Toyama’s Response to Demographic Evolution: Developing a Transport-oriented, Compact, and Livable City

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1. Introduction

Overview of Toyama City
- Population: 417,322 (as of March 2010)
- Area: 1,242 km²
- From Toyama Bay (altitude = 0 m) to Mt. Suisho (altitude = 2,986 m)
2. Current Situation and Issues in Toyama City

- Decrease in Population and Aging of Society

- Urban Issues
  (1) Decreased population density in the urban area
  (2) High dependence on cars
  (3) Hollowing out of central urban area

(1) Decreased Population Density in the Urban Area

- Flat land form of Toyama Plain (the second largest urban area)¹
- High coverage of road network (the highest in Japan, as of 2008)²
- Strong preference for detached houses (the second highest housing ownership, as of 2008)³
- Higher household income (the fourth highest, as of 2009)⁴
- Lower prices in suburban areas (relatively higher prices of apartment house in urban area)

Notes: ¹ Among prefectural capitals except for metropolises (statistics of cities, MOC).
² Road Statistics, 2008.
³ Housing land statistics, MOC.
(2) High Dependence on Cars and Deterioration of Public Transport

High dependence on private car use has deteriorated public transport services, which in turn decreased the number of public transport users, particularly of urban buses.

- **Car Ownership**: 1.72 cars/household (Toyama prefecture, 2009), the second highest in Japan

- **Completion Rate of Roads**: 74.5% (Toyama prefecture, 2008), the highest in Japan

- **Modal Share**
  The highest modal share of passenger cars among core cities
  - % of passenger cars
    - All purpose: 72.2%
    - Commuting: 83.8%

- **Deteriorating Public Transport Services**
  < Decline in no. of passengers from 1990 to 2007
    - JR Railway: by 33% (in 2006, one line closed)
    - Private Railway: 43%
    - Tram: by 45%
    - Bus: by 66% (no. of bus lines decreased 30% in the same period)

(3) Hollowing out of Central Urban Area

< Change in No. of Pedestrians in Shopping Areas in the Central Urban Area >

- 1972
- 2009
3. Formulation of Urban Master Plan

(1) Basic Concept of Toyama’s Compact City Development

A multipolar compact city centered on public transport
• activating public transport system including railway
• accumulating urban functions such as residential, commercial, business, cultural, and so on

< Conceptual Map>
Walkable areas tied together by public transport with a service Level that meets or exceeds Certain standards

(2) Urban Planning Strategy

• Designate the 6 lines of railway and 24 lines of trunk bus routes as “Core Public Transport” in the MP

• Activate major and convenient railway and bus services

• Develop a compact city by promoting public-transport-oriented residential areas along the above-mentioned corridors by giving subsidies for housing, etc.

< Coverage>
• 500-meter radius from rail stations and 300-meter radius from bus stations
• Residential areas
(3) Compact City Development Strategy
(A) Based on inductive measures not regulations
- The aim is not to tighten regulations such as urban development control area (regulations should be tightened only for large-scale shopping centers, which are incompatible with central commercial area and the dispersed residential development in the suburbs).
- Regulation-based urban planning is only effective during the period of rapid development.
- With declining populations and urban areas, urban planning should be based on inductive measures, such as attracting resident into the urban center.

(B) People can choose to live between urban and suburban areas
- The aim is not to control suburban residential development if it is well developed (control dispersed residential development only).
- To develop a compact city, citizens are encouraged to live in the urban center by increasing attractive commercial areas and good residences, as well as improving the quality of life. (At present, urban living is less attractive than suburban living.)

(3) Compact City Development Strategy (cont’d)
(C) Revitalization of Public Transport toward Compact City
- The aim is to revitalize public transport, particularly railway and bus, and concentrate residences and major urban functions around stations and bus stops (within 500 m).
- The most distinctive feature of Toyama City is the focus on revitalizing the existing railway infrastructure to develop a public transport-oriented, compact city.

(D) City-wide Compact City Development with Regional Cores
- Compact city development covers not only central Toyama City, but the entire city area.
- The aim is to develop regional cores along public transport corridors (mainly railway) and to promote compact development citywide.
4. Inductive Schemes toward Compact City
(1) Revitalization of Public Transport

A. Formulation of LRT Network

B. Development of Toyama Light Rail

The first LRT project in Japan to be developed by the government and operated by the private sector, it successfully revitalized the existing JR Toyama-Port Line which experienced a decrease in passenger numbers.

Future LRT Network Plan
- Toyama Light Rail 7.6 km
- Tram 6.4 km
- Loop Line 0.9 km
- North-South Connection 0.3 km
- Kamidaki Line Connection 10.1 km
- Total 25.3 km

Profile of LRT
- Opening: 29 April 2006
- Length: 7.6 km (6.5 km for railway, 1.1 km for tram)
- No. of Stations: 13
- No. of Trains: 7 (2 cars/train)
- Travel Time: abt. 25 min

- Improved Services
  - Frequency: 30–60 mins → 15 min (10 min during rush hour)
  - Operating hours: 5 AM–9 PM → 5 AM–11 PM
  - No. of Stations: 9 stations → 13 stations
  - Railway Car: Normal trains → Low-floor trains
  - Fare → flat rate JPY200

- Barrier-free railway cars and stations
- Total design for railway cars
C. Loop Line of Inner-city Tram

Operations Plan
< started in 23 December 2009>
- Direction: One-way, counterclockwise
- One round trip: about 3.4 km and 20 min
- Operating frequency: 10 min
- Train: Low-floor, 3-car trains

(2) Revitalization of Urban Center
Integrated development of large commercial centers, multipurpose and all-weather plazas, and multistory car parks in the central commercial area

1. Redevelopment Project of Southern Sogawa Street (completed in September 2007)
2. Grand Plaza
3. Redevelopment Project of Nishi-cho Sogawa Area (completed in March 2005)
(3) Preferential Treatment for Target Residential Areas

(1) Area in the urban center
Urban center: 436 ha

(2) Areas along public transport stations
Railway stations (500-meter distance)
Bus stations (300-meter distance)

(3) Preferential Treatment

**Subsidy for Households**
- Subsidy to purchase houses:
  - in the urban center: JPY500,000 /house
  - w/in PT stations: JPY300,000 /house
- Subsidy to rent houses (move from outside)
  - in the urban center: JPY10,000 /mo. (for 3 years)
- Additional subsidy (move from outside)
  - w/in PT stations: JPY100,000 /house

**Subsidy for Developers**
- Subsidy to develop apartments
  - in the urban center: JPY1 million /house
  - w/in PT stations: JPY700,000 /house

**Actual Subsidy Provided**
- in the urban center: 411 houses
  - w/in PT stations: 334 houses

5. Summary

Since the 1960s, the urban development strategy of Toyama City focused on expanding the urban area appropriately and avoiding uncontrolled development in response to increasing population.

However, faced with an aging society, decrease in the birthrate, and declining population, Toyama City changed its urban development strategy to reshape itself into a compact city. It believes that it is necessary to design compact cities while populations are small and to design them to allow adjustments when populations swell. Once a city has expanded, it will take huge investments and a long time to reshape it into a compact city.
Thank you very much.