

MANAGEMENT SYSTEM INSTALLATION AND PERSONNEL TRAINING

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In 1960, Oklahoma realized that maintenance problems existed throughout the entire state. Each field division and maintenance district had different views on performing their maintenance duties properly. There was no standardization as far as maintenance practices were concerned.

The first step in our Management System Installation was the organizing of the Standards and Requirements Branch within our Maintenance Division. The first objective of this branch was to publish the Oklahoma Highway Maintenance Manual. This manual was written to: (1) be used as a guide for the maintenance of our highways and related facilities, (2) to provide general instructions which are common to most phases of highway maintenance, (3) to establish a basic standard for common use within applicable criteria, and (4) to develop uniformity of methods and practices that will produce excellent uniform results. In general, this manual gives an explanation of all phases of highway maintenance performed between our right-of-way fences. It is hoped that the instruction received from this manual will assist in our maintenance methods and procedures, and as an end result, improve the quality of our highway performance.

Secondly, we developed a highway rating system. We have two inspectors who grade our highway system twice a year. These inspections are held during the spring and fall months. The inspectors alternate from division to division and are accompanied by the District Foreman while grading his respective district. Each highway section is graded, with points taken off for deficiencies, and are recorded on a prepared rating sheet. As an end result, each section is given a numerical rating when it is processed by our Data Processing Branch.

While the Inspectors are making their inspections, they point out the varied deficiencies and give little tidbits of information to the District Foreman on ways for improvement. We have found that this rating system in Oklahoma has created competition between the maintenance divisions and districts. It is quite an honor to achieve the rating of Number One Maintenance District within the state, or even to be mentioned within the top twenty districts.

We find now that we are in need of a change in our highway rating system because of the addition of the Interstate Highways to our highway system. A higher standard of maintenance is required on such highways. We may need to upgrade our entire rating system at various intervals, and this presents a problem. You have to do a "Selling Job." When you come up with any new idea or change (whether in maintenance, construction, or design), you have to sell the need for change to the appropriate management personnel. Once they are convinced of the need, then, and only then, these changes can be made.

We are trying to keep in mind the consistent betterment of the management organization, whether it be in the actual organizational structure or in the duties of the personnel who make up the organization. As far as Maintenance System Installation in Oklahoma is concerned, we hope to obtain, through our present Research Study of Maintenance of Highways, a system to estimate the amount of maintenance funds required to adequately maintain our highway system

on a long-range basis.

For years and years, our personnel training was the hand-me-down method where our Section Foreman would tell Joe, "This is the best and only way to patch--this is the way my Daddy taught me." It may have been the best way as far as Joe and his Daddy were concerned, but we had about seventy different ways to put in the same patch, and many of them were inadequate.

We suddenly realized that we were in dire need of some type of educational system. A system was arranged for both construction and maintenance. The maintenance schools were originally designed for instruction of our Special Maintenance Foremen, who handle our heavy maintenance, and for our District Foremen. These schools were held in each of our eight field divisions. The instruction consisted of going through the Oklahoma Highway Maintenance Manual and pointing out the proper and improper ways to handle maintenance problems. The instruction was supplemented with photographic slides, which illustrated proper and improper maintenance procedures. Our instructors had to be tactful and diplomatic with some of our older foremen. We didn't want to "step on their toes" while trying to bring them around to our way of "thinking" maintenance.

Almost all of the instructors for the maintenance schools came from our Central Office, with the two Rating Inspectors playing an important role. These inspectors are ex-maintenance foremen, and they understand the foreman's problems in the field. By using these men, we hoped to convey our ideas more easily.

One of our main problems was to get our maintenance personnel to THINK AHEAD. Actually, we are trying to teach preventive maintenance in our maintenance schools, e.g., "If we perform the maintenance now, we will save money. The problem is there, let's take care of it." This concept has paid off for us in dollars and cents, for if anyone has travelled through the State of Oklahoma in the last few years, they will have noticed an upgrading of our maintenance.

In our present maintenance training system, we try to reach all of our maintenance personnel. We have schools scheduled annually for all maintenance personnel, and they are given the same type of instruction our foremen received. We feel that we have to rely on these people to see that the job is well done. We also have our special schools, which are held periodically, for equipment operators, mechanics, and shop foremen. The instruction received keeps them up-to-date on the latest equipment, along with the operational procedures and techniques. This specialized training has paid off. Highway Department personnel present most of this instruction, as we have a very capable Equipment Supervisor in the Department who keeps our people well informed. Also, industry has helped in this instruction. We may call on industry more in the future to assist in the instruction because of the more advanced and complex equipment which will be required to perform maintenance adequately.

We have an Engineer-in-Training Program for our college graduates in civil engineering, which takes them through an eighteen-month training program. They are introduced to all phases of the Highway Department, including maintenance. At this time, we try to sell them on a career in Highway Maintenance.

In Oklahoma, we had, so to speak, to learn to crawl before we could walk. When it was realized that our maintenance was in bad shape, the necessary changes were made. To stay on top of our Maintenance Management System Installation and Personnel Training, we must constantly strive for the betterment of these assets. This can only be accomplished by a continuing "Selling Job" of our maintenance needs through our Maintenance Department and Maintenance Research.

EDITED COMMENTS OF PRESENTATION  
BEFORE HIGHWAY RESEARCH BOARD SESSION 26 -  
MAINTENANCE MANAGEMENT

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God help the last man! Fellow heroes, you who are still awake - I guess it was proper that they saved Mrs. O'Leary's cow to the last. I would like to take a few potshots around here, not with the idea of breaking any idols, but I think maybe a little daylight in a spot or two wouldn't hurt us, and then I have a prepared paper here which takes about two hours and a half to read which I know you will all be glad to listen to.

There are a couple of things here I would like to toss out - don't ever forget this - that maintenance is people. I am a great believer in doing things better; but don't forget this, maintenance is basically people and you can make all the neat little pigeonholes you wish, but you still get back to the fact that you have some people out there that are dedicated souls. They are generally people who have been around quite a while and they have knowledge of what is going on. I know in some instances they need help. This we should do, but maintenance people, at least in our state, are an intelligent bunch of individuals who know how to take care of highways and do it.

There is about as much analogy between the highway maintenance system in a state such as Oregon and a factory which produces something, as there is between me and a chorus girl. A factory, even a large one, is somewhat compact and is subject to some control and some normal routine of operation. Even in a state like Oregon which isn't one of the larger, population-wise, we have such diverse things as elevations from ten feet below sea level to thirteen or fourteen thousand feet above and everything in between. We have deserts, heavily timbered areas, even rain forests, rivers, areas where we have as much as five and up to fifteen and eighteen feet of snow, and other areas where if it snowed the natives wouldn't know what it was. So you see, it is not quite as simple as putting everything into a little pigeonhole and working out these units of work because sometimes God doesn't cooperate. I have seen a morning when you plan to go out and build a guardrail; but the good Lord in His wisdom turned loose a great big flood of water, full of boulders and a few trees, and sometimes a couple of barns, which took out half a mile of highway, and your schedules are shot gentlemen - and you might just as well face it. For a maintenance foreman, give me a versatile individual with enough initiative to place things in their proper perspective without being restricted but rather guided.