



TIME TRAVEL OF A DIFFERENT KIND

By Cindy Paavola '84 BS

For Northern Michigan University alumni old enough to remember the Hanna-Barbera television cartoon series *The Jetsons*, you may recall how father, George Jetson, would zoom in a matter of seconds from his home to work via his 2062 aerocar that resembled a flying saucer with a glass bubble top.

The Dual Mode SKYway™ transportation system project that alumnus **John Fleming '64 BS** is involved with isn't quite fast-flying saucers, but he chuckles when he admits "it's pretty close."

Fleming, a 1994 recipient of the NMU Distinguished Alumni Award, is part of a company called Innov8 Transport, which is advocating the idea of an elevated electric and automated high-speed rail system that has the potential to revolutionize modern transportation.

The Innov8 project would involve both public and private transportation. The SKYway system would accommodate dual-mode vehicles known as SKYbrid™ vehicles that could function both on the traditional roadways as well as the new elevated rail platform. The system would also service commercial freight and buses (SKYtrains).

"We're talking about creating a roadway and vehicle system that uses a magnetic levitation mode of movement by connecting the rail to a structural component built into the car or attached to the car or the car's tires. Basically, the car and SKYway would interface to facilitate

magnetic levitation and the car would pretty much float over the roadway," says Fleming. "A side benefit is that because it's a natural-gas-generated electronic roadway, it will be possible to use the energy system from the road itself to regenerate vehicle batteries."

Travel speeds on the SKYway would reach up to 130 miles per hour, but no driver input would be necessary. The cars would enter the SKYway and align with other vehicles in platoons. Each platoon would be monitored and controlled by interconnected computer systems. And, given the state of the art in autonomous vehicle development, the computers in each vehicle could communicate with other vehicles and the SKYway system. So, much like riding a current commuter train, once a driver has entered the SKYway, they can use that time in their vehicle to do things other than focus on driving, such as read, work on their wireless devices, take a nap or apply their makeup.

"Past attempts at high-speed personal vehicle travel failed to resolve the challenges with how to enter and exit the high-speed roadway safely. Innov8 Transport has been able to address this issue through both its inherent design using the MagLev conveyance and electronic controls built into the ingress and egress infrastructure, which takes away the potential for human error that has always been a part of high-speed travel when vehicles are controlled individually."

Fleming says that the discussion about long-distance,



John Fleming of Innov8 Transport

high-speed travel is also not a new topic. Studies have been done on it by corporations such as General Motors, Ford and Chrysler, as well as by state and federal transportation agencies. The Transportation Research Board convened the first workshop in 1994. He says these studies explore the idea of Automated Highway Systems (AHS) and what it would take to “leap frog the current American transportation system into a system of smart roads or smart cars, or some combination of both.”

He stresses that people don’t realize how inefficient our current transportation system is. A 2008 government report states that the “U.S. government wastes \$608 billion annually to current high inefficiencies, and must solve growing traffic congestion, environmental, safety and energy problems.” (For report, see <http://tti.tamu.edu/documents/0-5827-1.pdf>)

“The trouble with a lot of the early studies is that they didn’t have a sound business model,” says Fleming. “What we’ve tried to do is to address the business component. We’ve also taken the work that was done in the 1990s regarding automated highway systems and we’ve updated it with today’s new technology.”

What Innov8 Transport hopes to see happen next is to secure a funding source that would help the company build a test rail to further develop the components and provide proof of concept data.

“Just focusing on the Texas Triangle (encompassing Dallas, Houston, San Antonio and Austin), one can easily see the tremendous economies of scale in productivity and jobs growth from a transportation system that is many times more



Vehicles would enter the Skyway from existing roads, and with a special component connect to the rail system, which magnetically and automatically transports the car at high speeds until the programmed exit is reached and the driver re-engages control.

efficient than the ones today,” says Fleming. “I think if people, especially investors and policy decision-makers, could actually see this concept working, they’d be more willing to make the kind of investment that will be needed to take this from the test model point to an actual U.S. transportation system.”

Fleming says two particular pressures may make funding hard to come by. One is that the SKYway model would directly compete with the Obama administration’s proposal for a national high-speed train system. The second is that the regional airlines would fight the SKYway model since it would impact com-

muter plane service.

“However, the SKYway would better serve the entire country and would provide safe and fast movement of people and goods to airline hubs,” Fleming says. “The SKYway system allows people to remain with their cars, and Americans love their cars—they love being able to stay in their own space with their own stuff, and have both the flexibility and utility of their own vehicle at their destination.”

Going outside of the United States with the SKYway system may be one way to see it become a reality.

“It may be easier to go to a third-world country that doesn’t have a legacy transportation system like the U.S. does and build the highway and SKYway system simultaneously,” says Fleming.

Fleming says that he and the Innov8 Transport team members realize they may never actually see the SKYway system in place in the U.S. or anywhere else in their lifetime, but they are undeterred in their belief in the importance of moving the idea forward.

“This is our dream and, ideally, we’d like to see the dream come true in the way that we’ve developed it. However, realistically it may be that only parts and pieces of our idea come to be. What’s important to us is that this idea helps advance the discussion and other ideas and, ultimately, the movement to change the current transportation system to a better, safer, more environmentally and financially sustainable system.” ■

For those who may like to research this subject further, Fleming suggests that a good place to start would be with the studies that came from the Transportation Research Board workshops. U.S. Department of Transportation Federal Highway Administration, Publication No. FHWA-RD-95-043, November 1995.