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New Highway Siphons Port Traffic from City Streets

By Lynn R. Novelli

Plans for constructing a new bypass to an overcapacity highway in southeastern Virginia were first discussed in 2000. Now, thanks to creative financing and a design/build delivery method, construction will begin in 2014.

December 4, 2012—The Virginia Department of Transportation (VDOT) has entered into a partnership with the private consortium U.S. 460 Mobility Partners to design, build, and finance a new 55 mi long stretch of U.S. Route 460 in southeast Virginia—to bypass but not replace the existing U.S. 460—at a cost of \$1.396 billion. The five-member consortium is headed by FA Southeast, a subsidiary of the international transportation infrastructure investor and asset manager Ferrovial, and Glen Allen, Virginia-based American Infrastructure, a design/build civil construction contractor. The team also includes Cintra, Ferrovial's private-sector transportation subsidiary, acting as financial advisor; Janssen & Spaans Engineering, of Indianapolis; and consulting engineers A. Morton Thomas and Associates, of Rockville, Maryland.

VDOT and the Route 460 Funding Corporation of Virginia—a nonprofit group established by VDOT to assist it in planning and funding improvements to the U.S. 460 corridor—are expected to sign the comprehensive agreement with U.S. 460 Mobility Partners and reach financial close on the project next month. Construction is expected to begin in 2014, and the limited-access highway will be open to traffic in 2018. The existing U.S. Route 460—which like many U.S. routes extends through small towns dotted with traffic lights—will continue to operate; the final names for each branch of the route have not yet been chosen.

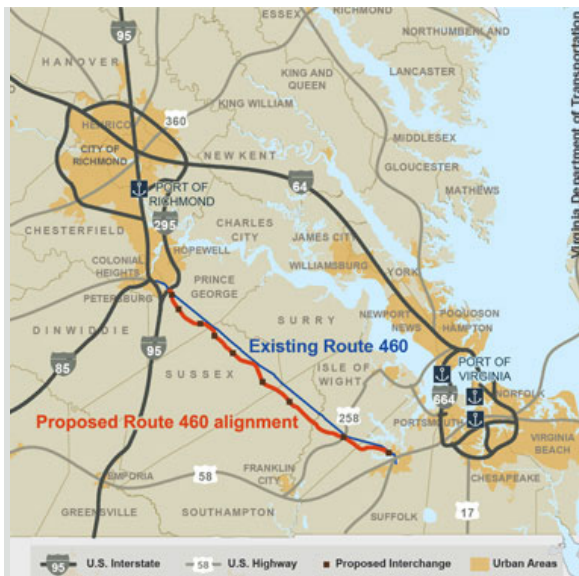
The new U.S. 460, as it is being referred to currently, will be a limited-access, four-lane, tolled highway, roughly paralleling the existing U.S. 460 between I-295 in Prince George County and U.S. 58 near Suffolk. In the decades since construction of the original road in the 1930s, U.S. 460 has evolved into a major link between the Port of Virginia in Norfolk and interstates 95 and 85 to the west. Although the existing highway was widened to four lanes in the 1950s, it lacks medians and shoulders, and only a double yellow line divides the two directions.



Speed limits on the existing U.S. 460 that vary from 25 to 55, as well as many traffic lights, cause congestion and delays. Tom Saunders, Virginia Department of Transportation

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"The new highway will address a number of concerns," says Jeff Wagner, Ferrovial's contracting director. "Speeds on the existing road vary from 25 to 55 miles per hour with a lot of truck traffic trying to get to I-95. The new highway will significantly improve safety as well as accommodate increased port traffic, reduce traffic delays by avoiding traffic lights and stop signs, provide an additional hurricane evacuation route, and improve military connectivity with Norfolk."

The current plan calls for 27 pairs of mainline structures and 18 road bridges over the new route for a total of 72 bridges. The bridges and roadway will require careful consideration in their design, construction, and environmental impact, says Phil Kuntz, P.E., A.MASCE an executive vice president of Janssen & Spaans Engineering. "We are looking at optimizing bridge span arrangements and the profile grade of the roadway to minimize the borrow and right-of-way requirements," he explains. "Our goal is to make the bridges and roadway less obtrusive and minimize their environmental impact."

Ferrovial anticipates that the structural design of the bridges will also offer a significant opportunity for innovation. "The key to success is to use the best possible engineering," says Fidel Saenz de Ormijana, Ph.D., a technical director for Ferrovial. "Because of the project's design/build format, we have identified opportunities for innovation by capitalizing on lessons learned from other projects," he says, although the design specifics have yet to be determined. In addition to the bridges, Ferrovial has also identified opportunities for innovation through the use of specialized geotechnical engineering.

"Although construction should not be difficult from the nuts and bolts aspect, the project logistics present several challenges," says Aaron Myers, the vice president and general manager of American Infrastructure. "The highway will run through a largely undeveloped part of the state, and the logistics of moving and storing 12 to 15 million cubic yards of excavated material will be one of the biggest challenges we will have to deal with." Creation of a lay-

The new U.S. Route 460 will bypass the existing route, running roughly parallel to it through less-developed areas. The limited-access highway should speed the passage of trucks hauling freight from the Port of Virginia to points north and west. Virginia Department of Transportation

down yard, perhaps with access to rail, is one solution under consideration, he says.

VDOT has been contemplating improvements to U.S. 460 since 2000, when the road's high traffic volume and congestion—particularly from freight haulers—and the resulting safety concerns led the state to designate it a "high-priority corridor" in that year's Virginia Transportation Act. By late 2008 the commonwealth had completed a location study and initiated procurement, but plans stalled due to a lack of public funding. The commonwealth reopened the procurement process in May 2010 with the added stipulation that state and federal funds were limited and proposals were expected to include innovative financing alternatives.

U.S. 460 Mobility Partners responded with a creative financial plan that won the bid by meeting all of the requirements and calling for the smallest amount of public subsidy. "Our goal was to put all the pieces together in such a way to optimize the capital structure, get the maximum amount of debt possible, and minimize the amount of public funds needed," explains Juan Sanchez, Cintra's head of financial analysis in North America.

The consortium accomplished this objective through a financing plan that includes \$753 to \$930 million in funding from VDOT, up to \$250 million from the Virginia Port Authority, and \$285 million from the sale of tax-exempt bonds by the Route 460 Funding Corporation of Virginia.

The funding corporation will collect the tolls and manage the toll collection system through 2058, using toll revenue to repay the debt. The Commonwealth of Virginia will own the highway, set and control toll rates, and earn any additional revenue from tolls in excess of construction and financing costs.

Right-of-way and property acquisition will begin in January, Myers says. He anticipates that the right-of-way work, environmental permitting, and design will be completed in approximately 18 months.

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