

various localities in the district; (b) the class of the unsettled land, for the purpose of serving as a basis for estimating future development; (c) prospective location of new railroad lines, towns, etc.; (d) existing and probable future development in adjacent or related communities; (e) topographical features for the purpose of determining the natural suitability of certain alternative road locations, as upon this factor depends largely the initial cost of the road, the cost of its maintenance and the possible gradients, etc., with the consequent cost of haulage and also the freedom of access to the main roads from the territory to be served; (f) road improvement which has already been done and the condition of the roads so improved.

Final Location

With this information assembled, the final location of the various main roads is made.

In locating these roads it will usually be found necessary to follow existing road allowances (except for minor diversions to avoid serious obstacles) or else along existing land boundaries, such as section and quarter section lines. Diagonal roads for rural districts, while possessing many advantages, are usually out of the question in Saskatchewan (where the system of subdivision is rectangular in form) owing to the waste of land and inconvenience to farmers which they cause. In some cases, owing to existing railroad lines or peculiarly suitable topographical conditions, it may be possible to provide diagonal roads to advantage, but as a general thing they cannot be adopted. The most advantageous location for a leading market road in some cases is a road following the regular road allowances, or section or quarter section lines and zigzagging across the sub-district. However, no general rules can be laid down and each case must be considered as a special problem.

Upon the above basis of consideration the final location of the main roads is made, endeavoring always to keep the final system worked out as near as possible to the basis established when considering distance alone and thus securing the shortest possible haul.

With the system of roads established, a road development plan is then prepared showing the system. This plan should be so prepared that in addition to showing the system of roads adopted, it may also be used as a general road record for the municipality, showing bridges, culverts, drains, improved roads, etc., and being brought up-to-date each year.

Permanence of Policy

In the past, one of the great difficulties in the establishment of a definite system of main roads was the continual changes made by succeeding councils in the policy in this connection. The new Town Planning and Rural Development Act, by its provisions enables the system to be given the permanence which is essential to the success of its development.

The mapping of the final system of main roads adopted should not be considered as completing the work in this connection, for unless development follows along the lines laid down, no better results follow than if the system had never been planned. Therefore, coincident with the adoption of a plan of the road system, an annual program of work, calculated to develop the system in a specified period, should be worked out and its execution provided for as securely as possible. An investigation should be made of the financial ability of the municipality to determine the best method of financing the work, whether

upon a cash basis or by bond issues and the whole policy put upon as definite a basis as possible, in order to secure, so far as possible, the continuous development from year to year of the system of roads adopted. It will, of course, not be possible to devote all the road funds available each year to the development of the system of main roads, as there will always be certain isolated pieces of local road upon which it is absolutely necessary that some work be done. It will also probably be impossible to lay down a definite program of work to be carried out through a period of succeeding years. However, a start should be made at the very inception of the scheme by adopting a tentative program of development to be carried on through a definite period to the completion of the system. This initial program will doubtless require amendments as experience develops in succeeding years, but it provides a definite goal to be worked to and permits of interesting and obtaining the support of the public by presenting to them a definite goal towards which development is proceeding, and secures, so far as possible, the continuous development of the system of provincial and leading market roads.

Development By-laws

The new Town Planning and Rural Development Act, by providing for the passing of "development by-laws," enables the adoption of such a program. The "development by-laws" should specify the standards of construction which must be adhered to in the construction of different classes of road, provide for adequate maintenance and also specify the organization to be adopted in carrying on construction and the principles to be followed in financing the work.

The adoption of a well-planned system of roads and adequate accompanying "development by-laws" will insure the construction of those roads which will give the greatest service to the community; will eliminate waste of invested capital through subsequent alterations which would otherwise be necessary eventually; will effect a saving in construction and maintenance costs and reduce haulage costs and generally put the road policy on a proper basis by providing for the proper financing of the work, efficient expenditure of the moneys and protect the investment from deterioration by adequate maintenance.

Community Settlements

In conclusion, it should be noted that no specific reference is made herein to "community settlements," recreation sites, etc., which properly belong in any discussion of a development scheme. These matters, in themselves, constitute a subject of some magnitude and it was decided to confine the discussion more particularly to the actual planning of the highway system. It will also be noted that no reference is made to the necessity for a traffic census. Under the existing circumstances as to the stage of development in Saskatchewan, it was considered that the planning of a system of highways should be based upon where the main roads should be located in order to direct traffic into the most efficient channels, rather than to follow existing traffic. A traffic census in connection with the planning of a system of main roads in Saskatchewan was therefore not considered necessary in the average municipality. As development proceeds and some type of improved road surfacing is necessary a traffic census should, however, be made in order to assist in determining the type of surfacing to be adopted.