

Experimental Program of Roadside Development

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There are a number of important points to keep in mind when setting up an experimental program. Some of these points should be analyzed, sorted out, and answered beforehand in order to make the decision as to whether you should set up such a program.

First of all, is there a need for the anticipated end results of the experimental work? Is an economic problem involved?—dollars and cents are always important when one is spending public funds. Is there a general interest in the proposed experiment, or can an interest be developed as the work progresses? Sometimes, I believe, an experimental program is worthy of being set up and run through for the sole purpose of stimulating an interest among others, even though the end results, in themselves, will be insignificant or valueless. I will elaborate on this a little later by citing an example.

Second, have you the organization, the personnel to carry out the project, once begun? Can you call on technicians, advisers, and laboratory personnel for help?

Third, will funds be available to start the project, carry it on, and finish it up so that you get the answers you started out to obtain?

If the above points are answered favorably, then plan the work—know where to start and know how to proceed. Outline the details as much as possible, noting the items of work to be done and the anticipated results to be observed.

Next, break the work down into laboratory sections, if needed, then into field operations, or under field conditions. Many experimental projects look well on paper, in the laboratory, or in small plots, but not so good on a large scale in the field.

Arrange to keep accurate records—written and photographic insofar as possible. It is surprising how quickly one forgets today what was done yesterday. I do believe, however, that often we get bound up in too much detail of records, cross-records, and charts, to the end that we lose sight of the real aims. This should be avoided.

And now get the work started. Get publicity. Bring in all the "personnel" interest you can. This will even keep the experimenter pepped up when the work lags—when you have to wait for the next growing season to come up, for instance. It may surprise you how often an "outsider" will give you a lead and a lift that will solve a troublesome detail.

The final "follow through" is just as important in experimental work as in golf if one is to reach a goal and arrive at conclusions. Once begun, follow through on the work. It is often easy near the end of a project to begin to lose interest and become neglectful.

Arrive at conclusions. They may be good; they may be bad. That is the reason for the experiment. We want to know what is worthwhile, what is not.

Put the conclusions, if workable and practicable, into application. Otherwise time, money, and energy are wasted. "Demonstration projects," illustrating the value and merits of the experimental project, should be prompted to keep the idea alive and kicking.

And the last point—disseminate these new ideas and new methods. The light under the bushel is unseen and soon burns itself out. Let others profit from your work, as you should profit from theirs.

OHIO EXPERIMENTS

And now to illustrate, let me briefly outline a few of Ohio's experimental projects, mostly field work. Unfortunately, in roadside development, we do not have ready access to our state university in the way you in Indiana have with Purdue University. Some day I hope to see this an accomplishment in Ohio.

Early in 1937 we decided that we needed a cheap and sure-fire method of seeding disturbed earth areas on all highway jobs. We did not want to wait two or three years for the ordinary test plots to be tried out. We were in a big program of highway relief work, and we had hundreds of thousands of square yards of bare roadsides to cover with vegetation. What we did was to set up at once project after project, all contract jobs, the work being done right along with the paving and the grading and by the road contractor. Each project was varied to try our many procedures—different seed mixtures, different combinations of fertilizer and lime, different thicknesses of mulch and varying methods of holding it in place.

Projects were inspected, notes made, and results compared. Our present standard specification for seeding and protecting roadway areas

is the end result or conclusion of this rather rough and ready but highly practical method of trial, retention, or discard.

Refinements of the above experimental method have been carried on subsequently. For example, in 1943 we set up a four-mile contract project near Medina. The questions to be worked out and answered in this case covered rates of seed sown per 1,000 square feet, the value of topsoil under the sodding versus no topsoil versus renovating the existing soil, and so on.

This is a project which will illustrate an earlier suggestion—that of keeping the highway personnel interested. One state-wide inspection of the project was planned during the construction period, and two annual inspections have since been made. Engineers and field engineers were invited; an overnight stay with a good dinner was arranged; and much interest was displayed by all. The Ohio federal engineers have participated in two of these inspections. It is all very much worthwhile.

In 1942 a project was set up near Dayton on a “rotary”, one of those confusing “traffic selector and divider” affairs. The purpose of this experiment was to see how effective landscape plantings would be in assisting in this traffic scrambling and unscrambling. In this connection, the landscape architect worked hand in hand with the plan engineer, and with the traffic and safety engineer in all preliminary studies, and in the final drafting of the construction and landscape plans. Trial plan sheets were prepared, studied, revised, and at last the best scheme was approved by all personnel involved.

I will say this of the results—where the engineering itself was not too faulty, the plantings worked 100 percent. The above statement is not a criticism of the engineering—a good part of it was also experimental.

TURF SHOULDERS

Let me quote from the report of the 1946 Highway Research Board “Turf Shoulder” Committee. Here is material for plenty of experimental effort.

The report says that “sufficient stability” of turf shoulders is that which can support any type of vehicle normally using the particular section of highway in question, at varying speeds and during at least 95% of the entire year, without creating ruts or depressions which are not self-healing or easily repaired with a minimum of maintenance effort. Is that true? From the economic standpoint we should find out.

The report goes on to ask: “What degree of stability is needed to permit safe emergency use of shoulders? Is actual use at the worst

season of the year the most acceptable test? Should the entire width of the shoulder have the same degree of stability—if not, what width? Of what value is the turf itself as a factor in stability.” That last question is more of a poser than one might think; it is a good question, not yet satisfactorily answered.

These may seem minor questions at first glance. But aren't highway safety, the life of the pavement, and the sightliness of the complete roadside all tied up here? I have often said that if you haven't good road shoulders you haven't anything—and you haven't, for long.

In March of 1946 two representatives of the Chinese Government were sent to Virginia to study highway work. When they had completed their inspections Mr. Shen Yu-Ming prepared a brief report of his observations in regard to the landscape set-up within the department. It follows, in part:

When I first saw the title of Landscape Division in the organization chart of the Virginia Highway Department, I naturally thought that the main object of this division is to beautify the roadside for the pleasure, rest, and at most the safety of the travelers. However, when I got into the subject of Roadside Development, through your appreciable help, and by studying some manuals and reports by the Joint Committee on Roadside Development, I am now recognizing that the landscape principles actually control almost every stage of complete highway building, such as reconnaissance, routing, location, design, construction, border control, and finally the methods and economy of maintenance. And in every phase of the four basic qualities of highway design, namely, utility, safety, economy, and beauty, landscape principles do play parts as important as engineering principles.

A speaker at the National meeting of Park Executives in St. Louis last fall made the statement that too many times the engineer thinks too much of vehicles, thickness and width of pavement, and length of highways, and not enough of use of all the roadside by all the people. It would seem, then, that there is a big opportunity for the landscape architect with his training and his knowledge and his enthusiasm for advancement of all the principles of his calling, be it routine work or experimentation leading to better things.