

*Annual Report of the Chief Engineer
State Highway Department
1936*

Dover, Delaware
January 20, 1937

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

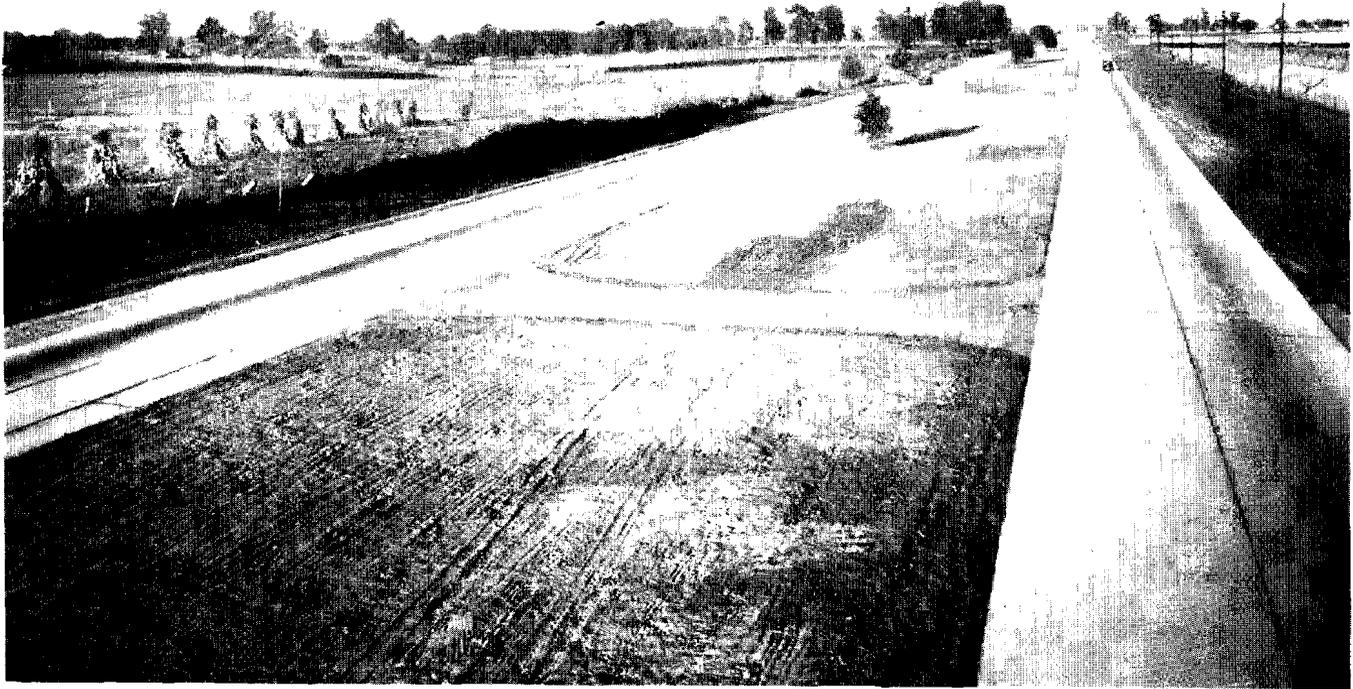
Sirs:

In conformity with the provisions of the State Highway Act of 1917, I herein submit a report of the work accomplished by the State Highway Department during the calendar year 1936, with a list of roads for which petitions have been presented asking for their improvement, and certain recommendations for the year 1937.

A resume of the work of each division of the Department follows:

**DIVISION OF PLANS, SURVEYS, ESTIMATES
AND FEDERAL AID**

Federal appropriations during 1936 made the road-building program one of the largest in the history of the Department. At the same time the Federal government set up additional regulations requiring statistics from every angle of the road building industry. The reports, payrolls and forms which have been required cannot readily be shown but they have added greatly to the amount of detail work which has been handled by this division.



NEW CASTLE COUNTY—DUAL HIGHWAY ON U. S. ROUTE 40 LOOKING TOWARDS ELKTON (PARKING STRIP JUST PLANTED IN GRASS)

In order to secure the Works Program funds it was necessary for the Highway Department to make an agreement with the Bureau of Public Roads to use 1,003,000 man hours of labor secured from the United States Employment Service. These hours could be used upon work financed by Works Program, Regular Federal Aid or State funds. To date we have used in excess of 841,000 of the required number to fulfill the agreement.

The following is the detail tabulation showing the work of the division of surveys and plans for 1936:

Surveys

135	Miles	Base Line
138	"	Topography
51	"	Cross Sections (Preliminary and Final)
143		Borrow Pits (Preliminary and Final)

Draughting Room

178	Miles	Base Line and Topography Plotted
153	"	Profile Plotted
174	"	Index Maps Plotted and Traced
143	"	Plan and Profile Traced
73	"	Cross Sections Plotted (Original and Final)
38	"	Grade Laid
48	"	End Areas Planimetered and Computed
143		Borrow Pits Plotted and Computed

In addition to the above there were twenty-seven (27) property drawings, large scale maps of New Castle and Kent Counties and miscellaneous charts for this and other State departments.

DIVISION OF TESTS

The Division of Tests maintained a close supervision of the quality of all materials used in Delaware State Highway construction during 1936. As in previous years materials were inspected, insofar as possible, at the point of

origin and in this manner rejections after arrival on the job were reduced to a minimum. While the expense of testing materials in this manner is somewhat greater, it is felt that the result of this system over a number of years has resulted in a lower net cost of materials to the State as well as avoiding any delays in construction.

No major changes were made in the methods of handling the inspection and testing of the materials used in concrete or for the materials used in the construction of secondary roads. A further development was made, however, in the arrangement for the inspection of the asphalt used in the annual surface treating program and the inspection of bituminous concrete.

The surface treating program for 1936 required approximately 800,000 gallons of asphalt which was furnished to each of the three counties from a Maryland refinery. This material was furnished under a specification which has been developed by the laboratory, working in cooperation with the construction forces over the past few years. To secure exactly the material that is needed, it has been found necessary to write these specifications within very narrow limits and considerable difficulty was experienced in the past in securing a material of this type which would exactly meet these specifications. A close contact between the laboratory and refinery was maintained by keeping a representative at the refinery during the several months in which this program was carried on. The asphalt was prepared in batches of from 10,000 gallons to 20,000 gallons and placed in storage tanks from which samples were forwarded to the laboratory at short intervals. By means of the equipment which was added to the laboratory for taking care of this work, the asphalt section of the Division of Tests is now prepared to make all regular tests of asphalt without the necessity of forwarding any of these samples to a commercial laboratory.

Bituminous concrete which was used in considerable quantities in the State during 1936 has been inspected and tested by representatives of the laboratory at the plants at which it has been manufactured. This work was previously done by a commercial laboratory but under the new arrangement was handled by our own Division of Tests except at one small plant where the change will be made at the expiration of the present contract. All constituent materials were sampled and tested and the finished product approved by an inspector at the plant who was present during all times that the bituminous concrete was being manufactured. This method has been in effect only during the latter half of the year but it is evident that in this manner a closer control is possible at no increase in the inspection costs.

A Soil Laboratory was added to the Division of Tests in 1935 to control the materials used in the construction and maintenance of the secondary roads which were added to the State system at that time. The purpose of this laboratory is to advise the construction and maintenance forces as to the most efficient and economic use of available local materials such as sand, clay, top soil and gravel. By a study of these materials, which is made possible by tests on individual samples, it has been found possible to construct and maintain, at a relatively low cost, sand-clay roads, stabilized earth roads and gravel roads which are serviceable throughout the entire year. Early in the year this laboratory was standardized with the Subgrade Laboratory of the Bureau of Public Roads by means of a series of cooperative tests, and considerable benefit has been derived from the research work which has been carried on by that Department. During the year complete analyses were made of 1,222 samples, over three times the total number of samples of 1935. Various admixtures of these samples were made in the laboratory and tested in addition to the tests on the individual samples. Four hundred and twenty-three (423) samples were obtained from forty-one (41)



OLD PIT METHOD—TAKING TEST SAMPLES FOR SOIL STABILIZATION



NEW PIT METHOD—TAKING TEST SAMPLES FOR SOIL STABILIZATION

borrow pits, bringing the total number of pits tested to date to one hundred and fourteen (114). Six hundred and twenty-six (626) of the samples tested came from the various roads throughout the State. Several roads were tested over their entire length and many short sections of roads were analyzed. Fifteen (15) frost heaves under concrete and asphalt pavement were investigated, forty-eight (48) samples being tested. An intensive study has been made of these frost heaves to obtain data by which areas of subgrades which are sensitive to this phenomenon can be recognized and corrected before the road surface is constructed. A routine method to check the stability of all subgrade on new contracts prior to the construction of the pavement slab is being developed by the Soil Laboratory.

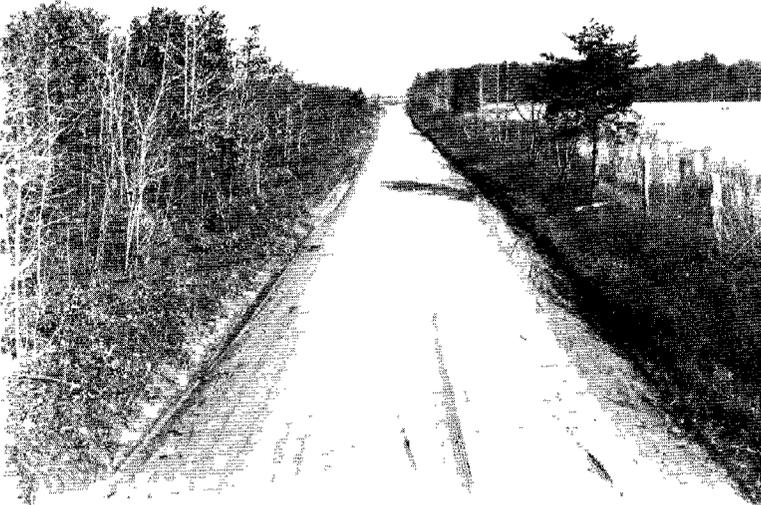
In carrying on the work on secondary roads many wide variations from generally accepted specifications for good materials were found in materials of known good behavior, particularly in New Castle County. This indicates that additional specifications must be formulated to govern the materials available in this locality. For this reason it is thought advisable to undertake an investigation of the best locations on present dirt roads throughout the State. To this end two hundred and eighty-six (286) samples have been already obtained from ninety-two (92) of these locations. From the test results of these samples it will be possible to obtain much local information which has been greatly needed in the past and will be of value to the construction and maintenance forces in the future. Work on these samples will be carried on throughout the winter months as the opportunity presents itself.

Nearly all of the borrow pits in use throughout the State have now been tested and during the coming year it will be possible to devote more time to the individual roads which need attention.

Considerable work has been done in the laboratory on the testing of headlamps, rear signal lamps, license plate lamps, combination rear lamps, directional signal devices



KENT COUNTY—A TYPICAL DIRT ROAD BEFORE STABILIZATION



KENT COUNTY—A TYPICAL DIRT ROAD AFTER STABILIZATION

and truck flares submitted for approval of the Motor Vehicle Commissioner for use on motor vehicles. The Motor Vehicle Law requires that all of these devices be approved by the Motor Vehicle Commissioner before being offered for sale in the State either separately or as a part of a complete car or truck. While the laboratory is not fully equipped for this type of work, it has been possible to generally supervise the quality of these samples and to recommend against the approval of any which would not be dependable in service. The Eastern Conference of Motor Vehicle Administrators, on which the Testing Engineer is one of the representatives of this State, is carrying on a program of work toward the coordination of the various State requirements governing these devices with a view toward securing uniformity for this section of the country. The contact which has been maintained with this organization has been of assistance in the work which has been done in this laboratory.

During the year the Division of Tests made complete determinations on a total of 3,029 samples of all types of materials. In addition to this laboratory work, routine inspection was maintained on all materials of construction.

CONSTRUCTION

Thirteen (13) road and bridge letting contracts were held during the year, comprising eighty-four (84) contracts which were divided as follows:

- 27 Complete roadway contracts
 - 9 Concrete road widening contracts
 - 1 Separated grade crossing contract
 - 5 Major bridge contracts
- 15 Creosoted timber bridge contracts
 - 2 Bridge repair contracts
 - 1 Gravel surfacing contract
 - 1 Fencing contract
 - 2 Dual parkway landscape contracts
 - 1 Police Station contract



NEW CASTLE COUNTY—HOWELL'S SCHOOL ROAD—TRAFFIC BOUND SLAG STABILIZED WITH CALCIUM CHLORIDE

- 3 Garage shed contracts
- 1 State-wide surface treatment contract
- 1 State-wide stone chips contract
- Miscellaneous contracts for oil, grease, seed, et cetera

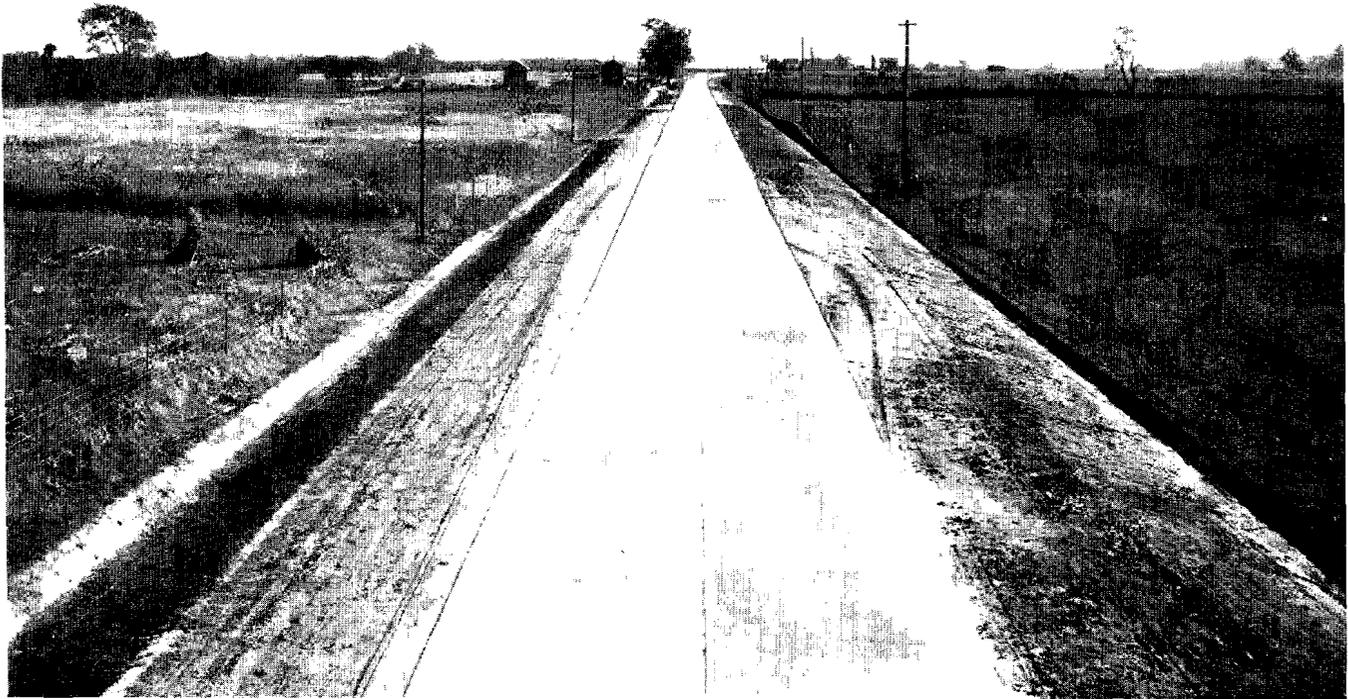
Proposals were received from four hundred and five (405) bidders on the above contracts—an average of four (4) per contract. The total contract bids for the projects amounted to \$2,475,716.21.

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

- 2.044 mi. 40-ft. concrete pavement
- 5.034 mi. 22-ft. concrete pavement
- 5.032 mi. 20-ft. concrete pavement
- 4.070 mi. 20-ft. concrete pavement (dual)
- 3.892 mi. 10-ft. concrete pavement
- 66.65 mi. 4-ft.-8-in. concrete pavement (widening)
- 6.526 mi. concrete sidewalks
- 8.053 mi. 16-ft. traffic slag or stone
- 17.583 mi. 12-ft. traffic slag or stone
- 9.660 mi. bituminous concrete on concrete base
- 8.475 mi. bituminous concrete on macadam base
- 4.395 mi. fencing
- 4.715 mi. dual parkway landscape contracts
- 265.0 mi. State-wide surface treatment

In addition to the above, 1935 uncompleted contracts carried on in this year's construction were as follows:

- .60 mi. 20-ft. concrete pavement
- .05 mi. 16-ft. concrete pavement
- 4.208 mi. 16-ft. traffic slag
- 24.354 mi. 12-ft. traffic slag
- 5.835 mi. major grading contracts
- .434 mi. sidewalk contracts



NEW CASTLE COUNTY—SUMMIT BRIDGE TO GLASGOW

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

- 0.523 mi. 40-ft. concrete pavement
- 5.645 mi. 20-ft. concrete pavement
- 4.070 mi. 20-ft. concrete pavement (dual)
- 0.50 mi. 16-ft. concrete pavement
- 66.65 mi. 4-ft.-8-in. concrete pavement widening
- 2.543 mi. bituminous concrete on concrete base
- 2.498 mi. bituminous concrete on stone base
- 9.661 mi. 16-ft. traffic slag
- 24.353 mi. 12-ft. traffic slag
- 3.412 mi. concrete sidewalk

The mileage of contracts and types advertised and awarded this year to be carried into the 1937 season is as follows:

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

The past construction year was nearly a four hundred per cent increase over the year 1935, when total low bids for construction in that year amounted to \$506,079.96. The poor season of 1935 was due to governmental difficulties in approving rules and regulations controlling the work.

It was late in 1935 that rules and regulations, subsequent revisions in labor provisions, and State agreements were approved. The first of these contracts under the new regulations came out too late for completion in 1935 and were carried over into the 1936 construction season. In rapid succession, during the early part of 1936, contracts were advertised and awarded and men were put to work in



KENT COUNTY—CURB AND WIDENING OF SOUTH STATE STREET, DOVER

all parts of the State. This was evidenced by a comparison of the men employed on highway work during 1935 and 1936. In 1935 the average of men employed on the highways averaged about three hundred (300) per week with a peak of employment of seven hundred and twenty-four (724) men during this maximum week. This compares with an average during 1936 of better than six hundred and twenty-five (625) men per week with the maximum peak week of 1,220 men during the week of June 13.

The major portion of this year's construction has shown a tendency towards the widening of existing concrete roadways both on the main system and on important secondary concrete roadways. Nearly sixty-seven (67) miles of widening were completed. Included among them was the road from Milford to Rehoboth, Blackbird to Middletown, Mt. Pleasant to Tybout's Corner, Georgetown to Lewes, Georgetown to Laurel, and Bridgeville to Maryland Line. All of these, by the addition of the widening strip, have made for safer and wider roadways to accommodate the increasing traffic.

The building of secondary roads, or low-type roadways of traffic bound slag or stone, has still held the attention of the Department. Twenty-nine (29) miles of this type were completed this year, and twenty-one (21) miles are in the course of construction. The importance that this type of road is to play in future highway programs is evidenced by the liberal Federal Government allotments to states for future development of this type of secondary roads. These roads can be built on an average of \$3,500 per mile, and in a majority of cases will accommodate traffic with a limited maintenance cost. If increasing traffic justified an improvement, a higher type surface can be built without a substantial loss in the initial investment.

This year saw the completion of the last link in the dual roadway on U. S. 40 from State Road to the Maryland Line near Glasgow. The two most heavily travelled roads

in the State—Wilmington to Dover and State Road to the Maryland Line, rank among the best dual roadways in this country in design, traffic movement, and safety.

An important improvement was the building of the concrete road from Summit Bridge to Glasgow. This replaces an old narrow macadam road, mostly used by traffic from Newark and Baltimore to points down the State. Eventually this road will continue on to Newark and replace the existing dangerous road with its many curves and narrow shoulders.

Another important roadway improvement was the improvement of Delaware Street, New Castle. This roadway, with the new overhead bridge which was recently constructed, has made for safety on a heavily travelled road.

Other important roadways under construction are the Hare's Corner to New Castle, Cranston Heights to Brandywine Sanatorium, and the Stanton to Newport road.

The paving of the Holly Oak to Claymont link on the Northeast Boulevard will be completed early next summer and will be a benefit to a fast growing community.

The resurfacing of State Street, Dover, the widening of its north and south approaches, and the building of the Little Creek to Port Mahon roadway were important construction additions in Kent County. Silver Lake Bridge, Dover, now under construction, will replace a dangerous bridge.

In Sussex County the widening of fifty-two (52) miles of concrete roadway was the major improvement. Under construction is the widening and resurfacing of the present roadway from Millsboro to Harmon's School—long needed for the accommodation of summer traffic to pleasure resorts.

The building of sidewalks in urban locations, especially in school vicinities, is being recognized more than ever as a safety measure. This year the Department has advertised

and has under construction 6.5 miles of such sidewalks—making a total of 44.5 miles built to date. Delaware is one of the few states that has carried on an active program in this important feature of road work.

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

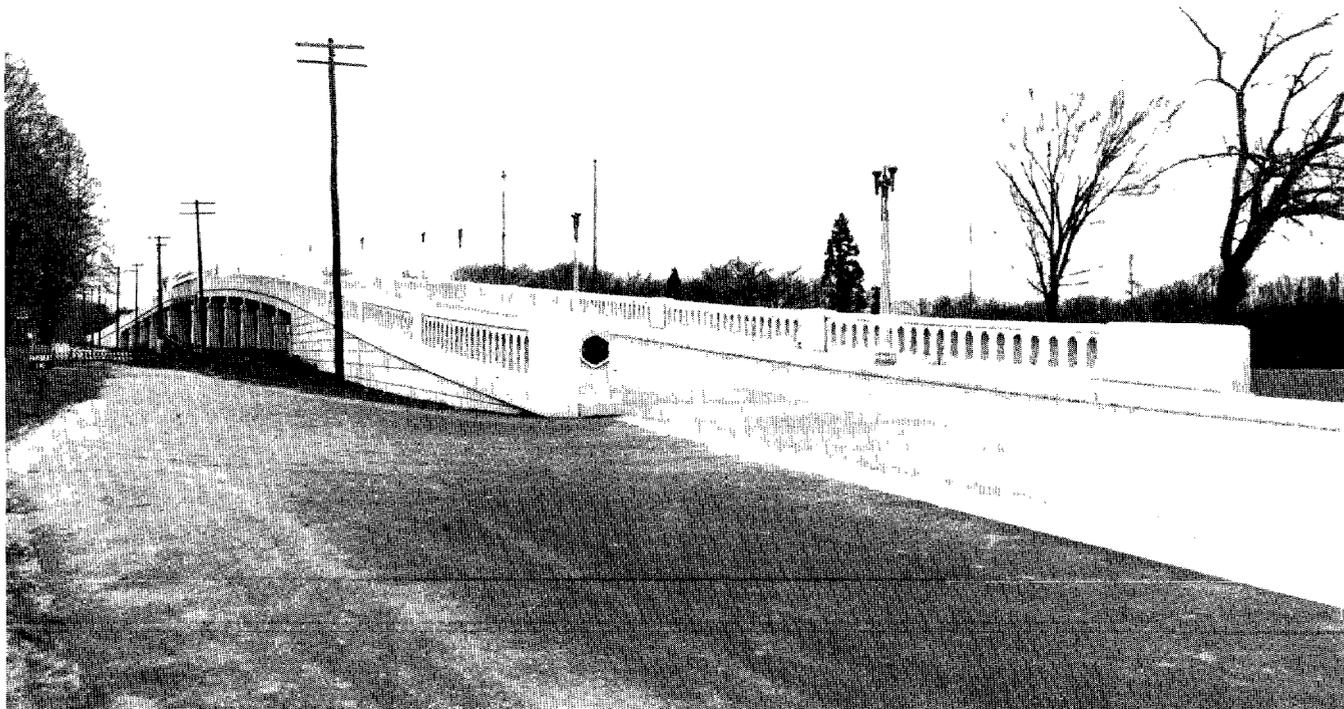
RIGHT OF WAY DIVISION

During the year ending November 30, 1936, the Right of Way Division secured right of way on road projects having a total mileage of 80.419 miles. Other work of the division consisted of purchasing numerous borrow pits, several sites for State buildings, the contacting of 594 property owners, the writing of 588 descriptions, obtaining 597 options, and securing the execution of 571 deeds and 388 releases. The Right of Way Division also conducted the hearing of condemnation commissions and two condemnation juries. Construction work necessitated the moving of twenty-six (26) houses and other miscellaneous smaller buildings.

BRIDGE DIVISION

Two important bridges were completed during the year, plans for which were prepared by the Bridge Division. Both of these were Pennsylvania Railroad grade crossing elimination structures and as required by State law the contracts were let by the railroad company. Inspection and engineering supervision were jointly carried on by the engineers of the Pennsylvania Railroad and the Department.

A concrete and steel structure with a forty-four (44) foot roadway and two (2) five (5) foot sidewalks replaced a narrow, inadequate timber bridge on U. S. Route 40 at New Castle and not only removed a dangerous bottleneck but greatly improved the appearance of the approach to the town. The cost of the bridge and approaches was \$83,500 which was financed entirely with Federal funds.



NEW CASTLE COUNTY—GRADE SEPARATION OF THE PENNSYLVANIA RAILROAD MAINLINE INTERSECTION WITH THE NEWARK-GLASGOW HIGHWAY AT NEWARK

On December 31, 1936, the grade crossing at South College Avenue, Newark, was closed and traffic diverted to the new overhead bridge over the main line of the Pennsylvania Railroad. This fine structure has a central span of eighty (80) foot steel girders with a vertical clearance of twenty-three (23) feet from the top of rail, which, with eleven (11) approach spans of forty-four (44) feet each, and approach retaining walls, make the total length about fifteen hundred (1500) feet. The total cost of this improvement, exclusive of right of way, was approximately \$120,000.00.

This grade crossing elimination is the first to be completed in Delaware under the Federal Works Program plan and permanently eliminates the hazards and delays which the high-speed electric train operation caused at this crossing.

Plans for the elimination of the grade crossings of the Pennsylvania and Reading railroads on the South Market Street Causeway, Wilmington, U. S. Route 13, have been prepared by the Chief Engineer of the Pennsylvania Railroad. They have been checked by the Department's Bridge Engineer and forwarded to the Bureau of Public Roads for approval.

This design calls for a reinforced concrete structure with two-way reinforced flat slabs, supported by reinforced concrete columns, the column footings resting on concrete piles.

A forty-four (44) foot roadway with two (2) five (5) foot sidewalks will provide ample facilities for traffic.

The total length of the bridge and approaches will be seventeen hundred (1700) feet and the estimated total cost, exclusive of right of way and damages, is estimated at \$275,000.00. Federal funds are available for this project, without cost to the State or railroads except for rights of way.



**KENT COUNTY—BEFORE AND AFTER POURING A CONCRETE TIMBER
COMPOSITE BRIDGE ACROSS MILL CREEK**

The completion of this project will eliminate for all time crossings where numerous fatal accidents have occurred and the tedious delays to which traffic on this most important route is often subjected.

It is hoped to have this work under contract early in the year, but a ruling of the Federal Bureau that on all future work contracts must be let directly by the State may require an amendment of the State Highway Act before this project can be advertised for bids.

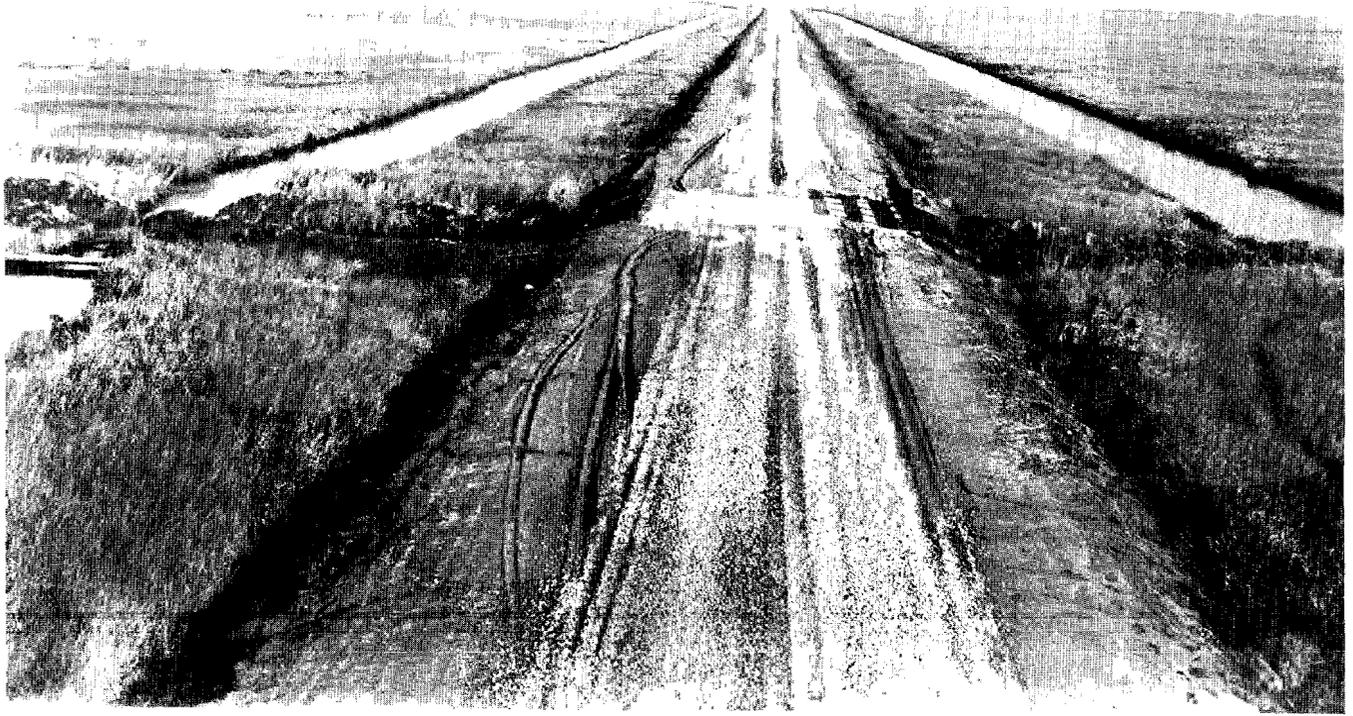
Other important bridges placed under contract during the year are:

The Christiana Bridge at Christiana, a sixty (60) foot I-beam span with stone masonry facing, replaces the old steel swing span, and eliminates one of the few narrow bridges on our State system.

The Vine's Creek Bridge in Sussex County, and the Mill Creek Bridge at Smyrna are examples of unusual construction, and likewise replace narrow obsolescent structures.

The Mill Creek Bridge consists of a concrete floor and railings supported by a creosoted timber pile foundation and a laminated creosoted timber floor. It is of a new and very economical design and its serviceability will be watched with interest by the Department's engineers.

Another important bridge for which the contract was awarded late in the year was the Silver Lake Bridge on U. S. Route 13 approaching Dover. Plans were prepared by the Department engineers, with Mr. E. William Martin, A. I. A., as consulting architect. After several studies were made, a bridge one hundred and fifty-five (155) feet in length with three (3) twenty-six (26) foot arches was decided upon. The design calls for a brick veneer over reinforced concrete with a white marble balustrade. Ample roadway is provided for four (4) lanes of traffic with sidewalks on either side.



KENT COUNTY—TWO MILES OF CAUSEWAY CONNECTING DEEP WATER AT PORT MAHON ON DELAWARE RIVER WITH THE MAIN LAND

A very pleasing design has resulted which I believe will be generally admired and will fittingly mark the entrance to the Capital City of the State. There will also result a marked improvement in traffic conditions on its completion; during construction traffic will be diverted over a temporary bridge. The contract price for the complete bridge is \$48,350.00. It is expected to be finished by the early summer.

Designs were prepared for many other smaller structures included in highway contracts. Plans were also prepared and contracts awarded for several buildings, including a new police station at Georgetown, a garage at Kiamensi, a garage at Georgetown and an addition to the garage at Dover. The total cost of these buildings was \$24,250.00.

MAINTENANCE

The months of January, February and March, 1936, subjected the roads of the State to the most severe tests that they have yet received. With the ground saturated with water by the early January thaws and rains, there came a period of extreme cold which froze the ground to a depth of from twenty-four (24) to thirty (30) inches and caused frost boils and heaving pavements in all parts of the State, a unique experience in Delaware.

With warmer weather the thawing subgrade became almost liquid, having little supporting power, and the lighter types of road surfaces failed completely in spots, while all types of pavements suffered considerable damage.

In Kent and Sussex Counties, the melting snow and rain flooded the dirt roads in certain sections to an extent previously unknown, some of these roads being flooded and impassable for more than a month. Although the dirt roads were quickly placed in shape, the surfaced roads required patching and repairing far in excess of any previous year.



SUSSEX COUNTY—STABILIZED DIRT ROADS USING SELECTED SOILS

The condition of several sections of the bituminous treated roads was such that scarification and further stabilization and retreatment was necessary. This required the most extensive surface-treatment program we have ever undertaken, since many roads demanded surfacing that would not otherwise have been required for several years. These unusual conditions are reflected in a substantial increase in the cost of maintenance.

As a result of the past year's experience, a large amount of ditching has been done to improve the drainage along the highways. In this work a great deal of helpful cooperation has been secured from the W. P. A., the C. C. C. and private owners. The continuation of drainage work by these agencies will be very helpful in many localities.

The routine work of maintenance, pouring cracks, patching the surface of the various types of pavements, the care of shoulders, ditches, culverts, and bridges, the mowing and brambling of rights of way, the collection of refuse, the painting of traffic lines, the repair and maintenance of traffic signals and warning signs, the planting, spraying and care of trees and shrubbery, has continued steadily throughout the year and has been carried on thoroughly and efficiently. As a result the system in general is in excellent condition.

Owing to the unusual amount of heaving and cracking of the past winter, a large program for the removal and replacement of broken and uneven sections of pavement has been carried on, with a resulting improvement in the riding qualities of some of the older pavements.

It was formerly the universal practice to construct concrete headwalls at the ends of pipes and culverts crossing the highway as a warning to prevent drivers running into the ditches; time has shown not only that these barriers were of no value but instead they constituted a serious hazard. During the year the maintenance forces have removed a large number of these obstructions on the main



SUSSEX COUNTY—DIRT ROAD BEFORE AND AFTER STRAIGHTENING
WITH STATE FORCES

highways, greatly improving the appearance of the highway as well as adding much to the safety of the traveling public.

The improvement of the roadside by the planting and sodding of slopes and banks has been continued by the maintenance departments on a somewhat reduced scale, owing to the more urgent demands for necessary repairs.

The total cost of maintenance on the State system for the twelve months ending December 31, 1936, was \$483,283.98, or an average cost of \$408.88 per mile, of which \$33,212.93 was for plant and equipment. There was spent on the county system during the same period, \$547,961.45, or an average of \$204.31 per mile, of which \$22,436.42 was for new equipment.

COUNTY HIGHWAYS

As described in last year's report, the Department took over all roads formerly in the county systems on July 1, 1935. During the calendar year of 1936 the Department has continued the methods outlined in the report for 1935 with some slight changes and modifications. Frequent blading and periodical reshaping, with an extensive program of ditching and drainage, have made possible the maintenance of a good riding surface on most of the dirt roads throughout the greater part of the year.

The heavy freezing of January and February, 1936, destroyed practically all of the vitrified culvert pipe, and the resultant heaving made necessary the replacement of a large amount of corrugated metal pipe that otherwise might have remained for several years. New reinforced concrete pipe placed during the year in Kent County alone amounted to 12,398 lineal feet. There still remains a large amount of inadequate or badly rusted metal pipe which will have to be replaced during the next two years.

More than fifty (50) creosoted timber bridges have been built during the year on the county system, which, together with the thirty-six (36) constructed last year, take care of most of the more urgent cases and will allow a considerable reduction in the bridge program during the coming year. With the drainage and structures taken care of, the further improvement of the road surface will be the next step toward the solution of the dirt road question.

Although the improvement of twenty-one hundred (2100) miles of dirt road is not a problem which is of easy solution nor one which will be accomplished immediately, it is not beyond the range of possibility that the greater part of this mileage may within a few years be made passable throughout the entire season.

If this is to be done it must be by the application of scientific soil testing and stabilization to local materials and their full development. Already about thirty (30) pits which show material suitable for this work have been located and tested by the Soil Laboratory. Unfortunately some sections are almost lacking in known deposits but further searching will undoubtedly develop others.

During the fall and early winter an emergency program was carried out with the assistance of the U. S. Mail-carriers. These men in covering their routes daily throughout the year gain an intimate knowledge of the "bad spots." In company with the Department's maintenance men they have covered hundreds of miles of dirt road in the State and have pointed out the stretches which become impassable in winter; these have been staked out and many miles of such locations have been covered with sand, gravel or stabilized material. These improvements will help to carry the mail carriers, bus drivers, milk truckers and other travelers through the winter roads with much less trouble than formerly. We have received many expressions of appreciation of the results already accomplished.

A large number of suggestions and complaints are received from interested citizens; a record is made of each one as it is received. Each one is investigated and such action is taken as circumstances warrant.

SNOW REMOVAL

The heavy snows of a year ago thoroughly tested the snow removal equipment and plans of the Department, and demonstrated, I believe, that any snowfall that may reasonably be expected will be removed promptly and efficiently. The Department received many commendations of its snow removal work during the winter of 1935-36.

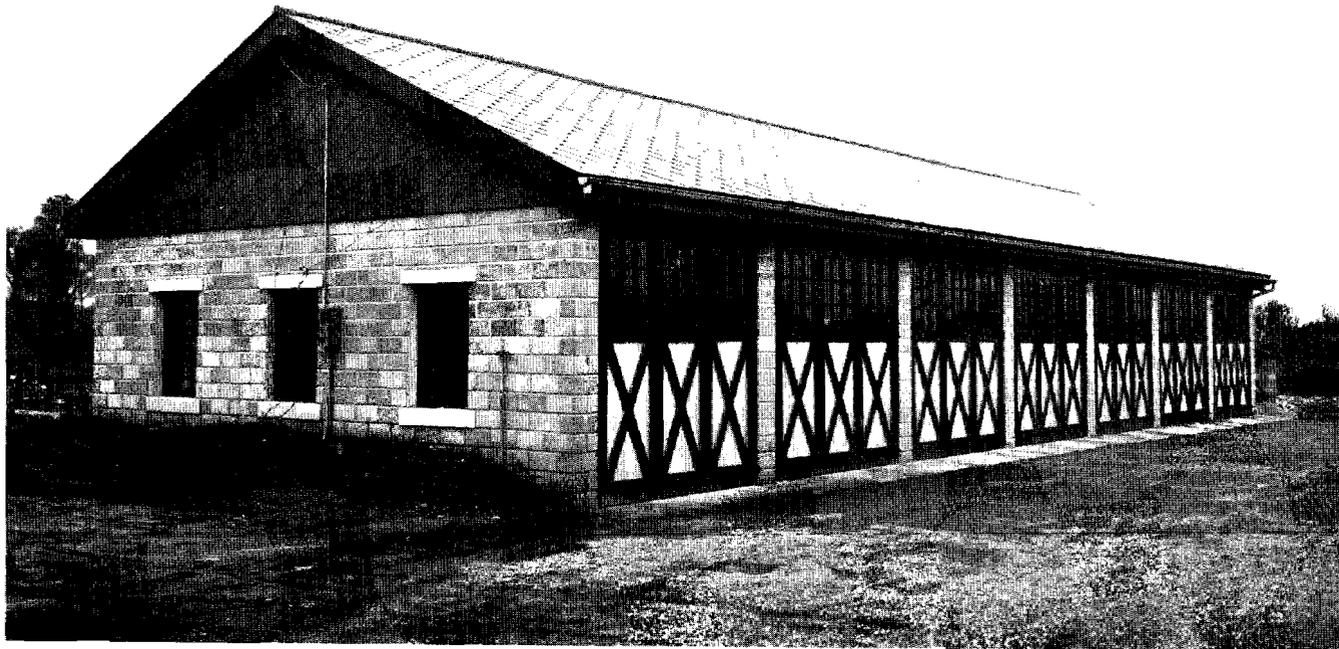
Some additional snow fence has been erected, a few new plows have been purchased, and the maintenance forces are ready to move out at the first fall of snow to carry out their work in accordance with carefully arranged schedules. The Department has twenty-five (25) large four-wheel drive trucks which are held in reserve to break through the drifts, which the lighter trucks cannot successfully handle.

PLANT AND EQUIPMENT

Our maintenance plant and equipment was never so complete or in such good condition as at the present time.

In order to provide additional space to house equipment required for county road maintenance, new storage sheds were constructed at Kiamensi and Georgetown and an addition built to the Dover garage. A storage shed was purchased at Odessa.

General equipment, trucks, snow plows, tractors, graders, mowers, air compressors, tar kettles, mixers, pumps, garage tools and appliances, as well as small tools, are reasonably adequate for efficient work and will require little outlay for some time except for replacement.



NEW TRUCK STORAGE SHED AT KIAMENSI

I recommend that consideration be given to the purchase of a power shovel for each of the counties for the economical loading of sand and gravel.

At the headquarters garage at Dover, a paint booth, a cleaning bath and the necessary equipment to efficiently reclaim and repaint all highway signs that require refinishing have been installed. As rapidly as signs are collected, they are sent to Dover, straightened, thoroughly cleaned and then painted at a considerable saving in cost to the Department.

CITY AND SUBURBAN STREETS

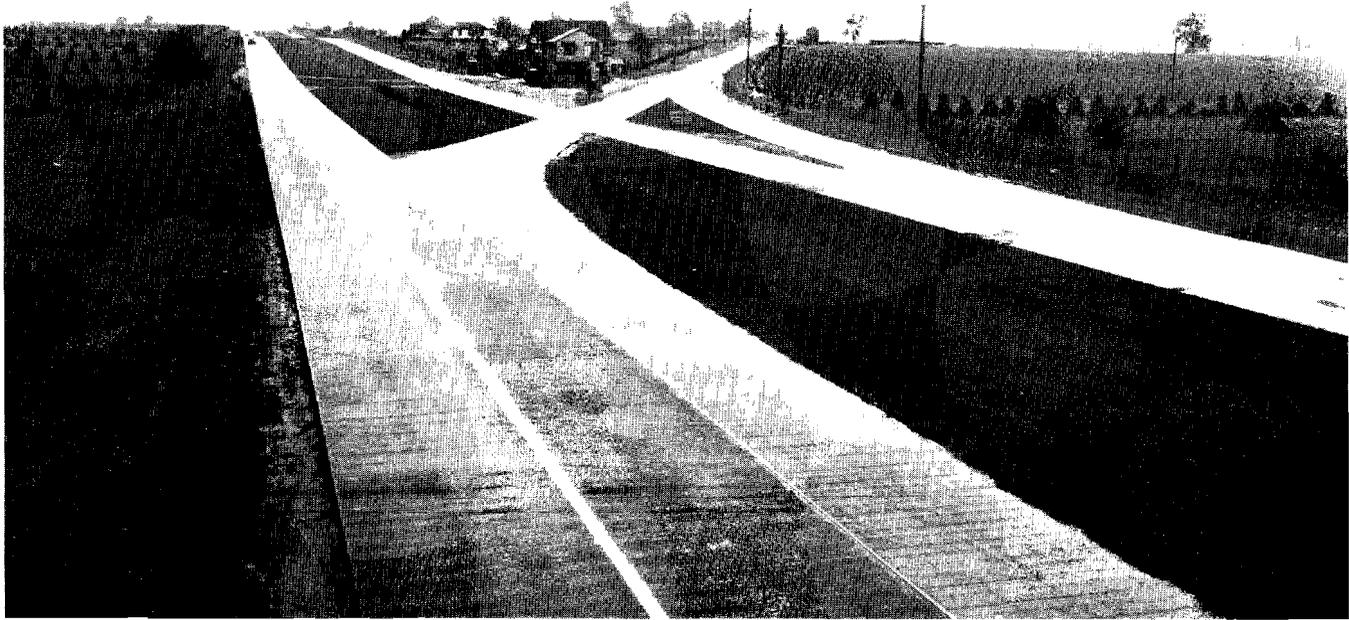
At the request of City officials, 5.06 miles of streets in the City of Wilmington were taken over early in the spring by the Department for construction and maintenance.

The pavement surfaces damaged by the winter's traffic were patched and repaired, bumps were removed and low spots filled, so that a general improvement in the riding qualities of the streets was secured. The total cost for the year of this work was \$6,651.10.

I would recommend that other streets forming connecting links for through traffic within the City be taken over from time to time.

Grouped about the City of Wilmington are a large number of unincorporated communities. Their streets are in all stages of improvement and present a difficult maintenance problem to the Department. During the year all of these streets have been scraped and maintained and twenty (20) miles were oiled. Although a general improvement has resulted, much remains to be done.

Another problem in the vicinity of Wilmington, brought about by the opening of new real estate developments, is the requests that the State take over the maintenance of



NEW CASTLE COUNTY—WIDENING OF INTERSECTION AT TYBOU'S CORNER ON ROUTE NO. 13

the streets. Some of the development companies have constructed surfaced streets with curbs, gutters and sidewalks; others have made no improvements whatever.

I recommend that the Department adopt standards of improvement for such developments, which must be met before taking over such streets as public highways, to be maintained at the expense of the State.

ROADSIDE DEVELOPMENT

Two contracts were awarded during the year for roadside planting. The sections chosen for development were on the Coleman duPont Boulevard, one extending from above Drawyer's Creek to a point below Odessa, and from St. George's to Dragon Run, the other near Garrison's Lake between Dover and Smyrna. The total cost of these projects was \$15,923.15, which was paid from Federal funds without State participation.

There will be available for further planting in 1937, \$13,504.65 from Works Progress funds, an outright grant, and \$8,408.00 from Federal Aid funds. This latter amount must be matched with State money.

WIDENING HIGHWAYS

Two hundred and twenty-eight (228) miles of pavements originally built fourteen (14) to sixteen (16) feet in width have been widened during recent years; contracts for widening sixty-eight (68) miles were undertaken in 1936. There still remains a considerable mileage on which the traffic is sufficient, in the interest of convenience and safety, to justify a continuation of this program.

Of those most needing immediate attention, I would mention: Corbit Station to Christiana to Newark, Newark to the Maryland Line, and New Castle to Wilmington River Road in New Castle County; Smyrna to Kenton to Hartly to Maryland Line, Milford to Harrington to Burrsville, and



NEW CASTLE COUNTY—LANCASTER AVENUE NEAR CLEVELAND AVENUE, WILMINGTON

Dover to Pearson's corner in Kent County; Georgetown to duPont Road, Bridgeville to Atlanta to Maryland Line, Greenwood to Milford, Harmon's School to Midway, Dagsboro to Clarksville in Sussex County.

REHOBOTH AND BETHANY BEACH GROINS

As directed by the General Assembly, the Department constructed a system of groins at Rehoboth and Bethany Beach for the protection of the shore fronts of these resorts.

They were completed in the spring of 1935. The beneficial results of this work are evident to any careful observer.

At Rehoboth the old timber groins were carefully repaired, but recent inspections indicate that storm and ice have damaged the ocean ends, and decay, the shore portions, to such an extent that replacement rather than further repair is largely necessary. I recommend that funds be made available for the construction of four new groins, one at Rehoboth Avenue, one at Surf Avenue, one at the north end of Deauville Beach and a fourth about five hundred feet further northward. Unless this work is carried out, I believe that the most popular stretches of the beach will be seriously damaged during the next two years.

The beach at Bethany has shown great improvement since the construction of the groins in 1935, and between the present groins is believed to be in better condition than at any time during the past ten years. However, in order to give proper protection, other groins both north and south of those existing are required, and I would recommend that funds sufficient to construct four additional groins at Bethany Beach be provided by the General Assembly.

OCEAN HIGHWAY

The Ocean Highway between Rehoboth and Bethany Beach was closed but one day following the severe September storm. The dykes and sand fences protecting it have



SUSSEX COUNTY—CIVIC ORGANIZATIONS CARE FOR TREES AND SHRUBS—HIGHWAY DEPARTMENT CUTS GRASS ON THESE PLANTING STRIPS AT ENTRANCES TO TOWNS

been restored and strengthened. The appreciation of the opportunities for fishing, crabbing, boating and bathing which this road supplies is indicated by its increasing use.

In anticipation of the extension of the road, sand fences have been in place between Bethany Beach and Fenwick Island for more than a year and considerable protection has accumulated.

I recommend that the continuation of the Ocean Highway to Fenwick Island be made a part of the 1937 program.

OTHER EXPENDITURES

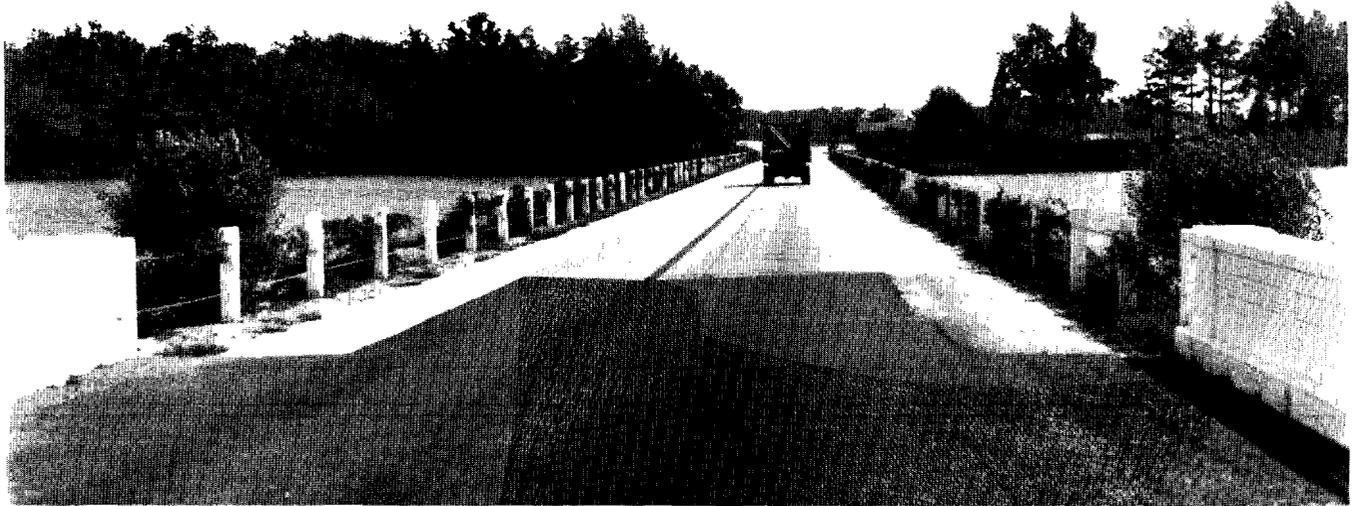
The 105th General Assembly passed three Acts which added to the annual expenditures of the State Highway Department, viz.: Chapter 44, Volume 40, provides that there be paid out of the funds of the Department the expenses of the Motor Vehicle Department to the amount of \$88,500.00.

Chapter 21 requires the payment of maturing county highway bonds from the moneys of the Department, which amounted in 1936 to \$186,500.00.

Chapter 107 transferred all roads and streets formerly under the control of the Levy Courts of the counties to the control of the State Highway Department. There was expended on the maintenance of these roads during 1936 the sum of \$547,961.45.

The total of these added obligations for the year was \$822,961.45.

Chapter 41 provided further an additional one-cent tax on motor fuel which in 1936 added \$435,626.68 to the funds of the Department. It will be noted, however, that the net result of this legislation was to reduce the funds available for new construction by the amount of \$387,334.77.



SUSSEX COUNTY—RAMBLER ROSES ON THE CAUSEWAY ACROSS WAPLES POND ON THE REHOBOTH ROAD

Another Act, Chapter 14, provided for a loan to the General Fund, should the need arise, not to exceed \$600,000.00 during the biennium. No funds were transferred under this Act.

FEDERAL AID

The appropriation of \$900,310.00 to Delaware by the Federal Government, under the Emergency Relief Act of 1935, has been largely expended or is under contract.

Under the Hayden Cartwright Act, there was also appropriated \$609,375.00 regular Federal Aid, for each of the fiscal years of 1936 and 1937. The remainder of these funds, a total of \$849,769.21, is unexpended and must be matched with State funds.

On June 16, 1936, an Act was approved amending the Federal Aid Highway Act and providing funds for the construction of highways and the elimination of hazards at railroad grade crossings for the fiscal year ending June 30, 1938 and 1939. From this apportionment Delaware will receive each year \$625,000.00 for regular Federal Aid projects, \$125,000.00 for secondary or feeder roads, and \$250,000.00 for the elimination of hazards at railroad grade crossings.

With the exception of certain engineering expenses and the cost of property damage, the grade crossing elimination work requires no outlay by the State.

The allotments for highways, totalling \$750,000.00 a year, however, must be matched dollar for dollar with State funds; which, with engineering and other costs that must be borne by the State, makes it necessary to provide approximately \$825,000.00 for each of the two years of the next biennium if Federal Aid funds are to be absorbed.

STATE POLICE

Determined to maintain the excellent record of 1935, when Delaware's score was one of the best in the country and a reduction of thirteen (13) per cent in fatalities under the previous year was recorded, the State Police waged an active war against the reckless motorists using the highways of the State. All previous records for miles patrolled, arrests made, stolen cars recovered, and trucks weighed, were broken.

Arrests for reckless driving totalled 2,416, or fifty-eight (58) per cent more than the previous year.

Notwithstanding the extra efforts put forth by the force there was a slight increase in reported accidents, 843 to 902, while the fatalities increased from 60 to 61. In the face of a 15 per cent increase in gasoline consumption in the State, the result, while by no means satisfactory, compares favorably with that of the nation at large.

Briefly, the officers of the force during 1936 made 7,160 arrests, issued 32,827 reprimands, weighed 51,681 trucks, covered 1,211,989 miles in patrol duty, inspected 18,116 cars for defective lights and brakes, recovered 108 stolen cars, spent 182,915 hours on duty, 7,549 hours in investigation, 14,118 on special duty, secured convictions resulting in fines totalling \$66,059.70, and addressed 6,500 school children on Highway Safety.

I wish here to commend the Superintendent and the officers of the force for the excellence of the year's record.

A complete tabulation of arrests and of accidents with their cause is appended. A study of the charges will indicate the wide range of the activities of the force.

While seventy-seven (77) per cent of the arrests were for motor vehicle violations, sixteen hundred and sixty-six (1666) arrests were made on sixty-three (63) different charges of violation of the criminal laws of the State.

Over thirteen hundred (1300) finger prints were received and filed during the year, and several important identifications of persons wanted in other states were made through this bureau. Some were identified after death by their fingerprints. The most notable was the capture of the Thomy boys by Private Workman and their subsequent conviction for counterfeiting by the Department of Justice.

The installation of a radio broadcasting station at Station No. 2 has demonstrated the worth of radio communication for State Police work. Not only can the commanding officers keep in almost instant touch with their men while on patrol and thus save much valuable time, but many captures can be made which lack of communication otherwise would prevent.

I would recommend that after careful study the system be enlarged to cover the entire State.

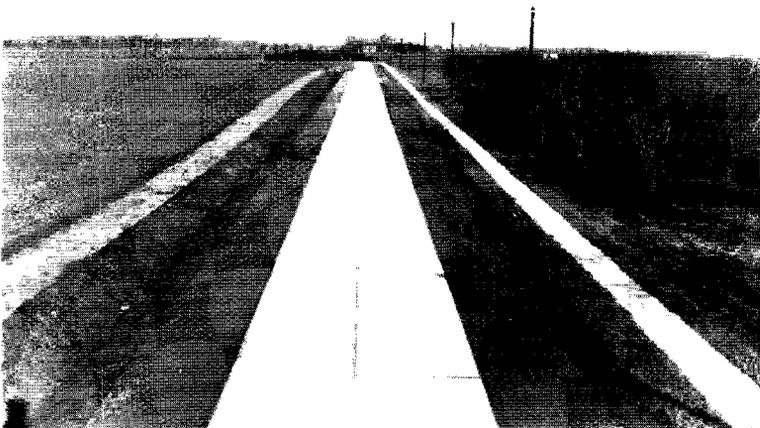
The peak of automobile fatalities came in October when seventeen (17) deaths were reported. An analysis of these fatalities showed that the majority occurred between 11 P. M. and 4 A. M., that forty-seven (47) per cent of the operators were between sixteen (16) and twenty-five (25) years of age and that the causes were combinations of speed and drinking. With these facts at hand, night patrols were increased with instructions to concentrate in and around tap rooms and roadhouses; this action, with the cooperation of the Motor Vehicle Department and the press, has apparently had a beneficial effect.

A contract has been let for the erection of a modern and adequate police station at Georgetown and plans are being drawn for a new building at Bridgeville. With the completion of these buildings the entire force will be housed in up-to-date, well-equipped quarters.

The worth of the State Police to the people of Delaware cannot be evaluated, and although the fines collected, and the value of stolen property recovered, total a substantial amount, there is abundant evidence that the protection



**NEW CASTLE COUNTY—ENTRANCE TO EXPERIMENTAL STATION
UNIVERSITY OF DELAWARE**



afforded rural residents of the State and the assurance that police assistance is available at short notice both day and night are highly appreciated by our citizens, even though the value cannot be computed in dollars and cents.

A police school with two hundred and fifty-five (255) applicants was opened on May 11, 1936. Twenty (20) men completed the prescribed course of instruction and twelve (12) were appointed to the force. There is now a full complement of men at each station.

On December 31st the force was assigned for duty as follows:

Wilmington headquarters: Superintendent, Captain, Lieutenant, Statistician and Clerk.

Station No. 1, Penny Hill: Sergeant, 2 Corporals and 12 Privates.

Station No. 2, State Road: Sergeant, 2 Corporals and 13 Privates.

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

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

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

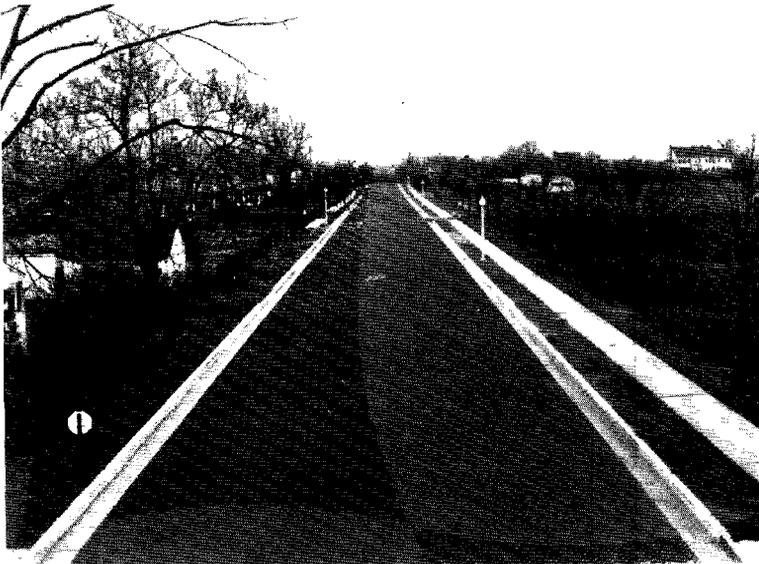
Dover Garage: 2 Mechanics.

POLICE PENSIONS

Recognizing that before many years certain members of the State Police force will become unfit for active duty, through age, accident or illness, the Department has been making a study of police pension systems of various states. I believe that in the interest of Department efficiency and in recognition of the hazardous nature of the duties required, that legislative consideration should be given to an Act authorizing the Department to pension members of the force on retirement, after a period of service, or when permanently disabled while on duty.



KENT COUNTY—KENT AVENUE, DOVER



KENT COUNTY—PENNSYLVANIA AVENUE, DOVER

SAFETY

The promotion of safety on the public highways has been one of many discouragements, marked by periods of indifference on the part of the public and press, and by other periods of enthusiastic interest and even hysteria.

The statement is sometimes made that the work of the various organizations and departments, official and private, has produced no tangible results.

In the State of Delaware there is an active and efficient Safety Council with local branches, an interested and cooperative press, an aggressive and independent Motor Vehicle Department, an annual car inspection campaign, the issuance of motor vehicle operators' licenses only after due examination, a Highway Police patrol, equalled in few states, a modern highway system with few danger spots, a greater percentage of dual highways than in any state, and a progressive program of sidewalk construction. Counting all of these factors, one may well ask what has been accomplished for safety.

Appended to this report is a chart showing the gasoline consumption, number of accidents, injuries and fatalities on the highways of Delaware outside of the City of Wilmington for the years 1926-1936, inclusive. It may be noted that there were fifty-eight (58) fatalities on our highways in 1926 and sixty-one (61) in 1936, an increase of three (3) or five and six-tenths (5.6) per cent. During this period, fatalities on the highways of the United States as a whole have increased more than seventy-five (75) per cent. In these same years there has been an increase in gasoline consumption in Delaware of 27,700,000 gallons, or 140.3 per cent. Had the same ratio of fatalities to traffic which existed in 1926 continued to 1936, Delaware would have had approximately one hundred and forty (140) deaths instead of the sixty-one (61) which were actually experienced. This decrease of ratio is the measure of the united efforts of intelligent motorists, car manufacturers,

public spirited citizens, and State and local officials, and the result is such as to encourage these groups to further and more intensive efforts to reduce these shocking accidents.

As elsewhere noted in this report, the seriousness of night accidents is significant. Of the nineteen (19) pedestrians killed at night in 1936, eight (8) were intoxicated, while of the twenty-three (23) operators and passengers killed during the hours of darkness, fourteen (14) were attributed to drinking drivers. In both cases the increased percentage due to drinking was one hundred (100) per cent or more over the previous year.

As a measure to control speed and to promote safety on the highways, I believe legislative consideration might well be given to the plan of zoning all highways with a definite speed limit in accordance with the known hazards and of applying rigid enforcement to compel adherence to the determined speeds. This plan has been tried in several cities and districts with encouraging success.

The analysis of many accident reports and consideration of the results so far achieved leads to the conclusion that a substantial lessening of the present death toll can only be brought about by a reduction of the higher operating speeds, particularly at night, and an awakened sense of responsibility for the rights and lives of others by the individual driver.

To emphasize safety and to ensure proper attendance to those injured along the highways, the Department, in cooperation with the Delaware Red Cross, established First Aid Stations at all State Police stations, and twenty (20) State Police and one hundred and eighty-seven (187) State maintenance men have taken the Standard Red Cross First Aid Course and have received certificates; eighty-two (82) have also qualified for Advanced First Aid. The fact that these men pursued these courses voluntarily at night schools over a period of a month or more speaks well for

their interest in the public welfare. Each maintenance foreman who qualifies for the Advanced Course is furnished a placard by the Red Cross designating his truck as a Mobile First Aid Unit.

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-Conway'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 "
387	Glasgow-Newark	4.50 "
11	Dual Road, Price's Corner to Fourth St. Extended	2.50 "
	Sidewalk: Marshallton west of Red Clay Creek..	.50 "
	Augustine Cut-off thru Alapocas Woods to New Bridge Road	
455	Pine Tree to Naylor's Corner to Taylor's Bridge- Odessa Road	3.00 "
127	Middletown-St. George's-via Jamison's X Roads..	4.00 "
52-128	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 Reservoir	
	Replace Smyth's Bridge	
	Sidewalk through Marshallton .....	.50 "
	Sidewalk, Price's Cor.-Oak Grove, on Capitol Trail	1.00 "
	Sidewalk, Price's Cor.-Workhouse, Greenbank...	.75 "

New Castle County—(Continued)

Road No.		
	Elsmere to Lancaster Pike on S. duPont Road- Sidewalk	
	Sidewalk, Pennsylvania Ave. to duPont Experi- mental Station, Rising Sun Lane	1.00 miles
	Sidewalk, Brandywine Boulevard, Bellefonte ....	.50 "
	Sidewalk, Bellefonte Ave., Philadelphia Pike to Bellefonte .....	.50 "
209	Widening and resurfacing Grubb's Road	4.20 "
212	Widening and resurfacing Silverside Road	4.50 "
11	Widening and resurfacing Lincoln Highway	13.00 "
5-18	Widening Corbit to Newark	10.00 "
435	Choptank Road	5.00 "
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 "
446-447	Road from Townsend-Coldwell Rd. northward near Levels	3.00 "
	Marion Avenue, Bellefonte	
372	Cherry Lane (running east from the Wilming- ton-New Castle Highway) .....	.70 "
389	Iron Hill Road to Baptist Church (Pencader Hundred) .....	.70 "
	Sidewalk, Boxwood Road	
	Rodman Rd. from Brandywine Blvd.-River Rd....	.50 "

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 Hughs 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 "
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 "

Kent County—(Continued)

Road No.		
325	Big Oak to Severson's Church	3.30 miles
189	Hartly-Pierson's Cor.-Marydel Road	2.00 "
	Walks and drives at State College Harrington Rd. connecting Del. Ave. and Dor- man St. via Center St.	

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 "
	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 "
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 Roads-Md. Line	2.00 "
474	Morgan's School 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 School.....	3.00 "
607	Ellendale to Cobaughs	2.75 "

Sussex County—(Continued)

Road No.		
248	Factory Farm to Gravel Hill	2.75 miles
	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	
	North St. from West 3d to Colored School, Milford	
	Church St. from West 4th to Colored Sch., Milford	
	Road from property of Rehoboth Bay Develop-	
	ment Co. known as "Pine Water" running	
	in northwesterly direction to road inter-	
	secting Millsboro-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 "

FINANCIAL STATEMENT

The Secretary has presented a detailed report of the financial transactions for the fiscal year ending June 30, 1936. There is attached a summarized statement of the Income and Expenditures of the Department for the period beginning January 1, 1936, and ending December 31, 1936.

INCOME

Balance December 31, 1935	\$ 546,156.57
Motor Vehicle Fees	1,017,492.70
Titling Fees	51,558.65
Motor Fuel Tax	1,877,160.61
Motor Fuel Dealers and Distributors License	2,672.00
State Police Fines	66,294.29
Federal Aid	698,430.78
Miscellaneous Income	18,593.75
Car Inspection Campaign	5,337.00
Total Income	\$4,283,696.35

EXPENDITURES

Administration	\$ 44,214.42
Fixed Charges:	
Maturities—New Castle County Bonds	95,000.00
Maturities—Kent County Bonds	50,000.00
Maturities—Sussex County Bonds	41,500.00
State Highway Refunding Bond Redemption	85,000.00
Interest—State Highway Dept. Bonds	70,600.00
Interest—New Castle County Bonds	101,180.00
Interest—Kent County Bonds	65,625.00
Interest—Sussex County Bonds	71,842.08
Maintenance	1,031,245.43
Plant and Equipment	57,614.60
State Police	177,554.22
Construction	1,796,185.77
Car Inspection Campaign	14,337.49
Motor Fuel Tax Adjustment	24,388.34
Motor Vehicle Department	88,704.48
Motor Fuel Tax Department	11,697.71
Total Expenditures	\$3,826,689.54
Balance, December 31, 1936	\$ 457,006.81

There were outstanding December 31, 1936, State and Federal highway contracts amounting to \$1,166,327.06, of which the obligations of the State Highway Department amounted to \$489,223.00.

Before concluding this report, I wish to convey to His Excellency, the Governor, the Chairman, and to each member of the Department my whole-hearted appreciation of the confidence they have reposed in me, and of their valued counsel and many courtesies.

To my assistants, including all the employees of the Department, I wish to acknowledge my indebtedness for their able assistance and their loyalty and devotion to the best interests of the Department.

Respectfully submitted,

W. W. MACK
Chief Engineer

ARRESTS FOR THE YEAR 1936

Accessory	2
Adultery	1
Aiding and abetting	2
Allowing body to protrude over side	2
Allowing minor to operate	9
Allowing unlicensed person to operate	110
Allowing unregistered car to be operated	7
Assault	14
Assault and battery	252
Assault felonious	8
Assault to murder	3
Assault to rape	5
Bastardy	2
Breach of Peace	14
Breaking and entering	49
Carrying concealed a deadly weapon	19
Contempt of court	1
Cruelty to Dumb Animals	1
Defective brakes	134
Defraud	1
Desecrating the Sabbath	2
Desertion (Army)	1
Disorderly conduct	219
Displaying another's license	24
Displaying fictitious license	1
Disregarded stop sign	186
Disturbing religious worship	1
Disturbing the peace	5
Drunk and disorderly	226
Exceeding legal length	3
Exceeding legal height	5
Exceeding legal width	3
Exceeding registered weight	424
Failed to report accident	9
Failed to signal	1
Failed to stop upon request of officer	4
Forgery	10
Fugitive from justice	11
Gambling	11
Gave false address	1
Harboring vicious dog	1
Held as witness	45
Highway robbery	3

Hitch hiking	2
Horse drawn vehicle no light	2
Illegal use of dealer's tags	2
Improper lights	54
Improper tags	35
Incest	2
Incorrigible	1
Insane	1
Interfering with operator	8
Juvenile delinquent	6
Keeping disorderly house	2
Keeping gambling device	5
Larceny	232
Leaving accident	30
Lending license plates	2
Lending operator's license	21
Making false statement	5
Making threats	19
Malicious mischief	2
Manslaughter	7
Misprision of felony	2
Murder	6
No chauffeur's license	134
No clearance lights	15
No flares	423
No horn	9
No mirror	44
No muffler	9
Non-support	13
No operator's license	527
No photo on chauffeur's license	5
No title	4
Obtaining money under false pretenses	6
Operating after revocation	9
Operating unregistered car	373
Operating while intoxicated	212
Overloaded axle	187
Overloaded semi-trailer	57
Overloaded trailer	7
Overloaded truck	68
Parked on concrete	21
Parked without lights	17
Passing counterfeit money	2
Passing traffic (red) light	51
Passing worthless check	15

Pedestrian no light	6
Perjury	1
Pointing fire arm	2
Policy writing	22
Possession stolen goods	2
Rape	2
Receiving stolen goods	11
Reckless driving	2416
Removing furniture after levy	3
Robbery	3
Selling car no title	2
Selling goods without license	3
Siren on motor vehicle	2
Taking car without owners consent	30
Tampering with automobile	13
Throwing rubbish on highway	3
Trespassing	24
Using female child for immoral purposes	3
Vagrancy	31
Violated age of consent law	4
Violated Dyer Act	8
Violated Fuel Act	2
Violated Health Law	2
Violated Learner's permit	34
Violated Liquor Law	43
Violated Parole	1
Wife beating	4
Total number arrests	7,160
Total number reprimands	32,827
Total number trucks weighed	51,681
Total number miles patrolled	1,211,989
Total number cars inspected for lights and brakes	18,116
Total number hours spent on duty	182,915
Total number hours spent on investigation	7,549
Total number hours on Special Duty	14,118
Total number stolen cars recovered	108
Total number school children addressed on safety	6,500

ACCIDENTS FOR THE YEAR 1936

Total Number Accidents	902
Total Number Fatal Accidents	54
Total Number Killed	61
Total Number Injured	808
Estimated Property Damage	\$164,741

Fatalities by Counties

New Castle County	29	or	47.5	per cent
Kent County	9	or	14.7	" "
Sussex County	23	or	37.7	" "

Type of Accident

In Collision with:

	Total	Fatal	Non-fatal
Pedestrian	86	23	63
Automobile	488	11	477
Animal or Horse Drawn Vehicle	19	2	17
Railroad Train	9	..	9
Street Car	6	..	6
Motorcycle	3	1	2
Fixed Object	169	6	163
Bicycle	5	3	2
Non-collision Accident	117	8	109
Totals	902	54	848

Cause:

Recklessness	116
Operator had been drinking	90
Inattention	63
Skidding	53
Disregarded stop sign	51
Drove or crowded off roadway	48
Loss of control	47
Operator asleep	47
On wrong side of road	41
Failed to signal	31
Tire (Blow out)	28
Cutting in	27
Obstructed view	26
Passing without proper clearance	23
Children playing in roadway	19
Jay walking	18
Pedestrian had been drinking	14
Defective brakes	14
Glaring headlights	14
Following too close	11
Defective steering gear	11
Animal on highway	10
Operator confused	10
Pedestrian confused	8
Getting on or off automobile	8
Inexperienced operator	7
Pedestrian no light	7
Defective lights	6
Parked no lights	6

Hit and run	5
Automobile no lights	5
Fell or jumped from moving vehicle	4
Pedestrian coming from behind parked car	4
Obstruction in roadway	3
Bicycle no lights	2
Horse drawn vehicle no light	2
Operator had physical defect	1
Not stated	22

Driver's Sex:

	Total	Fatal	Non-fatal
Male	1288	62	1226
Female	117	2	115
Not stated	14	3	11
Totals	1418	67	1352

Driver's Age:

	Total	Fatal	Non-fatal
Under 20 years	128	5	123
20 to 29 years	529	24	505
30 to 49 years	546	21	525
50 to 64 years	160	9	151
65 years and over	33	3	30
Not stated	23	5	18
Totals	1419	67	1352

Driving Experience:

	Total	Fatal	Non-fatal
Less than 3 months	28	..	28
3 to 6 months	19	1	18
6 to 12 months	14	..	14
1 year or more	1305	52	1253
Not stated	53	14	39
Totals	1419	67	1352

Light Conditions:

	Total	Fatal	Non-fatal
Daylight	454	17	437
Dusk	38	3	35
Artificial light—good	57	8	49
Artificial light—poor	65	6	59
Darkness	287	19	268
Not stated	1	1	..
Totals	902	54	848

Day of Occurrence:

	Total	Fatal	Non-fatal
Sunday	182	10	172
Monday	104	4	100
Tuesday	105	6	99
Wednesday	111	5	106
Thursday	109	9	100
Friday	123	4	119
Saturday	168	16	152
Totals	902	54	848

Weather Conditions:

	Total	Fatal	Non-fatal
Clear	634	40	594
Cloudy	87	5	82
Fog or mist	32	3	29
Rain	131	5	126
Snow	8	..	8
Not stated	10	1	9
Totals	902	54	848

Hour of Occurrence:

	Total	Fatal	Non-fatal
12 to 1 A. M.	51	3	48
1 to 2 A. M.	40	2	38
2 to 3 A. M.	22	..	22
3 to 4 A. M.	19	1	18
4 to 5 A. M.	12	3	9
5 to 6 A. M.	27	1	26
6 to 7 A. M.	19	3	16
7 to 8 A. M.	27	..	27
8 to 9 A. M.	23	1	22
9 to 10 A. M.	22	1	21
10 to 11 A. M.	28	3	25
11 to 12 A. M.	31	1	30
12 to 1 P. M.	35	3	32
1 to 2 P. M.	37	..	37
2 to 3 P. M.	40	1	39
3 to 4 P. M.	53	..	53
4 to 5 P. M.	56	3	53
5 to 6 P. M.	72	2	70
6 to 7 P. M.	53	8	45
7 to 8 P. M.	52	2	50
8 to 9 P. M.	53	5	48
9 to 10 P. M.	28	3	25
10 to 11 P. M.	50	4	46
11 to 12 P. M.	45	3	42
Not stated	7	1	6
Totals	902	54	848

Road Location:

	Total	Fatal	Non-fatal
Between intersections	29	2	27
Rural intersections	185	5	180
Straight Road	492	38	454
Driveway	38	2	36
Curve	91	5	86
Street intersection	42	2	40
Railroad crossing	9	..	9
Street car crossing	6	..	6
Bridge	8	..	8
Totals	902	54	848

Road Surface:

	Total	Fatal	Non-fatal
Dry surface	667	45	622
Wet surface	182	7	175
Muddy surface	2	1	1
Snowy surface	23	..	23
Icy surface	24	..	24
Not stated	4	1	3
Totals	902	54	848

Action of Pedestrian**Contributing to Accident:****No. of Pedestrians Involved**

	Total	Fatal	Non-fatal
Getting on or off vehicle	1	..	1
Crossing intersection	4	3	1
In street not at intersection	13	..	13
Children playing in roadway	19	1	18
Coming from behind parked car	7	1	6
At work on car in roadway	1	1	..
Walking on or along highway	38	16	22
Miscellaneous	1	..	1
Not stated	2	1	1
Totals	86	23	63

Type of Vehicles Involved in Accident:

	Total	Fatal	Non-fatal
Passenger car	1049	50	999
Light delivery car	26	..	26
Bus	13	2	11
Motorcycle	6	1	5
Truck	298	12	286
Wagon	11	1	10
All others	11	1	10
Not stated	7	2	5
Totals	1421	69	1352

TABULATION OF CONTRACTS AWARDED DURING 1936

Cont. No.	LOCATION	Estimated Cost	Date of Award	CONTRACTOR	Length in Miles	Type of Roadway
326	Summit Bridge to Glasgow.....	\$156,231.96	2-18-36	George & Lynch, Dover, Del.....	4.395	20' Concrete
398	Bridges, Millsboro-Centenary Rd.	2,577.00	2-10-36	E. F. Hammond, Delmar, Del.....		
416	Georgetown-Laurel	65,164.50	2-18-36	Walter Roach & Sons, Georgetown, Del.	12.571	4' Widening
438	Lebanon Bridge Repairs	4,115.00	2-10-36	S. S. Jones, Inc., Ocean City, Md.		
458	Blackbird-Middletown	74,859.00	2-18-36	W. W. Truitt, Lincoln City, Del.....	5.117	4' Widening
465	Bridge (Sussex County)	1,177.50	2-10-36	E. F. Hammond, Delmar, Del.		
466	Bridges (Sussex County)	1,814.50	2-10-36	E. F. Hammond, Delmar, Del.		
467	Bridges (Sussex County)	1,905.00	2-10-36	E. F. Hammond, Delmar, Del.		
468	Bridge (Kent County)	3,845.00	2-10-36	Gooden & Clark, Dover, Del.....		
469	Bridges (Kent County)	3,654.00	2-10-36	Leslie J. Weeden, Newport, Del.		
471	Boxwood Road	10,993.00	2-10-36	Julian T. Jones, Wilmington, Del.....	1.325	Sidewalk
472	Wm. Penn Sch.-Buttonwoods..	11,741.00	2-10-36	D. E. O'Connell & Sons, Wilmington, Del.	1.653	Sidewalk
339A	Maryland Line-Glasgow	124,182.50	2-24-36	Waller Paving Co., Inc., Salisbury, Md.,	4.079	20' Concrete
375	St. Johnstown-Baker's Cor.....	12,437.80	3-17-36	Short & Walls Lumber Co., Middletown, Del.	4.146	12' Stone
326B	Summit Bridge-Glasgow	3,789.50	3-17-36	Newport Fencing Co., Newport, Del.		Fencing
415	Milton to D. & M. R. R.....	4,875.00	3-17-36	Walter Roach & Sons, Georgetown, Del.	1.424	16' Slag
417	Brown's Church to Cannon	7,665.20	3-17-36	Short & Walls Lumber Co., Middletown, Del.	.999	16' Stone
410	E. 30th St., Wilmington.....	32,746.60	3-17-36	Union Paving Co., Philadelphia, Pa.....	.477	22'-34' Bit. Conc.
432	Lancaster Ave., Wilmington.....	23,718.00	3-17-36	Oliver Paving Co., Wilmington, Del.	.419	12' & 34' Bit. Conc.
443	Milford-Waples Pond	63,617.20	3-17-36	D. E. O'Connell & Sons, Wilmington, Del.	9.020	?' Widening
444	Waples Pond-Five Points	52,544.00	3-17-36	Old Line Const. Co., Chestertown, Md.	8.783	?' Widening
456	Dover School Sts.	22,935.00	3-17-36	Union Paving Co., Philadelphia, Pa.....	0.436	34' Bit. Conc.
459	Mt. Pleasant-Tybout's Cor.....	59,856.50	3-17-36	George & Lynch, Dover, Del.....	7.907	4' Widening
362	N. & S. State St., Dover, Del.	48,559.40	4-22-36	W. W. Truitt, Lincoln City, Del.....	1.069	9'-38' Widening & Resurfacing
362A	State St., Dover.....	16,926.40	4-21-36	George & Lynch, Dover, Del.....	1.000	29'-38' Resurfacing
478	Delaware Street, New Castle..	48,172.00	4-22-36	Wilson Cont. Co., State Road, Del.....	0.523	40' Concrete
479	Wilson Dam Bridge.....	931.20	4-22-36	Spear-Jones Co., Dover, Del.....		
470	Addition to Dover Auto Shop....	1,985.00	4-22-36	L. J. Weeden, Newport, Del.....		
475	Truck Garage at Kiamensi.....	3,265.00	4-30-36	L. J. Weeden, Newport, Del.....		
308B	Little Creek-Port Mahon.....	15,412.50	6-25-36	Old Line Construction Co., Chestertown, Md.	3.030	16' Slag
476	Lake Ave., Milford	16,542.50	6-25-36	George & Lynch, Dover, Del.....	0.292	25'-40' Bit. Conc.
491	Bridge (Kent County)	1,129.00	6-25-36	Spear Jones Co., Dover, Del.....		
492	Bridge (Kent County)	667.00	6-25-36	Gooden & Clark, Dover, Del.		
493	Bridges (Kent County)	1,660.00	6-25-36	E. F. Hammond, Delmar, Del.		
494	Bridge (Kent)	1,856.60	6-25-36	L. J. Weeden, Newport, Del.....		
495	Carr Road	50,568.90	6-25-36	Union Paving Co., Philadelphia, Pa.....	1.130	20' Bit. Conc.
298A	Cranston Hgts.-Brandywine Sanatorium	105,059.00	8-26-36	George & Lynch, Dover, Del.....	1.915	22' Conc.
428	Vine's Creek-Sandy Landing ..	8,598.70	9- 1-36	Walter Roach & Sons, Georgetown, Del.	1.704	12' Slag
366	Adamsville-Burrsville	15,456.70	10-20-36	Short & Walls Lumber Co., Middletown, Del.	2.750	12' Slag

TABULATION OF CONTRACTS AWARDED DURING 1936—(Continued)

Cont. No.	LOCATION	Estimated Cost	Date of Award	CONTRACTOR	Length in Miles	Type of Roadway
404	Cranston Heights-New Castle.....	114,036.10	10-20-36	George & Lynch, Dover, Del.....	5.114	22' Bit. Conc.
457	Magnolia-Barker's Landing	12,141.20	10-20-36	Short & Walls Lumber Co., Middletown, Del.....	4.080	12' Slag
464	Hickman to Vernon.....	19,369.60	10-20-36	Wilson Cont. Co., State Road, Del.....	4.894	12' Slag
483	Millsboro-Harmon School	131,983.60	10-20-36	Highway Engineering & Constr. Co., Selbyville, Del.....	5.977	Widening
501	Columbia & Surf Aves., Rehoboth	30,226.20	10-20-36	George & Lynch, Dover, Del.....	1.297	20' Concrete
502	Bridges (Kent County).....	1,742.50	11- 2-36	Gooden & Clark, Dover, Del.....		
249A	Frankford-Dagsboro	10,641.00	11- 5-36	E. F. Hammond, Delmar, Del.....	1.777	4' Sidewalk
505	Approach to Agricultural Farm, U. of D.....	5,999.50	11- 5-36	George & Lynch, Dover, Del.....	0.341	16' Bit. Conc.
507	Smyrna-Smyrna Landing	2,927.00	12-17-36	P. J. O'Connell, Wilmington, Del.....	0.557	4' Sidewalk
509	Seaford-Herring Branch	3,894.00	12-17-36	Taylor & Johnson, Seaford, Del.....	0.606	4' Sidewalk
477	Rehoboth Bridge Sidewalk	3,873.00	6-25-36	Aldwyn Const. Co., Philadelphia, Pa.....		Sidewalk
497	Bridges (Kent County).....	3,312.50	8-22-36	E. F. Hammond, Delmar, Del.....		
498	Bridges (Kent County).....	2,780.00	8-22-36	L. J. Weeden, Newport, Del.....		
412	Mill Creek Bridge	6,820.00	8-26-36	Spear-Jones & Co., Dover, Del.....		
484	Bridgeville-Md. Line	99,682.80	8-26-36	W. W. Truitt, Lincoln City, Del.....	7.532	4'-9' Widening
401	Christiana Bridge	22,337.50	9- 2-36	M. A. Spear, Dover, Del.....		
409	Vine's Creek Bridge	17,500.00	8-26-36	S. S. Jones & Co., Ocean City, Md.....		
480	Bishop's Cor.-Drawyers	6,951.50	9- 8-36	Eidson Landscape Co., Ardmore, Pa.....	3.631	Roadside Beauti- fication
185	Georgetown-Coolspring	46,410.00	10-20-36	Walter Roach & Sons, Georgetown, Del.....	7.537	4' Widening
486	Coolspring-Lewes	60,090.00	10-20-36	Old Line Constr. Co., Chestertown, Md.....	6.814	4' Widening
155	Silver Lake Bridge	48,349.00	11- 5-36	Spear-Jones & Co., Dover, Del.....		
358	Heald Street, Wilmington.....	78,994.75	11- 5-36	Union Paving Co., Philadelphia, Pa.....	1.521	11'-40' Bit. Conc.
496	St. Georges to Dragon Run.....	2,019.75	10-20-36	Delmarvia Nurseries, Lincoln City, Del.....	1.032	Roadside Beauti- fication
394A	Holly Oak-Claymont	94,046.25	12-18-36	Waller Paving Co., Salisbury, Md.....	1.794	22' Concrete
488	Police Sta. No. 4, Georgetown.....	7,700.00	12-17-36	M. J. McDermott, Georgetown, Del.....		
489	Repair Shop, Georgetown	11,300.00	12-17-36	M. J. McDermott, Georgetown, Del.....		
506	Newark Sidewalk	4,325.50	12-17-36	Julian T. Jones, Wilmington, Del.....	0.298	4' Sidewalk
462	Overhead Bridge, Newark	115,497.00		J. A. Bader & Co., Wilmington, Del.....		
487	Furnishing Material for 1936 Surf. Treatment	51,219.00	5-23-36	Mexican Petroleum Co., Baltimore, Md.....		Statewide Surface Treatment
487A	Stone Chips, New Castle County.....	22,440.00	5-23-36	Warner Co., Wilmington, Del.....		
487B	Stone Chips, Kent and Sussex Counties	45,182.00	5-28-36	General Crushed Stone Co., Philadelphia, Pa.....		Statewide Surface Treatment
487C	Application of 1936 Surface Treatment	7,446.60	6- 4-36	Good Roads Co., Upper Darby, Pa.....		Statewide Surface Treatment
R1	Gasoline Requirements, 1936-1937	56,360.00	7-10-36	Diamond State Petroleum Co., Wilmington, Del.....		Statewide Surface Treatment
S1	Motor Oil & Grease, 1936-1937.....	6,358.60		Sinclair Refining Co., Dover, Del.....		
T1	Slag for Roadways	10,238.00	12-28-36	Philadelphia Slag Co., Swedeland, Pa.....		

NEW CASTLE

Contract	Location	40' Concrete	22' Concrete	20' Concrete	10' Concrete	Conc. Widening	Bit. Conc. on Conc.	Bit. Conc. on Stone	Conc. Sidewalk	Fencing	Planting
478	Delaware Street, New Castle .....	.523									
358	Heald Street, Wilmington	*1.521									
298A	Cranston Heights-Brandywine Sanatorium		*1.915								
349A	Holly Oak-Claymont		*1.794								
499	Hare's Corner-New Castle		*1.325								
326	Summitt Bridge-Glasgow			4.395							
339A	Maryland Line-Glasgow			4.070							
164A	Wrangle Hill-Glasgow				*3.892						
458	Blackbird-Middletown					5.417					
459	Mt. Pleasant-Tybout's Corner					7.907					
404	Cranston Heights to New Castle						*5.114				
440	East 30th Street, Wilmington .....						.477				
432	Lancaster Avenue, Wilmington .....						.419				
495	Carr Road							1.430			
500	Stanton-Newport						*1.90				
505	Approach to Agriculture Station University of Delaware .....							.340			
472	Wm. Penn School-Buttonwoods								1.653		
471	Newport-Boxwood Road								1.325		
506	Newark Sidewalk								* .298		
508	Worth Steel to Naaman's								* .310		
326B	Summitt Bridge-Glasgow									4.395	
480	Bishop's Corner-Drawyers										2.38
496	St. Georges-Dragon Run										1.032
		2.044	5.034	8.465	3.892	13.324	7.910	1.770	3.586	4.395	3.412
462	Overhead Bridge at Newark										
401	Christiana Bridge										
475	Storage Shed at Kiamensi										
487A	Stone Chips 13,471.5 tons										
487)											
487A)	State Surface Treatment New Castle County (110 mi.)										
487C)											

* INDICATES CONTRACTS TO BE CARRIED INTO 1937

KENT

Contract	Location	Conc. Widening	Bit. Conc. on Conc.	Bit. Conc. on Stone	Conc. Sidewalk	16' Traf. Bound	12' Traf. Bound	Planting
362	N. & S. State Connections, Dover	1,069						
362A	State Street, Dover		1.00					
456	Dover School Streets			0.436				
507	Smyrna-Smyrna Landing				*.557			
308B	Little Creek-Port Mahon					3.03		
366	Adamsville-Burrsville						*2.759	
457	Magnolia-Barker's Landing						*4.080	
464	Hickman-Vernon						*4.894	
480	Bishop's Corner-Drawyers							1.303
		1,069	1.00	0.436	0.557	3.03	11.733	1.303
155	Silver Lake Bridge							
438	Lebanon Bridge Repairs							
412	Wilson Mill Dam Bridge							
497	Mill Creek Bridge							
468	Kent County Bridge No. 553							
469	Kent County Bridges Nos. 707-708							
491	Kent County Bridge Dist. 27							
492	Kent County Bridge No. 585							
493	Kent County Bridges Nos. 511-512							
494	Kent County Bridge No. 618							
497	Kent County Bridges Dist. 21-22							
498	Kent County Bridges Nos. 538-725 and Dist. 21							
502	Kent County Bridge Road 195 and 196							
510	Kent County Bridge Dist. 29							
511	Kent County Bridge Dist. 26 and 23							
470	Addition to Auto Repair Shop							
487)								
487B)	State Surface Treatment (Kent County—27½ mi.)							
487C)								

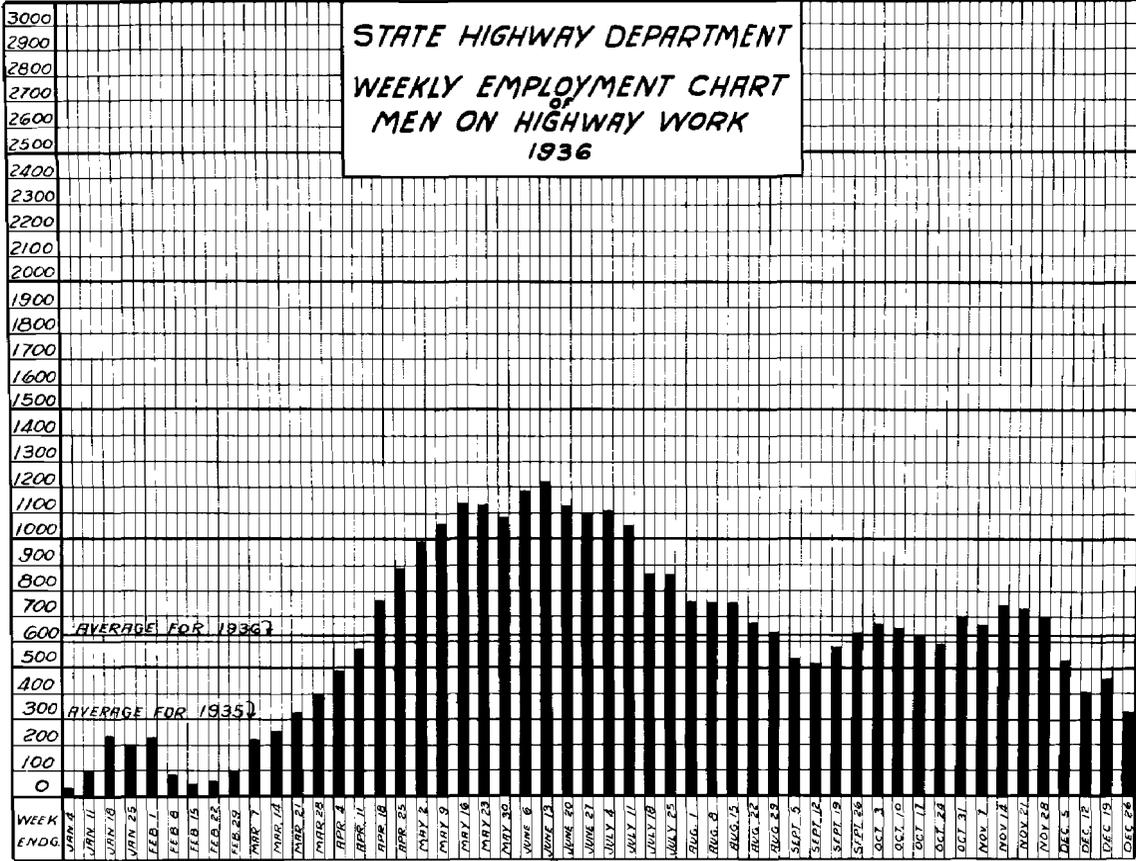
* INDICATES CONTRACTS TO BE CARRIED INTO 1937

SUSSEX

Contract	Location	20' Conc.	Conc. Widening	Bit. Conc. on Conc.	Bit. Conc. on Stone	Conc. Sidewalk	16' Traf. Bound	12' Traf. Bound
501	Columbia and Surf Avenues, Rehoboth .....	.65		.647				
116	Georgetown-Laurel	---	12.571	---				
443	Milford-Waples Pond	---	9.020	---				
444	Waples Pond-Five Points	---	8.783	---				
485	Georgetown-Coolspring	---	7.537	---				
486	Coolspring-Lewes	---	6.814	---				
484	Bridgeville-Maryland Line	---	7.532	---				
483	Millsboro-Harmon's School	---	---	---	*5.977			
476	Lake Avenue, Milford	---	---	---	.292			
249A	Frankford-Dagsboro	---	---	---	---	*1.777		
509	Seaford-Herring Branch	---	---	---	---	*.606		
415	Milton to D. & M. Railroad	---	---	---	---	---	1.424	
417	Brown's Church-Cannon	---	---	---	---	---	.999	
515	Lewes-Henlopen	---	---	---	---	---	*2.60	
428	Vines Creek-Sandy Landing	---	---	---	---	---	---	*1.704
375	St. Johnstown-Baker's Corner	---	---	---	---	---	---	*4.146
		.65	52.257	.647	6.629	2.388	5.023	5.850
409	Vines Creek Bridge							
477	Rehoboth Bridge Sidewalk							
467	Sussex County Bridge No. 90 and Road 403							
466	Sussex County Bridge Nos. 18 and 19							
465	Sussex County Bridge No. 222							
398	3 Bridges on Millsboro-Centenary Road							
488	Police Station at Georgetown							
489	Repair Shop at Georgetown							
487)								
487B)	Sussex County Surface Treatment (127½ mi.)							
487C)								

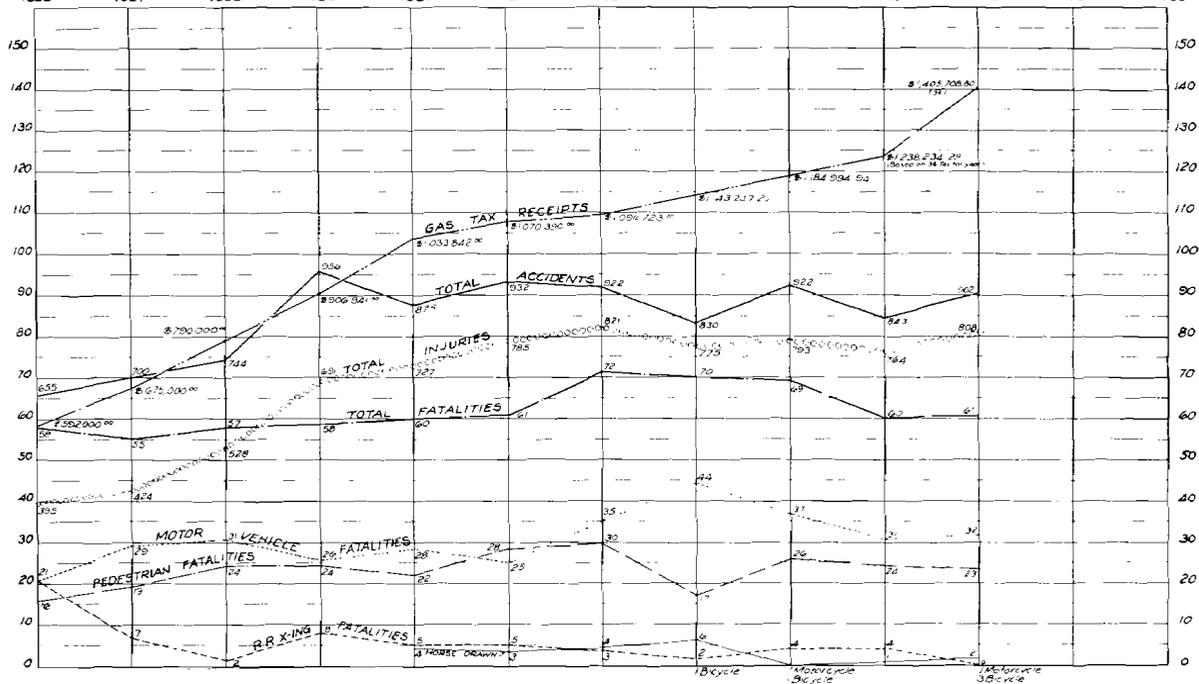
* INDICATES CONTRACTS TO BE CARRIED INTO 1937

**STATE HIGHWAY DEPARTMENT
WEEKLY EMPLOYMENT CHART
MEN ON HIGHWAY WORK
1936**



STATE OF DELAWARE STATE HIGHWAY DEPARTMENT ACCIDENT CHART

ACCIDENTS PER FATALITY — 117 127 131 164 144 154 128 118 133 140 144
 MILES DRIVEN PER — 3,402,300 4,080,909 4,619,884 5,212,304 5,741,500 5,815,633 5,053,745 5,444,403 5,724,565 7,483,876 7,681,469
 FATALITY (10⁶ mi.) 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936



DELAWARE STATE HIGHWAY SYSTEM
YEAR CONSTRUCTED OR ACQUIRED

	1915 to 1928	1929	1930	1931	1932	1933	1934	1935	1936	Total
Concrete, 14' to 40'	579.9	14.0	20.5	21.5	10.4	8.3	8.5	13.7	6.2	683.0
Concrete, 9'	27.6	19.7	21.5	44.5	11.6	12.4	....	....	....	137.3
Bit. Conc. ....	....	....	....	....	....	....	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	....	101.8
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	381.7
Sand Clay	1.2	15.2	5.3	13.2	7.5	6.2	5.7	9.9	....	64.2
Unimproved Dirt .....	....	....	....	....	....	....	....	2170.7	-37.3	2133.4
Yearly Total .....	....	68.4	71.4	100.0	67.1	149.5	102.8	2604.6	12.0	....
Total Miles in System	686.1	754.5	825.9	925.9	993.0	1142.5	1245.3	3849.9	3861.9	3861.9
Widening and Resurfacing	34.5	0.2	18.9	18.0	11.1	56.9	16.5	113.7	68.2	....
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	....	56.0
Sidewalks	8.41	0.02	0.53	7.07	11.09	3.76	4.29	0.90	8.4	44.5