

BRIDGE MODERNIZATION PROGRAM-LOGAN COUNTY

by

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One of the most frustrating duties of a county judge and his fiscal court is that of trying to properly maintain the roads and bridges in his county. It is the old story of not having enough money, personnel and equipment. Very few counties are fortunate enough to have these assets.

Financing maintenance responsibilities is always a problem in nearly any county. Taxes in most counties are never sufficient to support a good maintenance program. There are programs designed to aid the counties in these endeavors, such as the County Road Aid Program. This program is supervised by the Department of Highways and is no more than the name "Aid" indicates. The money allocated under this program is far from a sufficient amount to properly maintain a county's responsibilities to its citizens. Thus, with limited revenues from taxes, the County Road Aid Program, etc., most counties are nearly always in a bind in maintaining their roads and bridges.

Logan County, in the central southwest portion of the State, has the problems that all counties have in meeting its responsibilities. Logan County has a population of some 22,000 people and is the seventh largest county in the State. It has a county road mileage of some 350 miles, including those on the County Road Aid Program and a total road mileage of over 640 miles, including State-maintained routes.

Judge Homer B. Dorris, County Judge of Logan County, "has his hands full" in trying to maintain this mileage and he had many bridges that were in dire need of improvement or replacement. The fiscal court had listened to complaints for many years and Judge Dorris decided he was going to do something about the bridges. After much deliberation and "guess-timating", a figure of \$300,000.00 was selected as being needed to repair 16 bridges in the county. This was not the estimate of a qualified engineer but an opinion of several magistrates and other interested people. In interviewing the Judge, one of the first statements he made was that if it were to be done again, he would not use this method of selecting a figure for estimating repairs to a bridge but he would hire a qualified engineer.

The question was now - how to get \$300,000.00? The Judge knew that pursuant to Kentucky Statute 178.170 he might be able to get a bond issue voted in by the people. This Statute provides that a petition requesting

a bond issue, with the signatures of not less than 150 legal voters, may be filed and then an election may be held to put this to a vote of the people. This only requires a simple majority to pass. The petition was fairly easy to obtain but some trouble was anticipated in obtaining the simple majority.

On May 26, 1964, it was ordered that an election be held for the purpose of issuing \$300,000.00 in bonds to repair and/or build bridges in Logan County and to levy a tax, not to exceed 10 cents on each \$100 worth of property subject to county tax. The election was held and the bond issue passed by 17 votes. The tax was lowered to 2 1/2 cents per \$100 after the 100 percent assessment.

The bonds were sold June 29, 1965 by Stein Brothers and Boyce, Inc., Louisville, at interest rates of 3 1/2 percent - 3 5/8 percent and 3 3/4 percent to be retired in 20 years. Judge Dorris anticipates no trouble in retiring these bonds; in fact, he anticipates early retirement of them.

The fiscal court now has the money and is ready to begin work. It is being realized now that engineering experience is needed and it is to be offered by the Department of Highways. Responsible officials of the Department had noted the bond issue in Logan County and offered engineering help on the premise that the Department was willing to help a county that would make such an effort to help itself.

An engineer from the Bridge Division of the Department of Highways prepared estimates for cost of repairs to 16 bridges. These original estimates were made without benefit of plans and were intended to give the county a realistic idea of the costs.

Bridges to be repaired were of the steel thru-truss and pony-truss type, most being of the Pratt-truss design, with the exception of one I-beam span. They ranged in length from 45 to 178 feet. All bridges were to be so improved to carry a minimum 12-ton load limit. The following items were included in the original estimates:

1. Replacement of timber stringers with suitable steel I-beam stringers.
2. Repairing batter posts, bridge shoes and bearings.
3. Reinforcing compression members that had rusted out around pins.
4. Replacing damaged hangers and diagonals.
5. Tightening truss members.

6. Reinforcing floor beams.
7. Installing metal guard rails.
8. Removing and replacing abutments.
9. Sand blasting to bare metal.
10. Painting with one coat red lead and two coats aluminum.
11. Replacement of the floors.

Alternate estimates were made using either creosoted timber flooring or metal plank flooring. Estimates were also made for total replacement of all of these bridges.

It could be seen immediately that the money available from the bond issue would be insufficient for total replacement. Some of these bridges had been condemned upon inspection by qualified personnel but Judge Dorris and his fiscal court definitely decided that all bridges were to be repaired.

An engineering firm, Carl P. Kroboth, Consulting Engineers, Lexington, Kentucky, was hired to make itemized estimates and submit plans so that these bridges could be let to contract by competitive bidding.

Bridges were analyzed as to present capacity and estimates and plans prepared to bring these structures up to a minimum 12-ton load limit. It was decided that metal plank flooring would be used even though it was initially more expensive than the creosoted timber. The metal plank flooring has a longer life span and would require less maintenance in the future.

The question arose as to the order the bridges should be placed under contract. It was thought that a more reasonable bid could be obtained if the bridges were grouped in numbers of four or five. Due to the geographical location of the structures and the contractors access to them, the bridges were let in four groups.

The cost estimate made by the engineering firm for the 16 bridges was approximately \$276,000.00. Judge Dorris and the fiscal court had made a right decent guess on the cost and were to have money left for repair of three more structures.

The results of the competitive bidding were quite successful in view of the estimated costs. As could be expected, some bids were quite exaggerated but the low bidders were, in almost all instances, slightly

below the estimates. In one particular group of five bridges, bids ranged from a low of \$82,777.47 to a high of \$149,178.00. The low bid on this group was some \$11,000.00 below the estimated cost. Costs ranged from \$5,278.00 to \$28,000.00 per bridge.

Contracts were let by groups in four lettings from May 18, 1965 through May 10, 1966 and the 16 original bridges were repaired. The work was performed by two different contractors in the area.

The Department of Highways furnished a registered engineer for inspection of the daily work of the contractor. Work proceeded as it would in any instance where work is being done by contract. Progress reports were kept and the contractor paid accordingly. All work was done and all materials approved according to specifications.

It was arranged so that no bridge was ever closed more than three weeks. Appropriate signs were used indicating the closure of a road. Warning signs were also erected during the painting of the structures so as to warn the motorists of the possibility of getting paint on their automobiles; painting operations were halted to let automobiles across the bridges.

After the repair to the 16 original bridges, the fiscal court had money left and decided on improvements to another bridge. This was done with the aid of local engineering and construction. Money was remaining after this and a low water ford was constructed at a site that had no means of crossing. There was still a remainder and the county then repaired a small truss bridge. As the end result, the county had repaired 19 structures.

In talking with Judge Homer Dorris, one sees that he has viewed this undertaking with pleasure and a sense of accomplishment. He stated that it was one of the most satisfying and pleasurable projects ever undertaken in the county. Considerable doubt and complaints were expressed by the citizens in the beginning but, after the repair of the first bridge, these were considerably lessened. It is with pride that the Judge, fiscal court and citizens of Logan County look back upon their bridge repair program.

The Judge said, "We started out wrong but turned out right." I am sure Judge Dorris will be glad to advise you of details of steps taken to affect this program.

Judge Dorris' one word of advice was to get estimates on work to be done first. It is very difficult to sell a bond issue to the people when you cannot tell them exactly what the money will be used for or how far it will go.

This project is a prime example of accomplishment of improvements through cooperation between local people, the Judge and fiscal court, the the Department of Highways, private engineering and highway contractors.

With such cooperation I venture to say that any county or any governing body could accomplish as much or could provide many improvements that would benefit many of our citizens.

When I hear of such a fine effort as this that involves the work and cooperation of so many people and that turns out so successful, I am reminded of the story of a young father who had a very small son. The father came home from work tired every day and wanted to sit down and read the newspaper. But his small son wanted to play and would crawl onto his lap and generally aggravate him and disturb his reading. The father devised various means of occupying his son by giving him toys or games or getting him to watch television in order that he might read and rest in peace. One day, as usual, he came home and the little tot crawled up to play with Daddy. This day the father saw in the newspaper a map of the world that covered an entire page. He folded the sheet and took the scissors and cut it into many small pieces and handed them to the little boy and said, "Now put this puzzle together". With that the tyke left and the man sat down to read, contented that he would not be bothered for a while. In a very short time his son came back and said "Daddy, it's finished". The father asked, "How did you get it done so soon?" The son explained that on the back of the paper was the picture of a man, so he put the man together and, "Daddy, when I put the man together, the world was all right".