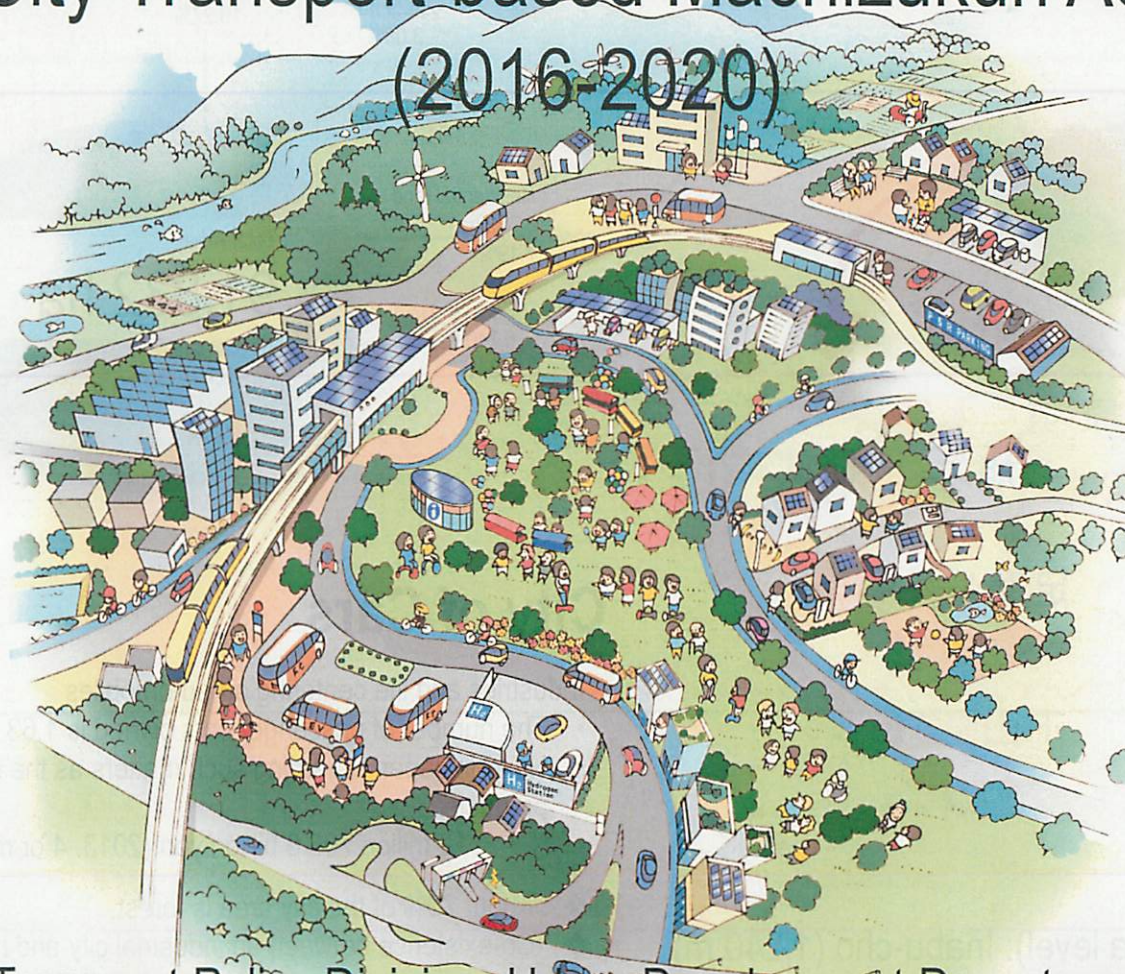


Toyota City Transport-based Machizukuri (Community Development) Vision 2040 Toyota City Transport-based Machizukuri Action Plan

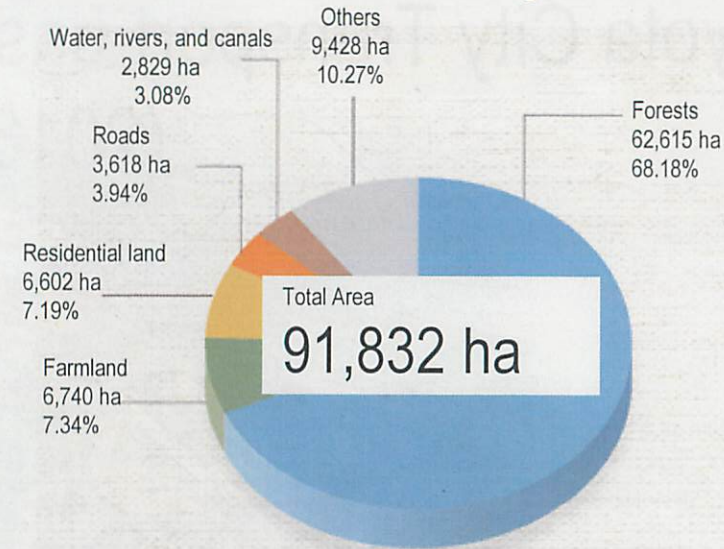


Transport Policy Division, Urban Development Department,
Toyota Municipal Government



Overview of Toyota City

Situation of Land Utilization by Land Category



Area: 918 km²

Highest point (above sea level): Inabu-cho (1,240 m)

Lowest point: Komashin-cho (3.2 m)

Population: 424,000 (April 2017)

City of Cars

Industries and life centering on automobiles

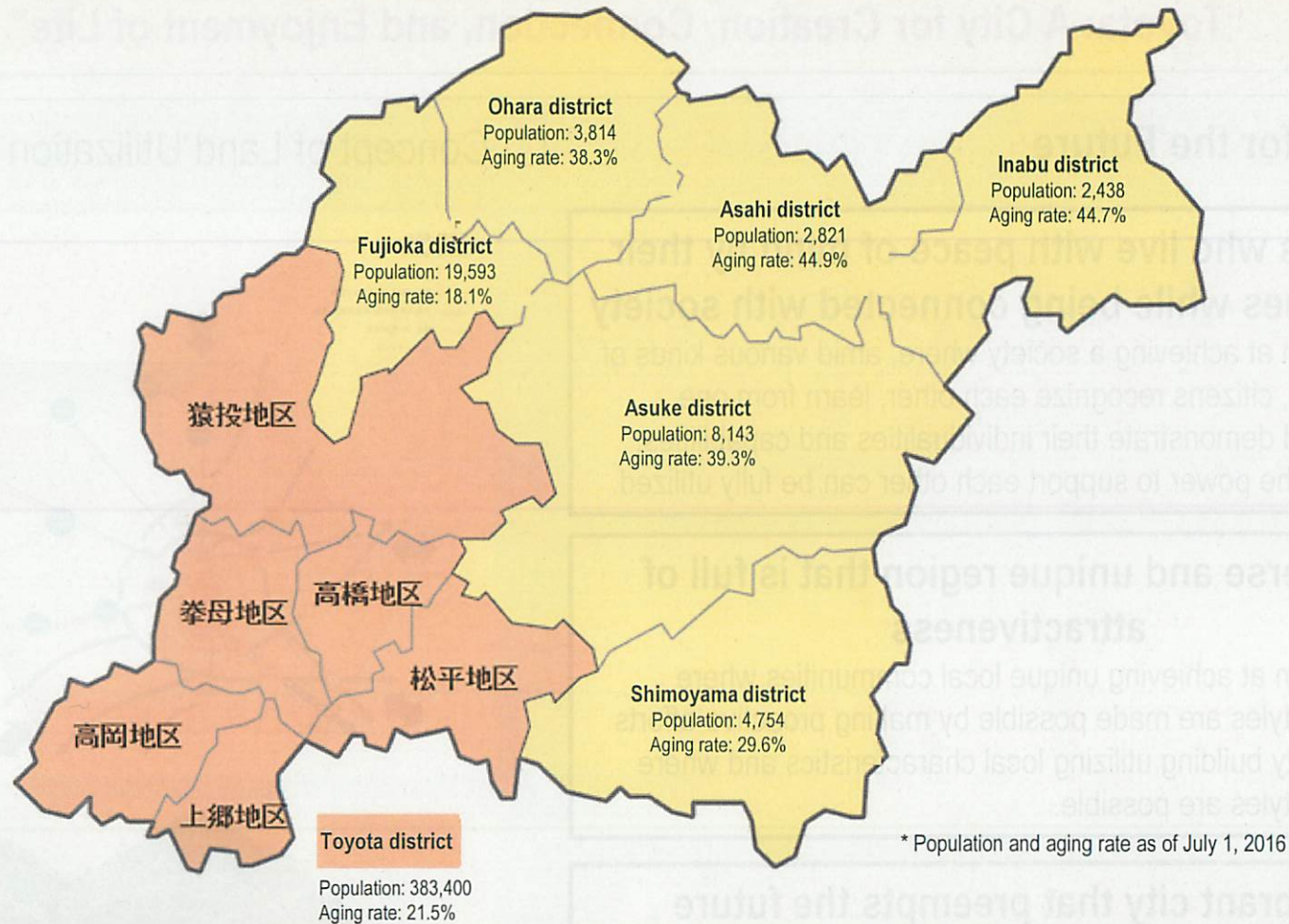
- The number of passenger cars owned is 1.63 cars per household (2015).
- No. 1 in Japan regarding such matters as the shipment value of manufactured products

12 trillion 706.8 billion yen (2013: 4 or more employees)

- ◆ About 70% of the city area is forest.
- ◆ Co-existence between an industrial city and hilly/mountainous areas
- ◆ Large volume of production in not only the manufacturing industry but also of crops

⇒ Leading producer of pear, peach, tea, etc. in the prefecture

Expansion of City Limits through Mergers



Rapid economic growth and the Great Mergers of the Showa Era

- Dispersed relocation of factories through the attracting of industries
- Development of residential complexes due to rapid increase in population
- Mergers with five neighboring towns and villages (1956-1970)



Decentralization and the Great Mergers of the Heisei Era

- Mergers with six neighboring towns and villages (2005)
- Polynuclear network type urban structure



Epitome of Japan

- "City and Mountainous Areas"
- "Super Aging Society"
- A model of a sustainable city

Draft of 8th Toyota City Comprehensive Plan (2017-2024)

“Toyota: A City for Creation, Connection, and Enjoyment of Life”

◆ Vision for the Future

Citizens who live with peace of mind by their own values while being connected with society

We will aim at achieving a society where, amid various kinds of connections, citizens recognize each other, learn from one another, and demonstrate their individualities and capabilities, and where the power to support each other can be fully utilized.

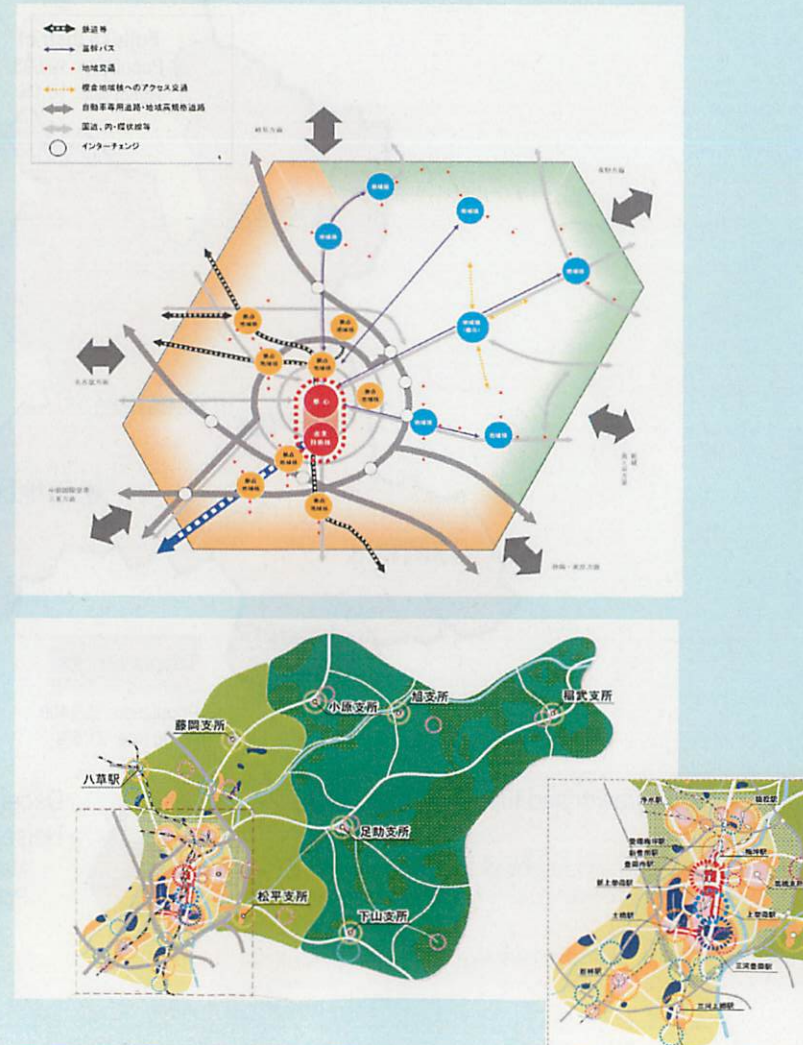
A diverse and unique region that is full of attractiveness

We will aim at achieving unique local communities where diverse lifestyles are made possible by making proactive efforts at community building utilizing local characteristics and where diverse lifestyles are possible.

A vibrant city that preempts the future

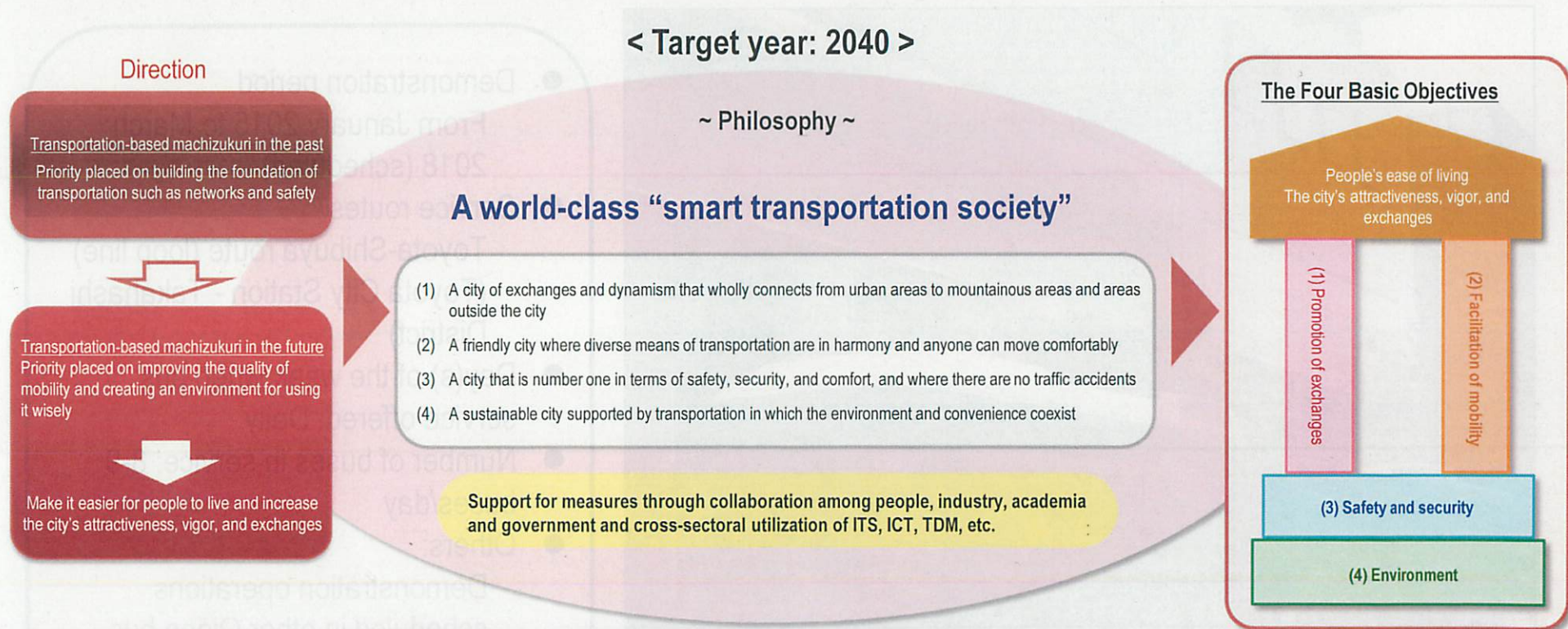
By taking maximum advantage of diverse local resources and monozukuri that has been cultivated in the automobile industry, we will aim at the realization of a city that creates new values and transmits them the world.

○ Concept of Land Utilization by Toyota City



Overview of Toyota City Transportation-based Machizukuri Vision / Action Plan 2016-2020

Amid the approaching era of declining population, super aging society, and global mega-exchanges, we will make it easier for people to live and increase the city's attractiveness, vigor, and exchanges by promoting transportation-based machizukuri that has the following four basic objectives: "environment" and "safety & security," which serve as the foundation, and "promotion of exchanges" and "facilitation of mobility," which serve as the pillar.



Introduction of Next-Generation Vehicles (FC Buses)

Demonstration operation of FC buses (fuel cell buses) developed by Toyota Motor Corporation in city bus routes



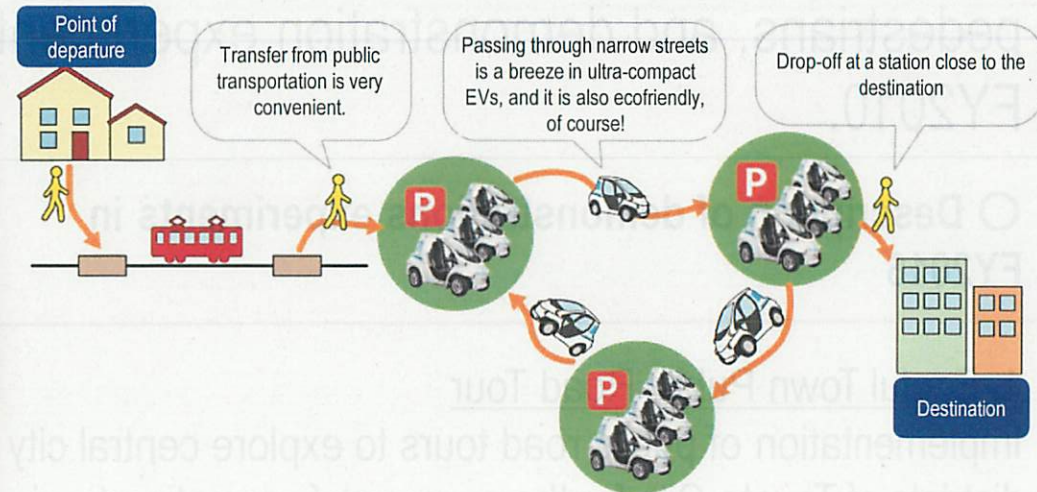
- Demonstration period
From January 2015 to March 2018 (scheduled)
- Service routes
Toyota-Shibuya route (loop line)
(Toyota City Station - Takahashi District)
- Day(s) of the week when bus service offered: Daily
- Number of buses in service: 8-9 buses/day
- Others:
Demonstration operations scheduled in other Oiden bus routes

Promotion of a Sharing System

Demonstration operation of a new urban transportation system known as Ha:mo started from October 2012 through collaboration between private firms (Toyota Motor Corporation and Yamaha Motor Co., Ltd.) and Toyota City as a “next-generation energy social system demonstration project”



Toyota Auto Body-produced “COMS”



Implementation of COMS and PAS Demonstration Experiments (FY2012 to FY2014)

- In FY2012, a sharing service targeting university students in the Chukyo University area was conducted between the station and the university.
- 10 COMS and 10 PAS vehicles, four locations in the station, and 100 members
- From October 2013, the sharing service has been conducted on an expanded scale in central city districts, etc.
- 100 COMS and 100 PAS vehicles, 25 locations in the station, and 1,632 members (end of March 2014)

Continuation of COMS Demonstration Experiments (FY2015 to FY2016)

- Verification of the possibilities of terminal equipment, complementary transportation, and tours/excursions
- 103 COMS vehicles, 51 locations in the station, and 3,653 members (end of May 2017)

Turning the Ha:mo RIDE Project into practical use (from FY2017 onward)

- Study of practical use and new usage by private companies
- 103 COMS vehicles, 51 stations, and 3,924 members (as of the end of May 2017)

Promotion of Personal Mobility

Studies have been conducted regarding utilization and promotion of personal mobility as a tool to increase excursions while coexisting with pedestrians, and demonstration experiments have been conducted from FY2010.

○ Description of demonstrations experiments in FY2016

1. Ecoful Town Public Road Tour

Implementation of public road tours to explore central city districts of Toyota City for the purpose of promoting tourism

2. Simulated sharing by relevant parties

Implementation of simulated sharing by city employees and parking lot managers for the purpose of commuting and business use

3. Response to various events

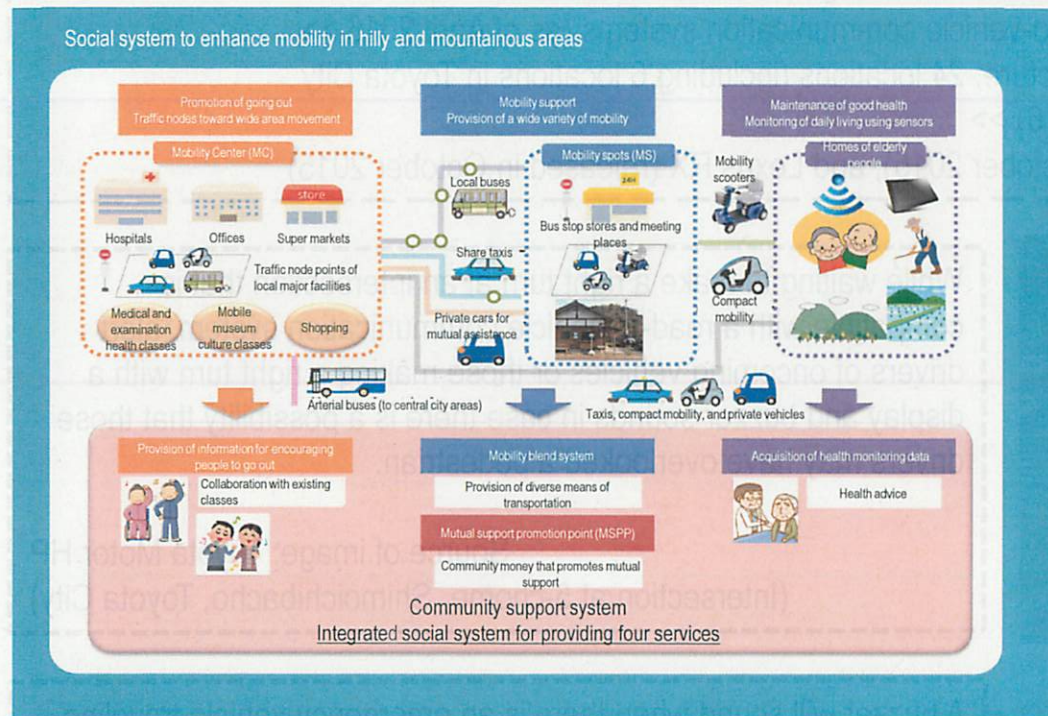
Implementation of test rides for hands-on experience and demonstration rides during events conducted by Toyota City



Public road tour to explore central city districts within Toyota City

Mobility Support Utilizing ITS

- In collaboration with Nagoya University, (1) implement measures to promote going out, (2) provide diverse mobility services, and (3) implement demonstration experiments for performing monitoring of daily living for maintaining good health by using ICT – as a social system to widen the area of movement of elderly people in hilly and mountainous areas (Asuke district, etc.)



- Name of project
Nagoya University COI project:
Asuke-Ai Project
- Implementation period
FY2013-FY2021
(Demonstration period: FY2016-FY2018)
- Implementing organization
 - Nagoya University
 - University of Tokyo
 - Toyota City, etc.

	Initiatives	Description
①	Mobility support through mutual assistance among local residents (Asuke-Ai car)	<ul style="list-style-type: none"> Mobility support for senior citizens by local residents using their own cars A system built in which the “user” pays for the actual gasoline costs for the distance traveled to the “driver” in the form of “Asuke-Ai points”
②	Taxi sharing system (Taksim)	<ul style="list-style-type: none"> A matching system built in which senior citizens can move from their homes to various destinations at low costs by sharing taxis (implemented from May 2017: welfare taxi tickets available)
③	Promotion of going out	<ul style="list-style-type: none"> Collaboration among health classes, dissemination of information on events, and Asuke-Ai cars Holding of “Tablet Classes” at Asuke Hospital salon (how to use Asuke-Ai cars, brain-exercise games, etc.)
④	Health watch service	<ul style="list-style-type: none"> Program implemented in which the living conditions of “senior citizens living alone” are detected by human motion sensors and conveyed to family members, as well as the local community centering on Asuke Hospital providing support and watching over them

Promotion of Driving Support Systems that Utilize Road-to-Vehicle and Vehicle-to-Vehicle Communication

A system that leads to support driving by notifying drivers about information that can be obtained wireless communication with other vehicles and through development of roadside infrastructures installed along roads at blind intersections, etc.

<< Number of intersections that are compatible with road-to-vehicle communication systems (as of April 2016) >>

Tokyo and Kanagawa Prefecture: 28 locations, Aichi Prefecture: 24 locations (including 6 locations in Toyota City)

<< Vehicles equipped with ITS connections (as of April 2016) >>

Prius (released in December 2015), Crown (released in October 2015), and Lexus RX (released in October 2015)



While waiting to make a right turn at an intersection that is compatible with a road-to-vehicle communication system, alert drivers of oncoming vehicles or those making a right turn with a display and buzzer sounds in case there is a possibility that those drivers may have overlooked a pedestrian.

Source of image: Toyota Motor HP
(Intersection at 5-chome, Shimoichibacho, Toyota City)



A buzzer will sound when there is an emergency vehicle traveling in the surrounding area during an emergency, and the approximate direction and distance from one's car and the direction toward which the emergency vehicle is traveling will be displayed.

<< Ambulances owned by Toyota City Firefighting Headquarters >>
Introduction of a total of 21 vehicles (introduced in FY2016)

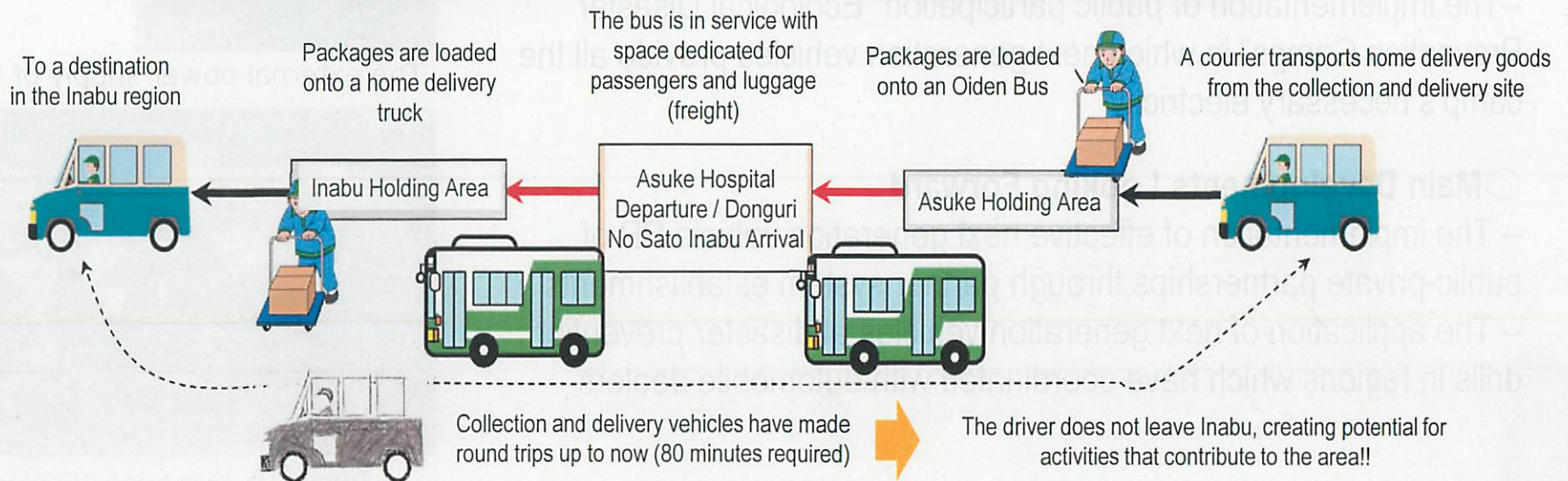
Source of image: Toyota Motor HP

Mixed Loading of Passengers and Home Delivery Goods Demonstration Initiative

Implementation of the nation's first express home delivery transportation system using a community bus (since August 9th, 2017)

Aim: The preservation of bus routes by securing revenue

*This is the first project of Chubu Transportation Bureau's "Transportation Assistance for All"



Application of Next Generation Vehicles as “Running Power Generators”

Toyota Sakura Project (since August 2015)

In addition to the level of environmental performance, by promoting excellent methods of application for vehicle storage batteries, we are carrying out activities aimed at the diffusion of next generation automobiles



○Main Activities Performed up to now

- The application of next generation vehicles as emergency power supplies at elementary and junior high school disaster prevention camps
- The implementation of support systems with regards to installation of external power supplies of next generation automobiles
- The implementation of public participation “Ecological Disaster Prevention Camps” in which next generation vehicles provide all the camp’s necessary electricity

○Main Developments Looking Forward

- The implementation of effective next generation vehicle PR of public-private partnerships through partner system establishments
- The application of next generation vehicles at disaster prevention drills in regions which have coordinated with automobile dealers



The external power supply of a PHV



A Public Participation “Ecological Disaster Prevention Camp”