

New Lifestyles Offered by Next Generation Mobility

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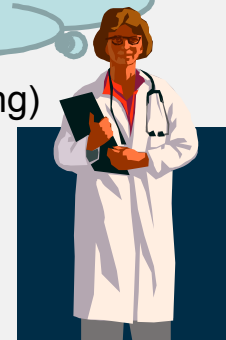
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For the society as a whole, serious issues are piling up....

- **Change in Social Structure (aging, population decline, lifestyle change)**
 - In 2050, number of people age 65 years or older will double (approximately 40%), age 15 years or younger will be half (approximately 8%), and total population decrease by 20% (95 million).
 - Car usage among young people is decreasing (but increasing among the elderly and housewives)
- **Public transportation becomes less profitable, leading to service retreat**
 - Decrease in passenger transportation demand (low birthrate and aging, lifestyle change, increase of private car use)
 - Profit structure breaks down for the public transportation business, leading to reduced service (local railways, buses and island ferry service)
- **Structural Change in Cities and Localities**
 - Tokyo overconcentration and sprawling; density decline
 - Difficulty of urban restructuring (difficulty of vision sharing, consensus building, and financing)
- **Fiscal tightness and decrease in working population**
 - Government and local bonds: Already exceeds 1,100 trillion yen (approximately 8,900,000 yen / person)
 - Working population may go below 50 million in the year 2050
- **Demands for reduction of environmental load and energy usage**
 - CO2 : 25% reduction by 2020, 80% reduction by 2050
 - Post-earthquake planning centered on renewable energy and development of a society with reduced energy consumption

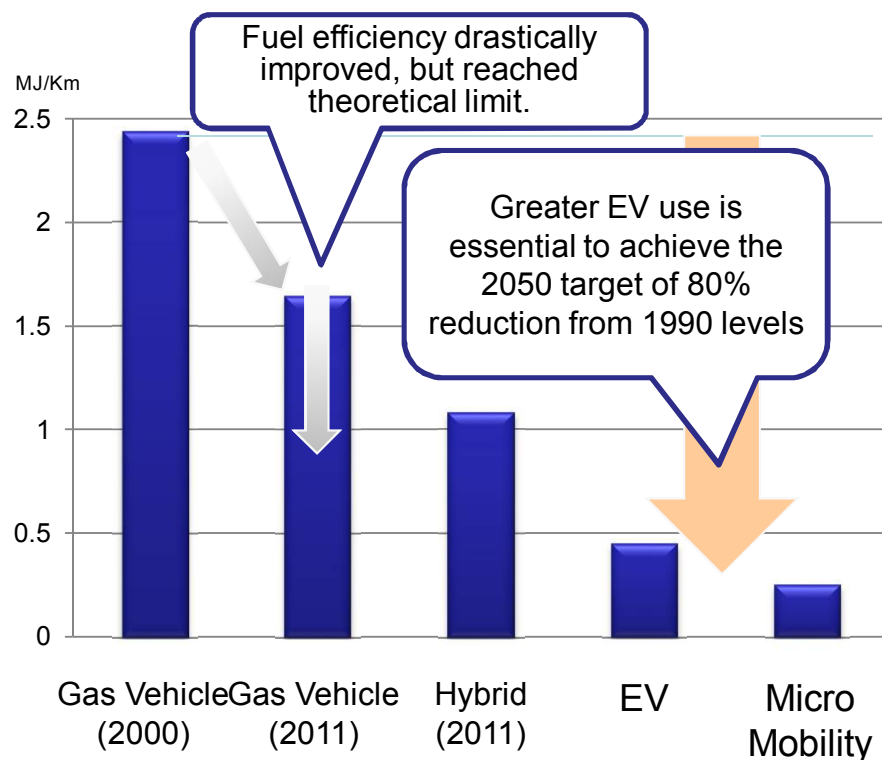
What can we do for the next generation...?



→ In case that these problems are left, the expansion of transportation gap and loss of means of transportation would be spread further. That is the basis of all economic and social activity. There is fear that it would disturb sustainability of city, ensuring and improving the quality of citizens life.

→ In the field of “manufacturing cars”, “developing city”, and “raising humanity(life style).”, we need new idea and future vision those are innovative and harmonizing each other.

- To achieve mid to long term energy conservation goals in the automotive sector, fuel efficiency improvement and spread of EV use are a must.
- To accelerate widespread EV use, there is need for success cases that highlight their value, as well as introduction of a new category of vehicles (micro mobility) that overcomes the weaknesses of EV and suits actual user needs.



Comparison of Energy Consumption

Weakness of EV

Limited driving range with current battery technology for ordinary size vehicle

Actual vehicle usage

Occupancy is 1~2
60% is within 10km use



Compact and lightweight 'New Category' vehicle for 1~2 occupants can achieve drastic improvement in fuel efficiency without compromising the freedom of movement or economic activity.

Carmakers' creative innovation and regulatory reform

Introduction of Micro Mobility

○Micro Mobility offers many social merits such as transportation support for elderly people and child-rearing families, as well as tourism promotion.

Tourism promotion

- ◎ Improves access to narrow alleys and facilitates roving, allowing visitors to stop by at more places.
- ◎ Increases the charm of the tourist destination by assisting the users to discover their natural surroundings (like the sound of a small river) and other tourism resources



Affinity with pedestrian

- ◎ Its compact size allows for sufficient distance from pedestrians, contributing to a safe walking environment. Advanced safety features are also anticipated.
- ◎ Enables better communication between pedestrians and drivers, changing how cars and people interact.

Micro mobility vehicles with various concepts will provide new means of daily transportation and small-scale goods distribution that are handy and easy to control



Mobility support for elderlies and child-rearing families

- ◎ Offers more opportunities to go out and improves communication for senior citizens and people of all ages
- ◎ Provides daily transportation support for child-rearing families (shopping, commuting, and driving children to school)



Improved efficiency in small-scale goods distribution

- ◎ Improves efficiency and service in small-scale goods distribution by streamlining shipping routes and methods
- ◎ Achieves efficient deliveries by allowing the use of narrow space in overcrowded downtown areas

Micro Mobility Introduction and Promotion

Micro Mobility is “new category” vehicle for the aging society. It improves energy efficiency in transportation and provides all generations, including senior citizens, with a new local handy means of transportation, enhancing the quality of life and mobility. To promote widespread use and establishment of related systems, MLIT offers intensive support to initiatives for micro mobility introduction integrated with local government-led community development efforts, which will lead to examples of successful introduction and widespread public acceptance.

Innovative proposal for the age of declining population and aging society ~significance of New Mobility~

① New mode of transportation that provides mobility support to **child-rearing families and elderly people**

→ **Promotes low-carbon and intensive city development**

② **Vitalizes and promotes tourism and the local economy.**

③ **Energy saving • lower CO2 emission**

④ **Creates new market and demands**

Micro Mobility:

Compact than normal car, one – two passenger, convenient local transportation
(Energy consumption is 1/6 of normal car and 1/2 of electric car)



Micro Mobility (concept)

* In collaboration with the “Pioneer Project for Urban Environment Development” by the City Bureau and the “Environmental Strategy Utilization Project” by the Housing Bureau

MLIT offers intensive support to initiatives for micro mobility introduction integrated with local government-led community development efforts.

Subsidizes 1/2 the cost of vehicle introduction, project planning and evaluation (1/3 for private sector)

※ Supports excellent plans chosen by open application system and evaluation by third party specialists

Acceleration of efforts

MLIT surveys micro mobility usage in Japan and abroad, identifies solutions to regional problems, and disseminates the information to those who are interested in micro mobility.

Tangible Effects

Offer opportunities for many people to see and drive the micro mobility vehicles, allowing them to **feel the new style of transport, and the joy of participating in ecological practices in daily life and in tourism.**

Promote widespread public acceptance through successful examples.



Related regulations such as type classification are to be established after social acceptance of micro mobility.

Create markets for micro mobility.

Introduction of Micro Mobility: Example 1

Setouchi Triennale 2013 (Kagawa Prefecture)

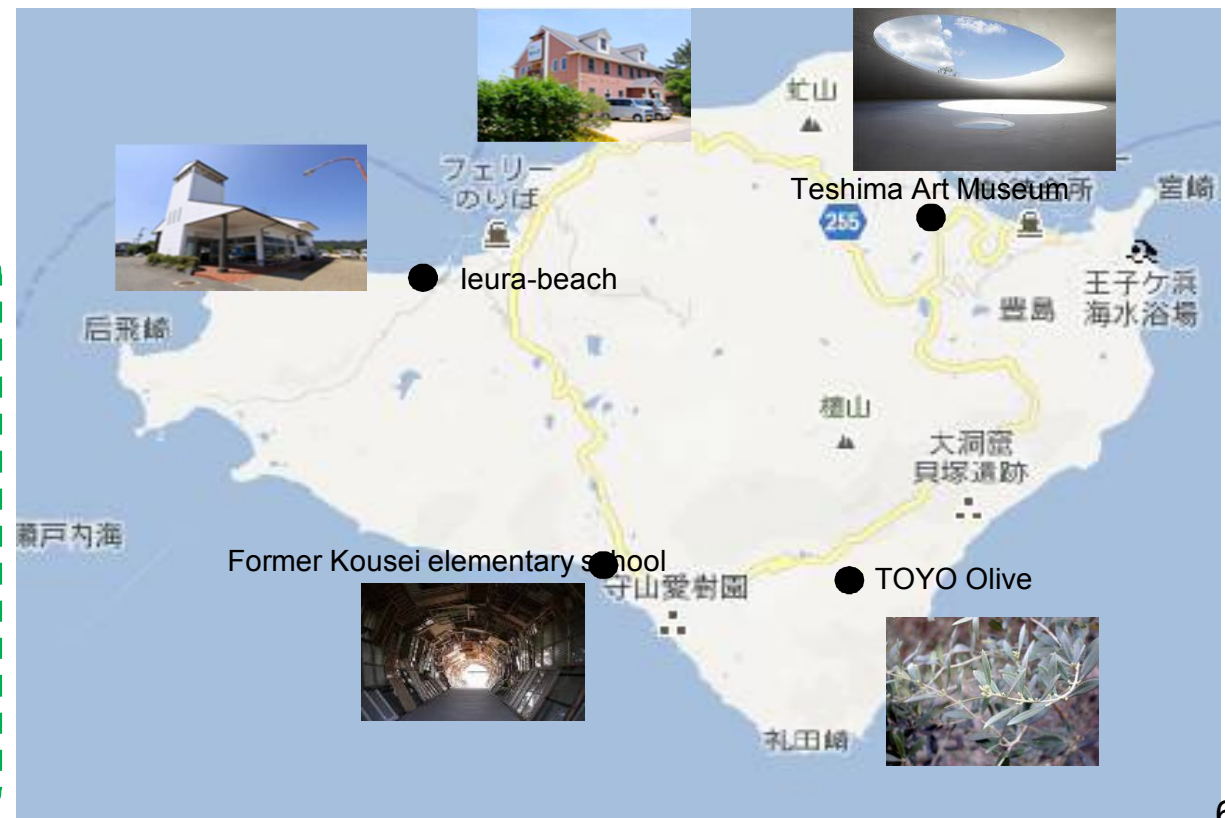
- In Setouchi Triennale 2013, tourists visiting Teshima Island were provided Micro Mobility for sightseeing of the island.
- Teshima Island does not have sufficient means of transportation on the island. Offering of the advanced technology is expected to attract many tourists who are interested in the technology itself.



Introducing type: NISSAN New Mobility Concept

- Basic Concept is "Contemporary art × Micro Mobility". Micro mobility was introduced in the summer and autumn terms of Setouchi Triennale 2013.
- Seeking energy self-sufficiency, Teshima Island plans charge the micro mobility by solar power generated on the island.

Overview of the Micro Mobility introduction area



Introduction of Micro Mobility: Example 2

Advanced Introduction of Micro Mobility at Koshiki Island, Satsuma Sendai City

- Micro mobility will be made available by local community councils, public facilities and rental car companies as means of transportation for elderly people, tourists and child-rearing families, allowing many people to experience micro mobility.
- Seamless public transportation network will be offered by EV rental cars and EV shuttle buses serving between Sendai station and Sendai port.

- Trial use and events can eliminate the peoples' fears about EV's limited travel distance and ability to climb slopes.
- The test results will feed studies on the next steps, such as further infrastructure development to facilitate micro mobility, as well as expansion of the program scope to mainland Japan.

Koshiki Island COMS Relay Marathon competes for the longest travel distance until battery runs out.



Area to be served by Micro Mobility

Micro mobility drive through the old samurai residential district



Driving down narrow alleys



To Attain Autonomous Spread of Micro Mobility

Survey & analyze the Micro Mobility Introduction Projects implemented in Japan on their effectiveness and problems faced; identify the most suitable uses and methods to resolve local issues; and develop universal introduction models suitable for micro mobility.

Case Study of Projects in Japan

One-way car sharing in central Tokyo (Yokohama City)



Supplement to urban public transportation (Toyoda City)



Collaboration with Smart Community (Saitama City)



To develop universal introductory models that can be applied abroad, there is need to conduct case studies on micro mobility usage in Europe, where introduction of micro mobility is already in progress, and to understand the differences in traffic environment, government support, etc.

Overseas Case Study

Study actual usage and government support measures in 5 European nations.

France



Spain



Italy



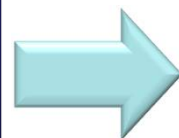
Germany



England



Develop a Universal Introductory Model for Micro Mobility



Establish vehicle categories, system and regulations once micro mobility use becomes widespread and socially accepted.

Raising Awareness; Offering Opportunities

◎ Maximize local leadership; Present vision

- Present new visions that highlight the advantages of micro mobility, rediscovery of local features and/or solutions to problems (principles & specifics).
- Re-examine regional traffic plans; develop of visions for regional vitalization and community regeneration.
- Provide information to local stakeholders (residents, NPOs, businesses); propose new lifestyles
- Collaborate with developers, shopping districts, transportation and tourism sectors

◎ Provide venue for many citizens to experience micro mobility first hand

- Advanced/trial introduction; raise awareness among residents
- Town meetings

Certification to Drive on Public Roads

◎ Establish systems for implementation & control

- Drivable areas and project plans
- Management/control systems
- Systems to implement safety measures

Proactive Introduction and Introduction Support

◎ Introduce micro mobility to regional transportation and public services

- “Comprehensive mobility service that is seamless and universal,” incorporating other modes of transportation (bicycle, bus, LRT, etc.)
- Proactive use of micro mobility for government vehicles, local patrol cars, etc.
- Car sharing service in tourism
- Doctor home visit service, and other public services

◎ Offer subsidies to localities adopting micro mobility

Creating Environment to Promote Micro Mobility Use and New Lifestyles

(New community development, achievement of ideals)

- ◎ Offer opportunities for people to go places; spark local activities; regenerate local industries; provide ways for people to rediscover the region, commercial facilities and tourism resources.
- ◎ Collaborate to develop living environment and space that promote harmony and mutual support among all generations.
- ◎ Create roads and parking areas that allow pedestrians, bicycles and micro mobility vehicles to coexist in harmony.

- MLIT will promote integrated efforts toward sustainable community development, such as propagating the use of micro mobility and other environment-friendly cars, achieving low carbon in urban centers, aggregating urban functions, and adopting measures for the aging society.
- MLIT will continue to promote infrastructure development for micro mobility as well as introduction of micro mobility integrated with zero-energy housing. Its goal is to create the next generation transportation system, improve the quality of life and transportation for the elderly and child-rearing families, and regenerate the regional economy.

Social Impacts of New Mobility

("Guideline for Introduction of Micro Mobility", June 2012)

*1 In collaboration with the "Pioneer Project for Urban Environment Development" by the City Bureau
*2 In collaboration with the "Environmental Stock Utilization Project" by the Housing Bureau

For short distance (< 5km) daily transportation

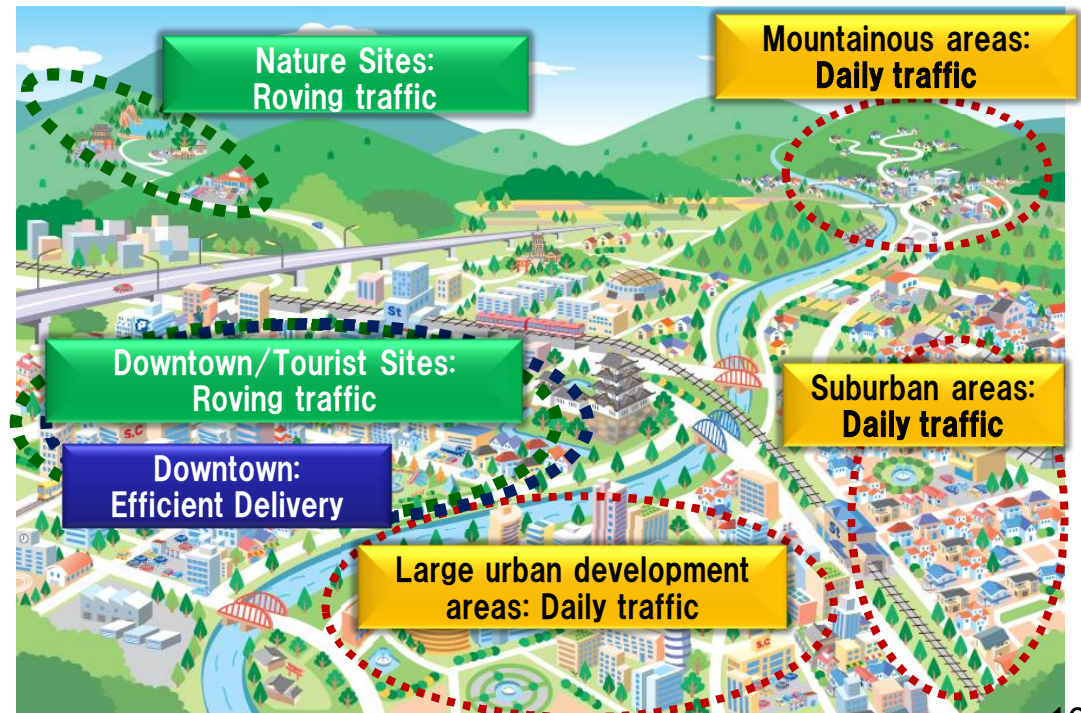
- Offers new mode of transportation and mobility support to child-rearing families and senior citizens for daily transportation needs such as shopping, community activities and commuting to work or school.
- Vitalizes the local community by energizing human movement and interaction
- Optimizes traffic systems and supports the creation of a compact community when integrated with public transportation.

As convenient mode of transportation around tourist spots and downtown shopping districts

- Allows users to stop by at more places and in a broader area, thereby improving the ability to rove and assisting the rediscovery of local attractions.
- Enhances the charm of the tourist attraction and attracts more visitors.
- Adds value to the region through enhanced harmony with nature and the city.

Small delivery or porter service

- Solves the issue of illegal parking by delivery trucks
- Improves efficiency of small scale/intraregional distribution of goods
- Achieves efficient small-scale shipping, leading to better service



THANK YOU