

MAINTENANCE OF ROADSIDES IN MICHIGAN

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The primary function of the Michigan Department of State Highways is to plan, construct and operate an adequate and integrated system of trunkline highways. This is the objective of the State Highway Commission and, as a further objective, the Maintenance Division of the Highway Department has been directed to maintain the facilities so as to preserve the investment, to accommodate highway users with safety and reasonable convenience and conserve esthetic values.

Conserving esthetic values is important enough to the Highway Commission that it is specifically mentioned in the policy statement. Conserving the esthetic value is a big enough problem just around home, but really takes on major proportions when the property is 9,236 miles long and the total acreage is large enough to make the Department of State Highways the eighth largest landowner in the state. One unique fact about the land controlled by the Highway Department is that practically all of this acreage is within 200 feet of a well-traveled highway.

The Department is also unique in that something is done on almost every acre each year. If it's not reditching, or removing, trimming or planting trees, it's mowing or spraying brush or weeds. Compare this with the Department of Natural Resources, Forest Service, Kimberly Clark, or other large land holders which have thousands of acres that are virtually unseen from one year to the next.

Because of the large acreage, the highway roadside program isn't of a real technical nature, so instead of looking closely at the procedures, I have chosen to give you general information on our programs.

To begin with, let's take a look at the size of the areas controlled by the Highway Department. At the moment it is 167,784 acres of Highway right of way which, as mentioned earlier, makes the Highway Department the eighth largest landholder in Michigan. Forty-four per cent of this total acreage, or 74,000 acres, is mowed at least once each year and quite a little of it is mowed more than once. In all, the Highway Department mows approximately 147,000 acres each year and spends approximately one and one-half million dollars on that item.

Mowing is done with various types of equipment but the old standby is the sickle bar. However, as the highway profiles change, the type of mowing equipment also changes and as a result several fifteen-foot rotarys have been added to the fleet.

Roadside maintenance has undergone some radical changes in the past fifteen years. Roadsides were once narrow and tree lined and, although there was the same approximate number of miles of state highway, there were only about half as many total acres of highway right of way.

As the expressway system expanded and right of way increased, highway management started cutting down on the mowing. The first reduction in mowing was made in 1961 when the department started the contour concept. Contour mowing was around for about seven years when it became necessary to reduce mowing again and at that time the modified contour mowing was introduced.

At the present time the median and ten or fifteen feet adjacent to the outside shoulder is being mowed two or three times a year on divided highways. On all other routes, a five or ten-foot swath is mowed adjacent to the shoulders. On both types of highway a minimum of additional mowing is required to provide vision.

Of course as the mowing was cut back, it became necessary to increase the herbicide programs. The early herbicide programs amounted to low rates of either 2, 4-D ester or 2, 4-D amine, depending primarily on the season the application was to be made.

As time passed, the herbicide programs have become more sophisticated. Not only are the rates per acre varied, but new chemicals and combinations of chemicals are being used. In addition, the number of gallons of emulsion used is being varied from a low of twenty gallons per acre to a high of fifty gallons per acre. In other words, the spraying programs are being designed to take care of a particular problem.

In addition to the weed spraying program, there are several other chemical programs being used in our routine maintenance. Chemical brush control is an absolute necessity if the Department is going to stay abreast of the clear vision problem, especially in the northern part of our state.

As mowing costs and trimming costs continue to rise, chemical mowers and soil sterilents become more widely used. Neither are new to the department - both types of chemicals have been used for eleven years. The department has found them to be very useful tools but they have to be used with extreme caution.

Two other roadside maintenance activities which require a lot of time are tree trimming and tree removal. Although these activities are still major concerns, they are beginning to occupy less time. The peak of the Dutch Elm disease has passed for the Highway Department. There is still an Elm problem but it is nothing like it was six or eight years ago. Trimming for underclearance is not the problem it once was. The highway rights of way are wider and the trees are now further from the traveled portion.

It seems as though for every program that is diminishing there is a program that is increasing. One major program which has increased substantially is highway beautification. In the past six years a total of 200 miles of state highway has been landscaped. Of course, not all of the expressway needs landscaping but there is another 300 miles that is in need of it. So the void that started to develop due to the decrease in tree trimming and tree removal activities has been filled with maintenance of thousands of roadside plants.

Other roadside programs include repair of erosion and fertilization of roadside sod areas. The erosion repair is an activity which must be done in most cases to prevent damage to the highway or to restore reasonable safety

for the motorist. The fertilization of roadside areas is a luxury which cannot be justified until the vegetation is in jeopardy and as a result very little has been done in the past few years.

One other area where our maintenance operations have taken on new proportions in the past few years is in the maintenance of tourist facilities. The freeway rest area has been added to the picnic table site and the roadside park and a whole new set of maintenance problems have also been added. The highway tourist facilities have 27,000,000 visitors each year, so you can see they are popular places.

At present there are 63 rest areas scattered around the state on the freeway system, and 103 roadside parks on the remainder of the highway system. Add to this 17 scenic turnouts and 750 roadside picnic table sites, and it amounts to a park system which has 33 modern toilet buildings, 135 pairs of rustic toilet buildings, 4,000 picnic tables, 1,430 acres of park land and numerous other items to maintain.

Needless to say, the park land acreage is maintained to much higher standards than other roadside acreage. The mowing is done more frequently and with better equipment. More fertilization and better weed control is also programmed for the park areas. Some of the areas where there is especially heavy traffic have to be rejuvenated annually. In some instances the most effective way to rejuvenate a sodded area is simply to resod. Trees and landscaping are also given a higher standard of maintenance than the average roadside trees and landscaped area.

In addition to the obvious problems that are seen every day by the public, there are constant maintenance problems behind the scene. Several of the modern rest areas were built in areas where water is difficult to find. As a result, some of the wells are very low producers and need constant attention. In seven of the modern rest areas, the soil was such that it was necessary to handle the sewage by the lagoon method.

Even with all the many problems, these tourist facilities provide a service to the motorist which is considered to be a necessary part of the overall highway system. The emphasis is on maintenance of a safe and convenient highway system, but you may be assured that the esthetics of the system are also considered to be of major importance.