Pelican Institute
for Public Policy

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Why Louisiana Should Not Build High-Speed Rail

The Federal Railroad Administration's high-speed rail plan will cost federal income tax payers $1,000 each—and most of them will never ride it. Louisiana's share of the plan will cost nearly $1 billion, or more than $220 for every state resident—and most of them will probably never ride it either. High-speed rail won't relieve congestion, save energy, or reduce greenhouse gas emissions. Louisiana should spend its share of federal high-speed rail stimulus funds on safety measures such as grade crossing improvements, not on new trains that will obligate taxpayers to pay billions of dollars in subsidies.

High-speed rail is an idea whose time has come—and gone. A technology that might have made sense a century ago is today merely an anachronism that could cost American taxpayers tens or hundreds of billions of dollars yet contribute little to mobility or environmental quality.

Nevertheless, President Obama persuaded Congress to dedicate $8 billion of stimulus funds to high-speed rail projects. In April, the administration announced that it would accept proposals from the states to use this money to build some of the 8,500 route-miles of high-speed rail identified by the Federal Railroad Administration (FRA). Yet the FRA has no estimates of how much this will cost, who will ride the trains, who will pay for them, and whether the benefits justify the costs.

Careful analysis reveals that the proposed high-speed rail plan will cost far too much money, will carry far too few people, and most of those subsidized riders will tend to have higher than average incomes. High-speed rail is not good for the environment and will probably use more energy and emit more greenhouse gases per passenger mile than either driving or flying.

Only a small portion of the FRA system will consist of true, high-speed bullet trains. The plan calls for very-high-speed California trains running at top speeds of 220 miles per hour (mph), but average speeds of 145 mph; high-speed Florida trains running at top speeds of 125 mph, and average speeds of 80–85 mph; and moderate-speed trains in Louisiana and 30 other states, with top speeds of 110 mph, and average speeds of only 55-75 mph.[1]

Upgrading the 280 miles of Louisiana tracks in the FRA plan to run trains at 110 mph would cost taxpayers nearly $1 billion, or more than $220 for every Louisiana resident. Subsidizing passenger trains over those routes will cost more than $40 million per year. Yet the average Louisianan will take a round trip on such trains only once every 6 years. For all these reasons, Louisiana should not attempt to provide high-speed rail service.

The Federal Railroad Administrationís high-speed rail ìvisionî includes very-high-speed (top speed 220 mph, average speed 140ñ145 mph) trains in California, high-speed (top speed 125 mph, average speed 80ñ85 mph) trains in Florida, and moderate-speed (top speed 110 mph, average speed 55ñ75 mph) trains elsewhere. It is only a vision because the FRA has no idea how much it will cost, how to pay for it, who will ride it, or whether the benefits justify the costs. Source: FRA, 2009, tinyurl.com/cvw8s6.

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An Expensive Slippery Slope

Congress' decision to spend $8 billion on high-speed rail puts the United States on an expensive slippery slope that could lead the country to spend at least $90 billion and possibly well over $500 billion on a transportation system that few will ever use. Estimating the full costs of the system requires distinguishing between the various kinds of high-speed rail in the FRA proposal.

Moderate-speed trains will use existing tracks and share those tracks with freight trains. Bringing such tracks up to 110-mph standards often requires little more than installing safer grade crossings and better signaling systems. For safety reasons, trains faster than 110 mph require their own rights-of-way and are thus much more expensive to build.

The California High-Speed Rail Authority estimates that building a high-speed line from San Francisco to Anaheim will cost $33 billion.[2] Planned branches to Riverside, San Diego, and Sacramento will add another $19 billion to the cost. (All of these estimates include locomotives, passenger cars, and stations as well as rights-of-way and track.)

The Florida high-speed rail line is supposed to extend from Tampa to Miami via Orlando. In 2005, the Florida High-Speed Rail Authority estimated the Tampa-to-Orlando section would cost close to $2.5 billion.[3] Taking account increases in construction costs since that time, the entire Tampa-to-Miami line would cost $11 billion.[4]

In 2004, the Midwest High Speed Rail Initiative estimated that upgrading Midwestern freight lines to allow 110-mph passenger trains would cost about $2.4 million per mile.[5] In 2005, the New York High Speed Rail Task Force estimated that a similar upgrade to the New York-to-Buffalo route would cost $3.9 million per mile.[6] Taking into account increases in construction costs, the national average cost of moderate-speed rail is likely to be $3.5 million per mile. Upgrading all of the routes in the FRA system except those in California and Florida would cost about $26 billion.

This brings the total cost of the FRA system to nearly $90 billion, or eleven times the amount Congress has already set aside for high-speed rail. Even if Congress were to find another $80 billion for high-speed rail, the real cost is likely to go much higher for both political and technical reasons.

First, the FRA system has many major gaps. For example, it leaves out proposed lines from Dallas to Houston, Jacksonville to Orlando, and Los Angeles to Las Vegas. It also has no routes serving Rocky Mountain states even though Phoenix and Denver are two of America's largest urban areas. Filling in these gaps with just moderate-speed rail will add close to $10 billion to the cost.

Second, more than half the cost is for California lines that make up less than 10 percent of the route miles. The president of Amtrak has warned that it would be "prohibitively expensive" to build true high-speed trains throughout the country.[7] But elected officials the Midwest, Texas, and elsewhere are certain to ask, "Why is it prohibitively expensive for us to have true high-speed rail, but not California?"

Political pressure will be strong to build Texas, Las Vegas, Rocky Mountain, and other corridors to true high-speed-rail standards. Building the entire FRA network to such standards would cost well over $500 billion. Adding service to some or all of the states not included in the FRA plan will drive the cost even higher.

Technical issues include cost overruns, operating subsidies, and rail rehabilitation every 30 or so years. The above cost estimates were made by rail proponents using assumptions that were often optimistic. For example, the California High-Speed Rail Authority assumed it could build some of its lines in existing Union Pacific rights of way, but the Union Pacific has made it clear that it will not allow this.[8] Purchasing rights of way will drive costs even higher. Based on American experience with rail transit construction, cost overruns are likely to average 40 percent.[9] The U.S. Department of Transportation typically requires state or local governments to cover all cost overruns.

According to the bipartisan Amtrak Reform Council, fares on Amtrak's trains between Boston and Washington fail to cover the costs of operating those trains.[10] If trains in the most heavily populated corridor in the United States cannot cover their costs, no other trains will come close. Amtrak typically expects the states to cover operating losses in regional corridors.

Another hidden cost is that rail lines must be largely and expensively rebuilt about every 30 years. The Federal Transit Administration recently estimated that the nation's older rail transit systems are suffering from a $50 billion backlog of unfunded maintenance needs.[11] Since Congress tends to fund new projects instead of maintaining existing programs, construction of moderate- or high-speed rail lines could obligate states to billions of dollars of rehabilitation costs in the future.

Bankers, Lawyers, & Bureaucrats

American tourists to France or Japan often return with glowing reports about those nation's high-speed rail systems. What they don't realize that few local residents regularly use these systems. The average residents of France and Japan ride high-speed trains less than 400 miles per year. Japanese travel as much on domestic airlines and almost as much by bus as by high-speed rail, and they travel by conventional trains four times as much and by car ten times as much as by high-speed rail.[12] The French travel by bus more, fly within Europe three times as much, and travel by car almost 20 times as much as they ride high-speed rail.[13]

A pro-rail group called the Center for Clean Air Policy predicts that, if the FRA rail system is built by 2025, it will carry 20.6 billion passenger miles per year.[14] While that sounds like a lot, it will be just 0.3 percent of passenger travel in 2025 (compared with Amtrak's 0.1 percent today). The Census Bureau projects that the United States will have 357 million people in 2025, which means the FRA system will carry each person less than 60 miles per year.[15]

Since the average high-speed rail trip is about 225 miles, the average American will take a round trip on high-speed rail just once every seven or eight years. More likely, a few Americans will regularly ride the trains, while most taxpayers who pay for them will rarely or never use them.

Who will be among the lucky few to enjoy subsidized high-speed train rides? One answer can be found by comparing fares in Amtrak's New York-to-Washington corridor.

At the time of this writing, $99 will get you from Washington to New York in two hours and 50 minutes on Amtrak's high-speed train, while $49 pays for a moderate-speed train ride that takes three hours and 15 minutes. Meanwhile, relatively unsubsidized and energy-efficient buses cost $20 for a four-hour-and-15-minute trip with leather seats, free Wi-Fi, and a choice of several midtown or downtown stops in New York City. Airfares start at $119 for a one-hour flight.

Few people who pay their own way will spend an extra $79 to save an hour and 25 minutes of their time. But anyone who values their time that highly would be willing to pay an extra $20 to save an hour by taking the plane. Rail advocates respond that high-speed trains have an advantage over flying when adding the time it takes to get between downtowns and airports. Yet less than 8 percent of Americans work downtown.[16] Who are they? Bankers, lawyers, and government officials—high-income people who hardly need subsidized transportation.

Environmental Costs

Amtrak claims that its trains are more energy-efficient than driving, but it assumes the average automobile carries 1.6 people. While true for urban driving, an independent analysis for the California High-Speed Rail Authority found that intercity autos average 2.4 people.[17] "Intercity auto trips tend to [have] higher-than-average vehicle occupancy rates," a Department of Energy report points out, and "on average, they are as energy-efficient as rail intercity trips." The report adds that boosting train speeds to 110 mph will reduce the energy efficiency of the trains, making them less energy-efficient than automobiles.[18]

Moreover, both auto and airline energy efficiencies are growing much faster than rail. Since 1975, airline have cut the energy they use per passenger mile by more than half, while Amtrak's cut its energy use per passenger mile by just 25 percent. Automobile energy efficiencies are also growing faster than Amtrak's.[19] Even if the trains did use less energy than cars or planes, Professor Roger Kemp of Lancaster University calculates that the energy costs of construction would dwarf any savings in operations.[20]

Electrically powered high-speed trains produce less greenhouse gases only if that electricity is generated from renewable power sources. Most electricity in the U.S. comes from fossil fuels, so urban rail transit systems in such cities as Baltimore, Denver, Cleveland, Miami, and Washington generate as much or more greenhouse gases, per passenger mile, as driving an SUV.[21]

It is far more cost-effective to save energy by encouraging people to drive more fuel-efficient cars than to build and operate high-speed rail. Moreover, in places that do generate electricity from renewable sources, it would be more cost-effective to use that electricity to power electric or plug-in hybrid cars than high-speed rail.

Given these facts, the Florida High Speed Rail Authority concluded that "the environmentally preferred alternative is the No Build Alternative" because it "would result in less direct and indirect impact to the environment."[22] An objective analysis of other high-speed rail proposals would reach the same conclusion.

High-Speed Rail vs. Interstates

The White House claims the high-speed rail plan "mirrors that of President Eisenhower, the father of the Interstate Highway System, which revolutionized the way Americans traveled."[23] But there are several crucial differences between interstate highways and high-speed rail.

First, thanks to estimates made by the Bureau of Public Roads, Congress knew roughly how much the interstates would cost before it approved their construction. After adjusting for inflation, the interstates cost about $425 billion, or roughly five times the cost of the FRA plan and less than a true national high-speed rail network.[24] But few if any members of Congress have any idea how much the FRA's high-speed rail system will cost.

Second, Congress had a plan for paying for interstate highways: through gas taxes and other highway user fees. In fact, the entire system was built on a pay-as-you-go basis out of such user fees; not a single dollar of general taxpayer money was spent on the roads. In contrast, the FRA has no financial plan for high-speed rail and no source of funds. Virtually all of the capital costs and much of the operating costs will have to be subsidized by taxpayers.

The third difference is that the interstates truly did revolutionize American travel, while high-speed rail will never be more than a tiny, but expensive, part of the American transportation network. In 2007, the average American traveled 4,000 miles—more than 20 percent of all passenger travel—over the interstates.[25] That's 70 times as many passenger miles as the FRA high-speed rail network will carry.

Finally, since interstate highways serve all major cities in all 50 states, it is likely that the majority of Americans travel over an interstate at least once if not several times a week. In contrast, high-speed trains will mainly be used by a relatively wealthy elite.

Restricting Property Rights

High-speed rail is only one part of the Obama administration's "livability" campaign to completely reshape American lifestyles. In addition to high-speed rail, this program includes more urban transit (particularly rail transit), bicycle and walking paths, encouraging high-density housing, discouraging single-family housing, and discouraging driving. As Transportation Secretary Ray LaHood recently admitted, the ultimate purpose of this campaign is to "coerce people out of their cars."[26]

Despite the terms "livability" and "smart growth," unless you are rich, athletic, and have no children, these policies create cities that are neither smart nor livable. Urban areas that have followed these practices, such as Portland, Oregon and San Jose, California, have not seen a significant decline in driving. But they have seen a huge increase in living costs and either higher taxes or declining urban services.

Portland and San Jose used urban-growth boundaries to increase population densities, taking away the rights of owners of land outside the boundaries to develop their land. Meanwhile, the cities rezoned urban neighborhoods to higher densities, leading developers to replace single-family homes with mid-rise or high-rise apartments and condominiums.[27]

Numerous surveys show that the vast majority of Americans say they want to live in a single-family home with a yard.[28] Yet livability policies deliberately make this housing unaffordable to low- and even middle-income families.[29] Meanwhile, subsidies to high-density developers take tax dollars that would otherwise go to police, fire, schools, and other essential services.[30] The cost of doing business also increases, particularly for businesses that need land.

Meanwhile, there is little evidence that these policies reduce driving or increase transit ridership. The Census Bureau reports that, between 2000 and 2007, the number of Portland-area commuters who take a car to work increased from 664,300 to 730,500, while the number of commuters who take transit declined from 58,600 to 57,900.[31] Thanks to service cutbacks necessitated by the high cost of light-rail construction, San Jose's transit agency saw a 25 percent drop in transit ridership between 2000 and 2007.[32]

These policies have forced many low- and moderate-income families to move far from the cities. Many Portland workers have moved to Vancouver, Washington and Salem, Oregon, 45 miles away; many San Jose workers have moved to Stockton and Modesto, 80 miles away. The ones left behind tend to be young singles or childless couples with relatively high incomes. Both Portland and San Jose have seen an increase in people walking or bicycling to work, but this is just a symptom of the sorting that takes place when land-use regulation makes housing unaffordable for families with children.

Conclusions

For far less money than it would cost to build a national high-speed rail network, federal, state, and local governments can take other actions that will do far more to save energy, reduce pollution and greenhouse gas emissions, and improve people's mobility. Traffic congestion wastes nearly 3 billion gallons of fuel each year, and simple techniques to reduce congestion such as traffic signal coordination and congestion pricing of roads are far more cost-effective than building expensive rail lines that few people will use.

Given the high costs and tiny benefits from high-speed rail, the real impetus behind such plans is the desire to change Americans' lifestyles: move people from single-family homes to multi-family housing and provide people with mass transportation while discouraging drivng. Such behavioral efforts will be costly and produce few environmental or social benefits.

Based on these findings, Louisiana should apply for a share of the $8 billion in stimulus money solely for incremental improvements to existing rail lines, including safer crossing gates and better signaling. It should not plan to purchase new locomotives and railcars for passenger service that will be both expensive to operate and harmful to the environment. Nor should the Federal Railroad Administration commit the federal government to funding expensive new high-speed lines such as the proposed lines in California or Florida.

Louisiana can do many things to cost-effectively improve transportation networks in ways that save energy, reduce accidents, and cut toxic and greenhouse gas emissions. High-speed rail is not one of those things.

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About the Author

Randal O'Toole is a senior fellow with the Cato Institute and a founder of the American Dream Coalition. For the past 35 years, he has analyzed government plans, including forest plans, urban plans, and transportation plans, and found that they almost always exaggerate the benefits and underestimate the costs.

In his private life, O'Toole is a rail fan who helped restore the nation's second-most-powerful operating steam locomotive and who has traveled hundreds of thousands of miles on passenger trains in many parts of the world. As an economist, however, O'Toole asks questions about transportation proposals such as: Who benefits? Who pays? Do the benefits justify the costs? And is it fair? In the case of high-speed rail, the costs are too high, the benefits too small, and a few elites would ride the trains at everyone else's expense.

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