

## New Mode of Surface Transportation for 21st Century: Autoway

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Reston, VA ([PRWEB](#)) November 15, 2004 -- Acroscape releases the technical design of Autoway, a new mode of surface transportation for 21st century. Autoway is an advanced autonomous transportation system for passengers and light freights, with a focus on commuting and e-commerce. It offers a comprehensive solution to traffic congestion, oil dependence, air pollution, and traffic safety. The publication of the technical design of Autoway will speed up the worldwide development and adoption of the new transportation system.

“Autoway will make people rethink our strategy to address the transportation challenges,” said Dr. Hengning Wu, president of Acroscape and the inventor of Autoway. The current debate between automobile and mass transit will lead us nowhere. Automobile is the most convenient and comfortable means for passenger transportation at present, but it is also the source of traffic congestion, air pollution, energy shortage, and traffic accidents. “Practically speaking, automobile is very effective for cities with a moderate population density and a moderate total population. If you look at cities in the US with a population less than 750,000 people, traffic conditions are reasonable. The situation of metropolitan areas is another story. For cities with a high population density, such as metropolitan areas in US and many big cities in Asia and Europe, it is a frustrating feeling between passion and hatred,” Dr. Wu remarked.

Another shortcoming of automobile is that a considerable portion of the population cannot drive. School children are too young to drive and some senior citizens are no longer able to drive safely. As the senior population continues to increase, their transportation needs will become a challenge to the society.

Public transportations like buses, subway and railway trains are no longer convenient for the dispersed, distant and complex urban transportation, and significant government subsidies are often required to sustain the public transportation system. “Mass transit used to be effective and profitable. First, a more efficient transportation means, I mean, automobile became a strong competitor after its mass production. Second, the economic structure of a modern society further tilted the balance in favor of personal transportation. It is time to think outside the box of existing transportation modes,” Dr. Wu explained.

“The invention of Autoway was purely by chance,” Dr. Wu recalled. “One day, while I was thinking about static binding and dynamic binding of the computer language Java, an idea flashed through my head. If we can dynamically bind people together in their commuting trip, we can significantly increase the road capacity. It is like car pool. If you can convince most people to car pool, you can immediately improve the traffic congestion. Of course, car pool is difficult. But if we do it dynamically, we can do it.”

“On retrospect, the binding, or carpool, in Autoway is a totally different concept from the binding in a programming language. This is how cross-linking in knowledge happened in real life,” Dr. Wu said. In Autoway, we take advantage of the fact that at any given time there are a significant number of people travel in the same direction for at least some sections of their trips. When we use small vehicles, and safely and



dynamically couple and decouple the vehicles, we can achieve the same result of carpool. Although the dynamic binding in Autoway is a different concept, many ideas in internet traffic can be useful in this new mode of surface transportation. Previous knowledge can work in unexpected ways. During the development of the concept of Autoway, my broad engineering background has been very helpful. Dr. Wu said.

Autoway uses small, autonomous, electric vehicles for one passenger on a tri-rail guideway, as shown in the attached figure. The guideway is less than three foot wide and it can be constructed as an overhead structure with a minimum impact on existing roads and buildings due to its small space requirements. Autoway can be built with a low cost of 5% of subway. Sitting in an executive chair in your private vehicle, with your favorite music in the background, you are browsing the news over your morning coffee. This would be the commuting experience on Autoway. The only thing you need to know is your destination. It is as easy to operate as the elevator, suitable to all people from school children to senior citizens.

Autoway provides a global solution to traffic related problems: traffic congestion, air pollution, energy shortage, and traffic accidents. Gone are the days of traffic congestion. Autoway provides a high capacity and high-speed (65 mile/hour or 100 km/hour) transportation mode for commuters, with a high standard of convenience, safety, comfort, privacy, and reliability. The lane capacity of above 10,000 people/hr is equivalent to 5 lanes of highway. The fuel efficiency of Autoway is 20 times higher than conventional automobile, or an equivalent of 500 miles per gallon (200 km per liter). In addition, as electricity is used as the power source, many alternative energy sources can be used, including solar energy, wind energy, geothermal energy, hydropower energy, coal, and natural gas. This will significantly reduce energy shortage, oil dependence and air pollution.

As for e-commerce, Autoway provides a cost-effective system for local delivery of light freights. As an automatic system, it is ideally suited to e-commerce for businesses and consumers. A distribution center can handle a region with a radius of 100 miles. People can also choose the delivery time.

Autoway is people-friendly. People from school children to senior citizens can easily use it. People from developed countries to developing countries can afford it. Traffic accident is such a major health threat that World Health Day 2004 was dedicated to road safety. According to World Health Organization, every year 1.2 million people were killed and 50 million people injured in road accidents. Autoway will significantly improve traffic safety. First, Autoway will be the safest mode of transportation. For instance, the tri-rail guideway will essentially eliminate de-railing. Second, Autoway provides a safe and convenient alternative and therefore helps to reduce accidents on the highway.

Autoway is environment-friendly. It will significantly reduce air pollution and noise pollution related to traffic. It will spare the surface landscape from erosion related to road construction. As Autoway is typically built as an overhead structure, it will significantly reduce the interference of traffic with wildlife.

Autoway will contribute greatly to our social and economic development. Think about the railway industry in the 19th century and how it transformed the economy. Think about the automobile industry and airline industry in the 20th century and how they changed our personal and business world. Autoway will further extend the physical boundaries of daily human activities and enrich our personal, professional, and cultural experiences.

As a transportation technology for the 21st century, Autoway will bring a lasting economic boom. The economic opportunities range from steel making, manufacturing, computer software/hardware, communication, e-commerce, and construction. Many traditional manufacturing industries in developed countries have suffered



a long time of downturn with significant loss of jobs. This new transportation technology will provide the opportunity of prosperity and employment for these industries and affected regions.

“The invention of Autoway is just the first step, a blueprint for a new technology,” Dr. Wu added. “It will take the joint efforts of investors, entrepreneurs, engineers, national and local governments, to make Autoway a reality.” The publication of the technical design of Autoway will speed up the worldwide development and adoption of the new transportation system. Commuting will be no longer a rush in congestion. Cities will be no longer a noisy place with air pollution. We and our children will be able to walk leisurely on the street, breathing the clean air.

About Acroscape: Acroscape is an independent invention business focusing on fundamental technologies. The technical white paper about Autoway is available at <http://www.acroscape.com/autowaytech.html>. For more information, please contact Dr. Hengning Wu at (703) 796 1192.

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