Future Academic City Zone as envisioned by the Hiroshima Univ. Smart City Co-Creation Consortium with students (Ryoya Tsukamura, Graduate School of Advanced Science and Engineering)

P5 : Hiroshima University Campus, Existing Urban Area P6 : New Urban Area

# Higashihiroshima City Next Generation Academic City Zone Urban Development

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Policy Promotion Supervisor, General Affairs Department, Higashihiroshima City 8-29 Saijo Sakae-machi, Higashihiroshima City, Hiroshima, JAPAN, 739-8601 TEL: +81-82-420-0917 FAX: +81-82-420-0402

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# The Past and Future of Urban Development in Higashihiroshima City

## The Development and History of Higashihiroshima City

Since its founding in 1974, Higashihiroshima City has grown as an academic city, drawing on its rich history, culture, and natural environment. Growth was fueled by two major projects: the Kamo Academic City and the Hiroshima Central Technopolis Developments, which laid the groundwork for its social and industrial infrastructure.

However, population growth began to slow around 2010, revealing challenges such as the need for improved urban amenities and industrial infrastructure.

To respond, the city launched the Town & Gown Initiative with local universities in 2020, followed by the 2022 Next-Generation Academic City Vision-a long-term strategy looking 50 to 100 years ahead.

### Future Urban Development under the *Town & Gown Initiative*

Higashihiroshima hosts global universities and multinational companies, including semiconductor firms, making

it ideal for innovation through academia-industry-government-community collaboration. With these resources and global links, the city seeks to become a Next-Generation Academic City that connects directly with domestic and international firms—bypassing large urban centers.

A major national-backed semiconductor investment in 2023 sparked momentum, with more expected, increasing the need to attract related industries.

The city aims to grow its population from 197,000 in 2020 to 220,000 by 2050. To achieve this and support industrial expansion, Higashihiroshima will enhance infrastructure for both daily life and business



(Ref.: Higashihiroshima Long-term Population Vision [Revised in

The Past and Future of Urban Development in Higashihiroshima City

○ About the Next Generation
 Academic City Zone Development

3 Future Vision of Next Generation Academic City Zone Development

↔ Future Vision of Next Generation
 Academic City Zone Development

5 Transportation Network for the Next Generation Academic City Zone Development

# What is the "Next-Generation Academic City Zone Development"?

## About the Next-Generation Academic City Zone Development

The Next-Generation Academic City Zone Development is a shared vision to realize the Higashihiroshima Next-Generation Academic City Initiative (see p.2), with a designated focus area called the Next-Generation Academic City Zone<sup>\*2</sup>. This initiative promotes sustainable, advanced, and diverse urban development by advancing carbon neutrality, innovation, and the formation of international communities.









This section outlines the vision and target population for the Next Generation Academic City Zone, along with the transport networks needed to support it.

## Target Year for the Future Vision

Higashihiroshima City celebrated its 50th anniversary in 2024 and set a future vision looking toward 2050.

## 3 Target Area The target area is designated in the latter half of the Higashihiroshima City Comprehensive Plan as the Next-Generation Academic City Zone\*2 \*2 Next-Generation Academic City Zone: A region centered on two key functional hubs: (1)Hiroshima University area, for innovation and talent development; and (2)Yoshikawa District, a cluster of advanced industries centered on semiconductors 1 Roads and railways Regional transportation arteries (roads) area and railways) Other major roads ② Roads and railways Urban Hub: A hub of advanced urban functions support for citywide urban activities Special Function Hub: A hub for concentrated specialized functions Regional Base: A hub offering essential daily urban life and fostering local interaction Next-Generation Academic City Zone

4 Structure Town & Gown Utilizing the resources of both the Private Hiroshima region and the university, and Univ company involving companies, this initiative Citizen aims to create new innovation and attract entrepreneurs from Japan and abroad in a collaborative Higashihirosima effort with the community city (Diagram of Industry-Government-Core Initiatives Academia-Private Sector Collaboration Ecosystem Environment Development Development **Creating Mechanism for Creating a living Creating advanced** Innovation industry cluster & environment of global ∼Creating new value including standards industrial infrastructure comfort and convenience  $\sim$ I∼Creating new businesses centered I ∼Formating an attractive and internationally diverse urban hub? Ion the semiconductor industry $\sim$ Development of industrial land | • Foster Glocal\*4 talent with both • A city that achieves carbon Formation of an Innovation Ecosystem<sup>\*3</sup> to implement new I neutrality to serve as a foundation for new technologies and achieve a Spacious residential areas that businesses virtuous cycle in the economy I make use of the rich natural Industry innovation through A city that efficiently operates environment strengthened collaboration • A high-tech city that seamlessly between local companies and using data Adoption of the latest Hiroshima University technologies • A city where students and foreign residents settle and thrive <sup>\*3</sup> Innovation Ecosystem: Attracting international schools A collaboration network of governments, academia, businesses, and finance institutions that continuously generates innovation.

Development in the Next-Generation Academic City Zone (Hiroshima Univ. Area & Yoshikawa District)

## A sustainable, growing city foster innovation & attracts global entrepreneurs & researchers

## Growth Steps in Community Development



Higashihiroshima City	Urban Development in	The Past and Future of
	Academic City Zone Development	About the Next Generation     ■
	Academic City Zone Development	က Future Vision of Next Generation

# Future Vision of Next Generation Academic City Zone Development



with

global

going

Direction of the Next-Generation Academic City Zone Development



## Hiroshima University Smart City Co-Creation Consortium

Established by Higashihiroshima City, Hiroshima University, and private companies as the driving body for promoting the Next-Generation Academic City Initiatives. Primarily focused on new urban development in the surrounding area of Hiroshima University

Human Resource

Development

- **Human Resource Development (Learning and** Practice) ∼Participating in global knowledge circulation across the region $\sim$ local and global perspectives • Nurture individuals who can address global issues and envision a sustainable future • Create a city offers highquality, diverse educational opportunities \*4 Glocal: A coined term combining "global" and "local," meaning global vision rooted in local context.

# Future Vision of Next-Generation Academic City Zone (Hiroshima Univ. & Yoshikawa Area)

The Vision for the Next-Generation Academic City Zone

# A sustainable, growing city foster innovation & attracts global entrepreneurs & researchers

Strengthening ties between Hiroshima University and Yoshikawa areas will foster a unified innovation environment as a *Next–Generation Academic City Zone* 

## Hiroshima University Surrounding Area

## Hiroshima University Campus

Hub for local interaction and demonstration

- Utilize idle university land to create new roles linking campus and community, positioning it as an innovation hub.
- University Smart City Consortium, aiming for citywide deployment.
- Strengthen university–community ties to secure research sites, offer student learning, and develop local talent.
- Create co-creation spaces for students, researchers, locals and industries to drive cross-disciplinary innovation.
- Enhance public transit access to support collaboration between the university and surrounding areas.

Existing Urban Area (Brownfield)

Diverse urban development through renovation

• By renovating existing infrastructure, transform the current "student town" into a "university town" that • Conduct pilot tests of smart technologies via the *Hiroshima* embraces diversity and attracts various types of people, creating new value that aligns with evolving needs.

- Industry, academia, government, and citizens will collaborate on *soft aspects* of urban development, such as
- reducing environmental impact, creating vibrancy, and promoting interactions. Facilitate interaction between students & international

students with businesses, and the local community, aiming to create a city for long-term settlement after graduation.

## New Urban Area (Greenfield)

A smart city that generates innovation

- Develop a futuristics smart city representing the next-generation academic city model.
- Create a high-quality, mixed-use urban space that attracts youn talent and researchers, including entrepreneurs, from around the world.
- Attract R&D centers and company offices to foster a dynamic cycle of knowledge and innovation.
- Introduce next-generation transport systems to promote a pedestrian-friendly, people-centered city withlow environment impact.
- Design a nature–rich urban setting that serves as a comfortable *third place*<sup>\*5</sup> for work, rest, and interaction.
- Provide attractive, comfortable housing to support the influx of semiconductor-related researchers and workers.
- \*5 Third Place: a comfortable place outside of home or workplace





## Yoshikawa Area

## Hub for Advanced Industries Centered on Semiconductors

- · Develop municipal industrial parks and infrastructure such as roads to promote the semiconductor industry.
- Implement strategic efforts to attract corporate cluster of the related industries to strengthen the semiconductor supply chain.
- · Strengthen collaboration between local businesses and Hiroshima University to create industrial innovation and develop highly skilled personnel for cutting-edge semiconductor research and development

## Urban development that Harmonizes Rural Landscapes with Residential Environments

With the expansion and clustering of semiconductor industries, an anticipated increase in a diverse workforce is expected. Urban development that preserves the current rural landscape while coexisting with a green and spacious residential environment will be pursued.







## Column

	First in the prefecture!
[]	Hiroshima University Surrounding Areas
g	Selected as 5th Decarbonization Leading
0	<i>Region</i> by Ministry of Environment (MOE)
cle	What is a <i>decarbonization leading region</i> ? The region as an early adopter of decarbonization initiatives aimed at achieving a zero-carbon city by 2050
	Initiatives
	<ul> <li>Aim to decarbonize the <i>Shitami area</i> by 2030 through the installation of solar power systems and storage batteries.</li> <li>Implement energy management combining solar power and storage batteries in existing apartment complexes, aiming to provide bulk electricity services. Also promote energy efficiency by upgrading air conditioning and water heating systems.</li> <li>Launch leasing services for solar panels and storage batteries for existing detached houses.</li> <li>Install solar panels in outdoor spaces such as the HigashiHiroshima Sports Park's parking lot to cover on–site electricity consumption, while supplying surplus power to existing urban area</li> </ul>
Hire	Saijo Sta.

The Past and Future of Urban Development in Higashihiroshima City

About the Next Generation Academic City Zone Development

Future Vision of Next Generation Academic City Zone Development

rransportation Network for the Next Generation Academic City Zone Development

## Policy for Building the "Next-Generation Academic City Zone"

## Policy for improving living conditions

In the integrated Next-Generation Academic City Zone, land will be effectively utilized through intensive development, use of underutilized land, and new residential development to accommodate part of the growing population.

In the Hiroshima Univ. surrounding area, efforts will focus on creating a globally attractive living environment via development of unused land, urban renewal, and smart city formation.

In the Yoshikawa area, the coexistence of rural landscapes and residential environments will be promoted.

Policy on Hub Allocation and Interconnected Networks

## Industrial cluster promotion policy

Incubation facilities and R&D centers will be developed in the surrounding area of Hiroshima University to attract researchers and companies, foster startups, industrial clusters and innovation.

In the Yoshikawa area, a new municipal industrial park will be established to strategically attract semiconductors and other advanced industries.

Support measures such as training of skilled personnel in collaboration with the university and investment incentives will also be implemented to promote industry clustering.

## Column

## Consideration for the introduction of autonomous platooning BRT

Automated platooning BRT is a next-generation transit system combining BRT's (Bus Rapid Transit) performance in speed, punctuality and transport capacity, with autonomous driving and platooning technologies. It offers high convenience by enhance connectivity with other modes of transport.

### Initiatives:

- Aim for Level 4 autonomous driving\*<sup>6</sup> authorization on the *boulevard*.
- Consider introducing eco-friendly transport to promote active lifestyles and social interaction
- Depending on societal changes and project progress, consider extending the line to the Yoshikawa area and Higashi-Hiroshima Shinkansen Station.

\*6 Level 4 autonomous driving: The system performs all driving operations within specific, pre-defined environments





By extending the current boulevard connection between Saijo Station and the University area to the Yoshikawa area, creating a network that promotes interaction and innovation across different

This network will provide smooth access from existing and new industrial areas in Yoshikawa to the expressway, supporting

This network will suppress through-traffic in urban areas and improve coordination between hubs with differing

an activities	Saijo Sta. area
	Higashihiroshima Sta. area, Jike Sta. area, Hiroshima Univ. area, Yoshikawa area
nteraction	Hachihonmatsu Sta. area, Nishitakaya Sta. area, Nakakurose area

The Past and Future of Urban Development in Higashihiroshima City About the Next Generation Academic City Zone Development 3 Future Vision of Next Generation Academic City Zone Development

Future Vision of Next Generation
 Academic City Zone Development

Transportation Network for the Next Generation Academic City Zone Development

# **Transportation Network for the Future Academic City Zone Development**



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Network for the Academic City

The Past and Future of Urban Development in Higashihiroshima City

About the Next Generation Academic City Zone Development

3

Future Vision of Next Generation Academic City Zone Development

Future Vision of Next Generation
 Academic City Zone Development