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Smart Mobility City Toyota

—— Toyota City, Aichi Prefecture, Japan 2010-

A city of the car industry seeking for a next-generation mobility society and green lifestyles

Key Issue

The city of Toyota is one of Japan's leading automotive industrial cities. Since dependency on car transport in living and business activities is very high, the city has sought solutions through collaboration with citizens, business and public. With the aim to become a city that makes green lifestyles possible as a next-generation mobility society utilizing the most advanced technologies accumulated over the years, the city conducted various demonstration projects to introduce reform in business and lifestyle toward a low carbon society, which is being popularized across the globe.

Project Approach

Implementation of a demonstration trial on the next-generation transport and social system

The city of Toyota has conducted a variety of demonstration trials of technologies such as electric vehicles (EVs) and plug-in hybrid vehicles (PHVs), an intelligent transport system (ITS*5), storage batteries for households, ultra-small vehicles, connected cars and other products in order to demonstrate their actual implementation. The results of these on-field trials were reflected in the R&D of the automotive technology development. Introduction of an energy management system (EMS) aiming at local energy production and consumption, and a next-generation transport system combining the use of cars and public transport led to the optimization of energy consumption and traffic demand throughout the society. Given that the relaxation of regulations on the use of roads and the cooperation of citizens were requisite to the implementation of the projects, the city has made itself as a model city and has been implementing various demonstration trials with cooperation between the public, private sectors and its citizen.

Toyota Ecoful Town is a center of low carbon communities and lifestyles, experiences of the latest environmental technologies and new business development. Since it was inaugurated in 2012, it has attracted around 260,000 visitors from 108 countries and regions.
Source: Toyota City

Development of a space providing hands-on experience of technologies as a model of a low carbon society

In addition to the demonstration trials, the city developed Toyota Ecoful Town. It is a base that serves as a low carbon society model offering sustainable and quality lifestyles. It allows visitors to have direct experience of a smart house equipped with a home energy management system (HEMS*6), advanced mobility and other new technologies and services. This model district showcases state-of-the-art technologies supporting a future environmentally friendly lifestyle. It serves not only to popularize these technologies and services in Japan and overseas, but also to speed up market expansion to ASEAN countries.

The subjects of the demonstration trials are extensive, including the vitalization of the city center, living, foresting, transport and industry. They are closely linked with society and people's lives. Their results accelerate extensive change of business and lifestyles in the city.
Source: Toyota City

Toyota Ecoful Town offers a vehicle sharing service with Ha:mo compact electric vehicles.
Source: Toyota City

To the Next Phase

The progress of information and communication technologies (ICT) has potential for further advancement in energy utilization, transport safety, mobility as a service (MaaS) and other areas. The city is accelerating new actions with a view toward the active utilization of artificial intelligence (AI), Internet of Things (IoT) and big data technologies.

Data

Area: 91,832 ha
The city covers a vast area, ranging from urban to mountainous zones. This means that demonstration trials can be conducted in many different situations.
Project implementing bodies: Toyota City Government, Toyota Motor Corporation, Chubu Electric Power and other private companies
Main facilities introduced: Smart house, EV car-sharing, hydrogen filling stations, Toyota Ecoful Town (a model district for a low carbon society)

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