

NEW HAMPSHIRE UNION LEADER

Your Turn, NH -- Anthony Comito: How NH can create the mass transit of the next century

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MANCHESTER needs to connect with Boston, but is a train the best way? A September, 2014, study by the Cato Institute suggested a better way. It concluded that autonomous vehicles (AVs) are coming to market faster than anyone suspects and will vastly change public transportation. The report warned Congress not to spend any more time and money building last century's technologies, like light rail.

New Hampshire should heed this warning. Instead of rail, we should use new technologies to build a transportation system that is less expensive and more efficient. By building this new system right now, here in New Hampshire, we create an economic opportunity for the state to be an exporter of the next century's public transportation technology all around the world.

As of now, AVs use technology such as GPS satellites, cameras and radar to read the outside environment and react in real time. Google's driverless cars are probably the best-known example of using cameras, radar and computer algorithms to operate. But these technologies have their problems. GPS is accurate up to about 10 meters, which can be an issue when dealing with 3 meter automobiles in tight spaces. Additionally, cameras and GPS can have signals blocked by mud, snow, fog, tunnels and debris.

As a result of these shortfalls, Volvo has created "road-integrated" magnets that sit below the pavement. Cars then run along the road like an "invisible rail." Unlike GPS and cameras, the system is unaffected by physical obstacles and poor weather conditions, with a positioning inaccuracy of less than one decimeter. Volvo has tested its sensor system at speeds of up to 90 mph.

Imagine that instead of cars on this invisible rail, buses run along it. This "magnetic road" can be set up along highways in lanes dedicated to buses (with barriers). This infrastructure is identical to Rapid Bus Transit lanes (RBT). Additionally, the buses operate in "platoons," in which two to three vehicles are connected and ride along together. You have a system that is significantly cheaper, safer, faster and more flexible than a light-rail system. This is what the public transportation of the future will look like. It will not look like expensive, inflexible and subsidy-driven light rail systems.

A state report found that building a comparable RBT lane to the light-rail system would cost \$17 million. University studies have found that integrating magnets into road construction would cost around \$30,000 per kilometer (or \$1.5 million to “magnetize” the \$17 million RBT lane). Volvo retrofitted old cars with the magnet systems for \$109 (that’s right, \$109).

In total, you could build this system for as low as \$20 million to \$40 million. Compare this with the train estimates of \$240 million to \$350 million, and you can see why invisible-rail systems are the future of intercity public transportation. That’s \$200 million in savings.

Let’s take that savings and use it to develop this new system. The state can find national partners such as technology companies like Google, or auto manufacturers, in addition to local partners like Dyn, DEKA, and our education system (UNH, Dartmouth, etc.).

Our other option is to wait; to let someone else develop the technology and the expertise. We can spend \$250 million importing outdated light rail. Then, down the line, we can pay top dollar importing invisible rail technology, consulting and expertise from somebody else. More of the same for New Hampshire.

Or, we can seize an opportunity for New Hampshire’s economy to connect to Boston, become an exporter in the trillion-dollar public transportation market, and change the perception of New Hampshire from technological laggard to technological leader.

You have to stop and ask yourself: why a train?