

Providing Highways for the People of Delaware

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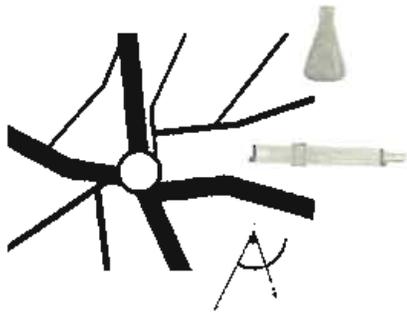
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From Claymont to Selbyville and across the width of the State stretch ribbons of concrete and bituminous roadways, with now and then one of dirt as a fast-disappearing reminder of how quickly progress is made in the 20th century. In terms of both value and usefulness, Delaware's system of state highways represents one of the most important assets owned by the people of Delaware. In terms of the dollars it cost to build, it is worth close to 300 million dollars, or about a \$700 share for every man, woman and child in the State. In terms of what it contributes to the welfare of the State, no valuation is even possible; life as we know it today in Delaware just couldn't exist without it, so dependent have we become on highway travel.

In planning, building and maintaining the State's road network, the State Highway Department and its personnel are agents for the people of the State. With the public rests the ultimate decision on how fast the capacity of the system should be expanded to keep up with the ever-increasing traffic load, and how well existing roads should be maintained. To the State Highway Department falls the task of applying the administrative, engineering and technical skills necessary to translate the decision of the people into highways they can drive on.

Last year the Highway Department maintained 4,126 miles of highway, and supervised 96 contracts for the construction or reconstruction of 298.6 miles of highway. Of the 96 contracts, 49 of them, involving 139.8 miles, were new ones awarded during the year; 47 projects, totaling 325.8 miles were completed and accepted by the State after contractors had met the specifications prescribed by the Department.



Careful Groundwork is key to efficient service

The preliminary phase in translating a public need for a new road into stone and concrete and asphalt involves the carefully coordinated efforts of three Department Divisions—Plans and Design, Review, and Tests.

Every foot of a modern highway is the solution to a complex puzzle including problems in geometry, topography, geology, engineering, and even psychology. To the Plans and Design Division falls the task of solving them. Last year, it completed plans for 44 projects, ranging from sections of the new Federal Aid Interstate highway to dirt road paving contracts under the 10-year program, now in its fifth year, to surface all remaining dirt roads in the State.

Mistakes are costly once they are cast in concrete. To prevent any errors that might occur from getting beyond the blueprint stage, the Review Division has the job of double-checking every stage of the work of outside consultants, and to some extent, that of Plans and Design, even going into the field with the planning engineers on their final field reviews. Review Division also furnished liaison among consultants, other divisions of the Department, and the Federal Bureau of Public Roads.

The Testing Division provides another example of the care that is taken to see that the Delaware citizen gets full value for every dollar of taxes he spends on highways through the State Highway Department. The division's pre-testing of all materials to be used on Delaware roads is a routine procedure that insures the materials are up to standards. Last year, the division conducted hundreds of routine tests on vast quantities of material like asphalt, aggregates and similar items. It also conducted research and tests on the properties and performance of different types of highway construction, took core samples in marsh and rocky terrain to get data needed to design roads across them, and performed a number of special studies.



Testing laboratory makes thousands of tests of soil and material, and in Review Division plans are checked thoroughly before construction begins.



Preparing the way

Once a project for a new or improved highway has been designed to meet the varied and ever-growing needs of business, industry, residents, shoppers, tourists, government, and the motoring public generally, there comes the all-important task of securing the actual place on the ground the road is to occupy. Whether it's an entirely new road taking off across open fields, or an old road being widened and straightened to accommodate today's traffic, the State must acquire from private owners the land, or "right-of-way," on which the road is to be built.

The Department, acting on behalf of all the people of the State, is always ready to pay a fair price for the land it needs, and in most cases the individual owners readily cooperate. Some even convey rights free of charge, realizing they will benefit from the improved road near their property. In some few cases, where there is disagreement on the value of the land, the State may, under its power of eminent domain, condemn the property, in court proceedings where a fair value is determined by a jury of disinterested citizens. Last year, only 8 cases required condemnation proceedings. In contrast, the Right-of-Way Division acquired by negotiation—often delicate and time-consuming, but in the end more satisfactory to everyone—855 options, 574 easements, 650 deeds, 185 agreements for drainage trespass, etc., 223 releases. In the course of this work, they prepared plats or descriptions of 872 properties.

Highway right-of-ways are almost always used by utilities—electric and telephone service almost everywhere, also water, gas, and sewers in urban areas. When a road is rebuilt, utilities must be relocated and this leads to problems, sometimes critical ones, in moving the utility line without interrupting service to customers or interfering with normal construction progress on the highway.

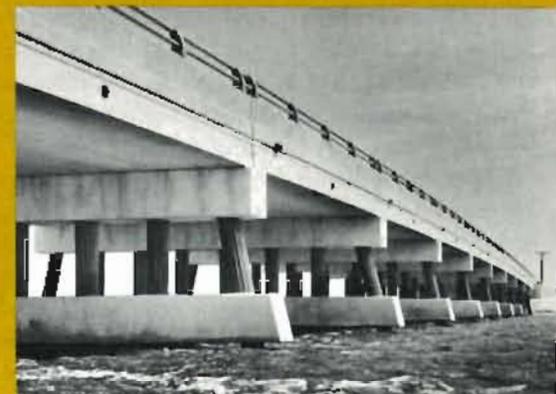


Department works closely with utility companies to make way for new construction.

Since the establishment of the Utilities Division three years ago, relocation problems have been held to a minimum by timely advance notice to utilities about jobs that will affect their services, and by maintaining close coordination between the utilities and the highway contractor and subcontractors, all of whom have a concern with the plans and progress on relocating utilities and with avoiding unnecessary delays. The system of formal coordination has proved its ability to save money, both for the taxpayer and the utilities.

Still another step in preparing the way for better highways is the work of the Bridge Division, which prepares engineering studies and plans and designs for the bridges that carry Delaware's roads over natural obstacles, and also the interchange bridges that contribute so much to the ease of driving on modern super-highways. Because of the large amount of bridge work at the Farnhurst interchange of FAI-1, most of the designing was done by outside consultants, whose work is carefully checked by the Bridge Division before the plans are approved.

Finally, the State Highway Department plays a role in helping municipalities improve their streets. The Department computes the amounts due to each under the Municipal Aid Law, applying a formula based on both population and municipally-maintained street mileage. Though the Department's function is purely administrative, it is one more example of how it acts as agent for the people of Delaware—in this case to provide help to cities and towns, whose streets, though not part of the State Highway system, are still public roads. Their condition has become a matter of state-wide public concern, to the extent that State tax money is being granted to municipalities so they can improve their local street systems.



Fenwick Island Bridge in Sussex County gets major change for better, safer crossing in fast growing area.

Fourth Street in Wilmington is now a busy, main artery. This job was one of most complicated reconstruction jobs ever done in city.



New highways to serve the public needs

The hundreds of miles of new and reconstructed highway on which the Highway Department worked last year were built by private construction firms under contract with the State of Delaware. Supervising these contracts is the responsibility of the Construction Division, whose job, put in simplest terms, is to see that the people of the State get what they pay for when they buy new highways.

Supervision means frequent personal checks by members of the division staff to every construction job in progress—several times a week at the peak of the construction season when the manpower of the division must be spread over many contracts, as often as daily when the number of active projects is low enough to permit. These routine checks by skilled inspectors lead eventually to final inspection, a thorough and penetrating re-check on every part of the job to make sure each detail meets specifications. Only by passing every stage of both progress and final inspections can a project be accepted and the contractor paid and discharged from further responsibility. During the 1959 fiscal year, 47 projects were accepted after meeting all requirements.



All the previous work leads to the goal of construction. Work here is part of Dirt Roads Program.



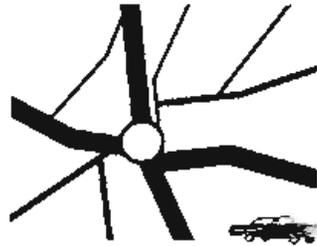
Hardly looks like the same road, yet it is. Top is road near Milford before reconstruction. Note newly painted fence at farmhouse on left.



While Sharply Road was being rebuilt, new home was also constructed. Changes like this caused by upsurge in suburban living.



Thousands of drivers remember Silverside Road as it was and yet few years from now few will recall big change.



Keeping your highways in service

If there is any single principle that guides the entire State Highway Department organization, it is the conviction that the public is entitled to the use of its roads 365 days a year. Especially does this thought motivate the personnel of the New Castle, Kent and Sussex Divisions, on whom falls most of the burden of maintaining your 4,126 miles of State highway. Come winter snows or summer floods, or merely deterioration of roads from old age, maintenance crews of the three county divisions are on the job. In addition to actual maintenance of the roadway, they also care for roadside picnic areas, mow and maintain center strips and shoulders, and give necessary attention to the trees and shrubs that beautify long stretches of Delaware Highway.

In addition to maintenance, county divisions play an important role in new construction, where they work with the Construction Division in supervising the work of contractors.

Beyond having roads open and in good condition, the motoring public also demands ease and convenience in driving. The Traffic

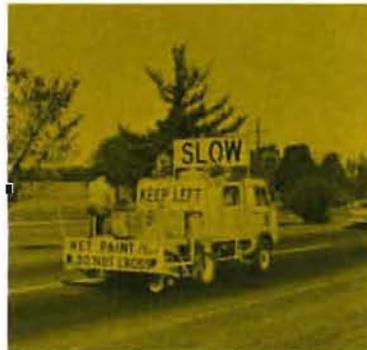


Intersection of U.S. Routes 13 and 40, one of nation's busiest, is made safer by unique paint channelization using reflectorized green paint.

Division is set up for this purpose, as well as to contribute to the safety of the motorist. Traffic signals, lane markers, center lines, directional, guide, warning and route signs—all these are the responsibility of Traffic. Last year the division installed 16 new traffic signals, bringing the total number state maintained to 177; painted 1,262 miles of centerline; made and installed 14,855 new signs and refinished 9,208 old ones; and incidentally collected over \$5,146.37 from individuals and firms for damage to signals and signs.



Mowers help keep U.S. 13 one of country's most beautiful.



Those important white lines are put down with newest, most efficient machine.



Hot-mix is used for patching.



Ditching machine makes hard job easier, less costly.



New surface and green paint channelization makes Silver Lake Bridge at Dover attractive.



Keeping vehicles in top shape.



Traffic controls are complicated.



Getting at the "innards" of this one.