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A Value Engineer That Added Real Value

By: Dominic M. Calabro, President and Chief Executive Officer, Florida TaxWatch

In an earlier day, Jack Trickey could have used his enthusiasm to get rich traveling throughout the state preaching from the back of a covered wagon about the value of his magic elixir.

But the citizens of Florida should be happy that Trickey has chosen instead to use his energy and knowledge to help the Florida Department of Transportation (DOT) save hundreds of millions of tax dollars.

A veteran of 30 years' DOT service, Trickey is retiring next month. Before he leaves as the department's state value engineer, you should know that the program he heads has had recommendations adopted that DOT records show have saved \$330,172,431 from original design estimates over the last five years.

Cost to the DOT of creating these savings was less than \$1 million a year so the five-year net benefit to taxpayers tops \$325 million. The key to this enhanced performance is a process called value engineering.

Value engineering is a multi-disciplinary team approach that provides innovative ideas for cost effective options in the design of transportation projects.

The usual way transportation agencies operate is for a designer to work for 18 months or so designing a new highway. He or she may consult once in awhile with a right-of-way expert, a construction engineer and an environmental specialist, but that might be the extent of outside involvement.

What the Florida DOT does, though, is customize a team of experts to spend a week studying a high cost project during the design phase. The big issues are identified and the intense brainstorming can lead to engineering alternatives and innovative ways to deal with lane widening, rights-of-way, bridge heights, width of medians, drainage, alignment and other areas that must be designed.

"It's a tremendous process with unbelievable concentration," Trickey says. "It's step-by-step, using the value engineering job plan and common sense. The concept is becoming an integral part of every large project in the state."

An executive at General Electric launched in 1947 what has developed into value engineering. The team approach worked so well for the company that the U.S. Defense Department began insisting it be used on some of its large contracts. The idea reached Florida in 1978 when former DOT Secretary Jay Brown told his department to begin using value engineering approaches.

Trickey recalls there was quite a bit of resistance to change in those early days. But as DOT employees have seen that the use of value engineering is making their projects better while saving money and reducing contractor claims, those objections are fading.

More than 1,500 DOT engineers have been thoroughly trained in value engineering over the years and as they have better understood the concept, acceptance has grown, too. Trickey adds that younger engineers joining the department usually are more likely to adapt to this relatively new procedure than the older engineers they've replaced because they don't see it as a huge cultural change.

Ken Roberts, now value engineering project manager and also a 30-year DOT employee, will replace Trickey when his boss retires in October. He points out that the savings of tax dollars is just one of the good things to come from this approach. "The increased communication from having these people from different specialties work so closely with each other is a tremendous benefit."

An offshoot of this program is the Value Engineering Contract Proposal, which can save money for both the DOT and the road or bridge contractor.

It works this way: After a contractor is awarded the bid by the DOT, he or she may find that new equipment, materials or approaches can shave dollars from the bid amount. If the recommendations are accepted, the Florida DOT and the contractor split the savings. In the last year, records show they shared \$4.6 million from this program.

"We're hitting full stride now," Trickey says proudly. "We had 83 studies last year with all 15 DOT districts and the turnpike participating for the first time. That's how we were able to save \$111,581,412 in 1992-93, which is a 60 percent increase over the previous year."

A bill is pending in Congress to make value engineering mandatory for any state transportation project that uses federal money. That would affect nearly every large project in the country. If the law doesn't pass, the Federal Highway Administration has said it may force compliance by the states through new rules.

Federal reports show that value engineering now is in place in varying forms in 43 states, but none come anywhere close to Florida's dollar savings. The highest dollar amount saved by any other state since 1988 is \$22.5 million by Hawaii in 1988. During that period, Florida's DOT averaged \$66 million each year.

As the chairman of a value engineering task force for the American Association of State Highway and Transportation Officials (AASHTO), Trickey's expertise is acknowledged nationally. He and Roberts have been asked to tell the AASHTO national convention this fall how Florida has been able to maintain such leadership in the use of value engineering. "We're very proud of that," Trickey says.

Roberts says the key to success "has been the consistency of support from top management. We've gone through several transportation secretaries since 1978 and every one of them has

been supportive of the value engineering concept. In other states, they'll have one guy who promotes it and the one who replaces him doesn't. A program like this one can't be successful without that consistent support year after year."

The value of value engineering to the taxpayers in dollar savings and better construction projects throughout the state certainly has been proven by the Florida DOT.

Florida TaxWatch has been a booster of value engineering for many years and it believes other departments in state government need to adopt the concept, too. Think how much the savings might be for taxpayers if the Departments of Education, Corrections and Management Services practiced value engineering, too.

About the Author



Dominic M. Calabro is president and chief executive officer of Florida TaxWatch, a statewide, non-profit, non-partisan government watchdog and research center for taxpayers. Calabro is an "almost native" Floridian, having moved to South Florida from New York at the age of eleven.

After attending Catholic school, including four years at Catholic Seminary, Calabro graduated with high honors from Broward Community College, later receiving his bachelor's degree with highest honors from Florida International University. In addition, Calabro holds a Masters degree from Florida State University. Under Calabro's leadership, Florida TaxWatch has earned and maintained the respect of the state's most highly regarded and influential leaders and has attracted positive attention from the citizens of Florida and the state and national media.

Editors: Catherine M. Haagenson and Bob Stiff.
Dr. Neil S. Crispo, Director, Research and Operations.
Buell G. Duncan, Jr., Chairman
Dominic M. Calabro, President and Chief Executive Officer
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In recent years, news stories about Florida TaxWatch have run in the **Wall Street Journal**, the **New York Times** and the **Washington Post**. In addition, Florida TaxWatch has been featured on the prestigious **MacNeil/Lehrer Newshour** and several times in the **Wall Street Journal**.

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Tallahassee, FL 32302
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Fax: (904) 222-7476