



## A Roadmap for Autoway Deployment

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Time period	Milestones
2006-2007 (2 years)	Fully functional Autoway prototypes tested. Autoway became known to the general public. Research and education in related fields launched.
2008-2010 (3 years)	Initial deployment in cities, corporate campuses, airport feeders. Autoway standard established. Best practices for Autoway construction and urban architecture established. Special vehicles for disabled people developed. Autoway emerged as a major technology-based manufacturing industry.
2011-2015 (5 years)	Urban deployment in congested areas in large scale, and urban congestion and air pollution will be solved. Regional network deployment in large scale. New Autoway-oriented housing and community developed.
2016-2025 (10 years)	Autoway becomes the major form of urban transportation, supplemented by road and trail network. National network of Autoway formed. An alternative for long distance travel and emergency evacuation. New cities and much of existing cities are Autoway-oriented, and changes of business and urban lifestyle are expected. Oil dependence ended. Urban household energy consumption reduced to about 10% of current US level. Traffic related deaths reduced by 95% from 2005 level, or more than 1 million people saved every year worldwide. US urban land occupied by roads and parking lots will be reduced and converted to open green space.

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Notes: Although it is impossible to set an exact path for a new technology, the general trend can be reasonably predicted. The roadmap will help government officials, urban planners, urban architects, transportation engineers, real estate developers, and environmentalists to rethink our urban transportation strategy and how we build urban communities in the 21st century. The roadmap also provides a general timetable to corporate executives, investors and entrepreneurs to build a new transportation industry.

There will be negligible effects on the sale of automobile in the first 10 years, but Autoway will have significant impacts on traffic congestion and air pollution even at the initial stage. When a new generation of Autoway kids enter their car-driving age, some will choose not to own a car. Therefore, we will see a gradual decline in automobile sale in 2020.

During the initial deployment, Autoway can significantly increase the ridership of existing mass transits. When a network of Autoway is formed in 20 years, there will be no need for urban mass transits in their current forms of scheduled buses and subway. Chartered buses and tourist buses are exceptions. A prediction for commuting means in US in 2025 is listed in Table 1.

Table 1, Commuting means in US for 2000 and prediction for 2025

Year	Autoway	Automobile	Work at home	Bicycle or walk	Others
2000	—	88%	3%	3%	6%
2025	50%	30%	12%	6%	2%

Hurricane Katrina and Hurricane Rita revealed two problems of transportation: emergency evacuation and oil dependence. Autoway can add a significant capacity for evacuation, about 20,000-30,000 people per lane per hour. It is also easy to switch to one-direction travel for additional evacuation capacity.

The oil dependence of our current transportation system is prone to oil supply disruptions due to international conflicts, natural disasters, and man-made disasters. Autoway, powered by electricity, makes alternative energy sources available for transportation. It should be mentioned that oil would still be a very important energy source.

The government will play an important role in the early adoption of Autoway and the planning and construction of new urban development. The federal government can provide incentives to companies for the commercial development of Autoway, provide a portion of funding to the first cities for the initial experimental deployment, and provide funding for basic research and education related to Autoway technology, urban planning, standard and safety. Autoway is a commercially viable transportation system, but some government supports to the several cities with experimental deployment will help share the risk and the initial high cost of construction. At this time of transition in transportation technologies, it is important for local and state governments to plan ahead to avoid wasteful spending and to maintain an updated transportation infrastructure for sustained economic growth.

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