Bellefonte.....	.50	"
	Sidewalk, Bellefonte Ave., Philadelphia Pike to Bellefonte .....	.50	"
257	Sidewalk, Yorklyn Bridge to School .....	.36	"
209	Widening and resurfacing Grubb's Road	4.20	"
212	Widening and resurfacing Silverside Road	4.50	"
5-18	Widening, Corbit to Newark	10.00	"
210	Murphey Road through Ardentown	4.00	"
371	Middleboro Rd. (½ mile long near Richardson Park Junior High School) Terminal Thoroughfare from intersection with Christiana Ave. to Heald St.	1.25	"
429-436	Odessa to Armstrong's Cor. to Choptank Rd, thence to Butler's Cor. to Clayton Cor.	6.25	"
446-477	Road from Townsend-Coldwell Rd. northward near Levels	3.00	"
	Marion Avenue, Bellefonte		
389	Iron Hill Road to Baptist Church (Pencader Hundred) .....	.70	"
	Sidewalks, Boxwood Road Rodman Rd. from Brandywine Blvd.-River Rd. . .	.50	"
19	7th St., New Castle to Dobbinsville .....	.75	"

Kent County:

129	Blackiston to Delaney	3.33	"
348	Postles' Corner to Dixon's Corner	3.00	"
196-195	Wyoming to Ridgley's Corner	1.90	"
215	Oak Point School Road	4.80	"
237	Guy Town to Woodside	3.30	"
371	Plymouth to Barratt's Chapel	6.00	"
388	Rice's Corner to Milford (via McCaulley's Pond) . .	7.09	"
298	Vernon to Brownsville	2.20	"
274-275	Harrington to Hughes' X Roads	7.50	"
304	Andrewsville to Vernon	2.61	"
381-382	Cedar Grove School to Loper's Corner	2.50	"
228	Bryant's Corner to Wyoming-Hazletville Rd.	3.00	"
298	Brownsville to Maple Grove School	2.00	"
314	Harrington to Farmington	4.00	"
240	Woodside to Felton	3.75	"

Kent County (Continued)

Road No.			
182	Hartly to Pierson's Cor.-Marydel Road	3.00	"
156	Dover to Cheswold	3.00	"
281	Masten's Cor. to Big Ash	2.20	"
268	Cedar Grove-Sandtown	5.10	"
189	Hartly-Pierson's Cor.-Marydel Road	2.00	"
	Walks and drives at State College		

Sussex County:

536	Seaford-Woodland	6.00	"
544	Wesley Church toward Hearn's Pond	1.50	"
421	Lowe's X Road-Pepperbox School	5.00	"
387	Bishopville-Roxana	5.00	"
305	Millsboro-Hollyville	4.26	"
206	Lovett's Nursery-Cedar Neck School	8.281	"
287	Fairmount-Five Points	5.75	"
	Indian River Hundred: Goslee's Mill via Conley's Chapel to Millsboro-Rehoboth Highway	4.00	"
524	Concord to Old Furnace-Middleford Road	2.50	"
	Owens-Sunnyside School	4.30	"
456	Whitesville-Maryland Line .....	.40	"
405	Frankford-Dagsboro-Shaftox Road	2.50	"
	Independence School-Bethesda School	4.00	"
	Cokesbury to Robbins	5.25	"
348	Bayard-Ocean View Rd.-Irons Lane Landing.....	5.75	"
	Long Neck Road	3.50	"
224	Road intersecting Ellendale-Shawnee Road from west of Union Church		
	Five Points to Delaware Avenue Bridge, Laurel		
371	M. E. Church at Roxana to Selbyville-Roxana State Highway at Junction of Frankford Rd...	.70	"
431	Shortly-Mission	4.30	"
512	Md. Line Road west of Delmar	5.00	"
50	Indian River Inlet Bridge		
	Improvement of street along north side of school at Greenwood, and street connecting this one with Main St. near R. R. Station 2300 ft.		
	Millsboro-Centenary School	5.00	"
	Milton-Overbrook	4.00	"

Sussex County (Continued)

Road No.			
513	Packing House near Columbia-Md. Line	1.50	"
212-230	Lovett's Nursery-Cedar Creek Mill-Jefferson X Roads-Ellensworth X Roads	8.50	"
571	Adams X Road-Md. Line	2.00	"
474	Morgan's Sch. to Baptist Church to Tyndall Corner	3.75	"
505-509	Horsey's Pond-Ralph's Store	4.75	"
334	Dagsboro-Milk Station	1.50	"
346-347	Martin Greens thru Whiteneck-Millville	4.00	"
297	Morris Mill to Harmon's School	6.75	"
472	Ellingsworth Filling Station-Roger's Sch.	3.00	"
607	Ellendale to Cobaughs	2.75	"
248	Factory Farm to Gravel Hill	2.75	"
	Phillips Hill to Peppers	7.50	"
431	Millsboro-Bryan's Store Rd. to Mission ..	2.50	"
213	Walnut St.-Milford	1.50	"
509-514	Mount Pleasant Church-Blackwater .....	.50	"
	East Second St. and West Front St., Milford		
	Road from property of Rehoboth Bay Development Co. known as "Pine Water" running in north- westerly direction to road intersecting Mills- boro-Rehoboth Hwy., south of Angola Post Office		
	Laurel, street leading from old county bridge to main East and West St.		
	Georgetown-Lewes Highway to Milford-Lewes Highway		
	Road beginning at Truitt's X Rds. and extending about ½ mi. in westerly direction thru land of Irvin Smith (Dagsboro Hundred)		
	Slag Rd. from Laurel by H. C. Lewis farm and along old Georgetown Rd. over Elliott's mill dam to Bryan's Store; thence east by James' Campground to Lindle's farm (Broad Creek Hundred)		
466-476	Laurel-Jones' X Rds.	7.00	"
381-384	Bayard-Williamsville	3.00	"
285	Fairmount to Five Points	6.6	"
553	Seaford to Neal's School	3.00	"
	Bethany Beach to Fenwick's Island	6.00	"

FINANCIAL STATEMENT

The Secretary has presented a detailed report of the financial transactions for the fiscal year ending June 30, 1937. There is attached a summarized statement of the Income and Expenditures of the Department for the period beginning January 1, 1937, and ending December 31, 1937.

INCOME

Balance, December 31, 1936	\$ 457,006.81
Motor Vehicle Fees	1,137,904.30
Titling Fees	57,641.80
Motor Fuel Tax	2,055,355.09
Motor Fuel Dealers and Distributors License	2,829.00
State Police Fines	74,540.23
Federal Aid	1,006,665.66
Miscellaneous Income	56,961.22
Car Inspection Campaign	6,913.00
Total Income	\$4,855,817.11

EXPENDITURES

Administration	\$ 44,993.44
Fixed Charges:	
Maturities—New Castle County Bonds	95,000.00
Maturities—Kent County Bonds	105,000.00
Maturities—Sussex County Bonds	75,000.00
Interest—New Castle County Bonds	96,905.00
Interest—Kent County Bonds	66,087.50
Interest—Sussex County Bonds	82,125.00
Interest—State Highway Dept. Bonds	65,375.00
Maintenance	867,816.05
Plant and Equipment	47,776.09
State Police	190,423.92
Construction	1,951,511.08
Car Inspection Campaign	19,287.27
Motor Vehicle Department	104,090.57
Motor Fuel Tax Division	11,161.32
Motor Fuel Tax Adjustment	24,267.04
Expenditures by Legislative Enactments:	
Loan to General Fund	300,000.00
Town of Seaford	10,000.00
Edward H. & Louella Mitchell	3,000.00
Horace J. Evans	184.51
Total Expenditures	\$4,160,003.79
Balance, December 31, 1937	\$695,813.32

There were outstanding December 31, 1937, highway contracts amounting to \$343,245.71, of which the State's obligations totalled \$137,190.02.

In concluding this report, I wish to express my appreciation of the support and assistance I have received from his Excellency, the Governor, the Chairman and each member of the Department and the many courtesies they have extended to me during the year.

I wish also to acknowledge my indebtedness to each of my associates for their loyalty and able assistance and to those employees who have given their best to the work of the Department.

Respectfully submitted,

W. W. MACK

Chief Engineer

**DELAWARE STATE HIGHWAY SYSTEM
YEAR CONSTRUCTED OR ACQUIRED**

	1915- 1929	1930	1931	1932	1933	1934	1935	1936	1937	Total
Concrete, 14' to 40'	593.9	20.5	21.5	10.4	8.3	8.5	13.7	6.2	12.3	695.3
Concrete, 9'	47.3	21.5	44.5	11.6	12.4	....	....	....	....	137.3
Bit. Concrete .....	....	....	....	....	....	16.4	307.4	3.2	....	327.0
Brick	6.1	....	....	....	....	....	0.4	....	....	6.5
Bit. Macadam	44.3	1.2	....	....	....	0.7	55.6	....	-5.1	96.7
Sand Asphalt	27.0	....	....	....	....	....	....	....	....	27.0
Traffic Bound Slag-Stone-Gravel	19.5	22.9	20.8	37.6	122.6	71.5	46.9	39.9	21.0	402.7
Sand Clay	16.4	5.3	13.2	7.5	6.2	5.7	9.9	....	....	64.2
Unimproved Dirt .....	....	....	....	....	....	....	2170.7	-37.3	-23.2	2110.2
Yearly Total .....	....	71.4	100.0	67.1	149.5	102.8	2604.6	12.0	5.0	....
Total Miles in System	754.5	825.9	925.9	993.0	1142.5	1245.3	3849.9	3861.9	3866.9	3866.9
Widening and Resurfacing	34.7	18.9	18.0	11.1	56.9	16.5	113.7	68.2	23.0	361.0
Dual Highway	7.7	....	4.9	10.9	7.4	16.1	0.5	4.1	....	51.6
Traffic Bound Road										
Surface Treated .....	....	....	....	1.5	12.8	25.5	16.2	....	54.3	110.3
Sidewalks	8.43	0.53	7.07	11.09	3.76	4.29	0.90	8.4	4.5	49.0