A Trump train between Houston and Dallas?

Randal O'Toole

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One of the projects on the supposed Trump infrastructure priority list (which, I am 90 percent convinced, is not an official list) was the Dallas-Houston high-speed rail line.

When I called this project a boondoggle, I received an email from a supporter saying it will be entirely privately financed. While that would alleviate my objections, I remain skeptical that it could work.

The Texas Central project is backed by the Central Japan Railway and proposes to use Japanese high-speed rail technology in the 240-mile corridor from Dallas to Houston. Trains would make only one stop between those two cities, making the journey in 90 minutes at top speeds of around 200 miles per hour.

Japan's Tokyo-Osaka line makes money, but when it was built the corridor had twice as many people as Dallas-Houston, and few of those people owned automobiles. Around 70 percent of the corridor's travel at the time was low-speed rail, while not much more than 10 percent was by car and less than one percent was by air. By comparison, around 90 percent of trips in the Dallas-Houston corridor are by car, 7 percent by air, and a small number are by bus.

In today's dollars, the Tokyo-Osaka line cost more than $50 million a mile to build, but at the time it was built trains went only 135 miles per hour. Most of Japan's other lines cost more to build and carry far fewer riders than the Tokyo-Osaka line. Though most earn enough fares to cover their operating costs, they failed to cover their capital costs.

Based on this, the Dallas-Houston line will cost more than $12 billion to build, potentially a lot more. High-speed rail also imposes very high maintenance costs, as it requires lots of extremely precise infrastructure. Other than air traffic control, the only infrastructure required by air travel is a few acres of concrete and some terminal buildings, neither of which is expensive to maintain.

People in the Tokyo-Osaka corridor are also far more densely populated than between Houston and Dallas, which means they are closer to train stations. The route also has 17 stations, not just the three proposed for the Texas line. Fewer stops means faster trains, but also fewer people near a station.

Southwest, American and United airlines currently offer dozens of flights a day between the two Houston and two Dallas airports. Typical flights take 60 minutes, and prices start at under $100. Texas Central says that downtown-Houston-to-downtown-Dallas times on the train will be faster than flying, but only about 4 percent of workers in the Dallas-Ft. Worth and Houston areas work downtown.

With two airports to choose from in each urban area, it is likely that more people live and work closer to an airport than to a downtown train station.

Texas Central's ridership analysis projects that the train will capture nearly 25 percent of travel between Dallas and Houston. I don't know what percent of travel is carried by the Tokyo-Osaka train, but Amtrak carries just 6 percent of travel between Boston and Washington. Amtrak trains aren't as fast as Texas Central proposes, but the Northeast corridor is also far more congested than the Texas corridor, so slower trains could still be competitive. The Northeast corridor also has far more people than the Texas corridor, which makes Texas a less viable candidate for high-speed rail.

The Japanese are also promoting a mag-lev proposal between Baltimore and Washington, while the Chinese are promoting a high-speed rail line from Las Vegas to a point outside of Los Angeles. I suspect that what's really going on is that companies in these countries are trying to sell their technology. Perhaps they intend to build the lines themselves, but it is most likely that they will end up seeking government support.

The European Union says that high-speed rail projects need 6 million to 9 million annual riders to be viable, and they are only talking about covering operating costs. Texas Central projects that it will carry 5 million riders by the mid-2020s and 10 million by 2050. Five million isn't enough, and 2050 is a long way away – too long for most investors to wait and too long to accurately predict what will happen with other transportation technologies.

Certainly by 2050, self-driving cars will dominate highways. People in self-driving cars will be less time-sensitive than those who have to drive themselves, so the time advantage of high-speed rail will be less important. Plus, the car's door-to-door convenience and ability to stop at any point in the middle of a journey will outweigh the train's time advantage.

People who car-share might take a car to a train station, then the high-speed train to another city, then a shared car to their final destination. But no one really knows what people will do with self-driving cars, so betting $15 billion or so today on a technology that almost no one in the United States uses is pretty risky.

The other possible change between now and 2050 is in air travel. Installation of more advanced air traffic control systems will relieve congestion and speed take-offs and landings. Improvements in security will speed the boarding process. It might even be possible to build

more airports in major urban areas so Dallas- and Houston-area residents can choose among four or five locations at either end.

Supposedly, the only high-speed rail lines in the world that make money are Tokyo-Osaka, Beijing-Shanghai, and Paris-Lyon. In fact, Beijing-Shanghai only began to cover its operating costs after several years, and it still hasn't covered its capital costs. I haven't been able to find detailed data verifying that Paris-Lyon actually makes money. Tokyo-Osaka was profitable mainly because it was built before many people in Japan had cars.

I would be happy if this project could work. But almost all other high-speed rail lines in the world lose gobs of money, and I can't see any reason why Dallas-Houston will be an exception.

Randal O'Toole (rot@cato.org) is a senior fellow with the Cato Institute specializing in land-use and transportation policy and the author of Gridlock: Why We're Stuck in Traffic and What to Do About It.