AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

BOOK REVIEW

Swartzwelter, Brad. "Faster Than Jets: A Solution to America's Long-Term Transportation Problems." *Kingston, WA: Alder Press, 2003. ISBN 0-9725955-3-8 (soft cover); ISBN 0-9725955-4-6 (case bound).*

'Faster Than Jets: A Solution to America's Long-Term Transportation Problems'

by Kenneth W. Harris

The author, Brad Swartzwelter, finds the United States transportation system increasingly inadequate to carry out its mission of moving people and freight efficiently and safely with minimal environmental impact. With our population projected to be 38% higher than today in 2050 and 95% higher than today in 2100 (404 million and 571 million versus the current 292 million), more than the customary incremental improvements in transport infrastructure are essential to maintain and grow our economy. Visionary Americans, Swartzwelter points out, have provided the leadership needed for radically transforming transport infrastructure improvements in our past. George Washington and Dewitt Clinton pushed for construction of the Erie Canal; Abraham Lincoln signed the Pacific Railroad Bill, and Dwight Eisenhower initiated the Interstate Highway System.

Swartzwelter proposes replacing the United States' intercity and at least part of its intracity transportation system in the 48 contiguous states—highway, air, intercity and commuter rail, and transit—with magnetically levitated (maglev) trains. The trains would provide freight as well as passenger transport. They would run in tunnels from which air would be pumped to create a near vacuum and thus practically eliminate friction. As a result, the speed of the trains would far exceed that of today's jet transport aircraft and make them orders-of-magnitude, instead of only marginally (as surface maglev would be), more productive than conventional steel-wheel-on-rail trains. There would be four levels of tunnels—local, commuter, regional, and national. The local level would replace transit in communities of at least moderate size. The regional level would connect small communities; regional lines would radiate outward like a spider web from regional hubs, perhaps like airline hub-and-spoke systems of today. In addition, outlying towns would be directly connected to each other; the additional lines would be the commuter level of the system. The United States would be divided into about 30 regions, each with a primary regional hub. The national level would consist of long, very straight tunnels connecting the regional hubs. Interconnecting tubes would permit easy transfer from one level to another. Swartzwelter calls the system American-Metro in deference to Swissmetro, a similar system actually planned for Switzerland. This would be a long-term, costly project. The author estimates the 40-year construction cost at $2.5 trillion.

Generated at University of Minnesota on 2021-11-16 16:23 GMT / https://hdl.handle.net/2027/mdp.39015058773691
Creative Commons Attribution-NonCommercial-ShareAlike / http://www.hathitrust.org/access_use#cc-by-nc-sa-4.0
Digitized by Google
Original from UNIVERSITY OF MICHIGAN

Swartzwelter makes a convincing case that the project is technically feasible, although he points out the need for careful study and pretesting to be sure all the component technologies—tunneling over unprecedented distances, vacuum pumping of the tunnels, magnetically levitated trains, life support systems, etc.—would actually work together and work perfectly. He quotes many experts in those technologies and devotes long passages to comparing alternative maglev systems and describing modern tunneling techniques and vacuum pumping and life-support systems. He is convincing.

The author recognizes that the essential ingredient to build such a colossal system is political will, and, in his appendix, he calls for readers to join the AmericanMetro Group to build the necessary consensus. A groundswell of public support is essential because of the high cost (which Swartzwelter estimates at $55 million a mile), and his proposal to finance the system with a .5% increase in the federal income tax, despite major conflicting demands on the federal treasury such as national security and financing social security for the baby boom generation. The public is likely to be skeptical that the system could actually be profitable because passenger rail systems worldwide require government subsidy. Swartzwelter notes that profits from the system are impossible to predict without an exhaustive study, but could be as high as $50 billion per year.

One political objection is sure to be that massive improvements in current transport systems (e.g., high-speed conventional rail, surface maglev, intelligent highways, etc.) would be surer to produce more immediate transport benefits at much less cost than AmericanMetro with proven technologies. Vested interests in current transport systems such as auto manufacturers, airlines, railroads, and trucking companies would surely mount an all-out lobbying campaign using this theme if authorizing legislation were ever proposed in Congress. Construction companies might, however, support the proposal on the theory they could profit far more from building a nationwide tunneling system than from incremental improvements to interstate highways and airports. Another political objection is likely to be that the proposed system would be unsafe. In the event of an accident, how would survivors escape from the train into airless tunnels, especially with no onboard crew to provide assistance? Swartzwelter says that, "AmericanMetro will only need a few people to monitor and maintain each station. And each station will service hundreds of departures and arrivals of automated vehicles each day." Legislators and regulators would surely demand that the trains have an escape system and that human crew members would be present to assist passengers in an emergency just as flight attendants do today, and onboard crew would add significantly to operating costs. The environmental impact would also likely be a subject of political controversy and legal challenge. Swartwelter dismisses the problem of disposing of the dirt removed from thousands of miles of tunnels by saying, "Typically, only 3-5% of the spoil is actual waste that requires disposal." Of course, 3-5% of the spoil from this tunneling effort would still be a massive amount.

It is easy to assert that the politics, and probably also the economics, make approval, construction, and operation of such a system an impossibility in America's future and maybe not worth considering. However, as shown by the reaction to high-profile, catastrophic events like those of September 11, 2001, dramatic change can take place suddenly, even when politicians otherwise seem to be unable to agree on anything. Also, a new generation of politicians could be far more sympathetic to a gargantuan public works program such as the one proposed in the book. I believe the author would have been even more convincing if he had included scenarios showing how and what seems to be impossible today could be very real tomor-

Generated at University of Minnesota on 2021-11-16 16:23 GMT / https://hdl.handle.net/2027/mdp.39015058773691
Creative Commons Attribution-NonCommercial-ShareAlike / http://www.hathitrust.org/access_use#cc-by-nc-sa-4.0

Digitized by Google
Original from
UNIVERSITY OF MICHIGAN

row. In view of the long time period required just for construction and post-construction economic life of AmericanMetro, the scenarios would also have to include the possibility of even better communications and manufacturing technologies. Also, the scenarios would have to include significant lifestyle changes partially substituting for transport demand and of some new currently unforeseen transport mode being an even better substitute for our current systems. Serious public debate on the proposal will surely include such scenarios.

Kenneth W. Harris *founded the Consilience Group, LLC, a futurist consultancy in 2000. He is an active member of the World Future Society, serving as its secretary-treasurer, and past president and treasurer of its National Capital Region Chapter. He retired from the Federal Aviation Administration in 1997 after 34 years of service and received the Distinguished Career Service Award on that occasion.*

Generated at University of Minnesota on 2021-11-16 16:23 GMT / https://hdl.handle.net/2027/mdp.39015058773691
Creative Commons Attribution-NonCommercial-ShareAlike / http://www.hathitrust.org/access_use#cc-by-nc-sa-4.0

Digitized by Google

Original from
UNIVERSITY OF MICHIGAN