

50 YEARS OF HIGHWAY MAINTENANCE

By O. L. Jamison

On April 13, 1904, the 30th General Assembly approved House File 371 creating a highway commission for the State of Iowa, designating that "The Iowa State College of Agriculture and Mechanic Arts shall act as a highway commission for Iowa."

The duties were as follows:

1. To devise and adopt plans and systems of construction and maintenance suited to the needs of different counties of the state and conduct demonstrations...
2. To disseminate information and instruction---pertaining to highway improvements, construction and maintenance---
3. To formulate--regulations for public demonstrations and to promulgate advisory rules and regulations for the repair and maintenance of highways.
4. To keep records-- and report to the Governor at close of each fiscal year.

Funds:

---appropriated to Iowa State College---amount of money not otherwise appropriated the sum of \$7,000 for the next biennial period---to be used for road experimentation. Three thousand, five hundred dollars became available July 1, 1904.

T. H. MacDonald Employed

The Board of Trustees of Iowa State College assigned

the work as outlined by the General Assembly to the Divisions of Agriculture and Engineering under the supervision of Deans C. F. Curtis and Anson Marston. Dean Marston was immediately authorized to visit the states of New York, Massachusetts and New Jersey to study their highway maintenance methods and organizations. This he did. T. H. MacDonald was hired as full-time assistant at \$1200 per year.

#### Educational Program

The Commission immediately embarked on an intensive program of disseminating information and instructions on highway construction and maintenance matters, as prescribed by the law. From 1904 to 1913, the main effort of the Commission was directed toward spreading the idea of better methods of construction and maintenance of highways to the counties, since all highway work came under the supervision of county supervisors and township trustees. It became more and more evident as time passed that improved highways were of utmost importance in the fast growing economy of the state.

*2500*

#### Many Obstacles

The Commission found many obstacles to hurdle in its campaign for better highways, especially in maintenance procedures. The township trustees, under the existing law, were the "king bees" on road matters, and were reluctant to relinquish their authority and prerogatives to outsiders, particularly to white-collared men who presumably learned about roads from books. Furthermore, they took a personal interest

in helping build their own roads, and in participating in the community get-togethers that the summertime road-gangs afforded.

The demand for better roads continued to mount, accentuated, no doubt, by the appearance of the automobile on the scene. More road schools were conducted by the Commission; more demonstrations of the King road drag and other road maintenance equipment were given and more pamphlets and standard plans were disseminated.

#### Separate Organization in 1913

In response to the tempo of the demand the 35th General Assembly enacted a new law, effective April 9, 1913, creating a new Highway Commission, to be composed of three salaried men; one of whom would be the Dean of Engineering of Iowa State College, Anson Marston. Mr. J. W. Holden of Scranton and Mr. Clay Beard of Mount Ayr, were appointed to a salary of \$10 per day and a maximum of \$1000 per year.

An Engineering staff was organized composed of: Highway Engineer, T. H. MacDonald; Office Engineer, J. H. Ames; Designing Engineer, C. B. McCullough; Field Engineer, F. R. White; Accountant, L. H. Wilkinson; District Engineers, W. H. Root; C. E. Olson, E. Williams; C. Coykendall, and W. E. Jones.

#### Service Bulletin Published

First work of the new Commission and staff was getting organized and laying out a work program. Among the first jobs they decided on was the publication of a Service Bulletin giving information about the road laws, and other pertinent

information for the county officials, and others who were interested in highway work - the Service Bulletin became a fixed monthly publication of great value to the public. This service continued until 1921.

The dissemination of information and instructions continued and many standard plans for use by the counties were issued. A Manual for Iowa Highway Officers was issued and furnished to the counties. In this manual was much information for county supervisors and township trustees pertaining to organizing for building and maintaining highways.

Among some of the significant features of the 1913 road law were these: (1) The Commission was given the power to approve or disapprove, road improvement projects that cost \$1000 or more; (2) the counties must have an engineer to supervise the building of permanent roads; (3) The Commission-- to advise supervisors and officers on questions pertaining to--maintenance--etc.

#### Maintenance Engineer Named

In 1918, the 37th General Assembly enacted the Road Patrol law, placing the maintenance of primary roads under the supervision of the county boards of supervisors with the authority to hire patrolmen and to supply them with necessary equipment. Costs were to be paid from primary road funds. This marked the first break from township trustee control of highways. The Highway Commission was authorized to select a system of highways reaching all counties, to contain not

OK

less than 2000, nor more than 6000 miles. In 1919 a further reorganization of the Highway Commission staff included a head of department of road maintenance. Mr. W. H. Root, became the first maintenance engineer, and continued in that position until April 1954, when he became deputy chief engineer.

#### War Surplus Equipment

During 1919 and 20 the state received war surplus equipment and tools which were taken over by the maintenance department for use in maintenance. About \$721,000 worth of equipment and tools were received; including 228 trucks, 29 cars, 13 tractors, 3 road graders, 2 concrete mixers and other miscellaneous equipment and tools. About 56 percent of this was retained by the Highway Commission and the rest assigned to the counties.

*Root*

#### Nine Districts - New Building

Because of the anticipated increase in both construction and maintenance work that would be done in the next few years, the Commission staff was again reorganized to set up nine districts with a district engineer and an assistant and party for each district. The districts were subdivided into maintenance divisions, with an engineer to supervise maintenance operations within his division.

*when*  
6

In 1923, the 40th General Assembly authorized the Highway Commission to build a new office building on ground donated by the city of Ames. The cost of this building was not to exceed \$125,000 and was to be paid for from any balance left in the maintenance fund after the year's expenses had been paid. The Commission staff moved into the new building in June, 1924.

*good*

#### Take Over Primary Maintenance

In 1925, the 41st General Assembly turned the maintenance of the primary roads over to the Highway Commission. Thus the Maintenance Department entered into full responsibility for keeping the primary roads "open and safe for the motoring public", a job that has become a major function of the Highway Commission. One of the first jobs was to renumber and remark the primary and federal highways in accordance with a numbering system outlined by the Federal Bureau of Public Roads. This work was completed in 1926. In 1927, the 42nd General Assembly passed an act placing complete control of the primary system in the hands of a revised Highway Commission of five members. This new five-member Commission began functioning July 1, 1928.

#### Increased Duties

From this date on, the maintenance grew steadily in size, in amount of work done, and in the amount of expenditure for maintaining the primary roads of the state. It experienced an increase in the scope of its work, in the number and complexity

of its functions and in the importance of its services. In addition to the routine maintenance of the primary roads, it must perform a host of incidental jobs, as a service to the motoring public.

#### Snow and Ice Removal Major Problem

In addition to normal maintenance operations, marking and maintaining detours, caring for traffic in times of flood, the removal of snow and ice from the pavement is one of the major services of the Maintenance Department. This function has expanded through the years to keep pace with the need to keep highways open at all times. Snow and ice removal cost for the winter of 1935-36 was \$1,100,000. However, in the winter of 1953-54 salt was used experimently on a limited mileage to remove ice from the highways. The program was increased to 3,760 miles in the winter of 1961-62. A more intensive snow removal program coupled with the enlarged use of salt for ice removal increased the costs of this program to about \$3,000,000 in 1960-61 and to \$5,300,000 for the severe winter of 1961-62.

#### Safety Program

To keep the driving public accurately informed of wintertime driving conditions, the Maintenance Department provides a daily road condition reporting service.

Another service of major importance and costing approximately \$2 million a year, is the placing ~~of~~ and maintaining of traffic signs and markers. These and many other jobs performed by the Maintenance crews all contribute

to the ever-increasing task of maintenance of the primary roads. The stature of the Maintenance Department has grown rapidly along with the needs for its services and coincide with the ever-expanding traffic. The department will continue to be an increasingly important segment of the Iowa State Highway Commission.