How CyberTran May Replace Short Domestic Flights

We can replace a portion of domestic air travel with CyberTran. CyberTran, in addition to being a commuter transit vehicle, has a high-speed version that can reach 150 mph. A 150-mph train can match planes for travel speed on flights of up to 500 miles. (Various factors let a 150-mph train compete against much faster planes. Check in time at the airport; security, time in the airplane waiting for a runway before takeoff, time in the air before landing waiting for a landing strip, time after landing taxing to the terminal. In a connecting flight CyberTran loses the check and security in advantages; you are already checked in. But it retains the others and adds a certain security; if your flight is late, a CyberTran will still be available five minutes after you land; a connecting flight won't wait for you. And CyberTran is a lot less likely to be weather delayed than an airplane.)

What percent of infrastructure for U.S. domestic air service can CyberTran replace? The data is not available for a direct answer, but comparison to Europe, for which data is available, gives a good estimate. About 70% of European domestic flights are 621 miles or fewer[340]. Given that Europe has an excellent rail system, and has already switched some travel from plane to rail, and the U.S. has a generally poor rail system, it would not be unreasonable to assume that the percent for the U.S. is higher. It is conservative to assume that the U.S. percentage is the same. About 60% of U.S. flights are 400 miles or fewer[341]. So making the conservative assumption that 70% of U.S. flights are fewer than 621 miles, it is an equally conservative interpolation that 65% of U.S. Domestic flights are 500 miles or fewer.

Again it is estimated in Europe that only about half these miles could be replaced by rail, either because some are connecting flights, or because physical obstacles are in the way. But, as pointed out above, plane-to-plane connections are good candidates for CyberTran replacements. Mountains and bodies of water between two metropolitan areas 500 miles apart or fewer, both big enough to have airports with scheduled domestic airlines are likely to already be tunneled or bridged for auto traffic in the U.S. and thus available for CyberTran. So we could reasonably expect to replace 90% of these with CyberTran. And since we can credit such high speed rail for the ground traffic it will replace, we may count that as the next net savings for air travel.

Note that this refers to passenger miles, not routes. A fair number of short routes are between very minor airports, and carry very tiny numbers of passengers a day on a very few flights. Obviously, if fifty passengers a day fly three hundred miles from Podunk to Boondock, we are not going to build three hundred miles of track to save those flights. But, more or less by definition, most passenger miles on short flights will be over routes that have lots of passengers, where putting in track is worthwhile.

End Notes

[340]Caroline Dr. Lucas, *The Future of Aviation: The Government's Consultation Document on Air Transport Policy - Submission from Dr Caroline Lucas, MEP, Green Party, and Member of the European Parliament's Transport Committee.* 2001. *European Parliment*, Green Party UK, 23/Sep/2005 < http://archive.greenparty.org.uk/reports/2001/aviation/av_fut_mep_resp.pdf>.

[341] Joe Sharkey, "Rail Projects Are Sign of a Quiet Revolution in Short-Haul Trips," *EcoCity Cleveland - Transportation Choices*, 4/Jun 2002, New York Times Inc., 23/Sep/2005 < http://www.ecocitycleveland.org/transportation/rail/nytimes_rail_article.html>.