

ENVIRONMENTALLY SPEAKING

Peter Schwartzman

Trucks vs. Trains: who wins?

Our homes are filled with stuff. Some of it is essential, such as a stove and a toilet, but much of it is superfluous and properly classified as "wants" rather than "needs," such as wallpaper or DVD players. An inventory of the items found in our homes would undoubtedly produce a list of substantial length. Where did it all come from? A trip to the mall (cyber or brick) and we glean insight. But how does all this stuff get there? This is an important question for several reasons. In particular, a closer look at the means by which goods are transported reveals much about our economic, environmental and social commitments.

There are obviously many ways in which products make it to us. To get materials from overseas obviously requires ships or aircraft. Once items have arrived on our continent, trucks and trains become available. Each of these two land-based forms of transportation has advantages and disadvantages, yet the continued shift from rails to highways for transporting and distributing freight should concern us. Let's find out why.

The train-truck debate has been brewing as long as interstates connected major centers of commerce.

While railroads reigned supreme for over one-hundred years going back to Abraham Lincoln's time, trucks are an increasingly visible form of transporting goods over land. (Trains still transport more freight however.) The transition from rail lines to interstates

occurred over a significant period of time and involved many governmental organizations and pieces of legislation—most notably, the Interstate Commerce Commission (which began the regulation of the railroads in 1887) and the various Federal Aid Highway Acts (which provided the impetus and funding for paved landscapes). Yet, few environmental considerations were involved in these discussions and policies. Recently, as the full costs of transportation have become more apparent and better understood and society's recognition of the value of ecological services has grown, environmental considerations have begun to be identified and entered into the debate. A more holistic (i.e., inclusive) examination of the rail versus truck debate suggests that discounting the environmental and social costs has been and will continue to be a serious mistake.

Trains have many advantages over trucks for transporting materials across our nation. Some of these benefits are intuitive while others are much less obvious. And given the evidence that follows, we must consider seriously the current move to displace freight trains in favor of trucks.

First, there are monetary costs that must be fully appreciated. Costs, seemingly simple considerations that get convoluted very quickly, include many factors including fuel, congestion, maintenance, lives, and land-use. Estimates vary, yet on a ton-mile basis, trains are about three times more fuel-efficient; the ton-mile is a very useful unit because it represents work (force multiplied by distance, for all you physics gurus). That is, it takes trucks about three times more diesel fuel to get from one location to another; a recent study indicates that the actual number ranges from a factor 1.4 to 9, depending on "equipment types and terrain" (Lowe). And since a gallon of burned fuel results in nearly

twenty pounds of carbon dioxide being emitted into the atmosphere, trucks are a much worse contributor to greenhouse gas enhancements and their associated climate change impacts. Also, if less fuel was combusted to perform the same job, enhanced rail use would necessarily reduce our dependency on foreign, non-renewable energy sources.

Costs also accrue because our roads are often congested. According to our General Accounting Office (GAO), our economic productivity suffers at least \$100 billion a year because of clogged freeways (Lowe). Reducing the number of trucks on our roads would obviously alleviate sources of the traffic jams that so greatly detract from our country's success. Trains also can cause delays for other vehicles, something any Galesburg resident can attest to, but there are relatively easy ways to eliminate this hindrance, i.e., rerouting and overpasses.

Costs are also associated with the maintenance of substrata required for each form of transport. Trains require rails and the supporting structures including ties, spikes, and gravel beds to move smoothly. Trucks require asphalt and other base materials.

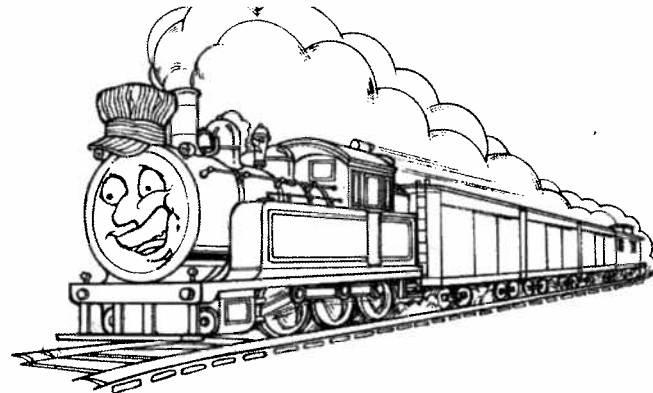


Which is more costly? Highway repairs, that delay us common folk on a regular basis, are largely required because of the presence of trucks that traverse them nearly twenty-four hours a day, three hundred and sixty-five days a year. In fact, approximately 95% of all the wear down of our roads derive from the impact of tractor-trailers; one 80,000-pound truck creates the same damage as nearly 10,000 cars (Lowe). Thus, removing one loaded eighteen wheeler has the equivalent benefit as reducing a stadium parking lot's worth of cars. Wow. Trucks also are much more damaging to bridges, where gross weight (rather than axle weight) is a primary determinate of wear (Wilner). Railroad tracks certainly require upkeep, and increased usage would require more regular service, but, in contrast to trucks, "railroads do pay the full costs of maintaining their own infrastructure" (Lowe).

Costs also come in the form of lives. A third of accidents on highways that end in fatalities involve trucks (Garrison & Ward). And, we, the drivers of the cars (even SUVs) are the ones who are the casualties more often than not. Consider how safe rail traffic is: Japan's bullet trains took more than 3,000,000,000 trips from 1964 to 1992 and not one person died as a result of crashes (Lowe)! France's trains have a comparable record. And, according to the U.S. Department of Transportation, from 1995-2000, an average of 500 deaths per year were associated with railroad traffic. On the other hand, in 1995, a typical year, nearly 42,000 people died in motor vehicle accidents (Garrison & Ward). In Germany, during a recent year, costs due to accidents from automobiles were nearly ten times that associated with trains, per passenger-mile (Lowe); and, since this unit accounts for the greater use of cars, this difference in cost is even more striking. Considering that trucks, carrying cargo that otherwise could

be transported by rail, contribute mightily to the loss of human life, something seems amiss. Also, given that many SUV owners argue that their motivation for needing such large personal conveyors comes from safety considerations, perhaps if there were fewer trucks clogging our interstate arteries, people would settle for smaller, less bulky, more-efficient automobiles.

Additionally, there are land-use considerations that have financial costs as well. Since humans can use rail lines as well to be transported from point A to point B, rail can be substituted for asphalt at great savings. Surprisingly, two railroad tracks can carry as many people in day as sixteen lanes of a highway (Lowe). Thus, properly located rail lines can reduce the need to expand current roads leaving more for agricultural production, natural habitat, carbon absorption (roads don't absorb carbon dioxide very well) and aesthetic considerations. Also, railroad stations have a much smaller footprint than airports, reducing the displacement of homes and industry in urban areas. Thus, an increase in commuter use of trains might also contribute to better overall land management.



Normally in our society money talks and consumers and business people listen. Yet, given all the additional (one might rightly say "extra") monetary expenditures associated with trucks as means of transporting goods, it is reasonable to ask why trucks have such a significant part of the market. Some of this owes to certain advantages in truck transport. Long trains do not work effectively at the small scale—spatial nor temporal. Certainly, trucks are much better at getting large materials or sizable loads to the docks of the distribution sites. Trucks also enable faster delivery. The time required to build and unbuild freight trains is a time-intensive process. Also, since making trains financially efficient requires that they be of considerable length, small cities or towns can't take advantage of them as effectively. If small communities have materials to transport elsewhere, often the wait for a train-sized load of product is so long that truck shipping is greatly favored, especially for perishable goods. Trucks meet these needs very well and so trucks are definitely a welcome and desirable means for transporting some items in certain circumstances. Unfortunately, there are other, less compelling, reasons why trucks are in such current demand.

In short, we, the taxpayers, pay the true costs of incorporating trucks in our daily lives. How so? As noted earlier, trucks hasten the breakdown of roadbeds largely because of their extreme weight (commonly about ten times the weight of cars, per axle). Yet, trucks don't pay their fair share for repairing these thoroughfares, far from it. Primarily, states rely on funds obtained from gasoline taxes to pay for road maintenance and repair; in some cases, tolls contribute as well, but not markedly. Yet, according to the Federal Highway Administration, all yearly gasoline tax revenues from all road vehicles amount to only \$55 million while "public road administration, maintenance,

and capital outlays" is close to \$90 million, a shortfall of nearly 40% (Porter). And although trucks do pay slightly higher taxes (for diesel fuel and registration fees), their contributions are extremely short of commensurate with the road damage they create (not to mention all of the other costs in lives and climate changes, etc.). Ultimately, a considerable portion of our federal and state taxes must pay for the costs incurred by trucks. Thus, it is high time that we charged trucks their fair share or created more incentives for rail transport.

To make matters worse, the trucking industry is lobbying feverishly to increase the maximum loads that truck cabs can pull. In 1991, the U.S. Congress put a freeze on allowable truck lengths and weights. Although, the trucking industry was able to cajole lawmakers into several exemptions, particularly in the western states, generally, the trucks on our roads must be no more than 80,000 pounds (Wilner). Recently, there has been a push to expand the maximum allowance, to 129,000 pounds in a few cases. That's a 61% increase, folks. Truck lobbyists argue that this change is necessary to allow current trucks to be filled to capacity, and, if the new regulations were passed, the

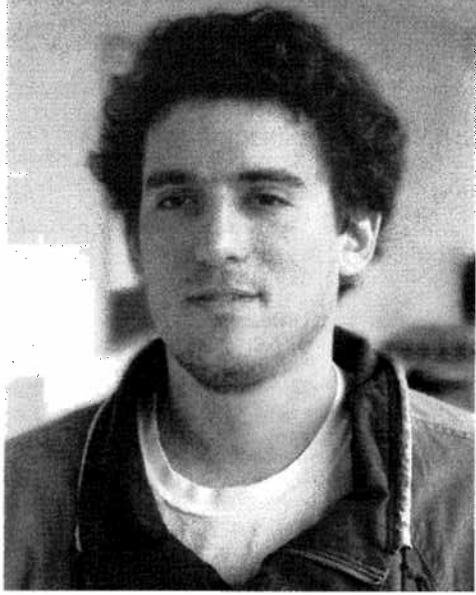
increased cargo per truck would actually decrease the number of trucks found on our highways—something even they think is warranted. Won't larger trucks pose more danger to us and to our roads? I guess we'll just have to buy larger SUVs so that we may play "bumper cars" more effectively with these new behemoths. Or, perhaps, we should just further increase gas taxes on ourselves to pay for any additional damage or carnage that may result.

But, as if money weren't enough reason to consider trains, there are other less obvious reasons for favoring them. Among other things, there are equity issues. Many people, certainly more than a lot of people recognize, cannot afford to own an automobile these days—with dramatic increases in insurance and repair costs. But what does this have to do with trains? Well, if someone wants to get from Galesburg to Chicago, it makes a lot of sense if they can do so via rail. If the two trains a day that take people from Galesburg to Chicago were eliminated, the average resident in Galesburg would have much more limited, and less-affordable options. This may not seem to be a sufficient reason to promote rail, but if you are skeptical, ask someone who doesn't own a car. In sum, we should support rail transport opportunities because it is one of the cheapest ways for all of us to get from here to there.

Another reason to consider trains, and the one that will be the hardest sell to Galesburg residents, relates to the fact that trains are quieter than trucks and airplanes. While this may not be true in the small cities that dot the midwestern landscape, where airports are limited and highways are separated from downtowns, in areas where truck density is heavy and major airports are located, traffic noise can be unnerving. Consider that one double-stacked train carries the same cargo as nearly three hundred trucks. Which would you rather pass by your house?

And lastly, trains may have preferable status because of technological feats that haven't yet been fully incorporated. Trains have shown great promise in integrating new, more efficient technologies including faster speeds and intermodal service (that enables multiple "truck" trailers to be carried on modified train cars). Consider

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that, by 2004, China is expected to have a magnetic-levitation train that will run at maximum speeds of nearly 260 miles per hour (Lague). And intermodal trains allow for much more efficient use of trucks as well—as the cargo is already packed for short-distance truck delivery. Despite these advances, other nations seem more interested in trains than we do. Train use in other countries far outweighs the U.S.'s commitment to them. Consider that the U.S. has 228 road miles traveled for each rail mile, whereas most European nations have ratios more like 13:1. Japan goes even more in the train direction with a ratio of 2:1 (Lowe). Additionally, in the U.S., government funding for highways is more than ten times that for rails. Maybe it is the proper moment we begin looking at the underlying reasons why we have been negligent in properly using the rail networks that enabled the building of our nation in the first place.

So, next time you are staring at your collection of high-density floppy disks or your cupboard full of multigrain bars, you might think twice about how they made it to you so far from their point of origin. Reflecting on the evidence presented here, you may also never look at a passing double or triple-tow the same way. A fairer analysis of our current transportation system and a willingness to understand the broader implications of increased reliance on trucks at the expense of trains would undoubtedly bring us closer to a just and environmentally-conscious policy.

Locally, as well, there may be a great deal to gain from a resurgence in train usage, particularly at a time when industrial jobs are fleeing us rapidly. The railroads (and Knox College) helped put Galesburg on the world map in its formative years. Perhaps we need to look to our rails for future economic assistance.

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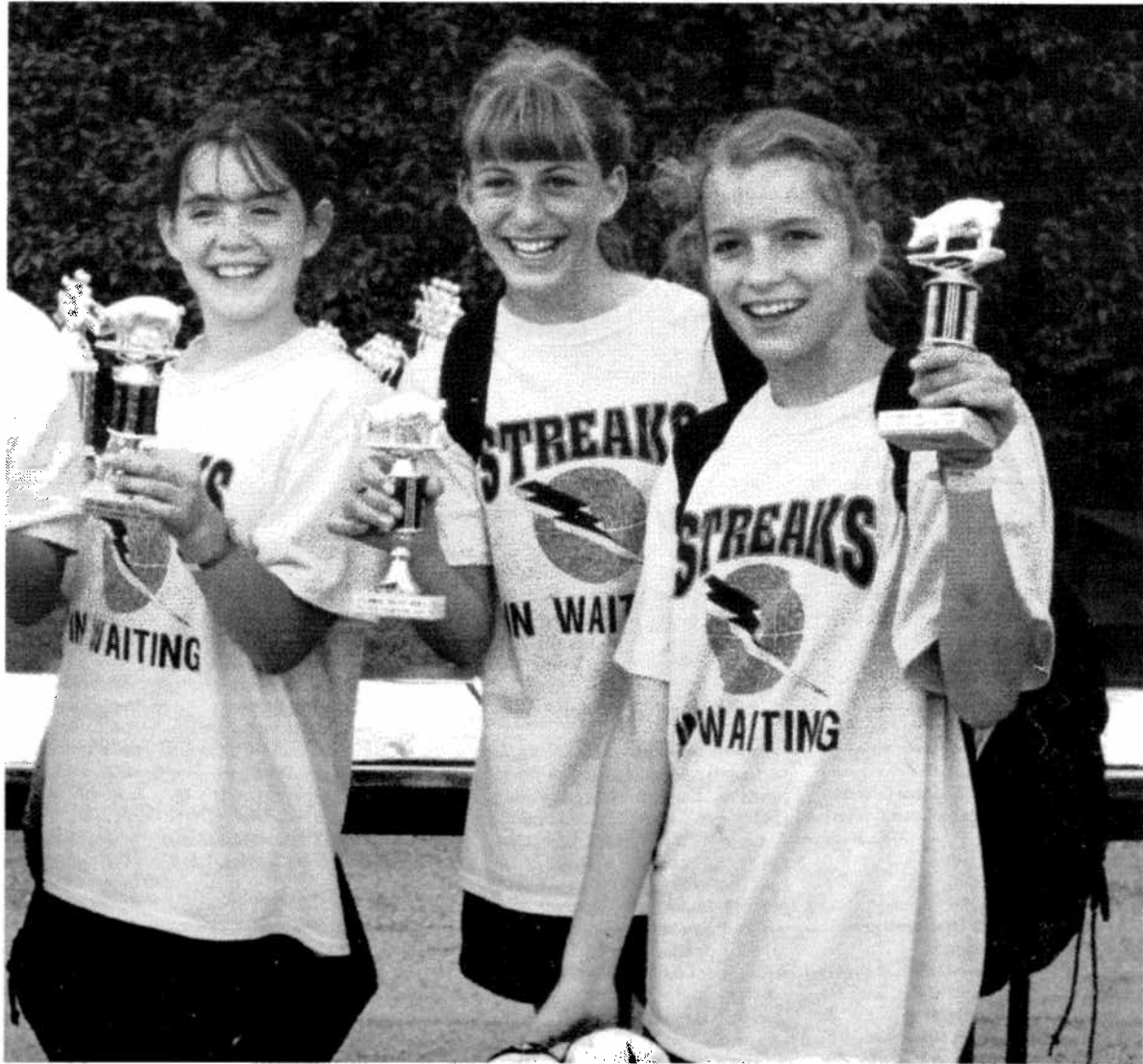
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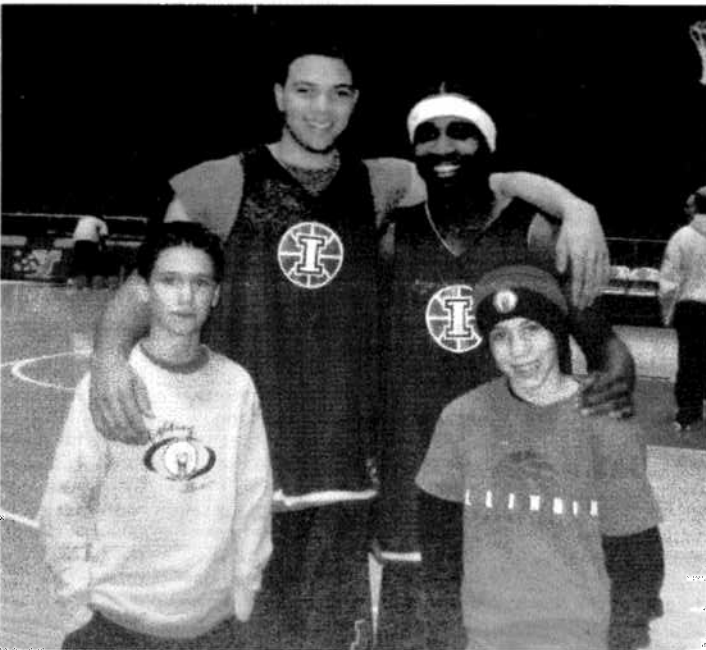
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Way back in 1997, at the Hog Days tournament in Kewanee, these three young girls dreamed of being Silver Streaks. Playing under the team name "Streaks in Waiting" were Annie Parkin, Amanda Gunther and Lizzy Hauslein.

Some dreams do come true.

Ron White, father of Libby and City Administrator of Knoxville, was caught moonlighting selling "Silver Streak Western Big Six Conference Champion" T-shirts at Thiel Gym.



The back court of the Fighting Illini, Deron Williams and Dee Brown, met up with the back court of the Costa 7th Grade team, Logan Block and Jake Teel at Assembly Hall in Champaign before their contest with Wisconsin.



No, the Wicked Witch of the West isn't dead and this house didn't land on her either. It's what remains of a demolition in Hermon, in southern Knox County. Building a new house — or specifically an igloo — after the recent snowfall, is this young man who lives across the street. It took three days to construct and then the snow started melting.



There were no serious injuries after this four-car accident earlier this week at Main and Chambers Streets. The new Cadillac Escalade (still with temporary plates) delivered a knockout blow to a mere mortal automobile. The Cadillac was the only vehicle driven away afterwards under its own power.