Toyama’s Compact City Strategy: Revitalizing Public Transportation

Mayor Masashi Mori

Outline of Toyama City

- Population: 422,000 people (40% of Toyama Prefecture)
- Area: 1,242 square km (30% of Toyama Prefecture)
- Topographical diversity: 34 km from sea level at Toyama Bay to 2,986m at Mt. Suisho; 70% forested land.
Steps to Creating a Compact City of the Future

Our goal, first announced in 2007, is to create a sustainable, compact future city which addresses the needs of our decreasing and aging society.

Three Pillars of Toyama’s Compact City Strategy

1. Revitalizing public transport

2. Encouraging residents and business to relocate to zones along public transport lines and building city cultural facilities along these lines.

3. Revitalizing the city center

Revitalizing Public Transport
Japan’s First LRT Network & PPP Tram Line

We are modifying the current life style of over-dependence on automobiles to create a town with every city amenity within walking distance.
Design and Construction of Toyama’s LRT

The local Japan Railways Port Line, which had declining numbers of passengers, was revitalized as Japan’s first complete LRT. This was achieved by adopting a two-tiered system in which the public sector constructs the track while the private sector operates the business.

- Former JR Port Line
- The New “Portram”
- Low floor cars/ barrier-free stations
- Light Rail Attendants

City Tram Loop Line Project – “Centram”

- The first two-tiered public–private system in Japan.
- Downtown travel became more convenient
- Tram line integration with existing road space created an attractive urban space.

- Opening: December 2009
- Extension Distance: 0.9 km
- Total Loop Line: 3.4 km
- Number of New Stations: 3
- Vehicle type: low-floor cars

Integrated design for vehicles, stations, roads

Number of passengers:
- Weekdays: 1,959 daily
- Weekends: 2,805 daily

North-South Tram Lines Connection

Loop Line Project
Connecting the Bullet Train with North & South Tram Lines

The new shinkansen “bullet train” station was elevated so tram lines can connect below the trains.

Shinkansen “bullet trains” enter the station at the top

Trams pass under the station and exit at ground level

North-South Tram Line Connection at JR Station

City Center Bicycle Sharing System

A New Transportation Option for Citizens Going Downtown without Automobiles

- Project Purpose:
  - Reduce CO2 emissions
  - Revitalize the city center and increase convenience

- Project Operator: Cyclocity Inc.
- No. of Bicycle Stations: 20 in city center
- No. of Bicycles: 220
City Center and Public Transportation Residence Zones

Residence Encouragement Zones

- City Center Zone
  - 436 hectares in the urban core of the city

- Public Transportation Line Zones
  - 3,383 hectares
  - Rail and tram line zones are within a 500 meter radius of rail and tram lines
  - Bus stop zones are within a 300 meter radius of bus stops

Concentrating City Functions Along Transportation Lines
An Environmental Smart Community Model

On the site of an unused school building near the public transportation line, we are planning to establish houses, a nursery, community center, police center, and library using a PPP to create an eco-friendly, safe and secure community.

Community Center/Library
- Promotion of the compact city concept
- Low carbon emission/Low energy consumption
- High quality of life through a PPP

House
- Eco-friendly
- Solar power
- Lithium-ion batteries
- Fuel cell co-generation system

Basic Concept
Glass Art Museum and Library by Kengo Kuma

Designed by Japan’s famed architect Kengo Kuma, Toyama’s multiplex Glass Art Museum, Municipal Library, and private Bank opened in August, 2015. The largest glass art museum in Japan, the Museum houses a monumental installation by the renowned American glass artist Dale Chihuly.
Dale Chihuly Glass Installation

“Toyama Millefiori” by Dale Chihuly - 2015  H 280 cm (110 in) W 940 cm (370 in) D 580 cm (228 in)

Establishing a Downtown Community Care Center System

Using the site of a closed elementary school, Toyama is establishing a model urban community care center for local senior citizens, which will provide medical care, offer house calls from physicians and coordinate senior’s medical and nursing care.
Shifting Population through Compact City Policies

**#1 Population shift back into the city center**

<table>
<thead>
<tr>
<th>Year</th>
<th>In city center (persons)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>117,560</td>
<td>28%</td>
</tr>
<tr>
<td>2007</td>
<td>135,187</td>
<td>32%</td>
</tr>
<tr>
<td>2008</td>
<td>147,182</td>
<td>34%</td>
</tr>
<tr>
<td>2009</td>
<td>145,187</td>
<td>33%</td>
</tr>
<tr>
<td>2010</td>
<td>142,187</td>
<td>32%</td>
</tr>
<tr>
<td>2011</td>
<td>140,187</td>
<td>31%</td>
</tr>
<tr>
<td>2012</td>
<td>138,187</td>
<td>30%</td>
</tr>
<tr>
<td>2013</td>
<td>135,187</td>
<td>29%</td>
</tr>
<tr>
<td>2014</td>
<td>135,187</td>
<td>28%</td>
</tr>
</tbody>
</table>

**#2 Population shift to transportation corridors**

<table>
<thead>
<tr>
<th>Year</th>
<th>In city center (persons)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>710</td>
<td>17%</td>
</tr>
<tr>
<td>2007</td>
<td>165</td>
<td>35%</td>
</tr>
<tr>
<td>2008</td>
<td>167</td>
<td>35%</td>
</tr>
<tr>
<td>2009</td>
<td>147</td>
<td>28%</td>
</tr>
<tr>
<td>2010</td>
<td>145</td>
<td>27%</td>
</tr>
<tr>
<td>2011</td>
<td>142</td>
<td>26%</td>
</tr>
<tr>
<td>2012</td>
<td>138</td>
<td>25%</td>
</tr>
<tr>
<td>2013</td>
<td>135</td>
<td>24%</td>
</tr>
<tr>
<td>2014</td>
<td>135</td>
<td>24%</td>
</tr>
</tbody>
</table>

**#3 Projected population shift totals**

- Green = Total city population
- Red = % of population in city center and along transportation corridors

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>421,239</td>
</tr>
<tr>
<td>2015</td>
<td>419,952</td>
</tr>
<tr>
<td>2025</td>
<td>389,510</td>
</tr>
</tbody>
</table>

- Total Population
- In city center

Increasing Land Values Through Compact City Policies

- Average land value in Toyama Prefecture has declined steadily since 1993.
- Residential land value in Toyama City increased 0.4% in 2014.
- Commercial land value in Toyama City increased 0.7% in 2014.
- Commercial land value increased from 3.3% up to 7.5% around Toyama Station and in the City Center.

**Causes of the Land Value Increase**

- Redevelopment in the Toyama Station Area
- Inauguration of the Hokuriku Shinkansen
- Revitalization by the Private Sector
- Establishing Residence Encouragement Zones
- Convenience of living in the City Center and affordable housing
Decroasin Birth to Death Ratio but a Population Shift Increase

1. The total population of Toyama City has been decreasing, like the rest of Japan.
2. The population shift back into Toyama helps offset the decreasing birth to death ratio.
3. This results in a lower rate of population decrease in Toyama City compared to Toyama Prefecture and to Japan as a whole.


<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Change</th>
<th>Rate of Change(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>126,163,576</td>
<td>- 271,058</td>
<td>- 0.21</td>
</tr>
<tr>
<td>Toyama Prefecture</td>
<td>1,072,631</td>
<td>- 6,061</td>
<td>- 0.56</td>
</tr>
<tr>
<td>Toyama City</td>
<td>414,723</td>
<td>- 684</td>
<td>- 0.16</td>
</tr>
</tbody>
</table>

Demographic Changes in Toyama City Residents January 1, 2014 to January 1, 2015

<table>
<thead>
<tr>
<th>Births</th>
<th>Deaths</th>
<th>Number of people moving in</th>
<th>Number of people moving out</th>
<th>Population Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,265</td>
<td>4,500</td>
<td>11,342</td>
<td>10,692</td>
<td>- 585</td>
</tr>
</tbody>
</table>

Birth/death decrease = 1,235

Population shift increase = 650

International Recognition

2012 OECD recognizes Toyama as one of five cities, (along with Melbourne, Vancouver, Paris and Portland) with advanced “Compact City” policies.

September 2014 Toyama is the only Japanese city selected for the UN initiative SE4All (Sustainable Energy for All).

December 2014 Toyama is the only Japanese city chosen for the Rockefeller 100 Resilient Cities initiative.