Sail transport: where theory meets reality

Contributed by Dmitry Orlov
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It's been about two years since I became seriously interested in sailboats. During that time, I learned a great deal about boats, sailed a variety of craft around Boston Harbor and the vicinity, bought a boat, fitted it out, moved aboard with my wife and cat, and sailed it all over the eastern seaboard -- from Maine to the Carolinas. As I write this, we are taking a break in Charleston, South Carolina, before heading further south into the Caribbean.

As a byproduct of my transition to a life afloat, in August of 2006 I wrote an article, The New Age of Sail, which some people have found quite inspiring. As happens so often, its inspirational qualities resulted to some extent from my ignorance at the time; had I known what I know now, the cold light of experience would have no doubt tempered the inspirational qualities of this text.

A bit later, in October of the same year, Jan Lundberg invited to give a short talk at the Bioneers by the Bay conference in Dartmouth, Massachusetts, with the idea of breathing some new life into the idea of the Sail Transport Network. I took this opportunity to put together a plan for sail-based passenger transport, which could be put into effect once fossil fuel-based forms of transportation start to fail due to fuel shortages.

Early next year, the editors of Orion Magazine came across my presentation, found it interesting, and a summary of it was printed in the March/April 2007 issue of Orion, under the heading "Making Other Arrangements." Here is an excerpt:

The trends that will once again make sail a viable form of transportation are already in place but, for the sake of the argument, let us think a few years forward. Suppose it's 2010, and you want to travel up or down either coast. You might consider driving, but gas is now very expensive and often hard to find. Also, the price of asphalt has gone through the roof, so the roads are full of potholes. You might consider taking a train, but Amtrak has been largely shut down, because the country couldn't afford it. And you might consider flying, but ticket prices have been driven up by the cost of kerosene; plus there is a new terror scare due to intelligence reports of a plan involving elderly Al Qaeda members with exploding dentures, so they make you check everything including your false teeth.

Then you find out about the Sail Transportation Network. You go to the STN website and find several boats planning the passage you intend to make. You go look at the boats, interview the skippers, and decide on one. You then go back to the website and submit payment for STN's finder's fee. On the day of departure, you simply show up at the dock. STN has already provisioned the boat for the passage. You come aboard and sail off. If you are so inclined, you can take part in various quintessential sailing activities, such as baking bread, cooking stew, mixing drinks, and keeping a lookout.

The Sail Transportation Network is just a concept at the moment, but I remain reasonably assured that there are no legal or technical obstacles to making it work.

At the time, I thought that this was a perfectly reasonable plan. There followed some discussion about developing some web-based software that would make the system self-organizing. There was also some talk of organizing a trial run by signing up some skippers and some passengers. None of it came to fruition.

I thought that this plan was reasonable because it avoided several problems.

The first problem is that sailing vessels, of the sort that can be used for freight or passenger transport, no longer exist. There are some historical replicas, some navy training ships, and some fancy charter boats. But there are plenty of smaller yachts capable of carrying three or four passengers in addition to a skipper and one or two crew members, along with their baggage. At a time when other types of transportation run into problems with the fuel supply, such boats could be pressed into service on coastal passages, provided a way could be found to provision them.

The second problem is that skippers of such smaller craft are rarely licensed to carry passengers for hire, and the vessels are largely registered as pleasure craft, and so cannot be used for passenger or freight service. However, I discovered a loophole that neatly solves this problem as well. According to the Passenger Vessel Safety Act of 1993,

Passenger for hire means a passenger for whom consideration is contributed as a condition of carriage on the vessel, whether directly or indirectly flowing to the owner, charterer, operator, agent, or any other person having an interest in the vessel. Consideration means an economic benefit, inducement, right or profit including pecuniary payment accruing to an individual, person or entity, but not including a voluntary sharing of the actual expenses of the voyage, by monetary contribution or donation of fuel, food, beverage or other supplies.

What this means is that passengers can volunteer to share the expenses of the trip without being considered

passengers. Therefore, the skipper of the vessel need not be licensed, and the vessel need not be registered or documented as a commercial vessel, or carry commercial insurance. This dramatically increases the numbers of both craft and crew available to carry passengers by sail.

The third and final problem is that in a situation where transportation fuels are scarce, so is food. The retail chain breaks down as soon as the diesel trucks that supply it are out of diesel. Provisioning a sailboat requires large amounts of basic foodstuffs to be placed aboard: rice, beans, flour, cured meats such as salt tack, salted fish, and so forth. An organization that can directly procure such supplies in bulk, ferry such supplies between ports, and provision vessels for the task of doing so, is well positioned to survive the collapse of the retail chain.

The three problems are addressed by a single triangular arrangement: passengers pays provisioners, provisioners provision boats, skippers transport passengers. It is a good plan - to file away somewhere, ideally in your mind or on paper, because it might be hard to retrieve electronically once the electric grid collapses.

As far as making use of this plan prior to economic collapse, thinking about this may shed some light on the limits to what can be done to organize in preparation for collapse. The problem is far more general than the one we are considering, boiling down to this: in order to organize and prepare for collapse, people need to act as if collapse has already occurred, and this is something that rational individuals will quite reasonably refuse to do.

Why would anyone who is of sound mind be willing to go into the business of provisioning sailboats with rice, flour, cured meat, and pickled cabbage? Sailboat crews prefer fresh-frozen produce, which can be obtained at a supermarket. For bulk items, there are wholesale clubs. Our provisioners may have a viable post-collapse business plan, but pre-collapse it is sheer nonsense.

Why would passengers be willing to spend weeks at sea instead of jumping in a car or on a plane and getting to their destination in a few days or a few hours? Why would they be willing to tolerate sea sickness, confinement, meals hastily thrown together on a galley stove, and the company of strangers in close quarters?

Why would skippers want to take on passengers? Provisioning is one of the least significant costs of owning and operating a yacht, and is not enough to entice a skipper. Many owner-skippers of yachts are wealthy people with less time than money, and when they find time in their busy schedules to go sailing, they prefer to sail with family or with friends. Many other owner-skippers of yachts are retired individuals or couples. The couples are unlikely to want to welcome strangers aboard their home in exchange for food, while the individuals are usually in search of competent crew, to save them from the hard work of single-handing, and would hardly be interested in taking on passengers who cannot take turns at the helm.

Finally, why would anybody invest time and effort in developing a web-based software system for which there will be no need until after the economy collapses, at which time, due to frequent and widespread power outages, web-based software will not be of much use any more? It makes no sense to develop a high-tech solution in preparation for a low-tech age. After the economy collapses, life slows down, and efficient ways of organizing that web-based systems afford will be replaced by asking around, face to face negotiation, dockside bulletin boards, and a wide variety of informal arrangements that are impossible in the businesslike, money-driven atmosphere of today.

Clearly, until collapse occurs, this plan will be dead in the water. But what about post-collapse? Will it automatically become viable as soon as there is a critical mass of hungry skippers with boats, and a critical mass of desperate passengers willing to endure weeks at sea in order to get somewhere, or simply to get away? Will dockside provisioners suddenly rise to the occasion as soon as these two ingredients fall into place? When an economic collapse occurs, our horizon usually shrinks to what we can see for ourselves and the people we can talk to. Most of these people tend to be too busy thinking for themselves and trying to survive, and will have no spare time in which to work on grand schemes or organizational initiatives such as the Sail Transport Network.

Will the scheme I developed still have merit? The giant loophole in the Passenger Vessel Safety Act of 1993 might get closed by some executive order. The government may declare coastal waters a security zone, and the only boats allowed in the waters of the zone will be the ones that have a valid Coast Guard permit. The permits would then be rationed and their issuance tightly regulated. There is already a precedent for this: Bill Clinton declared a permanent state of emergency, and designated a security zone covering most of Florida. Any non-commercial vessel departing from the security zone that intends to sail within 12 nautical miles of the Cuban coast must have a US Coast Guard "Acknowledgement of Security Zone and Permit to Depart During a National Emergency." These permits are currently free, but failure to get one results in forfeiture of the vessel, a $10000 fine, and 10 years in jail. And so plans that abide by the laws of one era may come to naught in another.

But all of this seems irrelevant to me. With little other transportation available, sail-based transportation will spring to life spontaneously, whether anyone works at it or not. Local farmers will discover that they can sell their crop in bulk by delivering to the dockside and putting it on board a boat. Passengers will discover that they can actually get somewhere

by showing up at the dock with some money, and asking around. Skippers will find out that taking on passengers once in a while is a good way to keep the lockers stocked with food and drink.

Does this mean that thinking along these lines is a futile, unnecessary exercise? If so, if Sail Transport Network is to take some physical form prior to the collapse, it would have to move in a different direction entirely.

Perhaps we should think ahead of time about the sorts of sailboats that would make the most sense after the collapse? These would probably have to be made quickly and cheaply, because resources will be scarce. It probably means taking a medium-size steel hull, fitting it with a keel and masts, ripping out the engine and diesel tanks, and putting in some solar panels and a wind generator to power the navigation equipment and cabin lights.

If the price of oil doubles three or four more times, such a boat might even become competitive as a way of carrying cargo on coastal passages. But even then it is unclear where it would fit into the existing transportation system. Such boats would lack the freezer facilities to carry refrigerated cargo, too small to serve as a bulk carrier, and too slow to fill retail orders. In a shipping world oriented to container ships, tankers and bulk carriers, roll-on roll-off ships, and other commodity forms of water transport, where would a small engineless hand-loaded craft fit in, if at all?

Then there is the matter of crew. Before the collapse, people interested in sailing would prefer to spend time aboard a beautiful schooner, with bronze fittings and teak and mahogany brightwork, wearing deck shoes and sipping a cold drink. Or they would want to take part in a regatta of racing boats, or sail beautiful old wooden boats lovingly restored by craftsmen who have nothing but time on their hands, or take a well-appointed cabin cruiser to a tropical destination, there to spend the winter months.

The hobbyist-sailors, who are in it for the lifestyle or the adventure, could not be more different from the professional sailors. If you look at the nationalities of the crews of commercial ships, it is a roll call of the most unfortunate, economically distressed or overpopulated countries in the world. There are the East Europeans: Romanians, Bulgarians, and Ukrainians. Then there are the Southeast Asians: Filipinos, Malaysians, Chinese and Indians. They save their meager wages by never going on shore, and inhabit a cramped and dreary world of bad food, satellite television, and copious pornography. Their wages, meager though they are, are heavily subsidized by the cheap bunker fuel that powers these commercial vessels. Even if these vessels could be repowered using sail, they would move more slowly, would be unable to go directly upwind, carry less cargo (no more containers stacked on deck!) and earn less money. The livelihoods of these sailors, already precarious, would disappear altogether. Ask any of them whether they would like to go sailing, and they would think that you are completely mad. To them, sailing is fit for their countrymen who subsist in abject poverty, not for them, who have managed to rise above it.

Clearly, if sail transport is to take off before economic collapse rules out most other forms of transport, a way must be found for it to pay a living wage. The noncompetitiveness of sail-based transport, even with oil prices at around $100 a barrel, could be overcome with some sort of ecologically motivated "green subsidy." Some of the existing ships could be retrofitted with masts and sails in order to collect carbon credits for the fuel they would save in sailing downwind and reach courses (to make the schedule, they would probably still motor upwind, and motorsail the rest of the time). A careful EROEI-based accounting would probably uncover some inconvenient facts: the carbon credit would be to some extent offset by the energy cost of the retrofit, and the energy wasted in carrying the keel, the masts, and the rigging. A bit of thinking outside the box would eventually hit on the idea that a much bigger carbon credit could be obtained much more quickly and efficiently by foregoing the shipping step altogether: by relocalizing production, cutting consumption, and other, similar measures. For example, it may be "green" to ship coffee beans by sailboat, but it may be even greener to process these coffee beans into coffee syrup, shedding much of the weight, then shipping it in a standard container.

So much for theory. As for reality, I have heard that some people who live aboard their boats on Caribbean islands make a bit of spending money by ferrying small loads of cargo back and forth between islands. As I sail around, I will look for these people, to see what I can learn. And some day, if I am not too old by then, I might myself skipper or serve as crew on a sailboat that carries a few passengers and a bit of cargo. I will probably be quite a seasoned mariner by then. Being called "Captain," both over VHF and on the dock, several times each day, seems to be rubbing off on me. Until then, sail transport for me will largely revolve around transporting me, my wife, my cat, and our stuff.

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Editor's note: Dmitry Orlov's new book Reiventing Collapse is completed and will be available from New Society Publishers. Culture Change will be reviewing it soon.
Dmitry is a rare and talented writer, so we're lucky to have him take sail transport seriously for this website and beyond. I like what he said about Sail Transport Network recently: "by
thinking through such ideas ahead of time, it may be possible to make
the transition to a post-collapse system of transportation easier for
some people."
- Jan Lundberg, January 14, 2008

Although implementing sustainable ways of living is hard while "cheap" energy is still available, many people are thinking about ushering in the future now. We got an inquiry over the weekend, apropos:

Do you guys ever hire?... I'm a young merchant marine working on offshore supply vessels in the gulf of Mexico, and honestly, I would rather be sailing (yes, with sails). Does your organization have needs for qualified mariners?, because you folks are doing an incredible thing and it sounds like it would be very satisfying to be a part of it. please respond at your leisure, and thank you for your time.
Sincerely, F.

A great interview with our sea-faring plastics guru, Capt. Charles Moore, very moving: listen to the podcast of his interview with the students of science and math at Vanderbilt University:

blogs.vanderbilt.edu
For more information see his website

algalita.org and obtain the Algalita Marine Research Foundation's award winning documentary, "Our Synthetic Sea."

References

"The New Age of Sail" by Dmitry Orlov, Culture Change, Aug. 2006:

culturechange.org

Sail Transport Network's presentation at Bioneers By The Bay, slide show and commentary by Dmitry Orlov:

culturechange.org

For more writings on Sail Transport Network, see the links in the menu items on this website (sailtransportnetwork.org). To learn more about STN or share some information, and be kept informed, contact us via email: jan "at" culturechange.org