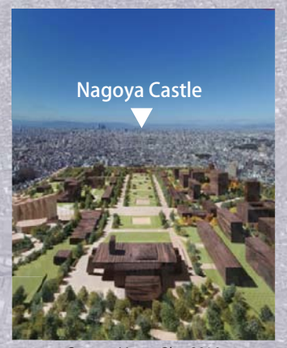
The framework plan defines a vision for the campus over the next 30 years. The central library on the Green Belt will be moved underground and connected directly to the subway, making the Higashiyama campus greener. The north and south buildings along the Green Belt will be converted to a space for general education. The goal is to offer a wide green space to university members as well as visitors to gather and to create a public space for the local community.

Motoji Shibusawa, the first president of Nagoya University, conceived a green campus. He must have stood on the hill at the eastern edge of Nagoya city in his day, and looked at the city center far in the west, promising to contribute to the society from this newly opened campus made possible with the devoted efforts of local people. In fact, Nagoya Castle is located far on the extension line of the Green Belt running from the current Toyoda Auditorium. Although no historical evidence exists, the predecessors might have planned the campus with the castle tower in their vision.



Campus Master Plan 2016
Higashiyama Campus over the next 30 years

Nagoya University Campus Master Plan 2016 Digest Edition

Planned and edited by:
Next Phase Campus Master Plan (2016-2021) Working Group,
Campus Planning & Environment Management Office, and Facilities Control Department

Publisher: National University Corporation Nagoya University

The full text of the Campus Master Plan 2016 can be downloaded from the URL below.
http://web-honbu.jimu.nagoya-u.ac.jp/fmd/06other/guideline/cmp.html

名古屋大学
NAGOYA UNIVERSITY

NAGOYA UNIVERSITY CAMPUS MASTER PLAN 2016

Nagoya University Campus Master Plan 2016
Digest Edition

01

Basic Objectives of the Campus Master Plan 2016

The Campus Master Plan (CMP) is the campus space planning initiative deliberated by the University based on its management philosophy. The CMP provides guidelines for continuous development and operation of university facilities and environments.

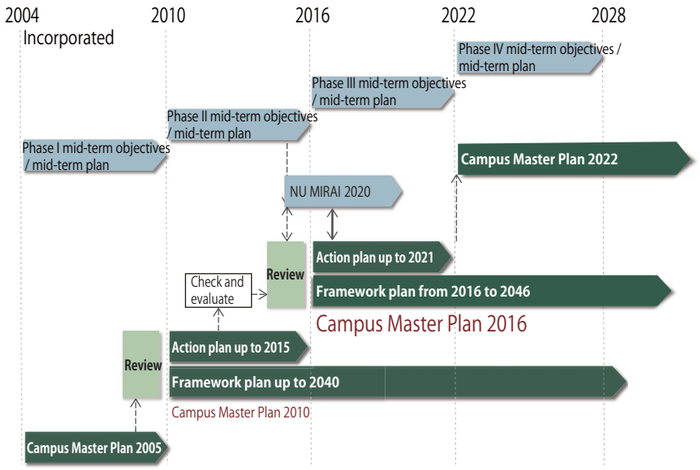
The CMP supports the academic plan implemented with the basic principles defined in the Nagoya University Academic Charter. The CMP has been updated four times up to the CMP2010.

The latest update, the CMP2016, provides a long-term framework plan that defines a vision over the next 30 years, as well as an action plan for the six years, in correspondence with the university's mid-term objectives / mid-term plan and the NU MIRAI 2020 (Nagoya University Matsuo Initiatives for Reform, Autonomy and Innovation 2020).

Campus Master Plan 2016—Higashiyama Campus in 30 years

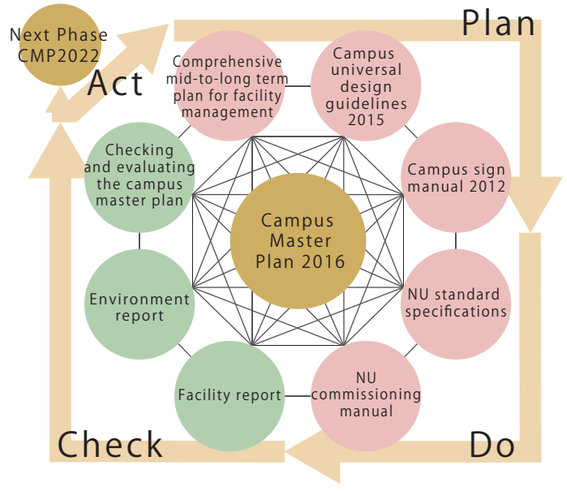
Where the CMP2016 Is

The CMP was updated four times, in 1997, 2001, 2005, and 2010. The latest update, the Campus Master Plan 2016, is made of a framework plan and an action plan redefined for this update.



Guidelines to Implement the CMP2016

In the CMP2016, various facility-related guidelines and check and evaluation systems are established to implement the plan. To implement the plan for sure, achievements from the CMP2016 will be used in the next phase of the CMP through plan-do-check-act (PDCA) feedback.



Campus Master Plan

10 Main Themes

Concept

Objective

Academic plan

Nagoya University Academic Charter
Nagoya University Matsuo Initiatives NU MIRAI 2020

Creating a world-class sustainable campus

Planning concept

- A campus that fosters a liberal and active academic culture
- A campus that supports a variety of global and local collaborations
- A low-carbon eco campus that is friendly to the environment

Operational concept

- Facility management for better university operation
- Design management to enhance the campus space quality
- Energy management to achieve a low-carbon eco campus

Action plan for facility development

- Redesign the public space to be a base for local community exchange and industry-academia collaboration.
- Transform to a next-generation urban model for a walkable campus.
- Redevelop the Research Park as a base for leading-edge research.
- Reorganize the Engineering Building 7 area and the Green Belt area to fit the university reorganization.
- Redevelop and increase the functionality of Tsurumai Campus and the University Hospital.

Action plan for campus management

- Create a zero net energy campus.
- Create a safe, beautiful and comfortable campus where history is made.
- Reserve space for strategic projects by space reallocation.
- Management for sustainable redevelopment, renovation, and operation of facilities.
- Streamline assets including residential accommodations through asset management.

02

Checking and Evaluating the Campus and Tasks of the CMP2016

To fit the academic plan and to reflect domestic and global situations, the Nagoya University Campus Master Plan clarifies the tasks through check and evaluation, and also flexibly incorporates new plans and objectives to accomplish the tasks.

In formulating the Campus Master Plan (CMP) 2016, based on the internal assessment by analyzing its achievements through check and evaluation as well as the external assessment of the CMP2010, the current states of the existing facilities and the problems with the campus were identified.

Facility development during the CMP2010 (year of completion in parentheses)


1. Affiliated School Community Hall (2014)


2. Central Library Renovation (2013)


3. Asian Legal Exchange Plaza (2015)


4. National Innovation Complex (NIC) (2014)


7. Institute of Transformative Bio-Molecules (ITbM) (2014)

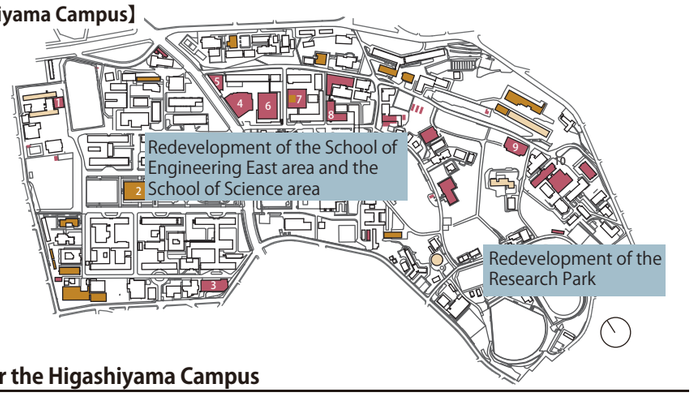

8. Science South Building (2011)


9. Pharmaceutical Sciences Building (2015)


10. Research Institutes Building (2013)

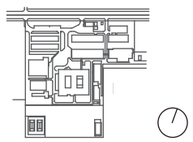
Tasks for Individual Campuses

【Higashiyama Campus】



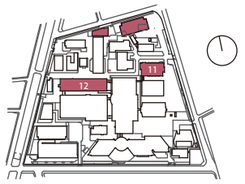
【Daiko Campus】

Project plan for mixed housing for domestic and foreign students



【Tsurumai Campus】

Development of Building 3 and the new medical center



Tasks for the Higashiyama Campus

- Measures against the aging of educational and research facilities and infrastructures
- Intensive redevelopment to reduce building congestion and create more public spaces
- Development and Improvement of library functionality
- Reserving space for future construction and management of temporary buildings
- Response to the issue of dispersed school personnel, and integration and rearrangement of lecture rooms
- Redevelopment of the Research Park and the Engineering Building 7 area
- Regulating vehicle entry into the campuses and developing car and bicycle parking spaces
- Enhancement of welfare functionality for campus vitalization

Tasks for the Daiko Campus

- Building mixed housing for domestic and foreign students for campus vitalization
- Maintenance operation for intensive rebuilding
- Creating a base for health sciences research and reserving space for new projects
- Provision of self-study rooms for students

Tasks for the Tsurumai Campus

- Measures against the aging of educational and research facilities and infrastructures
- Efforts to reduce building congestion and create more public spaces
- Development of welfare facilities, green environment, and car parking spaces
- Barrier-free design
- International exchange and industry-academia collaboration

Achievements of the CMP2010

External assessment of campus management

- Received the Prize of Architectural Institute of Japan (AIJ) 2015 (Specific Contributions Division)
- Received the Platinum Certificate in the Assessment System for Sustainable Campus by CAS-Net Japan
- Renovated Toyoda Auditorium designated as a Registered Tangible Cultural Property
- Rated A-grade in the system reform project by MEXT for 4 consecutive years

Creating a low-carbon eco campus

- Our three main campuses received the Eco Business Certification from Nagoya City
- Ranked first in the Eco University Ranking in Japan

Preparation of facility related guidelines, etc.

- Campus Sign Manual 2012
- Universal Design / Guidelines 2015
- Regional planning for Higashiyama Campus and Tsurumai Campus


5. Disaster Mitigation Research Building (GENSAIKAN) (2013)


6. Engineering and Science Building (2010)


11. Medical Science Research Building 3 (2014)


12. Advanced Medical Center (to be completed in 2017)

Check and Evaluation and Future Tasks

Checking and evaluating the CMP2010

- Slow achievements made by the framework plan
- High achievements made by the action plan

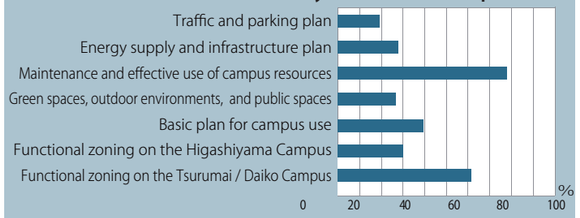
Problems with the framework plan

- Poor outlook for the vision in 30 years

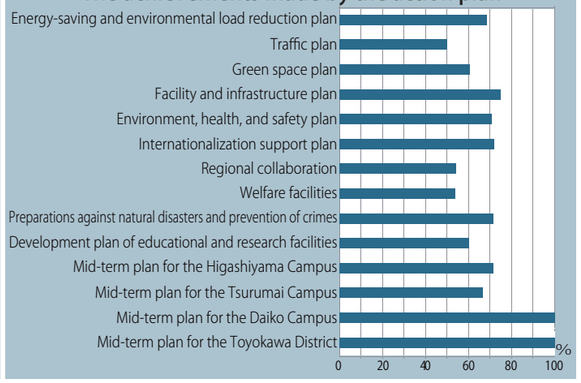
Problems with the action plan

- Low achievements in the traffic plan, regionalcollaborations, and welfare facilities
- Intensified building congestion and poor streetscapes
- Strategies for financial pressures with increased facility operating costs

The achievements made by the framework plan



The achievements made by the action plan



Checking and evaluating the CMP2010

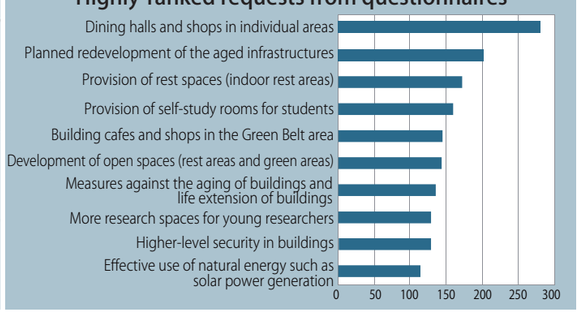
Management Issues

- Increased facility operational costs and reduced financial support for operational costs
- Lack of finances for redevelopment and renovation of the increasingly aging facilities
- Insufficient space for industry-academia collaboration projects
- Increased needs for foreign students housing, and aging of the facilities

Ideal campus for university members (from questionnaires)

- Development of dining halls and shops
- Maintenance and redevelopment of the aged infrastructures and buildings
- Development of indoor and outdoor public spaces
- More spaces for students and young researchers
- Easy to walk and convenient campus traffic

Highly-ranked requests from questionnaires



03

Framework Plan
—long-term vision over 30 years—

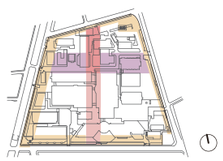
The framework plan to be achieved over 30 years is shown below. The plan reveals the ideal campus to be sustained in the future with planned zoning, traffic, green spaces, and infrastructures, showing items to be sustainable as well as the basic policies for the individual campuses.

Zoning for Exchange

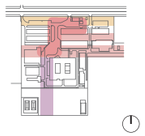
To achieve an open campus that fosters intellectual development and exchange, exchange zones will be defined, and their overlapping areas will serve as the exchange center. The Higashiyama Campus particularly focuses on the Green Belt, which will serve as the symbolic zone of the University.

【Higashiyama Campus】

【Tsurumai Campus】



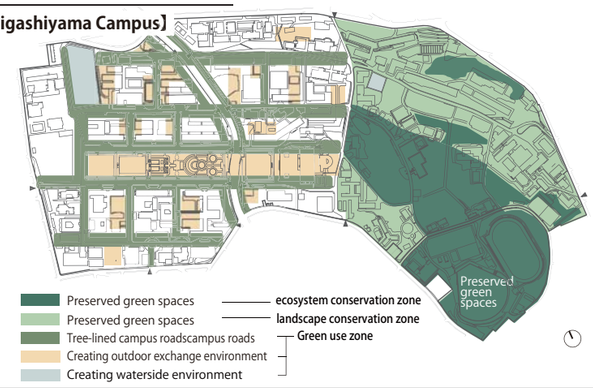
【Daiko Campus】



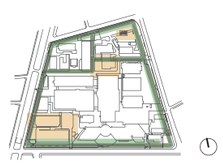
Green Space and Outdoor Environment Plan

To create a wide green network in the east part of Nagoya city, the campus will offer more green spaces for preserving the greenery and the ecosystem in the city. The campus will also offer an outdoor environment that promotes collaborative activities among students, faculty, and the surrounding local community.

【Higashiyama Campus】



【Tsurumai Campus】

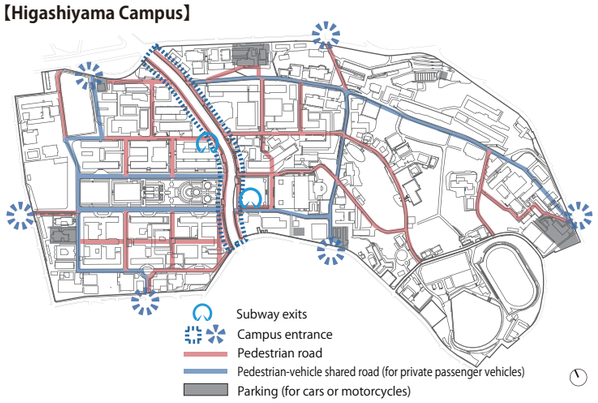


【Daiko Campus】

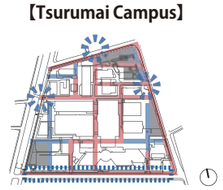
Traffic and Parking Plan

Parking lots will be placed at the periphery of the campus to create a safe, quiet, and beautiful campus environment that is friendly to pedestrians. New and leading technologies, including shared bicycles and electrical buses, will be used for more efficient transportation on the campus.

【Higashiyama Campus】



【Tsurumai Campus】



【Daiko Campus】

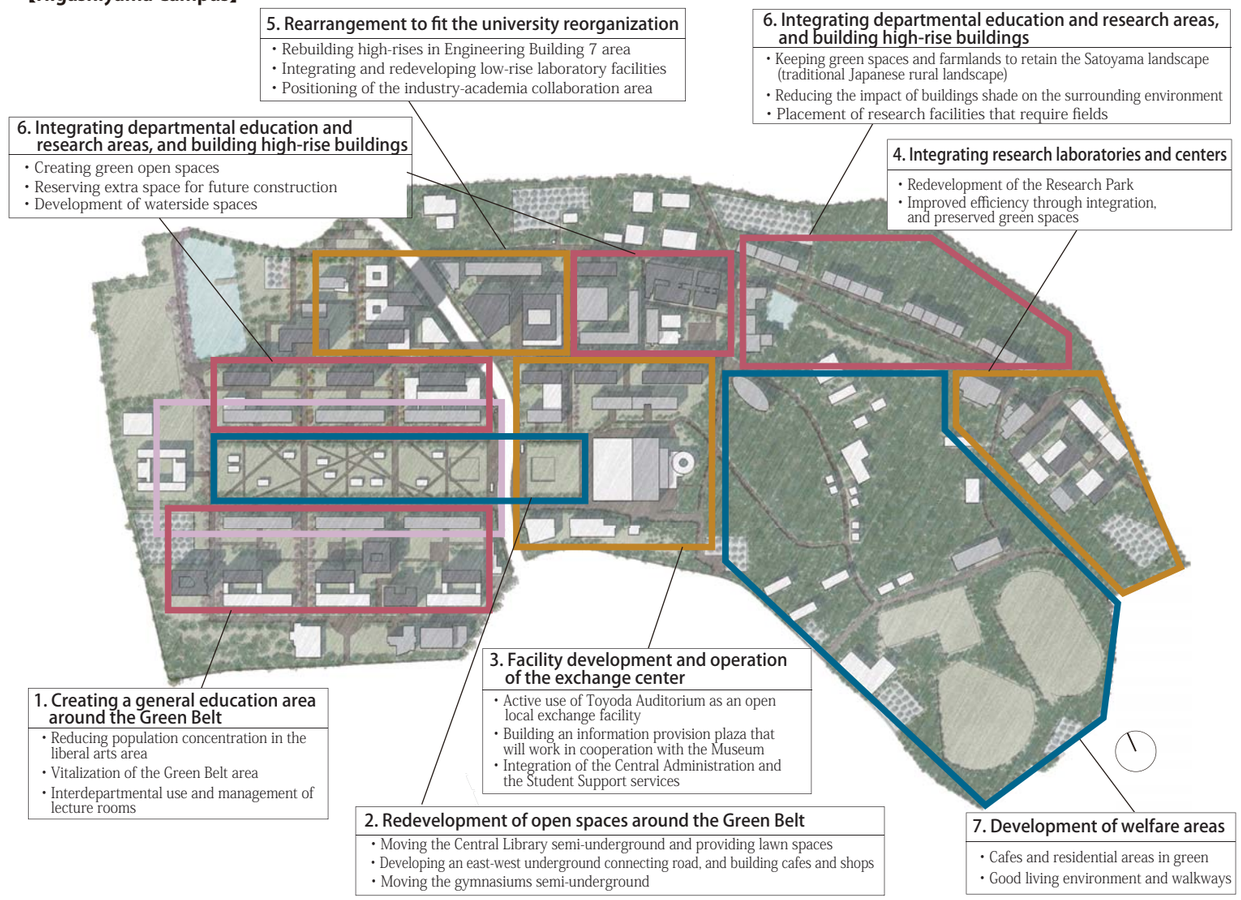
Energy Supply and Infrastructure Plan

With its core efforts to be a low-carbon campus, the whole university is devoted to creating a world-class, sustainable campus including effective use of resources. For that, the university takes various approaches, in terms of hard/soft and on-site/off-site, such as collaborations with the local community or technology transfer to foreign countries.

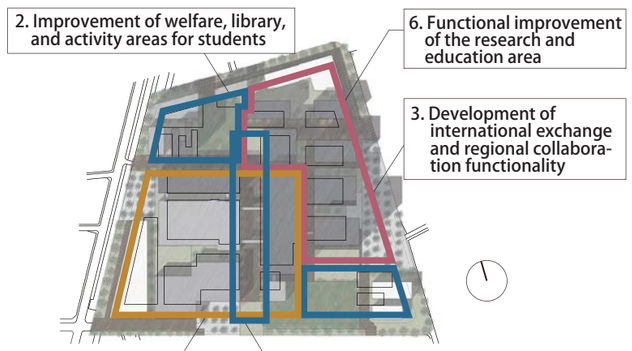
To create a zero net energy campus, or Zero Energy Campus (ZEC), the university also conducts step-by-step development for energy supply and infrastructures that are reliable, safe, and robust.

Framework Plan for Individual Campuses

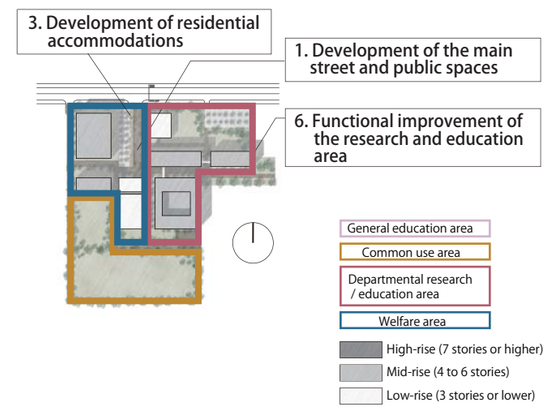
【Higashiyama Campus】



【Tsurumai Campus】



【Daiko Campus】



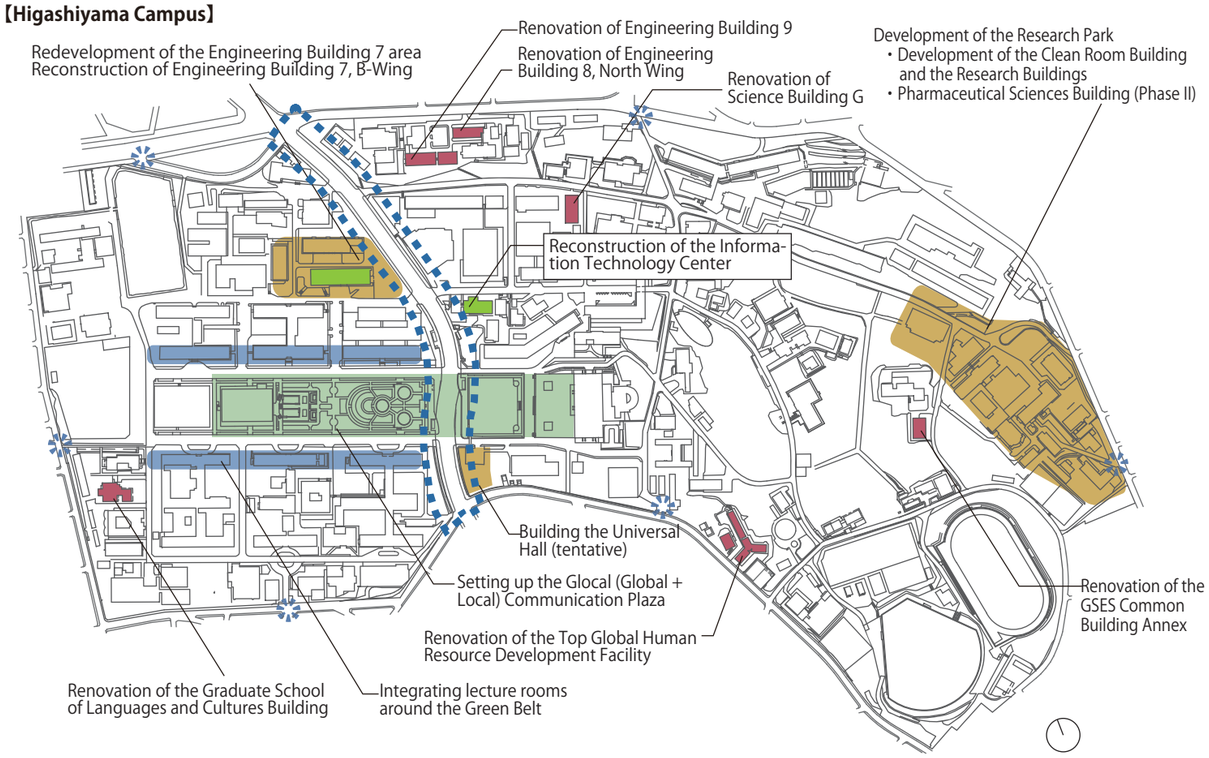
04

Action plan
—6-year mid-term plan—

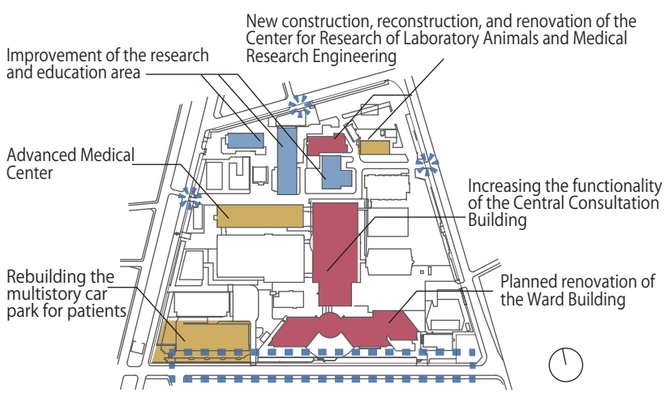
The action plan to be achieved within 6 years by 2021 in the period for phase III mid-term objectives / mid-term plan is shown below.The action plan involves reviews of items including regional collaboration, public spaces, traffic, green spaces, a low-carbon campus, facilities and infrastructures, environment, health, and safety, disaster prevention, crime prevention, internationalization, industry-academia collaboration, welfare, and universal design. Each item has projects planned in three categories: (1) development that will require new investments, (2) development that will be financed by the university budget, and (3) support for its operation.

Action Plan for Individual Campuses

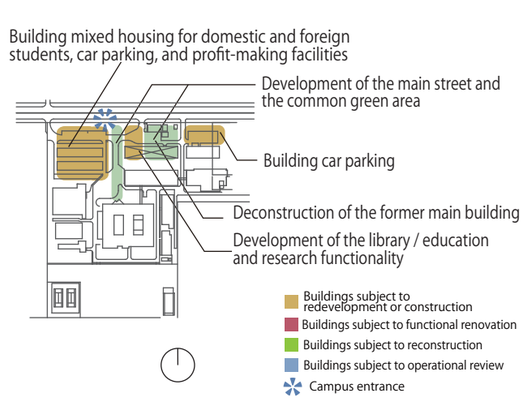
【Higashiyama Campus】



【Tsurumai Campus】



【Daiko Campus】



Creating a Campus that Fosters a Liberal and Active Academic Culture

Regional Collaboration

Creating a co-creative space for interactive communication between the society and the university

1. Development of a public space along the Green Belt to Yotsuya-Yamatedori
2. Integrated use of the Toyoda Auditorium, the Green Belt, and the Central Library together

Public Spaces

Redeveloping public spaces along the exchange center and the exchange zones to create an exchange base for students, faculty and staff members, and visitors, allowing local community exchange and industry-academia collaboration

1.Expansion of total space by connecting neighboring public spaces
2. Development of public spaces around welfare facilities and public facilities
3. Total designing of outdoor environments including materials, lighting, and planting

Traffic Plan

Transforming to a next-generation urban model for a walkable campus with a pedestrian space around the Green Belt

1. Separation of traffic and pedestrians, and a network of walking paths
2. Car parking placed at the periphery of the campus and integrated bicycle parking
3. Interdepartmental sharing of university cars and sharing of bicycles
4. Trial operation of new technologies including an automatic driving bus

Green Space and Ecosystem Conservation Plan

EEnvironment-oriented landscapes planning for an ecosystem conservation zone, a landscape conservation zone, and a green use zone. Achievement of greening targets. Clean-up activities by students and local community volunteers.

Low-carbon Eco Campus That Is Friendly to the Environment

Low-carbon Plan

Creating a zero net energy campus

1. Use of low-carbon buildings
2. Active use of natural energy and new energy systems and consideration to Business Continuity Planning (BCP)
3. Use of external funds for facility improvement

Facility and Infrastructure Plan

Improving reliability and durability for the stable supply of lifelines

1. Stable financing for basic expenses　2. Updates based on the comprehensive mid-to-long term plan for facility management

Environment, Health, and Safety

Creating a safe, beautiful, and comfortable campus where history is made

1. Update of the pH monitoring system　2. Creating the standard specifications for experimental drainage facilities

Disaster Prevention

Ensuring of the safety of students, and faculty and staff members, continuation and early recovery of leading-edge research and higher education, and contributions to the local community in preparation for massive natural disasters

1. Seismic reinforcement for nonstructural bodies such as ceilings　2. Use of Business Continuity Planning (BCP)
3. Disaster drills and regional collaboration

Crime Prevention and Security

Planning and implementation of security guidelines for information protection and crime prevention in buildings

1. Provision of a hazard map for the campus　2. Provision of security guidelines

A campus that facilitates intellectual-exchange

Internationalization

Developing a system for receiving foreign students (building mixed housing for domestic and foreign students) and overseas sites (Asian Satellite Campuses)

1. Support for multicultural harmonization　2. Provision of spaces for active exchange　3. Provision of banquet spaces

Industry-Academia collaboration

Building large research institutes funded by companies, securing a steady income from collaborative research courses with companies, and benefiting from profits made by university-based ventures

Welfare Facilities (Dining Halls and Spaces for Students)

Creating a cooperative system with appropriate specialists including counselors and expanding the space for a variety of university members

1. Comprehensive support center　2. Provision of spaces for students　3. Preparation of Halal options
4. Allowing private commercial activity

Universal Design and Gender Equality

Creating an environment in which university members and visitors can work without stress regardless of their nationalities or whether or not they are disabled, and continue their careers while keeping a good work-life balance

1. Introducing universal design lecture rooms
2. Building nurseries on campus, multipurpose rooms, and universal toilet facilities

05

Implementation of the Action Plan through Campus Management

To implement projects defined in the Campus Master Plan 2106, the plan must be financed through proper campus management.

Campus management includes facility management (FM), design management (DM), and energy management (EM), each of which aims to meet the required quality, spaces, and costs, and has its achievements evaluated. The Nagoya University CMP2016 has a unique system to steadily implement the projects within the limited financing budget based on the comprehensive mid-to-long term management plan under the CMP2016.

● Facility management (FM) that contributes to university management

Creating a campus that is financially, socially, and environmentally sustainable

○ Sustainable redevelopment, renovation, and operation of facilities through lifecycle management

- Reducing the facility areas and the building areas to keep the campus on a sustainable scale
- Reducing and stabilizing the lifecycle costs by reviewing the redevelopment and renovation periods
- Extension of life by reviewing the mid-to-long term management plan
- Appropriate renovation and repairs based on the database storing the actual conditions of facilities

○ Provision of spaces and financing of strategic projects through space management

- Expansion of spaces for competitive projects and industry-academia collaboration projects
- Planned provision of study rooms for students and public spaces to facilitate exchange
- Review of the space allocation standards and reallocation of spaces for each department
- Financing for mid-to-long term management expenses by charging for spaces

○ Streamlining assets including residential accommodations through asset management

- Creating an integrated management system for housing facilities such as accommodations for staff members and foreign students, and student dormitories
- Reviewing the total demand through understanding of the needs of users
- Creating a business scheme with various finances to fit the conditions of each site and institute
- Creating and implementing an annual plan with set priorities

● Design management (DM) to enhance the quality of the campus space

Creating a safe, beautiful, and comfortable campus where history is made

- Clarifying the design process, system, and designer selection standards
- Institutionalization of the Nagoya University-style commissioning to meet the required facility performance
- Creating harmonized landscapes and public spaces under the design guidelines
- Operation of the sign manual and the universal design guidelines

● Energy management (EM) for achieving a low-carbon eco campus

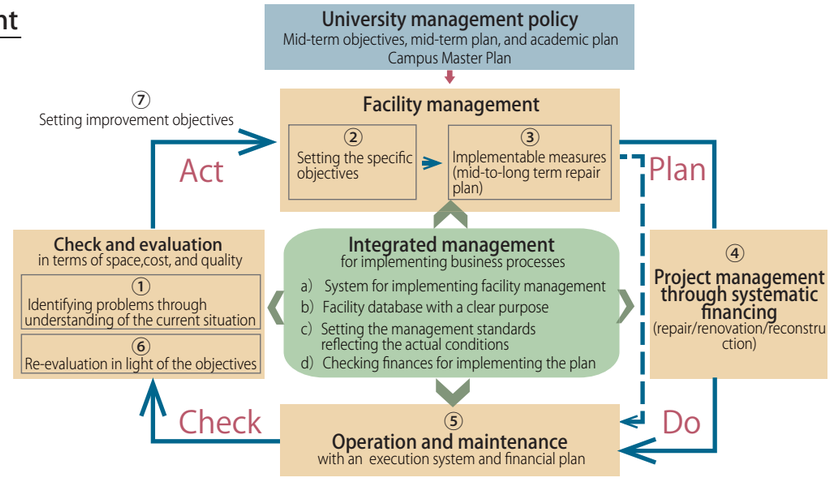
Creating a zero net energy campus

- Financial measures to cut the CO2 emissions by 25% from 2005
- Acquiring an LEED-ND certificate for the entire campus and at least CASBEE-A for individual buildings
- External energy supply to the Information Technology Center

PDCA Cycle for Management

Management including FM, DM, and EM uses a PDCA cycle to review and manage items to be improved.

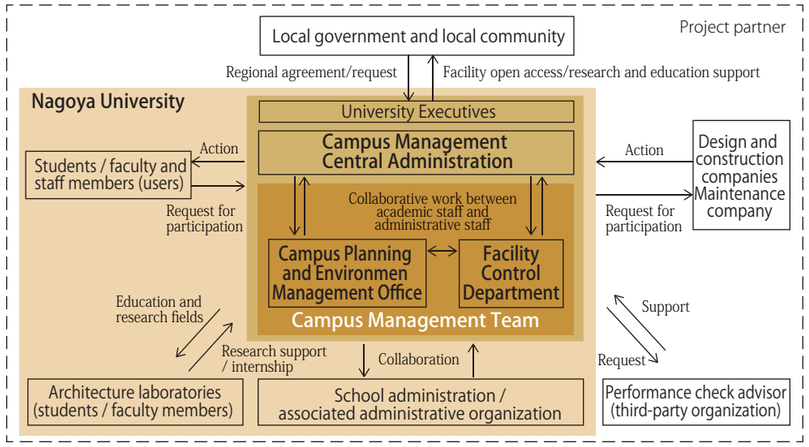
At the same time, the Key Performance Indicators (KPI) are set as numerical targets specifically to solve problems.



Campus Management System

The Campus Management Central Administration will systematically facilitate development of the buildings and the outdoor environment.

The Campus Management Central Administration consists of members from the University Executives, the Campus Planning & Environment Management Office, and the Facility Control Department.

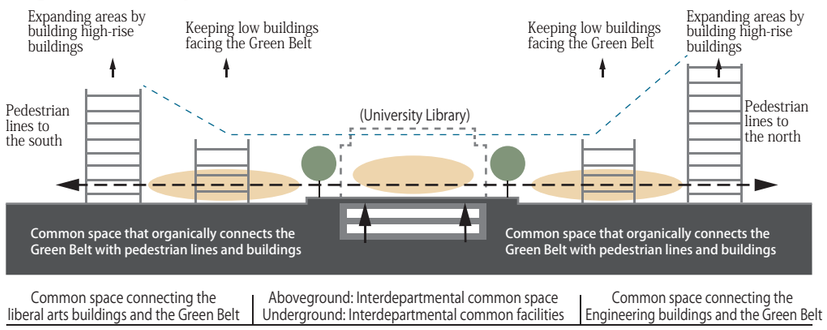


Design Code and Future Concept of the Green Belt

The Green Belt that runs from the Toyoda Auditorium will be redeveloped to serve as the exchange center on the Higashiyama Campus.

The Green Belt will keep the open space by removing facilities that can block the view. The central library will be moved underground and connected directly to the subway, making the Higashiyama campus greener. The north and south buildings along the Green Belt will be converted to a space for general education. The goal is to offer a wide green space to both university members as well as visitors to gather and create a public space for the local community.

【Higashiyama Campus: South-north cross-section】



【Higashiyama Campus: East-west cross-section】