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Costs piling up for Ohio River Bridges Project traffic study

Written by

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A traffic study intended to predict how drivers will react to tolls on the Ohio River Bridges Project is approaching \$1 million — nearly 10 times the amount originally approved by Kentucky's Transportation Cabinet last year.

The state has paid Columbia, S.C.-based Wilbur Smith Associates \$765,218 thus far and has doubled the amount of its contract since last September as new work was added, according to invoices obtained under Kentucky's open records law.

The cost escalated when the study was broadened to include a computer model intended to provide greater detail than past studies — and, Wilbur Smith officials say, it hopefully will avoid flaws that have tainted traffic estimates on toll roads elsewhere.

Realistic traffic and revenue forecasts are essential to getting investors to buy bonds to pay for toll road construction. Investors often look to traffic studies for some measure of confidence that there will be enough toll money to pay off the bonds

with interest.

Yet independent studies show that such forecasts in the United States and abroad often miss their mark, especially during the early years. In some cases, toll roads haven't delivered enough money and have gone bankrupt, had their bond rating lowered, increased tolls or borrowed money to meet debt payments.

Kentucky Transportation Secretary Mike Hancock and Wilbur Smith officials acknowledge that some forecasts elsewhere haven't materialized. But they argue that the study under way is different. By installing cameras, for instance, planners have been able to contrast local and through traffic, measure the number of trucks versus passenger vehicles and determine how heavy traffic is at different times of day.

"There are some large decisions that are going to get made over the next year," Hancock said. "And we just need the best possible information we can have in terms

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of what the traffic is most likely to be so ... we're making those decisions from a position of strength.”

That kind of detail can be useful as planners consider not only how much to toll, but whether to charge different tolls for local traffic or off-peak trips, for instance.

Amount rises tenfold

When Wilbur Smith first billed the state for the work, in May 2010, the contract was valued at \$127,214, the records show.

It increased to \$186,354 a month later before rising to \$496,938 last September, \$774,750 in December and slightly more than \$1 million in March.

Much of the cost increase came when an older model used by the Kentuckiana Regional Planning and Development Agency for this and other projects was abandoned for the bridges project in favor of the new model, which can provide the kind of detail to determine when and how much to charge drivers.

The new model will be available for KIPDA to use on future projects, said Gary Valentine, Kentucky's project manager on the project.

Hancock couldn't say how much the state expects to spend on the work. But, “I guarantee you that if I suspect that we're spending a nickel more than we need to, I'll pull the plug,” he said.

Previously, Kentucky spent \$199,045 in 2007 on a preliminary toll study by Wilbur Smith, a subcontractor to Community Transportation Solutions, the bridges project's general engineering consultant.

The toll study is needed for the Louisville and Southern Indiana Bridges Authority, a 14-member group appointed by Louisville's mayor and the governors of Kentucky and Indiana, to determine toll rates.

Following the lead of elected officials, the authority is pursuing tolls on the Interstate 65 Kennedy Bridge, an adjacent downtown span and an eastern bridge.

In general, a weak economy, higher gas prices and alternative routes can contribute to missed projections, Wilbur Smith Vice President John Carr said. Still, the traffic and toll revenue materialize, he said.

“Eventually you're going to get there,” Carr said.

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"It's not so much that the traffic numbers are off; it's the projection year that is off ... Did it occur in 2010 or is it going to occur in 2020? Or is it going to occur in 2030? It's just a matter of how that growth is going to occur, but it's also a matter of when that growth is going to occur," said Carr, a former Kentucky deputy highway engineer.

Even so, toll roads are typically slow to meet their projections.

A 2006 report sponsored by the American Association of State Highway and Transportation Officials — a group whose members include Kentucky and Indiana's transportation departments — and the Federal Highway Administration found that only five of 26 toll highways met or came within 10 percent of their revenue projections in their first operating year. By year five, only four of 15 projects for which data were available met their revenue goals.

The study noted that roads typically meeting their projections are located in cities or in well-developed suburbs of metro areas. Toll roads built in undeveloped areas were least likely to hit their forecasts.

In 2005, rating agency Standard & Poor's evaluated 104 toll road, bridge and tunnel projects worldwide and concluded that, on average, traffic was 20 percent to 30 percent lower than forecast during the first year of operation. Robert Bain, a co-author of the report, who now runs a consulting

firm, wrote in an essay last fall that traffic models remain "crude and imperfect."

Bent Flyvbjerg, a researcher at Oxford University's Said Business School who has studied discrepancies in traffic estimating, said there are no indications that forecasting has gotten more accurate.

"Forecasts tend to be overestimated, which means that actually traffic tends to be lower than estimated and revenues tend to be even lower than that," he said. "So there's a special problem and special risk for the type of project that you're looking at."

Hits and misses

For its part, Wilbur Smith has had its share of hits and misses.

Toll revenues that were "substantially less than projected" by the consulting firm for a South Carolina toll road led the road operator to file for bankruptcy last year,

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according to court documents. But collections for a series of toll roads operated by the Dallas-area North Texas Tollway Authority were within 90 percent of their estimates from 2006 to 2009, before falling off last year.

The company prepared a forecast for the San Joaquin Hills toll road, which opened in Orange County, Calif., in 1996, but has seen traffic levels fall below half of what was expected in recent years. Toll revenue for 2010 was \$87.1 million, well short of the \$138.5 million projected.

To meet debt payments, the public agency overseeing the 15-mile road must rely on regular toll increases and borrowing funds from a sister agency, according to a report from Moody's Investors Service issued this year. Moody's noted that the road has among the nation's highest toll rates — from 75 cents to \$5.50 for a passenger car.

"If we get too many San Joaquins, it hurts our credibility on Wall Street, and that's the last thing we want to do," said Tim Sorenson, a Wilbur Smith project manager overseeing the Ohio River bridges study.

Sorenson said he worked on a later study for the neighboring Foothill/Eastern toll corridor in Orange County and built on lessons from the San Joaquin project.

Until 2008, actual traffic on the Foothill/Eastern corridor had exceeded 90 percent of the company's projections, and toll revenue had largely met expectations

— including nine straight years of exceeding them.

"We learned about what went on there. We improved it over there," he said. The San Joaquin Hills study "was 10 years ago now. Wilbur Smith has continued to do traffic and revenue studies across the world. So we continue to learn and refine our process."

For the Louisville project, those refinements include creating a new model that estimates travel demand, rather than relying on the existing, less detailed, model used by KIPDA. The KIPDA model didn't allow a breakdown of cars and trucks by the time of day they use local roads, Sorenson said.

As part of its work, Wilbur Smith added cameras on interstates in the Louisville area to allow planners to track vehicles as they enter and exit the metro area, showing the proportion of drivers taking local trips and those passing through and when those trips occurred.

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Although the total cost of the traffic study now stands at \$1 million, Hancock said he can't predict how much the state will ultimately spend.

That work will be the basis of an additional study aimed specifically at satisfying investors, Hancock and Wilbur Smith officials said.

Each project different

Mike McDermott, a Fitch Ratings analyst, said traffic forecasts are an important part of a bond rating. Analysts typically scrutinize the forecasts, starting with a reasonable estimate for a road's first year, then devise their own projections that anticipate slower increases than what was originally forecasted, he said.

Tim Wilschetz, principal of KPMG LLP Infrastructure Advisory, the bridges authority's strategic adviser, said it's difficult to generalize about the typical cost of traffic studies, noting that each project is different.

But comparable reports for several toll projects in recent years have been completed at lower costs.

The Texas Department of Transportation paid \$600,000 to evaluate traffic and revenue as part of the \$2.5 billion North Tarrant Express in the Dallas area. (A separate investment-grade study was privately financed.)

Florida spent \$585,441 on all traffic and revenue studies for a \$1.8 billion

expansion of Interstate 595 in Broward County.

Valentine said comparing the work done on the bridges project to other studies is like comparing "apples to oranges."

"This is a larger metropolitan area than a one-corridor approach," he said, referring to the Florida project.

He also noted that the cost includes work on an update to Wilbur Smith's 2007 study, creating the new traffic model that also will be used in a new environmental review. Those elements are all needed by Kentucky and Indiana, he said.

"Otherwise we can't move forward," he said.

Reporter Marcus Green can be reached at (502) 582-4675.

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