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Tsukuba Science City

— Tsukuba City, Ibaraki Prefecture, Japan
1968-

Challenge of Japan's largest science city towards smart mobility

Key Issue

Tsukuba Science City is Japan's largest science city, designed to ease the excessive concentration of population in the National Capital Region by the planned relocation of national research and educational institutions during the 1970s. With the aim of making Tsukuba a satellite city connected to the center of Tokyo, the Tsukuba Express, an urban railway that links Tsukuba directly to Tokyo, was opened in 2005. By 2010, the network of expressways extending from the center of Tokyo had also been improved, and Tsukuba has been developing as an integrated part of the National Capital Region. Meanwhile, the city now faces issues such as excessive dependence on cars and the generational shift and permanent settlement of residents, thus there is a need for urban reorganization making effective use of the city's assets.

Project Approach

Creation of Urban Axis through pedestrian decks

In Tsukuba Science City, stations, commercial facilities, universities and other areas are linked together by pedestrian decks, covering a total distance of approximately 48km. It contributes to the efficient use of public spaces, providing appeal and attraction to the city and creating a lively atmosphere. With the aim to provide R&D support functions such as incubation facilities in addition to university and research functions, to develop an environment suitable for accepting overseas researchers and international students, and to introduce medical and welfare services for the aging society, various measures have been taken for the city, centered around the pedestrian decks which are one of the city's assets.

Creation of Open Campus

One of the pedestrian decks, which serves as the urban axis, penetrates the university campus and serves as the main axis of the campus. The masterplan of the university was also "developed with the policy of not installing any gates or suchlike around the campus to ensure that the campus always remain open to the local residents. [...] Development of such open campus can also exert effects to the students by providing accessibility to the surrounding urban areas." (by Hiroshi Dohi, "Try to find the way of University town" Journal of Architecture and Building Science No. 1353, Feb. 1994).



The pedestrian deck that penetrates the campus and connects between the city and the university, serves as an urban axis and the symbol of the university city.



The urban structure of Science City Tsukuba consolidates city center functions and the compact residential zones in the center, with research and educational institutions positioned in the surrounding areas. Hub facilities are connected by a network of pedestrian decks.
Source: JIJI

The University of Tsukuba, private-sector companies and local governments are collaborating to drive the creation of next-generation mobility platform, which aims to solve social issues and stimulate the local economy.

Source: R&D Center for Frontiers of MIRAI in Policy and Technology, University of Tsukuba



To the Next Phase

In order to break away from excessive dependence on car transport, the city of Tsukuba is constructing next-generation mobility platform, called the "Tsukuba Model," which aims to create a "smart mobility society". The project involves demonstrative testing of technologies such as cashless payment by facial recognition when getting on and off a bus, and predicting the flow of people with the use of AI. Other initiatives under consideration include the use of smart phone apps to investigate actual conditions in movement and transportation, and the design of a support system to optimize bus operation by minimizing passenger waiting times. In addition to technological innovations for automobiles that will help to eliminate traffic accidents and alleviate congestion, the city also aims to create employment opportunities and new social services in areas such as medical and community care.

Data

Area: 28,400 ha [Science City zone 2,700 ha, surrounding development zone 25,700 ha]
Project implementing bodies: Urban Renaissance Agency, Ibaraki Prefectural Government and others
Project methods: land readjustment
Population covered by project: Science City: 100,000, surrounding development area: 250,000
Main facilities introduced: Research institutions such as the University of Tsukuba, the National Institute of Advanced Industrial Science and Technology (AIST), and the High Energy Accelerator Research Organization (KEK); and transportation infrastructure such as the Tsukuba Express (TX) line and the Metropolitan Inter-City Expressway Tsukuba-Chuo Interchange.

