

High-speed rail is no solution

Posted by [msneyd](#) May 04, 2009 05:00AM

Randal O'Toole is a senior fellow with the Cato Institute and author of "The Best-Laid Plans: How Government Planning Harms Your Quality of Life, Your Pocketbook, and Your Future" and "High-Speed Rail: The Wrong Road for America."

The facts do not bear out several aspects of President Barack Obama's desire to push high-speed rail projects with federal resources (\$8 billion in the economic stimulus package, another \$5 billion in his 2010 budget) -- chiefly, that the rail projects are more efficient and more environmentally friendly than modes of travel now widely in use.

Saving energy and reducing pollution are worthy goals, and if high-speed trains could achieve these goals, the president's plan might be a good one. But since they cannot, it isn't.

Obama's proposal should really be called "moderate-speed rail." His \$13 billion won't fund 200-mile-per-hour bullet trains. Instead, it is mostly about running Amtrak trains a little faster on existing freight lines.

Outside of the Boston-Washington corridor, the fastest Amtrak trains have top speeds of about 80 to 90 miles per hour and average speeds of 40 to 50 miles per hour. Obama proposes to boost top speeds to 110 miles per hour in some places, which means average speeds no greater than 70 to 75 miles per hour.

This is not an innovation. The Milwaukee Road, Santa Fe and other railroads routinely ran trains at those speeds 70 years ago -- and still couldn't compete against cars and airlines.

Moderate-speed trains will be diesel powered. They will consume oil and emit toxic and greenhouse gases, just like cars and planes.

According to the Department of Energy, the average Amtrak train uses about 2,700 British thermal units (BTUs) of energy per passenger mile. This is a little better than cars (about 3,400 BTUs per passenger mile) or airplanes (about 3,300 BTUs per passenger mile). But auto and airline fuel efficiencies are improving by 2 percent to 3 percent per year (for example, a Toyota Prius uses less than 1,700 BTUs per passenger mile).

By contrast, Amtrak's fuel efficiency has increased by just one-tenth of 1 percent per year in the past 10 years.

This means, over the lifetime of an investment in moderate-speed trains, the trains won't save any energy at all. In fact, to achieve higher speeds, moderate-speed trains will require even more energy than conventional trains and probably much more than the average car or airplane 10 or 20 years from now.

California wants to build a true high-speed rail line between San Francisco and Los Angeles, capable of top speeds of 220 miles per hour and average speeds of 140 miles per hour. The environmental analysis report for the California high-speed rail projects costs of \$33 billion for 400 miles, while the Midwest Rail Initiative projects costs of \$7.7 billion for 3,150 miles of moderate-speed rail. That's \$82 million per mile for true high-speed rail (partly because the California project goes through some mountains) and only \$2.4 million for moderate-speed rail. All else being equal, high-speed rail will cost 10 to 12

times more than moderate-speed rail. A true, national high-speed rail network would cost more than half a trillion dollars.

Construction of such high-speed rails will consume enormous amounts of energy and emit enormous volumes of greenhouse gases. Since future cars and planes will be more energy efficient, there are likely to be no long-term environmental benefits from investment in high-speed rail.

Electricity would power the California trains. But, because most U.S. electricity comes from coal or other fossil fuels, these high-speed trains won't reduce emissions of greenhouse gases. As we develop more renewable sources of electricity, we would do better using it to power plug-in hybrids or electric cars than high-speed rail.

Americans who have ridden French or Japanese high-speed trains often wonder why such trains won't work here. The problem is, they don't work that well in France or Japan.

France and Japan have each spent roughly (after adjusting for inflation) the same amount of money per capita on high-speed rail as the United States spent on the interstate highway system. Americans use the interstates to travel nearly 4,000 passenger miles and ship more than 2,000 ton-miles of freight per person per year.

By comparison, high-speed rail moves virtually no freight and carries the average resident of Japan less than 400 miles per year, and the average resident of France less than 300 miles per year. It is likely that a few people use them a lot, and most rarely or not at all.

Interstates paid for themselves out of gas taxes, and most Americans use them almost every day. Moderate or high-speed rail would require everyone to subsidize trains that would serve only a small elite. Which symbolizes the America that Obama wants to rebuild better?

Categories: [Opinion](#)

Comments

Robertphou says...

Mr. O'toole' editorial starts with two words, "The facts" that lead the reader to believe that the following text will "In fact" be accurate and non-biased. Mr. O'toole would be better off starting his pieces with the words, "Some Facts".

Mr. O'toole states that "if high-speed could achieve these goals", of energy efficiency they would be worth doing, but then he cites Federal efficiency ratings of current Amtrak trains which he clearly points out later, that current Amtrak trains are not. Why is he mixing apples and oranges?

The O'bama plan is badly flawed and is not a high speed system. O'toole got this right.

Mr. O'toole says that passenger trains of their time could not compete with cars and airlines. Mr. O'toole needs to check his calender, 70 years ago was 1939 and trains were THE way to get around. Two years later the nation depended on passenger rail for troop movement during a period of war and gasoline rationing. 9/11 with the three day shutdown of airtravel and last years four dollar gasoline should remind

us not to put all our eggs in one basket.

While decrying the slow speeds of current Amtrak service and being diesel powered, he selectively leaves out that both the Northeast corridor and the Keystone corridor are electrified. Why does he leave out this fact?

Mr O'toole points out that Amtrak's fuel efficiency has only increased by .1 percent, not surprising in that they are running the same locomotives. Does your old car get better mileage as it ages. What he misses here is Amtrak's increase in ridership which by definition would yield better PER PASSENGER MILE fuel efficiency. By selectively focusing on the locomotive, he misses the bigger picture. O'toole is too smart and too gifted a writer for this to be an accident.

O'toole is correct in claiming that over the lifetime of a Moderate Speed system there really won't be any significant positive environmental impacts and that is exactly why we need a true High Speed ground based system and not this second rate fix 'em up a little plan coming out of Washington.

O'toole then launches into the California Dreaming plan. People actually should listen to him here. With its overstated ridership and understated costs the effort to bring European style service to the States may will be rail's equivalent to the Bridge to Nowhere.

Pointing out the flaws in the California plan is fair game but O'toole should really be open and honest and mention that if all cars could be majically converted overnight to solar powered electrics we would still have the problem of congestion and the pricetag of fixing it.

Leaving California he then heads to Europe and Japan, throws in some shade tree Economist language about adjusting for inflation to derive per capital investment costs to come to the conclusion that travel patterns are different from place to place. It would have been more honest to note that where high speed rail, true high speed rail, has been implemented the trains have captured majority market shares of city to city air travel. Again, kinda selective of the facts.

Finally O'toole wraps it up with how the noble Interstates have paid for themselves with the gas tax. True, but now the Highway Trust Fund is broke and electric vehicles don't pay gas taxes. They will ride for free, a subsidy to their drivers. Can you believe Randall O'toole is promoting a government subsidy?

Take a look at the Cato website, you can find a picture of Mr. O'toole, and ask yourself, "Would you buy a used Prius from this man?"

And don't forget that the Prius is sold at a loss by Toyota, a sort of subsidy or in private industry, a loss leader.

Now I don't know Mr. O'toole, though I would like to talk to him he never calls me back but I am sure he is a fine fellow just the same.

What I would like to ask him is would he buy a High Speed Ground Based system that has a 800 BTU per passenger mile rating, cost less that one third of the estimated California system for the same service levels and consumes a fraction of the land while being fully grade separated?

But he never calls me back.

Maybe he could find out why the Federal Railroad Administration prohibits spending any R&D funds on anything other than steel wheel on steel rail or Maglev? (High Speed Rail IDEA' Ideas Deserving

Exploratory Analysis, Program) O'toole's good at pointing out problems with Government policy, let him dig into that one.

At any rate, if you have read this far, then go to www.tubularrail.com and see what the future looks like.

Randy, call me.

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Posted on 05/04/09 at 8:51AM

GOP4MassTran says...

Cato Institute?? Not relevant.

Posted on 05/04/09 at 8:55AM

mSkehan says...

Improvements to freight tracks, grade crossings, signals and control, dramatically improves efficient movement of goods and people.

Rail is more fuel efficient than planes, trucks, and cars, while polluting our atmosphere half as much (EPA). This is a huge deal, when oil starts its upward climb again as supplies dwindle. Rail can be electrified in decades to come to use emerging energy sources, further reducing our need for foreign suppliers.

WA and OR began deploying tilt trains, capable of 125 mph, between Eugene and Canada in 1999. To date, even being limited to just 79 for lack of improvements to freight tracks, our trains carry more people between Seattle and Portland than airliners. Travel times and ticket prices are competitive with planes and cars. We look forward to improvements that allow our fast trains to finally go fast.

Mike Skehan, Member, All Aboard Washington

Posted on 05/04/09 at 9:33AM

signer says...

Mr Pulliam,

Toyota makes \$3000 profit per Prius sold.

Posted on 05/04/09 at 10:29AM

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