

going where they are going. The overwhelming majority of urban trips cannot be made in any reasonable amount of time by transit. Moreover, the trips that can be made take longer. On average, people using transit to commute to work spend **twice as much time as those who drive**. Some may think that expanding transit service would solve this problem, but, in fact, attempting to replicate the mobility of the automobile in an American or European urban area would cost near the gross annual income of any urban area attempting it, every year.

Further, it is a mistake to think that all transit service is more GHG friendly than all cars. The best hybrids produce less in GHG emissions per passenger mile than the best transit systems. For example, we have estimated that a 2009 Toyota Prius produces an average of less than 150 grams of GHGs in city driving per passenger mile, based upon EPA mileage figures. Data in the 2007 National Transit Database indicates that transit produces more than 250 grams of GHG emissions per passenger mile, though New York does much better at 160 (all figures include upstream emissions such as power generation and refining). It is true that, overall, transit produces fewer GHGs per passenger mile than cars and SUVs.

However, the spectacular advances on the way in automobile fuel economy seem certain to erode away transit's advantage. But there is more than the fact that transit is not quite so green and getting comparatively less green every day.

The second and bigger point is costs. It seems a foregone conclusion that the United States will adopt a GHG emissions reduction objective. In the end, it may be a reduction of 50 percent by 2050, as proposed by the G-8 (and rejected by China, India and other developing nations). Or, it could be the 80 percent reduction that the President reaffirmed as his intention last week.

There is considerable concern that GHG emission reduction be accomplished without sacrificing economic growth. The International Panel on Climate Change says that sufficient GHG emission reductions can be achieved at \$50 per ton or less. The consulting firm, McKinsey has published research saying that the United States can achieve GHG reductions of up to 4.5 billion tons annually by 2030 at \$50 per ton or less and an average of \$17.

This is where it gets difficult for transit. It cannot compete with costs per GHG emission ton removed of \$50, much less \$17. If every American were to climb out of his or her car tomorrow and somehow ride transit instead (forget for a moment that it's not there), the costs would be enormous. The total expenditures on the new transit travel would be at least four times that of the rejected automobile trip. The cost per ton of GHG emissions removed would be approximately \$5,000 annually, 100 times the Intergovernment Panel on Climate Change ceiling. This is so expensive that if the nation were to implement President Obama's 80 percent GHG emission reduction at the same cost per ton, the bill would be approximately \$25 trillion annually --- about \$10 trillion more than the annual Gross Domestic Product. Obviously, that is extravagance even a nation of TARP and bailouts cannot afford.

None of this is to suggest that transit is not valuable or does not have its place. For many low income citizens, transit is their principal mobility and it is, in my view, appropriate to subsidize their rides. Transit is also indispensable in the high frequency service and high volume traffic that is delivered to a few large downtown areas, such as Manhattan, Brooklyn, Chicago, Boston, Philadelphia, San Francisco and Washington. I would ride transit if I worked in Manhattan, just as I rode transit when I worked in downtown Los Angeles and just as when I travel around Paris.

But a bit of reality is in order. Transit has its place and it is an important place. But for most people and most trips, there is simply no way that transit can compete in travel time or convenience. Worst of all, its high costs make significant expansion unaffordable and thus out of the question and hopeless

with respect to any material role in achieving whatever GHG emission reduction objective is finally adopted.

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By Richard Vedder & Wendell Cox