Guide to the Creation of a Strategic Campus Master Plan
- Aiming for the Creation of Attractive Campuses with Unique Characteristics –

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Introduction

As well as being the face of a university and the base for education and research activities, a university campus is a forum for learning for students, and a place that holds fond memories of their alma mater for its alumni. Moreover, it is important for a campus to be attractive to those who are thinking of studying there in the future.

Most of the best universities in the countries of the West cannot be compared exactly, because of system-related differences in each country and the various situations surrounding the universities, but they have attractive campuses with abundant distinctive characteristics. Furthermore, in recent years, qualitative improvements in campuses have been pursued at universities in Asian countries as well.

In contrast, some of the campuses of the national university corporations (in this document, this term also includes the Inter-University Research Institute Corporations and the Institute of National Colleges of Technology) of Japan have not been well-coordinated as campuses. Moreover, problems relating to safety arising from the progressive dilapidation of the facilities and problems of functionality have become apparent.

A campus master plan, which is a basic plan for the campus environment as a whole, is important in order to pursue the development and utilization of campuses that form a base for education and research, through the orderly development of a well-coordinated campus. The master plan has a close relationship to the academic plan and the management strategy.

This guide, which has been compiled with the cooperation of a number of academics, summarizes their knowledge of campus master plans, as well as providing some advanced examples. We hope that this guide will be of assistance in the smooth, accurate creation of plans, both when creating new campus master plans and when undertaking revisions of existing campus plans.
I Basic Guide
1. The Necessity of a Campus Master Plan

(1) The Role of Campuses at National University Corporations

- The campuses at national university corporations are hubs for cultivating outstanding, world-class personnel and promoting creative, cutting-edge academic research. Moreover, they are places where a practical contribution to the community is made, through such endeavors as lifelong learning and cooperation between industry and academia.
- National university corporations are required to make full use of their campuses, as those campuses are assets entrusted to them by the populace, and must strive to improve the quality of their education and research, linking the outcomes of their education and research to the creation of economic value, as well as social and public value.

(2) The Development of Campuses at National University Corporations

- As a result of the entry into force of the National University Corporation Act in April 2004, each national university was granted the status of a corporation, in order to operate autonomously and independently, and carry out management based on the same concepts as are used in the private sector.
- With regard to the financial resources for the development of facilities at national university corporations, while the basic funding comes from the subsidy for expenditure on facilities provided by the government, there is a diverse range of sources of funding, including donations from the private sector*1, long-term loans from private sector financial institutions*2, and subsidies from other ministries and agencies.
- By making national universities into corporations, it has become possible for national university corporations to implement strategic development of their campuses at their own initiative.
- Consequently, it is important for national university corporations to take responsibility for thinking autonomously about the future vision for their campuses, in the same way as they think about their academic plan.

(3) The Necessity of the Planned Development of Campuses

- At national university corporations, there is a mountain of diverse issues to be tackled, including the qualitative enhancement of the education and research environment based on the academic plan and management strategy, as well as ensuring the safety of aging facilities, reducing the burden on the environment, and reinforcing cooperation with the local community.
- At the same time, it would appear that there are cases for concern, such as the phenomenon of

*1 With regard to donations to national universities by local governments, in December 2007, greater flexibility began to be allowed in the operation of the Act on Special Measures for the Promotion of Local Financial Reconstruction, which enabled the provision of grants to facilities for human resource development; furthermore, in March 2008, as a result of the amendment of the government ordinance concerning this act, it became possible to transfer free of charge buildings and land for the purpose of providing medical care to local citizens, or to conduct research and development that will contribute to regional industrial development.

*2 In December 2005, as a result of the partial amendment of the Order for Enforcement of the National University Corporation Act, it became possible to develop facilities using long-term loans from private sector financial institutions, focusing on facilities such as student dormitories, from which national university corporations and Inter-University Research Institute Corporations can expect to earn rent.
the crowding of buildings through haphazard development, without considering the effective use of a site, and poorly coordinated campus environments that have not taken the viewpoints of users into consideration.

- In order to form good campus environments while dealing appropriately with these issues, it is important to move away from the conventional “long-term plans for facilities” that focus on the development of new facilities, in favor of creating campus master plans*3 that seek to develop and utilize the whole campus as a basis for education and research activities, and undertaking planned development from a long-term perspective.

(4) Strategic Campus Master Plans

- As well as steadily implementing appropriate management of existing facilities, to ensure that education and research activities are not disrupted, seeking to upgrade and diversify the functions of facilities according to the education and research activities of the university is an important task in university management.

- It is important to translate into reality the shape that the campus should aim to take, based on the concept envisaged for the future of education and research, as well as the university’s strategies, such as promoting specialization according to function*4, upgrading and globalizing education and research, and encouraging joint use between departments within the university, and also between universities. A master plan for the campus should then be created with reference to this.

- In order to translate the future vision for the campus into reality, it is vital to undertake phased development after clarifying the priority tasks in campus development.

- In upgrading and diversifying campuses, it is important to protect “areas that must not be changed,” in order to pass on the area’s history and traditions to the next generation, and to achieve a balance with the advance of “areas that will be changed” strategically, while allocating resources through selection and concentration from a management perspective.

- With regard to campus development, it is crucial to consider key investment as a management strategy for the university alongside the reduction of the medium- to long-term burden, and to think about asset formation and the financial burden from a management perspective.

- It is important to inspect and evaluate the environment of the current stock of facilities, and to seek to improve its quality, rather than simply building new sections. In doing so, it is vital to refer to the academic plan, the management strategy and the results of facility management, and to consider this in conjunction with the optimal scale of the facility stock. In addition, when thinking about extending buildings or building new facilities, consideration for the economic burden that would be required in the future, after developing those facilities, is important.

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*3 Campus master plans are basic plans for campus environments that are created with the following objectives: i) establishing a long-term vision for the overall image of the campus; ii) seeking to improve the quality of campus environments; iii) setting forth the ideal shape of campuses and signaling the necessity of change; and iv) establishing the theory of the deployment of facilities and design decisions.

(5) The Roles and Effects of Campus Master Plans

1) The roles of a campus master plan
   • The roles of a campus master plan are as follows:
     i) To support the implementation of the university’s strategic vision and academic plan
        through aspects relating to its physical environment and facilities.
     ii) To ensure that all stakeholders, both within the university and outside it, have a
         common awareness of the future vision for the campus.
     iii) To contribute to the promotion of joint research and funded research by clearly
         defining the location of industrial-academic collaboration.
     iv) To ensure that the necessity and urgency of investment in campus development can be
         presented to stakeholders in an easily understood manner.
     v) To facilitate the formulation and implementation of medium- to long-term renovation
        plans that are consistent with the plan for facility development.

2) The effects of creating a campus master plan
   • The effects of creating a campus master plan are as follows:
     i) Planned development that supports education and research activities, such as the
        upgrading and diversification of existing facilities
        Building consensus within the university concerning the future direction of efforts to
        develop and enhance the external environment, as well as upgrading and diversifying
        existing facilities, and implementing planned development, based on an accurate
        understanding of the current status of existing facilities.
     ii) Forming a harmonious campus landscape
        Facilitating the formation for a harmonious campus landscape by setting forth the
        basic approach to building lines and design.
     iii) Enhancing the campus environment from the perspective of users, such as students
        Contributing to the formation of attractive campuses by clarifying the direction that
        should be taken in the development and utilization of existing campuses, such as
        incorporating the perspective of students.
     iv) Utilizing campuses that promote the university’s strategy
        Rethinking the land use around the campus, according to the university’s strategy, and
        reconfiguring sites in order to form new education and research hubs.
     v) Making issues concerning campus development visible
        Bringing to the surface issues that should be resolved, through the process of creating
        the campus master plan, as well as building a cooperative structure within the
        university and contributing to smooth consensus-building concerning campus
        development.
Plan Creation

By creating intersecting lines of flow in the central courtyard, which has been reconstructed with the Old Sample Archive at its heart, its function as a hub for students' campus life is enhanced.

After Development

Reborn as a square thanks to the new flow plan
Example of a regenerated courtyard
(Kyushu Institute of Technology)

Bird’s-eye view of the North Campus (2009)

The existing usage of land on the campus was rethought, and plans were formulated for zones such as the “In-house Research Village Zone,” which involved constructing buildings relating to research, such as internal joint research facilities and buildings that can respond to the restructuring of existing research departments, as well as research departments and faculties based on new concepts.

Campus zoning plan that responds to the development of education and research (Hokkaido University)
Before Development (barricades and abandoned bicycles)

Plan Creation

After Development (rebirth through development of the outdoor environment as an open space that provides a location for interaction)
Example of a regenerated open space (Tohoku University)

Before Development

The exterior of the building was renovated to ensure its harmony and conformity with the rest of the campus, based on the concept “The basic brick work is the tradition of the past, the weatherboards of the exterior walls maintain the present, and the flat roof tiles represent flight into the future.”

Plan Creation (creation of an overview of the design guidelines)

After Development (exterior renovated when regenerating and developing dilapidated areas)

Bird’s-eye view of the campus
Formation of a harmonious landscape (Iwate University)
2. The Creation of a Campus Master Plan

(1) The Flow of Creating a Campus Master Plan
   • It is important to create and publish a campus master plan (basic policy, development and utilization policy, and plans for individual sectors) based on an understanding of the current status of the campus, as well as the academic plan and management strategy, as is shown in general terms in the diagram on the right.

(2) The Relationship to the Academic Plan and the Management Strategy

1) The relationship to the academic plan
   • As part of the strategy for implementing the academic plan, such as promoting specialization according to function, and upgrading and globalizing education and research, it is important to consider the campus development and utilization required to achieve this. For example, it is important to give sufficient consideration to such matters as whether it is possible for existing facilities to accommodate the development of education and research at the university, including the future vision for education and research with a view to the reorganization of faculties, the strengthening of industrial-academic collaboration, and further progress in international exchange, or whether it is necessary to develop and enhance related facilities.

2) The relationship to the management strategy
   • It is vital to consider the effective utilization of land and facilities, which form part of the university’s management resources, as part of its management strategy. For example, it is important to think about such matters as clarifying the management-related challenges in campus development, from the perspective of attracting outstanding students from within Japan and overseas, ensuring safety and measures to conserve energy as a corporation.

(3) Understanding the Current Status of the Campus

1) Conducting inspections and evaluations of facilities
   • In order to ensure the qualitative enhancement of the campus, and the regeneration and effective utilization of existing facilities, it is important to conduct an inspection and evaluation*5 of the facilities and clarify the challenges and problems facing the campus as a whole.

2) Utilizing performance assessment systems for university facilities

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*5 The items to be covered in an inspection and evaluation of facilities are set forth in Concerning Inspection and Evaluation of National University Facilities (Committee of Research Partners Concerning the Future Development and Enhancement of National University Facilities), the interim summary of which was published in May 2000, with the full report being published in March 2002.
In order to undertake the requisite development as a base for education and research activities, in addition to conducting evaluations based on the IS values conventionally used as a seismic index, it is vital to conduct an objective evaluation from the perspective of low carbon emissions, dilapidation of the facilities, the living environment and the education and research infrastructure.

In order to carry out such evaluations appropriately, it is effective to utilize a performance assessment system*6 for university facilities to evaluate existing facilities.

(4) The Structure of a Campus Master Plan

1) Basic policy for the campus

Based on the academic plan, the management strategy and an understanding of the current status of the campus, it is important to create the basic policy as a strategy for the development and utilization of the campus, with reference to the following basic concepts and perspectives on the basic policy.

(Basic concepts)

In order to further promote specialization according to function, it is important for national university corporations to seek to build a campus with distinctive individual characteristics, based on the approach that “the campus is the face of the university”; in addition, it is vital to seek to create an appealing campus that will attract outstanding students and researchers, both from within Japan and from overseas.

It is crucial to weave a distinctive campus master plan for the university from the warp of soft aspects, such as the vision for the future of education and research based on the university’s ethos and mission, its contribution to society, the promotion of industrial-academic collaboration, measures to protect the environment, and the enhancement of support for students, and the weft of hard aspects, such as the physical buildings and the outdoor environment.

Moreover, it is important to value the perspective of students, developing an education and research environment that can accept students responsibly and creating a campus of which students will feel proud as their “school house,” even after they graduate.

(Perspectives on the basic policy)

In creating the basic policy, in order to take into consideration specialization according to function at the university, the construction of inter-university networks, and the promotion of joint use by different faculties and departments within the university, while maintaining the basic functions of the campus and promoting their upgrading and diversification, it is important to consider the following basic perspectives, according to the distinctive individual characteristics of each university:

i) Developing education functions

- Responding to diverse education and research needs, as well as sophisticated, specialist education and research needs, and enhancing the student support environment

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ii) Developing research functions
   • Forming an outstanding research hub, responding to the need to create innovation, and
dealing with the promotion of joint use and joint research

iii) Reinforcing collaboration between industry, academia and government
   • Collaboration and cooperation with local government and companies, and initiatives
   aimed at securing a variety of spaces

iv) Promoting efforts to contribute to the local community
   • Harmonious co-existence with the local community and society, enhancing lifelong
   learning functions, and dealing with the formation of local medical care hubs

v) Promoting internationalization
   • Internationalizing the campus and responding to the needs of foreign students and
   researchers

vi) Contributing to the resolution of environmental problems
   • Creating a campus that will serve as a model for measures to deal with global warming,
   and promoting environmental maintenance and conservation activities, energy
   conservation activities and integrated environmental measures

vii) Enhancing the campus environment
   • Creating a harmonious campus environment with distinctive individual characteristics,
   and enhancing facilities that support campus life

(Specific examples of basic policies)
   • The specific basic policies differ according to the university, but in light of the roles that
   national university corporations should fulfill, the following elements could conceivable be
   incorporated.

  i) Forming an educational hub for cultivating personnel who can lead the knowledge-based
      society
      In order to provide students with high added educational value and cultivate capable
      personnel who will become a source of growth for Japan, the university will seek to
      upgrade the educational functions of the campus, by such means as securing and
      enhancing locations for the students to engage in intellectually creative activities.

  ii) Forming a world-class advanced, creative research hub
      In seeking to promote cutting-edge research that responds to social issues, as well as
      basic research from a long-term perspective, the university will seek the flexible
      utilization of facilities by such means as upgrading the research functions required for the
      development of research seeds that will become part of the university’s strength, and
      securing an autonomous research environment for young researchers.

  iii) Strengthening the campus functions that support the globalization of education and
      research
      In order strategically to acquire excellent foreign students from across the globe and
      promote the employment and invitation of outstanding foreign researchers, the university
      will develop its system for accepting such students and researchers.

  iv) Revitalizing the community with the university campus as the core
      The university will promote the revitalization of the community, by such means as
      seeking to form a hub for regional innovation through industry clusters with the
university campus at their core.

v) Forming a campus that can become a hub for the dissemination of a pioneering model for environmental measures

As well as seeking to further promote research and human resource development focused on green innovation, the university will utilize the campus in such a way as to ensure that it has the functions and scale that will enable it to become a testing ground for a variety of environmental measures, disseminating these as a model for a sustainable society and thereby popularizing and educating people about such measures.

2) Development and utilization policies for the campus

- In order to promote the constructive regeneration of the campus, when creating development and utilization policies, it is important to refer to the concepts listed below.
- In doing so, it is vital to clarify which are the “parts which must not be changed,” which characterize the campus, such as historic buildings and avenues of trees, and which are the “parts that will be changed” strategically, with the future in mind, and then to give consideration to ensuring the intensive use of the campus as a whole.

(Basic concepts for the development policy)

- While working on ensuring the safety of existing, dilapidated facilities, it is important to tackle priority issues in campus development, based on the basic policy.
- It is effective to divide the areas for development and qualitative levels of development into multiple phases, based on the basic policy, and to undertake development sequentially.
- In doing so, it is effective to utilize perspectives and models of the completed image, to ensure that there is a shared awareness among all stakeholders within the university.
- Based on the actual usage situation of the facilities and the local characteristics, it is important to set forth a development policy that promotes the reduction of environmental burdens, such as reducing CO2 emissions, conserving resources and recycling waste.

(Basic concepts for the utilization policy)

- It is important for national university corporations to manage and use their land (including their grounds and research forests) and facilities on the basis of management perspectives.
- In order to do so, it is vital to eliminate the departmental possession mentality with regard to land and facilities, and to make the most of campus resources in order to develop education and research.
- Moreover, based on the actual usage situation with regard to existing facilities, in order to facilitate the flexible reallocation of space from a university-wide perspective, it is important to eliminate the sense of ownership with regard to spaces and to further strengthen space management by such means as the shared use of spaces.
- In particular, in the case of large pieces of equipment and special laboratories that can be used jointly, it is effective to promote joint usage from the perspective of efficient management.

3) Individual sector plans for the campus

- It would be appropriate to give consideration to flexibility and the use of the campus by subsequent generations when creating the following plans, which will form the framework for
the campus: i) the zoning plan; ii) the public space plan; iii) the flow plan; iv) the building layout plan; v) the sustainable environment and architecture plan; and vi) the infrastructure plan.

- Depending on the actual situation at each university, one could also add plans for specific issues, such as plans for priority issues and plans for signs.

i) Zoning plan
- In order to promote the rational usage of the site, it is important to set out specific zones, such as those for education and research, the university hospital, welfare, sport and green spaces.
- For example, one could establish a zone where facilities for shared use by those from outside the university as well as within it could be concentrated, or devise ways of providing an area for interaction at nodes where flow lines between one zone and another intersect.

ii) Public space plan
- Public spaces are outdoor areas and areas inside facilities that can be used by students, teaching staff and visitors to the university.
- Public spaces that form areas for interaction between students and teaching staff, including both areas inside buildings and the external environment, play an important role in fostering an academic environment and building an attractive education and research environment.
- As well as preserving symbolic parts, such as historic buildings on the campus, rivers and lakes, and open spaces, it is important to develop spaces that will create a sense of charm and warmth on the campus (place-making), by such means as cultivating plants and trees that will show the campus off to best advantage in all four seasons.

iii) Flow plan
- As well as planning traffic flow lines while giving adequate consideration to the relationship with the aforementioned public space plan, and locating car parks and bicycle parks appropriately, it is important to ensure safety, by such means as separating pedestrians and cars.
- In addition, in deciding where to place car parks, one could conceivably consider limiting them to an adequate scale or introducing charges to use them, from the perspective of the effective utilization of land and the creation of a low-carbon society.

iv) Building layout plan
- In determining the layout of buildings, in order to ensure that education and research activities and facility management can be carried out smoothly, it is important to ensure a rational layout that is easy to use in functional terms, based on the relationships between the buildings.
- In order to ensure that the buildings can form a harmonious landscape as a group, it is crucial to set specific building lines and heights, as well as specifying a basic approach to the design, including the color and shape.
- Moreover, in order to avoid disorganized development of facilities, it is important to stipulate in advance the sites that can be used for extending the facilities in the future.
- In addition, it is effective to consider the technique of deploying distinctive facilities at the ends of major traffic flow lines (eye-stops).
v) Sustainable environment and architecture plan

- In order to increase the sustainability of the facilities, it is important to set forth approaches to energy conservation, ensuring a longer operating life, eco-friendly materials, the formation of a landscape that conserves the environment, and safety.
- Furthermore, it is vital to seek to form a sustainable environment on the campus, by such means as planting trees as a measure to counter storms and dust clouds, developing functions focused on utilizing rainwater and well water, lakes to alleviate heat from solar radiation, and the effective deployment of deciduous trees.

vi) Infrastructure plan

- With regard to infrastructure for electricity, gas, water supply and sewerage, it is important to create an appropriate development plan based on the building development plan and the repair cycle for each piece of equipment.

(5) The Publication of a Campus Master Plan

- In creating a campus master plan, one could conceivably publish a draft master plan, then solicit opinions and ideas from both within the university and outside it, and then incorporate any useful ideas into the final campus master plan.
- When creating a campus master plan, it is important to publish it widely, both within the university and outside it, in order to secure understanding and cooperation from all quarters. In doing so, in conjunction with the development of the campus, it is vital to disseminate the education and research outcomes that it is hoped will be created as a result of development activities.
- Moreover, the campus master plan could conceivably be used to present the appeal of the campus in an easily comprehensible manner to foreign students and those taking entrance examinations, as well as presenting to those in the world of industry the prospects for industrial-academic collaboration and the hubs for such activities.

(6) The Establishment of a System for Creating a Campus Master Plan

- In order to create a strategic campus master plan and decide on it as a university, it is preferable to establish an appropriate system for consideration of the master plan by members of the teaching staff, under the leadership of the principal.
- In doing so, participation could be sought from local governments, industry and business circles, and local citizens, from the perspective of promoting local revitalization with the university at its core, and it could also be effective to secure the cooperation of external experts, if required.
- After creating the campus master plan, in the process of undertaking long-term development, it is important that systems and functions are maintained for evaluating and revising the campus master plan, in order to ensure that appropriate follow-up can be carried out.
3. Initiatives Aimed at Implementing a Campus Master Plan

(1) Approaches to Promoting Projects Based on the Campus Master Plan

- It is important to promote campus development and utilization projects in a focused, planned manner as a university, according to the priority level of the projects, based on the campus master plan.
- In implementing projects, as well as carrying out comprehensive deliberations, including such matters as their management and operation after the development is completed, it is desirable to select the optimal development technique.
- Moreover, in order to efficiently and effectively undertake initiatives aimed at the implementation of projects based on the campus master plan, it is important to use comparative analysis (benchmarking) of such aspects as elements of facilities at other universities and their implementation status, and to undertake further initiatives in the field of facility management*7.

(2) Publishing the Effects of Education and Research by Campus Development

- In order to implement the campus master plan, the financial resources for developing and utilizing the campus are required. In particular, with regard to the development of facilities using subsidies for facility development costs, which could be described as investment by the populace, it is important to secure the public’s understanding regarding the necessity and urgency of campus development. Moreover, with regard to the effects of this investment, it is necessary to fulfill the university’s duty of accountability to the populace.
- With regard to the effects of the development of facilities, it is important to ensure the phased publication in an easily comprehensible manner of i) the content of improvements to the physical environment that result from the development of facilities; ii) the content of enhancements to education and research activities that are being sought through i); and iii) the outcomes of education and research created in the newly developed facilities. This information should be published both within the university and outside it.
- With regard to the effects of investment, the university could also disclose such effects as the risks avoided through the redevelopment of decrepit facilities, and the progress made in research projects as a result of developing less cramped, more spacious facilities.

(3) Cultivating the Personnel Who Can Create and Implement the Campus Master Plan

- In creating a campus master plan, which is one of the core duties of a university, it is important to cultivate personnel who can carry out appropriate assessments of facilities and make concrete proposals for resolving problems, based on the expansion of the university’s education and research activities.
- Accordingly, in addition to expertise in the development of facilities, it is vital to cultivate the ability to communicate with the teaching staff and students, and to polish the skills of personnel so that they can carry out effective, high-quality facility development.
- Moreover, in order to define the issues and problems that should be tackled, it is effective to gain experience of other universities, gather information relating to facilities, and undertake a comparative review of one’s own university campus.
- It is also effective to strengthen collaboration and engage in exchanges of human resources with other universities, and implement practical training.

*7 The report University Facility Management Aimed at Creating ‘Knowledge Bases’ – Approaches to Facility Management at National University Corporations (Tentative Name), published in May 2002, states that, “In managing university facilities, it is important to set forth targets for the development and management of facilities according to its education and research activities, and to implement a series of initiatives (management cycle) for ensuring continuous improvement in the education and research environment throughout the university, by creating a plan for facilities to meet those targets (Plan), carrying out activities relating to buildings and external environments such as constructing new buildings, extending buildings, carrying out large-scale renovations, doing repair work, conducting checks and maintenance, cleaning the facilities and operating them (Do), conducting evaluations of these activities (Check), and reflecting the results of these evaluations in the plan for the next period (Action).”
4. The Growth of the Campus Master Plan

- It is important to undertake planned development of the campus based on the campus master plan.
- In operating the campus master plan, rather than restricting facility development that had not been planned at the time the master plan was created, it is important to adopt a posture of responding flexibly, based on the spirit of the campus master plan.
- It is vital that the campus master plan is grown constructively, in response to changes in the situation surrounding the university, its education and research strategy, its internationalization strategy, and its strategy for industrial-academic collaboration.
- Through initiatives aimed at realizing the campus master plan, it is important to seek the upgrading and diversification of the campus as a base for education and research, meeting the diverse needs of students and society, while developing human resources who can create, pass on and develop knowledge, working on advanced, creative academic research that will lead to the creation of innovation, and passing back the results of this to society.
- It is desirable for university campuses to continue to function as the core of local revitalization, while meeting the expectation that they will be a source of national strength that will increase Japan’s international competitiveness.
II Practical Guide
1. The Process of Creating the Campus Master Plan

(1) Points to Bear in Mind about the Creation Process
A campus master plan is a report with plan drawings that is drawn up after going through the phases of “creating the basic policy,” “creating the development and utilization policies,” and “creating the plans for individual sectors.”
Campus master plans can become diverse because of the different situations surrounding universities and campuses, so it is not necessarily the case that all of the model plans introduced here should be created; rather, each university should choose the most appropriate ones, based on its aims and strategies.

1) Creating a basic policy (Phase 1)
   • Summarize the issues relating to campus development and use, based on an academic plan, the management strategy and an understanding of the current status of the campus.
   • Reconfirm and summarize the universal elements that give a sense of individuality to existing spaces, as hints for creating an improved campus.
   • Create the basic policy on campus development in order to realize the university’s vision and strategy through fundamental perspectives for developing and utilizing the campus, such as developing education functions, expanding research functions, strengthening collaboration between industry, academia and government, making a contribution to the local community, promoting internationalization, making a contribution to resolving environmental problems, and enhancing the campus environment.

2) Creating a development policy and a utilization policy (Phase II)
   • Based on the basic policy, consider the direction of campus development and utilization, and then create the development policy and utilization policy.

3) Creating plans for individual sectors (Phase III)
   • In line with the development and utilization policies, create plans relating to the framework of the campus, such as a zoning*1 plan, a public space*2 plan, a flow plan, and a building layout plan. In addition, if required, one could also create plans relating to specific issues around the university, such as a sign*3 plan.

4) Initiatives aimed at implementing the campus master plan (Phase IV)
   • In order to promote development and use based on the campus master plan, actively undertake effective initiatives.

(2) Building Consensus Concerning the Campus Master Plan
   • It is important to build a certain level of consensus in the process of creating the campus master plan, while also making the final decision as a university.

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*1 “Zoning” involves compartmentalizing the various education and research activities undertaken on the campus by purpose of use.
*2 “Public spaces” are public spaces inside facilities and outdoors that can be used by students, members of the teaching staff and visitors to the university.
*3 “Signs” are signs and markers installed in order to guide users of the building.
Campus Master Plan Creation Process

Phase I
Basic Policy Creation

Phase II
Development Policy & Utilization Policy Creation

Phase III
Individual Sector Plan Creation

Phase IV
Implementation Initiatives

Upper-level Plans
- Academic Plan
- Management Strategy
- Understanding of Current Status

Basic Policy

Consensus Building

Development Policy & Utilization Policy

Consensus Building

Campus Framework
- Zoning Plan
- Public Space Plan
- Flow Plan
- Building Layout Plan
- Sustainable Environment & Architecture Plan
- Infrastructure Plan

*Plans formulated as required
- Resource Use
- Signs
- Security & Disaster Prevention

Individual Sector Plans

Consensus Building

Initiatives Aimed at Implementing the Campus Master Plan

Consensus Building

Publication
- Pamphlets
- Newsletters
- Website
2. Creating a Basic Policy (Phase I)

(1) The Relationship to the Academic Plan and the Management Strategy

1) The relationship to the academic plan
   - In compiling the Second Medium-term goals and Medium-term plans, national university corporations have just been considering matters concerning facilities, in conjunction with their education and research activities during the plan period.
   - In order for national university corporations to promote the specialization of functions while making their distinctive individual characteristics clearer, it is important to summarize the challenges concerning the development and utilization of the campus that correspond to these initiatives.
   - It is vital to clarify issues relating to the development and utilization of the campus, such as satisfying the functional requirements of facilities and ensuring adequate space, in response to the expansion of education and research activities, including the reorganization of university faculties and departments, an increase in the student enrolment limit, and the formation of research hubs such as COE.
   - In order to promote internationalization, it is important to consider from a medium- to long-term perspective an acceptance mechanism for foreign students and researchers.
   - It is effective to consider shared use of facilities or parts of the campus, according to the direction of inter- and intra-university collaboration.
   - In order to stimulate local industry through research and development, it is important to consider the roles played by national university corporations. For example, as well as concluding framework agreements and establishing a cooperation system between the national university corporation and local governments and companies, one could also negotiate the division of roles between the parties involved in securing a location for the hub for these activities.

2) The relationship to the management strategy
   - In order to secure outstanding students, providing an attractive campus life and meeting the increasingly diverse needs of students is one of the challenges in university management. Consequently, it is important to clarify the issues that should be addressed, such as the enhancement of student support functions, including facilities for extra-curricular activities and welfare facilities, as well as improving the learning-related functions of facilities such as libraries.
   - It is important to ensure the safety of the campus as a whole, including the outdoor environment, as well, of course, as the safety of individual facilities. As a corporation, it is necessary to clarify issues relating to campus development and utilization, in order to ensure that reliable preparations are made concerning risk prevention, security and disaster prevention.
   - Amidst escalating environmental problems, it is necessary for national university corporations to comply with laws and regulations that apply to them as corporations. Based on the attributes of a national university corporation, it is important to clarify the challenges relating to measures to conserve the environment, while giving consideration to ensuring that they do not hinder education and research activities.
   - In the event that policies and plans relating to safety and the environment have already been set forth, it is important to coordinate them and ensure that they become a requirement in the creation of a campus master plan.

(2) Understanding the Current Status of the Campus

1) Summarizing basic information concerning the campus
In order to promote the appropriate development and utilization of the campus, it is important to summarize the basic information about the physical education and research environment of the existing campus.

i) Understanding the historical changes that the campus has experienced

A campus is a valuable asset that conveys the history of the university since its establishment to the present generation. It is vital to summarize the changes that the campus has been through, along with the history of the national university corporation, and to designate the historic or symbolic facilities and trees.

ii) Understanding the geographical conditions of the campus

It is important to understand the natural environment and transport networks around the campus, as well as the positional relationship with experimental research institutes and the research laboratories of companies with which collaboration in the arena of research and development may be possible.

iii) Understanding the laws and regulations relating to campus development and utilization, as well as development projects

It is necessary to gain an understanding of laws and regulations relating to campuses (floor area ratio, height restrictions, etc.) In addition, it is necessary to strive to gather information concerning the enactment and amendment of laws, government ordinances and ministerial ordinances relating to facility development, as well as the enactment and amendment of ordinances prescribed by local governments; moreover, attention is required to ensure that there are no omissions in regard to new regulations imposed on campuses.

Furthermore, gaining an understanding of information relating to urban redevelopment projects and private sector projects in neighboring areas is important in considering the possibilities for collaborative development within the campus.

iv) Understanding the actual usage status of land and facilities

In order to use facilities more effectively as a university, it is important to gain an understanding of their actual usage status. For example, it is crucial to gain an understanding of the number of teaching staff, students and young researchers using the facilities, as well as how full various spaces are, such as lecture rooms, research offices and laboratories are.

Similarly, it is vital to gain an understanding of the actual usage status of land, the space that can be used for student support, and the space that can be used to expand the groups of faculty buildings.

It is important to gain an understanding of the usage status of off-campus facilities belonging to local governments, research parks and private sector research facilities and dormitories, as well as public and private facilities that can be used by national research corporations.

v) Understanding the demand for the physical development of facilities

It is important to gain an understanding of the status of the dilapidation of existing facilities and outdoor areas, such as roads and structures, and to understand the demand for the facilities required. For example, it is vital to understand the current status with regard to leaks that could hinder education and research activities, and the risk of wall collapses, as well, of course, as working out how old existing facilities are and understanding their seismic capacity.

In addition, as one of the grounds on which the necessity and priority level of repairs are judged, it is effective to use the performance evaluation system for university facilities.

vi) Understanding the energy consumed

It is important to gain an appropriate understanding of such matters as the quantity of energy consumed by the campus, as well as the quantity of CO2 that it emits.

vii) Understanding information relating to other universities
There are cases where current challenges relating to facilities can become clear by undertaking a comparison with other universities, such as the functions of facilities, their floor layout, and their cost. In doing so, it is effective to make use of benchmarking relating to the maintenance and management of facilities, and to undertake a comparative consideration of campuses at other universities which are of a similar scale and nature.

2) Confirming the distinctive individual characteristics and universal elements of the campus

- In order to develop a vision for the future image of the campus, it is important to be attentive to the fact that there are highly universal elements that give the campus space a certain individuality and create the sense that it truly is a university; accordingly, it is vital to seek these out and make a list of them so that they can be used as hints when creating the plan.
- With regard to such matters as gates within the campus, avenues of trees, buildings, plazas, public spaces, landscapes and the proportions of the spaces formed by these as a whole, there are many elements in each campus that symbolize its individuality as points, lines and planes.

![A spacious footpath](image1)
![A symbolic public space](image2)
![A landmark entrance space](image3)

- Students, teaching staff and people from outside the university carry out various actions within the campus space, including “standing around,” “gathering,” “stopping,” “passing through,” “looking up” and “looking down.” Techniques for spurring these actions and leading people into enriched experiences of the campus space include establishing objects and landmarks that become eye-stops, and creating towers and gathering spaces such as pocket parks; in many cases, these can become spaces that characterize the campus.
- In confirming the universal elements and individual characteristics of the campus, it is effective to gain an understanding of what kind of awareness students and teaching staff have of the campus and facilities through the following questions.

Examples of Questions to Identify the Individual Characteristics and Universal Elements of the Campus Space

- What are the characteristic spaces and buildings on the campus?
- What are the spaces that give the campus its personality and individuality?
- What are the spaces where students and teaching staff gather?
- What are the important facilities for the university (the ones that should remain)?
- Which of the buildings characterize the university?
- Which elements disrupt the campus space?

3) Techniques for creating effective materials that demonstrate the challenges faced by the campus

- In building consensus within the university and seeking understanding and cooperation on the part of those outside the university, it is effective for the results of inspections and evaluations of the campus are summarized in as easily understood a fashion as possible, using diagrams.
- The following are specific techniques that could be used for gaining an understanding of the
current status of the campus; it is desirable to select effective techniques according to the actual situation around the campus.

[Specific Techniques]

<Techniques relating to the campus and facilities>

- In order to enable these to be used as basic materials for considering future development of facilities, it is effective to summarize the age of each facility and its seismic capacity in an easy-to-understand form.
  
  ➔ Examples of output: Schematic layouts of facilities by age, diagrams showing the status of the earthquake-proofing of facilities.

- It is effective to identify and summarize the spaces where improvements are required on the campus, as well as areas that are fine as they are.
  
  ➔ Examples of output: Analysis of the characteristics of the spaces.

<Techniques Relating to Users>

- In order to consider the building layout plan and flow plan, it is effective to conduct an intra-campus trip study*4, to evaluate and analyze the degree of interaction between departments and use by people from outside the university by looking at the frequency of movement.

  ➔ Examples of output: Diagrams concerning the actual usage status of spaces and diagrams analyzing flow lines.

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*4 An “intra-campus trip study” is a technique for gaining an understanding of and analyzing people’s movement pathways and the volume of movement within the campus, in order to consider flow plans and the functional layout of buildings.
(3) Points to Bear in Mind Concerning the Creation of a Basic Policy

1) Responding to the specialization of university functions
   - A national university corporation combines a number of functions: i) a hub for global research and education; ii) the cultivation of people with high-level professional skills; iii) the cultivation of a wide range of skilled professionals; iv) comprehensive liberal arts education; v) education and research in specific specialist fields (art, physical education, etc.); vi) a hub for local lifelong learning opportunities; and vii) functions that contribute to society (including making a contribution to the local community, collaboration between industry, academia and government, and international exchange). It is necessary to further clarify the university’s individual characteristics and distinctive features by specializing in particular functions and determining the weighting given to specific areas.
   - In order to prioritize specific, self-selected functions, it is important for national university corporations to create a basic policy for the campus that responds to this and to promote the upgrading and diversification of the education and research environment, as well as working to achieve the intensive, effective allocation of space.

2) Responding to the strategy of the national university corporation
   - Under the leadership of the principal, each national university corporation formulates its own strategy for education and research, internationalization, and the strengthening of industrial-academic collaboration according to its needs, and flexible, strategic university management of the university takes place on the basis of this.
   - In order to ensure the steady promotion of this strategy, it is vital to formulate the requisite measures relating to campus functions. For example, when seeking to strengthen its ability to attract foreign students and expand the employment of foreign researchers, as its internationalization strategy, it is important to develop a system for accepting such students and researchers. In doing so, it is desirable to consider in an integrated fashion the requisite campus functions, such as education and research areas, accommodation and interaction spaces, and the enhancement of rooms that could be used for international conferences.
   - In creating the basic policy for the campus, it is important to draw up the basic policy with the future image of the campus in mind, based on the national university corporation’s strategy, and to clarify the direction of the development and utilization of the campus.

3) Strengthening collaboration and cooperation with related institutions
   i) Consideration of inter-university networks
      - In promoting specialization according to function, it is effective to seek to strengthen the university’s function as a local knowledge hub through the shared use of the material resources that it possesses.
      - Consequently, when consideration is being given to the establishment of joint graduate schools, and collaborative faculties and graduate schools, it is important to give consideration at the same time to the use of the campus and to think about the basic policy.
   ii) Consideration of collaboration with local government
      - In order to promote local industry and culture as part of their mission to make a contribution to society, it is expected that national university corporations will collaborate with local governments and seek to promote local revitalization.
      - Consequently, it is effective to establish a system for collaboration with local government and to secure a place that can become a hub for such activities.
      - In considering the basic policy, it is important to give sufficient consideration to the roles that the campus should play in the region, and to take into account the need to give the campus a strong presence in the community.
(4) Specific Examples of a Basic Policy and Images of Planning and Development

This section presents for reference purposes examples of the plans and development envisaged from the “specific examples of basic policies” listed in the basic guide.

1) Example of plans and development relating to “Forming an educational hub for cultivating personnel who can lead the knowledge-based society”

**Forming a hub for liberal arts education that will form the basis for technical education**

*Kyushu Institute of Technology*  
*Tobata Campus*

- Site area: 260,000m², building area: 38,900m², total floor space: 95,100m²
- Number of students: 3,203, number of teaching staff: 324 (as of May 2009)

**Campus Zoning**
- The opportunity presented by earthquake retrofitting is used to change the main flow lines so that the common education zone became the spatial center of the campus
- The educational environment is enhanced from the perspective of the students
- The buildings characteristic of the university’s history are revitalized

**Examples of Key Points in the Plan**
- Using the opportunity presented by renovations to forming a space that corresponds to the academic plan
- Plan of major flow lines that will revitalize campus accessibility
- Securing a place where students can feel comfortable as a venue for intellectual creation activities
- Developing the outdoor environment to encourage interactions
- Spreading a small master plan to encompass the campus as a whole

**Remarks**
- Awarded the Prize for Best Restoration in the 19th BELCA (Building and Equipment Long-life Cycle Association) Awards in 2010
- Accredited by the Ministry of Economy, Trade and Industry as Modernized Industrial Heritage Contributing to Regional Revitalization in 2009
- Received a Good Design Award in 2009

Source: Materials supplied by the Facility Division, Kyushu Institute of Technology
2) Example of plans and development relating to “Forming a world-class advanced, creative research hub”

- **Securing Research Space for Promoting Advanced, Interdisciplinary Research**

  **Nagoya University**  
  **Higashiyama Campus**

  **Priority Implementation Zone for Advanced Research**

<table>
<thead>
<tr>
<th>School of Engineering</th>
<th>School of Agricultural Sciences</th>
<th>School of Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Research Block (Science and Agricultural Sciences)</td>
<td>General Research Block (Science and Agricultural Sciences)</td>
<td>General Research Block (Science and Agricultural Sciences)</td>
</tr>
<tr>
<td>Integrated Research Block for Science and Agricultural Science – South Block</td>
<td>Integrated Research Block for Science and Agricultural Science – North Block</td>
<td>Noyori Materials Science Laboratory</td>
</tr>
</tbody>
</table>

- **Framework for Collaboration Within the University and With Organizations Outside it**

  - Collaboration with university organizations within Japan
  - Collaboration with research organizations within Japan

- **Examples of Key Points in the Plan**
  - Plan of the layout of the education and research hubs that clearly demonstrates the university’s intentions and strategy
  - Development plan that corresponds to the university’s research targets
  - Systematic development of education and research hubs that will provide the university with a sense of individuality
  - Coordination with the action plan

- **Future development**

  - Layout diagram at the time of the plan
  - Layout diagram after hub development

- **Examples of Plans and Development**

  - Clarification of the relationship between existing buildings and buildings planned to be developed, and systematic development as a Priority Implementation Zone for Advanced Research
  - Securing of space for project research and research by young researchers, as well as the development of an interdisciplinary research hub for materials science, bioscience, chemistry and bioagricultural science.

- **Examples of Key Points in the Plan**
  - Plan of the layout of the education and research hubs that clearly demonstrates the university’s intentions and strategy
  - Development plan that corresponds to the university’s research targets
  - Systematic development of education and research hubs that will provide the university with a sense of individuality
  - Coordination with the action plan
3) Example of plans and development relating to “Strengthening the campus functions that support the globalization of education and research”

Creating an International Campus Town in Collaboration with the Local Community

University of Tokyo
Kashiwa Campus

Site area: 322,400m², building area: 37,200m², total floor space: 142,200m²
Number of students: 1,355, number of teaching staff: 464 (as of November 2009)

Target

Creating an international academic and educational space

Establishing a new style for international academic towns in which research functions that lead the world and an academic space open to the local community expand into the town itself.

Policy

Developing a living environment that is comfortable for foreign researchers and students

Supporting “the activities of 1,000 foreign researchers and students”

With the aim of creating an urban environment that is appropriate to an international campus town where foreign researchers and students work and live, we will create a comfortable living environment that is user-friendly for foreign researchers, students and their families, by such means as developing housing in which it is easy for them to continue their research, as well as providing medical care, childcare and education facilities.

1) Developing housing and lifestyle support facilities, such as medical care facilities and childcare environments, which are targeted at foreign researchers

Guidelines for campus link housing in the area in front of the station

Supporting the development of a central hospital that can deal with foreign residents at all times

Supporting the development of the International Lodge of the University of Tokyo

2) Providing information to foreign residents and establishing a consultation service for them

Policy

Creating a unique culture and space through collaboration between the local community, the university and research institutions

In order to form a campus link town in which the town and the university coexist harmoniously, we will implement research and education programs that involve collaboration and interaction between the academic institutions of the university and the local community, and develop a campus space that can be used by local citizens, thereby reviving interaction between the local community and the university, and creating a culture and academic space that is unique to Kashiwa-no-ha.

1) Creating a research and education program in collaboration with the local community

2) Creating a forum for interaction between local citizens and the university

Examples of Key Points in the Plan

- A globalization strategy in conjunction with the plan for the surrounding area
- Campus facility plans that clearly demonstrate the university’s intentions and strategies
- Spatial structure elements that have an awareness of human scale
- Coordination with the action plan
4) Example of plans and development relating to “Revitalizing the community with the university campus as the core”

**Forming a Hub for Regional Development through the Concentration of Multiple Universities in the Area**

**Kitakyushu Science and Research Park**

- Site area: 35ha (Phase 1 University Zone), total floor space: 123,000m²
- Number of students: 2,227, number of teaching staff: 328 (as of May 2009)

**[Schematic Drawing of Land Usage]**

Universities including Fukuoka University, Cranfield University, the Kitakyushu Research Laboratory of the Department of Computer Science and Technology at Tsinghua University, and the Hiroshima Institute of Technology Joint Research Laboratory, have expanded into the zone with facilities for joint use, focusing mainly on the Kyushu Institute of Technology, the University of Kitakyushu and Waseda University.

**Examples of Key Points in the Plan**

- The formation of a campus on which there are multiple universities
- The positioning of the campus as a hub for regional development
- Coordination with the plan for surrounding residential areas
- Joint development through collaboration with local government
- Consideration for the relationship with the surrounding area

Source: Kitakyushu Science and Research Park pamphlet
http://www.karp.or.jp/
5) Example of plans and development relating to “Forming a campus that can become a hub for the dissemination of a pioneering model for environmental measures”

**Various Initiatives Aimed at Building a Model for Environmental Measures**

- There are still only a few cases in which environmental measures have been positioned in the master plans of national university corporations and are being deployed across the campus as a whole. However, in the future, it will be necessary for universities to take the initiative in working on environmental measures.
- The example below is provided as a point of reference for creating campuses as models for demonstrating environmental measures.

**Tokyo City University**

**Tokyo City University**

Tokyo City University

・The theme of the campus is symbiosis and coexistence with the ecosystems of nature, with “Eco-Campus” as the keyword.
・Ventilation, use of natural light and insulation are emphasized, with a facilities plan being implemented that avoids relying on artificial environments as much as possible.
・Harmonious coexistence with surrounding residents is sought, in order to create a campus that is open to the local community.

**Yokohama Campus**

**Yokohama Campus**

Yokohama Campus

An ecological campus that achieves harmonious coexistence between mankind and nature

- The theme of the campus is symbiosis and coexistence with the ecosystems of nature, with “Eco-Campus” as the keyword.
- Ventilation, use of natural light and insulation are emphasized, with a facilities plan being implemented that avoids relying on artificial environments as much as possible.
- Harmonious coexistence with surrounding residents is sought, in order to create a campus that is open to the local community.

**University of Kitakyushu**

**Hibikino Campus**

**Hibikino Campus**

Hibikino Campus

This is a campus that values nature and the environment, making active use of natural energy and seeking to conserve energy and reuse resources, with the aim of achieving harmonious coexistence with the environment.

- Based on the theme of reducing the environmental burden, as well as using natural energy such as light, wind and heat to the maximum extent possible, and a system for using water and energy without waste has been introduced.
- Ecological campus development is being practiced, which aims to restore surrounding natural ecosystems and the water cycle.

Source: University of Kitakyushu Faculty of Environmental Engineering website

Source: Tokyo City University Yokohama Campus Pamphlet

Source: Tokyo City University Yokohama Campus website

Source: University of Kitakyushu Hibikino Campus Eco-Campus

Source: University of Kitakyushu Faculty of Environmental Engineering website
3. Creating a Development Policy and a Utilization Policy (Phase II)

(1) Points to Bear in Mind Concerning the Creation of a Development Policy

1) Approach to development based on the basic policy
   - In order to develop, enhance and shape the functions of the campus based on the basic policy, it is important to stipulate the approach to development based on the results of the efforts to gain an understanding of the current status of the facilities and external environments in question.
   - In considering the development policy, as well as gaining an understanding of medium- to long-term development demand, it is vital to consider phased development.

2) Improving the attractiveness and increasing the distinctive characteristics of the campus
   - In addition to the establishment of a campus identity on the basis of the basic plan, it is important to consider development that is in harmony with the campus as a whole.
   - Moreover, with regard to the basic functions of the campus, as well as enhancing the education and research environment, it is crucial to take into consideration the effective deployment of places that link people, in order to promote the revitalization of education and research activities, and also the enrichment of the environment in order to provide students with a fulfilling campus life.

3) Relationship to the national development plan
   - With regard to the development plan for the facilities of national university corporations from fiscal 2011 onwards, priority development has been deemed necessary from the perspective of strategy, sustainability and safety, so the Consultative Committee for Research and Surveys is considering how to translate this into reality and what achievement targets should be set.
   - In creating the development policy, it is important for national university corporations to consider the direction of development regarding the aforementioned three priority development issues, based on their relationship with the government’s policy.
   - As part of the system reforms in the national development plan, endeavors continue to be made to promote development techniques that utilize diverse sources of finance. In order to promote strategic facility development as well, it is important to consider a development policy that adopts this perspective.
   - It is vital to give consideration not only to the initial investment required for facility development, but also to the overall life-cycle costs, including the costs required after development, such as maintenance and operation costs.

4) Preventing the deterioration of existing facilities
   - As well as the aforementioned priority development, in order to extend facility life, it is important to give consideration to policies for preventing the deterioration of existing facilities in a systematic manner.

(2) Points to Bear in Mind Concerning the Creation of a Utilization Policy

1) Approaches to the effective use of facilities
   - It is important to give consideration to the utilization policy for facilities based on the actual usage status of facilities and the strategy for national university corporations, working out the space available for use, in order to reallocate space, as well as securing space for shared usage and intensifying the use of rooms in relevant faculties in order to facilitate organic collaboration.
   - Moreover, in conjunction with this, it is important to consider the utilization policy for facilities that can be used outside the university.

2) Approaches to the effective use of land
   - It is important to seek the effective utilization of land based on the basic policy, revising its actual usage status and devoting it to the purposes required of it as the property of the university as a whole.
• In seeking to construct an inter-university network, it is effective to consider the shared use with collaborating universities of the land owned by national university corporations, such as sports grounds, farms and research forests.

• In promoting cooperation and collaboration between national university corporations and the local community, it is important to give consideration to the utilization of the external environment in order to ensure that the campus becomes an asset for the whole community, for example making avenues of cherry trees and plazas available for use by local people.

(3) Examples of Development Policies Based on Basic Policies

• When creating the development policy, a specific development policy for facilities should be drawn up as a strategy for national university corporations, based on the basic policy. The development policy will differ for each national university corporation, but a few examples are provided below.

<table>
<thead>
<tr>
<th>University Name</th>
<th>Basic Policy</th>
<th>Development Policy</th>
</tr>
</thead>
</table>
| University of Fukui      | i) The university will use land and buildings effectively and undertake development that facilitates flexible use  
ii) The university will make safety a priority and secure a campus environment in which students and staff can conduct their activities with peace of mind  
iii) The university will secure a facility environment that will facilitate the future development of education, research and medical care  
iv) Having striven to achieve effective usage and enhance the spaces for shared use, the university will plan development in order to secure space if required  
v) The university will secure a comfortable campus space in which it is easy for teaching staff and local citizens to gather and interact  
vi) The university will strive to ensure the long-term use of existing facilities, as well as undertaking development that takes the life-cycle costs into consideration  
vii) The university will undertake development that takes environmental conservation into consideration  
                                                                 |                                                                                                                                                                                                             |
| (Campus Master Plan 2007)|                                                                                                                                                                                                             | i) The Bunkyo Campus is the campus where the university headquarters, the Faculty of Education and Regional Studies and the Faculty of Engineering are located. The university will continue to redevelop the campus in that location, focusing on existing facilities, graduate schools and centers, in order to facilitate development into the future  
                                                                 | ii) Buildings that lack earthquake resistance and have become decrepit will be regenerated, with up-to-date functions added to them  
                                                                 | iii) After seeking to ensure that current usage is sufficiently effective, the university will plan the development of new buildings for the sake of developing activities further, if the current space is deemed to be too cramped and an impediment to education and research  
                                                                 | iv) Through learning, research, employment and extracurricular activities, the university will undertake development that will lead to improvements in the maintenance and improvement of campus amenity, in order to ensure the optimum environment for students to lead a fulfilling campus life  
                                                                 | v) In order to improve upon the current crowded state of the campus, which is overflowing with cars and bicycles, the university will seek to separate pedestrians and vehicles as much as possible, securing paths for pedestrians and developing car parks and bicycle parks  
                                                                 | vi) The university will develop campus plazas and green areas that will become places where students, teaching staff and local residents can walk and relax  
                                                                 | vii) The university will undertake development that will facilitate the future development of the campus  
                                                                 | viii) The facilities are shared property for the university as a whole, so the university will verify what specific effects they are having on education and research activities, and on the local community |
| Yamaguchi University    | i) Development of facilities that are suitable for promoting education and research  
ii) Development of student education support facilities and improvement of superannuated facilities  
iii) Improvement of superannuated library facilities and development of a new complex  
iv) Improvement of superannuated facilities at the university hospital and development of the facilities required for the enhancement of hospital functions  
v) Improvement of superannuated facilities and development of new facilities at the schools affiliated to the university  
vii) Improvement of superannuated facilities and development of new facilities for supporting student life  
vi) Improvement and development of facilities to accommodate research and development based on collaboration between the worlds of industry, academia and government  
ix) Introduction of universal design in facilities such as those aimed at users with disabilities  
vi) Improvements to facilities with poor seismic capacity will be prioritized, but the university will also plan the requisite improvements to the education and research environment, and will develop safe, functional facilities  
ii) While using support from the government as the basic source of funding, the university will promote development through its own self-reliant efforts, as well as actively considering development through collaboration with industry groups and local government  
iii) The university will give consideration to development using loans and private finance initiatives in the case of facilities from which income is expected, such as student dormitories, international houses and the veterinary hospital  
iv) In order to promote exploratory, creative academic research, the university will develop an open laboratory space  
vi) The university will seek to upgrade and expand education and research spaces for young researchers and graduate students  
ii) As well as improving campus amenities, by such means as maintaining existing green areas and plazas and securing additional green areas and spots for interaction, the university will actively incorporate universal design and create facilities that are easy to use for more vulnerable members of society, such as children and elderly people  
vi) In order to enable various activities on campus to take place safely and smoothly, the university will develop the requisite basic functions relating to infrastructure, such as energy supply, information and communications |
| (Campus Master Plan      | i) Creating a safe, comfortable campus  
ii) Developing facilities that take the environment into consideration  
iii) Developing facilities that aim to realize “student-customer-ism”  
iv) Developing facilities that can accommodate the upgrading and individualization of education and research  | i) Creating a campus that is a comfortable space overflowing with dynamism  
ii) Creating a campus that has a safe, comfortable pedestrian environment  
iii) Creating an environmentally-friendly campus that makes use of nature  
iv) Creating a campus with comfortable plazas  
v) Creating a campus that encourages comfortable extracurricular activities for students  
vii) Systematically eliminating dilapidated areas  
vii) The facilities are shared property for the university as a whole, so the effective use of existing facilities will be sought |
| October 2006)           |                                                                                                                                                                                                             |                                                                                                                                                                                                                 |
4. Creating Plans for Individual Sectors (Phase III)

(1) Points to Bear in Mind Concerning the Creation of Plans for Individual Sectors

1) The importance of plans for individual sectors that are based on the development and utilization policies
   - At national university corporations, as a result of such tasks as the promotion of specialization according to function, the globalization of education and research, the strengthening of industrial-academic collaboration and the further development of efforts to make a positive contribution to the local community, it is necessary to ensure that campuses have the functions required to promote such initiatives, as well as the flexibility that will make them possible.
   - Consequently, based on the development and utilization policies, it is important to give consideration to plans for individual sectors, in order to overcome current problems at existing campuses and promote constructive campus regeneration.

2) The flexibility of plans for individual sectors
   - At national university corporations, it is envisaged that there will be revisions of the academic plan and the management strategy as required by the needs of the times, in order to promote the development of education and research. As education and research activities and the campuses that form the basis for these are inextricably linked, it is important, in creating plans for individual sectors, to ensure that they are flexible, based on the strategy of the national university corporation in question.
   - Consequently, after clarifying the “things that must not be changed” on the campus, it is vital to create plans for individual sectors, with an emphasis on shaping the framework of the campus.

3) The effective utilization of sectoral plans for campuses
   - Depending on the problems and challenges affecting the existing campus in question, there may be times when it will be more effective to focus on certain specific areas, and create partial plans for those areas, rather than considering solutions that target the campus as a whole. In doing so, it is desirable to divide the plans into sections, clarifying those that should be considered as plans for the whole campus that will shape the campus framework, and those that should be considered as partial plans.
   - In addition, after implementing the partial plan, it is desirable to verify its effectiveness, then reflect it in the next area plan and link it to further initiatives like a chain extending across the campus.

4) Techniques for creating effective plans
   i) Participation by the students
      - With regard to the external environment and the relationship to student support facilities, it is effective to create plans based on the requests of the students themselves and to solicit ideas from stakeholders within the university, which can be incorporated into the plans.
   ii) Participation by the community
      - When promoting the strengthening of industrial-academic collaboration, it is effective to
specify in the site usage plan the areas to be used for collaboration and cooperation with local government and industry, accumulating research and development-related facilities on the campus and seeking to form a regional knowledge hub.

(2) The Diversity of Plans for Individual Sectors
- With regard to the content of the plans for individual sectors, the plans that are created vary according to the actual status of existing facilities, as well as the academic plan and management strategy of the national university corporation in question. Currently, as shown in the table below, as well as creating plans relating to land usage and zoning, transport and flow lines, and public spaces as plans for shaping the framework of the campus, the various plans for individual sectors are created by national university corporations according to the actual status of the campus in question.
- Moreover, depending on the content of the development policy, it is important to ensure that multiple related plans for individual sectors correspond to each other and that effective planning takes place.

<table>
<thead>
<tr>
<th>Individual Sector Plan in the Campus Master Plan</th>
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<tbody>
<tr>
<td>Name of Plan</td>
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<tr>
<td>Hokkaido University</td>
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<td>University of Fukui</td>
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<td>University of Yamaguchi</td>
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<td>University of Tohoku</td>
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<td>University of Kyushu</td>
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<td>Note) Compiled on the basis of the campus master plans for each university</td>
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</table>

Table  Plans for Individual Sectors as Seen in Campus Master Plans

<table>
<thead>
<tr>
<th>Individual Sector Plan in the Campus Master Plan</th>
<th>Sector and Item</th>
<th>Plans Concerning the Campus Framework</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Name of Plan</td>
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<td>Framework</td>
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<tr>
<td>Hokkaido University</td>
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<td>Land use &amp; zoning</td>
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<td>University of Fukui</td>
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<td>Transport &amp; flow lines</td>
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<td>University of Yamaguchi</td>
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<td>Public space</td>
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<td>University of Tohoku</td>
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<td>Equipment &amp; infrastructure</td>
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- 35 -
(3) Plans for Individual Sectors

■ Zoning Plans

1) Key points
   i) Setting zones that fit in with the development policy
   ii) Setting zones based on the clarification of the universal elements of the campus
   iii) Setting out the appropriate zone composition and scale, and deciding on their arrangement
   iv) Ensuring the effective, strategic utilization of sites based on future demand and the long-term perspective

2) Points to bear in mind when creating plans
   i) Setting zones that fit in with the development policy
      • In setting the zones, efforts should be made to confirm that they fit in with the development policy for realizing the targets and strategies of the national university corporation in question, in relation to the existing campus, and the zones should be set as required, in such a way as to ensure the appropriate, rational use of the campus.
      • In doing so, consideration should be given to setting zones that can adapt flexibly to future changes, as well as reflecting the activities based on the usage objectives of each facility, and the education and research activities based on the composition of the faculties and departments.

   ii) Setting zones based on the clarification of the universal elements of the campus
      • It is important to confirm the universal elements of the campus, such as the spaces and buildings that characterize it, and to clearly set zones for “areas that must not be changed” that should be maintained with the future in mind, and “areas that should be changed,” whose strategic utilization will be sought.

   iii) Setting out the appropriate zone composition and scale, and deciding on their arrangement
      • With regard to the composition of the zones, consideration should be given to ensuring that an environment appropriate to the objectives of each zone is formed. Moreover, the scale of each zone should be set appropriately, giving consideration to the types and scales of the facilities within the zone, based on the scale and characteristics of the site in question.
      • In doing so, it is important to set the composition giving consideration to the building-to-land ratio and the floor space ratio, ensuring that they are appropriate to the actual situation on each campus and the building scale, based on the vision for the future.
      • In determining the layout of each zone, it is important to be aware of the harmony of the campus as a whole, consideration for interconnections, in order to facilitate smooth education, research, operation and management, and the creation of places for interaction, corresponding to the flow lines plan.
      • When setting out public spaces such as large-scale sports grounds, car parks and blocks of green spaces, it is important to be sufficiently aware of the fact that these take up a considerable amount of space on the campus, and can have a major impact on the setting of zones.
In order to promote collaboration with the local community and use of the campus by people from outside the university, it is vital to lay out the zones in such a way as to ensure they are linked with public spaces and road networks in the surrounding area, as well as seeking to ensure that they are in harmony with the surrounding landscape.

iv) Ensuring the effective, strategic utilization of sites based on future demand and the long-term perspective

• In order to respond to demand for facilities arising from the future expansion and upgrading of the content of education and research, consideration should be given as required to sites with an adequate scale for future development.

• It is important to consider long-term site use based on the development and utilization policies.

• The development of multi-storey buildings and the consolidation of similar buildings is effective increasing the usage density of a site. Moreover, one could conceivably use basement floors, depending on the purpose of the facility and the site conditions. In seeking to consolidate buildings or create multi-storey buildings, it is vital to give consideration to the content of education and research activities, as well as to the impact on the surrounding area, such as lighting, ventilation and the sunlight available to adjoining land and buildings.

• In the event that collaboration is undertaken with the local community or industry, it is important to pursue the strategic use of the site. In doing so, it is crucial to create plans that are linked to flow line plans, building layout plans and public space plans.
3) Examples for reference

Plan for Zoned Site Usage with a View to Future Development

Hokkaido University

Sapporo Campus

Site area: 1,778,000m², building area: 223,000m², total floor space: 714,000m²
Number of students: 17,452, number of teaching staff: 3,637 (as of May 2009)

- Organic communication through the regeneration of small streams and the creation of green areas in three zones, giving consideration to the pedestrian zone
- Increase in joint research with private sector companies by opening up part of the university farm as an industrial-academic collaboration zone

Diagram of the Basic Campus Framework

Examples of Key Points in the Plan

- Construction principles of the academic zone which clearly indicate the university’s intentions and strategy
- Spatial elements that have an awareness of human scale
- Establishment of green zones that link the other zones
- Clear indication to society that the environment has been taken into consideration
- Consideration for joint development through collaboration with local government
- Consideration for relationships with the surrounding community
- Coordination with the action plan

Source: Hokkaido University Campus Master Plan 2006
http://www.hokudai.ac.jp/assets/plan/omp2006/index.html
Formation of a Campus Framework that Takes Growth, Development and Conservation into Consideration

Kagoshima University

Korimoto Campus

Site area: 351,900m², building area: 67,600m², total floor space: 187,100m²
Number of students: 10,929, number of teaching staff: 2,465 (as of May 2009)

Revision of zoning by setting new campus axes

- Extension of the new campus axis (Fureai-dori) in line with the Student Exchange Plaza plan
- Development of a pedestrian mall on an existing campus axis (Hokushin-dori)
- Development of the environment from a medium- to long-term perspective in major campus axis spaces

Kagoshima University Fuzoku Junior High School

Kagoshima University Fuzoku Primary School

Faculty of Education

Faculty of Engineering

Faculty of Science

General Education

Faculty of Law, Economics and the Humanities

Faculty of Agriculture

East Gate Main Gate

Image of the Development of the Student Exchange Plaza

Source: Kagoshima University Campus Master Plan 2008, materials provided by the Kagoshima University Facilities Department

Hitotsubashi University

Kunitachi Campus

Site area: 288,200m², building area: 35,360m², total floor space: 107,000m²
Number of students: 6,111, number of teaching staff: 580 (as of May 2009)

Creation of a Mechanism for Conserving the Landscape and Managing and Maintaining Green Areas Through Green Zoning

Greenery and lake zone in front of the main building

Kanematsu Auditorium (registered tangible cultural property)

Examples of Key Points in the Plan

- Formation of a campus framework that facilitates growth and development into the future
- Realization of a campus plan that achieves a balance between continuity and conservation, and change
- Alignment with the academic plan
- Improvement of the campus environment through small master plans
- Sharing of the vision within the university
- Creation of a mechanism that makes revisions of the master plan possible


Plans for Public Spaces

1) Key points
   i) Creating high-quality public spaces that are in harmony with the environment
   ii) Utilizing spatial elements that create a variety of functions, such as plazas, malls and greenery
   iii) Universal design, to accommodate a diverse range of users

2) Points to bear in mind when creating plans
   i) Creating high-quality public spaces that are in harmony with the environment
      • The perspective of creating spaces (place-making) is important, including spaces that will create an impression as the campus’s image, spaces that will generate interaction, spaces that are enjoyable to walk in, spaces that enrich campus life, and spaces that enable people to enjoy such resources as local scenery.
      • In order to do this, it is vital to identify the elements and spaces that will provide clues, to utilize these in the plan, to evaluate the spaces that have already been created, and to use this knowledge to assist in the creation of spaces.
      • It is crucial to ensure that the plants, surroundings and buildings around the campus, which are the elements in the local scenery, form a landscape that is integrated into the local environment, so a plan that takes into consideration harmonization with the local scenery is required.
   ii) Utilizing spatial elements that create a variety of functions, such as plazas, malls and greenery
      • On the campus, one could identify places where people gather and major flow lines for pedestrians that have a high possibility of becoming effective communication areas, and effectively develop plazas and malls. Moreover, in doing so, it is important to create comprehensive plans, including greenery, street furniture, pavements and lighting, which will contribute to the qualitative improvement of spaces.
      • In planning public spaces, it is effective to ensure the appropriate layout of public spaces in terms of the flow lines of students and teaching staff, in order to ensure that they become places that link people, promoting interaction and encouraging people to gather there, as well as giving consideration in the planning to their continuity to other indoor and outdoor public spaces.
      • In order to create a comfortable, enriched campus, it is important to seek to promote the enhancement of greenery around the campus, planting flowers and shrubs around plazas and creating avenues of trees on major flow lines. In securing additional greenery, as well as linking buildings with the development of the surrounding environment, it is vital to consider plans in terms of the comprehensive perspective, selecting appropriate types based on the natural environment and the status of the land in question, and looking at the situation from the long-term viewpoint, including maintenance and management.
   iii) Universal design, to accommodate a diverse range of users
      • As it is anticipated that there will be an increase in demand for lifelong learning and a variety of people will use the campus, including elderly people and people with physical disabilities, and because it is expected that the number of foreign students and researchers will grow, it is important to give consideration to the installation of appropriate exterior lighting and easily understood signs, as well as the development of a safe environment through which people can move with peace of mind.
3) Examples for reference

### Contributing to the Local Environment and the Enhancement of Public Spaces

**Obihiro University of Agriculture and Veterinary Medicine**

- Site area: 1,896,000m², total floor space of all buildings: 77,800m²
- Number of students: 1,495, number of teaching staff: 240 (as of May 2009)

#### Forest cultivation

Regeneration of a wood that is currently in a state of disrepair, in order to turn it into a forest that is open to the whole community.

#### Campus Plaza

Providing the campus with color as an urban space, centered on a plaza with steps, which can be used for a multitude of purposes.

#### Campus Biotope

Creating a space for rest and relaxation, centered on the existing biotope pond.

#### Japanese White Birch Avenue

Memories of the campus and the region

#### Campus Landscape

Future vision for greenery of Obihiro

- Industrial complex that takes into consideration the urban environment
- Clear indication of future prospects
- Greenery as the façade of the campus
- Consideration for history and people’s memories
- Formulation of an action plan through the presentation of a clear image
- Coordination with the plans of the local government

Source: Obihiro University of Agriculture and Veterinary Medicine Campus Master Plan 2006

Future Vision for Greenery in the Region

- The Tokachi River forms the framework for the development of green areas
- The formation of a new city area that is in harmony with the environment
- The Satsunai River forms the framework for the development of green areas
- Living spaces with abundant greenery
- Creating green areas that will become the face of the city
- The greenery of Obihiro will become the core of efforts to develop green areas
- The Tokachi River forms the framework for the development of green areas
- Living spaces with abundant greenery
- Creating green areas that will become the face of the city
Public Space Development Policy that Sets Forth the University’s Strategy as a Campus for General Education

Tohoku University

Kawauchi Campus

Site area: 816,800m², building area: 45,200m², total floor space: 117,300m²
Number of students: 7,220, number of teaching staff: 533 (as of May 2009)

Development policies that set forth the strategy of the university

Policy 1
A university park based on a cross-shaped framework of open spaces

- This will be developed as a university park that enables everyone to enjoy walking through the whole campus.
- The cross-shaped open spaces will be positioned as the framework of the university park, and linkages between pedestrian spaces will be sought.
- The university will aim to create a campus that prioritizes pedestrians, focusing mainly on public transport, capitalizing on the opening of the Sendai Subway Tozai Line, the Kawauchi-Hatadate line city planning road, and the Kita Road.

Policy 2
A campus capable of sustainable development based on rational land use

- The four zones created by the division of the site by the cross framework will be positioned as “Education and Research (North),” “Education and Research (South),” “Student Activity” and “Park” zones.
- In the “Education and Research (South)” and “Park” zones, which are located on the site of the Ninomaru (second bailey) of Sendai Castle, the construction of new buildings will be restricted and the effective use of existing buildings will be sought, in order to protect buried cultural properties.
- In the “Education and Research (North)” and “Student Activity” zones, the creation of a comfortable, high-density space will be undertaken, with open spaces and major streets forming the framework.

Policy 3
A front campus for the university, where interaction with local citizens will grow

- The Kawauchi Campus will be developed as the “face” of Tohoku University’s main campus (Aobayama – Kawauchi Integrated Campus).
- The university will aim to ensure that Kawauchi Campus becomes a space that is opened up to a wide range of local citizens, as a large-scale urban park that is integrated with the natural environment surrounding the Hirose River.
- The university will aim to ensure that the campus becomes a regional hub for culture and exchange, promoting collaboration with neighboring cultural and educational facilities, and seeking harmonization with the plan for the development of the ruins of Sendai Castle.

Examples of Key Points in the Plan
- Campus development policy that clearly sets forth the university’s strategy
- Creation of a plan that corresponds to the development policy
- Sharing the development image with staff and students within the university
- Disseminating information to the local government and local citizens
- Considering various construction and development techniques

Source: Tohoku University Kawauchi Campus Master Plan 2004
http://campa1.bureau.tohoku.ac.jp/tu_DL_data/kawauchi_MP.pdf

Plan for the external environment that corresponds to the development policy

Development of the plaza as the center of the campus

Model of the future plan for the campus
Plan for Renovating Outdoor Spaces to Form a Clear Campus Axis

Tokyo Institute of Technology
Ookayama Campus

Setting the basic philosophy that will enable the vision to be shared
Ookayama Campus: Linking Time and Space with Greenery

Future Plan
The promenade and wooden deck forming a time-space axis

Examples of Key Points in the Plan
- Plan for renovating outdoor spaces that clearly sets forth the spatial framework
- Sharing of the vision based on a clear philosophy
- The public space plan is coordinated with the site usage plan and the facility layout plan
- A systematic facility development plan that makes use of donations

Source: Tokyo Institute of Technology, Ookayama Campus: Linking Time and Space with Greenery – A Plan for the Future, December 2006
Circulation Planning

1) Key points
   
i) Creating safe, comfortable transit spaces
   ii) Highly convenient and clear flow plans
   iii) An environmentally friendly campus transit environment

2) Points to bear in mind when creating plans
   
i) Creating safe, comfortable transit spaces
   - As a result of the various activities that take place on the campus, the movement of a variety of vehicles and people occurs, including students, teaching staff and patients at the university hospital, so it is important to create appropriate flow lines that take into consideration safety and convenience based on the frequency and volume of movements.
   - The main road is the basic framework that forms the campus, so it is important to plan its linear nature in conjunction with the site usage plan, based on the scale of the site and its location. Moreover, the main road is an important landscape element for the campus, so it is vital to consider this in conjunction with the public space plan, in order to create a comfortable transit space.
   - Within the campus, it is important to ensure that people and cars can coexist safely and comfortably, while giving priority to pedestrians. Consequently, it is crucial to seek to separate the flow lines as required using an appropriate method, such as the creation of pedestrian only paths or the construction of pavements alongside roads, in order to ensure that the flow lines for people and cars do not become mixed up.

ii) Highly convenient and clear flow plans
   - The entrances and exits of the campus need to be positioned in such a way as to avoid obstructing traffic on surrounding roads and to be in a position and form that makes them easy to access from outside, based on the roads around the campus and the status of public transport, so it is important to verify the existing situation and consider development in this area if required.
   - In developing and renovating main roads and feeder roads, it is vital to base any plans on the frequency and volume of traffic, as well as the relationship between the functions of the buildings.
   - It is important to determine the scale of car and bicycle parks while giving consideration to the scale of the site, the actual status of local traffic, the forms of use and the situation regarding usage charges.
   - The disorderly entry of cars into the campus can cause the deterioration of the environment, due to noise and on-street parking, not to mention the problem of traffic safety. In order to maintain an orderly campus environment, it is vital to give comprehensive consideration to all related matters, including management and operation.
   - In order to secure a campus environment that is suitable to education and research, it is important to verify the suitability of the scale and location of existing car and bicycle parks, and to consider changing their scale or moving them.

iii) An environmentally friendly campus transit environment
   - As the environmental impact of traffic and the transport sector is significant, it is important to restrict the use of cars and motorcycles, and to aim for management and operation that promotes a switch to other means of transport, such as the use of bicycles and public transport. Moreover, it is effective to seek to reduce the number of vehicles entering the campus through the introduction of parking charges, as well as considering the layout of car parks and the management of flow lines.
3) Examples for reference

- **Aiming to Create an Ideal Campus Transport Network**

**Osaka University**  Toyonaka Campus  
Site area: 439,200m$^2$, total floor space over all buildings: 242,300m$^2$  
Number of students: 11,900, number of teaching staff: 1,158 (as of May 2009)

**Gaining an accurate understanding of current problems**

**Image aimed for as the final form**

**Examples of Key Points in the Plan**

- The formation of spaces through which everyone can move safely and comfortably
- AVOIDS THE MIXING OF PEDESTRIANS, BICYCLES AND CARS
- Reallocates road space according to the functions of the space
- Bicycle use as a means of transport within the campus
- The creation of a plan through the participation of a variety of people
- The establishment of an information center

**New proposal (rather than proposal 12)**  
to change the site of the roundabout plaza for buses to the front of School of Engineering Science

Source: Osaka University Campus Master Plan March 2005

http://www.osaka-u.ac.jp/ja/aanrai/information/committee cmp/cmp.htm
Building Layout Plans

1) Key points
   i) Forming a harmonious landscape and cultivating an academic environment
   ii) Achieving a facility layout that improves convenience and functionality
   iii) Implementing an intensive configuration of facilities and equipment that can be made available for shared use

2) Points to bear in mind when creating plans
   i) Forming a harmonious landscape and cultivating an academic environment
      • It is important to gain an understanding of the current status of spatial axes such as roads and areas planted with trees and shrubs on the existing campus, as well as the wall surface lines of buildings, and to use these as hints for the layout of buildings that can achieve a harmonious appearance as a group.
      • In order to promote a harmonious appearance as a group, it is effective to set out a basic design policy (design guidelines) concerning the shape, color and major materials of the buildings.
      • When determining the layout of multiple buildings, as well as bearing in mind the balance of the whole and the density of the space, in conjunction with the zoning plan, it is important to plan the layout in such a way as to ensure that the external spaces composed by the relationship of the buildings to each other are appropriate to the purposes of each zone.
   ii) Achieving a facility layout that improves convenience and functionality
      • From the perspective of the effective use and functionality of the site, it is important to promote intensification, with as cohesive a layout as possible of buildings with similar purposes or functions, based on the education and research activities being conducted, as well as the content of the education and research equipment contained therein. Moreover, if required, it is important to consider the development of complexes that combine different functions. Furthermore, in the case of facilities that are anticipated to expand in the future, it is important to consider the approach to any extensions, in order to secure land for expansion and ensure that the existing buildings can be joined smoothly to any extensions.
      • In the reconstruction of buildings, it is important to devise ways of increasing the usage density of the site, in order to enable land to be made available for new strategic facilities and to enable education and research activities to take place more smoothly.
      • In the case of facilities that give rise to noise, odors or exhaust gases, as well as taking the appropriate measures for each particular facility, it is important to take into account the impact on neighboring facilities and, if required, to give consideration to the layout, concentrating similar facilities in one location and separating them from others, or establishing a buffer zone.
      • In building new facilities or rebuilding existing ones on campus, it is vital to create a rational plan that is functional, highly convenient and easy to use, based on the actual usage status of each building, the functional relationship between different buildings and the situation relating to the movement of people between buildings, in order to ensure the smooth implementation of education and research activities, as well as facilitating the management and operation of the facilities.
   iii) Implementing an intensive configuration of facilities and equipment that can be made available for shared use
      • With regard to large-scale equipment and special laboratories that can be made available for shared use, as well as deploying them in appropriate places, from the perspective of ensuring their efficient, effective management and operation, it is effective to give consideration to their intensification and making them available for shared use both within the university and to organizations outside it.
      • In determining the layout of facilities for industrial-academic collaboration with industrial sectors and the community, it is important to give consideration to usage and accessibility from outside the university, and to plan the layout with the relationship to flow lines and public spaces in mind.
3) Examples for reference

### Facility Layout Plan Centered on a Green Belt that is a Symbol of the University

**Nagoya University**

- **Higashiyama Campus**
  - Site area: 699,200m², building area: 123,400m², total floor space: 417,500m²
  - Number of students: 16,089, number of teaching staff: 2,358 (as of May 2009)

**Examples of Key Points in the Plan**

- Establishment of a high-rise facility zone that takes the campus landscape into consideration
- Design control of facility clusters using cross-sectional shapes and design codes

**Establishment of a facility layout plan based on clear zoning and design control techniques for maintaining a pleasant campus landscape**

**Future Layout Plan for Facilities Grounded in the Vision for Collaborative Industrial-Academic Research**

**Kitami Institute of Technology**

- **Koen-cho Campus**
  - Site area: 181,100m², building area: 30,000m², total floor space: 63,800m²
  - Number of students: 2,187, number of teaching staff: 268 (as of May 2009)

**Examples of Key Points in the Plan**

- Securing land for strategic facility construction based on the academic plan
- Layout planning that builds organic relationships between facility clusters

Based on the academic plan, a collaborative industrial-academic research zone will be established and, as well as securing land for the construction of facilities in the future, the problems will be summarized.
Sustainable Environment and Construction Plans

1) Key points
   i) The creation of a plan for a sustainable environment
   ii) The creation of a plan for sustainable construction
   iii) The creation of mechanisms for achieving sustainable development of the campus environment

2) Points to bear in mind when creating plans
   i) The creation of a plan for a sustainable environment
      • It is important to gain an understanding of the natural environmental features of the campus, such as wind, heat and water, and to give consideration to achieving a sustainable environment, including matters relating to campus ventilation and the use of sunlight and water. For example, it is important to seek to form a sustainable environment, by such means as planting windbreak forests on the campus as a way of countering storms, planting deciduous trees in order to adjust the quantity of sunlight during the year, using geothermal heat and rain and well water, and planting trees and flowers on campus to counter the heat island effect.
   
   ii) The creation of a plan for sustainable construction
      • When building new facilities or reallocating facilities on campus, it is important to use layouts and forms that give consideration to sustainability and respect the order of the campus space, which is composed of existing buildings, trees and shrubs, and public spaces.
      • It is also vital to give consideration to environmentally friendly buildings that use effective passive techniques, such as taking ventilation into account and creating green areas around buildings that contribute to the adjustment of the indoor environment.
      • In order to achieve sustainable buildings, it is effective to give consideration to the climate conditions on campus and to create a basic policy on sustainability (sustainability guidelines), from the perspectives of “energy conservation”, “extending the life of facilities”, “using eco-materials”, “environmental conservation and landscape formation”, and “safety and universal design”.

Aspects of each building that take the environment into consideration

Aiming for Sustainable Buildings

The five basic concepts when renovating or rebuilding facilities on campus

1. Energy conservation
2. Extending the life of facilities
3. Using eco-materials
4. Environmental conservation and landscape formation
5. Safety and universal design

Building guidelines

1. Energy conservation

In order to reduce the environmental burden of the campus as a whole, priority will be given to reducing the individual elements of the burden in the indoor environment, promoting qualitative improvements in the interior heating and lighting environment and reducing the energy that it consumes, and ensuring effective use of natural energy.

2. Extending the life of facilities

The lives of the frameworks and equipment that make sustainable campus development possible will be extended and flexibility ensured, in order to enable the campus to adapt not only to external factors, such as the aging of facilities over time, but also to changes in research content.

3. Using eco-materials

Efforts will be made to ensure that, in campus construction, proactive use is made of materials with a low environmental burden and materials that have been produced locally, in order to ensure that it becomes a model for environmentally friendly construction.

4. Environmental conservation and landscape formation

Development will conserve the natural environment on the campus and contribute to the formation of the campus landscape as a whole.

5. Safety and universal design

Efforts will be made to ensure the safety of the buildings themselves, to meet requirements as school buildings, and to ensure their safety as an environment in which research and experiments take place.

Basic Policy on Sustainability (Hokkaido University)
iii) The creation of mechanisms for achieving sustainable development of the campus environment

- In order to maintain an appropriate campus environment and promote sustainable development, it is effective to construct permanent systems and mechanisms.
Examples for reference

**Architecture in Harmony with the Environment, Integrated with the Green Pedestrian Mall**

**Hokkaido University**

- **Faculty of Engineering Joint Laboratory Block**
- **Architectural Design and Urban Planning Studio Block**

**Site area:** 1,778,000m², two-storey ferroconcrete structure,
**Building area:** 1,537,000m², total floor space: 2,382,000m²
**Completed in March 2009**

**First flood spatial layout and exterior plan**

**Floating studio integrated with the outdoor space**

**Ventilation mechanism using cooling tubes**

**Examples of Key Points in the Plan**

- Spatial plan integrated with the campus central mall
- Passive air conditioning plan using cooling tubes
- Spatial composition integrated with the public spaces
- Unambiguous construction cost plan

Source: Hokkaido University Master Plan 2006
Environmental Apparatus that Fosters Communication Between Researchers

High Energy Accelerator Research Organization

No.4 Research Block

Site area: 1,531,000m², building area: 2,348,000m², total floor space: 7,046,000m²
Number of teaching staff: 662 (as of May 2009)

Examples of Key Points in the Plan

- Pump ventilation system using the underground pit and the atrium
- Atrium space that triggers interaction between researchers
- Proactive use of natural light
- Reduction of the burden from air conditioning through sunlight control

Source: High Energy Accelerator Research Organization
Infrastructure Plans

1) Key points
   i) Creation of a plan based on an understanding of campus energy consumption and demand
   ii) Flexible infrastructure plan
   iii) Effective, efficient maintenance management and operation

2) Points to bear in mind when creating plans
   i) Creation of a plan based on an understanding of campus energy consumption and demand
      • In order to ensure effective energy use and respond to future changes, it is important to plan appropriate
        energy supply and handling facilities for the campus as a whole, based on the actual status of energy use
        and future energy demand.
      • In planning energy supply and handling facilities, it is vital to construct appropriate systems, giving
        consideration to whether to use an intensive or distributed system according to the usage status of the
        facility. In doing so, it is important to consider appropriate energy conservation measures, based on the
        purpose and scale of the facility, as well as the status of its use. Moreover, with regard to the effective
        use of unused energy and natural energy, it is desirable to confirm whether or not there is a system of
        subsidies, and to give consideration to using any subsidies available, depending on the situation.
      • It is important to compare initial costs and running costs, according to the type and purpose of the
        facility, as well as its usage plan, heat source and equipment system, and to plan a well-balanced,
        efficient system.
   ii) Flexible infrastructure plan
      • In order to facilitate a response to changes, such as future expansions in scale, changes of purpose and
        the upgrading of equipment, it is important to ensure that the system is flexible. In particular, if
        introducing a new system in an existing campus, it is crucial to ensure that an appropriate transition
        period is selected and that management and operation is carried out appropriately during this transition
        period, taking into consideration such things as the purpose of the facilities, their scale and the year in
        which they were developed.
      • In recent years, as a result of progress in IT and its popularization, changes in the education and
        research environment have become pronounced and although it is difficult to predict the future, in this
        kind of situation it is important to plan and develop infrastructure designed with flexibility in mind.
   iii) Effective, efficient maintenance management and operation
      • With regard to supply and handling routes for electricity, water and sewerage, gas and heat sources for
        heaters, it is important to summarize the options appropriately, according to their purpose, rationalizing
        the laying of pipes and cables, and seeking the introduction of infrastructure that will be labor-saving
        from the perspective of maintenance. Moreover, with regard to major energy trunk line routes, it is
        important to give consideration to maintenance, securing the requisite space for common conduits, as
        well as thinking about the routes to be used, based on major flow lines within the campus.
      • One effective technique for seeking the effective use of energy is the utilization of information
        transmission and processing systems in the monitoring and control of energy. In introducing
        information transmission and processing systems, it is vital to give appropriate consideration to the
        options based on the facility management and operation policy and the costs and effects of the
        introduction of such a system.
      • In particular, in order to carry out energy management, such as energy conservation, it is also effective
        to install electricity and gas meters in each management zone, such as in each block, floor or room.
3) Examples for reference

**Campus Infrastructure Development Supporting Education and Research in Unseen Areas**

**Shinshu University**

Site area: 132,600m², building area: 19,800m², total floor space: 47,700m²
Number of students: 1,158, number of teaching staff: 206 (as of May 2009)

Rethinking existing energy infrastructure with the aim of creating an eco-campus

The following initiatives are being promoted through ISO 14001 activities:
- The proactive introduction of equipment and instruments to improve energy consumption efficiency
- Ensuring thorough adherence to the principle of reducing, reusing and recycling waste, as an initiative aimed at achieving a recycling-based society
- The creation of a maintenance management plan that gives consideration to economic efficiency, comfort and maintenance

**Chiba University**

Site area: 381,400m², building area: 73,500m², total floor space: 234,000m²
Number of students: 11,587, number of teaching staff: 1,179 (as of May 2007)

Construction of an energy management system that uses existing network infrastructure

System that accumulates records of changes in power consumption over time at all buildings on the four main campuses:
- Accumulation of data by web servers
- Effective utilization of the university's LAN infrastructure
- Reduction in system development costs

The following are being prepared:
- The provision of data to the Energy Conservation Leader Conference
- Perusal of data by all members of the teaching staff
- Application of the system to water and gas consumption

By accumulating information on the server, it is possible for users to make use of data just by accessing the LAN environment from a terminal.

It is possible to confirm easily the quantity of electricity consumed, just by accessing the university LAN.

Examples of Key Points in the Plan

- Rethinking the infrastructure plan in order to provide an efficient supply of energy
- Constructing an energy conservation system that forms the foundation of a sustainable campus
- Creation of a medium- to long-term maintenance and management plan
5. Initiatives Aimed at Implementing the Campus Master Plan (Phase IV)

- After creating a campus master plan, it is important for national university corporations to implement various initiatives aimed at realizing the master plan, according to the actual circumstances of the national university corporation in question. This section provides an introduction to examples of initiatives by national university corporations focused on the planning of facilities development, maintenance and management, and the effective utilization of existing facilities, which have been undertaken on the basis of such campus master plans.

(1) Examples of Short-term Development Action Plans (Tohoku University)

1) The creation of a short-term development plan
   - In order to realize campus master plans for achieving long-term targets, it is important to create a short-term development plan for projects that should be implemented within a certain period, in order to steadily carve out milestones, and then to follow this plan up by means of the PDCA cycle, implementing the projects, evaluating and analyzing them, and rethinking the development plan. Moreover, in order to ensure that the securing of funding, which is the key to project implementation, proceeds smoothly, Tohoku University steadily implemented initiatives from among the most feasible projects.
   - In creating a short-term development plan, as well as setting out the target achievement period, the university devised ways of ensuring that the correlation between related projects was clear, such as summarizing the relationships for each area or each project group.
   - The order in which projects should be developed was determined with reference to the degree of maturity of the project plan, the project funding goal, the transition plan and whether or not the project represents an obstacle to other projects. Moreover, consensus building concerning the order of development took place in the case of projects spanning multiple faculties and divisions.

2) The selection of project coordinators and facility managers
   - In order to implement the projects, decision-making by the university executive team is important. When the executive team is considering the order of priority for the projects, direct explanations by the teaching staff of what kind of plan for that project will give rise to what kind of results often play a major part in project implementation. Consequently, in promoting projects, project coordinators were selected and these played an important role in convincing the departments in charge of facilities and relevant stakeholders, as well as in securing sources of funding.
   - At the same time as selecting project coordinators, facility managers were selected. In many cases, these are the same as the project coordinators, but there are also many cases in which these differ, where multiple departments are involved. Selecting project coordinators and facility managers provided impetus to realize the projects, enabling a swift start to be made on the project if the funding source had been secured.

3) The creation of a funding plan
   - Initiatives aimed at securing funding sources are the process that entails the greatest difficulty; in order to clarify the targets, the university selected diverse funding sources, such as facility development subsidies and private sector funds, and then created a funding plan in line with the characteristics of each facility. However, there was a strong possibility that the funding plan would change as the project progresses, so the university responded flexibly, giving consideration to the decision-making level and the possibility of amending the content.
   - With regard to project costs, the university gained an understanding of the project costs for each project group (e.g. area), as well as for each project, of course. Furthermore, the university continually kept abreast of its financial situation and proposed the implementation of projects suited to this situation.
**Short-term (to 2013) Priority Development Items**

**Seiryo Campus Master Plan**

- **Dentistry Area**
- **Institute of Development, Aging and Cancer & Medicine Area**

**Common**

- **Medical Hospital**

Table: Published by the university

- Partly-revised version of the materials

**Specific project content**

- Corresponding to the plans for individual sectors in the campus master plan

**Finance**

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding Source</th>
<th>Estimated Costs (¥)</th>
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<tr>
<td>1st</td>
<td>University Donation</td>
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<tr>
<td>2nd</td>
<td>University Donation</td>
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<tr>
<td>3rd</td>
<td>University Donation</td>
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<td>7th</td>
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<tr>
<td>8th</td>
<td>University Donation</td>
<td>¥X00 million</td>
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</tbody>
</table>

**Key Plan Point**

- Setting targets through the clear presentation of potential funding sources and amounts for each development project
- Creating an annual plan that sets forth the relationship with related project and the implementation period

- *Partly-revised version of the materials published by the university*
(2) Examples of Maintenance (Yokohama National University)

- In order to seek the long-term use of facilities and ensure their safety and reliability, it is important from an economic perspective to effectively implement checks, maintenance and repairs of facilities for preventing potential risk, as well as resolving defects in facilities that are an obstacle to education and research activities.
- More specifically, the university carries out maintenance and management by means of the PDCA cycle, formulating appropriate maintenance and management plans, implementing maintenance and management based on these plans, and revising the plans as and when required.

1) Creating a facilities repair plan

- In creating a facilities repair plan, the university evaluated the dilapidation status of buildings and equipment by means of tours of inspection, and created a medium- to long-term repair plan for each building, taking into account the passage of years since each facility or piece of equipment was established. Moreover, the plans were created to take into consideration the reduction of the environmental burden, such as energy conservation, resource conservation and the reduction of CO2 emissions.
- The university also calculated the costs required each year in the medium- to long-term, based on the facilities repair plan. In addition, in making these calculations, it sought to equalize the costs so that they were not concentrated in a particular year.

2) Implementing a facilities repair plan

- In implementing the plan, checks of the site were carried out, concerning such matters as their dilapidation status, inspections and evaluations were implemented, and university-wide consensus was sought concerning the order of priorities and the selection of projects from among a wide range of members, including those using the buildings (teaching staff and administration staff), as well as staff from the facilities department.
- Amidst a difficult budget environment, the university secured a specific sum for repair costs each fiscal year, to avoid the plan falling through.

3) Revising a facilities repair plan

- It is necessary to ensure the plan’s adaptability, as it is conceivable that there might be cases in which implementation does not go according to plan, due to projects outside the plan and the need for emergency repairs. Moreover, it is important to disclose information and report on the implementation status to those within the university.
### Annual Plan for Facilities Repair

#### LCC Repair Plan Table by Age of Building

<table>
<thead>
<tr>
<th>Category</th>
<th>Building</th>
<th>Floor Area (m²)</th>
<th>Planned Repair Costs (Renovations) (million yen)</th>
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<tbody>
<tr>
<td>beton</td>
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<tr>
<td>Concrete</td>
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<td>Steel</td>
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<td>Plastic</td>
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<td>Wood</td>
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<tr>
<td>Other Materials</td>
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#### Systematic Repairs

<table>
<thead>
<tr>
<th>Item</th>
<th>Fiscal Year</th>
<th>Section</th>
<th>Individual Sector</th>
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</thead>
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<tr>
<td>Second Medium-term Period</td>
<td>FY 2007</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
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<tr>
<td>Buildings</td>
<td>FY 2008</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
<tr>
<td>Buildings</td>
<td>FY 2009</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
<tr>
<td>Buildings</td>
<td>FY 2010</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
<tr>
<td>Buildings</td>
<td>FY 2011</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
<tr>
<td>Buildings</td>
<td>FY 2012 onwards</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
<tr>
<td>Budget Special Support for Annual Plant Sales</td>
<td>FY 2007</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
<tr>
<td>Budget Special Support for Annual Plant Sales</td>
<td>FY 2008</td>
<td>College of Science and Engineering</td>
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<td>FY 2012 onwards</td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
<tr>
<td>Equalization of costs to avoid concentration problems in a particular year</td>
<td></td>
<td>College of Science and Engineering</td>
<td>Faculty of Science and Engineering</td>
</tr>
</tbody>
</table>

### Key Plan Points

- **Calculation of costs giving consideration to the service life of facilities and equipment, in order to undertake planned renovations**
- **Equalization of costs to avoid concentration problems in a particular year**
- **Based on local surveys, the dilapidation status of buildings and equipment is evaluated and repairs carried out in a systematic manner**
(3) Examples of the Effective Utilization of Existing Facilities (Chiba University)

- In order to respond flexibly and in an agile manner to the evolution of education and research, it is important to seek to utilize facilities effectively. In order to do this, as well as developing a university-wide system, the university managed spaces on a university-wide basis and planned the allocation of space appropriately, based on such aspects as the degree of demand for and supply of facilities according to their objective and purpose, and the degree to which they are used.

1) Background to the plan

- With regard to the background to the plan, i) ensuring that the Center for General Education (common educational courses) is resistant to earthquakes and improving its dilapidated state; ii) improving the utilization rate of the lecture rooms; iii) resolving the problem of demand for new facilities (universal education center, etc.) were all required.

2) Key points in facility development

- The key points in facility development include i) aiming to increase the utilization rate and reduce the number of lecture rooms; ii) creating an annual plan for the renovation of the Center for General Education; iii) turning the reduced lecture rooms in each faculty into laboratories, and concentrating the empty space in Building A in the Center for General Education; iv) allocating the concentrated space to new organizations (such as the universal education center) (responding to demand for facilities, rather than building new facilities); v) improving the functionality and amenity of the lecture rooms with increased utilization rates; vi) using empty lecture rooms outside of hours for extracurricular activities or lifelong learning; and vii) securing a safe education and research environment by improving the earthquake resistance of buildings.

3) Initiatives in conjunction with facility development

- The initiatives undertaken in conjunction with facility development include i) improving the utilization rate of lecture rooms in conjunction with the reorganization of the curriculum; ii) the creation of a draft renovation plan aimed at improving functionality and earthquake resistance (considering at the same time the places to which the facilities will move while renovations are taking place); and iii) considering holding lectures in the classrooms at a neighboring elementary school while renovations are taking place, and discussing this with the city’s education committee.
Diagram Showing the Plan for Moving While the Center for General Education, Faculty of Letters and Faculty of Law and Economics, and Faculty of Education are Being Renovated

- Improvement of utilization rates through the concentration of lecture rooms, thereby effectively utilizing existing facilities
- Allocating the concentrated space to new organizations and responding to facility demand, rather than constructing new buildings

Diagram Showing the Lecture Room Reduction Plan

List Showing the Lecture Room Usage Status at the Nishi-Chiba Campus (Reduction Proposal)

- Extra-large lecture rooms (around 400 seats – more than 400m²)
- Large lecture rooms (around 200 seats)
- Medium lecture rooms (around 100 seats)
- Small lecture rooms (15 – 45 seats)

Lecture rooms targeted for reduction
- Lecture rooms for exclusive use and priority use by the Faculty of Letters and Faculty of Law and Economics
- Lecture rooms for exclusive use and priority use by the Faculty of Education
- Lecture rooms for exclusive use and priority use by the Center for General Education
- All-meat lecture rooms

<Key Plan Point>
Reduction in the number of lecture rooms and revision of the utilization rate by rethinking the curriculum throughout the university
Reference

Guide to Creating a Strategic Campus Master Plan (Outline) - Aiming for the Formation of Attractive Campuses with Unique Characteristics -

1. The Necessity of a Campus Master Plan
   - Aims of creating a campus master plan
     - Providing opportunities to think independently and autonomously about how to shape the campus, which forms the base for education and research
     - Further promoting initiatives aimed at creating a campus that will promote the strategy of each university
     - Publicizing the importance of campus development through the publication of the campus master plan and the effects of development
   - Effects of creating a campus master plan
     - Planned development suited to the university’s education and research activities, forming a harmonious campus landscape, utilizing the campus to promote the university’s strategy, etc.

2. The Creation of a Campus Master Plan
   - Relationship to the academic plan and management strategy, and understanding the current status of the campus
     - Specialization according to the function of the university and responses to the university strategy
     - Identifying and summarizing the issues affecting the campus by checking and assessing the facilities
   - Creating the basic policy
     - Creating a policy based on the academic plan, the management strategy and an understanding of the current status of the campus
   - Creating the development and utilization policies
     - Clarifying the “areas that must not be changed” and the “areas that will be changed”
     - Eliminate the sense of ownership of departments with regard to land and spaces and maximizing the usage of campus resources
   - Creating plans for individual sectors
     - Creating a plan for forming the campus framework (zoning plan, public spaces plan, etc.)
   - Developing and publishing a system for creating the campus master plan
     - Developing a system for promoting campus development and use, under the leadership of the principal
     - Publishing the campus master plan both within the university and outside it, in order to secure understanding and cooperation from all directions
   - Growing the campus master plan
     - Ensuring the developmental growth of the campus master plan in response to changes in the situation surrounding the university

3. Initiatives Aimed at Implementing a Campus Master Plan
   - Approaches to promoting projects based on a campus master plan
     - Developing projects as a university in a well-planned, focused matter, based on the order of priority of the projects
     - Giving comprehensive consideration in the implementation of projects to all aspects, including development through a range of sources of finance and management and operation after development
   - Promoting an increased level of facility management
   - Publishing the effects of development on education and research
     - Accountability for providing adequate explanations to the populace of campus development using public funds
     - Publicizing the necessity of facility development and the effects of development on education and research activities

Flow of Creating the Campus Master Plan

- Academic Plan
- Management Strategy
- Understanding the Current Situation
- Basic Policy
- Campus Master Plan
- Development and Utilization Policies
- Plans for Individual Sectors
- Framework
- Other
- Publication
- Flow of Creating the Campus Master Plan

Example of the effects of creation (Kyushu Institute of Technology)
Example of the Effects of Creating a Campus Master Plan

Campus zoning plan that responds to the development of education and research (Hokkaido University)

No.2 Farm

Before Development
(Bird's-eye view of the North Campus, which was No.2 Farm)

Plan Creation
(The area that was being used as the No.2 Farm has been divided into zones: the In-house Research Village Zone, the Industrial-Academic Collaboration Zone and the Private Sector Funding Zone)

Bird's-eye view of the North Campus
(Rethinking of land usage on the existing campus in response to the reorganization and integration of faculties and graduate schools based on new concepts)

Formation of a harmonious landscape (Iwate University)

Before Development
(Many dilapidated university buildings)

After Development
(Design guidelines were created and renovation and development carried out in sequence)

Bird's-eye view of the campus
(Formation of a harmonious campus landscape)

Regenerating the plaza as a space for interaction (Tohoku University)

Before Development
(Barricades and bicycles left abandoned)

Plan Creation
(Plan for a verdant student plaza around the main square)

After Development
(Development of the outdoor environment resulting in the development of a plaza)
List of Those Cooperating in Research into the Future Development and Enhancement of Facilities at National University Corporations

(Alphabetical order)

Sachiko Karaki  Director, Basic Technology Department, Research and Development Division, Olympus Research Center

Shin’ichi Katsukata  Education Journalist

(Senior Researchers)

Kiyoko Fukami  Professor, School of Life Sciences, Tokyo University of Pharmacy and Life Sciences

Tsutomu Kimura  Professor Emeritus, Tokyo Institute of Technology; Chairman, Tokyo Metropolitan Government Board of Education

Hidetsugu Kobayashi  Professor, Graduate School of Engineering, Hokkaido University

Yukio Komatsu  Professor, Graduate School of Creative Science and Engineering, Faculty of Science and Engineering, Waseda University

Kimiko Kozawa  Guest Professor, Tokai University

Tomoko Nakanishi  Professor, Graduate School of Agriculture and Life Sciences, University of Tokyo

Takehiko Sugiyama  Principal, Hitotsubashi University

Atsuto Suzuki  Director, High Energy Accelerator Research Organization

Nagayasu Toyoda  Vice-Principal, Suzuki University of Medical Science; Advisor to the Principal of Mie University

Kiyoshi Yamamoto  Professor, Research Division, Center for National University Finance and Management

Shinji Yamashige  Associate Professor, Graduate School of Economics, Hitotsubashi University

Kazuo Yoshida  Professor, Graduate School of Economics, Kyoto University

(As of March 2010)

List of Those Cooperating in the Working Group to Consider the Plan for Campuses

(Alphabetical order)

(Takeshi Ueno  Professor, Department of Architecture, Faculty of Engineering and Professor, Campus Development Planning Office, Chiba University

(Senior Researchers)

Hidetsugu Kobayashi  Professor, Graduate School of Engineering, Hokkaido University

Yukio Komatsu  Professor, Graduate School of Creative Science and Engineering, Faculty of Science and Engineering, Waseda University

Kensuke Mizuta  Professor, Research Division, Center for National University Finance and Management

Ken Midorikawa  Director, Facilities Division, Department of Finance, Hitotsubashi University

Koichi Shinbo  Director, Educational Facilities Research Center, National Institute for Educational Research of Japan

Osamu Yamashita  Director, Facilities Division, Tohoku University

(Expert Collaborators)

Takeo Ozaki  Secretary-General, Aizu Museum and Assistant, Cultural Affairs Division, Waseda University

Takao Ozasa  Associate Professor, Graduate School of Engineering, Hokkaido University

Hisashi Komatsu  Associate Professor, Graduate School of Environmental Studies, Nagoya University

Naoki Tsurusaki  Associate Professor, Graduate School of Human-Environment Studies, Kyushu University

Yasufumi Domi  Specialist, Facilities Section, General Affairs and Planning Division, Obihiro University of Agriculture and Veterinary Medicine

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