

**GOOD ROADS.**

Very Ably Discussed By State Geologist J. H. Pratt.

"A good road is one that is good 365 days in the year."

The absolute necessity of a system of good roads which will make it possible not only for every citizen of this State to market his products at the least cost, but lessen the present enormous tax which each citizen who travels the highways of North Carolina now pays to bad roads, is being realized by all thoughtful citizens.

The North Carolina Geological and Economic Survey has collected data relating to road work in the State during 1911, and some of this data will be of interest and profit to those who are interested in studying and finding a solution for this problem.

**Road Mileage.**

Number of miles of public road in the State	48,235
Number of miles of improved road (macadam, sand-clay, gravel or specially surfaced)	3,419
Number of miles of improved road built during 1911	1,092

**Road Revenue.**

Amount of special tax collected for roads during '11	\$1,466,354
Amount of free labor (rate at \$1 per day per hand) and of convict labor (valued at cost of keeping and guarding convicts)	\$916,000
Value of bonds issued during 1911 for roads	\$857,000
Total amount spent in North Carolina during 1911, money and labor	\$3,239,357

**By Whom Spent.**

This money is spent, as a rule, by the county commissioners, but in special cases, by township commissioners, county road commissioners, or township road commissioners.

**Maintenance.**

It is a matter of common knowledge that the present sys-

tem of road maintenance, carried on in many counties by free labor, results in nothing of permanent value and seldom affords even temporary relief from bad conditions; so that the enormous amount expended for this purpose (at least \$800,000 per year) is practically thrown away.

**Cost of Bad Roads.**

It has been estimated that the present system of bad roads is annually costing the people (principally the farmer) over \$12,000,000 increased cost of hauling a similar load over an improved road. (See Economic Paper No. 27 of the North Carolina Geological and Economic Survey, pages 72-128).

While such a condition cannot be immediately eliminated, yet it is felt by all thoughtful citizens that steps should be taken to gradually do away with this burdensome indirect tax even if it is necessary to impose a direct tax, infinitely small in comparison.

**Defects of Present System.**

(1) Administrative. The men selected for carrying on the road work in the majority of the counties are untrained for this kind of work. Technical skill is absolutely essential in road location, construction, and maintenance. The idea has prevailed that anyone could build a road, and that the roads could be maintained by the poorly directed and desultory work of free labor. In a great many cases where roads have been built with money raised by bonds or special tax, they have not been properly built and have cost too much, principally because they were not built by trained and experienced road engineers.

(2) Improper Locations. A great many of the so-called public roads of the State were located by the Indians, or by sheep and cattle. For this reason a great many of the public roads, before being surfaced, should be relocated, as the location of a road is the permanent part of it, and once done right it would never have to be done again. In road location it has been the experience in other States that better results can be obtained through State engineers. There is a tendency for the county engineer to be biased by local politics rather than controlled by the factors which should determine the location of a road.

(3) Lack of Uniformity in County Road Laws. Quite a number of the counties have special road laws at the present time, and in most cases the provisions of these laws do not admit of systematic and effective road work. They were framed by men unversed in the art of road building, and hence the laws are not practical. The result is that there is a very dissimilarity in the road laws of the various counties, and it is believed that if they were more homogeneous much better and more economical results would be attained. By having a uniform road law applying to all the counties of the State, with just enough variations to adjust it to varying local physical conditions, it would be possible to work out a systematic method of road administration and construction which would insure more economical and efficient results to the State as a whole.

(4) Lack of Maintenance. This is principally the result of the time-honored, but inefficient, method of free labor still in existence in many of the counties. Every road has to be maintained, regardless of the surfacing material. The minute a road is finished maintenance should begin, or it will not be very long before the surfacing material will begin to wash away and the road go to pieces.

(5) Inadequate appropriation for State aid in the form of engineering assistance and for testing road materials.

**Suggested Remedies.**

1. Have in each county a Road Commission, non-political, the members to be chosen because of their integrity and business ability.

2. Have a uniform county road law which provide for the organization of the road force of the county on a business like basis, having a Road Superintendent whose ability for such an office would meet with the approval of the State Highway Engineer, to whom he would be responsible for the quality of the work done. Such a Superintendent should have under him supervisors, foreman, etc., such as are needed to carry on the county work efficiently.

3. State Aid to the counties in the form of engineering assistance. An appropriation of \$50,000 a year to the Highway Department of the State Geological and Economic Survey would be sufficient at the present time to meet the requirements from the counties for such assistance. The advantages of this form of State Aid would be:

a. A better class of engineers than the individual county could afford to employ.

b. A saving in engineer's expenses, as State engineers could do the engineering work for more than one county, whereas if each county employed its own engineer total cost for such work in 100 counties would amount to at least \$150,000 per year, and without as good results.

c. Each State engineer would be efficiently supervised, whereas the county engineer is responsible only to county authorities, and in most cases such authorities have not the expert know-

ledge which would make them capable judges of the work done.

(See Economic Paper No. 27 of the North Carolina Geological and Economic Survey, pages 129-130.)

4. In every county general scheme for road work should include a provision for constant maintenance, not only of the improved surface roads (macadam, sand-clay, and gravel) but of all the dirt roads, through the timely and constant use of the split log drag.

5. Do away with the free labor tax.

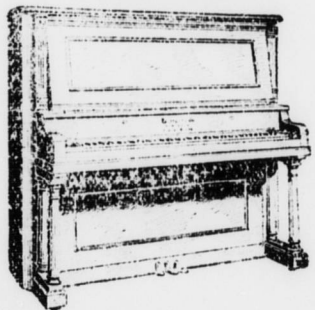
6. Use all county convicts in a county chain gang under the general supervision of the County Road Superintendent. Use all State convict on a state road force to be employed in building links of state roads where the counties are not in a financial position to build such links, as in portions of the Central High-

way. In such roads all the counties are more or less interested in seeing the road completed as a whole. (See Economic Paper No. 27, pages 131-132.)

7. State Aid to counties in connection with the issuance of bonds, the State to lend its credit to the county in accordance with the plan outlined in Economic Paper No. 27, pages 132-148. This method of financing roads is also discussed by Mr. W. S. Wilson in a paper read before the North Carolina Good Road Association, whose proceedings are give in Economic Paper No. 30 on the North Carolina Geological and Economic Survey.

In brief the plan is this: The county as a rule has to pay 5 per cent on its bonds; the State can readily obtain money at 4 per cent. Let the county issue its bonds and let them be taken over by the State at 5 per cent then issue the same amount of bonds at 4 per cent and the difference in interest of 1 per cent which the county pays to the State in excess of what the State has to pay, will, when placed at compound interest, retire the bonds without the county's paying anything additional.

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