working bees, co-ops and committees.

So the best action we can undertake today is to develop local community groups that in time come to be focused on the eventual building of a highly self-sufficient, participatory local controlled and run by us to meet local needs. Sometimes this means joining and persuading existing groups and movements to gear their efforts to this end. Nothing could be more subversive.

There are many groups and movements heading more or less in the right direction for us to work with, most obviously within the booming Transition Towns movement. However, unfortunately few of these presently have the crucial vision, the understanding that just building more community gardens and recycling networks within consumer-capitalist society will not achieve significant social change. Our main reason for joining these groups should be to try to get them to see that our ultimate goal must be for our gardens and cooperatives, etc., to contribute to the eventual building of a radically different society, one that has no growth, does not let the market determine everything, is not about affluence, is focused on needs and quality of life, and is under our local participatory control. (This general strategy is argued in detail in Trainer, 2010b.)

Ted Trainer is a Conjoint Lecturer in the School of Social Work, University of New South Wales. His main interests have been global problems, sustainability issues, radical critiques of the economy, alternative social forms and the transition to them.

References

Birol, F., (2003), World energy investment outlook to 2030, IEA, *Exploration and Production: The Oil & Gas Review*, Vol 2.

CASSE, (2010), Centre for the Advancement of the Steady State Economy, http://steadystate.org/

Fitz, D., (2008), Production Side Environmentalism, *Synthesis/Regeneration*, 47, Fall 2008, pp. 2–11.

Fitz, D., (2010), Three Hands on Biodisaster; Groping the Elephant, *Synthesis/Regeneration*, 53, Fall 2010, pp. 9–13.

Schneider, F., (2010), De-growth of production and consumption capacities for social justice, well-being and ecological sustainability, Second Conference on Econonmic De-growth, Barcelona, 26–29 March.

Smith, R., (2011), Green capitalism: The god that failed, *Real World Economics Review*, 56,11th March, pp. 122–145.

Trainer, T., (2010a), Can renewables etc. solve the greenhouse problem? The negative case, *Energy Policy*, 38, 8 August, 4107–4114. http://dx.doi.org/10.1016/j.enpol.2010.03.037

Trainer, T., (2010b), *The Transition to a Sustainable and Just World*. Sydney, Envirobook.

A Revolution in Transportation Begins with a Revolution in Thinking about the Problem

The Case for On-Full Departure

by Paul Palmer

A rhetorical question: what is wrong with our current transportation model built around cars and suburbs? We all know a bushel of answers. Trips are too long between scattered residences and businesses. It is ridiculous to take two or three tons of steel and plastic just to move 200 pounds of us on a trip or to pick up a half pound of potato chips. We are using up precious reserves of fossil fuel for spurious purposes, causing dollars to flow out of the country. And we are producing carbon dioxide that is warming the planet.

So what are the kinds of solutions put forward? How about these? Let's build huge trains weighing hundreds or thousands of tons requiring tens of billions of dollars in right of way and tracks. Or let's buy huge buses weighing 20 or 30 tons to move a few people on late-night scheduled runs based on their main use as commute vehicles in the morning. Let's run these things on predetermined paths (tracks or routes) which require that most users still have to take a car to get to the parking lot to transfer to these behemoths.

A corollary to these ideas is that we hopefully abandon cars but start to use bicycles. Or frequent bus service takes us to the trains.

Along the way we forget about the huge investment we have made in automobiles, repair shops, streets, highways, automobile companies, parts suppliers, etc. Just start over, says prevailing environmental wisdom, with a new model for massive public transportation. Automobiles will still be used for many or most trips as before, but that is a defect of the model, not a design benefit. The immense convenience of a personal vehicle is hardly touched by the new model.

As a social analyst, I try to keep my eye on the intended result, not merely on a particular solution. We need to move people but do it more efficiently. We are not going to eliminate energy use, but if we can reduce the total amount needed, we can more easily convert to renewable forms of energy like wind and solar. Efficiency! That's the key. Not only energy efficiency but also the more efficient use of metals and plastics and human labor and less discard of products or of infrastructure.

Abandoning an existing infrastructure is not the road to efficiency. Running empty vehicles around is not the way to achieve efficiency — ever! Americans are too quick to swallow the predigested theories of public transportation that rely on trains and buses as though that exhausted the subject.

I had the good fortune to live in another country — Turkey — for many years during the 1960s. A vehicle was not a personal adornment back then. It was a major investment, a business that could sustain your family forever. It had to be as useful as possible. So there were lots of vans available that were used as a kind of taxi, called a *dolmush*. They led to a clever system of transportation based on efficiency.

The word dolmush means "filled up," like the Turkish word *dolma* for stuffed grape leaves. The very name of the vehicles expressed the main and distinguishing feature of the system. Vehicles took off only when they filled up. This is known as on-full departure, as distinguished from scheduled, on-time departure.

Dolmush, modern style

When I discuss on-full departure with Americans, I get blank looks. Having a rigid time schedule for departure and arrival is a norm of many cultures, including this one. Most Americans have no mental tools for imagining anything different. But the crisis we are in puts efficiency in all domains on a higher level than staying inside the comfort box.

Let me explain that the first reaction to the concept of on-full departure — maybe it's your first image too — is far from the reality. In practice, it works beautifully to get people where they are going cheaply and mostly when they need to be there. In many ways, it is more convenient than on-time departure. The reason is that it is a Zero Waste-based whole system, not just a tweak that leaves our grossly inefficient system in place but changes one little corner. It is a new way of thinking about mobility.

It is a Zero Waste principle that when you use a resource more efficiently, you can afford to use it more effectively. For example, a package that is going to be used 500 times by being refilled can be made robust, convenient, from strong materials and with special convenience features. A package that is intended to be used once and then discarded is cheaply made, inconvenient and relatively expensive compared to what it contains. Similarly with dolmushes. Because they were filled up before departing, fares could be cheap. That meant that everyone wanted to use them.

Abandoning an existing infrastructure is not the road to efficiency.

They became the standard way to get around. In each neighborhood or village, there was a central departure point to which people flocked all day long. There were always plenty of passengers and also plenty of vans and drivers lining up to fill up. The drivers themselves paid a small fee at departure to a traffic director who kept the system working smoothly. During most of the day, vans departed every two to six minutes. At slow times, every 15 minutes. So you could expect to get to a distant city within a very reasonable time frame, certainly much more reliably than waiting for a huge bus to come along in half an hour or an hour, which is a common occurrence in our on-time system.

Like in New York City where many people never even learn to drive because the subway system works so well, most people owned no cars. Dolmushes blanketed the countryside with convenient transportation. The vehicles that did exist were efficiently used. In our society, this would reduce the overall need for automotive manufacturing. Efficient use is always the alternative to wasteful overproduction.

The dolmush system had flexibility built in on every level. Many times I was on the road when someone asked the driver if he could detour into a village or small town or a side road. The alternative was to leave the passenger standing on the side of the main road. The driver would poll the passengers. If everyone assented, he would take the detour for a small, extra fee. Everyone knew that their turn to need some flexibility would come later. If only one passenger was in a hurry, a pal of the driver would be coming along the same road in a dolmush behind and the driver might flag him down and the harried passenger could get on the other dolmush while the first driver took the detour. Or many other possibilities. There was a surplus of flexibility that got everyone taken care of. Each van had a roof rack that could be used to tie down your special packages or a crate of chickens. You could usually make needed arrangements for door-to-door transportation in those times when you needed the extra help. An assistant rode along with the passengers to assist the driver. Late at night, when the flow of passengers tapered off or whenever there were too

few passengers, the dolmush could take off only partly full and pick up passengers along the way. Those who lived in between the departure centers depended on hailing a dolmush that had maybe dropped off some passengers but had an empty seat. Even though there were prescribed routes, the vehicle could stop almost anywhere. And there was also a parallel taxi system that could be tapped. While the dolmushes took the bulk of the passengers, ordinary taxi cars could be hired for a quicker trip. Late at night, if dolmushes were scarce, you could always hire a taxi for a special trip.

There are distinct advantages to on-full departures:

- Cheap fares.
- Universally used.
- Full vehicles.
- Fairly quick departures.
- Privately organized by participants.
- Lightly regulated by government for smooth operation.
- Flexible and variable in all respects.
- Low investment required.
- Several kinds of jobs.
- Made use of existing highway and repair infrastructure.

Once again, this was part of a system that worked for efficiency, not for gross private profit at any cost, as this country does. In this country, cities sell taxi medallions, which allow a company to run one taxi. The base price, charged by New York City, is only $700 a year, but they are all taken. Because their number was restricted, and because the holders were allowed to resell them for a profit, medallions in a busy place like New York averaged $766,000 each in 2010. [1] Their price is reported to outpace stocks, bonds, gold or the Dow. Cheap transportation is out the window because the system runs on huge investment and profit, and we all suffer for that system, but especially cabbies who are stressed and overworked. So when immigrants try to bring in a van and run an unlicensed "gypsy" cab service in New York or a jitney or bombila elsewhere, the police crack down. [2] Sometimes when I discuss a dolmush system, people compare it to a gypsy cab or a jitney, but there is no comparison. You need to compare the systems, not just some tiny chink in a corrupt, profit-driven system devoted to squeezing maximum fares from stranded passengers. Zero Waste analysis demands whole-system designs.

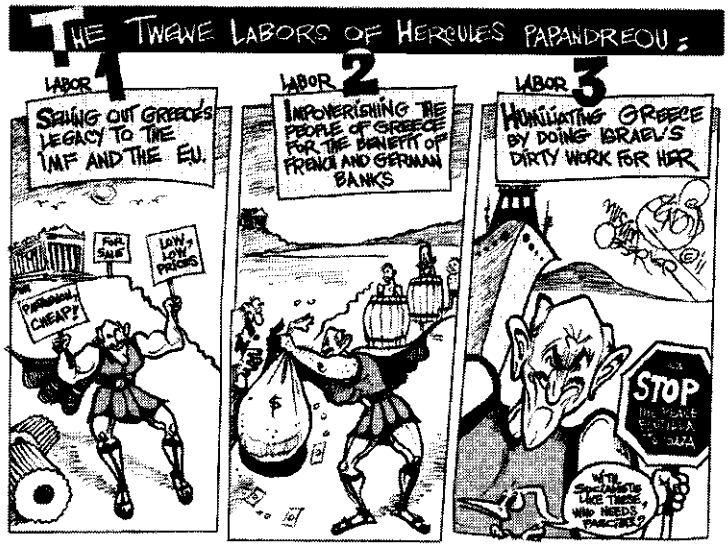
There is a personal or psychological dimension to trying this different transportation system that might be very welcome, especially to today's youth, or very repugnant to some others. That is the enforced social interaction that comes into play. Even more than sitting next to other people on a bus, a dolmush threw people together into negotiations. Should the driver wait for that last passenger, or should he heed the calls from his passengers in the almost full cab and take off now? Should he take a detour or take the prescribed route?

In each neighborhood or village, there was a central departure point to which people flocked all day long.

Moreover, villagers and farmers sat next to lawyers. It was quite democratic. Isn't that supposed to be the American way? [3] In addition, the full dolmush is safer for everyone than a single driver and a single angry passenger, which is the bane of taxis, gypsies and jitneys in today's violent big cities.

If on-full departure is ever instituted here, it will be done in that peculiarly American way that puts insurance companies into the profit picture the way that health care does and that virtually throttles the system with regulations and burdensome controls. Perhaps nothing so free and flexible can work here. But one way or another, we must abandon on-time and try on-full departure. The planet demands it.

Paul Palmer holds a PhD in physical chemistry from Yale. He founded the Zero Waste Institute, web address: www.zerowasteinstitute.org, and email zwi@sonic.net.



Notes

1. Taylor McGraw, Driver competition hot as NYC tax medallions hit $766,000, *USA Today* online, August 7, 2009, http://www.usatoday.com/money/industries/travel/2009-08-05-taxi-cab-new-york-city-medallions_N.htm
2. Glenn May, Jitneys remain in driver's seat, *Tribune-Review* (Pittsburgh) online, June 20, 2004, http://www.pittsburghlive.com/x/pittsburghtrib/s_199637.html
3. "Both Zipcar and Zimride have been proven to reduce parking demand, congestion and emissions — key goals of universities and colleges. These two services balance modern technology and social interaction to provide fun and efficient solutions for administrators." (Zipcar Press Release, January 8, 2010, http://zipcar.mediaroom.com/index.php?s=43&item=173).