

Are Turnkey Projects a Viable Alternative?

by Carol A. Shearls

ABSTRACT:

Questionnaires were used to gather information about 26 turnkey projects in six states to determine whether turnkey projects are a viable method of using available federal highway funds. The six states were Florida, Indiana, Kentucky, Louisiana, Virginia and Wisconsin. Information gathered about each of the projects includes how well states met projected deadlines, costs and expectations, and the amounts of federal and state money used as a result of turnkey projects. Over half of the projects were completed on time. None were completed ahead of time. Total costs ranged from a high of \$1,763,292 for a five mile Indiana highway bypass project to a low of \$33,000 for a one mile Louisiana road hazard elimination project. None of the states used the turnkey concept to save money. They did, however, expect to save time. Every project was done as a turnkey project because of understaffing at the state level. The total cost of all 26 turnkey projects was \$9,808,263 with federal reimbursement of \$4,595,479 or 46.9 percent. By using a consultant to perform right-of-way functions, the states were able to use their own staff for priority projects, thereby using federal money on their priority projects. Each state indicated they would use more turnkey projects in the future.

Many states have road and bridge projects that must be completed, but don't have the staff to perform the right-of-way services necessary to do the jobs. A state could hire more people and spend time and money to train them, but then the state is faced with the problem of too many employees after the backlog of projects has been completed.

Another problem that many states face is the allocation of available federal funds for reimbursement. If federal money available to a particular state is not allocated to a project within a specified time limit, it may be lost to that state and become available to other states.

To solve the problem of understaffing, some states have tried

the turnkey method of right-of-way acquisition. According to O.R. Colan (1986) of O.R. Colan Associates, Inc., the basic premise of the turnkey operation was first used in the construction industry. The building contractor was given complete control of the remaining phases of a project by means of a contract. After the work was completed, the contractor "turned the keys" over to the owner of the building. The turnkey operation provides supplementary professional staff to aid in a project which creates a greater work load than the permanent staff can accomplish within a specified time period. The same principle has been applied to the right-of-way phase of a road or bridge project. The only constraints are those of state, federal and local laws, and departmental procedures. According to John J. Coates, Jr., President of Coates Field Service, Inc., theoretically a turnkey project can save the state time and money because a consultant provides the specialized expertise that is required for land acquisition. The turnkey concept addresses business management's

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concerns about staff planning and fiscal financial management.

The turnkey concept for right-of-way acquisition is less than five years old, which limits the amount of data available. Local public agencies have used the turnkey method successfully for some time (see Casper, 1990).

To begin this study, the Federal Highway Administration (FHWA) was asked to provide a list of the states most likely to have performed turnkey projects. These states were contacted by telephone. As a result of these conversations, 19 states were included in this study. The 19 states are Arizona, California, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Michigan, North Carolina, Ohio, Oklahoma,

Pennsylvania, South Carolina, Tennessee, Virginia, Washington and Wisconsin. Of those 19, only eight states indicated had utilized turnkey projects. Questionnaires were sent to Florida, Indiana, Kentucky, Louisiana, Ohio, Tennessee, Virginia and Wisconsin. After reviewing the questionnaire, Ohio decided they had not actually done turnkey projects. Information from Tennessee was not received in time for inclusion in the study.

The questionnaire was designed to determine whether the turnkey method of acquiring right of way is a viable alternative to states using their own staff. Quantitative and qualitative (descriptive) data was requested in the questionnaire. Areas addressed

TABLE 1

Total cost of all 26 projects:

Federal share\$4,595,479
State share5,212,784
Total amount9,808,263

TABLE 2

Scope of work:

Right of Way Engineer3
Appraising17
Review appraising9
Buying26
Relocation19
Property management7

in the questionnaire includes whether the contractor met projected deadlines, costs and expectations of the states. Consultants completed 26 projects in the six states responding to the questionnaires. Florida reported on four turnkey projects, Kentucky on five, Louisiana on six projects and Virginia on seven. Wisconsin used one turnkey project, and Indiana, three.

The states evaluated in this study filled out a questionnaire for each project. The general information requested in the questionnaire included the name of the state, the name of the consultant, the location of the project and the description and length of the project.

The purpose of this study is to examine how well Indiana and states other than Indiana met projected deadlines, costs and expectations associated with turnkey projects. Also, the percentage of federal money used by the states as a result of turnkey projects will be considered. Once these items have been evaluated, a decision can be made whether turnkey projects are a viable method of using available federal funds for the building and improvement of state highway systems. Note that this study is limited to analyzing the data supplied by each state. Actual evaluations are not performed for the states.

The following is a composite of the quantitative data shown on the questionnaires. Table 1 shows the total cost for all the projects broken down into federal and state shares. Table 2 shows the scope of work performed by the consultants. Table 3 lists work-completed data. Table 4 lists the reasons cited by the states for using the turnkey concept. There were a total of 26 projects described. The numbers shown in the following tables refer to



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TABLE 3**Work completed:**

Ahead of time	0
On time	15
Exceeded contract	11

TABLE 4**Reasons for selecting turnkey concept:**

Understaffed	26
Time limitations	5
Cost	0
Emergency	0
Lack of experienced staff	3
Past experience	3
Expertise of consultant readily available	7
Experimental	5

these projects. In Table 2, for example, the "17" beside "Appraising" means 17 of the 26 turnkey projects required appraising by the contractor. The comments from the questionnaires have been shown in narrative form, following the quantitative data.

The total cost of all 26 turnkey projects was \$9,808,263 with federal reimbursement of \$4,595,479, or 46.9 percent. Total cost ranged from a high of \$1,763,292 for a five mile Indiana highway bypass project to a low of \$33,000 for a one mile Louisiana road hazard elimination project.

The buying function was performed as a turnkey function on all 26 projects. The majority of the projects required turnkey appraising (17 out of 26) and relocation (19 out of 26).

Fifteen out of the 26 projects, or 58 percent, were completed on time. Eleven out of the 26 projects, or 42 percent, exceeded the contract limits, causing delays and added work for the states. None of the contracts were completed ahead of time. Many reasons were given for the delays including design changes, relocation problems due to no available replacement housing in the area, and inexperience on the consultant's part.

Every project was done as a turn-

key project because of understaffing at the state level. None of the five states listed an emergency project as a reason to choose the turnkey method. However, they did expect to save time. By using a consultant to perform some of the right-of-way functions, the states were able to use their own staff for priority projects. In this way, the states were able to use federal money on some of their most important projects.

Average total cost for a project is in part a function of the scope of the work the consultant does. The average total cost for the three turnkey projects completed in Indiana was three times greater than the average total cost for projects in other states.

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Taking the 'L' Out of 'LUST'

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by the owner to the consultant pertaining to tank size, type and shape

- Temperature changes causing the fuel to contract
- Consultant inexperience
- Malfunctioning testing equipment
- Vapor pockets in the tank
- Tank ends deflect under the increased pressure

The right-of-way professional must make a judgement call if the UST has signs of leaking, but passes the tightness test. The right-of-way agent should not hesitate to enlist the assistance of an environmental engineer to review the results and offer an opinion.


Now, the bad news. If the tank passes the test, it still might be a LUST. A leaky tank can pass the

tightness test for the same reasons previously mentioned. Also, the leak could be below the EPA detection limit. This can still amount to a significant release of contamination. For example, if a test reported an unaccountable loss of 0.04 gallons per hour, the tank would pass the test. However, over a period of one year, this would produce a loss of 350 gallons. The costs of removing the contamination from the soils and groundwater that were caused by this leak would be enormous.

Remember, with the exception of the inert tracer method, tank tightness tests do not detect historical spills. What this means is, the tank may pass a tightness test, but the soils still could be contaminated from overfills.

BE WAR Y

Whenever property acquisition or management is contemplated, the right-of-way professional must be alert to the presence of UST on the property. If an UST is found, the right-of-way agent must look for the leak or spill signs previously described. If these signs are present, a tank tightness test must be ordered, along with soil and groundwater testing if necessary. The right-of-way professional should incorporate the opinions of an environmental engineer if any doubt remains about the extent of the contamination.

Tank and soil testing will raise the cost of doing business, but it is far cheaper to be safe now than sorry later. Remember, UST is cause for concern, but LUST is downright scary! 

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The services performed by the consultants for Indiana were, however, more comprehensive. Indiana was the only state to have consultants perform right-of-way engineering. Moreover, consultants performed all work functions listed in Table 2 for two of the three Indiana projects, and did all but the relocation function for the third.

SUMMARY

Turnkey projects have been used successfully in the six states of Florida, Kentucky, Louisiana, Virginia, Wisconsin and Indiana. Every state indicated they would perform additional turnkey projects. There is a

market for consultants and a need for the present consultants to become better qualified to provide the services required. Many of the states contacted by telephone which have not done turnkey projects expressed a need for such services. The results of this study indicate that turnkey projects are a viable alternative to use available federal highway funds to build and improve a state highway system.

The findings from this research study lead to other areas which warrant further investigation. A study could be done to compare the relative cost of the use of consultants on turnkey projects with the cost for the same services provided by state personnel, including the time and money spent for necessary training and subsequent termination after project completion, if necessary. Another area to investigate might be the types

of contracts used with turnkey projects. The "cost plus fixed-fee" contract is most commonly used. Yet, it may not be the best contract to use in all cases. A third area for further research might be to repeat this study from the consultant's perspective. The same basic questionnaire could be used with only minor modifications. A final research project might entail taking a close look at the qualifications of the consultants doing turnkey projects.

It appears from the comments found in this study that, in many cases, the states are currently spending the taxpayer's dollars for neophyte services in the interest of getting the projects done. While turnkey projects may be a viable use of available federal highway funds, they may not be the best alternative. 