

CASE STUDY

One firm's take on high-speed rail

Issue remains very divisive in U.S., with many questioning whether it makes sense here.

By DAN NAUMOVICH
Correspondent

In early April, states from coast to coast put in their bids for the \$2.4 billion in federal high-speed rail funding that Florida had refused. Maryland, Washington, New York, and Missouri were among the states hoping to get a share of the money. Ohio and Wisconsin had previously joined Florida in saying “no thank you” to the HSR funding.

Depending on whom you ask, the actions of either side could be viewed as economically prudent, or woefully shortsighted. Some see HSR as the future of transportation and one of the most important initiatives since the development of the federal highway system. Others believe that while the infusion of money would certainly benefit their ailing state economies today, the projects they are funding will ultimately cost too much and the projected benefits of HSR are overly optimistic. In many instances these contrary positions are falling along party lines, a situation that Randy Wade finds troubling.

Wade is director of Midwest regional rail and a senior project manager for **HNTB** (Kansas City, MO), a design and construction firm.

“I see transportation as a very partisan area of public investment. I’m concerned because I see partisan positions being taken with regard to rail. And a lot of misinformation goes out along with it. That doesn’t serve the country well, and I think that’s the greatest risk,” he says.

Before joining HNTB in 2009, Wade served as passenger rail manager for the Wisconsin Department of Transportation, where he oversaw the state’s passenger rail program. Wade also served as chair of the Midwest Regional Rail Initiative Steering Committee.

TOPIC ON RAILS. While Wade has been in the game for over two decades,

HSR has become a hot topic only within the past several years.

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) set forth competitive grant programs for capital improvements to intercity rail systems.

The following year, the American Recovery and Reinvestment Act of 2009 (ARRA) included appropriations of \$8 billion for rail programs. President Obama has served as champion of these transportation investments.

“The president’s response is that we’re all concerned with fuel efficiency and the cost of motor fuels. We’re looking at more fuel-efficient options, given that transportation is the biggest consumer of petroleum in the U.S. There’s also a need to understand and respond to greenhouse gas emissions. On a per-passenger-mile basis, there’s significantly lower consumption of energy and significantly lower greenhouse gas emissions than with either air or auto,” Wade says.

“(PRIIA) is structured along the lines of the highway program. It’s a partnership between the state and the federal government, with the typical 80/20 cost sharing. For us it’s great because we work with state transportation agencies and they’re typically the ones who are, in many ways, the lead,” he continues.

HNTB is involved in HSR projects with states throughout the country. In the Midwest, where Wade directs rail operations, the firm is working with DOTs in Illinois, Missouri, Iowa, and Michigan on rail corridors that connect major cities throughout the region.

Wade says that to maintain the momentum currently driving HSR, a series of annual appropriations is needed to fully fund the program. He and others in the industry are looking forward to the reauthorization of the surface transportation program.

“It’s not just the highway program anymore; it’s the surface transportation program. That’s important because Congress has decided that it will have funding for rail in it. That legislative framework is a huge change in the way the U.S. looks at rail from a policy and legislative perspective,” he says.

TAKING THE CUE. The way the U.S. is starting to look at HSR is similar to the long-standing European and Asian perspectives.

“They’ve got very well-developed high-speed rail systems either in place or under construction. Many of the countries’ economies aren’t that developed, but they’ve made decisions to move forward with high-speed rail. They’re concerned about fuel consumption. They’re trying to position their countries to have the most efficient transportation system possible,” Wade says.

One argument against HSR is that, unlike Europe, the U.S. is a land of wide-open spaces. With low-density pockets of population spread out around the country, rail is not an economically viable solution. Critics point to a proposed line in New York between Albany and Buffalo as an example of how insufficient population won’t provide the necessary ridership.

Proponents respond that while there are many areas of the country where HSR won’t make sense, a majority of the country’s residents live and work in what are called mega-regions, a term the Regional Plan Association defines as “large networks of metropolitan regions that are linked by environmental systems and geography, infrastructure systems, economic linkages, settlement patterns, and shared culture and history.” It’s in these increasingly populated areas where HSR initiatives are being targeted.

“We’re always going to fly from one end of the country to the other, but that 100- to 500-mile corridor is where you’ll find that rail is very competitive,” Wade says.

For those who see mega-regions as the model for “smart” growth in the future, HSR may help further that trend. Low-cost and convenient transportation options are becoming increasingly desirable and play an important role when people choose where to live. There may be a “if you build it, they will come” factor involved with HSR that would project well for its future viability.

Wade doesn’t want to predict the future of HSR when a new federal administration someday takes over; he only

See RAIL, page 5

TRENDS

GSA to test sustainable technologies

Green Proving Ground program will evaluate green practices in federal buildings.

By JULIE KYLE
Editor

The U.S. General Services Administration has announced it will test and evaluate 16 emerging sustainable building technologies and practices in select federal facilities under its Green Proving Ground program, as part of the Obama administration's continued emphasis on sustainability, energy conservation, and environmental consciousness. Testing will determine the most effective technologies that may then be replicated throughout the GSA inventory with the goal of transforming markets for these technologies.

GSA oversees the business of the U.S. federal government, providing real estate and building management services as well as acquisition and procurement assistance to other federal agencies.

"By using our real estate portfolio as a test bed for new technologies, we can then provide further innovation in energy efficiency standards and implement best practices that will lead the market," GSA Administrator Martha Johnson stated in a release.

GSA selected technologies from a pool of approximately 140 projects across GSA's national portfolio that are currently implementing innovative or underutilized sustainable building technologies. The 16 technologies and practices were selected for evaluation because they have the greatest potential to meet GSA's sustainability goals. Examples of the technologies chosen include wireless temperature sensors, electrochromic windows, high R-value windows, integrated lighting systems,

thin-film photovoltaic panels, solar water heating with integrated photovoltaic panels, chilled beams, and non-chemical water treatment systems.

With support from the Department of Energy's National Laboratories, the Green Proving Ground program will perform enhanced testing, monitoring, and evaluation on these selected technologies. GSA will use notable findings from all of the projects to support the development of performance specifications for GSA's real estate portfolio and other federal agencies.

Additionally, testing these technologies will assist the A/E/P industry in deploying the technology and practices studied.

CARBON FOOTPRINT TARGET:

ZERO. Johnson wants to reduce the GSA's carbon footprint to zero— not just in the facilities GSA builds and manages, but in all of the goods and services agencies purchased through GSA. Efforts by GSA and the Pentagon to expand the use of new energy-saving technologies come as the Obama administration is calling on all agencies to shrink their carbon footprints and become better stewards of the environment. Agencies must cut their energy consumption 30% by 2015 as compared to 2003, increase their use of renewable energy to 7.5% annually by 2013, and cut their greenhouse gas emissions by an average of 26% by 2020.

There are several projects in the works that will serve as test beds for emerging technologies that could help agencies reach those goals. The Pentagon is paying General Electric \$2 million to build a smart microgrid at the Marine Corps' largest base, Twentynine Palms in California's Mojave Desert. It's the first major demonstration of the new technology, which will link the energy the base produces from solar panels, diesel generators, and other sources with the

CABIN PROJECT INSPIRED BY THOREAU

If Henry David Thoreau were alive to build a cabin on Walden Pond today, it might look a lot like the Sustainable Cabin, a design/build project by the colleges of Architecture, Visual and Performing Arts, and Engineering at Texas Tech University. The project is intended to help future designers make crucial and lucrative design decisions, and help them to envision how to retrofit existing homes with sustainable technology. Inspired by Thoreau's Cabin at Walden Pond near Concord, Massachusetts, the Sustainable Cabin project is intended as a model of sustainability. Thoreau advocated a life of simple and sustainable living. The cabins offer students a living laboratory to test and quantify sustainable concepts using basic building materials, says Urs Flueckiger, associate professor in the College of Architecture. For example, students will test and measure the performance of water harvesting technology, and then compare the data collected to the performance of competing products.

electricity purchased commercially. The smart grid will determine how to better manage and maximize that mix of energy. It also will be able to cut off non-critical equipment to reduce the energy load at peak times of the day.

Installing the smart microgrid will allow the base to be more resilient and to continue functioning for longer periods if the base loses off-site power because of brownouts, a common problem in California and a growing issue nationwide, according to the GSA.

Meanwhile, a number of groups and organizations in the U.S. are testing sustainability initiatives, such as Texas Tech University, which operates the Sustainable Cabin, a living laboratory that evaluates green technologies and materials for performance (see sidebar). ▲▲

RAIL, from page 4

hopes that decisions are based on facts and what is best for the country. He does see an evolution underway, however— one that doesn't completely break with the past, but does conform

to new realities.

"The automobile is going to be an integral part of the passenger transportation system forever. That's never going to change. But as gas prices increase, people are going to look for other op-

tions that are lower cost than the single-passenger automobile, particularly for business travelers. Businesses are always looking for efficient ways to move their employees," he says. ▲▲