

# Bus-Centered Public Transit Reform in Gifu City, Japan

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In Gifu City, as automobile traffic increased, public transportation began to decline in the 1980s. The streetcar lines were removed, bus ridership decreased, and the downtown shopping district also declined. In response, Gifu City launched a bus-centered transit reform around 2000 to create a “walkable city.” The city strengthened its bus route network and introduced articulated buses on its main routes. As a result, the decline in bus ridership was halted. However, since the 2010s, a new challenge, namely a shortage of bus drivers, has become increasingly serious. To maintain the bus route network, Gifu City has begun a pilot operation utilizing self-driving buses. Meanwhile, in 2025, Gifu Prefecture announced plans to introduce a light rail transit (LRT) system in the city. This article traces Gifu City’s public transit reform as it seeks to adapt to social challenges.



An articulated bus at the bus rotary in front of JR Gifu Station.

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Fujihira K. Bus-Centered Public Transit Reform in Gifu City, Japan. September 2026. Institute of Environmentology. <https://www.kankyogaku.com/docs/gifu-transit-reform-english.pdf>

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## About Gifu City

Gifu City is located in the southwestern part of Gifu Prefecture in central Japan. As the capital of Gifu Prefecture, it serves as the prefecture's administrative and commercial hub. Meanwhile, Gifu is a satellite city of Nagoya due to its proximity to the megalopolis. Gifu City's population peaked at approximately 420,000 in the 1980s and has been in gradual decline. As of August 2026, the population is about 396,000.



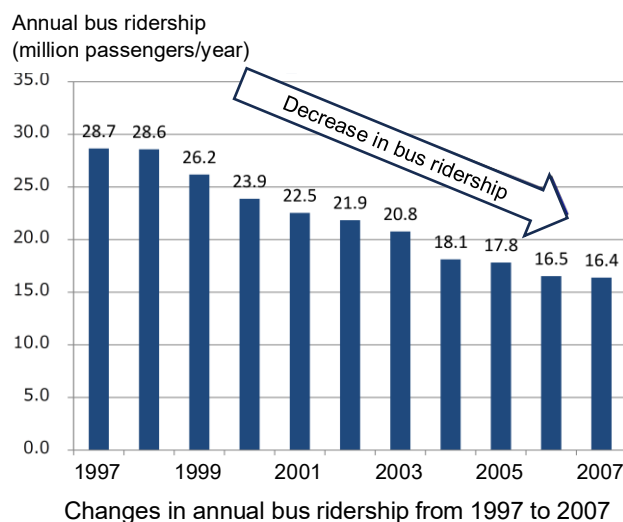
## Car dependency and decline of public transport

In Gifu City, public transportation declined from the late 20th century as the city became increasingly dependent on automobiles. The removal of privately operated streetcar lines began in the 1980s and was complete by 2005. The number of bus users decreased sharply, as shown in the graph below. Foot traffic also decreased, and the central shopping district, *Yanagase*, fell into decline.

Reliance on automobiles and the decline of public transport reduced opportunities for people to walk. Moreover, with an aging population as a backdrop, concerns arose about “increasing welfare and medical costs” and “the increase in the number of elderly with mobility difficulties.” In addition, an increase in CO<sub>2</sub> emissions resulting from car dependency was also recognized as a significant problem.



Privately operated streetcars in Gifu City were phased out by 2005.

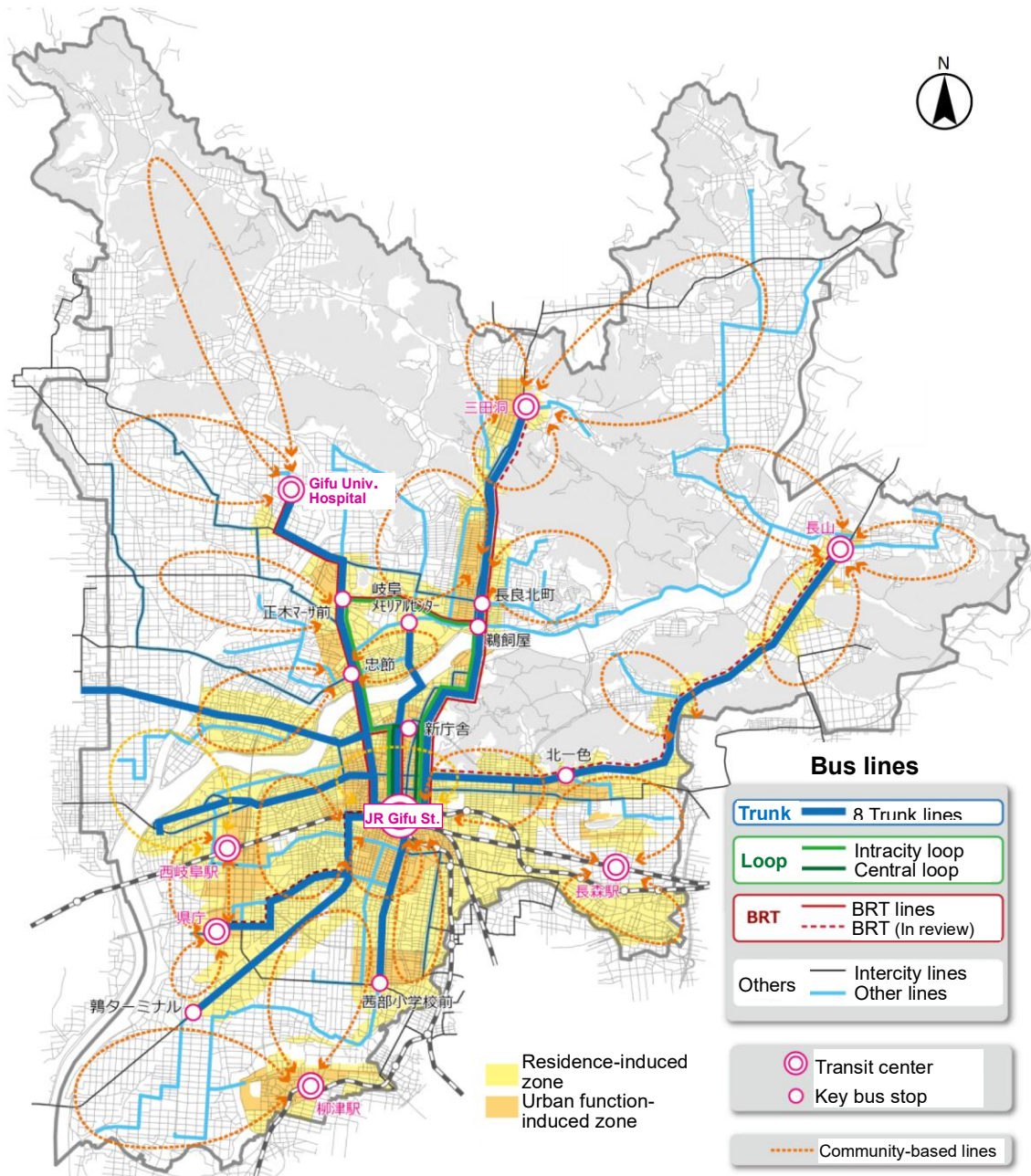


**Motorization decreased Gifu City's public traffic**

## Gifu City's bus-centered transit reform

At the beginning of this century, Gifu City initiated a public transportation reform aimed at creating a “walkable and healthy city.” In this transit reform, the city placed “buses” at the center. The main reasons for choosing buses are their lower infrastructure costs and higher flexibility.

The map of Gifu City's public transit network provides an overview of the reorganization of bus lines in response to the city's transit reform. The core of the network consists of main



### Gifu City's public transit network

[Note] To create a compact urban structure, Gifu City developed the Location Normalization Plan in 2017, which defines “residence-induced zones” and “urban function-induced zones.” These two types of zones are also shown in the figure.

[Source] Gifu City Comprehensive Transportation Plan (Gifu City, 2024)

lines centered on JR Gifu Station, including eight trunk lines and two loop lines. In areas not covered by the main line network, local community-based microbus routes were planned. Additionally, transit centers and key bus stops were envisaged to connect the main bus lines and community-based routes.

### **(1) Main bus lines**

The main network consists of trunk lines extending from JR Gifu Station in eight directions (bold, dark blue lines). Especially on heavily traveled trunk lines, articulated buses are also in operation. These lines have been designated as BRT (Bus Rapid Transit) lines and are colored red in the figure.

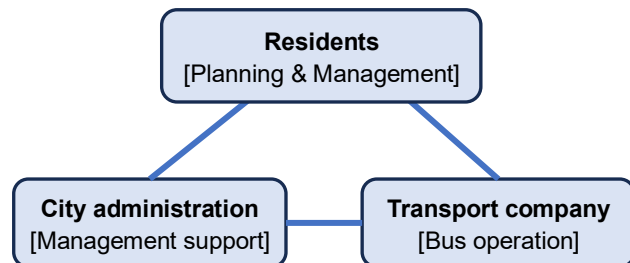
### **(2) Community-based bus operation**

To ensure daily mobility for older people and others in non-urbanized areas, Gifu City has established a community-based bus operation system. In each local district, a bus operation management committee has been formed by three parties: local residents, the city administration, and the transport company. On the committee, residents take the initiative to develop operational plans and set routes, schedules, and fares. Meanwhile, the city administration provides support to management, and the transport company operates buses.

As of April 2026, community-based buses operate in 21 districts of Gifu City.



Transit center at the Gifu University Hospital



Community-based bus operation management committee

Gifu City's public transportation reform has achieved some success. The decline in bus ridership has halted. However, it is difficult to say that the city has moved away from a car-centric transportation system.

## **Bus-driver shortage and self-driving buses**

In the 2010s, a pressing issue came to light for Gifu City, which was promoting a bus-centered transportation policy. The new challenge was a shortage of bus drivers. In Japan, against the backdrop of a declining birthrate and aging population, labor shortages are becoming increasingly severe across many occupations. Currently, public bus driving is among the least popular occupations, and the shortage of bus drivers is an urgent nationwide issue.

In 2019, as one solution to the shortage of bus drivers, Gifu City began preparations to introduce self-driving buses. In November 2023, aiming to realize a “city where self-driving buses are always running,” the city started a continuous five-year operation of self-driving buses in the central city area—the first of its kind in Japan. The continuous operation is provided on the “City Center Route,” which stops at JR Gifu Station and City Hall, and the “Gifu Park Route,” which stops at tourist spots such as Kawaramachi and Gifu Park.



A vehicle introduced in 2023



Vehicle charging



A vehicle introduced in 2026

### Self-driving buses used in Gifu City

The self-driving buses, designed by Mr. Eiji Mitooka, as were the articulated buses, are popular among citizens and tourists. When the author boarded the bus in June 2025, its automation level was “Level 2 (Partial Automation),” as classified by SAE International. In Level 2 driving, an operator rides along and manually controls the vehicle when necessary—such as to “avoid vehicles parked or stopped on the road,” “avoid oncoming traffic,” or “change lanes.”

In 2026, Gifu City introduced a new self-driving bus to transition from Level 2 to “Level 4 (High Automation).” The new vehicle uses artificial intelligence (AI) to predict and make decisions, enabling it to avoid obstacles and change lanes automatically.

## LRT implementation plan

In the fall of 2025, while Gifu City was advancing the bus-centered transportation policy, Gifu Prefecture unveiled a plan to introduce LRT (Light Rail Transit). LRT is an urban transportation system that uses low-floor vehicles operating on a simple track system. Compared to conventional railways, LRT allows for lower-cost infrastructure construction and offers greater flexibility in route planning.

The success of the Utsunomiya LRT was a key factor behind Gifu City’s plan to introduce an LRT system. The Utsunomiya LRT, which began operations in 2023, has already yielded multifaceted benefits, including improved transportation accessibility, revitalization of the local economy, reduced environmental impact, and enhanced quality of life for residents. The transit reform in Utsunomiya City (the capital of Tochigi Prefecture, with a population of about 510,000) is drawing attention as a model case for the regeneration of regional core cities.

According to the LRT implementation plan proposed by Gifu Prefecture, two routes are being considered: “a route connecting JR Gifu Station and Gifu-Hashima Station on the Tokaido Shinkansen” and “a route within Gifu City.” The latter route appears to overlap significantly with the current BRT lines, connecting JR Gifu Station with the city center, key facilities, and tourist attractions. Furthermore, from the perspectives of preserving the cityscape and reducing infrastructure costs, the introduction of battery-powered vehicles that do not require overhead wires is also being considered.



**Utsunomiya LRT** (Utsunomiya City, Japan)

The Utsunomiya LRT has brought about a variety of benefits, including revitalizing the local economy, alleviating traffic congestion, and reducing CO<sub>2</sub> emissions.



**Kaohsiung LRT** (Kaohsiung City, Taiwan)

The Kaohsiung LRT operates without overhead wires. Power is supplied to the trains during the brief stops at stations. The trains' capacitors are rapidly charged via pantographs from rigid overhead wires located above the stations.

Currently, Gifu City is advancing bus-centered transit reform, aiming to restore a “walkable city.” While the reform has yielded some results, the process has not been entirely smooth, partly due to the headwind of bus driver shortages. In response to this situation, Gifu Prefecture has announced a plan to introduce an LRT system. If the LRT is successfully implemented, it is expected to produce various positive effects, including improved transport convenience, revitalized local economy, and reduced CO<sub>2</sub> emissions. Infrastructure construction costs and building public consensus will likely pose challenges for the LRT implementation. However, it is hoped that these challenges can be overcome to build an advanced transportation system in which buses and LRT complement one another.

#### **Related publication:**

Fujihira K. Japan's New Tram System Revitalizes Utsunomiya City. March 2024. Institute of Environmentology. <https://www.kankyogaku.com/docs/ustunomiya-light-rail.pdf>