


		UWC	
 <p>UNIVERSITY of the WESTERN CAPE</p>	Infrastructure Management Policy	Council Approval Reference Number	
		First Approval	C2022/03 (22 September 2022)
		Amendments	
		Implementation Date	23 September 2022
		Revision / Amendment	n/a
		Revision / Amendment Date	n/a
		Provisos	n/a
		Policy Owner	Infrastructure and Engineering
		Executive Management Portfolio	ED – Finance and Services
		Contributors	EMC, SPRC, SEC, IBDC, Council
		Circulated by:	Executive Director – Finance and Services
		Circulated to:	Institutional Planning and Infrastructure and Engineering staff members.

University of the Western Cape

Infrastructure Management Policy

Contents

Preamble	3
1 Purpose	4
2 Scope	4
3 Definition of concepts	4
4 Principles, procedures and delegations	4
4.1 Infrastructure development at UWC	4
4.2 Management of infrastructure	5
4.3 Spatial development frameworks	7
4.4 ICT infrastructure plans	7
4.5 Infrastructure management plans	7
Annexure A: Principles associated with the management of University infrastructure	9
Annexure B: Universal spatial planning principles	11
Annexure C: Infrastructure planning principles	14

Preamble

Infrastructure management is not just a matter of maintaining existing infrastructure or providing new infrastructure. The focus of this Policy is on balancing these aspects and providing a high-level strategic framework for infrastructure provision and the utilisation thereof. Such an approach requires direction on decision making throughout the infrastructure planning, delivery, operation and disposal processes, it spans the focus of various management and governance structures and follows a risk-based approach to achieve a balance between whole life cost, risk, performance, and sustainability, through:

- providing a defined and agreed level of service and performance monitoring;
- taking a life-cycle approach to developing cost effective management strategies for the long term that meet the desired level of service;
- identifying, assessing and appropriately managing risks; and
- having a medium to long term financial plan which identifies required expenditure and how it will be funded.

It is necessary to determine acceptable and functionally appropriate levels of service, so that infrastructure requirements (and performance and utilisation) can be measured against a set yardstick. Criteria may relate to availability of the service, quality or condition, quantity, reliability, responsiveness, environmental acceptability and financial implications.

Levels of service are informed by a combination of stakeholder needs, legislative requirements and internal business objectives, and need to be sustainable over the estimated service life of the infrastructure. This is a vital part of the infrastructure management process that not only affects decisions on existing infrastructure but also informs choices and decisions affecting the maintenance of existing infrastructure and the provision of new infrastructure.

Infrastructure assets, which support the objectives of the institution, exist to provide value to the University. To ensure that value is maximised, there is a need to understand what infrastructure is required, what infrastructure exists, how well it is being utilised, what condition it is in, its fitness for purpose, its operational costs, and its ability to evolve in changing circumstances.

This Policy will be supported by:

- 1) The Fixed Asset Policy;
- 2) Procurement Policy
- 3) Budget Policy
- 4) Campus Development Plan; and
- 5) An annually-updated 3-5-year Infrastructure Management Plan.

1 Purpose

The purpose of this Infrastructure Management Policy is to establish a Council approved policy for key infrastructure-related principles and objectives that the University's executive management needs to pursue over time. The Policy is supported by

- a) a long-term spatial development framework (Campus Development Plan); and
 - b) an annually-updated 3-5-year infrastructure management plan;
- which promote the efficient, economic, effective and sustainable use of resources.

2 Scope

This document establishes the University's policy for the management of its infrastructure. It includes the management of:

- a) the demand for infrastructure;
- b) the creation and prioritisation of a pipeline of interventions; as well as
- c) the management of land holdings.

3 Definition of concepts

Infrastructure comprises immovable assets which are acquired or constructed or which result from construction operations and includes moveable assets which cannot function independently from purpose built immovable assets. It includes Information and Communication Technology (ICT) networks and systems that are used to communicate and to create disseminate, store and manage information, as well as security technology installations.

Asset management seeks to effectively, efficiently, economically and sustainably utilise infrastructure to serve the current and emerging needs of the University. Asset management accordingly considers the entire lifecycle (service life) of the infrastructure asset and the associated costs, from the identification of a need through operating costs, and finally to the final decommissioning and disposal of the asset.

4 Principles, procedures and delegations

4.1 Infrastructure development at UWC

In proposing infrastructure development projects that include the acquisition or construction of new buildings as well as the repurposing and modernisation of existing infrastructure, the University will give due consideration to:

- a) The alignment of the proposed infrastructure development with the University's strategic intentions as articulated in its Institutional Operating Plan and the Campus Development Plan;
- b) Affordability and future financial commitments.
- c) Continue to apply and seek to optimise the funding opportunities provided by the DHET's infrastructure grants, and in doing so will seek to find a balance between projects focusing on:
 - 1) UWC's academic project, including new programme areas. In this regard the University will seek to find a balance between the repurposing and refurbishment of old infrastructure and new developments / acquisitions;
 - 2) Student growth and the capacity of infrastructure;
 - 3) The needs of students and improving their university experience, especially at smaller campus sites; and
 - 4) Addressing compliance issues and backlog maintenance.
- d) Where feasible the university will increase the provision of ablution facilities that are:

- 1) Accessible and that serves the requirements of disabled students and staff; and
 - 2) Gender-neutral to support the needs of the University's gender-diverse student and staff population.
- e) Optimising appropriate income-generating activities where these opportunities exist or can be established.

4.2 Management of infrastructure

The University will manage its infrastructure based on the principles set out in Annexure A. The University's Executive Management is responsible for all aspects of infrastructure management and these functions are largely executed on its behalf by the Executive Director: Finance and Services. In this regard the University will attend to:

4.2.1 Life-cycle infrastructure asset management planning for large individual assets or groups of infrastructure assets, which include operation, maintenance and refurbishment requirements. This planning will inform major refurbishment or upgrading requirements which are incorporated into the infrastructure management plan.

4.2.2 Facilities management, ensuring that:

- a) the necessary internal and external facilities management resources are in place;
- b) engineering infrastructure management including the following, occurs:
 - 5) budgeting and preparation for planned as well as unplanned maintenance;
 - 6) regular checking of hard services (mechanical, electrical and plumbing (MEP) services) to keep them serviceable with special attention being paid to critical infrastructure;
 - 7) identification and establishment of condition monitoring and inspection plans as per the operating and maintenance manuals to check, test or replace infrastructure systems, subsystems, assemblies or components;
 - 8) preventative (scheduled, routine) maintenance plans are drafted and implemented;
 - 9) all breakdowns are addressed immediately and repairs planned and prioritised; and
 - 10) a record is made of infrastructure breakdowns and incidents which can be analysed to identify trends to inform decisions;
- c) the day to day soft services (e.g. cleaning, security, catering, fire protection, waste management, reception services) are done properly and that staff or contractors and their performance is measured and reported against performance specifications; and
- d) demobilisation of facilities management (e.g. Service Level Agreements) for infrastructure that will be disposed of as well as for infrastructure earmarked for upgrades, refurbishments or rehabilitation.

4.2.3 Progressive development of an infrastructure management system to provide reliable, consistent and updated infrastructure information to enable optimised decisions to be made, which should:

- a) be used to inform infrastructure management activities; and
- b) provide improved risk control assurance that the objectives in the infrastructure management policy will be achieved on a consistent basis.

4.2.4 Entering into leases for infrastructure for use by the University or for the leasing of University infrastructure and the administration thereof.

4.2.5 The management of all occupational health and safety and environmental compliance matters in relation to infrastructure and the usage of land.

4.2.6 Access management and security required to safeguard University infrastructure and land.

4.2.7 Management of all ICT infrastructure.

4.2.8 Reporting of infrastructure management-related matters to the oversight committees identified in Table 1, who will approve actions that are necessary for the progressive implementation of principles associated with the management of University infrastructure as set out in Annex A.

Table 1: Oversight committees

Item	Area of management	Responsible person	Oversight committee
4.2.8.1	Life-cycle infrastructure asset management planning	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Senate Physical Resources Committee</i>
4.2.8.2	Mobilisation for facilities management	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Senate Physical Resources Committee</i>
4.2.8.3	Development of an infrastructure management system	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Senate Physical Resources Committee</i>
4.2.8.4	Leases for infrastructure	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Finance Committee</i>
4.2.8.5	Occupational health and safety and environmental compliance	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Safety, Health, Environment and Risk Committee</i>
4.2.8.6	Access and security	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Safety, Health, Environment and Risk Committee</i>
4.2.8.7	ICT infrastructure	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Information, Communication and Technology Governance Committee</i>
4.2.8.8	Infrastructure development implementation oversight Project Boards	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Senate Physical Resources Committee</i> • <i>Infrastructure Business Development Committee</i> • <i>Council</i>
4.2.8.9	Infrastructure development project proposals	<i>Executive Management</i>	<ul style="list-style-type: none"> • <i>Infrastructure and Business Development Committee</i> • <i>Senate Physical Resources Committee</i>
4.2.8.10	Infrastructure acquisitions	<i>Executive Management</i>	<ul style="list-style-type: none"> • <i>Infrastructure and Business Development Committee</i> • <i>Finance Committee</i> • <i>Council</i>

4.2.8.11	Infrastructure development funding	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Executive Management Committee</i> • <i>Finance Committee</i>
4.2.8.12	Infrastructure procurement and contract awards	<i>Executive Director: Finance and Services</i>	<ul style="list-style-type: none"> • <i>Tender Committee</i>

4.3 Spatial development frameworks

4.3.1 The University will have a Campus Development Plan (CDP) providing a long-term overall spatial vision for its campuses drawing upon the universal spatial development principles outlined in Annex B. The CDP is a Council approved document and the University Council will approve any significant changes to it.

4.3.2 The University will ensure that all planning for new infrastructure is aligned with the Campus Development Plan.

4.4 ICT infrastructure plans

4.3.1 ICT infrastructure (including software) plans should:

- a) be modular and adaptable and, as far as possible, accommodate growth, additions, changes and integration with other systems;
- b) enable changes of components without impacting on the entire system;
- c) limit the range of technology employed, to make maintenance and support manageable; and
- d) include planning for replacement as equipment becomes obsolete very quickly.

4.3.2 Changes to any of the University's ICT infrastructure or systems should follow the Information Technology Infrastructure Library (ITIL) change management framework which include procedures and reporting to control the movement and location of assets and allow for the appropriate decommissioning and responsible disposal of any ICT equipment.

4.5 Infrastructure management plans

4.5.1 The University will develop an annual Infrastructure Management Plan, that will include planning for new infrastructure, as well as plans for the operation, maintenance, refurbishment and rehabilitation of existing infrastructure, and disposal of infrastructure which is no longer required to meet the University's objectives, and it will be based on:

- a) factors such as policies, norms and standards, condition assessments, functional performance, student enrolment trends, student housing demand trends, current and forecasted levels of optimisation, and academic requirements;
- b) the infrastructure planning principles contained in Annexure C;
- c) the grouping of projects into programmes to enable cash flow projections for projects during a financial year to be adjusted and funds to be moved between projects within a programme to avoid under-expenditure without changing the purpose for which funds were approved; and
- d) the readiness of projects for implementation.

4.5.2 The University will ensure that the following is undertaken for all projects admitted to a pipeline of projects at Stage 0 (Project Initiation) in accordance with the provisions of the University's Procurement Policy:

- a) the identification of the impediments and constraints to project implementation and establishment of the timelines required to resolve them;
- b) the identification of high risk critical infrastructure; and
- c) the prioritisation of projects and the establishment of realistic budgets and timelines over a 3 to 5-year period.

4.6 Financial Management of Infrastructure Development

The University's large-scale infrastructure development projects are mainly funded through the DHET's infrastructure grants, supplemented by an agreed proportion of University funding and donor funding. Building maintenance is funded through the University's Council controlled operational funds. Financial management of infrastructure will include:

- a) annual budget allocations to support the maintenance and management requirements of the University's infrastructure
- b) infrastructure development budget consideration and recommendation to Council by the Council Finance Committee;
- c) the approval of infrastructure development project budgets by the Council.;
- d) monthly meetings of all infrastructure development Project Boards where the appointed professional team must present reports on project budgets and progress. The reports must at least include a report from the principal agent, quantity surveyor and architect.

Annexure A: Principles associated with the management of University infrastructure

The principles associated with the management of the University's infrastructure are:

- a) The requirements of the following regulatory framework need to be met:
 - The Occupational Health and Safety Act including the
 - Construction Regulations,
 - Electrical Installation Regulations
 - Pressure Vessel Regulations,
 - Lift Escalator and Passenger Conveyer Regulations,
 - Driven Machinery and General Machinery Regulations;
 - The National Building Regulations and Building Standards Act including the National Building Regulations; and
 - The National Heritage Resources Act.
 - The National Environmental Management Act No. 107 of 1998
 - The National Energy Act No. 34 of 1998
- b) All Department of Higher Education and Training infrastructure-related policies need to be adhered to, including the Higher Education Act, Space and Cost Norms for Buildings and other Land Improvements and the Policy on the Minimum Norms and Standards for Student Housing at Public Universities.
- c) The value of infrastructure needs to be optimised i.e. the cost of the infrastructure provided to achieve the University's objectives and service standards should be minimised, whilst also considering environmental, social and economic impacts.
- d) Infrastructure needs to be used efficiently and reconfigured or, where practical, disposed of if it does not support the university's objectives.
- e) Infrastructure needs to be maintained and operated in such a way as to minimise life-cycle costs.
- f) Where possible, changes in demand for infrastructure need to be met with solutions which do not require the acquisition of new infrastructure, taking into consideration the university's whole portfolio (for example, maximising the use of existing facilities, or reconfiguring them, rather than building new ones, considering sharing expensive specialist facilities between universities and leasing of existing infrastructure).
- g) Risks relating to the ownership, use and operation of infrastructure need to be managed as follows:
 - the possible consequences of failure of infrastructure needs to be identified and mitigated in a cost-effective manner;
 - critical infrastructure should be identified using a risk-based approach by assessing both the probability of failure and the potential impact on the University's operations;
 - high risk infrastructure needs to be prioritised, especially if this is potentially life-threatening or poses a risk to the achievement of the University's core objectives; and
 - the University's liability in the event of infrastructure-related claims needs to be minimised.

- Appropriate and continuing investment in bulk services infrastructure (water, electricity and fire)
- h) The University's infrastructure should be accessible, energy-efficient, water-efficient and sustainable.
- i) Designs need to consider optimal flexibility of use.
- j) All infrastructure needs to be registered in an infrastructure asset register and linked into the University's accounting system¹. The infrastructure asset register should include information such as:
- date of capitalisation and total acquisition cost;
 - ownership of land, registration, location;
 - infrastructure identification (including location);
 - infrastructure expected useful life and remaining useful life;
 - infrastructure condition;
 - infrastructure value (based on Depreciated Replacement Cost);
 - insurance if applicable;
 - dates and costs of repairs, upgrades, replacement and disposals; and
 - leasing information.
- k) There needs to be periodic condition assessments of infrastructure, the results of which need to be captured on the infrastructure asset register and used to inform infrastructure plans and budgets.
- l) There needs to be a periodic assessment of the levels of performance and service that infrastructure delivers, and these should be analysed against the requirements and expectations of users.
- m) There needs to be a system or process for prioritisation of repairs.
- n) There needs to be a system for handling of complaints and responding to requests from infrastructure users, which should include standards for reasonable response times.
- o) There needs to be consultation with relevant stakeholders regarding infrastructure plans.
- p) There needs to be ongoing consideration of rapidly evolving technologies (4IR, Smart Buildings etc) and these must be considered in the design, upgrading and utilisation of infrastructure.

¹ The Higher Education Act states that the Council of a university must keep complete accounting records of all assets.

Annexure B: Universal spatial planning principles

The development of a guiding spatial framework (Campus Development Plan) for a university gives form, content and meaning to the physical requirements. The design of university campuses should define and celebrate the University's sense of place, communicating the institution's purpose, presence and peculiar identity.

The influences determining form are multi-faceted and complex. Nevertheless, the following universal design principles have relevance in developing and shaping the University campuses and should inform and be applied in varying forms.

1) Equity and dignity

Equity does not imply that everything should be the same. Rather, it refers to equity of access - all people should have the opportunity to access a broadly equivalent set of opportunities. Accordingly, equity of access in a spatial context implies commitment to a movement system anchored by the lowest common denominator, namely people on foot. This requires:

- the promotion of principles of universal access;
- the establishing of a network of shared amenities accessible to all students across university campuses;
- establishing a balanced movement network, allowing for equitable access to the University by public transport, non-motorised transport, pedestrians and private vehicles;
- a commitment to the promotion of pedestrian, non-motorised transport and public transport over private vehicular movement;
- the promotion of pedestrian priority; and
- the developing of non-obtrusive parking strategies.

The University is populated by students from many different walks of life. Accordingly, a basic right of all students is to meet in dignified public spaces which are 'owned' by all, regardless of personal circumstances.

Spatially, the emphasis is on creating dignified places for informal meeting, using all new buildings and objects to define and make space, using selective, powerful landscaping in different ways to define place, to create shade and shelter and to reinforce structural informants.

2) Integration

Integration refers to the University as an institution committed to being place-bound. This is based on a recognition that an increased sense of belonging results in an increased sense of purpose. This has several spatial implications as it;

- places great importance on place-based research;
- emphasises the need to undertake outreach activities in local communities;
- underpins a need to engage with the host cities/ towns, surrounding communities and institutions; and
- implies that the University needs to become good neighbours and as such take an active interest in their surroundings on an academic, community and spatial level.

The promotion of integration in a society historically obsessed with separation is an important issue to address. Such integration should include:

- integration with the host-city / host-towns or surrounds;
- integration of modes of movement;
- social and cultural integration;
- integration in sport; and
- academic integration.

3) Quality of shared/common spaces

Any plan for the University needs to consider place making i.e. the creation of a sense of spatial uniqueness and identity. An important part of this is developing an appropriate response to the site. The spatial implications of this include working with the land, working with water, use of landmarks and the appropriate use of indigenous vegetation.

The aim of all universities should be to promote a holistic teaching and learning environment, as opposed to just a classroom-based one. Central to this is recognising the importance of informal mixing and social contact between students of diverse disciplinary backgrounds as part of the total educational experience. The implication of this from a spatial perspective is the creation of dignified, pleasant places of meeting in the public realm. A variety of shared spaces should be offered, which represent the primary informal gathering or meeting spaces for students, staff and residents alike. The dignity of these places will impact on the dignity of the university campuses.

Safety and security and heritage considerations need to be taken into account in the creation of these common spaces.

4) Robustness and flexibility

The spatial framework needs to be strong enough to give clear direction yet sufficiently minimalist to accommodate growth and change. Planning cannot be driven by programmes - it needs to be based on the elements of public structure i.e. green space, movement of all modes, shared public facilities (libraries, meeting places, sports facilities and recreation, performance and display spaces), hard open space, housing and utility services. These need to be woven together into a coherent framework which creates a logic of access, ranging from very public or exposed to very private.

Planning needs to reflect a consistency of thought across scales which requires a 'package of plans' approach, with each larger scale providing the fixes for successively smaller scales. Connecting scales and integrating city activities is an important part of the challenge.

5) Phasing and implementation strategies

The underlying principle when addressing phasing for campus projects with the larger overall university land is to ensure that each implementation creates its own urbanity and sense of identity right from the start.

The aim of campus spatial frameworks should be to establish a microcosm of the completed new university campus from day one. The phasing pattern focuses not on buildings and

infrastructure alone, but on establishing complete public spaces. Phasing in this manner reduces large infrastructural costs.

6) Sustainability and efficiency

Decisions taken in relation to the location, design and management of the institutions need to be geared towards optimal sustainability. The university campuses should play a leadership role in demonstrating sustainable practices. The University should demonstrate best practice in terms of a broad spectrum of environmental and sustainability including efficiency of land utilisation.

The academic vision and the spatial directions of universities should be considered as complementary and synergistic. Direction should accordingly be derived from:

- interrogating the University's mission statement, which provides the highest order of direction for the spatial development plan, to explore the spatial implications of the academic mission;
- identifying the desirable performance qualities which a university in South Africa in the 21st century should be seeking to achieve which have spatial implications; and
- a comprehensive understanding of the contextual informants (the concrete things which have material substance, shape, topography, environmental character, climate, texture, as well as socio- economic features) which embody very different properties, in accordance with the unique cultural and environmental conditions of the place within which the University campus is located.

Academic vision for a particular campus can also have spatial implications for in the creation of:

- living and working environments of a quality that attracts and retains world renown academics;
- adequate library, student resource amenities, student accommodation with meals and self-catering and IT facilities.

The method employed in the development of spatial plans needs to elevate planning and design from opinion to argument in order to seek sufficient consensus around the desired norms and their spatial implications.

Annexure C: Infrastructure planning principles

Infrastructure projects are identified, planned and costed, as relevant, by:

- a) obtaining and considering the expectations and requirements of stakeholders in the University;
- b) determining appropriate levels of service and identifying the infrastructure required to meet this level of service and to achieve the University's strategic objectives;
- c) establishing an infrastructure baseline by reviewing existing infrastructure assets, including the identification of mission-critical assets;
- d) assessing existing infrastructure assets in terms of their efficiency of use, and proposing improvements;
- e) identifying any gaps between the existing infrastructure and the required infrastructure;
- f) considering all possible ways of meeting the gaps, such as building new infrastructure, renting infrastructure, utilising existing infrastructure more effectively, reconfiguring existing infrastructure or sharing infrastructure with other institutions, to determine the best solutions to the gaps;
- g) taking a 'whole-portfolio' approach when considering options for addressing gaps, enabling all available options to achieve the required levels of service to be considered, ensuring the provision of infrastructure at the lowest life-cycle cost;
- h) analysing asset management information;
- i) determining the functional requirements and required level of service for new infrastructure and applying the space and cost norms to the needs for new infrastructure;
- j) comparing the needs against the budget, and prioritising in terms of this policy if the needs exceed the budget; and
- k) planning for capital projects taking into account the operation and maintenance of the infrastructure for its entire estimated design life after it has been constructed.
- l) Integrating sustainability principles and strategies into all projects
- m) Future proofing all projects, as far as it is practical and cost-effective, against changes in the environmental (e.g. climate change), technological (e.g. 4IR) and regulatory spheres.

Adequate access control and monitoring infrastructure needs to be put in place to provide a safe environment for the University community.

Credible forecasts of the current and net demand for services or requirements for functionality should be made over a period of not less than ten years.