

*Innovation Valley (www.ivalley.org)*

## A Car of Our Own!

### Can the Merrimack Valley Become the Nexus of Auto Innovation?

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Can the region known for making shoes and slippers actually become the hub of a new automotive industry? Don't laugh, because the cars of the future have much more to do with high performance footwear (made of composite shock absorbent materials) than they do with the steel and glass clunkers of Detroit. In fact, New England is already a nexus of automotive innovation and is poised



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to capitalize on the enormous economic opportunities inherent in the new generation of personal transport vehicles and services.

There are two core trends that will impact automotive use and manufacture in this region. These are firstly, the move to alternative transport vehicles that will "more resemble computers on wheels, than they do cars with chips"<sup>1</sup> These small, durable, intelligent devices will be made of composite materials, host a variety of low or zero emission engines and be integrated with computer circuitry and network controls. New England and the Merrimack Valley, with their concentration of electronics and material science sectors, are well suited to support this emerging automotive industry.

The second key trend is car sharing. In this regard, New England, with its native firm Zipcar, is already home to the nation's most successful car sharing service. Zipcar, and car sharing in general, is changing the nature of commuting, reducing traffic, and expanding the capabilities of public transportation. As the trends to alternative vehicles and car sharing networks become prominent, the Merrimack Valley has much to gain, and its own regionally branded car is not out of the question.

To help get you comfortable with this idea, forget everything you know about cars. In the next ten years it's largely going to change. Forget about steel, forget about internal combustion engines, forget, even, about a driveshaft. A plethora of interesting new vehicles that challenge our ideas about what we drive and how we get

around will be on the market, and innovative high-tech local companies will be beneficiaries.

Consider what industry experts are saying:

"In two decades today's major automakers may not be the drivers of the vehicle industry... Completely new players such as electronics and software firms may be the real competitors to automakers"<sup>2</sup>

"Manufacturers like Dell and system companies like Sun Microsystems or Intel may fare better in the business than companies like GM or Mitsubishi (in making cars of the future)."<sup>3</sup>

In New England, we are already seeing players in this space. Of course, there is the zero-emission two-wheel Segway, based in Bedford, NH ([www.segway.com](http://www.segway.com)). This is building a substantial user base and defining its own niche market within the realm of personal transport. Less noticed, but potentially hugely influential is the Scuder Group ([www.scuderigroup.com](http://www.scuderigroup.com)) in West Springfield, MA. They have an air compression technology that can significantly improve automotive performance without the need for the heavy, expensive, and toxic batteries used in today's hybrids. Finally, for a taste of the truly visionary, there is

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the City Car concept ([cities.media.mit.edu](http://cities.media.mit.edu)) being designed at MIT with support from General Motors.

The City Car team is embarking to reverse the thinking regarding cars and cities. Instead of designing cities to support cars, they are designing cars that fit a more livable vision of cities. One of the designs is what's known as a stackable car for two passengers. These are lightweight, electronically controlled vehicles that are literally collapsible and stackable. They have individual electronic motors and



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turning mechanisms on each wheel and thus completely eliminate the need for a central motor and driveshaft. Their website describes the following vision of the future,

"In a highly efficient parking scheme, the stack receives incoming vehicles and electrically charges them. Similar to luggage carts at the airport, users simply take the first fully charged vehicle at the front of the stack... Vehicle Stacks are located throughout the city to create an urban transportation network that takes advantage of existing infrastructure such as subway and bus lines"

Without doubt these or similar vehicles could be manufactured and branded in New England.

Complementing these regionally manufactured vehicles maybe no less than a regional car sharing network involving public transit, municipalities, and private corporations and industrial parks. At its core, car sharing programs are driven by the philosophy that many urban dwellers simply do not need to own a car. This is a view articulated by the CEO of Ford Motor Company himself, William Clay Ford Jr. "The day will come when the notion of car ownership becomes antiquated. If you live in a city, you don't need to own a car."<sup>4</sup>

Zipcar is the nation's largest car sharing network and began operation six years ago in Cambridge, MA ([www.zipcar.com](http://www.zipcar.com)). It is a model not only of service foresight, but also of technological innovation. Focusing on urban neighborhoods, Zipcar members make online reservations for cars that are parked conveniently close to residents, businesses, and transportation centers. The location of each car is determined through a radio controlled GIS network. Each member has an electronic "Zipcard" that unlocks the doors of a reserved vehicle; there is no central parking lot or check-in desk. With 3,000 new members every month, the company has grown to supply over 60,000 drivers with Zipcars in over 20 cities throughout the country.

The real attraction to car sharing, from our perspective, is the opportunity for communities and even municipalities to adopt car sharing programs. Zipcar has already tapped universities as member communities. In Massachusetts, Zipcar has arrangements with Northeastern, Boston University, Tufts University, and Harvard. Students may join at reduced rates while the universities save on expensive and scarce parking spots.

The potential is ripe for cities to include car sharing as part of a public transportation service. We envision that car sharing would first be connected to other transportation options, such as the MBTA or the MVRTA. Imagine your reserved car waiting for you in a commuter rail parking lot or next to a bus stop. This exact model is already being used in communities outside of Washington D.C. and New York City. According to Zipcar Marketing Manager Matthew Malloy, "Zipcar is a for profit company with a nonprofit mission. We're the last mile of public transit."

<sup>1</sup> Lovins, A. Natural Capitalism: Creating the Next Industrial Revolution. Little, Brown. 1999. Pg. 39 -<sup>2</sup> MIT Professor Daniel Roos at the 1998 Paris Auto Show, in Lovins, A. Natural Capitalism: Creating the Next Industrial Revolution. Little, Brown. 1999. Pg. 39 -<sup>3</sup> Lovins, A. Natural Capitalism: Creating the Next Industrial Revolution. Little, Brown. 1999. Pg. 39 -<sup>4</sup> <http://www.autoshare.com/mediastories/rob230201.html>

The Innovation Valley initiative seeks to help stimulate economic growth and quality-of-life enhancements in the Merrimack Valley. Every month we will report on innovative businesses, practices, and ideas that are helping to make Merrimack Valley the place to be. Look for our article in print media and online at [www.ivalley.org](http://www.ivalley.org).



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