

STATE OF ARKANSAS

**THIRD BIENNIAL
REPORT**

OF THE

**DEPARTMENT OF
STATE LANDS, HIGHWAYS
AND IMPROVEMENTS**

FOR THE

PERIOD ENDING
NOVEMBER THIRTIETH, NINETEEN EIGHTEEN

LETTER OF TRANSMITTAL.

To the Governor and General Assembly of the State of Arkansas:

Complying with the law we herewith submit to you the Third Biennial report of the State Highway Commission, which we hope may prove of interest and real value to the State.

We earnestly request that you visit the Department and see what is being accomplished, and learn our plans for the future, and the urgent needs of the Department.

Very respectfully,

(Signed) Wm. B. Owen, Chairman,

R. R. Thompson, Commissioner,

J. S. Turner, Commissioner.

EXPLANATIONS

In compiling our Second Biennial report we made an effort to show all road improvement, whether done by the Improvement District plan or under supervision of the County Court. Our efforts to secure data on the County work were crowned with poor success, as it was impossible to determine from the information received just what the improvements amounted to, we again tried to secure such information as would be valuable for this report, but the data received could not be used to any advantage, we are therefore leaving out a summary of that feature of the report.

On the account of the unsettled conditions during the war and the loss of so many of our best men, fully seventy-five per cent of the constructional work in the State has been held up until conditions have had time to adjust themselves. The nations entire strength has been concentrated and exerted to win the war, this we have gloriously accomplished, but we have now the biggest problem of the age to solve, that of bringing our country back to normal or pre-war conditions. Good roads will, in our opinion, be one of the things to help solve the problem.

RECOMMENDATIONS

Convict Labor :

On account of the necessity for improved roads, and the shortage of labor, we recommend the adoption of a plan whereby all convicts may be worked upon the public Highways. Experience in the use of convicts on road construction in this and other States, has proven that properly handled, they are healthier, better satisfied and more profitable to the State, engaged in this than any other class of work.

Maintenance :

We have a splendid road program, which compares favorably with any State in the Union, but there is one feature of our program which is very defective, that of maintenance. We recommend that this question be carefully studied and proper maintenance laws passed which will enable us to save the work we are doing. To build roads without providing a

system of maintenance, is nothing short of a sin, and should be taken care of by law.

Auto License Fees:

The present Auto License Law, having been scrapped up from the laws of other States and amended by each succeeding legislature, has, on the account of new conditions, become obsolete. We recommend that a new law be passed, simplifying the work of collecting the fees and the issuing of license. It is hardly fair for the owner of small vehicles to be forced to pay the same fee as the larger vehicle, we therefore recommend a graduated tax according to horse power or weight, neither is it fair for the owner of a vehicle to be forced to pay the same fee in August or December with only a short time to use the vehicle as the one paying in January or the earlier months of the year. We therefore recommend a graduated tax by months, to be paid for the remainder of the year beginning from the date issued.

Land Office:

The Land Office has long since ceased to be a land selling department and is now what may be termed a State Abstract Office. It is as important now as when first established, for the reason there are but few land titles in the State that are not in some way effected by transfer, the only records of which are in this office. However there is no fees for a large proportion of the work, and because that is true, this division of the department is not self-sustaining. A simple amendment to the fee system would enable the office to take in sufficient money to pay the expense of running it.

In as much as it requires men who have had long experience in the offices to efficiently perform the duties thereof, a plan should be adopted whereby those who are familiar with the work may be retained, when political changes are made. This can be done in two ways: First, by making a separate department of it, with a Commissioner appointed by the Governor for four or six years. Second, by the appointment of a Commissioner by the Highway Commissioner and approved by the Governor.

A careful examination of conditions by the Governor and the legislature would no doubt develop a solution of the problem.

SUMMARY OF FEDERAL AID ROAD ACT OF 1916.

The Federal aid road act was signed by the President and became a law on July 11, 1916.

*SUMMARY OF THE FEDERAL AID ROAD ACT.**Principle of the Act Is: Cooperation.*

Purpose of the act.—To promote construction of rural post roads by granting aid to the various States; to provide further money aid toward the construction of roads and trails wholly or partly within the national forests; to encourage supervision of roads within the State by competent State officials.

Provisions of the Act.

Total amount appropriated, \$85,000,000.—\$75,000,000 to be expended on the rural post roads in the several States during the five-year period ending June 30, 1921; \$10,000,000 to be expended at the rate of \$1,000,000 a year in connection with the national forest roads.

Amounts to be expended from the major appropriation are:

\$5,000,000 for the year ending June 30, 1917;
\$10,000,000 for the year ending June 30, 1918;
\$15,000,000 for the year ending June 30, 1919;
\$20,000,000 for the year ending June 30, 1920;
\$25,000,000 for the year ending June 30, 1921.

A deduction for administration not to exceed 3 per cent of the appropriation for any one fiscal year is to be made by the Secretary of Agriculture, after which

The remainder of each year's appropriation is to be apportioned among the States in the following manner:

One-third in the ratio which the area of each State bears to the total of all the States;

One-third in the ratio which the population of each State bears to the total population of all the States;

One-third in the ratio which the mileage of rural delivery and star routes in each State bears to the total mileage

of rural delivery routes and star routes in all the States.

Roads which may be constructed under the act are defined as those over which the United States mails now are or may hereafter be transported, excluding streets and roads in places having a population of 2,500 or more, except that portion of such thoroughfares along which the houses average more than 200 feet apart.

Federal money may be expended on construction only.—The term "construction" is construed to include reconstruction and improvement of existing roads, but expenditure of funds is authorized upon only such projects as may be substantial in character.

The limit of expenditure which may be made by the United States upon any road is \$10,000 per mile, exclusive of the cost of bridges of more than 20 feet clear span. And in no event shall the share of the United States exceed 50 per cent of the total cost.

The Secretary of Agriculture is required, within 60 days after the approval of the act, to certify to the Secretary of the Treasury, to each State highway department, and to the governor of each State having no highway department, the sum which he has estimated to be deducted for administering the provisions of the act and the sum which he has apportioned to each State for the fiscal year ending June 30, 1917, and on or before January 20 next preceding the commencement of each succeeding fiscal year he is required to make like certificates for such fiscal year.

The balance of the annual apportionment remaining unexpended at the close of any fiscal year in any State is to be available for expenditure in that State until the close of the succeeding fiscal year, except that an apportionment for any fiscal year to a State which has no State highway department is to be available for expenditure in that State until the close of the third fiscal year succeeding the close of the fiscal year for which the apportionment was made; in other words, in the absence of a highway department, it is to be available for four years from the beginning of the fiscal year for which the appropriation is made. Any amount remaining unexpended at the end of the period during which it is available is to be reapportioned within 60 days to all the States in the same manner and on the same basis as if it

were being apportioned for the first time; and in the same manner the Secretary of Agriculture is to certify to the Secretary of the Treasury, to the State highway departments, and to the governors of States having no State highway departments, the amount of the apportionment to each State.

To Receive the Benefits of the Act.

I. A State must, through its legislature, assent to the provisions of the Act, except that, until the final adjournment of the first regular session of the legislature held after the passage of the act, the assent of the governor of the State shall be sufficient.

II. A State must have a State highway department. The term "State highway department" is construed to include any department of another name, or any commission, or official, or officials empowered under the laws, to exercise the ordinary functions of a State highway department.

III. A State must submit to the Secretary of Agriculture, by its State highway department, a definite and comprehensive program of construction for the five-year period, or as much thereof as practicable, and subsequently from time to time an application for Federal aid, known as a project statement, setting forth proposed construction of each rural post road.

IV. A State must furnish, through its State highway department to the Secretary of Agriculture, upon his approval of a project, such surveys, plans, specifications, and estimates as the Secretary may require. Items included for engineering, inspection, and unforeseen contingencies shall not exceed 10 per cent of the total estimated cost of the work.

V. A State must agree, through its State highway department, with the Secretary of Agriculture upon the road to be constructed and the character and method of construction.

VI. A State must construct, under the supervision of its State highway department, the road or roads, including necessary bridges and culverts, approved by the Secretary of Agriculture. The work and labor are to be done in accordance with the laws of the State and rules and regula-

tions made pursuant to the act, and subject to the inspection and approval of the Secretary of Agriculture.

VII. A State must properly maintain the roads constructed under the provisions of the act, except that in such cases as State laws impose the duty of maintenance upon civil subdivisions of the State, these must maintain the roads constructed. Proper maintenance is construed to mean the making of needed repairs and the preservation of a reasonably smooth surface considering the type of the road, but is not held to include extraordinary repairs or reconstruction. If at any time the Secretary of Agriculture shall find that any road constructed under the provisions of the act is not being properly maintained, he is directed to give notice of that fact to the highway department of the State. If within four months from the receipt of such notice the road has not been put in a proper condition of maintenance the Secretary of Agriculture is required to refuse thereafter to approve any project for road construction in the State, or civil subdivision, as the case may be, whose duty it is to maintain the road, until it has been put in a condition of proper maintenance.

A State prohibited by its constitution from engaging in any work of internal improvement may obtain its apportionment when any number of counties shall have appropriated or provided the proportion or share needed to be raised in order to entitle such State to its part of the appropriation.

Approval by the Secretary of Agriculture of the plans, specifications, and estimates submitted by a State highway department is followed by certification of the fact to the Secretary of the Treasury who thereupon is required to set aside the share of the United States payable on account of the project.

Partial and final payments for approved work are to be made by the Secretary of the Treasury, on warrants drawn by the Secretary of Agriculture, to the official, officials, or depository designated by the State highway department and authorized under the laws of the State to receive public funds of the State or county, but

--No payment shall be greater than the United States' pro rata part of the value of labor and materials which actually have been put into construction in conformity with

the plans and specifications.

Freedom from tolls of all kinds is provided for all roads constructed under the act.

The Secretary of Agriculture is authorized to make rules and regulations for carrying out the provisions of the act; to employ assistants, clerks, and others from the eligible lists of the Civil Service Commission; to rent buildings outside the city of Washington, purchase supplies, materials, etc., and incur travel and other expenses such as he may deem necessary for carrying out the purposes of the act.

Inspection and approval by the Secretary of Agriculture at every stage of the proceedings is required. Except as to section 8 the Office of Public Roads and Rural Engineering will act for the Secretary in the routine administration of the act. The apportionment of funds and the selection of projects under section 8 will be handled by the Forest Service, while surveying and construction work will be under the supervision of the Office of Public Roads and Rural Engineering. General inquiries may be addressed accordingly.

NATIONAL FOREST ROADS.

The appropriation of \$10,000,000 for the survey, construction, and maintenance of roads and trails wholly or partly within the national forests is to be available until expended under the supervision of the Secretary of Agriculture.

To receive aid a State, Territory, or county must make a formal request through its proper officer and must enter into a cooperative agreement with the Secretary of Agriculture for the survey, construction, and maintenance of the desired roads or trails upon a basis equitable to both the State, Territory, or county and the United States.

The aggregate expenditures in any State, Territory, or county must not exceed 10 per cent of the value as determined by the Secretary of Agriculture of the timber and forage resources which are or will be available for income upon the national forest lands within the respective county or counties wherein the roads or trails will be constructed. The Secretary of Agriculture is required to make annual report to Congress of the amounts expended for this purpose.

The United States is to be reimbursed for expenditures made under agreement between the Secretary of Agriculture and a State, Territory, or county by the application by the Secretary of the Treasury of 10 per cent of all revenues from the forest beginning with the next fiscal year after making of the agreement. This reimbursement is to continue until the whole amount advanced under the agreement shall have been returned to the United States from the receipts of the national forest within or adjacent to which the money is expended.

Apportionment of Funds.

The Secretary of Agriculture, after making a deduction not exceeding 3 per cent of the appropriation for any fiscal year for administrative purposes, is authorized to apportion the remainder for each year among the several States on a basis of three factors—population, area, and mileage of rural delivery and star routes—each factor having a weight of one-third. The apportionment, as worked out for the fiscal year 1917, is as follows:)

Alabama	\$104,148.90
Arizona	68,513.52
Arkansas	82,689.10
California	151,063.92
Colorado	83,690.14
Connecticut	31,090.44
Delaware	8,184.37
Florida	55,976.27
Georgia	134,329.48
Idaho	60,463.50
Illinois	220,926.23
Indiana	135,747.62
Iowa	146,175.60
Kansas	143,207.40
Kentucky	97,471.91
Louisiana	67,474.66
Maine	48,451.50
Maryland	44,047.22
Massachusetts	73,850.95
Michigan	145,783.72
Minnesota	142,394.06
Mississippi	88,905.84

STATE HIGHWAY COMMISSION

11

Missouri -----	\$169,720.41
Montana -----	98,287.19
Nebraska -----	106,770.81
Nevada -----	64,398.30
New Hampshire -----	20,996.62
New Jersey -----	59,212.68
New Mexico -----	78,737.81
New York -----	250,720.27
North Carolina -----	114,381.92
North Dakota -----	76,143.06
Ohio -----	186,905.42
Oklahoma -----	115,139.00
Oregon -----	78,687.37
Pennsylvania -----	230,644.17
Rhode Island -----	11,665.17
South Carolina -----	71,807.64
South Dakota -----	80,946.02
Tennessee -----	114,153.48
Texas -----	291,927.81
Utah -----	56,950.15
Vermont -----	22,844.47
Virginia -----	99,660.71
Washington -----	71,884.28
West Virginia -----	53,270.46
Wisconsin -----	128,361.07
Wyoming -----	61,196.82
Total -----	<u>\$4,850,000.00</u>

The basis of apportionment may slightly change, but, roughly speaking, the amount which each state will receive from the Federal Government after the first year may be ascertained by multiplying these sums by 2, 3, 4, or 5, and the aggregate amount for each State received from the Federal Treasury will be approximately as follows, to be met by equal contributions from the States:

Alabama -----	\$1,562,233.50
Arizona -----	1,027,702.80
Arkansas -----	1,240,336.50
California -----	2,265,958.80
Colorado -----	1,255,352.10
Connecticut -----	466,356.60
Delaware -----	122,765.55

Florida	839,644.05
Georgia	2,014,942.20
Idaho	906,952.50
Illinois	3,313,893.45
Indiana	2,036,214.30
Iowa	2,192,634.00
Kansas	2,148,111.00
Kentucky	1,462,078.65
Louisiana	1,012,119.90
Maine	726,772.50
Maryland	660,708.30
Massachusetts	1,107,764.25
Michigan	2,186,755.80
Minnesota	2,135,910.90
Mississippi	1,333,587.60
Missouri	2,545,806.15
Montana	1,474,307.85
Nebraska	1,601,562.15
Nevada	965,974.50
New Hampshire	314,949.30
New Jersey	888,190.20
New Mexico	1,181,067.15
New York	3,760,804.05
North Carolina	1,715,728.80
North Dakota	1,142,145.90
Ohio	2,803,581.30
Oklahoma	1,727,085.00
Oregon	1,180,310.55
Pennsylvania	3,459,662.55
Rhode Island	174,985.65
South Carolina	1,077,114.60
South Dakota	1,214,190.30
Tennessee	1,712,302.20
Texas	4,378,917.15
Utah	854,252.25
Vermont	342,667.05
Virginia	1,494,910.65
Washington	1,078,264.20
West Virginia	799,056.90
Wisconsin	1,925,416.05
Wyoming	917,952.30
Total	\$72,750,000.00

States Must Take the Initiative.

The State is the lowest unit with which the Federal Government may cooperate and only through a State highway department. This is made especially clear by the requirement that the Secretary of Agriculture and the State shall agree upon the roads to be constructed therein and character and method of construction, and that any State desiring to avail itself of the benefits of the act shall by its State highway department submit to the Secretary of Agriculture project statements setting forth proposed road construction. If the Secretary approve such project the highway department shall furnish to him such surveys, plans, specifications, and estimates therefor as he may require.

It will be especially noted that there must be an agreement between the Secretary of Agriculture and the State highway department of each State on the roads to be constructed, that projects, plans, specifications, and estimates shall be submitted by the State highway department and approved by the Secretary of Agriculture before any Federal money can be expended.

The initiative under the act lies with the States, and the Federal Government can not begin operations until after the acceptance of the act by the State, a State highway department has been created, if none exists, and road projects and the requisite engineering data have been submitted to the Secretary of Agriculture and approved. It should be clear, therefore, to communities interested in road projects which might be considered under this act that they should place themselves in touch directly with this central State highway agency.

National Forests and Good Roads.

Special provision is made to meet a situation arising especially in the Western States of the Nation because of the presence in those States of the Federal Government as a great landholder. In all the great Rocky Mountain and Pacific Coast States the Federal Government controls millions of acres of forest lands. There are many communities having a sparse population in which the Federal Government is the largest landholder. These communities are struggling to develop themselves and to secure outlets to ad-

joining communities and to markets. In many cases they have had to rely mainly on taxes on private holdings for means to finance their enterprises.

Heretofore the Federal Government has definitely recognized that the forests should contribute to the local development, as well as the national welfare, especially, by providing for the use of 35 per cent of all gross receipts from the forests for local public purposes; but in some sections there are little or no revenues from the forests, and it was clear that the community should not wait until the period of hardest struggle was past before any assistance was given them. The first need of many of the sections in undeveloped regions is for more and better roads. Without them their struggle to get a foothold is much more difficult. They remain isolated from neighbors and the outside world with meager educational opportunities and conditions unfavorable to community life and to progress. To meet the situation, the Federal aid road act provides that out of any Federal money not otherwise appropriated the sum of \$1,000,000 a year for 10 years may be expended under the supervision of the Secretary of Agriculture upon request from the proper offices for the construction and maintenance of roads and trails within or only partly within the national forests.

It stipulates that officers of the proper jurisdiction shall enter into a cooperative agreement with the Secretary of Agriculture for the construction and maintenance of such roads or trails on an equitable basis when necessary for the use and development of resources upon which the community is dependent. It provides further that the aggregate expenditures in any State, Territory, or county shall not exceed 10 per cent of the value of the timber and forage resources within the area in which the roads or trails are to be constructed. It is contemplated that under this provision projects shall be carefully considered both on their relative and absolute merits and that on behalf of the Federal Government, under the direction of the Secretary of Agriculture the work shall be undertaken by the Forest Service and the Federal Office of Public Roads in cooperation.

This Federal aid road act was designed not only to promote road building, but also adequately to safeguard through efficient machinery the expenditure of all funds

arising under it. There is a good reason for believing that these purposes will be realized. It is highly probable that it will do much more than this. As has been pointed out, the Nation is now annually spending the equivalent of \$225,000,000 for road building. The improvements of administrative agencies and methods which will certainly follow the operation of this act should lead to greatly increased efficiency in the expenditure of these large additional sums. In such case the Nation will realize great benefit not only from the expenditure of the joint funds but also of the separate surplus money of the States and communities.

How soon actual operations can begin in any State will depend upon the action of the State and the adequacy of its arrangements to meet the terms of the act. The Federal Government will be in a position to proceed as soon as the rules and regulations are formulated and projects are presented for its determination.

CHAPTER I.

FEDERAL AID.

Early in 1916, Congress appropriated \$85,000,000.00 to aid the states in the improvement of public highways, \$75,000,000.00 of this amount is apportioned among the states according to population, area, number of miles of post roads and star routes. The total apportionment for Arkansas during the five-year period is \$1,240,336.50, which is divided by years as follows: For 1916, \$82,689.10; for 1917, \$165,378.20; for 1918, \$248,067.30; for 1919, \$330,756.40 and for 1920, \$413,445.50.

In order that the State of Arkansas may secure this sum of money, it is necessary that the State assent to the law by an Act of the Legislature, and provide by law for funds which will be a guarantee to the Federal Government that the State will expend on its public road an equal amount to that apportioned by the Federal Government.

The problem of securing sufficient funds without placing a greater burden on the tax payer is easily solved by providing for the payment of all the Automobile license tax into the State Treasury to the credit of the Highway Improvement Fund instead of only one-half as is now the case. There is now to the credit of that fund about \$87,000.00 and

estimating the percentage of increase in the number of automobiles to be the same during 1917-18 as shown for 1915-16 we should have approximately 25,000 for 1917 and between 30,000 and 40,000 for 1918, but if we make a low estimate of 55,000 cars for the two years that would give us at \$10. each, \$550,000.00; to this add the \$87,000 now in the treasury, making \$637,000.00, which amount would enable the State to meet the Government requirements for 1916-17-18 and to maintain this department. It will be necessary for the Legislature of 1917 to appropriate \$496,134.00 to meet the Government apportionment for 1916-17-18, or lose the entire apportionment for five years.

Under the Federal law, aid is given to the States under the direction of the Secretary of Agriculture through the State Highway Department, warrants therefor to be drawn by the Secretary of Agriculture on the Secretary of the Treasury payable to "such official, or officials, or depository, as may be designated by the State Highway Department and authorized under the laws of the State to receive public funds for the State or County."

We have had several conferences with the Federal authorities relative to the handling of the Federal Funds and have been informed by them that the State Treasury could not be made a depository for the funds, because the State Treasurer could not, under our State Constitution, pay out money from any fund unless the same has been appropriated by the Legislature and that it is not within the province of the Legislature of the States to appropriate money already appropriated by the Federal Government. They also suggest that inasmuch as all the dealings with the State will be through the State Highway Commission, confusion would be avoided by authorizing the Chairman of the State Highway Commission to act as a depository for these funds.

We recommend that a system of State Highways be provided for by the Legislature on which these funds may be expended. This can be accomplished by the passage of a law designating as state roads, those leading from a county seat in one county to a county seat in another county and from one county seat to another county seat in the same county (and from county seats along highways leading into other States.) If this be done we estimate that the system will embrace 3,500 miles of road, the improvement of which

will accommodate about 80 per cent of the State's population. The Federal and State Funds, if used as an aid, will be sufficient to improve the entire mileage. To keep the road building interest as free from politics as possible, we further recommend the creation of an Advisory Board, whose duties it would be to select the roads and apportion both Federal and State aid funds thereon. This Board should be as near non-political as possible, and we would therefore suggest that it be composed of three men, one to be selected by the Governor, one to be the Professor of Civil Engineering at the University of Arkansas, and the third to be the State Highway Engineer.

The Federal law requires that the State Highway Department furnish all plans, specifications and estimates of cost. It also requires that construction work be "under the direct supervision of the State Highway Department, subject to the inspection and approval of the Secretary of Agriculture." We do not understand the law to mean that an engineer from this department must be in charge of the work and be present every day during the construction, but think the law intends for the department to inspect and approve or disapprove the work as it progresses and that the Secretary of Agriculture shall inspect and approve or disapprove, as the case demands.

In order that the State be placed on the same footing as the Federal Government, we recommend that the right of inspection and approval be given this department with the power to withhold or withdraw State and Federal aid, if in the judgment of this Department, approved plans and specifications are not being followed.

Maintenances.

This side of the road question has been greatly overlooked in a few of our counties and road districts. We have tried to impress the County authorities with the fact that intelligent maintenance should begin when the road is completed. For earth road maintenance the use of the split log drag is very important. More attention should also be given to the cutting of weeds and keeping the drains and ditches open.

To comply with the Federal law it is imperative that we

provide for maintenance on a practical basis. This could be accomplished by a law authorizing the County Judge to use a part of the 3-mill road tax, on when Road Improvement Districts are organized, the Commissioners to levy a small yearly tax for maintenance.

WORK DONE BY THE OFFICE IN MAKING PRELIMINARY SURVEYS, PLANS, SPECIFICATIONS AND ESTIMATES OF COST.

Number of Miles Surveyed	3,461.35
Number Miles Surveyed and Sure of Construction	3,115.22
Estimated Cost of Construction	\$14,299,066.02
Cost of Field Work	\$ 8,092.63
Cost of Office Work	5,402.79
Traveling and Other Expenses	4,681.82
<hr/>	
Total Cost to State of Surveys ----	\$18,083.82
Average Cost to State per Mile	5.23
Average Cost of Surveys per Mile in all other States Reporting ----	41.75

NOTE—A part of the Cost of Surveys has been borne by the districts.

ARKANSAS COUNTY

J. C. Wilcox, County Judge.

Approximate Area, 1000 sq. Miles.

Population, 1910, 16,103.

Real and Personal Assessment, 1917, 10,122,370.

General Road Work.

There is no good road material in Arkansas county. The surface is level. The soil is not adapted to road building and the maintenance of earth roads is difficult. The main roads have been well graded and are in fairly good condition in favorable weather.

The only solution for the road problem in this county is the construction of hard surface roads with imported material, and efforts are being made in this direction.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Goldman-Stuttgart	5.53	Asphaltic Macadam	\$ 81,294.00	Alexander
Humphrey-Goldman	6.00	Gravel	36,000.00	Alexander
Stuttgart-South	13.43	Gravel	92,818.80	Alexander

The survey was made in 1916 for a road from Humphrey to Goldman Bridge and estimates furnished for a rock base road with gravel surface. The road was completed in the summer of 1918. It is 6.6 miles long and cost \$36,000. State aid allotted \$6,000.

Estimates were furnished for a road 5.58 miles long from Goldman to Stuttgart. It is to be built of asphaltic macadam, 14 feet wide. Estimated cost \$61,294.09.

The district is in process of organization.

ASHLEY COUNTY

C. D. Oslin, County Judge

Approximate Area, 940 sq. Miles.

Population, 1910, 25,268.

Real and Personal Assessment, 1917, \$6,907,030.

General Road Work

During the present biennial period \$3000 has been expended in the purchase of road equipment, and the county now has on hand 3 tractors, 12 grading machines and 3 drags with a total value of \$13,800.

Fifteen wooden and one steel bridge have been built at a total cost of \$3,000. Five hundred feet of metal culverts also have been placed.

Twenty-one miles of road have been opened up and cleared.

Judge Oslin says: "The condition of the roads and bridges is rapidly improving and a healthy sentiment for road building prevails.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arkansas and Louisiana.....	28.7	Gravel Macadam	\$ 273,000.00	Alexander

By special act of the legislature of 1917 the Arkansas and Louisiana Road Improvement District was created to build a road through Lincoln, Drew, Desha, Ashley and Chicot counties to the Louisiana state line, to connect with a line of road to Monroe and Alexandria, Louisiana. Of this road, 28.7 miles are included in Ashley county.

It is being built of Gravel Macadam, 14 ft. wide, 6 inches deep, on a 22 ft. dump. The estimated cost of the entire project is about \$100,000. Federal and state aid allotted, \$332,000. Construction has been delayed by war conditions, but work is proceeding as rapidly as is now possible.

Plans and estimates were furnished for a 9 ft. gravel road connecting the towns of Hamburg, Crissett, Snyder and Fountain Hill, and it is hoped that this road will be built.

BAXTER COUNTY

Lee Jones, County Judge

Approximate Area, 600 sq. Miles.
Population, 1910, 10,389.

Real and Personal Assessment, 1917, 2,311,006.

General Road Work.

On Jan. 1st., 1917 Baxter county had on hand 1 Rumley tractor and 6 grading machines, valued at \$3,040. During the present period the County Judge has purchased 3 graders and other equipment at a cost of \$1,000.

Fifty miles of road have been graded and 10 miles of gravel placed.

Judge Jones says: "The condition of the roads and bridges is very ordinary, but the sentiment for road improvement is good. Wood culverts have been put in throughout the county."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Mountain Home to Missouri State Line	35.4	Gravel	\$ 163,589.30	Alexander
Cotter to North Fork of White River	23.09	Gravel	115,389.76	Alexander
Searcy County Line to Stone * County Line	7.48	Earth	\$ 10,719.30	Alexander

Plans, specifications and estimates were furnished for 12 ft. gravel road from Cotter, via Gassville, Mountain Home, Oakland and Henderson to the Missouri State line. The estimated cost is \$163,589.30. Subsequently estimates were furnished for that part of the above line from Cotter to the north fork of White river, a distance of 23.09 miles. The estimated cost of this line is \$115,389.76. State aid allotted \$20,000. The district has been organized and construction will begin as soon as war conditions will permit.

Surveys have been made by the department for the Big Flat Road from the Searcy county line to the Stone county line, 7.48 miles in length. This is a graded earth road, 22 ft. wide, with corrugated iron and concrete culverts. Estimated cost, \$11,791.23.

BENTON COUNTY

Leander Norris, County Judge.

Approximate Area, 880 sq. Miles.

Population, 1910, 33,389.

Real and Personal Assessment, 1917, \$11,622,571.

General Road Work.

Benton County has for several years given a great deal of attention to the improvement of her earth roads, and at present, practically all of the principal roads are well graded and in excellent condition. The surface and soil conditions are very favorable to road construction and maintenance.

With the abundance of gravel and stone in all parts of the county, good roads may be constructed at a minimum cost.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Rogers-War-Eagle-Madison County Line	19.72	Macadam	\$ 60,149.64	Alexander
Rogers-Monte Ne-Washington Co. Line	12.91	Macadam	57,119.04	Alexander

Benton County's portion of the Eureka Springs-Segliman road, 6.05 miles long has just been completed under the general supervision of this department. R. D. Alexander is the engineer for the district. It is being constructed of native gravel, 12 feet wide on a 22 ft. dump. On account of the mountainous country through which it runs, it is one of the most difficult pieces of gravel road construction in the state. It is being built with convict labor, as provided by the legislature of 1917.

A road has been surveyed from Rogers via Monte Ne to the Washington county line. It is to be constructed of native stone macadam, 12.91 miles long and 12 feet wide. Estimated cost, \$_____.

BOONE COUNTY

N. A. Freeling, County Judge

Approximate Area, 648 sq. Miles.

Population, 1910, 14,318.

Real and Personal Assessment, 1917, 4,251,934.

General Road Work.

The county had on hand 1 Rumley tractor and 25 Grading machines, valued at \$6,500 and has purchased 2 Rumley tractors and 4 grading machines and other equipment at a cost of \$8,000.

About 250 miles of grading has been done. Eleven hundred lineal feet of stone pipe culverts has been placed. Forty concrete culverts have been put in costing \$1,200.

The roads and bridges are in good condition and the road sentiment is good.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Harrison-Batavia-Alpina-Bellefont Valley Springs-Newton County line	35.27	Native Stone Macadam	\$ 150,682.71	Alexander

Surveys have been made and plans, specifications and estimates furnished for a system of roads, 35.27 miles long from the Carroll county line to Harrison; Harrison south to the Newton county line; Harrison southeast to the Newton county line. The line from Harrison south to the Newton county line is under construction and forms a part of a line through Boone, Newton and Johnson counties, and the Ozark Forest Reserve, from Harrison to Clarksville. It is of native stone macadam 12 feet wide, 10 inches deep on a 22 foot dump. State aid allotted, \$3,000.

A road has been surveyed from Olvey to Valley Springs to connect with the above system.

BRADLEY COUNTY

T. A. Carter, County Judge.

Approximate Area, 645 sq. Miles.

Population, 1910, 14,518.

Real and Personal Assessment, 1917, \$4,638,634.

General Road Work.

Bradley county has for several years done a great deal of work on her roads. During the last two years 1 tractor and

4 grading machines and other equipment have been purchased at a cost of \$5,600.

They have now on hand 2 Rumley tractors, 14 grading machines and other equipment, with a total value of \$11,500.

Approximately 200 miles of grading has been done and 18 miles of gravel has been placed. Two hundred feet of concrete and 400 feet of wood culverts have been placed, at a cost of \$2,000.

A steel bridge was built over Saline river at a cost of \$29,000, of which the state furnished \$7,500.

Judge Carter says: "The condition of the roads and bridges is good, and the sentiment for better roads is universal throughout the county."

Permanent Road Work.

No move has been made as yet to organize districts under the Alexander law for permanent road building.

CALHOUN COUNTY

L. F. Plunkett, County Judge.

Approximate Area, 900 sq. Miles.

Population, 1910, 9,894.

Real and Personal Assessment, 1917, \$3,813,095.

General Road Work.

The wide distribution of gravel throughout Calhoun County makes the cost of road building very low. In most parts of the county it is only necessary to grade the roads and put in culverts and bridges to have excellent gravel roads.

While no districts have been organized for permanent road building under this department, the principal roads in the county have been well graded and the general road conditions are very good indeed.

Permanent Road Work.

Calhoun county has taken no steps up to the present time looking to the construction of permanent roads, under the supervision of this department, so far as can be ascertained.

CARROLL COUNTY

Roy Thompson, County Judge.

Approximate Area, 640 sq. Miles.

Population, 1910, 16,829.

Real and Personal Assessment, 1917, \$4,460,490.

General Road Work.

Carroll County has abundance of both gravel and stone for road building. The surface generally is very rough and the construction of earth roads difficult. The roads of this county have been graded and drained and are in very good condition. The streams are well bridged.

The sentiment for better roads is good throughout the county and a strong tendency toward permanent construction is everywhere manifest.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Eureka Springs-Green		Stone	\$	
Forest-Carrollton-Alpena	29.5	Macadam	158,285.10	Alexander
Eureka Springs-Seligman	15.74	Gravel	125,000.00	Alexander

Of the Eureka Springs-Seligman road 15.74 miles run through Carroll county. Work is progressing rapidly on a native stone macadam and gravel road 14 feet wide on a 22 ft. dump. W. W. Blockson, E. M. Bare and F. D. Cook are the commissioners. C. A. Fuller is attorney and R. D. Alexander, engineer of construction. The mountainous nature of the country render construction difficult and expensive, although excellent material is abundant along the right of way. Convict labor is being used as provided by the legislature of 1917. Estimated cost, \$125,000. State aid allotted, \$32,500.

Plans, specifications and estimates have been approved by the department for a native stone and gravel road from Eureka Springs through Berryville, Green Forest, Carrollton to Alpena, 29.5 miles long. Estimated cost \$158,285.10.

Roads have been projected from Berryville-South to the Madison county line, and from Osage to Carrollton to Alpena.

CHICOT COUNTY

E. P. Tony, County Judge.

Approximate Area, 850 sq. Miles.

Population, 1910, 21,987.

Real and Personal Assessment, 1917, \$5,950,162.

General Road Work.

Chicot county has purchased during the present biennial period 1 Rumley tractor, and now has on hand 2 Rumley tractors, 20 grading machines and other equipment, valued at \$15,000. About 150 miles of grading has been done. Four wooden and four steel bridges have been built at a cost of \$24,000. Two cars of steel pipe have been used in culverts. The surface is level and the county has no material for permanent road building.

Judge Tony says: "Chicot county has the best graded roads in the state. The sentiment for better roads is excellent."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arkansas and Louisiana	57.5	Asph'c Macadam	1,236,600.00	Special Act
Uniontown-Eudora	8.49	Gravel	56,615.43	Alexander

The Arkansas Louisiana road runs through Chicot county a total length of 57.5 miles. It is being built of mixed asphaltic macadam, with 2 inch surface, on 6 inch rock base, 14 feet wide on 22 feet dump. This road participates in the general contract price of \$2,800,000 plus overhead expenses, and in the \$332,000 State and Federal aid allotted to the entire 154 miles embraced in the district. One branch runs through the towns of Dermott, Blissville, Morrell, Portland, Parkdale and Wilmot and the other through Lake Village, Chicot and Eudora to the Louisiana line.

Plans, specifications and estimates were furnished for a 12 ft. gravel road from Kilbourne to Eudora, 8.49 miles. Estimated cost, \$56,616.43.

CLARK COUNTY

J. T. Green, County Judge.

Approximate Area, 900 sq. Miles.

Population, 1910, 23,686.

Real and Personal Assessment, 1917, \$7,599,858.

General Road Work.

Fifteen grading machines were on hand Jan. 1st., 1917, valued at \$4,500. Two Rumley tractors, 60 slips and other equipment have been purchased at a cost of \$4,349.20. Twenty miles of gravel have been placed; also 20 pipe culverts and 160 feet of concrete culverts have been put in at a cost of \$247.50.

Fifty-one wooden and 15 steel bridges, varying in length from 30 feet to 550 feet, have been built.

Judge Green says: "The county has, perhaps, as many good bridges as any county in the state. The interest for general road improvement is fair."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arkadelphia-Okolona-Antoine-Gurdon and Laterals	92.08	Native Gravel	\$ 459,419.29	Alexander

Plans, specifications and estimates have been furnished for an extensive system of roads in this county, 92.08 miles in length. The system is designated as the Arkadelphia-Okolona-Antoine-Gurdon and Laterals, and embraces the following lines: Arkadelphia-Okolona; Okolona-Antoine; Arkadelphia-Gurdon; Gurdon-Bierne-County line; Arkadelphia-Elkins Ferry; Arkadelphia-Bismark-Hot Spring county line; Arkadelphia-Garland county line. These roads are to be built of native gravel, 12 ft. wide on 22 ft. dump. Estimated cost \$459,419.29. State and Federal aid allotted, \$25,000.

The district has been organized and work will begin as soon as possible.

*CLAY COUNTY.**R. L. Lewis, County Judge.*

Approximate Area, 586 Sq. Miles.

Population, 1910, 23,690.

Real and Personal Assessment, 1917, 7,408,920.

General Road Work

Clay County reports no equipment on hand and none purchased during the present biennial period. No grading is reported and no culverts placed.

Five wooden and two steel bridges have been built at a cost of \$17,600.

Judge Lewis says: "The roads and bridges are in fair condition. Everything is blocked during the period of the war."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Greene County Line-Rector-Piggott-St. Francis and Laterals	32.66	Gravel	\$ 151,318.34	Alexander

Plans, specifications and estimates have been furnished for a native gravel road from the Greene County line to Rector to Piggott, to StFrancis and Laterals, 32.66 miles in length. Estimated cost, \$151,318.34. The district is in process of organization and it is expected that the road will be built in a short time.

*CLEBURNE COUNTY**J. L. Bittle, County Judge*

Approximate Area, 640 sq. Miles.

Population, 1910, 11,903.

Real and Personal Assessment, 1917, \$2,807,796.

General Road Work.

The surface of this county is generally very rough and broken. Abundant rock material is at hand for road construction, but it has not been very extensively used up to the present time. The principal roads are being graded and are in fairly good condition. The indications are that ex-

tensive improvements will be made in the near future.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Heber Springs-Rose Bud-White County Line	10.13	Earth	\$ 23,222.21	Alexander

Plans, specifications and estimates were furnished for a graded earth road 10.13 miles long from Heber Springs to the White county line near Rose Bud. The estimated cost with concrete culverts and wooden bridges, \$23,222.21.

The district is in process of organization.

CLEVELAND COUNTY

W. E. Galloway, County Judge.

Approximate Area, 500 sq. Miles.

Population, 1910, 13,481.

Real and Personal Assessment, 1917, \$2,942,589.

General Road Work.

During the present biennial period Cleveland county has purchased 2 Rumley tractors, 2 grading machines, 1 truck and 1 drag, at a cost of \$6,300. Four hundred feet of pipe culverts have been placed. Twenty-four wooden bridges and one steel bridge have been built at an expense of \$28,000.

Judge Galloway says: "The roads and bridges in the county are in fairly good condition. The majority of the people are opposed to road improvement by bond issues, but favor an increase in the general road tax."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Jefferson County Line via Rison and Kingsland to Dallas County Line	22.57	Gravel	\$ 126,130 00	Alexander

Plans, specifications and estimates were furnished for a 10 ft. native gravel road, 22.57 miles long from the Jef-

erson county line through Rison and Kingsland, to the Dallas county line. The estimates, including a 35 ft. steel bridge and 4,125 ft. of wood pile bridges, is \$126,130. Work has not yet begun on this project, which is to be a part of a line of road from Pine Bluff to Texarkana.

COLUMBIA COUNTY

A. D. Pope, County Judge.

Approximate Area, 900 sq. Miles.

Population, 1910, 23,821.

Real and Personal Assessment, 1917, \$5,826,786.

General Road Work.

Fourteen Graders, valued at \$2,800, were on hand and during the present biennial period the county has bought 3 Rumley tractors and 3 large graders and other equipment, at a total cost of about 10,000.

About 400 miles of road has been graded and about 2 miles of gravel placed. Three car loads of vitrified clay pipe have been used in culverts. Sixty wooden bridges, with a total length of 2,400 feet have been built at a cost of \$5,800. Contract has been let for 6 concrete bridges, but construction has been delayed by war conditions.

Judge Pope says: "The roads are in good condition, but the introduction of heavy truck traffic makes it difficult to keep them shaped up. The sentiment for road building is good in the entire county.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Lafayette County Line via Waldo, Magnolia, McNeil to Ouchita County Line	27.33	Gravel	\$ 134,918.00	Alexander

Surveys were made and plans, specifications and estimates furnished for a road from Magnolia via McNeil to the Ouachita county line, and a road from Magnolia through Waldo to the Lafayette county line. These were combined into one district. The estimates were made for a gravel road, 27.33 miles in length, 12 ft. wide on a 22 ft. dump. The estimated cost is \$134,918.00. State and Federal aid

allotted, \$16,092.09. The contract has been let on the line from Magnolia to the Ouachita county line and work will begin as soon as war conditions will permit.

CONWAY COUNTY

M. H. Dean, County Judge.

Approximate Area, 540 sq. Miles.

Population, 1910, 22,729.

Real and Personal Assessment, 1917, \$4,701,101.

General Road Work.

Conway County has for several years given attention to grading her roads and most of the main roads are in fairly good condition. The surface varies from river bottoms to high uplands. Good road material prevails in the greater part of the county.

The temporary nature of the earth road has produced a strong sentiment in favor of hard surface roads and much preliminary work is being done in that direction.

A steel bridge is now being built over the Arkansas River near Morrilton.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arkansas River-Perry County Line	7.84	Native Gravel	\$ 49,106.26	Alexander
Arkansas River-North to County Line	32.28	Earth	68,987.72	Alexander
Plummerville-North-Springfield-Cadron-Martinville	27.38	Gravel	73,745.98	Alexander
Morrilton-St. Vincent	26.62	Earth	61,745.64	Alexander
Morrilton-East and West	23.96	Gravel	161,792.56	Alexander

A great deal of preliminary work has been done in this county during the present biennial period. A north and south line and an east and west line across the county have been projected through Morrilton, the county site. The line from the bridge over the Arkansas River to the Perry county line, 7.84 miles long, is to be built of gravel. Estimated cost \$49,106.26.

The line from the bridge north is 32.28 miles long and is to be built of graded earth. Estimated cost, \$68,988.72.

State aid allotted, \$12,862.59.

The Morrilton East and West road is to be a part of a line from Little Rock to Fort Smith. It is 23.96 miles long and is to be built of gravel at an estimated cost of \$161,792.-56.

The Plummerville-Springfield and laterals is 27.38 miles long and is being constructed of gravel. Estimated cost, \$73,745.98.

A graded earth road 26.62 miles long will be built from Morrilton to St. Vincent. Estimated cost, \$61,745.64.

CRAIGHEAD COUNTY

W. H. Fuller, County Judge.

Approximate Area, 720 sq. Miles.

Population, 1910, 27,627.

Real and Personal Assessment, 1917, \$11,493,597.

General Road Work.

Craighead County had on hand 1 Rumley tractor and 12 grading machines, valued at \$5,500 and has bought 1 Rumley tractor, 2 grading machines and other equipment at a cost of \$3,400.

About 196 miles of grading has been done, 6 miles of gravel placed, and 28 wooden bridges from 20 to 60 feet in length have been built.

The surface of the county is level and the maintenance of earth roads very difficult.

Judge Fuller says: "The condition of the roads is good, as there has not been much rain yet. All want good roads."

Permanent Road Work

Name of Road	Miles	Type	Estimated Cost	Under What Law
Jonesboro-Otwell	12.29	Asphaltic Concrete	\$ 54,035.41	Alexander
Brookland-St. Francis River	16.07	Gravel	69,628.64	Alexander
Jonesboro-Nettleton	10.13	Asphaltic Concrete	192,348.75	Special Act
Nettleton-Bay Lake City	24.06	Asphaltic	340,604.90	Alexander
Manette-Lake City State Line	22.80	Macadam	148,038.14	Alexander
Jonesboro-Egypt	22.20	Macadam	157,597.95	Alexander

Permanent road building has been very active in Craighead county during the present biennial period, resulting in the initiation of the following road projects: An asphaltic concrete road 12.29 miles long from Jonesboro to Otwell. Estimated cost, \$54,035.41.

A gravel road, 16.07 miles long, from Brookland to the St. Francis river. Estimated cost, \$69,628.64.

The Jonesboro-Nettleton road district was formed by special act. The road is being built of Asphaltic Concrete with concrete curbing. Estimated cost \$192,348.64. Federal aid allotted \$30,836.16.

The Nettleton-Bay-Lake City road, 24.06 miles long is built of Macadam with asphalt carpet cover. Estimated cost, \$340,604.90. Federal aid \$10,000.

A Macadam road 22.80 miles long from Monette to Lake City to State Line. Estimated cost, \$148,038.14.

A line from Jonesboro to Egypt, 22.20 miles long. It is to be built of Macadam. Estimated cost, \$157,597.95

These are all live projects and will be built as soon as conditions will permit.

CRAWFORD COUNTY

C. A. Starbird, County Judge

Approximate Area, 625 sq. Miles.

Population, 1910, 23,942.

Real and Personal Assessment, 1917, \$7,088,692.

General Road Work.

The surface of this county varies from river bottoms to mountains and hence the road problems are varied.

The main roads are being rapidly improved by grading and draining, and are as a whole in fairly good condition. Steel bridges are being built over the streams as rapidly as funds can be secured.

There is a strong sentiment throughout the county for better and more permanent roads.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Van Buren-Kibler	7.57	Concrete	\$ 56,602.80	Alexander
Van Buren-Alma-Winslow	35.4	Shale and Macadam	110,893.46	Alexander

Plans, specifications and estimates have been furnished for shale and macadam road, 35.43 miles long from Van Buren via Alma to Winslow. This is to be a part of a system of roads from Fort Smith through Crawford, Washington and Madison counties. Estimated cost, \$110,893.46. State aid allotted, \$34,801.40.

Estimates were furnished also for concrete road, 7.55 miles long, from Van Buren to Kibler. Estimated cost, \$56,662.80.

A steel bridge has been built over Mulberry river toward which there was allotted \$1,500.

CRITTENDEN COUNTY

R. V. Wheeler, County Judge.

Approximate Area, 629 sq. Miles.

Population, 1910, 22,447.

Real and Personal Assessment, 1917, \$11,470,987.

General Road Work

Crittenden County has no stone or gravel for road building and the low, level surface renders it difficult to keep the earth roads in good condition. While a great deal grading and draining has been done on these roads, the county is directing its efforts specially toward permanent road building.

The roads and bridges are in comparatively good condition and an excellent road sentiment prevails.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Proctor-Edmonson and Laterals.....	40	Gravel and Earth	\$ 310,000.00	Alexander
Earle-Heifer	10	Earth	23,500.00	Alexander
Heifer-Turrell	7.27	Silica	54,477.50	Alexander
Earle-The St. Francis, Polansett and Cross County Lines	59.96	Gravel	541,876.74	Alexander

The opening of the new bridge at Memphis has stimulated road building in Crittenden and other Eastern Arkansas counties.

The district has been organized and the contract let for a system of roads in the vicinity of Chatfield, total length, 49 miles. Of this, 16.73 miles will be a 16 ft. gravel road and the remainder of graded Earth. Estimated cost, \$310,000. State aid allotted, \$50,000.

The Earle-Heafer district has been organized and the road will soon be completed. It is a graded earth road, 10 miles long, 22 feet wide. Estimated cost, \$23,500.00. State aid allotted, \$4,000.

The district has been organized also for the Heafer-Turrell, silica surfaced road, 7.27 miles long. Estimated cost, \$54,477.50. State aid allotted, \$8,000.

Estimates have been furnished for a system of roads from Earle to the St. Francis, Cross and Pionsett county lines, 59.99 miles long. All these are to be built of gravel, ten to fourteen feet wide. Estimated cost, \$453,876.74.

All these are live projects and will be built soon.

CROSS COUNTY

A. Jordan, County Judge.

Approximate Area, 700 sq. Miles.

Population, 1910, 14,042.

Real and Personal Assessment, 1917, \$6,622,925.

General Road Work

Gravel can be secured from Crowley's Ridge and has been extensively used at different places in the county. The surface of a large portion of the County is low and the maintenance of earth roads is very difficult. The principal roads have been well graded in most parts of the county and the streams are well bridged. The difficulty of maintaining earth roads has created an active interest in permanent road construction and much work is being done in this line.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Wynne-South to Cross County Line	4.85	Gravel	\$ 26,432.75	Aid under

Plans, specifications and estimates have been furnished for a gravel road 4.85 miles long from Wynne south to county line and the district is in process of organization. Estimated cost, \$26,432.75.

The district has been organized on a road previously surveyed from Wynne east to the Crittenden county line, 18.47 miles. Estimated cost \$117,585.24. State and Federal aid allotted, \$12,516.51. This road is practically completed and forms a part of a hard surface road from Wynne to Bridge Junction, near Memphis.

DALLAS COUNTY

J. T. Richardson, County Judge.

Approximate Area, 650 sq. Miles.

Population, 1910, 12,621.

Real and Personal Assessment, 1917, \$4,264,688.

General Road Work

Dallas County has a varied surface and road building varies in different parts of the county. All the important roads have been graded and a good deal of gravel has been placed in sections of the county. Road conditions have improved rapidly for the last four years. The roads and bridges are in very good condition.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Ramsey-Dalark	27.2	Earth	\$ 36,026.90	Alexander

Plans, specifications and estimates have been furnished for a graded earth road, 27.2 miles long from Ramsey to Dalark. Estimated cost, \$36,026.90. State aid allotted, \$12,584.03. The work is being done under the direction of the County Judge and is progressing rapidly toward completion.

DESHA COUNTY

G. B. Ewing, County Judge.

Approximate Area, 860 sq. Miles..

Population, 1917, 15,274.

Real and Personal Assessment, 1917, \$5,821,131.

General Road Work

The county has on hand 1 tractor and 15 grading machines, and other equipment, valued at \$14,900.

About 75 miles of road have been graded. Two wooden bridges and one steel bridge have been built at a cost of \$10,760.

Judge Ewing says: "The condition of the roads and bridges is very good and the sentiment in favor of improved roads is very strong."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arkansas and Louisiana	46.3	Asphaltic Macadam	\$1,238,600.00	Special Act

The Arkansas and Louisiana road runs through Desha county, 46.3 miles, through the towns of Reedville, Dumas, Walnut Lake, McGhee, Masonville and Trippe, with a branch to Arkansas City.

This part of the road participates in the general contract price of \$2,800,000, plus overhead expenses, and in the State and Federal aid allotted, \$332,000.00 for the entire project.

Grading is proceeding, but construction is being retarded by war conditions.

A line has been projected from McArthur via McGehee to the Drew county line.

DREW COUNTY

Robt. Knox, County Judge.

Approximate Area, 800 sq. Miles.

Population, 1910, 21,960.

Real and Personal Assessment, 1917, \$5,702,605.

General Road Work

The surface of Drew County is generally level and the red clay and gravel soil in a large part of the county renders

road building comparatively easy. Nearly all of the principal roads have been graded and drained and are in very good condition, and the streams are fairly well bridged. The sentiment for improved roads is almost universal.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arkansas and Louisiana	9.6	Asphaltic Macadam	\$ 188,200.00	Special Act
Wilmar-Monticello-Winchester and laterals	45.82	Gravel	156,343.45	

The Arkansas-Louisiana road runs through the north-eastern part of Drew county through the towns of Winchester and Tillar, 9.6 miles in length. The contract has been let and the grading work is proceeding rapidly, but the completion of the road is being delayed by war restrictions on material and transportation. The specifications call for mixed asphaltic macadam. Estimated cost \$188,200. This road participates in the \$332,000 State and Federal aid allotted to the entire district.

Plans, specifications and estimates have been furnished for a gravel road, 45.82 miles long from Wilmar via Monticello to Winchester and laterals, to connect at Winchester with the Arkansas and Louisiana road. Estimated cost, \$156,343.55.

FAULKNER COUNTY

E. L. Smith, County Judge.

Approximate Area, 676 sq. Miles.

Population, 1910, 23,708.

Real and Personal Assessment, 1917, \$4,302,332.

General Road Work.

Faulkner county had on hand Jan. 1st., 1917, 1 Rumley tractor and 23 grading machines valued at \$8,300. During the present biennial period 1 tractor, 6 grading machines and other equipment were purchased at a cost of \$3,400.

About 900 feet of corrugated iron pipe culverts and 84 feet of concrete culverts have been placed. Twenty-one wooden bridges have been built at a cost of \$3,150. For

flooring and painting steel bridges, \$2,500 has been spent.

With the 3 mill tax, supplemented by state aid and funds contributed by citizens along the routes, Judge Smith has graded 317 miles of road. The clay and gravel soil of this county makes a fine road when well graded and drained, and the roads are in excellent condition.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Conway-Vilonia	16	Gravel	\$	County Work
Conway-Damascus	23	Gravel	County Work
Wooster-Greenbrier-Guy	15	Gravel	County Work
Holmes Store-Mount Vernon	16	Gravel	360,000.00	County Work

An extensive system of graded earth roads is under construction embracing the following lines: Conway to Vilonia; Conway to Damascus; Wooster to Greenbrier to Guy; Holmes Store to Mt. Vernon.

The estimated cost is about \$360,000. State Aid allotted \$10,149.74.

No districts were organized for these roads, but the work is being done by the County Judge with funds furnished by the townships through which the roads run, supplemented by state aid. Metal and specially constructed concrete pipe culverts are being used.

Contract has been let for a bituminous Macadam road, 8.07 miles long from Conway to Saltilo. Estimated cost \$41,971.57. Federal Aid, \$15,000.

FRANKLIN COUNTY

D. L. Ford, County Judge.

Approximate Area, 682 Sq. Miles.

Population, 1910, 20,683.

Real and Personal Assessment, 1917, \$4,872,559.

General Road Work.

The soil of this country is such that by proper grading and draining the roads can be put in excellent condition. A great deal of work of this kind has been done in the last few years, and road conditions are fairly good in

nearly all parts of the county. The people are strongly in favor of general road improvement.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Johnson County Line-Ozark-Crawford County Line.....	24.71	Gravel	\$ 108,838.40	Alexander

Plans, specifications and estimates have been furnished for a gravel road, 24.71 miles long from the Johnson county line through the towns of Altus, Ozark and White Oak to the Crawford county line near Mulberry. Estimated cost, \$108,838.40. This will form a part of a road from Little Rock to Fort Smith and will be built as soon as possible.

A road is being projected from the Logan county line, via Charleston and Branch to the Sebastian county line.

FULTON COUNTY

J. W. Carroll, County Judge.

Approximate Area, 660 sq. Miles.

Population, 1910, 12,193.

Real and Personal Assessment, 1917, \$2,430,768.

General Road Work.

Fulton County has excellent limestone in abundance for road building and efforts are being put forth to improve the principal roads by grading and draining. The general road conditions have been very much improved in the last few years and sentiment for better roads is growing rapidly.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
North Arkansas No. 2, Izard County Line via Salem-Mammoth Springs	31.09	Graded Earth	\$ 67,030.74	Special Act
Sharp County Line-Viola	40	Earth	95,933.28	Alexander

The North Arkansas No. 2 runs through Fulton county from the south line of the county through Salem and Fryalt to Mammoth Springs, 31.09 miles. It is of graded earth, 22

feet wide. Estimated cost \$67,030.74. This part of the line participates in the \$62,649.30 State and Federal aid allotted to the entire North Arkansas No. 2 road. The contract for this section will be let in a short time. Like almost all other permanent road construction, it has been delayed by war conditions.

Plans, specifications and estimates were furnished for a graded earth road from the Sharp county line to Viola, 40 miles. Estimated cost \$95,983.28.

The district has not been formed.

GARLAND COUNTY

S. A. Buchanan, County Judge.

Approximate Area, 580 sq. Miles.

Population, 1910, 27,271.

Real and Personal Assessment, 1917, \$11,350,690.

General Road Work.

Garland County had on hand Jan. 1st., 1917, 2 Rumley tractors and 1 grading machine, valued at \$3,800. During the present period, 1 tractor, 2 grading machines and other equipment have been purchased at a cost of \$5,100.

A great deal of grading has been done and 200 feet of pipe culverts and 250 feet of concrete culverts have been placed.

Judge Buchanan says: "The roads in most parts of the county are in very good condition. The sentiment in the county is strongly in favor of good roads and if permitted to do so, the people would gladly vote to issue county bonds for permanent road building.

"The roads in most parts of the county are in very good condition."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Hot Springs to Clark County Line	6.44	Concrete and Gravel	\$ 95,394.53	Alexander
Ouchita River to Montgomery County Line	13.95	Earth	47,779.38	Alexander
Hot Springs to Little Rock Road	12	Bit Mac	228,615.20	Special Act

Plans, specifications and estimates have been made for 14 ft. concrete and gravel road 6.44 miles long from Hot Springs to the Clark county line to connect with the Arkadelphia-Hot Springs road. Estimated cost \$95,934.53.

Plans, specifications and estimates were furnished also for a 22 ft. earth road 13.95 miles long from the Ouachita river west to the Montgomery county line. Estimated cost \$47,779.38. State aid allotted \$7,500. This road has just been completed and forms a part of a good macadam and graded earth road from Hot Springs to Mount Ida and Womble in Montgomery county.

A road is being projected from Jessierville in the northern part of the county, via Mountain Valley to Hot Springs.

Estimates have been furnished for a road from Hot Springs to Little Rock through Garland, Saline and Pulaski counties. Estimates on the 12 miles in Garland county, \$228,615.20. The district is being organized.

GRANT COUNTY

J. A. Waddell, County Judge.

Approximate Area, 642 sq. Miles.

Population, 1910, 9,425.

Real and Personal Assessment, 1917, \$2,734,817.

General Road Work.

Fairly good gravel is available in the western part of the county and much of it has been used in permanent road construction. The main roads are being well graded and put in very good condition.

A strong sentiment exists throughout the county both for general and permanent road improvement.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Sheidan-Morels Ferry	14.15	Gravel	\$ 62,032.17	Alexander

A gravel road 28.3 miles long has just been completed east and west across the county under a special act of the

legislature of 1915, at a cost of \$181,500. State aid allotted \$11,173.84. Grant county also built that part of the Pine Bluff-Little Rock road running through the county. There is now a good road from Sheridan to Pine Bluff and Little Rock and to Malvern and Hot Springs, furnishing a fine outlet for the entire county.

Plans, specifications and estimates have been furnished for a native gravel road from Sheridan to Moring's Ferry, 14.15 miles in length. Estimated cost, \$62,032.17. The contract has been let and work will begin as soon as possible.

GREENE COUNTY

W. A. Branch, County Judge.

Approximate Area, 640 sq. Miles.

Population, 1910, 23,852.

Real and Personal Assessment, 1917, \$7,758,736.

General Road Work.

Nearly all the principal roads in this county have been graded, but the nature of the soil is such that it will be necessary to import material for hard surface before satisfactory roads can be obtained. The streams have been well bridged and the roads are in comparatively good condition.

The sentiment for better roads is excellent and an era of permanent road construction is at hand.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Paragould, East-Hopkins Bridge	23.10	Gravel	\$ 133,995.74	Alexander
Walcott, West Rhea Bridge	10.71	Gravel	60,798.00	Alexander

Estimates have been furnished on gravel road 23.10 miles long from Paragould, East to Hopkins bridge. Estimated cost \$133,995.54. This road will be built as soon as conditions will admit.

Plans, specifications and estimates were furnished for a gravel road 14 ft. wide and 10.71 miles long, from Walcott to Rhea Bridge. Estimated cost \$60,798.00. State aid allotted \$14,000.

Plans have previously been furnished for a road from Paragould-West and from Fontaine to Walnut Corners.

A line has been proposed also from Stanford to Rhea Bridge.

These are all live projects and will be built in the near future

HEMPSTEAD COUNTY

R. L. Byers, County Judge.

Approximate Area, 720 sq. Miles.

Population, 1910, 28,285.

Real and Personal Assessment, 1917, \$8,044,630.

General Road Work.

Hempstead County has very little material suitable for road construction, although sand stone exists in some parts of the county. A good deal of grading has been done and the roads and bridges are in fairly good condition. Interest in road building is good in most parts of the county.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Hope-Emmett, Hope-Fulton.....	23.7	Gravel	\$ 126,934.95	Alexander
Wallaceburg via Washington to Hope	12.48	Gravel	76,227.98	Alexander

Surveys have previously been made for about 65 miles of road in this county, the greater part of which has been completed.

Plans, specifications and estimates have been furnished for a gravel road, 12.48 miles long from Wallaceburg via Hope. Estimated cost, \$76,227.98.

Estimates were furnished for 23.7 miles of road from Hope to Emmett and from Hope to Fulton. Estimated cost \$126,934.95.

Efforts are being made to build roads also from Columbus to Hope.

These projects will materialize as soon as conditions are sufficiently improved.

*HOT SPRING COUNTY**John R. Gilchrist, County Judge.*

Approximate Area, 610 sq. Miles.

Population, 1910, 15,022.

Real and Personal Assessment, 1917, \$5,096,401.

General Road Work.

The county had on Jan. 1st., 1917, 1 tractor and 20 grading machines valued at \$6,800, and has purchased graders and other equipment at a cost of \$1,500. About 200 miles of road were graded and 10 miles of gravel placed.

Twenty-five concrete culverts and 300 feet of 24-inch pipe were put in, 1 steel, 5 wooden and 12 concrete bridges were built at a cost of \$16,239.

Judge Gilchrist says: "The general condition of roads and bridges is very good in most places and we are still making some improvements. The sentiment for road improvement is not as good throughout the county as it should be, but it is getting some better."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Saline County Line to Malvern.....	10.79	Graded Earth	\$ 27,375.09	Alexander
Clark County Line to Garland County Line	15.91	Earth	51,105.02	Alexander

A road has been built from Malvern to the Grant county line completing the Malvern-Sheridan-Little Rock road.

Surveys have been made and estimates furnished for that part of the Arkadelphia highway running through Hot Spring county from the Clark county line via Bismark to the Garland county line, 15.91 miles. It will be a graded earth road, 22 feet wide. Estimated cost, \$51,105.02. This district is being organized.

A petition has been filed with the department for a road from the Saline county line, via Gifford, Malvern, Donaldson and Witherspoon to the Clark county line. Plans, specifications and estimates were furnished for that part of the line from the Saline county line, via Gifford, Malvern, Donaldson graded earth road 22 feet wide, with iron and concrete culverts, to cost \$27,375.09.

HOWARD COUNTY

Approximate Area, 630 sq. Miles.

Population, 1910, 16,898.

Real and Personal Assessment, 1917, \$3,710,373

W. J. White, County Judge.

General Road Work.

Howard county has an abundance of fine gravel in the vicinity of Nashville, and in many parts of the county there is sufficient gravel in the soil to make a graded road almost a gravel road. A live interest is taken in road improvement in the county and many of the principle roads have been well graded and drained. Great improvement has been made in the roads in the last two or three years.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Saline River-Dierks-Pike County Line	18.51	Gravel	\$ 86,322.22	Alexander
Saline River-Center Point-Pike County Line	16.46	Gravel	84,191.58	Alexander

Plans, specifications and estimates have been furnished for a 12 ft. gravel road 18.51 miles long from the Saline River east through Dierks to the Pike county line near Nathan. The district has been organized and work will begin as soon as possible. Estimated cost \$86,322.22.

Also for a gravel road 16.46 miles long from the Saline River through Center Point to the Pike county line. Estimated cost \$84,191.58. The district is now in process of organization, the road will be built as rapidly as possible.

Work is progressing on what is known as the Ben Lomond Road under the supervision of the county judge. State aid allotted \$3,641.80.

INDEPENDENCE COUNTY.

J. H. Jimmerson, County Judge

Approximate Area, 645 sq. Miles.

Population, 1910, 24,776.

Real and Personal Assessment, 1917, \$6,404,903.

General Road Work.

An abundant supply of gravel and stone is available for road building in Independence county and great improvement is being made in the general road conditions.

Bridges have been built, culverts have been put in, and much grading has been done on the principle roads of the county.

The graded earth roads now being constructed north and south through the county has stimulated interest in general road improvement.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
North Arkansas No. 1. Magness Batesville	30.03	Graded Earth	\$ 51,397.45	Special Act
North Arkansas No. 2. Bates- ville-Izard County Line.....	17.06	Graded Earth	23,271.21	Special Act
Batesville Elgin Ferry	15.94	Earth	30,813.32	Alexander

North Arkansas Districts Nos. 1 and 2 were created by a special act of the legislature of 1917. Of No. 1, 30.03 miles run through Independence county from near Magness to Batesville. This is to be built of graded earth 22 ft. wide. Estimated cost, \$51,397.45. State and Federal aid allotted \$16,090.41.

Of district No. 2, 17.06 miles run through Independence county from Batesville to the Izard county line. This is also a 22 ft. graded earth road. Estimated cost \$23,271.21. This participates on the state aid allotted to the entire district No. 2, amounting to \$62,649.30.

These roads will be built as soon as conditions will permit.

Estimates were furnished also for a graded road from Batesville to Elgin Ferry. Estimated cost \$30,813.32.

IZARD COUNTY

W. D. Wallace, County Judge.

Approximate Area, 600 sq. Miles.

Population, 1910, 14,561.

Real and Personal Assessment, 1917, \$2,513,725.

General Road Work.

Since Izard County has no railroads, good roads are very important. Excellent road material is abundant all over the county, and where the roads have been graded they are in very good condition.

Interest in road building is on the increase and general road conditions are rapidly improving.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Melbourne-Guyon	11.51	Gravel	\$ 46,000.00	Alexander.
North Arkansas No. 2. Izard County Line-Fulton County Line	30.52	Graded Earth	56,421.32	Special Act

Plans, specifications and estimates have been furnished for an 8 ft. gravel road from Melbourne, the county site, to Guyon on the Missouri and North Arkansas railroad, 11.51 miles. Estimated cost, \$46,000.

A road is being projected from Melbourne to Mt. Olive.

The North Arkansas No. 2 runs from the south line of Izard county through Melbourne to the Fulton county line, 30.52 miles. This is to be of graded earth, 22 feet wide. Estimated cost \$56,421.32. This county participates in the \$62,649.30 state aid allotted to the entire district.

This road will be built as soon as material can be secured for the bridges and culverts.

JACKSON COUNTY

W. D. McLain, County Judge.

Approximate Area. 650 sq. Miles.

Population, 1910, 23,501.

Real and Personal Assessment, 1917, \$8,490,526.

General Road Work.

Jackson County had on hand Jan. 1st., 1917, 2 Rumley tractors and 2 Western No. 10 Grading machines, valued at \$7,500, and has purchased 1 Rumley and 1 Western No. 10 at a cost of \$3,750. About 160 miles of road has been grad-

ed and 9 miles of gravel placed. About 1,500 lineal feet of tiling has been used in culverts. Three culverts, 7 wooden and 1 steel bridge have been constructed at a cost of \$12,700.

Judge McLain says: "The condition of the roads in the county is fair, considering that most of them are dirt roads.

"There is not much interest for road improvement, but interest is growing for better roads. Four years ago there was no interest in roads, but during the past four years I have established and opened up over 300 miles of road, mostly on section lines, and now we have a fair system of dirt roads.

"I have established three districts under the Alexander law. Only 10 miles of this has been built, but it is being built, and we will soon have a good system of gravel roads."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
North Arkansas No. 1. White County Line - Independence	28.48	Graded Earth	\$ 45,104.24	Special Act
Newport-Augusta	18.28	Gravel	105,217.19	Alexander
Diaz-Elgin	8.45	Gravel	58,527.19	Alexander
Tuckerman-Diaz and Laterals	26.39	Macadam	221,216.85	Alexander

North Arkansas No. 1 runs through Jackson county from the White county line through Newport to the Independence county line, 28.48 miles. It is to be of graded earth, 22 feet wide. Estimated cost \$45,104.24. State aid allotted, \$15,669.48. This part of the road will be built as soon as the material can be secured for the bridges and culverts.

Plans, specifications and estimates have been furnished for the following roads: Newport-Augusta. Gravel, 18.28 miles long, Estimated cost \$105,217.19.

Diaz-Elgin; Gravel, 8.45 miles long. Estimated cost, \$58,527.50.

Tuckerman-Diaz and Laterals; Macadam, 26.39 miles long. Estimated cost, \$221,216.85. State aid allotted, \$20,000.

These are all live projects and will be built as soon as conditions will permit.

JEFFERSON COUNTY

L. E. Cheek, County Judge.

Approximate Area, 950 sq. Miles.

Population, 1910, 52,734.

Real and Personal Assessment, 1917, \$18,610,300.

General Road Work.

The county had on hand Jan. 1st. 1917, 2 tractors and 2 graders and has bought 2 tractors, 5 graders and othre equipment at a cost of \$18,000.

Judge Cheek says: "About 750 lineal ft. of corrugated iron pipe have been put in place. Nine concrete culverts have been constructed, 2 concrete bridges and 4 steel bridges have been built at a total cost of \$18,863. Seven steel bridges, with a total length of 630 feet are under construction.

The outfits of the county are used almost exclusively in maintaining earth roads. There are approximately 350 miles of first class earth roads and about 100 miles of second class earth roads which are maintained by the county.

We have now 94 miles of surface roads, with 15 miles of gravel road and 42 miles of Asphaltic Concrete road under construction.

The sentiment for road building is excellent. Ninety per cent of the property owners are favorable. Such opposition as occasionally arises is to the manner of building or to location, seldom to the road itself.

"The roads are in fair condition, the bridges, good."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Pine Bluff to Noble Lake	8	Bituminous Macadam	\$ 40,000.00	Alexander
Pine Bluff, West and Northwest	18.6	Gravel	102,000.00	Alexander
Pine Bluff, West	5.2	Gravel	41,000.00	Alexander
Pine Bluff to Boys' Industrial School	1.5	Gravel	14,000.00	Co. and State

Estimates have been prepared for resurfacing with bituminous macadam, a road 8 miles long from Pine Bluff to Noble Lake. The estimated cost is \$40,000.

A gravel road, 5.2 miles in length has been completed

and Northwest is now under construction to cost \$102,000, and will soon be completed.

A gravel road, 5.2 miles in length has been completed from Pine Bluff West at a cost of \$41,000.00.

The gravel road from Pine Bluff to the Boys' Industrial School, 1.5 miles, is under construction and will cost \$14,000.

A system of roads about 20 miles in total length has been projected from Sherrill, South, Northwest and Southeast.

The Parkes Engineering Company has been approved by the department as engineers for all these roads.

JOHNSON COUNTY

Chas. H. Baskin, County Judge.

Approximate Area, 700 sq. Miles.

Population, 1910, 19,698.

Real and Personal Assessment, 1917, \$4,535,761.00.

General Road Work.

The county has purchased during the present biennial period 3 Twin City tractors, 4 grading machines and other equipment at a cost of \$18,000. About 115 miles of road have been graded.

Two concrete culverts, 8 wooden bridges and 1 steel bridge have been built at a cost of \$2,600. Ninety thousand feet of heavy oak timber has been used in the construction of culverts.

Judge Baskin says: "The sentiment for road building is excellent. If we are not hampered by government regulations our little county up here in the Ozarks would immediately construct 100 to 150 miles of improved roads."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Clarksville to Hargerville.....	12.81	Macadam	\$ 56,772.26	Alexander
Clarksville to Harmony to Edna.....	12.48	Macadam	68,699.18	Alexander

Estimates have been furnished for a Bituminous Macadam road, 34.8 miles long from the Pope county line west through the towns of Lamar, Clarksville and Coal Hill to the Franklin county line. The estimated cost is about \$432,500. State aid allotted \$60,000. The contract has been let and construction will begin as soon as possible.

Also for a 12 ft. gravel road 7.16 miles long from Clarksville via Ludwig to Mt. Vernon. Estimated cost, \$14,604.80.

Plans, specifications and estimates have been furnished for a 10 ft. macadam road 12.81 miles long from Clarksville to Hagarville with lateral to Lamar. Estimated cost, \$56,772.76.

Also for a 10 ft. macadam road 12.48 miles long from Clarksville via Harmony to Edna. Estimated cost \$68,699.18.

These districts are now in process of organization.

LAFAYETTE COUNTY

T. P. Leamy, County Judge.

Approximate Area, 500 sq. Miles.

Population, 1910, 13,741.

Real and Personal Assessment, 1917, \$4,836,622.

General Road Work.

There is abundant supply of excellent gravel at Lewisville and it is being used in surfacing the roads in that vicinity. The main roads in the county have been graded and drained and many of the streams have been bridged. Both the roads and bridges are kept in good condition and the interest in road building is excellent.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Columbia County Line-Lewisville Red River	21.61	Gravel	\$ 100,106.00	Alexander

Estimates were furnished for a 12 ft. native gravel road 10.65 miles long, from Bradley to Spring Bank. Estimated cost \$69,356.

Plans, specifications and estimates have been furnished a native gravel road, 21.61 miles long from the Columbia county line through Buckner, Stamps and Lewisville to Red River. Estimated cost, \$100,106.00. Federal aid allotted, \$22,205.52.

This road forms a part of a hard surface road from Camden via Magnolia to Texarkana. Work is progressing rapidly and will be completed in a short time.

LEE COUNTY

J. A. Plummer, County Judge.

Approximate Area, 602 sq. Miles.

Population, 1910, 24,252.

Real and Personal Assessment, 1917, \$7,416,943.

General Road Work.

Under act of the legislature of 1915 the 3 mill road tax is paid into a central fund and all road work is done by contract.

The county had on hand Jan. 1st., 1917, 1 Flour City tractor, 8 grading machines, mules, wagons, etc., valued at \$12,250, and has expended \$2,300 in the purchase of equipment during the present period.

Approximately 500 miles of road has been graded four time in the last two years:

Cost of fills made on roads, \$14,000; 12 concrete Culverts, \$1,000; 28 Wooden Bridges, \$21,427.20; Steel Bridges remodeled and painted, \$7,735.

Judge Plummer says: "Our roads are in extra fine shape, considering we have no hard surfaced roads. We drag them continually when possible. Owing to the character of the soil in our bottom section, the roads, after continued rains, get in bad condition for a short while, still we can drive an auto over them all the time with the exception of a day or so after continued wet weather. This condition is, of course, on our main roads. Some of the less important roads are not sufficiently graded up to shed water, and hence are not in condition for auto travel all the time.

"Bridges are in excellent shape. Practically every one

in the county has been either built new or sufficient work and material put on them to make them in good condition, with the exception of possibly two. Only one is in such a condition as will require rebuilding this coming year. We have now under construction and contract three new steel and wood bridges not included in the number built. One of these will be of wood, 320 feet, with a steel section, 92 feet. The other two will be entirely of wood, approximately 135 feet each.

"The sentiment for general road improvement in our county is A1.

"We expect to complete the formation of a Road District this coming year which will require about 1300 feet of bridge work and several miles of grading and hard surfacing."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Cody-Bledsoe	11.21	Graded Gravel	\$ 75,677.03	Alexander

Plans, specifications and estimates have been furnished for a Graded Earth road, 11.21 miles long from Cody to Bledsoe. Estimated cost \$75,677.03.

This is a part of the road from Memphis to Helena, through Lee county. Work will be rushed to completion.

Under act of the legislature of 1915, the 3 mill road tax is paid into a central road fund and all road work is done by contract.

State aid of \$10,000 was allotted to the bridges of this county.

LINCOLN COUNTY

J. F. Ligon, County Judge.

Approximate Area, 540 Sq. Miles.

Population, 1910, 12,110

Real and Personal Assessment, 1917, 2,616, 552.

General Road Work

Good gravel is to be obtained in the western part of the

county and several miles of gravel road have been constructed in the vicinity of Star City. The roads in the county are in fairly good condition, especially in the western portion, having been well graded and drained. The streams of the county have been well bridged. In the eastern part of the county efforts are being directed toward the building of hard surface roads.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arkansas and Louisiana	11.9	Macadam	\$ 199,500.00	Special Act
Gould-Douglas	7.78	Macadam	69,854.47	Alexander

The Arkansas & Louisiana road runs through Lincoln County for a distance of 11.9 miles. It is being built of macadam at a cost of \$199,500. State and Federal Aid allotted, \$32,000. This project has been held up by war conditions but will be completed as soon as possible. The grading is progressing and the surface will be put on as soon as material can be obtained.

A road has been projected from the Desha County line to Tyrc, Varner-Gould-Avery and the Star City Pike.

LAWRENCE COUNTY

E. H. Tharp, County Judge.

Approximate Area, 600 sq. Miles.

Population, 1910, 20,001.

Real and Personal Assessment, 1917, \$6,786,391.

General Road Work.

During the present biennial period the county has invested \$2,500 in road equipment. About 700 feet in pipe culverts and 300 feet concrete culverts have been put in. 600 feet of wooden bridges have been built. Sixty miles of road have been graded and 15 miles of gravel placed.

Judge Tharp says: "The general road condition is fair, somewhat on the improved order since hard surface roads are being built in the county. We have seven different improvement projects now under construction, and several being held up on account of war conditions. The sentiment for better roads is growing all the while. We have 200 miles

projected and with that much more every section of the county will be easily reached by hard surface roads. The work has been handicapped somewhat by labor conditions, but we are going right ahead and hope to have 60 miles of hard surface road completed by next Spring."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Minturn-Clover Bend	5.59	Macadam	\$ 38,132.87	Alexander
Alicia-Hopewell Road	6.18	Gravel	28,168.70	Alexander
Walnut Ridge-Sedgwick	10.48	Earth	96,100.02	Alexander
Black Rock, North to Frisco Railroad	2.9	Macadam	13,756.91	Alexander
Walnut Ridge, North to Randolph County Line	5.5	Macadam	20,646.50	Alexander
Walnut Ridge to Richmond Road	6.80	Macadam	26,632.00	Alexander
Walnut Ridge-Egypt	12.85	Macadam	58,414.50	Alexander
Walnut Ridge-Alicia Road	38.72	Gravel	188,456.45	Alexander
Black Rock-Portia-Lauratown	11.48	Macadam	60,086.65	Alexander

Plans, specifications and estimates were furnished under the supervision of this department during the preceding biennial period for 65 miles of macadam road in Lawrence county, the districts for which have been completed during the present period. Nearly all of these roads are either completed or under construction.

The following additional projects are either completed or under way: Walnut Ridge, North to Richmond Road; Walnut Ridge to Egypt; Black Rock-Portia-Lauratown; Walnut Ridge-Alicia, Hoxie- Cache River; Walnut Ridge-Sedgwick; Minturn-Clover Bend; Alicia-Hopewell Road; Near Alicia to Clover Bend-Minturn road. All of these are live projects and are either under construction or in process of organization. The total length of these lines is 98.92 miles. Nearly all are to be built of macadam or gravel. State and Federal aid allotted \$36,290.86.

LITTLE RIVER COUNTY

L. T. Jones, County Judge.

Approximate Area, 522 sq. Miles.

Population, 1910, 13,597.

Real and Personal Assessment, 1917, \$5,270,383.

General Road Work.

Little River County has been enthusiastic in her efforts

both to improve her earth roads, and in the construction of permanent roads. Most of the main roads of the county have been graded, culverts have been placed, and the streams well bridged. Many of the graded earth roads are now being surfaced with gravel. A fine sentiment prevails in part of the county.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Wilton-North-South and West.....	11.95	Gravel	\$ 73,890.13	Alexander
Foreman-Ashdown-Lewis and Morris Ferris	70.11	Gravel	272,723.52	Alexander
Little River-Laynesport-Hawkins Road	9.55	Gravel	57,785.56	Alexander
Walnut Bayou-Bridge Road	7.23	Gravel	20,576.06	Alexander

The first permanent road built under the Alexander law was the road Ashdown to Ogden and Richmond in Little River county. It is about 15 miles long and cost about \$60,000.

Estimates have been furnished for an extensive system of roads from Morris Ferry via Foreman to Ashdown and Laterals. This is for a native gravel road 10 feet wide on a 22 ft. dump and estimated to cost \$272,723.52.

Estimates on gravel road from Wilton-North-South and West, 11.95 miles long. Estimated cost \$73,890.13.

Laynesport-Hawkins road, gravel, 12 ft. wide, 7.23 miles long. Estimated cost \$57,785.56.

Ashdown to Walnut Bayou, 7.23 miles long, gravel. Estimated cost \$20,576.06.

Other roads surveyed are Richmond to Walnut Bayou; Ashdown to Greenwood Shoals.

LOGAN COUNTY

A. J. Knox, County Judge.

Approximate Area, 650 sq. Miles.

Population, 1910, 26,350.

Real and Personal Assessment, 1917, \$6,296,838.

General Road Work

The county had on hand Jan. 1st., 1918, 2 Rumley trac-

tors and 23 grading machines. During the present biennial period, 2 Rumley tractors and other equipment were purchased at a cost of \$4,500.

Two hundred miles of road has been graded. Three wooden and 6 steel bridges were built costing \$19,995.

Judge Knox says: "The general condition of the roads is good. The sentiment for road improvement is bad. The people are very prejudiced against the Bankhead Highway."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Sebastian Co. Line-Booneville-Magazine-Blue Mountain-Yell County Line	21.63	Macadam	\$ 118,936.49	Alexander

Plans, specifications and estimates have been furnished on a native stone macadam road, 21.63 miles long, from the Sebastian county line, through Booneville, Magazine and Blue Mountain to the Yell county line. Iron and concrete culverts and steel bridges will be used. Estimated cost, \$118,936.49. Construction has not yet commenced.

A road is being projected from the Franklin county line through the towns of Ratcliffe, Caulksville, Paris, Spielerville, Ellsworth, Shoal Creek, Blaine and Delaware to the Yell county line, a distance of 36 miles.

LONOKE COUNTY

J. M. Gates, County Judge.

Approximate Area, 778 sq. Miles.

Population, 1910, 27,923.

Real and Personal Assessment, 1917, \$9,009,280.

While a great deal of work has been done in the way of grading and shaping up of the earth roads in the last two years, Lonoke County has given special attention to the construction of macadam roads and to keeping them in repair. There has hardly been a time in the last four years when there was not one or more hard surface roads under construction. The rapid increase in truck traffic makes it necessary to keep repair crews constantly at work.

The roads and bridges throughout the county are in

good condition and the people are enthusiastic in their support of road improvement and road construction.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
North Arkansas No. 1.....	12.37	Macadam and Earth	\$ 27,246.26	Special Act
Lonoke-Ebberts Field	1.18	Pen. Mac.	4,500.00	County Work
Lonoke-Carlisle	12.82	Pen. Mac.	80,145.64	Alexander
Bayou Meto-Coy	13.31	Bit. Mac.	131,582.40	Alexander
Lonoke-White County Line	11	Gravel	61,616.38	Alexander

That part of the North Arkansas No. 1, running through Lonoke county yet to be constructed is 12.37 miles long, of which 1.61 miles is to be built of Macadam and the remainder of Graded Earth. The estimated cost is \$27,246.26. This road will be completed in a short time.

The line from Lonoke to Ebberts Field, 1.18 miles long was built of penetration Macadam. Estimated cost \$4,500.

Plans, specifications and estimates were furnished for 12 ft. Penetration Macadam road from Lonoke to Carlisle, 12.82 miles. Estimated cost, \$80,145.64. The district has been organized and the road will be built soon.

Surveys were made and plans, specifications and estimates furnished for a Bittuminous Macadam road from Bayo Meto to Coy, 13.31 miles. Estimated cost, \$131,582.40. The district is being organized.

The district has been organized and estimates furnished for a gravel road, 11 miles long from Lonoke north to the White county line. Estimated cost, \$61,616.38.

These are all live projects and will be completed as rapidly as possible

MARION COUNTY

Sam Matlock, County Judge.

Approximate Area, 640 sq. Miles.

Population, 1910, 10,203.

Real and Personal Assessment, 1917, \$2,761,519.

General Road Work

The county had on hand Jan. 1st., 1917, 1 Rumley trac-

tor and 6 grading machines valued at \$3,600, and has since purchased 10 graders for \$2,300.

Twenty-four miles of grading has been done and 2100 lineal feet of pipe culverts have been placed.

The roads are in fairly good condition and the sentiment is favorable to general road improvement.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Searcy County Line-Boone County line	39.46	Gravel and Earth	\$ 88,741.52	Alexander

Plans, specifications and estimates have been furnished for a road 39.46 miles long from the Searcy county line through the towns of Rush, Yellville and Dodd City to the Boone county line. A part of the line, 21.46 miles, is to be built of native gravel, 12 feet wide, on 22 ft. dump. The remaining 18 miles is to be a graded earth road 22 feet wide. Estimated cost, \$88,741.52.

The district is in process of organization.

A road is suggested from Fullbright to Flippin, about 12 miles.

MILLER COUNTY

C. W. Nolan, County Judge.

Approximate Area, 700 sq. Miles.

Population, 1910, 19,555.

Real and Personal Assessment, 1917, \$10,082,609.

General Road Work

The county had on hand at the beginning of the present biennial 7 grading machines valued at \$3,000 and has purchased 1 Rumley tractor and 5 graders and other equipment at a total cost of \$2,500.

Three hundred miles of grading has been done and 5 miles of gravel placed.

A large amount of metal pipe has been used in culverts. Twelve wooden bridges and 5 steel bridges have been built

at a cost of \$5,500.

Judge Nolan says: "A steel bridge will soon be built over Sulphur river to cost \$10,000 and the money is now on hand.

The roads and bridges are in fairly good condition. The sentiment for road improvement is good and is improving all the time.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Texarkana-Garland City; Texarkana-Fulton	68.10	Native Gravel	\$ 396,905.00	Special Act

By special act of the legislature of 1915 and amended in 1917; the Miller County Bridge and Highway District was created. Roads from Texarkana to Garland City and from Texarkana to Fulton and laterals just being completed. The roads were built of native gravel, 10 feet wide about 70 miles in length. The cost is about \$400,000 including bridges and culverts. Federal aid allotted \$20,000.

Estimates were furnished also on a gravel road 15.75 miles long from Texarkana to McKinney Bayo.

MADISON COUNTY

J. L. Young, County Judge.

Approximate Area, 838 sq. Miles.

Population, 1910, 16,056.

Real and Personal Assessment, 1917, \$2,888,925.

General Road Work

The surface of Madison County is mountainous, and excellent road material is abundant in all parts of the county.

Efforts are being made for permanent roads and this is creating a good sentiment for general improvement in road conditions by the use of the 3 mill tax. The roads and bridges are in fairly good condition.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Carroll County Line-Washington County Line	14	Stone Macadam	\$ 55,472.44	Alexander

No permanent road construction has previously been made in this county under the supervision of the Highway Department but a good deal of preliminary work has been done during the last two years.

Plans, specifications and estimates have been furnished for a native stone macadam road, 14 miles long from the Carroll county line to the Washington county line. The district is in process of organization. Estimated cost, \$55,472.44.

Also for a line from the Washington county line to Hindsvill to Huntsville. This is a part of the road from Huntsville to Fayetteville, Washington county.

Also a line from Goshen to Huntsville. These are all live projects and will be built.

MISSISSIPPI COUNTY

G. E. Keck, County Judge.

Approximate Area, 900 sq. Miles.

Population, 1910, 30,468.

Real and Personal Assessment, 1917, \$14,502,615.

General Road Work

The surface of Mississippi county is level and the soil unsuited to road building. The principal roads of the county have been graded and drained, the streams are very well bridged and the general condition of the dirt roads is good.

The sentiment for good roads in this county, the home of the Alexander Law, is almost universal.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Osceola-Little River Road District	43.4	Graded Earth	\$ 104,720.00	Alexander

Mississippi county has been very active in permanent

road building since the passage of the Alexander road law, having projected 94.49 miles of road, estimated to cost \$640,045.35. A large part of this mileage has been built.

Plans, specifications and estimates have been furnished for a Graded Earth road, 43.4 miles long in what is known as the Osceola-Little River Road District.

Estimated cost \$104,720. The district is being organized.

NEVADA COUNTY

J. W. Franks, County Judge.

Approximate Area, 575 sq. Miles.

Population, 1910, 19,344.

Real and Personal Assessment, 1917, \$4,046,038.

Nevada County has an abundant supply of gravel at hand and a good deal of road in the vicinity of Prescott is being surfaced. The dirt roads of the county have been very well graded and the streams bridged.

An era of permanent road building is eminent.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Prescott-Rosston	17.87	Gravel	\$ 73,915.38	Alexander
Little Missouri River-Emmett	17.68	Gravel	70,990.53	Alexander
Prescott-North-Pike County Line	7.48	Gravel	25,192.11	Alexander

Very little permanent road construction has been done previously in this county, but there is considerable activity in preliminary work during the present biennial period.

Plans, specifications and estimates have been furnished for a 10 ft. gravel or macadam road, 17.87 miles long from Prescott to Rosston. Estimated cost \$73,915.38.

Also for a gravel road, 17.68 miles long from the Little Missouri River to Emmett. Estimated cost \$70,990.53.

Also for a 10 ft. gravel road from Prescott north to the Pike county line, 7.45 miles. Estimated cost \$25,192.11.

The districts for these roads are being organized and work will begin as soon as conditions return to normal.

*MONROE COUNTY**R. G. Trice, County Judge.*

Approximate Area, 616 sq. Miles.

Population, 1910, 19,907.

Real and Personal Assessment, 1917, \$6,964,867.

General Road Work

In his report to the Quorum Court Judge Trice says:

"During my administration the roads all over the county have been greatly improved, but there is still room for improvement. When I assumed the duties of the office, there was but one old worn-out grader and a few slips on hand belonging to the county. We have on hand now one 15 h. p. engine and grader in fairly good shape. The different road districts have on hand three new engines and graders, one of which is entirely paid for, and on the other two there has been one payment made. Besides this machinery there are eight new graders that have been paid for. Under our present road system we will not make much headway along this line. Sooner or later we must begin to build permanent roads with rock and gravel, and the sooner we begin building the roads with this permanent material the better it will be for us and the generation that is to come. Within the past eighteen years we have spent not less than \$250,000 for road work, and we have comparatively no permanent roads to show for it. I recommend that you make the usual appropriation of three mills for roads.

Bridges

I am glad to state that the bridges are in first-class shape with the exception of a few. Notwithstanding the scarcity and high price of lumber, I have built seven new bridges this year, and have five more under construction. I have been convinced that all of our bridges are entirely too long and during the past two years I have constructed dumps of earth at one-half the cost of bridging, and have by this shortened and forever cut out 2,200 feet of bridges. This is not only a saving now, but it cuts out the expense of 2,200 feet of bridges about every seven years. I recommend an appropriation of \$8,000 for bridge purposes."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Clarendon to Phillips Co. Line.....	30.92	Gravel	\$ 219,272.96	Alexander
Brinkley, East and West to Cache River	22.2	Gravel and Concrete	247,000.00	Alexander

Plans, specifications and estimates have been furnished for a gravel road, 30.92 miles long from Clarendon to the Phillips county line and laterals. Estimated cost, \$219,272,-96.

The Monroe County Road Improvement District has been formed to build a road from Brinkley East and West and to Cache river, 22.2 miles long. It is being built of concrete and gravel and is estimated to cost \$247,000. Federal aid allotted \$60,000.

MONTGOMERY COUNTY

J. B. Kelley, County Judge.

Approximate Area, 900 sq. Miles.

Population, 1910, 12,455.

Real and Personal Assessment, 1917, \$2,063,609.

General Road Work.

Montgomery County had on hand 2 Rumley tractors and 15 grading machines, valued at \$8,600 and has purchased 2 Rumley tractors, 3 grading machines and other equipment at a cost of \$8,000. Five miles of gravel has been placed, 110 miles of grading done and 4,660 lineal feet of metal pipe culverts placed. Two concrete, 2 wooden and 3 steel bridges have been built at a cost of \$41,900.

Judge Kelley says: "Most of the main roads are in very good shape where culverts have been placed and roads graded recently. The sentiment for road improvement is generally favorable and in some places enthusiastic."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Garland County Line-Wombla-Polk County Line	47.03	Graded Earth	\$ 40,866.90	County Work
Quachita River-Forest Reserve.....	9.56	Graded Earth	14,725.34	Alexander
Mt. Ida-Crystal Springs.....	21.24	Earth	16,588.85	County Work

Plans, specifications and estimates have been furnished for a graded earth road from the Garland county line via Womble to the Polk county line, 47.03 miles. Estimated cost, \$40,860.90. State aid allotted \$20,000. This road is just being completed and forms a part of a continuous road from Hot Springs to the Polk county line.

Plans, etc., have been furnished for a graded earth road from Mt. Ida to the Polk county line, 7.08 miles. Estimated cost, \$28,571.99.

Also for a graded earth road from the Ouachita River to the forest Reserve. Estimated cost, \$14,725.34.

A graded earth road is just being completed from Mt. Ida to Crystal Springs, 21.24 miles. Estimated cost, \$16,588.85. State aid allotted, \$8,000. This road is just being completed. Permanent road construction is very active in this county.

NEWTON COUNTY

W. H. Burdine, County Judge.

Approximate Area, 810 sq. Miles.

Population, 1910, 10,612.

Real and Personal Assessment, 1917, \$2,307,116.

General Road Work.

Newton is an interior county and is dependent on her roads for an outlet. The surface is mountainous and excellent road material abundant.

The 3 mill road tax is being used for grading and draining and the main roads have shown marked improvement in the last few years.

Much preliminary work is being done for permanent road building.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Boone County Line-Jasper-Ozark Forest Reserve	30.31	Graded Earth	\$ 81,986.61	Alexander
Bakley-Boone County Line	16.78	Earth	35,430.05	Alexander
Mt. Judea-Western Grove	26.07	Earth	56,857.95	Alexander

Plans, specifications and estimates have been furnished for a graded earth road, 30.31 miles long from the Boone county line south through Jasper to the Ozark National Forest Reserve, connecting with a line through the Reserve to the Pope county line, and forming a continuous north and south line through the county. Estimated cost, \$81,986.61. State and Federal aid allotted, \$20,000.

Also for a graded earth road, 16.78 miles long, from Boxley to the Boone county line. Estimated cost, \$35,430.05. State and Federal aid allotted, \$5,000.

Also for a graded earth road, 26.07 miles long, from the Boone county line near Western Grove to the Forest Reserve near Mt. Judea. Estimated cost \$56,851.95. State and Federal aid allotted, \$10,000.

These roads will be built as soon as war conditions will permit.

OUACHITA COUNTY

W. F. Tate, County Judge.

Approximate Area, 730 sq. Miles.

Population, 1910, 21,774.

Real and Personal Assessment, 1917, \$7,399,840.

General Road Work.

Good gravel is plentiful at Bearden in Ouachita County and some good gravel roads have been built in the vicinity of Bearden and Camden.

The main roads are being very well graded and drained and the streams are being well bridged. The outlook for a period of road building is good and the road sentiment is improving.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Camden-North-East-South and West	75.00	Gravel	\$ 122,210.14	Alexander
Buena Vista-Chidister-Locust		Graded		
Bayou	8.50	Earth	54,335.34	Alexander

A good deal of road building and preliminary work was

done during the preceding biennial period, plans, etc., having been furnished on 71.53 miles of gravel and clay roads, estimated to cost \$251,106.14. Much of this work has been done.

During the present period estimates have been furnished on gravel roads from Camden in all directions with a total of 35.60 miles. Total estimated cost \$122,210.14.

Plans, specifications and estimates have been furnished for a 22 ft. Graded Earth road, Buena Vista-Chidester-Kemp Mustin Lake-Locust Bayo, 8.56 miles in length. Estimated cost, \$54,355.34.

The districts are in process of organization and the roads will be built as soon as possible.

PERRY COUNTY

Geo. H. White, County Judge.

Approximate Area, 622 sq. Miles.

Population, 1910, 9,402.

Real and Personal Assessment, 1917, \$3,239,340.

General Road Work.

The county had already on hand 6 grading machines and has invested \$800 in road equipment during the present biennial period.

Fifty miles of grading has been done. Four hundred lineal feet of wooden bridges have been built at a cost of \$1,200.

Judge White says: "The streams are well bridged and the roads are in fair condition. The sentiment for good roads is good throughout the county."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Bigelow-Houston-Sweet Homes	18.35	Graded	\$ 38,778.83	Alexander
Wye		Earth		
Perryville-South-Pulaski County Line	12.	Graded Earth	35,362.14	Alexander

Estimates were furnished for a graded earth road 26.38

miles long from Perry via Perryville to Aplin \$66,528.53. State aid allotted, \$11,617.40. The district has been organized but the contract has not yet been let.

Surveys were made and plans, specifications and estimates were furnished for a graded earth road 18.35 miles long from Bigelow, via Houston, and Sweet Home and Wye to the Pulaski county line. The estimated cost is \$38,778.83.

Also for a graded earth road 12 miles long from Perryville south to the Pulaski county line. Estimated cost \$35,362.14.

A road is being projected in the vicinity of Nimrod east and west through the county.

PHILLIPS COUNTY

H. D. Moore, County Judge.

Approximate Area, 650 sq. Miles.

Population, 1910, 33,535.

Real and Personal Assessment, 1917, \$13,417,734.

General Road Work.

The surface of Phillips County is generally level and the maintenance of earth roads is difficult. While much has been done in the way of grading the dirt roads, efforts are being directed largely toward permanent hard surface road construction.

The roads and bridges of the county are in very good condition and the road sentiment is excellent.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Marvell-Lee County Line.....	9	Gravel	\$ 55,544.40	Alexander
Marvell-Turners P. O.	11.05	Gravel	80,824.30	Alexander
Helena-West Helena	4.8	Asphaltic Macadam	75,709.35	Alexander
Helena Crossing-Old Town	15.87	Asphaltic Macadam	245,917.72	Alexander

In 1916 Phillips County built its first hard surface road, an 18 ft. concrete road from Helena to Lambs Crossing. This had the effect of stimulating road building in the county and much preliminary work and considerable construction

has resulted.

Plans, specifications and estimates have been furnished for a 9 ft. gravel road from Marvell north to the Lee county line, 9 miles in length. Estimated cost, \$55,544.40.

Also for a 10 ft. gravel road 11.05 miles long from Marvell to Turners Postoffice. Estimated cost, \$80,824.30.

Also for an Asphaltic Macadam road 4.8 miles long from Helena to West Helena. Estimated cost, \$75,709.35. State aid allotted \$30,000.

Also an Asphaltic Macadam road 15.87 miles long from Helena Crossing to Old Town. Estimated cost, \$245,917.72.

A system of roads from Helena and Lambs Crossing covering almost the entire county with a total length of 146 miles is being projected. This system will include some of the above projects and when completed will give Phillips county one of the best road systems in the state.

PIKE COUNTY

T. W. Rountree, County Judge.

Approximate Area, 600 sq. Miles.

Population, 1910, 12,565.

Real and Personal Assessment, 1917, \$3,322,989.

General Road Work.

Pike County has an abundance of fine gravel and several miles of excellent roads have been built in the vicinity of Murfreesboro and Highland.

The main dirt roads are kept in fairly good condition with the 3 mill road tax, and, where well graded and drained are excellent earth roads.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Glenwood South and West.....	15.62	Gravel	\$ 61,252.31	Alexander

Plans, specifications and estimates have been furnished for a 12 ft. gravel road from Glenwood south and west, 15.62 miles in length. Estimated cost, \$61,252.31.

The district is in process of organization and the road will be under construction in a short time.

Lines are being projected from Nathan to Murfreesboro and from the Howard county line through Murfreesboro and Delight to the Clark county line.

POLK COUNTY

A. E. Wear, County Judge.

Approximate Area, 945 sq. Miles.

Population, 1910, 17,216.

Real and Personal Assessment, 1917, \$4,570,862..

General Road Work.

The greater part of Polk County is mountainous and excellent road material is abundant. A large amount of grading and draining has been done during the present biennial period, and marked improvement has been made in most of the main dirt roads of the county.

Some fine roads are being built in the vicinity of Mena with the 3 mill tax, supplemented by private funds.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Mena-North-Forest Reserve	10.31	Macadam	\$ 45,027.15	Alexander

Estimates have been furnished for a 12 ft. road from Mena north to the Forest Reserve, 10.31 miles long. Estimated cost, \$45,027.15. The district is being organized and it is hoped to begin work soon.

A line is being projected from Hatton to Bogg Springs.

POINSETT COUNTY

S. T. Mayo, County Judge.

Approximate Area, 756 sq. Miles.

Population, 1910, 12,791.

Real and Personal Assessment, 1917, \$8,857,232.

General Road Work.

The county had on hand 3 Rumley tractors and 5 grad-

ing machines, valued at \$11,000, and has exchanged one tractor and purchased other equipment at a total cost of \$5,000.

About 250 miles of grading has been done. Ten wooden and four steel bridges have been built at a cost of \$15,000.

Judge Mayo says: "The road and bridge conditions in the county are good. The sentiment for general road improvement in the county is the best you ever saw."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Black Oak Road	16.7	Graded Earth	\$ 37,250.00	Alexander

There has been great activity in the county, both in preliminary work and in construction, under the Alexander law.

Plans, specifications and estimates have been furnished for a graded earth road 16.7 miles long in the southern end of the county, east of the St. Francis river, known as the Black Oak road. Estimated cost, \$37,250.00.

A road has been projected from Harrisburg via Waldenburg to the south line of the county and also a line paralleling the Frisco railroad from the Craighead county line to the St. Francis river.

Estimates have been furnished for a 9 ft. concrete road with macadam shoulders, 9 miles long from Marked Tree south to the county line, connecting with a Crittenden county road to Bridge Junction. Estimated cost, \$248,820.

Also for a gravel road 14 ft. wide from Harrisburg via Greenfield to the Craighead county line, 13.62 miles. Estimated cost, \$97,298.31.

Also for a macadam road 9 ft. wide from Harrisburg to Truman, 8.85 miles long. Estimated cost \$68,013.58.

POPE COUNTY

Wm. Thompson, County Judge.

Approximate Area, 781 sq. Miles.

Population, 1910, 24,527.

Real and Personal Assessment, 1917, \$5,693,323.

General Road Work.

The county had on hand Jan. 1st., 1917, 1 Rumley tractor and 12 grading machines, valued at \$4,850, and has purchased during the present biennial period 1 Rumley tractor, 1 grading machine and other equipment at a cost of \$4,530.

About 45 miles of road have been graded and \$4,005 has been expended in putting in pipe culverts. Five concrete bridges have been built costing \$1,200.

The roads and bridges are in fairly good condition and the road sentiment is good.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Conway County Line to Atkins Russellville to Dover Forest Reserve	55.56	Gravel	4,000,000	Wisconsin Work

Plans, specifications and estimates have been furnished and work is progressing rapidly on a graded earth road 55.56 miles long from the Conway county line west through the towns of Atkins and Pottsville to Russellville and thence north through Dover to the National Forest Reserve. This road connects with a road now under construction through Newton and Boone counties to Harrison. Estimated cost, \$24,255,000. State aid allotted, \$15,127,070.

A road has been projected from Russellville to Pleasant Hill.

PRAIRIE COUNTY

H. S. Locke, County Judge.

Approximate Area, 718 sq. Miles.

Population, 1910, 13,853.

Real and Personal Assessment, 1917, \$5,533,360.

General Road Work.

Prairie County has no native road material for permanent roads, but her earth roads are in very good condition, being as a rule, well graded and drained.

A great deal of preliminary road work has been done and an era of general road improvement is at hand. Road sentiment is general and excellent.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Hazen-East and West	9.98	Macadam	\$ 58,224.05	Alexander
Cache River-North and Laterals	7.02	Graded Earth		
Des Arc-Stineville	11.58	Gravel	42,703.05	Alexander
Wattensas Bridge-Hazen	7.18	Gravel	78,850.86	Alexander
Wattensas Bayou-Des Arc	10.11	Gravel	57,622.62	Alexander
			74,022.52	Alexander

Plans, specifications and estimates have been furnished for a 12 ft. macadam road from Hazen East and West, 9.98 miles in length. Estimated cost, \$58,224.05.

Also for a graded Earth road, 7.02 miles long from the Cache River North and Laterals with an estimated cost of \$42,730.05.

Also for a gravel road, 11.58 miles long from Des Arc to Stineville. Estimated cost, \$78,850.86.

Also a 10 ft. gravel road from Wattensas Bridge to Hazen, 7.18 miles long. Estimated cost, \$57,622.62.

Also a 10 ft. gravel road from Wattensas Bayou to Des Arc, 10.11 miles long. Estimated cost, \$74,022.52.

Roads are being projected from Des Arc to Hazen and from Des Arc to the Woodruff county line.

Road building is very active at present in this county on surveys and estimates previously made by the department.

PULASKI COUNTY

Lee Miles, County Judge.

Approximate Area, 781 sq. Miles.

Population, 1910, 86,718.

Real and Personal Assessment, 1917. \$54,474,930.

General Road Work.

All road work in Pulaski county, whether graded earth or surfaced, is done by the County Judge or under his super-

vision, except the Camp Pike Road, which was built under the supervision of the Highway Department with funds furnished by the County, City, State and National Governments.

The county owns a large amount of road equipment, consisting of rollers, scarifiers, crushers, pile drivers, drags, graders, scrapers, trucks, wagons, etc.

The county is divided into 27 road districts, each with an overseer appointed by the county Judge, and each well supplied with equipment.

A great deal of work has been done in grading roads, and repairing bridges throughout the county.

Considering the unusually heavy truck traffic during the last two years the condition of the roads and bridges is fairly good.

RANDOLPH COUNTY

C. H. Carter, County Judge.

Approximate Area, 700 sq. Miles.

Population, 1910, 18,987.

Real and Personal Assessment, 1917, \$4,161,645.

General Road Work.

The agitation of permanent road construction in this county has resulted in stimulating general road improvement. Much grading and draining has been done in the last two years. The county has an abundant supply of stone for road building, and the 3 mill road tax is being used to advantage in improving the roads and bridges.

The sentiment for road building is excellent.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
		Graded		
Dalton-Ravenden Springs	10.28	Earth	\$ 35,452.63	Alexander
Biggers-Maynard Road	8.03	Macadam	30,216.29	Alexander
Pocahontas-Leasterville-Sharum-O'Kean	41.83	Macadam	248,757.85	Alexander
Pocahontas-Lawrence Co. Line.....	9.44	Macadam	43,684.34	Alexander

Plans and estimates were furnished on a 9 ft. macadam road from Pocahontas via Maynard to the Missouri state line, 20.26 miles in length. Estimated cost, \$75,111.30

Also for a macadam road 14.31 miles long from Pocahontas to Reyno. Estimated cost, \$57,135.06.

Plans, specifications and estimates were furnished for a graded earth road from Dalton to Ravenden Springs, 10.28 miles in length. Estimated cost, \$35,452.63.

Also for an 8 ft. macadam road from Biggers west to the Pocahontas-Maynard road, 8.03 miles in length. Estimated cost \$36,216.29.

Also for a system of macadam roads, 41.83 miles long from Pocahontas south to Lesterville, Sharum and O'Kean with an estimated cost of \$248,757.88.

Also for a 9 ft. macadam road from Pocahontas south to the Lawrence county line, 9.44 miles long. Estimated cost, \$43,664.34.

A road is being projected from Imboden via Oconee to Dalton.

These are all live projects and will be built as rapidly as conditions will permit.

SALINE COUNTY

J. S. Abercrombie, County Judge.

Approximate Area, 764 sq. Miles.

Population, 1910, 16,657.

Real and Personal Assessment, 1917, \$5,300,890.

General Road Work.

Saline County has more good gravel available for her roads than any county in the state and a good deal has been accomplished in its use on the roads in the vicinity of Benton and Bauxite. The roads and bridges are in fairly good condition and the sentiment for better roads is fair.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Little Rock-Hot Springs Road	30	Gravel with As. Carpet	\$ 296,078.33	Special Act
River Road South	9.82	Gravel	16,193.88	Alexander

The Little Rock-Hot Springs Road District was created by the legislature of 1917, and plans and specifications have been furnished for a gravel road with asphaltic carpet. The road is 30 miles in length and the estimated cost is \$296,078.33. This road will be built as soon as conditions will permit.

Plans and estimates were furnished for the River road south to the county line. Estimated cost \$16,193.88.

SCOTT COUNTY

Tom Payne, County Judge.

Approximate Area, 1000 sq. Miles.

Population, 1910, 14,302.

Real and Personal Assessment, 1917, \$2,639,325.

General Road Work

Great activity has prevailed in Scott county in general road improvement during the present biennial period. The main roads are being rapidly graded and culverts are being put in throughout the county. The county is rich in road material and the sentiment in favor of general road improvement is almost universal.

The roads and bridges are in comparatively good condition.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Waldron-Buck Knob-Polk County Line	23	Graded Earth	\$ 95,729.37	Alexander
Boles-Buck Knob	12.42	Earth	10,729.40	Alexander
Mill Creek-Buck Knob	24.44	Earth	84,698.68	Alexander
Yell County Line-Nola-Harvey	7.82	Macadam	40,011.30	Alexander

The district organized in 1916 for a road from the Oklahoma line through Coaldale, Bates and Hon to Waldron and from Hon to the Sebastian county line was dissolved by

the courts on account of defective organization. However, a good deal of work has been done on this line and a fairly good earth road has been made. New plans and estimates have been made on that part of the line from Hon to the Sebastian county line and work is proceeding on a graded earth road under the supervision of the County Judge.

Plans, specifications and estimates have been furnished for a 22 ft. graded earth road, 23 miles long, from Waldron via Buck Knob to the Polk county line to connect with a line to Hot Springs. Estimated cost, 95,729.37.

Also graded earth road, 12.42 miles long from Boles to Bald Knob. Estimated cost, \$10,729.40.

Also graded earth road Mill Creek-Buck Knob, 24.44 miles. Estimated cost, \$84,698.68.

Also Macadam road Yell Co. line-Nola-Harvey, 7.82 miles. Estimated cost, \$40,011.30.

A line is being projected from Waldron to Chant and for an extension of the Nola-Harvey line.

SEARCY COUNTY

J. F. Henley, County Judge.

Approximate Area, 678 sq. Miles.

Population, 1910, 14,825.

Real and Personal Assessment, 1917, \$2,859,769.

General Road Work.

Judge Henley in his report to the Quorum Court, says:

"There is approximately 600 miles of public roads in this county, 210 of which has been designated as roads of the 1st class and 390 are of the second class. The roads of the 1st class are in poor condition, with the exception of the 15 miles, which has been built under the provisions of the 'Alexander Road Law' and is known as Road District No. 1. This road has been by me, as County Judge, recently taken over for county maintainance. My predecessor in office having refused to take this course.

"As you all know, I have only been County Judge since Sept. 1st., 1918. From reliable reports and from personal

observation the roads of the 2nd class are in a very bad condition. I note that for the 5th time, spasmodically, we have voted a road tax and I trust that the coming year my successor in office will be able to make a better report to you. I have always been in favor of good roads and road tax and am now, but I am not nor never have been of the opinion that we could do more than keep our roads in repair with the money we receive from a 3 mill tax. You do not get enough money at one time to build permanent roads with this tax. My opinion is that we will never have good roads until we utilize the Alexander Road Law or some similar measure. I want to say here and now that the State Highway Commission is doing a great work for Arkansas, and stands ready to help Searcy County any time we show a disposition to help ourselves. We want to get over the idea that talk and enthusiasm will build good roads; it helps but there must be, back of all this, such a desire for good roads that we are willing to pay for them. I have said that we have spasmodically voted for tax. That is true, it is not, in my opinion, because the majority of our voters are not in favor of road tax, but because that many feel that some incompetent men have been appointed overseers for political or personal reasons.

I feel it is incumbent on you gentlemen as a part of the governing powers of the county to frown on this abuse of the appointive power.

"I insist that none but the very best road builders of your townships be appointed. Don't sign any one's petition just because he is your friend or refuse to recommend one, because he may be your enemy.

"There are 18 road districts in the county, and all except one or two, have horse graders, rooter plows and other tools.

"There is not a bridge in Searcy County, although three, at least, are badly needed. One over Buffalo at the mouth of Richland, one over Red river below Leslie, and another over Buffalo, at or near the mouth of Calf Creek."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Leslie-Marshall	22.86	Macadam	\$ 98,931.45	Alexander
Marshall-Yellville	12.89	Earth	30,815.45	Alexander

Plans and specifications have been furnished for an extension of road district No. 1. to the Searcy-Baxter county line and to the Searcy-Marion county line, 12.89 miles. This is a graded earth road. Estimated cost, \$30,815.45. State aid allotted \$14,545.49.

SEBASTIAN COUNTY

Cleveland Holland, County Judge.

Approximate Area, 542 sq. Miles.

Population, 1910, 52,278.

Real and Personal Assessment, 1917, \$24,360,872.

General Road Work.

Sebastian County had on hand Jan. 1st., 1917:

1 crusher and 20 acres of quarry land, \$20,000; 2 Motor trucks with steel dump beds, \$7,500; 2 Steam rollers with scarifier attachments, \$7,000; 3 Oil tanks, horse drawn, \$1,000.

Also a large amount of other miscellaneous equipment.

The county has purchased 2 Rumley tractors and a number of graders at a cost of \$9,500.

About 80 miles of road has been graded during the year 1918.

Judge Holland says:

"Sebastian County is divided into two Districts which for all financial matters and general county affairs are the same as two separate and distinct counties. Each District has a separate Quorum Court levying its own taxes, making its own appropriations, etc. I will therefore deal with the Districts separately.

"All equipment is entirely paid for and there is no outstanding warrants against the road fund except warrants for work done on Van Buren Road this year. We have in this district approximately sixty five miles of macadam road and approximately thirty five miles of dirt road. However for the past two years the building of macadam roads has been largely abandoned and it has been the policy to construct some permanent hard surfaced road each year and only do enough work on macadam roads to keep them in fair-

ly good condition. Under this plan there was constructed by the county during the year 1917, approximately 40,000 square yards of asphaltic concrete road and during the year 1918, about the same number of square yards of Warrenite road built under the direction of the State Highway Department. It is my intention to adhere to this policy and build each year as much road of permanent character as the finances of the County will permit. Taken as a whole, both the roads and bridges in the Fort Smith District are in fine condition. The annual three mill road tax of this District amounts to about \$52,000.00.

"The Greenwood District has twenty four townships, each one of which constitutes a road district, and each road district owns certain equipment, generally consisting of a grader, slips, road plows, etc. The condition of these graders and other tools as a general proposition is not good, due to carelessness in handling and caring for by various road overseers, who are elected by the voters of their respective districts. The condition of the roads in the Greenwood District is relatively bad. However, it is my impression that they are in much better condition than the roads in the majority of the counties of the State. The Greenwood District has about 800 miles of roads to maintain and the three mill road tax amounts to about \$18,000, so that it is utterly impossible to keep the roads in very good condition. Most of the large streams are bridged with good steel bridges, but the small bridges and the culverts are in bad condition for heavy truck traffic, which is rapidly increasing in this county.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Ft. Smith-Van Buren	4.1	Warrenite		County Work
Ft. Smith-Greenwood-Mansfield	29.7	Macadam	\$ 181,799.68	Alexander
Greenwood-North	14.95	Shale	84,409.62	Alexander

A road 4.1 miles long will soon be completed from Fort Smith to Van Buren. It is being built of Warrenite on an old macadam base. State aid allotted, \$25,000. The work is being done under the direction of the County Judge. This will be the best piece of road in a county which has many miles of fine road.

Estimates were furnished for a macadam road from Ft.

Smith to Greenwood and Mansfield and the Scott county line.. Estimated cost \$181,799.68. State aid allotted \$19,600.92.

Plans, specifications and estimates were furnished for a shale road, 14.95 miles long from Greenwood-North. Estimated cost, \$84,409.62.

A policy of permanent road building has been pursued for a long time in this county.

STONE COUNTY

J. F. Dunn, County Judge.

Approximate Area, 600 sq. Miles.

Population, 1910, 8,946.

Real and Personal Assessment, 1917, \$1,451,634.

Some permanent road work has been done in Stone County and this has stimulated sentiment for better roads throughout the county. The roads have been greatly improved by the use of the 3 mill road tax in grading, draining and bridging.

Excellent material for road building is abundant in all parts of the county.

General Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Arlberg-Van Buren County Line.....	2.50	Graded Earth	\$ 3,250.95	Alexander
Van Buren County Line-Sycamore	25.00	Graded Earth	52,050.57	Alexander

Plans, specifications and estimates have been furnished for a graded earth road, 2.50 miles long from Arlberg to Clinton. Estimated cost, \$3,250.95.

Plans, etc. were furnished for a graded earth road from the Van Buren county line northeast to Sycamore, 25 miles long. This is a part of a line from Hot Springs to Mammoth Springs. Estimated cost, \$52,050.57. State aid allotted \$25,000.

The district has been organized and work will begin as soon as the contract can be let.

*ST. FRANCIS COUNTY**E. A. Rolfe, County Judge.*

Approximate Area, 620 sq. Miles.

Population, 1910, 22,548.

Real and Personal Assessment, 1917, \$8,450,083.

General Road Work.

The county convicts have been used on the road in St. Francis County under an experienced road builder, and nearly all the main roads have been put in very good condition. Gravel is abundant along Crowley's Ridge for permanent road building.

The streams are well bridged and the road sentiment is good.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Forrest City-North, East and West	56.22	Gravel	\$ 252,059.50	Alexander

Great activity prevails in road building in this county. Plans, specifications and estimates have been furnished for a native gravel road, 56.22 miles long, from Forest City, North, East and West. Estimated cost, \$252,059.50. State aid allotted, \$20,000.

Work is now progressing on this road and will soon be completed. The gravel is being obtained from Crowley's Ridge near by. When completed this will give St. Francis county a good system of roads.

*SHARP COUNTY**W. T. Horn, County Judge.*

Approximate Area, 800 sq. Miles.

Population, 1910, 11,688.

Real and Personal Assessment, 1917, \$2,229,818.

General Road Work.

The county had on hand 12 grading machines, valued at \$1,500 and has purchased 2 Rumley tractors and 2 grad-

ing machines at a cost of \$4,700.

Twenty miles of grading has been done and 20 miles of gravel placed. Nine concrete culverts and 4 steel bridges have been built at a cost of \$22,553.

Judge Horn says: "The roads and bridges are in fair condition, but owing to hard rains are washed in some places. I have made two calls for everybody to work the roads in my county in the last 60 days and I estimate at least 2,500 days of work done since July 29th., as a result of my making the calls."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Cave City to Strawberry River	13.75	Graded Earth	\$ 37,262.53	Alexander
Evening Shade to Cave City.....				

Plans, specifications and estimates have been furnished for a graded earth road 13.75 miles long from Cave City to the Strawberry River bridge. Estimated cost, \$37,272.53. State aid allotted \$12,862.08.

UNION COUNTY

Harry S. Yocum, County Judge.

Approximate Area, 1080 sq. Miles.

Population, 1910, 30,723.

Real and Personal Assessment, 1917, \$7,397,967.

General Road Work.

The county had on hand Jan. 1st., 1917, 1 Rumley tractor and 14 grading machines valued at \$4,800. Other equipment has been bought at a cost of \$600. About 1,200 miles of grading has been done. Five wooden bridges have been built at a cost of approximately \$1,300.

The road tax expended during the last year was about \$17,000.

The condition of the roads is very good considering the nature of the soil, which is not suitable for road building. A good sentiment for good roads prevails in the county.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
El Dorado to the Columbia County Line	20.09	Clay	\$ 60,941.32	Alexander

Plans, specifications and estimates have been furnished for a sand and clay road, 20.09 miles long from ElDorado to the Columbia county line to connect with a road to Magnolia in Columbia county. Estimated cost, \$60,941.32.

Estimates had previously been furnished on roads, 71.13 total length, with total estimated cost of \$383,002.92.

VAN BUREN COUNTY

J. A. Thomas, County Judge.

Appropriate Area, 702 sq. Miles.

Population, 1910, 13,509.

Real and Personal Assessment, 1917, \$2,049,243.

General Road Work.

The roads in this county are being improved rapidly with the 3 mill road tax. Excellent stone is at hand for road building.

The roads and bridges are in fairly good condition and the sentiment for good roads is growing rapidly.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
County Line-East-Scotland-Clinton	18.73	Graded Earth	\$ 33,630.87	Alexander
Formosa-Clinton-Shirley	30.48	Graded Earth	63,895.96	Alexander

Plans, specifications and estimates have been furnished for a graded earth road from the north line of Conway county, through Scotland to Clinton. Estimated cost, \$33,630.87.

Plans, etc have been furnished also for a graded earth road from Formosa on the south line of the county, north-east through Clinton to Shirley, 30.48 miles in length. Es-

estimated cost, \$63,895.96. State aid allotted, \$17,000. This is a part of the Hot Springs-Mammoth Springs Road. The district has been organized and the road will be built as soon as war conditions will permit.

A road has been surveyed also from Clinton to Arlberg.

WASHINGTON COUNTY

George Appleby, County Judge.

Approximate Area, 1100 sq. Miles.

Population, 1910, 33,889.

Real and Personal Assessment, 1917, \$11,872,673.

General Road Work.

There is a general demand for good roads in Washington County and nearly all the principal roads have been graded and culverts placed. The streams are very well bridged. The soil is well adapted to road building.

Much preliminary work is being done in permanent road building and the outlook is good for active construction. Road material, both gravel and stone, is abundant.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Springdale-Madison County Line....	22.27	Macadam	\$ 60,246.27	Alexander
Winslow-Fayetteville-Goshen-Madison County Line.....	43.83	Gravel	177,144.99	Alexander

This county is very active in permanent road building. Plans, specifications and estimates have been furnished for a native rock macadam road from Springdale to the Madison county line, 22.27 miles, a part of the Springdale and Huntsville road. Estimated cost, \$60,246.27. State aid allotted, \$15,000. The district has been organized and work will begin soon.

Plans, specifications and estimates were furnished also, on the Winslow-Fayetteville-Goshen road, 43.83 miles. It is to be of native gravel with an estimated cost of \$177,144.39. State aid allotted, \$50,000. All the preliminaries are completed and work will begin as soon as conditions will permit.

Roads are being projected as follows: Benton county line on War Eagle to the Madison county line; Summers South-Crawford county line; Benton county line-Cincinnati; Rogers via Monte Ne to the Benton-Washington county line.

The preliminary work on these projects is being done; they will finally be built.

WHITE COUNTY

R. W. Crisp, County Judge.

Approximate Area, 1100 sq. Miles.

Population, 1910, 28,574.

Real and Personal Assessment, 1917, \$9,474,064.

General Road Work.

A good many metal culverts have been placed and 24 wooden bridges have been built at a cost of \$6,500.

Judge Crisp says: "The roads and bridges are in good condition. As all bridges under 60 feet long are built by the townships, I cannot give details. The roads are also worked by the Commissioners in this county, but can say that much work has been done."

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
North Arkansas No. 1.....	53.65	Earth	\$ 100,045.64	Special Act
Searcy to Higginson	4.70	Gravel	32,736.54	Alexander
Kensett-West Point-George-town	19.65	Macadam	108,638.48	Alexander
Griffithville-Wire Road	4.05	Gravel	9,083.25	Alexander
Searcy-Smyrna Church	6.75	Gravel	46,067.78	Alexander

Plans, specifications and estimates have been furnished for a graded earth road 53.65 miles long, a part of the North Arkansas No. 1, created by special act. The line runs from the Lonoke county line through the towns of Beebe, Searcy, Judsonia and Bald Knob, to the Jackson county line. Estimated cost, \$100,045.64. State and Federal aid allotted to entire project, No. 1, \$67,200.09.

Also a gravel road from Searcy southwest to Higginson, 4.70 miles. Estimated cost, \$32,736.64.

THIRD BIENNIAL REPORT

Also a water bound macadam road 19.65 miles long from Searcy via Kensett and West Point to Georgetown. Estimated cost \$108,638.43.

Also graded earth road 6.75 miles long from Searcy to Smyrna church. Estimated cost, \$46,067.78.

Also graded earth road 4.05 miles long from Griffithville east to Wire road. Estimated cost, \$9,083.25.

Roads are being projected as follows: Cleburne county line to Rose Bud; Lake Bridge West to Faulkner county line; Searcy via Center Hill and Joy to Rose Bud; Searcy to Letonia.

WOODRUFF COUNTY

A. L. Hutchins, County Judge.

Approximate Area, 600 sq. Miles.

Population, 1910, 20,049.

Real and Personal Assessment, 1917, \$6,661,523.

General Road Work.

The surface is level in this county and road building material has to be shipped in. Much grading and draining has been done and a very good sentiment for general road improvement prevails. The roads are in fairly good condition, the streams are being well bridged.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Cache River-North-McClelland and Laterals	16.81	Graded Earth	\$ 91,108.82	Alexander
Augusta-Jackson County Line.....	13.49	Macadam	66,639.11	Alexander

Plans, specifications and estimates have been furnished for a graded earth road, 16.81 miles long from the Cache River to McClelland and Laterals. Estimated cost, \$91,108.82. The preliminary work is being done.

Plans, etc., were furnished for a Macadam road, 13.49 miles long from Augusta to the Jackson county line. Estimated cost, \$66,639.11.

A gravel surface road is just being completed from Mc

Crory via Jelks to Morton, 17.2 miles, at a cost of about \$98,000.

YELL COUNTY

R. T. Compton, County Judge.

Approximate Area, 900 sq. Miles.

Population, 1910, 26,323.

Real and Personal Assessment, 1917, \$6,315,163.

General Road Work.

Road conditions in Yell county have improved rapidly in the last two years. The gravel soil in most parts of the county is excellent for road building and where well graded and drained makes a fair road. Nearly all the important roads are being graded and nearly all the streams have been bridged. The sentiment for road improvement is growing rapidly and there is a demand for permanent roads throughout the county.

Permanent Road Work.

Name of Road	Miles	Type	Estimated Cost	Under What Law
Vicinity of Dardanelle.....	48.78	Asphaltic Macadam	\$ 246,531.10	Alexander
Scott County Line via Plainview-Danville	59.95	Macadam	397,668.01	Alexander

Plans, specifications and estimates have been furnished for an Asphaltic Macadam road, in the vicinity of Dardanelle, 48.78 miles in length. Estimated cost, 246,531.10.

Plans, etc have been furnished for a native macadam road from the Scott county line via Gravelly, Bluffton, Rover, Briggsville, and Plainview to Danville, 59.95 miles. Estimated cost, \$397,668.01. State aid allotted, \$17,890.31

All preliminary work has been done, but the issue of bonds has been delayed by war conditions. It is expected that all obstacles will be removed very soon and that the road will be pushed to completion.

AUTOMOBILE DEPARTMENT

Auto Licenses Issued, 1914—5,643.	
Auto Licenses Issued, 1915—8,021.—42 per cent increase.	
Auto Licenses Issued, 1916—15,423—92 per cent increase.	
Auto Licenses Issued, 1917—28,250—89 per cent increase.	
Auto Licenses Issued, 1918—40,757—44 per cent increase.	
Auto License Transfers Issued, 1917—443.	
Auto License Transfers Issued, 1918—474—7 per cent inc.	
Dealers Licenses Issued, 1917—312.	
Dealers Licenses Issued, 1918—634—103 per cent increase.	
Chauffeur's Licenses Issued, 1917—487.	
Chauffeur's Licenses Issued, 1918—634.—30 per cent inc.	
Amount Received from Auto and Dealers	
Licenses, 1917 -----	\$204,469.00
Amount Received from Auto and Dealers	
Licenses, 1918 -----	\$397,380.75

LAND SALES FROM DECEMBER 1, 1916 TO
NOVEMBER 30, 1918.

*Amounts Received from the Sale of Forfeited Lands for the
Use of the Various State, County Funds.*

State Funds.

For State General Revenue Fund	\$14,524.88
For State School Fund	1,266.95

Total for State Funds	\$15,791.83

County Funds.

Amount Received for County	\$18,184.57

Total for all Funds	\$33,976.40

*Amount Received from Sale of Various Other Lands for the
State General Revenue Fund.*

Received from the Sale of Swamp Lands	\$ 2,210.74
Received from the Sale of Internal Improvement Lands	\$13,213.03
Received from the Sale of Seminary Lands	400.00
Received from Sale of Real Estate Bank Lands	20.00
Received from the Sale of Island Lands	2,316.99
Received from the Sale of Saline Lands	50.00

Total	\$18,210.76

AMOUNT RECEIVED FROM REDEMPTION OF LANDS
FOR THE USE OF THE VARIOUS STATE
AND COUNTY FUNDS.

State Funds.

State General Revenue Fund	\$ 863.62
State School Fund	1,419.50
Sinking Fund	72.02
Pension Fund	625.64
Insane Asylum Fund	1.33
Interest on Permanent School Fund09
State Capitol Fund	209.08

Total Received for State Funds	\$3,191.28

THIRD BIENNIAL REPORT

County Funds

County General Revenue Funds -----	\$4,071.63
District School Fund -----	1,873.35
County Road Funds -----	30.79
<hr/>	
Total Received for County Funds -----	\$5,975.77
Total Received for all Funds -----	\$9,167.05

*AMOUNT RECEIVED FROM SALE OF TOWN LOTS
FROM DECEMBER 1, 1916 TO NOVEMBER 30, 1918.*

*Amount Received from the Sale of Town Lots for the Use
of the Various State, County and City Funds.*

State Funds

State and General Revenue Fund -----	\$ 438.70
State School Fund -----	715.84
Sinking Fund -----	17.90
Pension Fund -----	357.90
Capitol Fund -----	120.23
Insane Asylum Fund -----	12.22
Interest on Permanent School Fund -----	.06
<hr/>	
Total Received for State Funds -----	\$1,662.85

County and City Funds.

County General Revenue Fund -----	\$3,751.66
District School Fund -----	1,585.21
City General Revenue Fund -----	1,181.59
<hr/>	
Total Received for County and City Funds -----	\$6,518.46
Total Received for All Funds -----	\$8,181.31

*AMOUNT RECEIVED FROM FEES FOR THE USE OF
THE HIGHWAY IMPROVEMENT FUND,*

From December, 1, 1916 to November 30, 1918.

81 Donation Deeds -----	\$ 81.00
1442 Forfeited Land Deeds -----	1,442.00
137 Certificates of Manuscripts -----	137.50
576 Redemption Deeds -----	576.00
971 Swamp Land Patents -----	971.00
854 Duplicate Swamp Land Certificates -----	854.00

STATE HIGHWAY COMMISSION

93

719 Duplicate Land Patents -----	719.00
293 Duplicate Deeds -----	293.00
139 16th Section Deeds -----	139.00
9 Internal Improvement Deeds -----	9.00
3 Seminary and Saline Deeds -----	3.00
166 Donation Certificates -----	1,660.00
13 Island Deeds -----	13.00
941 Auto License Transfers -----	470.50
1120 Chauffeurs Licenses -----	1,120.00
Field Notes -----	1,818.10
3 Deeds of Relinquishment -----	3.00
1 Deed of Correction -----	1.00
Total -----	<u>\$10,310.10</u>

GENERAL SUMMARY OF RECEIPTS FROM LAND

DIVISION

State Funds.

State General Fund -----	\$34,037.96
State School Fund -----	3,402.29
Permanent School Fund -----	.15
Sinking Fund -----	89.92
Insane Asylum Fund -----	13.55
Pension Fund -----	983.14
State Capitol Fund -----	329.31
Highway Improvement Fund -----	10,310.10
Total for State Funds -----	<u>\$49,166.42</u>

County Funds.

County General Fund -----	\$26,007.86
County Road Fund -----	30.79
District School Fund -----	8,391.81
Total for County Funds -----	<u>\$34,430.46</u>
Grand Total for All Funds -----	83,596.88

THIRD BIENNIAL REPORT

*AMOUNT RECEIVED FOR USE OF HIGHWAY
IMPROVEMENT FUND.*

Amount Received from Auto Licenses, 1917 ..	\$204,469.10
*Amount Received from Auto Licenses, 1918, (Approximately)	397,380.75
Amount Received from Land Office Fees	10,310.10
Total	<u>\$622,159.85</u>

NOTE*—The exact amount collected from auto licenses for the year 1918 cannot be ascertained until the Collectors report the amount collected as penalties, etc.