UM
MASTERPLAN
2050
Strategic Planning for The Sustainable Campus
Acknowledgement

This project is initiated by Board of University Directors (LPU) who wish to ensure that the University of Malaya (UM) infrastructure development should be well planned and be based on certain vision and focus. The Faculty of Built Environment (FBE) has been given a task to envisage the project. The first part of the project was to conduct idea competition and the second was to draft a master plan based on the real need of each faculties and institutes. The plan should be a guide lines for the campus development in the next 30 years. However, it is expected to change and improved based on the fiscal restraints and physical need of the UM in the future.

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Both teams has contributed much of their time and effort in organizing the competition, award ceremonies, interview the stake holders and much more work behind the scene. All of this work and efforts are not possible without the full supports from the Vice Chancellor office.

We wish to thank the jurors for selecting the winning scheme for the idea competition;
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Finally, we thank all the participants indirect or directly for making this project possible.

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1. EXECUTIVE SUMMARY

The University of Malaya master plan establishes for the campus 30 years vision that builds upon previous planning effort in rooting higher research institution.

1.1 Planning Context
The International Research University inspires a modern and sustainable aligned with the research values of the campus. To ensure the master plan to fruition, green sprawl approach was executed to design the new UM Master plan. With expected growth of student population to 35,000 by 2050, attention been paid to sustainability and a green technology functionality, the following master plan goals establish the foundation for the future development through 10 focus points from the University's master plan brief.

1.2 Masterplan Principles
The master plan was drafted based on projected student population to be more than 35,000. Some area of the campus are re-zoned for better connectivity and proximity. The master plan also based on the need and inputs from the stakeholders (all faculties). The master are planned with the idea of green and sustainable campus with more energy efficient buildings.

1.3 Key Points of Masterplan
- Enhancing Campus Central District
- Enhance PJ gate and KL gates.
- Enhancing the Varsity Lake
- Centralization of all Galleries and Museums to HIR building.
- Enhancing the vehicle and pedestrian circulation system and campus connectivity.
- Relocation of ASASI UM
- Relocation of FFKTM-to create new technology cluster.
- Relocation of ZAABA library
- New sport complex.

1.4 Design Components
There are 95 new buildings being proposed in the master plan with 20,247,021 square feet of floor area. Over 17.3 km of bicycle lane is being proposed with 17 bicycle stations. Parking provisions also being proposed to accommodate about 9000 cars at specific ‘Park and Ride’ location which are connected to the MRT and LRT.

1.5 Cost Estimate
The brief cost estimate was done by based on the current construction cost. The total cost of the master plan is expected to be about RM 26.7 billion. It assumed that 83.2 % goes to the construction cost, while the rest (16%) are miscellaneous item such as contribution to local authority, contingencies, professional fees and supervision.
1.6 What’s Not Included in the Masterplan

- **Valuation Exercise.** There is a need to conduct the valuation exercise to the current campus to determine feasibility of the development. The valuation report could be used to determine the actual value of the entire development.
- **Landscape Masterplan.** There is also need to engage the Landscape Architect to envisioned the balance nature of the landscape with the proposed development.
- **Detail Drawings of each building.** Although the Masterplan provided footprint for each proposed building, there is no architectural or engineering drawings are done or included in this report. The compiling of detail drawings for the developments should be the next step after the Masterplan has been approved by the UM management.

1.7 Gazetting The Master Plan

Finally, the purpose of this master plan is to ensure that the future development within the UM campus be done in proper planning strategies and sustainable way. This report together with all the drawings should gazetted to all UM citizen for better understanding and guidance concerning the future development in UM campus.
2. VISION AND MANAGEMENT STRATEGIES

The University of Malaya master plan establishes for the campus 30 years vision that builds upon previous planning effort in rooting higher research institution.

2.1 Introduction

Formally established on January 1st 1961, UM campus area now has reached 750 acres in the Southwest Kuala Lumpur. With the opportunity to re-design and move the acclaimed campus into the new technology era, the International Research University inspire a modern and sustainable as a whole that convey and align with the research values of the campus. To ensure the master plan to fruition, green sprawl approach was executed to design the new UM Master plan that envisaged to work as the image for the core values and stand out as a clear architectural value beyond the campus. The appropriate application of design values plays an important role in the new master plans. With particular attention been paid to sustainability and a green technology functionality, UM aims to offer a bestow place with greatest possible opportunities for advanced knowledge through quality research and education for the nation and humanity.

2.2 The Need for UM 2050 Master Plan

The need for UM 2050 Masterplan occurred not only from the need to enhance the identity of University of Malaya, but also due to the site context in which the campus is situated within Kuala Lumpur City. The rapid rate of urbanization has put pressure on UM campus since no master plan was devise to coordinate its development. Due to that, there is a necessity for the campus to be designed in accordance to the need of its urban context, changes within the campus community culture and lifestyle, and also to accommodate the fast-growing number of occupants and needs for accessibility. The campus also unable to incorporate with latest technologies especially related with the green indexing and sustainability into the campus development. Eventually it also has affected the campus community with numerous issues such as limited parking spaces, highest utility bills among other institutions, inner road accessed by public and more.

Thus, as a national university, this masterplan is to ensure that the campus is able to exude its aura and identity as one.

Hence in order to achieve UM core vision and mission, UM Master plan consists 10 focus ideas in order to support the transformation to high quality campus with excellent learning environment which is safe, accessible, vibrant and integrates with surrounding community.
2.3 Master Plan Competition

The idea of a conceptual design competition is integral to University of Malaya campus development, and an open competition would offer a creative and innovative ideas in designing a campus Master Plan that would reflect an internationally renowned institution of research and higher learning.

The competition, which had been conducted over a period of three months, is managed by the FBE Master Plan Committee, a group of individuals from the Faculty of Built Environment, University of Malaya. The Committee is made of researchers and academics from the fields of architecture, building surveying, quantity surveying, urban planning and estate management, tasked to develop a design brief and run the conceptual design competition, amongst others. The Committee’s role in the UM Master Plan Ideas Competition includes liaising with stakeholders such as the campus community, the Vice Chancellor and Deputy Vice Chancellor’s Offices, the Lembaga Arkitek Malaysia (LAM) and Lembaga Perancang Bandar Malaysia (LPBM) and ensuring absolute independence in the competition process.

The search for the best conceptual design Master Plan was being undertaken in two parallel stages: during the first stage, submissions had been judged by a panel of jury to select seven (7) preliminary
finalists. In the second stage, two (2) of the finalists shortlisted as winners. Concurrently, from the seven finalists, an online vote had been held to select a recipient of the UM Community Choice Award. Each finalist stands to win both the competition as chosen by the panel of jury, and the UM Community Campus Choice Award as chosen by the community.

Figure 2 - Infographic on how public spaces affect public’s life.

2.3.1 The Esteemed Panel of Jury

Adjunct Professor (Dr.) Ar. Hijjas Kasturi

Hijjas Kasturi is founding Director of Hijjas Kasturi Associates (HKA) an architectural practice which has won many local and international accolades for its work. The firm’s high profile works include the iconic Malayan Banking Berhad, the Securities Commission Headquarters, the Convention Centre in Putrajaya and the Telekom’s Headquarters. Throughout his career, Hijjas has made himself available to contribute his time whenever permissible in teaching architecture. He has served as Visiting Lecturers, Visiting Professors, and External Examiner to University of Science Malaysia in Pahang, International Islamic University, University of Malaya, MARA University of Technology, Universiti Utara Malaysia, Sheffield University, Adelaide University and Melbourne University. For his contribution and commitment in architecture, Hijjas has been honoured with Honorary Doctorate degrees from several universities both locally and abroad, including from University of Malaya in 2009.
YBhg. Tan Sri Ar. Chan Sau Lai

Chan Sau Lai started his architectural journey at University of East London in 1965 and started his career working with Kumpulan Akitek and moved on to found Beneton Properties Group in 1979. He has won multiple international awards such as First Prize in Architectural Competition for The Residence for the British High Commissioner, Kuala Lumpur in 1986 and Pertubuhan Akitek Malaysia Architectural Award for The National Library at Jalan Tun Razak, Kuala Lumpur in 1993, FIABCI Malaysia Property Award for Building of the Year (Residential High Rise) for Stonor Park in 2007, and FIABCI Malaysia Property Award for Building of the Year (Residential, High Rise) for Rhombus. Between 2001-2003 he was the President of the Mancunian Alumni Association Malaysia. The Alumni consists of five Universities in the United Kingdom, representing approximately 4500 Malaysian graduates since the 1950’s.

YBhg. Datin Paduka Dr. Halimaton Saadiah

Datin Paduka Dr. Halimaton Saadiah Hashim is a professional town planner, a Fellow of the Malaysian Institute of Planners and served the Town and Country Planning Department (TCPD) between 1976-2006 at the Federal level, Kuala Lumpur City Hall and the TCPD of Negeri Sembilan, Johor and Selangor where she last served TCPD. She was a Principal Fellow with the Institute for Environment and Development (LESTARI) of Universiti Kebangsaan Malaysia (UKM) from 2006-2014, and led the preparation of the UKM Bangi Campus Master Plan 2020. As a member UKM’s Governance and Education for National Heritage Conservation (GENHC) research group, she led the preparation of Langkawi Geopark Management Plan and a study team member for stakeholder participation in the conservation of Melaka World Heritage City. Currently a Senior Director of Rekarancang Sdn Bhd, a Planning and Development consultant firm, she remains as a member of GENHC, headed the Feasibility Study for the Development of Low Carbon Langkawi for the Ministry of Energy and Green Technology (KeTTHA) and is a member of the planning group for International Ibrahim Business District (IIBD) in Johor Baharu.

YB Senator Tan Sri Dato’ Sr Abdul Rahim Abdul Rahman

Abdul Rahim has had more than 49 years’ experience in the real estate industry. He established Rahim & Co in 1976 with one purpose in mind; to competently integrate under one roof the various disciplines of Property Valuation, Research & Advisory, Real Estate Agency, Property & Facilities Management, Project Management and Investment Consultancy. From a humble beginning of a sole proprietorship with an initial staff of 3, Rahim & Co has blossomed into one of Malaysia’s largest real estate consultancy firms. He is Past Presidents of The Royal Institution of Surveyors, Malaysia (1986 – 1987), the International Real Estate Federation (FIABCI) Malaysian Chapter (1982 – 1986), the Asia Pacific Real Estate Federation (1985 – 1988) and the Association of Valuers, Property Managers, Estate Agents and Property Consultants in Private Sector Malaysia (1990 – 1994). Abdul Rahim was the
first Malaysian to be elected the Deputy World President of the International Real Estate Federation (FIABCI) in 1990 for a 2-year term. Born in Kota Bharu, Kelantan, Abdul Rahim fancies golf; and he plays when he finds spare time off from work.

**Prof. Dr. Faisal Rafiq Mahamd Adikan**

Prof. Dr. Faisal Rafiq Mahamd Adikan was the recipient of the Section Prize for the Best Engineering Research during Presentations at the House of Common (British Parliament) in 2006. He specializes in glass-based integrated optical devices for use in telecommunication and sensing applications. He received his PhD from the Optoelectronics Research Centre, University of Southampton in 2007. In 2013, Dr. Rafiq was promoted to the post of Full Professor. Later that year, he was appointed as the University of Malaya’s Deputy Vice Chancellor, in charge of Development, making him one of the youngest DVCs in Malaysia. In 2012, he picked up University of Malaya’s Best Administrator (Dean) award for a second consecutive year. He received a Certificate of Excellence in Service (2014) in 2015.

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2.3.2 The UM Master Plan Ideas Competition Convener

**Ar. Saifuddin bin Ahmad**

Ar. Saifuddin bin Ahmad is the Principal of SAIFUDDIN ARCHITECT and Director of SNO ARCHITECTS SDN BHD. He obtained his Diploma in Architecture from Universiti Teknologi Malaysia in 1980 and completed his Bachelor of Architecture at Deakin University, Australia in 1982. He has been involved in various Competitions and Awards, and was appointed as Chief Juror to judge the Pertubuhan Arkitek Malaysia (PAM) Gold Medal Awards, Juror for the CIDB 2015 Malaysian Construction Industry Excellence Awards (MCIEA), Juror for DBKL competition awards "Pertandingan Peningkatan Imej Reka Bentuk Bandar", Juror for Singapore Institute of Architects (SIA) Architectural Design Award and Juror for ‘Architecture+Design and CERA Awards, India. Ar. Saifuddin had the opportunity to successfully design, manage and complete the Low Energy Office (LEO) for the Ministry of Green Technology and Water in Putrajaya, Parcel E. This building was conferred the prestigious ASEAN Energy Award 2006 by the ASEAN CENTRE and was accorded Green Building Index Silver rating. The LEO Building was also chosen to be on the Malaysian 50 cent commemorative stamp for the Energy Efficient Building Series in 2009.

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2.3.3 The UM Master Plan 10 Focus Point
Like any other aged institutional, buildings are placed against each other in an almost casual way giving shape to the most exciting and interesting spaces: little alleys, pocket open spaces, gardens, etc. However, the space in between building is almost more important than the buildings themselves. The transformation of the University of Malaya campus will create a high-quality campus boasting an excellent and modern teaching and learning environment which is safe, highly accessible, vibrant, legible and permeable with full integration with its surrounding community that is exciting, spectacular and a wonderful place to be. The UM Master Plan design are focus on human scale, pedestrian movement within a campus network of spatially rich public spaces that encourages social interaction and community. Features and amenities provided are to meet a broad range of needs for a diverse campus community. Therefore, the UM Master Plan consists of the following ten (10) Focuses:

Focus 1: Creating a Core Zone
The core zone in the University of Malaya should be focused on togetherness, inclusivity and social cohesion for the wellbeing of campus community by delivering these points:

- To ensure the Varsity Lake and Padang Varsity as the center of activity.
- To redevelop/revitalize the student center (Perdanasiswa) or create designated student interaction spaces within the CCD
- To redevelop/revitalize the main library and its surrounding area within the CCD.
- To conserve and enhance existing landmarks, such as Dewan Tunku Canselor (DTC), its Plaza and the Chancellery building.

Focus 2: University of Malaya as an eco-campus
University of Malaya represents a new model of a technologically advanced and sustainable campus. UM aspires to become an Eco-Campus by producing the following points:

- To create a walkable campus.
- To increase the campus carbon sequestration capacity.
- To integrate Green Technology into infrastructure, campus planning, and public amenities.
- To propose a landscape master plan.
- To strategize campus wide waste management
- To create potential nodes for outdoor learning and recreation to enhance wellbeing of the campus community.
- To propose rehabilitation strategies for existing water-ways
- To conserve Rimba Ilmu’s native species and enriched biodiversity, but also to enhance public access and visual presentation.

Focus 3: Industry-linked Research Park
University of Malaya is one of the leading and vital centers for dialogue, sharing of ideas, and collaboration between researchers, industry and investors. In meeting this target, the following points must be met:

- To create a vertical research park as a hub for industry linkages that incorporates research incubators, commercial offices, conference facilities, and accommodation for resident researchers.
- To create ‘living laboratories’ within the campus to promote experiential learning, research and responsible stewardship of fiscal and physical resources.
Focus 4: Redevelopment of aging academic Buildings and New Facilities

University of Malaya aims to achieve sustainable land use and growth patterns to fulfill the needs for the campus community. The following points must be met to strengthen the quality of future growth through balanced development:

To consolidate faculty planning to allow future physical expansion.
To replace existing low-density buildings with larger comprehensive facilities.
To propose shared teaching and learning facilities and spaces.
To propose energy efficient buildings.

Focus 5: Student Housing and Lifestyle

Quality of campus life is vital in offering students a memorable and conducive learning experience, served by the following points.

To provide a vibrant campus lifestyle by combining sports, social and commercial amenities with student housing.
To increase student housing density to house ALL of the undergraduate and postgraduate students.
To propose re-zoning of student housing with good connectivity to campus facilities and public transport.
To consider and integrate planning with the existing campus terrain.

Focus 6: Cultural Hubs and Routes

A diverse range of arts and culture is the nucleus of the campus environment that cultivate and promote inclusive intergenerational society, reflected in the following points:

• To provide a world class UM Art Gallery and Exhibition Centre.
• To design a new complex for the Cultural Centre (Pusat Kebudayaan).
• To consolidate a cultural trail for existing museums for public viewing and discovery.
• To enhance existing facilities for artistic and cultural activities for the public.

Focus 7: Seamless Connectivity

People and vehicular movement in the UM campus is seamless, efficient and well connected throughout. The campus is inclusive and accessible to the public within secured strategies, considering the points below:

To integrate between transportation and land uses and provide better public transportation networking (e.g. providing park and ride facilities).
To establish a pedestrian and cycling infrastructure with seamless connections to transportation hubs inside and outside the campus.
To promote the use of vehicles which are powered by renewable energy sources with support facilities on campus.
To resolve parking and traffic circulation issues within campus.

Focus 8: Enhance the quality of Public Realm

University of Malaya emphasizes the positive health and wellbeing of its community, hence improving the public spaces plays a vital role in the quality of life intertwined by the following points:

• To create a series of public spaces linked by a `central access spine`.
Focus 9: Legible and Identifiable Campus

It is important for University of Malaya to portray a strong image, identity and sense of place that can be distinguished in Kuala Lumpur, by linking to the following points:

To transform and create welcoming points of arrival through public realm improvements.
To focus on arrival experience and way finding.
To emphasize notable gateways and landmarks with outstanding architecture and frontages to welcome visitors.
To provide good linkages to the surrounding public transportation hubs.

Focus 10: Safe and Defined Spaces

A safe campus environment is an extremely important aspect towards creating a resilient community. This can be achieved by the following points:

To ensure buildings present a positive face to the public realm and provide active frontages.
To provide security measures for surveillance.
To re-design underutilized spaces, in between buildings, and ensure that all public areas have a clear function.
To integrate isolated physical barriers, such as highways surrounding UM boundary into positive features.

2.3.4 The Purpose of the Plan

Masterplan comprises three dimensional images and text describing how an area will be developed, it is basically a plan that describes the overall development concept, including present and future land use, urban design, landscaping, built form, infrastructures, circulation and service provision. The masterplan aimed to be fulfilled by 2050. The masterplan is necessary under these factors:

Stability: Embodies the core values of our University giving a solid direction on the campus growth and a much stable framework for expansion
Adaptability: Allows for flexibility according to University goals and opportunities that changes over time
Purification: Allows for a bigger picture to be seen and each element can be evaluated, the significant element can be focused upon whilst a weaker idea fall aside. This also allows us to eliminate current aspects of the campus over time that do not contribute to the aesthetics and function to the campus.
Integration: Allow all parts of the campus to be in relation to each other so that every aspect is part of an integrated whole.
Connect: Connecting people and places for ease of movement within and through each development

2.4 Background
King Edward VII Medical College of Medicine established in 1905 due to shortage of medical assistants in Singapore and Penang. It initially started off as a school and then elevated to a college, which was situated at Singapore.

The idea of Raffles College was actually conceived earlier than the Medical School. There were two core ideas that became the basis of the Raffles College establishment, one from Stamford Raffles and another from Dr. Robert Morison. A Colonial Secretary then reviewed the scheme and on 22 July 1929, Raffles College was established to promote arts and social sciences at tertiary level for Malayans. The development of Raffles College was put into a halt when the war in Europe came to Asia and Singapore was invaded by the Japanese in 1942. However, the education was then resumed when the situation became more stable. In 1948, Dr George V. Allen who was the Principal of King Edward VII Medical College took over as the Principal of Raffles College.

2.4.1 Pre and Post Era.

In 1938, a commission was appointed to study the progress and potential of Malaya higher education. From that study, they concluded that Malaya was not fully ready to have a university and that a university college would be much more fit for Malaya.

On 8 October 1949, University of Malaya was formed under the merger of King Edward VII College of Medicine and Raffles College. In Carr-Saunders Commission’s report in 1949, there was stated that “The university shall act as a single medium of mingle for enhancing the understanding among the multi-ethnics and religions in Malaya.”

2.4.2 The Shift to Kuala Lumpur

In 1959, the university was divided into two different campuses, Singapore and Kuala Lumpur. 2 years later, the governments of Malaysia and Singapore passed the requirement and legislation to make University of Malaya as a national university. Due to that, University of Malaya was then officially permanently situated at Kuala Lumpur. In final agreement, they decided on a site lying to the west of the center of the town and just north of Petaling Jaya. It was also agreed upon that this site was to be a nature reserve and on another part to be used as a new general hospital although it is vested within the boundary of University of Malaya. Excluding those 2 areas, the remaining 300 acres were for University development. The general layout was studied so as soon as the access to the site, which is from the new Trunk Road, was ready then the development could start. The detailed planning was handled by two committees, both academic and physical which were presided over by Prof. RA Robinson.

Kuala Lumpur Development Committee held 8 meetings in the period of June 1958 to May 1959. The matters dealt with was:

Faculty of Arts building : The contract awarded in September 1958, expected to complete in May 1959

Library building : Work started in October 1958, expected to be ready by May 1959

Residential College : The First Residential College was completed in April 1959, work on Second Residential College begun

Staff House : 12 out of 30 houses were completed and occupied. The remaining nearing completion.
Playing fields: The construction on playing fields and work on the alignment of the stream and the construction of weir had begun.

Health Service: A dispensary was set up at First Residential College. For major illness, the students were referred to professionals appointed by University.

By 1962, the university had already establish the faculties of Arts, Science, Engineering and Agriculture. Faculty of Medicine and School of Education was then expected to be set up within the following 3 years.

The Library had undergone 3 extensions and the last one was on 1969. There were 6 residential colleges by 1970. The University had also provide a Student’s Union House by then which was also very close to the main sport facilities. These buildings were then undergone many extensions to cater the increasing number of populations.

![Figure 3 Satellite Picture of UM Campus in 1967](image)

### 2.4.3 Transformation In The Seventies

Each year, the number of students’ intake increases. This has made University of Malaya become too big and impersonal, and therefore insensitive to the needs of the students. The development within the campus was too fast, thus University authorities had little time to pause and oversee the planning and the whole effect of the development. There were lacking of recreational spaces, the facilities were far apart from each other and to some extent limiting the interest of students to these premises. No real conscious attempt on promoting a much more synergized campus planning. In the opinion of the NOC Committee, the University did not play its proper role as a national university of the country since no guidelines were established for the developments of the campus and the content of the academic courses has very little national and Malaysian orientation. However, the University has done a good job in its primary mission as an institution of higher learning and had kept its academic standards high. Within year 1982-1983, a total of 7 613 graduates were produced which made a good amount of contribution of the professional manpower needed in the country at that moment.

### 2.4.4 The Era Of Renewed Expansion

By 1972-1973, the enrolment had grown up to 8124 students. Yet, the number started to decline yearly to less than 7000, this is due establishment of other universities.
The best accomplishment is mainly in the area of postgraduate research, which until now is still blooming. Although in the late eighties till early nineties, there had been less eventful compared to the sixties and early seventies, significant and necessary changes still take place. In order to make University of Malaya relevant in a constantly changing world, research is continuously emphasized. Academic programs also increase over time, among those that was established within the eighties to nineties are faculty for postgraduate’s studies, Academy of Islam, Master of Business Administration, The Centre for Foundation Studies in Science Faculty of Computer Science and Information Technology and The Academy of Malay Studies.

As a national university, University of Malaya has carried the responsibility to respond to the needs and aspirations of the society and country at large. Due to this, the University was quick to respond to the vision posed by Tun Dr. Mahathir Mohamme, which is the Vision 2020. Among the vision that were aiming on making Malaysia a fully developed nation by the year 2020 which emphasis majorly considering the importance of science and technology. In order to help Malaysia in terms of manpower, University of Malaya took the steps to strengthen its academic programs emphasizing on postgraduate research.

The development by the late nineties had made the campus much more congested compared to the sixties.

2.5 Preparation of New Master Plan

The master planning adopts a participatory approach, in which the views of the campus community; students, staffs, public; are taken into consideration. A series of meetings with the head of faculties and organization were held, where the views of different interest groups were sought. Perceptions and opinions in relation to buildings, landscaping, traffic, developments, environment degradation, and cultural and social aspects were discussed. All the outputs from the discussions were translated into the design and documented to formulate the masterplan strategies and guidelines. A feedback session that gather up the campus communities from various background of faculties and organization were held.

2.6 User of The Plan

It is for the authorities and developer to refer and to use in carrying out its implementation and to ensure that the guidelines are adhered. The guideline is applicable for the existing elements and also for future development, so it may be more systematic and well-coordinated.

2.7 Monitoring the Plan

The masterplan is rather flexible, its proposed duration of completion is until 2050. The proposed masterplan allows changes to be made upon it as more information and explorations is made and the database is expanded.

2.8 Structure of Document

**Part 1: Vision and Management Strategies**

This part comprises of 9 chapters, this part elaborates on the significance of this master planning and its process, the basic description of University of Malaya property and its history, the analysis of
strength, opportunities, challenges and threats, the 10 Focus points, highlights strategies for management as well as incentives and funding.

**Part 2: Development Guide Plan**

This part comprises of 6 chapters that give details on the actions, planning control and guidance for the inscribed property and its buffer zone. There are also details on the treatment that are proposed on the zoning, protection on green area, view and vista protection, public realm proposals, circulation and accessibility and the proposals for improving facilities and infrastructure.
3. DESCRIPTION OF THE PROPERTY

3.1 Location

The University of Malaya is a public research university located in Kuala Lumpur, Malaysia. It is the oldest and most prestigious university in Malaysia. University of Malaya has its roots in Singapore with the establishment of King Edward VII College of Medicine on 28 September 1905.

Address: Jalan Universiti, 50603 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur
Chancellor: Nazrin Shah of Perak
Total enrollment: 17,192 (2015)
Vice-chancellor: Datuk Dr. Abdul Rahim Hashim

3.2 Name of Property

The UM’s land is constituted in 3 separate land titles. The first land title No. 6768 holding the land Lot 5270 which contain 2175460.2663 square meters—the main part of the campus. The second land title No. HSD 98036 holding PT 41 which contain 418835.93 square meters. And the third land title No. GRN 6766 holding Lot 40 which contain 52197.234 square meters.

All the title is belonging to the Universiti Malaya.

<table>
<thead>
<tr>
<th>Title No</th>
<th>Lot No</th>
<th>Area (sm)</th>
<th>Condition</th>
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</thead>
<tbody>
<tr>
<td>No. 6768</td>
<td>Lot 5270</td>
<td>2,175,460.2663</td>
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<td>GRN 6766</td>
<td>Lot 40</td>
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<td>HSD 98036</td>
<td>PT 41</td>
<td>418,835.93</td>
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<td></td>
<td></td>
<td>2,646,493.4303</td>
<td>(653.96 acres)</td>
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</table>
4. THE HISTORY and DEVELOPMENT

4.1 Architectural Influence

Characters & Identity is the surroundings such as; buildings, street, materials, landmarks and views; that are unique and enhance the campus’ identity. An area is never a blank slate, it will either have shape, adjacent development and a history which make it a distinctive place.
Dewan Tunku Canselor: This building was a result of an architectural competition. The submission by C.H.R Bailey of Booty, Edwards & Partners was adjudged the first prize winner and awarded a premium of $7,500, leading finally to the award of the project. Constructed around the same time as the Subang Airport also by the same office, the project represented a new direction that was confident and connected with the modern movement elsewhere in the world.

Within a picturesque setting on top of a gentle promontory adjacent to a lake at the centre of the campus grounds, The Great Hall and Administration Building is one of the buildings in Malaysia that employed extensive use of béton brut and brise-soleil elements expertly in its architectural configuration. The facades were designed with reinforced concrete baffle louvres that filter the sun from the foyer, creating a striking contrast between the light and the structures, in themselves a sculptural composition of abstracted forms. With a series of playful forms punctuating the horizontal linearity and providing moments of composed relief, the heaviness of the concrete materiality is counterpoised with a lightness of experience.
Figure 6: Early image of Dewan Tuanku Canselor

Figure 7: Early image of Faculty of Science
Figure 8 - Early image of Faculty of Medicine

Figure 9 - Early image of Faculty of Art
4.2 Continuity & Enclosure

The continuity depends on the network of streets and spaces. Whilst enclosure depends on the fabric of the campus. The street forms the interface between the public and private realm. Urban fabric with strong spatial continuity and a good sense of enclosure will help to prevent inappropriate developments.

4.3 Quality Of Public Realm

Public realm is defined as any part of the campus that can be experienced by everyone, from the external spaces to the building. A high quality public realm are places which feels friendly, vibrant, welcoming, and a good place for people to socialize.

Material selection criteria for public realm elements:
- Sustainability
- Cost
- Aesthetics
- Function

4.4 Easy Of Movement

It is easy to move around campus when it is easy and safe to get to each destination, in all type of transportation. The movement network must operate in a way which brings the campus to life, and also must be planned in a way that it acknowledges that streets have vital social, economic and amenity roles.

4.5 Quality Of Public Realm Legibility

Legibility is regarding to how much extend an area/campus can easily be understood and easy to navigate within. The elements of legibility are path, edges, nodes, landmarks and districts.

4.6 Adaptability

Adaptability is regarding the ability of the campus to adapt to change thus that the elements within the campus are flexible.

4.7 Diversity

Diversity is regarding the variety of choice within the campus that encourages a mix of uses and architectural styles that creates a vibrant campus. The campus that benefits from a mixture of good amenities have the means to support their own requirements and reinforce a sense of community.

4.8 Sustainability

Sustainability in campus is about the social, economic, society and environmentally sustainable campus for the future. The campus has to have innovative approach to development that allows more energy and resource efficient whilst encouraging economic development and social equity.
5. ANALYSIS OF UM MASTER PLAN IDEA COMPETITION

5.1 The Concern Points

<table>
<thead>
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<th>Contestant</th>
<th>UM 10 FOCUS POINTS</th>
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*Figure 10 Matrices of the finalist based on the 10 Focus Points*

5.2 The Winning Finalist

The winning schemes propose strategies for green and sustainable campus, giving priority to pedestrians and reinforce UM Lake as the Central Zone. Taking into consideration both the existing campus constraints and prospects, we have come up with a systematic solution that can be implemented with minimal disruption to existing daily functions in a modular manner which also allows the University flexible economic and periodic execution. The scheme is conceived as a tropical ecosystem held together by a new biophilic structural Spine of T-Structures. The modular T-Canopies allow
for easy integration with minimal impact to the surroundings, multi layered connectivity and organic growth in all directions

Figure 11 Scheme by Dr. Tan Loke Man

Figure 12 Scheme by TR HAMZAH & YEANG

The other winning scheme focus on people and gives them a seamless covered walkway that links all the buildings and unifies the campus. A series of sky-plazas along the skywalk provides hangout spaces for the students, staffs as well as the visitors. The master plan ensures clearly defined pedestrian routes with above ground skywalks and ground level walkway. These two levels of pedestrian walkways are integrated by various vertical movement systems of escalators and elevators at intervals for all the key zones. The scheme will be free from private vehicles, where people can move around the campus with various alternative mode of transport either by walking, cycling, tram system, EV shuttle and buggy
system. There will be no usage of non-renewable fuels for internal transports for the University. Renewable energy for the master plan development includes the provision of PV farm to ensure efficient energy harvesting.

5.3 Strong Ideas

<table>
<thead>
<tr>
<th>IDEAS to Consider</th>
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<tbody>
<tr>
<td><strong>F1-Creating a core zone:</strong></td>
<td><strong>F2-UM as an eco-campus:</strong></td>
</tr>
<tr>
<td>• Improve connectivity between UM central area to every faculties/residential/admin building</td>
<td>• Rainwater harvesting system</td>
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<tr>
<td></td>
<td>• Living machine system</td>
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<tr>
<td></td>
<td>• Solar Panel</td>
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<tr>
<td></td>
<td>• Recycle</td>
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<td></td>
<td>• Lake enlargement</td>
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<td></td>
<td>• Park and ride system</td>
</tr>
<tr>
<td></td>
<td>• Bicycle lane/parking spaces</td>
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<tr>
<td><strong>F3-Industry link research park:</strong></td>
<td><strong>F4-Redevelopment of ageing buildings and new facilities:</strong></td>
</tr>
<tr>
<td>• Introduction of vertical research park</td>
<td>• Adaptive reuse</td>
</tr>
<tr>
<td></td>
<td>• Refurbish and repurpose</td>
</tr>
<tr>
<td><strong>F5-Student Housing and Lifestyle:</strong></td>
<td><strong>F6-Cultural Hubs and Routes</strong></td>
</tr>
<tr>
<td>• Vertical and higher density housing</td>
<td>• Cultural/performance hub at UM central area</td>
</tr>
<tr>
<td>• Few types of rooms/house (studio, couple and etc.)</td>
<td></td>
</tr>
<tr>
<td>• Equipped with facilities (eatery, gym and etc.)</td>
<td></td>
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<tr>
<td><strong>F7-Seamless Connectivity:</strong></td>
<td><strong>F8-Enhance the quality of Public Realm:</strong></td>
</tr>
<tr>
<td>• Elevated Walkways/Skywalk</td>
<td>• Enhance gathering spaces</td>
</tr>
<tr>
<td>• Covered walkway</td>
<td>• Improve connectivity to public spaces</td>
</tr>
<tr>
<td>• Vehicle free zone</td>
<td></td>
</tr>
<tr>
<td>• Soft and hardscape in between spaces</td>
<td></td>
</tr>
<tr>
<td><strong>F9-Legible and Identifiable Campus:</strong></td>
<td><strong>F10-Safe and Defined Spaces</strong></td>
</tr>
<tr>
<td>• Creating new landmark</td>
<td>• Clear segregation between pedestrian, cyclist and motorized vehicle with buffer in between</td>
</tr>
<tr>
<td>• A new welcoming and notable UM gateway</td>
<td>• CCTV</td>
</tr>
</tbody>
</table>
6. STAKEHOLDER

6.1 Interview With All Stakeholders

List of PTJs Interviewed

- Deputy Vice Chancellor (Research, Development, HEP)
- JPPHB
- UM Library
- Fakulti Sastera & Sains Sosial
- Fakulti Pergigian
- Fakulti Sains
- Fakulti Perubatan & PPUM & AFCA Architects
- Fakulti Bahasa & Linguistik
- Fakulti Kejuruteraan
- Fakulti Ekonomi
- Fakulti Perniagaan dan Perakaunan
- Fakulti Sains Komputer
- INPUMA
- Akademi Pengajian Melayu
- Pusat Sukan
- Pusat Kebudayaan
- Pusat Asasi
- Pejabat Keselamatan

6.2 Issues And Needs
7. MASTERPLAN PROPOSAL

7.1 UM Present Layout
7.2 Proposed Re-Zoning of UM

- Central District
- 4 zones of residential colleges
- Faculty Zones
- Research Park Zone
- Sport & Recreation Zone
7.3 The Efficiency of Existing Buildings

The Study of Existing Facilities;
- Some buildings have strong image and historical values.
- 60% of building are outdated should be demolished.
- The infrastructures could be improved further to enhance the campus.

<table>
<thead>
<tr>
<th>DATA</th>
<th>EXISTING</th>
<th>DEMOLISHED</th>
<th>%</th>
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<tbody>
<tr>
<td>No of Blocks</td>
<td>425</td>
<td>254</td>
<td>60%</td>
</tr>
</tbody>
</table>

![Map of Existing and Demolished Buildings](image-url)
8. THE MASTER PLAN MAIN COMPONENTS

8.1 The Overall Plan
8.2 The Proposed Circulation System

- Bicycle lane
- Bicycle station
- Bus Stations
- Park & Ride Station
- Integrated Parking Facilities
- MRT & LRT Connectivity
- Enhancing Campus gates
8.3 Public Spaces

Figure 13 Typical Road and Pedestrian Path-Type A

Figure 14 Typical Road and Pedestrian Path-Type B
Figure 15 Typical Road and Pedestrian Path- Type C
8.4 Green Area

EXISTING OPEN SPACES
8.5 Carpark Facilities
8.6 Park & Ride
8.7 Pedestrian Linkages

EXISTING PEDESTRIAN NETWORK
8.8 Cycling Lane

[Map of cycling lanes with a distance of 17.3 km]
8.10 UM As an Eco Campus

Solar roof became a primary agent to regenerate electricity to the rest of potential building especially covering the building for management and public spaces.

A system of solar roofs is implemented to reduce energy consumption and increase the building's sustainability.

Water catchment for rainwater harvesting & water storage system to be implemented.

A green roof system is also installed to provide additional benefits such as improving biodiversity and reducing the urban heat island effect.

Elements of regeneration agents:
- Solar roof
- Water catchment
- Green roof

Regenerate organic and inorganic waste
- Recycling
- Composting
- Bioenergy

Regenerative energy and sources
- Solar power
- Wind power
- Biogas

Pervious paving
- Reduces stormwater runoff and enhances infiltration as well as prevent flash floods.

Adaptive re-use + repurpose
- Preserves contextual character and history while limiting demolition works.

Walkable campus
- Connects key campus nodes and facilities by creating strong and seamless campus spine as primary walking network.

Rainwater harvesting
- Promotes site infiltration, reduces heat island effect and provides a permeable surface for stormwater management.

Academic faculty
- Access road
- Main BRT road (Lingkungan Budi)
8.11 Student Housing

The goals are to provide vibrant campus lifestyle by combining sports & commercial amenities with student housing and increasing student housing density & rezoning ALL of the undergraduate and postgraduate student into 4 zones (Habitat 1-4). The future student’s population is projected to be about 35,000,

Zone 1

**HABITAT 1 BLOCKS**
Located near KL Gate (next to Examination Hall)
6 residential blocks
Average 16-20 storeys
Shared facilities on ground level
- retails
- cafeteria
- laundry
- student centre
- recreational facilities
Accommodate up to 6000 students.

Zone 2
HABITAT 2 BLOCKS
• Located near Seksyen 16 Gate
• 6 residential blocks
• Average 16-20 storeys
• Shared facilities on ground level
  - retails
  - cafeteria
  - laundry
  - student centre
  - recreational facilities
• Accommodate up to 6000 students
**HABITAT 3**
- Located near existing College 12.
- 4 residential blocks
- Average 16-20 storeys
- Shared facilities on ground level
  - retails
  - cafeteria
  - laundry
  - student centre
  - recreational facilities
- Accommodate up to 6000 students

**HABITAT 4**
- Located near Medical faculty
- 4 residential blocks
- Average 16-20 storeys
- Shared facilities on ground level
  - retails
  - cafeteria
  - laundry
  - student centre
  - recreational facilities
- A mosque
- Accommodate up to 6000 students
8.12 Industry-Linked Research Park

UM Planet

Hub for industry linkages that incorporates research incubators. It consists of commercial offices, conferences facilities and accommodation for resident researchers.
Research Centre with total area of 55 acres. The Oval Park consist of 12 Lots with total area of 32.2 acres. 1 Lot = ¾ acres to 1.5 acres.

**Existing Footprint:**
92,616.88 ft²

**Proposed Demolish Footprint:**
2 research blocks = 14,944.03 ft²

**New Proposal Footprint:**
15 blocks = 269,097.76 ft²

**Total New UM Planet Footprint:**
8 existing blocks + 15 new blocks
346,770.61 ft² (274% increase)

**Existing GFA**
440,643.08 ft²

**New Proposal GFA**
1,131,739.08 ft²

**Overall GFA**
1,546,506.96 ft² (251% increase)
8.13 Landscape

Much of the green area at the Rimba Ilmu are untouched for obvious reason. However, the green area near Jalan Ilmu (section 13) may need further examination to determine the future development there. Presently, the masterplan indicated the area will be earmark for UM Healthcare campus—a combination development of UM Medical Center (UMMC), Faculty of Medicine (FoM) and UM Specialist Center (UMSC)- a private healthcare business venture. The challenge here is how to house all the parties within the same proximity. The matter is still being considered and unresolved.

The biggest challenge is to balance the masterplan concept with the overall landscape of the campus. Ideally, the existing trees should be maintained and preserved as much as possible. It is suggested that the landscape specialist should draw-up a landscape masterplan for the UM campus, especially in the area where will be affected by the future development.
8.14 Faculties and Administration

8.14.1 Campus Central District (CCD) Area

- Introduced the campus central district.
- Re-route the circulation
- Creating student central plaza
- Enhance Komplek Perdana Siswa (KPS).
- Re-organize the car parking system
- Re-connecting library and KPS
- Creating Faculty Fine Arts & Cultural Hub
- World class UM Art Gallery & Cultural Centre
- Cultural Trail for existing museums for public viewing and discovery.
Existing Footprint:
291,105.38 ft²

Proposed Demolish Footprint:
5 blocks = 39,828.38 ft²

New Proposal Footprint:
3 blocks = 114,546.31 ft²

Total New Central District Footprint:
13 existing blocks + 3 new blocks
365,823.30 ft² (26% Increase)

Existing GFA
1,003,532.21 ft²

New Proposal GFA
498,207.59 ft²

Overall GFA
1,369,292.55 ft² (36% Increase)
8.14.2 Faculty of Law

**Existing Footprint:**
70,985.39 ft\(^2\)

**Proposed Demolish Footprint:**
2 blocks = 3,048.26 ft\(^2\)

**New Proposal Footprint:**
1 block = 11,259.05 ft\(^2\)

**Total New Law Footprint:**
4 existing blocks + 1 new block
79,196.18 ft\(^2\)
(12% increase)

**Existing GFA**
159,940.03 ft\(^2\)

**New Proposal GFA**
90,072.40 ft\(^2\)

**Overall GFA**
246,964.17 ft\(^2\) (54%)
To surrender Electrical block to Faculty Alam Bina

**Existing Footprint:**
224,319.16 ft$^2$

**Proposed Demolish Footprint:**
10 blocks = 154,397.97 ft$^2$

**New Proposal Footprint:**
3 blocks = 100,601.66 ft$^2$

**Total New Engineering Footprint:**
13 existing blocks + 3 new blocks
170,522.85 ft$^2$ (24% Decrease)

**Existing GFA**
815,377.19 ft$^2$

**New Proposal GFA**
568,560.08 ft$^2$

**Overall GFA**
948,644.21 ft$^2$ (16% Increase)
8.14.4 Faculty of Built Environment

To get back Electrical block from Engineering

**Existing Footprint:**
28,269.60 ft$^2$

**Proposed Demolish Footprint:**
None

**New Proposal Footprint:**
1 block = 9,042.22 ft$^2$

**Total New FAB Footprint:**
2 existing blocks + 1 new block + Electrical block from engine
55,440.31 ft$^2$ (96% increase)

**Existing GFA**
307,357.72 ft$^2$

**New Proposal GFA**
27,126.67 ft$^2$

**Overall GFA**
343,879.84 ft$^2$ (12% Increase)
Existing Footprint:
106,881.80 ft²

Proposed Demolish Footprint:
2 blocks = 36,037.31 ft²

New Proposal Footprint:
5 blocks = 27,318.80 ft²

Total New Sastera Footprint:
6 existing blocks + 2 new blocks
+ Surau + UM Cultural Villages
98,163.29 ft² (8% Decrease)

Existing GFA
269,315.18 ft²

New Proposal GFA
184,256.62 ft²

Overall GFA
357,369.64 ft² (33% Increase)
Existing Footprint: 72,590.63 ft²
Proposed Demolish Footprint: 2 blocks = 21,048.03 ft²
New Proposal Footprint: 2 blocks = 19,483.75 ft²
Total New FOEA Footprint: 3 existing blocks + 2 new blocks 71,026.35 ft² (2% Decrease)
Existing GFA 223,410.06 ft²
New Proposal GFA 155,870.03 ft²
Overall GFA 337,430.27 ft² (51% Increase)

The Proposed Development
To get Zaaba library block

Existing Footprint:
47,980.07 ft²

Proposed Demolish Footprint:
3 blocks = 22,743.25 ft²

New Proposal Footprint:
2 blocks = 32,997.41 ft²

Total New FOBA Footprint:
2 existing blocks + Zaaba block + 2 new blocks
58,234.24 ft² (21% increase)

Existing GFA
103,987.05 ft²

New Proposal GFA
195,397.32 ft²

Overall GFA
248,594.61 ft² (139% increase)
8.14.8 Faculty of Science

Existing Footprint:
297,135.86 ft$^2$

Proposed Demolish Footprint:
24 blocks = 531,535.72 ft$^2$

New Proposal Footprint:
10 block = 194,166.63 ft$^2$

Total New Sciences Footprint:
14 existing blocks + 10 new block
320,327.51 ft$^2$ (8% increase)

Existing GFA
1,016,017.87 ft$^2$

New Proposal GFA
1,034,433.32 ft$^2$

Overall GFA
1,518,915.47 ft$^2$ (49% Increase)
8.14.9 Faculty of Computer Science & Technology

Will be relocated at College 2 site.

Existing Footprint:
46,943.58 ft$^2$

Total New FSKTM Footprint:
1 existing blocks + 3 new blocks
61,696.80 ft$^2$ (31% Increase)

Existing GFA
120,702.73 ft$^2$

Overall GFA
244,522.89 ft$^2$ (203% Increase)
### Existing Footprint:
62,543.14 ft²

### Proposed Demolish Footprint:
5 blocks = 29,699.69 ft²

### New Proposal Footprint:
5 blocks = 59,391.38 ft²

### Total New Pendidikan Footprint:
5 existing blocks + 3 new blocks + Smart School
92,234.83 ft² (47% Increase)

### Existing GFA
193,127.11 ft²

### New Proposal GFA
356,348.30 ft²

### Overall GFA
462,407.30 ft² (139% Increase)
Existing Footprint:
70,392.58 ft²

Proposed Demolish Footprint:
4 blocks = 46,825.67 ft²

New Proposal Footprint:
3 blocks = 71,800.66 ft²

Total New Bahasa Footprint:
1 existing blocks + 3 new blocks
95,367.57 ft² (35% Increase)

Existing GFA
115,165.79 ft²

New Proposal GFA
294,189.73 ft²

Overall GFA
347,420.78 ft² (202% Increase)
Existing Footprint:
53,099.12 ft²

Proposed Demolish Footprint:
None

New Proposal Footprint:
1 Block = 28,382.82 ft²

Total New API Footprint:
5 existing blocks + 1 new block
81,481.94 ft² (53% Increase)

Existing GFA
307,016.87 ft²

New Proposal GFA
170,296.90 ft²

Overall GFA
477,313.77 ft² (55% Increase)

The Proposed Development
Existing Footprint:  
455,961.39 ft$^2$

Proposed Demolish Footprint:  
3 blocks = 43,308.75 ft$^2$

New Proposal Footprint:  
9 blocks = 194,930.11 ft$^2$

Total New Sports Centre Footprint:  
3 existing blocks + 9 new blocks
607,582.75 ft$^2$ (33% Increase)

Existing GFA  
493,844.56 ft$^2$

New Proposal GFA  
539,000.66 ft$^2$

Overall GFA  
981,212.90 ft$^2$ (99% Increase)
8.14.14 Faculties of Fine Arts

Total New Fine Arts Faculty

Footprint:
2 new blocks

32,184.09 ft² (26% Increase)

Overall GFA
96,552.28 ft² (36% Increase)
Relocated at existing FSKTM site
Existing College 8 and College 10
to be renamed as ASASI Residential
College (accommodate 1500 students)

**Existing Footprint:**
187,754.52 ft²

**Total New ASASI Footprint:**
2 existing FSKTM blocks + 1 new blocks
116,801.36 ft² (38% Decrease)

**Existing GFA**
431,896.71 ft²

**Total New Proposal GFA**
1,718,380.04 ft²

The Proposed Development
8.15 UM Health Care Campus
8.15.1 Faculty of Medicine

Existing Footprint:
250,028.27 ft²

Proposed Demolish Footprint:
6 blocks = 79,821.69 ft²

New Proposal Footprint:
3 blocks = 84,769.67 ft²

Total New Medic Footprint:
15 existing blocks + 3 new blocks
254,976.25 ft² (2% increase)

Existing GFA
646,285.43 ft²

New Proposal GFA
348,931.53 ft²

Overall GFA
782,788.78 ft² (21% Increase)
8.15.2 Faculty of Dentistry

To surrender Balai Ungku Aziz

**Existing Footprint:**
63,397.71 ft\(^2\)

**Proposed Demolish Footprint:**
2 blocks = 37,342.99 ft\(^2\)

**New Proposal Footprint:**
2 blocks = 85,061.80 ft\(^2\)

**Total New Dentistry Footprint:**
15 existing blocks + 3 new blocks

111,116.52 ft\(^2\) (75% increase)

**Existing GFA**
219,036.48 ft\(^2\)

**New Proposal GFA**
680,494.42 ft\(^2\)

**Overall GFA**
758,894.20 ft\(^2\) (246% increase)
8.15.3 Balai Islam
8.15.4 UM Medical Center
9. PHASING PROPOSAL

Phase 1 (2020-2030)
Phase 2 (2030-2040)
Phase 3 (2040-2050)
10. APPENDIXES

Appendix A: UM 2050 Team Members
Appendix B: The UM Masterplan Meeting with all faculties.
Appendix C: Workshop on UM Healthcare Campus
## ESTABLISH PRIORITIES
THE GENERAL AGREEMENT ON PHYSICAL PLANNING COORDINATION

<table>
<thead>
<tr>
<th>FOCUS</th>
<th>PROPOSED POLICY</th>
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<tbody>
<tr>
<td><strong>Focus 1: Developing and Strengthening UM Health Zone</strong></td>
<td>1. UM recognizes the need to establish UMHealth Zone (UMHZ), which consists of FoM, FoD, UMMC, and UMSC, as a key entity in UM 2. To relocate the main PJ entry point towards Jalan Elmu (near MAHSA), in order to redefine the UMHealth Zone (UMHZ). Existing PJ Gate entrance will be maintained as a secondary exit to PJ and as part of the proposed ring road. 3. To relocate student accommodation at 6th college to a new area that can accommodate undergraduate and postgraduate students across FoM, FoD, and nursing. The current 6th College site will be redeveloped as a potential expansion site for FoM, FoD, and/or UMMC 4. To redevelop the Nursing Hostel as UMHealth Zone residential area to accommodate undergraduate and postgraduate students across FoM, FoD, nursing, and for healthcare and visiting staff. Possible development includes vertical accommodation blocks close to the hospital.</td>
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<tr>
<td><strong>Focus 2: Optimization of Land Use</strong></td>
<td>5. To acquire MAHSA complex for teaching and research purposes, medical complex and accommodation purposes – for UM inbound and postgraduate students 6. To develop an inner ring road for internal traffic flow as a solution to current traffic problems. Promote connectivity for pedestrian access to/from LRT (KL Gateway University Station) and other public transportation systems including the Federal Highway.</td>
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<td><strong>Focus 3: Acquire MAHSA Complex</strong></td>
<td>7. To maintain and refurbish the original/heritage UMHealth Zone buildings to international standards 8. UMSC clinical block to be relocated if necessary. UMSC expansion is to be in line with the aspiration of UMHealth Zone</td>
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<td><strong>Focus 4: UM Health Zone Ring Road</strong></td>
<td>9. Future expansion of FoD and FoM to be integrated in the new UMHealth plan, including the possibility of a relocation: FoD to existing 6th College land area and FoM to existing bungalow lots next to UMSC.</td>
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<tr>
<td><strong>Focus 5: Refurbishment and Conservation</strong></td>
<td>10. All buildings and spaces within the UMHealth Zone must be accessible and connected to each other to promote shared and integrated facilities. 11. To promote shared facilities in line with the aspiration of UMHealth Zone.</td>
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<td><strong>Focus 6: Possibility of Relocation UMSC</strong></td>
<td>12. To develop green spaces within UMHealth Zone with Lingkungan Budi as a Central Green Park.</td>
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<td><strong>Focus 7: FoD and FoM Expansion</strong></td>
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<tr>
<td><strong>Focus 8: Shared Facilities</strong></td>
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<td><strong>Focus 9: Green Spaces</strong></td>
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**Appendix D: The Summary of the Workshop on UM Healthcare Campus**
<table>
<thead>
<tr>
<th>Short term (&lt;2 year)</th>
<th>Medium term (2-5 years)</th>
<th>Long term (&gt;5 years)</th>
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<tbody>
<tr>
<td>- Business plan and proposal to buy MAHSA</td>
<td>- Education hub (UMMC)</td>
<td>- Redevelop existing FoM and FoD</td>
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<tr>
<td>- Identification of buildings that need to demolished.</td>
<td>- Ring road</td>
<td>- Commercial zone (UMMC)</td>
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<td>- A tower for outpatients and day care</td>
<td>- Pedestrian connectivity to LRT KL Gateway University Station</td>
<td>- New hospital (public and private)</td>
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<td>- FoM and FoD urgent renovation</td>
<td>- PJ Gate relocation</td>
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<td>- Develop a bus and taxi terminals (tendered)</td>
<td>- BOT residential project</td>
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<td>- UMSC Expansion</td>
<td>- Shared facilities</td>
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<td></td>
<td>- College 6th (tied up with the purchase of MAHSA) – can be redeveloped</td>
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