

DRAFT

2011-2030
Facilities Master Plan Update
April 27, 2011



UNIVERSITY OF MARYLAND CONNECTS



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Design

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2011-2030
Facilities Master Plan
Update:
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FMP 2011-2030
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University of Maryland Facilities Master Plan 2011-2030

I. Executive Summary

II. Introduction

[General points:

Continuity with Master Plan of 2000 and update of 2007

Overview of last decade's progress

Evolving Context:

Emphasis on mixed-use development, e.g., East Campus Development

Designation and responsibility as ABG

Purple line

University of Maryland Climate Action Plan

Emphasis on community engagement

Focus: Landscape and Transportation

Emphases: Commitment to leadership in Sustainability

Commitment to connectivity, in particular renewed efforts to work with surrounding neighbors]

III. University's Mission And Current and Future Characteristics

A. Mission and Role as Flagship Campus

B. Description of Institution

Current demographics, projected future demographics

Enrollments

Both the diversity of the student population and the quality of students has risen over time. The campus counts the diversity of its student body among its special strengths; as of fall 2010, 37% of undergraduates stated that they were either Hispanic, or claimed at least one minority racial/ethnic identity. The comparable statistic for graduate students was 21%. Moreover, approximately 23% of our graduate students are international. In addition, operating with the highest admission standards in the USM, the University of Maryland attracts to campus highly qualified students from all counties of Maryland, the other 49 states, and approximately 120 countries around the world.

The enrollment data in the projected years are predicated upon full-funding of the USM Strategic Plan for fiscal year 2013 and beyond. Moreover, the data represents, over the relevant time period, the campus contribution to meeting Governor O'Malley's goal of having 55% of Marylanders having a college degree by 2025. The data correspond to the

university's 10-year enrollment projections that are filed on an annual basis with the University System of Maryland Office.

Table 1: Headcount Enrollment

Headcount	2005	2006	2007	2008	2009	2010	2020	Net Change 2010 - 2020
Undergraduate FT	23,263	23,124	23,780	24,383	24,617	24,841	26,525	7%
Undergraduate PT	2,179	2,030	2,077	2,092	1,925	2,081	2,175	4.5%
Graduate FT	6,642	6,708	6,844	6,934	7,062	7,095	7,570	7%
Graduate PT	3,285	3,240	3,313	3,591	3,591	3,624	3,875	7%
TOTALS	35,369	35,102	36,014	37,000	37,195	37,641	40,145	7%

Source: UM Office of Institutional Research, Planning and Assessments (IRPA)

Table 2: FTE Fall Enrollment

FTE Enrollment	2010	2020	Net Change 2010 - 2020
Undergraduate	25,396	27,171	7%
Graduate	6,622	7,138	8%
TOTALS	32,018	34,309	7%

Source: UM Office of Institutional Research, Planning and Assessments (IRPA)

Faculty and Staff Size

Faculty and staff have absorbed significant burdens from the economic downturn, with layoffs, furloughs and increasing workloads. As noted in Dr. Loh's testimony before the General Assembly, state budget cuts have led to the layoff of 50 employees in FY11.

Despite current economic conditions, the University System of Maryland intends to grow by 20% over the next decade. The faculty and staff projections are based on an annual growth rate of 1%.

Table 3: Faculty Headcount

Faculty	2005	2006	2007	2008	2009	2010	2020	Net Change 2010 - 2020
Full Time	2,862	2,896	2,924	2,967	3,060	3,147	3,343	6%
Part Time	812	856	861	900	937	976	1,014	4%
TOTAL	3,674	3,752	3,785	3867	3,997	4,123	4,357	6%

Source: UM Office of Institutional Research, Planning and Assessments (IRPA)

Table 4: Staff Headcount

Staff	2005	2006	2007	2008	2009	2010	2020	Net Change 2010 - 2020
Full Time	4,367	4,514	4,656	4,850	4,819	4,704	5,465	16%
Part Time*	4,247	4,188	4,227	4,352	4,266	4,330	4,904	13%
TOTAL	8,614	8,702	8,883	9,202	9,085	9,034	10,369	15%

* Part time counts do not include hourly employees or student workers.

Source: UM Office of Institutional Research, Planning and Assessments (IRPA)

C. Mandates in Strategic Plan and in the Climate Action Plan

IV. Land and Facilities Assessment

A. Existing Facilities and Acreage

The University of Maryland is located in the city of College Park, within Prince George’s County. The campus is 30 miles west of Annapolis, 25 miles southwest of Baltimore, and 5 miles north of the border to Washington, D.C. The region’s concentration of cultural, scientific, research, political, economic, and agricultural activities and facilities offers many unique advantages to the university’s academic and research programs.

Interstates 495 and 95, located approximately three miles north of the campus, provide direct regional access to the College Park community and to the institution via Baltimore Boulevard, a highly developed commercial corridor and a heavily traveled vehicular link between Baltimore and Washington. Main campus is bordered by University Boulevard, Campus Drive, Mowatt Lane, Knox Road, and Baltimore Boulevard (Route 1). Main campus also includes a parcel of land east of Route 1 which is primarily developed as student housing and service functions. The university golf course is located to the west of University Boulevard.

The University of Maryland’s main campus consists of approximately 13.5 million gross square feet (GSF) in 263 buildings on approximately 1,250 acres. With the inclusion of off campus facilities, including leased facilities, the building inventory totals nearly 14.7 million GSF in 460 buildings on approximately 5,100 acres. As shown in Table 5, 53% of the main campus’ total inventory is state-supported and approximately 39% in auxiliary.

Table 5: Fall 2010 Building Overview

Building Inventory	No. of Buildings	GSF	NASF	Percent of Total GSF
Main Campus				
State-Supported		7,690,817	4,674,796	53%
Auxiliary		5,772,517	2,621,873	39%
Subtotal	263	13,463,334	7,296,669	92%
Other Facilities*				
State-Supported		1,180,142	972,439	8%
Auxiliary		6,678	6,630	Less than 1%
Subtotal	197	1,186,820	979,069	8%
Total Inventory	460	14,650,154	8,275,738	100%

*Includes Maryland Fire and Rescue Institute (MFRI), Maryland Agricultural Experiment Station, the University of Maryland Extension and Leased Facilities.

Source: UM Department of Facilities Planning

B. Assessment of Physical Condition of Buildings and Infrastructure

The advanced age and deteriorating condition of UM facilities are major concerns. As shown in Table 6, 57% of the Main Campus inventory is coded Condition Code 1 or 2 (requiring normal maintenance and minimal renovation) while 39% is coded Condition Code 3 and 4 (requiring either major updating and modernization or major remodeling of the building). These totals have not been adjusted for age.

Table 6: Building Condition Overview

Condition Code	No. of Buildings	GSF	NASF	Percent of Total GSF
Code 1 (Normal Maintenance)	115	6,237,108	2,718,721	46%
Code 2 (Minimal Renovation)	16	1,422,179	944,485	11%
Code 3 (Major Updating)	36	2,891,676	1,764,871	22%
Code 4 (Major Remodeling)	41	2,324,286	1,421,175	17%
Code 6 (Planned Termination)	55	588,086	447,417	4%
Total Inventory	263	13,463,334	7,296,669	100%

Source: UM Department of Facilities Planning

Approximately 27% of our state-supported space is over 40 years old, and 16% is over 50 years old (Fall 2010 data). Age of space has been adjusted, where applicable, to the date of major renovation. Insufficient funding for maintenance and facilities renewal has resulted in enormous deferred maintenance needs and an aging, increasingly obsolete physical plant.

Facilities renewal and our deferred maintenance requirements continue to have a major impact on our ability to meet our teaching and research mission and achieve university goals. Our deferred maintenance backlog is about three-quarters of a billion dollars (2011 dollars). Deferred maintenance also contributes substantially to energy consumption and limits our ability to reduce our carbon footprint. Given that our buildings are aging, expending 2% of replacement value annually will help avoid increasing the deferred maintenance backlog. But it will not reduce it. Our growing backlog can only be addressed by large special allocations of capital funding.

UM facilities renewal needs are urgent and fall into two general categories:

Invisible Crisis.

Much of our failing infrastructure (e.g., underground heating, cooling, water and storm drain piping and building electrical gear) is unseen, resulting in an “invisible crisis”. We have developed a seven phase, \$132 million (2013 – 2019 dollars) plan to address this.

Restore the Core.

Many of our buildings are decrepit and in dire need of renewal. Over \$0.6 billion (2011 dollars) of our backlog is to renew buildings. We have prepared a document titled “Restore the Core” which describes the renewal needs of 17 buildings located in the historic core of campus. The average age of these buildings, adjusted for the date of major renovations, is 54 years. Many buildings outside the core are also in urgent need of renewal.

C. Utilization of Existing Facilities

Maryland Higher Education Commission’s (MHEC) definitions for building types are used to categorize the building inventory. Approximately 44% of the space at College Park is concentrated in 80 academic buildings. Two main libraries, seven administrative buildings, 124 auxiliary enterprise facilities, and 50 non-academic buildings comprise the remainder of the space inventory.

Table 7: Major Building Function

Building Function Code	GSF	NASF	Percent of GSF Total
Academic	5,980,038	3,543,912	44%
Administrative	218,688	144,486	2%
Library	636,331	450,981	5%
Auxiliary Enterprise	5,817,687	2,574,408	43%
Other – Non Academic	810,590	582,882	6%
Total Inventory	13,463,334	7,296,669	100%

Source: UM Department of Facilities Planning

D. Assessment of Sufficiency, Functional Adequacy and Externally Mandated Program Standards

UM suffers from a lack of sufficient quantity and quality of space, which are serious obstacles in sustaining the university’s scholarly activities. Additionally, the lack of functionally appropriate or suitable space makes the fulfillment of the university’s mission increasingly difficult. Emphasis on graduate level education, the increased technological requirement of instruction, externally mandated program standards (e.g., Association for Assessment and Accreditation of Laboratory Animal Care – AAALAC) and advances in research technologies all contribute to a growing need for renewal of existing facilities and the infrastructure.

E. Space Analysis

The use of state mandated Space Planning Guidelines are intended to assist in the university and state in identifying the overall adequacy of types and amount of space. The Space Planning Guidelines Application Program report compares existing and proposed inventories to existing and proposed space allowances based on the Space Planning Guidelines. The report is based on campus wide data and deals only with quantity, not quality, of space. The base year (Fall 2010) inventory reflects a total space deficit of 1.7 million net assignable square feet (NASF). All of the major room use categories (classroom, class laboratories, research labs, office, and study space) show deficits.

The deficits are projected to increase during the 10-year period in all major room use categories totaling more than 2.7 million NASF. Approximately \$1.9 billion in capital funding are needed to alleviate the shortage. The research lab deficit is more than 40% of the campus wide space deficit. UM has a strong research program, with \$545 million of external research grants won by faculty in FY 2010. Continued strength in our research

program is vital to ensure the State’s continued economic growth and international competitiveness. Unfortunately, the research space shortfall severely hampers our research program. At times we are unable to accept large research grants that require substantial state of the art space. The magnitude of the existing and projected deficits clearly indicates that the higher levels of capital funding are required from all sources.

This section should include a position statement regarding research tied to USM’s Strategic Plan.

**Table 8: Space Guidelines Application Program (SGAP)
Major Use Surplus/Deficit Comparisons**

Major Room Uses	Fall 2010 Inventory	Fall 2010 Deficit/Surplus	Fall 2020 Inventory	Fall 2020 Deficit/Surplus*
Classrooms	368,394	(69,711)	392,306	(182,391)
Class Labs	360,180	(40,674)	358,994	(141,805)
Research Labs	786,722	(744,121)	843,695	(1,122,673)
Office	1,792,236	(233,934)	1,821,088	(597,328)
Subtotal	3,307,532	(1,088,440)	3,416,083	(2,044,197)
Study Spaces	402,366	(381,967)	422,586	(386,795)
Other Room Uses**	3,586,771	(242,264)	3,557,536	(338,457)
Total	7,296,669	(1,712,671)	7,396,205	(2,769,449)

* Deficits are based on projections predicated upon full funding of the USM Strategic Plan for fiscal years 2013 and beyond.

**Includes all Special Use, General Use and Support Spaces.

Source: UM Department of Facilities Planning

F. Adequacy of Existing Land and Capacity for Future Development

This section will be updated after all district plans are drafted.

Future development sites have been identified that could accommodate an additional 6 million GSF of new construction on the main campus. Although the program demands for the 20-year period can be met on the main campus land, sites for new facilities are located further from the Campus Core. As opportunities exist, university functions that can be located on campus edges and peripheral properties should be examined to keep the concentration of student and academic functions as close to the Campus Core as possible.

V. Plan Foundation

- A. *Regional and local contexts.* The University of Maryland is situated in the mid-Atlantic region in the Anacostia watershed. Appendix A contains maps that show the topography, watersheds and greenways that connect to the campus.
- B. *University of Maryland past plans and current conditions:* A brief history of plan making for the University at College Park is included in Appendix A.

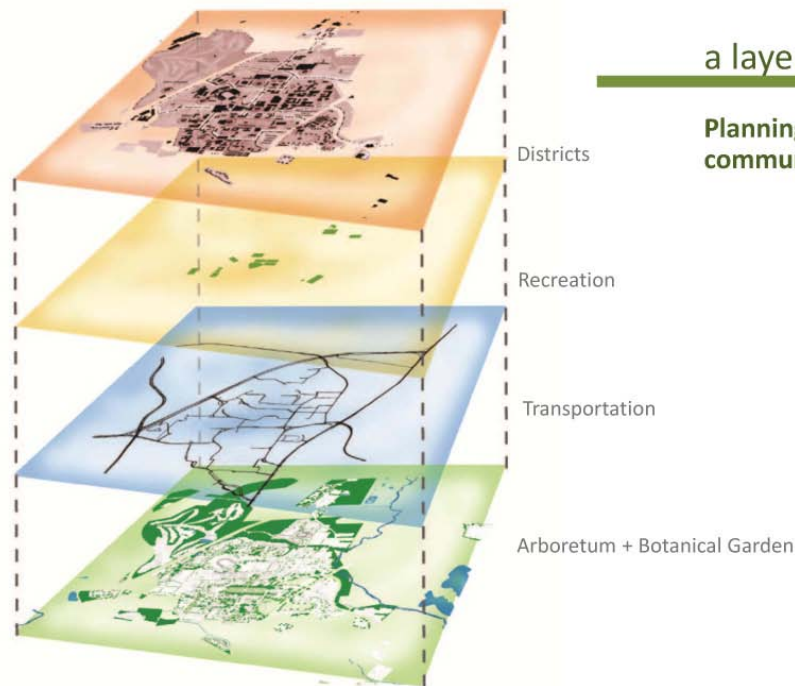
The current plan builds on the 2001-2020 Facilities Master Plan and its update of 2007. The 2001 plan was notable for its bold aspirational vision of a campus and facilities of a quality that would reflect the rising prominence of the University. Its goal was “a first-class campus for a world-class university.” While previous plans were willing to place buildings wherever space was available, the focus of the 2001 Plan was coherent design that favored appropriate levels of building density, preferred parking garages over surface parking lots, and placed a value on open spaces that add to the beauty, appeal, and ease of movement across the grounds. It also emphasized a new appreciation of the environment. It acknowledged the importance of the natural systems, the trees, streams, and land, that are home to the University community. The Plan also called for greater consideration and cooperation with the neighboring City of College Park.

Under the direction of the 2001 Plan, the campus has met many of its goals. Academic buildings are clustered in reasonable distances, open spaces have been added and protected, and environmental stewardship and sustainability are University priorities. Following the plan, 3.0 million GSF have been built out; storm water management projects have been implemented across the campus, and the University has become a national leader in sustainability measures. Selective building on and off campus allowed the University’s greatly expanded research agenda to flourish and teaching facilities to be upgraded to meet the requirements of modern technology.

Challenges remain. Vehicular congestion in and around campus has not been sufficiently addressed; pressure for land use grows as research, teaching, and residential facility needs compete with each other for land that is limited. As buildings to meet these needs are built, campus leaders struggle to find appropriate space for recreational and intercollegiate activities that are an essential part of the life of a University. State regulations for forest conservation and stormwater management impose additional requirements that must be considered in any planning effort. Route 1 still has the unappealing character of a major throughway and commercialized urban corridor. The surrounding College Park community still lacks the amenities, aesthetic appeal, and living conditions that make many other college communities attractive places in which to work and live.

It is the intent of the 2011-2030 Facilities Master Plan to address these issues, give guidance for development over the next 20 years, and move forward with the vision of a first-class campus enunciated in the 2001 Plan.

- C. ***Holistic concept of layering of uses.*** The Facilities Master Plan is built on the holistic concept of a fixed place (the main campus) that has to be understood in terms of four layers of use or systems that exist concurrently and overlap.
1. The first layer is the land perspective, the acres of land on which the buildings stand, and which is home to the University of Maryland Arboretum and Botanic Garden. From this perspective, the Plan must take into account the ecological context of the setting, regional streams, waterways, urban forest canopy connections, etc. Concerns at this level are the types of conservation, stewardship, tree collections, placement of gardens, and sustainability measures that will protect, preserve, and enhance these invaluable natural resources.
 2. The second layer or perspective is the transportation network and system of paths and trails that permit pedestrian and vehicular circulation. At this level, concerns deal with the routes of shuttle busses, internal circulation of commercial vehicles such as busses and the proposed Purple Line, pedestrian links and pathways, and bicycle paths. From this perspective, the Plan must deal with the surrounding transportation and circulation systems and link them to campus plans.
 3. The third layer or perspective considers use of the land other than for academic or residential purposes and includes plans for intercollegiate athletics fields and recreational spaces. In comparison with our peers, the campus has a deficit in opportunities and spaces for students to engage in recreational activities. Concerns at this level are the creative use of spaces that can accommodate formal or informal recreational and sports activities.
 4. The fourth layer is the district layer that looks at the land in terms of its use for buildings that house research laboratories, classrooms, residence halls, event centers (performing arts, athletic, alumni center), and administrative offices and buildings. Concerns at this level are the projected placement of buildings, including concentration of buildings with related disciplinary activities or similar land uses and interspersions of necessary service shelters.



D. The Plan's framework

Four overarching priorities form the framework of the 2011-2030 Facilities Master Plan. They cut across and support the planning principles, goals, and proposals in each of the primary issues: environmental stewardship; land use and landscape design; and vehicular and pedestrian circulation. They form the context through which goals and recommended actions come together into a vision of a whole that is greater than the sum of its parts. Building on these pillars, the Plan provides a foundation for the orderly development of the facilities and responsible stewardship of the natural resources of a dynamic and thriving 21st century research university. Priorities underlying the specifics of the Plan are to:

Realize the institutional vision of excellence. In accordance with the University's commitment to excellence, the Facilities Master Plan will hold up a vision that is bold, comprehensive, and inspiring. It will guide the University in cultivating an Arboretum and Botanic Garden that is a teaching instrument for students and faculty and a "garden in the city" for the densely populated metropolitan area. It will offer creative proposals for use of limited land space that can satisfy the demands of a dynamic and thriving world-class university. Though current fiscal and other challenges loom, the Plan will present a vision of a campus serviceable for the next decades, confident and outspoken in its identity, and treasured by alumni and friends for generations to come.

Promote connectivity. Members of the University are part of a community within a natural and cultural context. Planning for all facilities and physical systems will be designed to increase the sense of community among those on campus, strengthen connections to the surrounding neighborhood communities, and position the campus as an important and attractive destination for residents of the region and all citizens of the State. Design and landscape patterns will connect districts one to another and connect the present campus to its architectural and cultural heritage and mid-Atlantic ecology.

Encourage careful stewardship of natural and historical resources. The University will continue its nationally-recognized commitment to sustainability, acknowledge and treasure our history, and play a leading role in protecting campus environmental features that are of major importance to the regional ecology.

Set forth a dynamic plan for land use that is efficient, flexible, and forward-looking. Long-term development patterns, land use, redevelopment and renovation strategies will be designed to utilize and balance available land and financial resources effectively. Projected development patterns will emphasize appropriate building densities and configurations, e.g. compact or spread out, that accommodate goals such as walkability, connectivity, and community and contribute to collaboration and interaction.

VI. Plan and major recommendations

A. Physical Planning Principles: The following principles are established to guide the physical development on the campus.

Realize the Institutional Vision

The land and other physical resources of the University of Maryland campus will be used to support the University's mission and programmatic needs and help achieve its strategic plan and academic aspirations. The campus will manifest the institution's commitment to excellence and reflect concern for quality of life. It will be a place of beauty that celebrates history, practices sustainability, and generates pride.

Practice Environmental Stewardship in Landscape Design and Maintenance

The campus plan will protect and enhance existing natural environments (woodlands, wetlands, and floodplains) and create connections with adjacent habitats; new development will be guided by principles of smart growth and environmental stewardship.

Enhance Environmental Performance of Buildings and Utilities on Campus

Long-term environmental and economic sustainability will continue to be primary goals in the planning for new facilities, renovation of existing buildings and (the location of) supporting utilities and infrastructure. LEED silver certification will

remain the campus minimum standard for new construction and major renovation; facility siting and development will maximize solar orientation and natural lighting, maximize energy efficiency, incorporate smart energy technologies, and minimize natural resource depletion and environmental degradation.

Encourage the Use of Transportation other than Personal Vehicles

Plans for development will reduce the number of automobiles on campus and encourage alternative modes of transportation -- shuttle busses, bicycles, new light rail or Metro line – in order to minimize vehicular congestion and support the UIM Climate Action Plan and campus sustainability priorities.

Strengthen Community Relations

Planning and design patterns will increase the sense of community among those on campus, strengthen connections to the surrounding neighborhood communities, and ensure the campus is an important and attractive destination for residents of the region and all citizens of the State.

Create an Attractive, Coherent and Pedestrian-friendly Design for the Campus

Circulation patterns, a landscape framework, an open space network, and prescribed building placements will connect the spaces, corridors, and districts within a unified campus setting. The coherent campus design will recognize and reinforce natural environmental patterns, campus planning traditions, and neighborhood organizational patterns, and increase operational effectiveness.

Achieve Appropriate Development Patterns

Strategies for long-term development, land use, redevelopment and renovation will balance available land and financial resources effectively and respect the desire to create a coherent and sustainable campus. Projected development patterns will emphasize appropriate building densities and configurations, e.g. compact or spread out, that accommodate goals such as walkability, connectivity, community, and campus carbon neutrality.

Emphasize the Importance of Open Spaces

Campus design will affirm the essential importance of open spaces--natural areas, lawns, malls, plazas, patios, places to sit, etc.--to the image, organization, and quality of the campus environment.

Improve the Quality and Attractiveness of the Campus Landscape

Landscape plans will enhance the campus' Arboretum and Botanic Garden to bring aesthetic pleasure to the campus community and enhance the University's teaching and research missions.

Increase the Access and Appeal of the Campus for Pedestrians

Campus planning will encourage pedestrians to move easily and safely across the campus through appropriate design in and between campus areas and careful management of vehicular flow.

Enhance Campus Security

Planning and design of all areas of campus will make personal safety and the security of public and personal property a priority.

Embrace Campus Traditions and Heritage

New development on the campus will use nationwide campus planning best-practices. Plans will respect historic and existing development patterns, affirm intrinsic cultural and social traditions, and reinforce important district-specific land use and physical characteristics.

B. Environmental Stewardship and Sustainability

Goal: Foster Environmental Stewardship

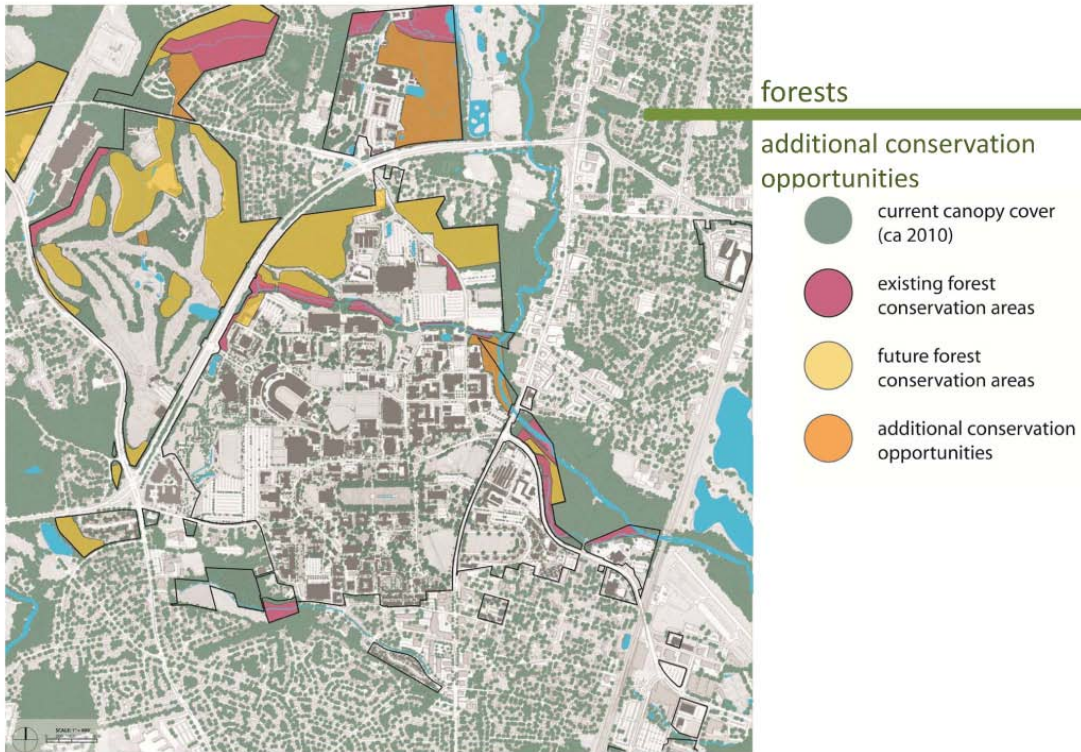
Recommended Actions:

- Maximize environmental benefits of urban tree canopy through increased Urban Tree Canopy (UTC) with specific benchmarks.
- Increase diversity of the urban understory layer with intensified planting schemes in targeted areas.

Goal: Conserve and interpret the campus forest as a key component of the Climate Action Plan.

Recommended Actions:

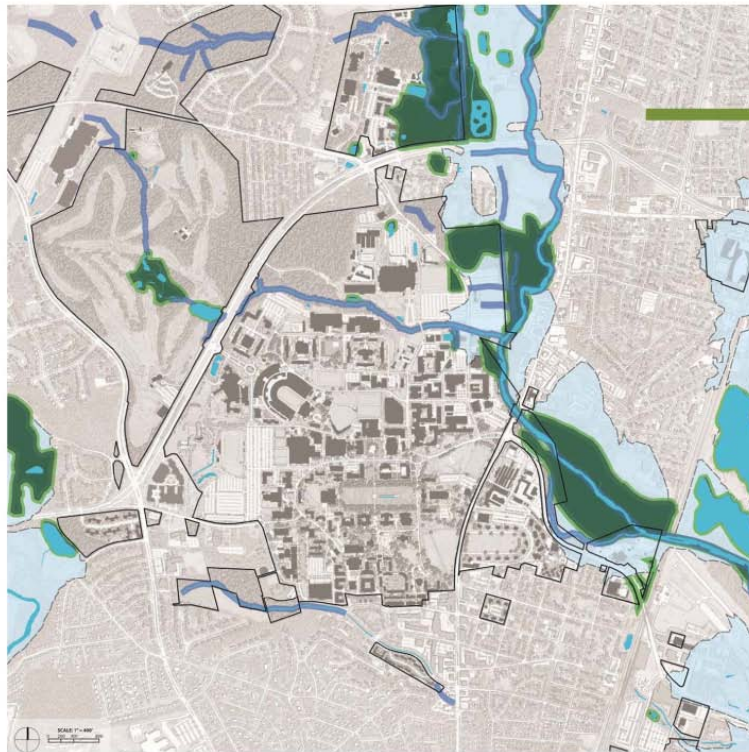
- Identify, quantify and map campus forest areas according to Department of Natural Resource definitions.
- Plan appropriate trail development to permit use of forest and wetland ecosystem resources in academic study.








Goal: Increase the ability of the campus natural hydrologic cycle to deal appropriately with stormwater run-off.

Recommended Actions:

- Implement Environmental Site Design (ESD) projects as required by Maryland Department of the Environment to manage stormwater.
- Maximize use of stormwater as a stored resource for irrigation by capturing rainwater and stormwater through installation of cisterns and underground recharge facilities.
- Restore the University Golf Course ponds as needed to reduce potable water use for irrigation by 50 percent.
- Decrease the percentage of impervious surface on campus through pervious paving, green roof applications and appropriate landscapes not associated with construction.
- Convert some manicured lawns into meadow, forest, gardens, or other landscapes that effectively manage stormwater.
- Implement mitigation measures such as Low Impact Development to control 100% of the stormwater run-off from the campus.



hydrology

-  approximate 100-year Paint Branch floodplain
-  current wetlands delineated by DNR + UMD
-  current waterbodies
-  riparian buffers (50')
-  wetland buffers (25')



Goal: Plan and manage utility systems to avoid conflict with landscape and environmental improvements.

Recommended Actions:

- Incorporate stormwater into landscape through ESDs and decorative features with interpretation.
- Identify potential utility corridors and maximize botanical development in other areas.

C. Land Use and Landscape Design

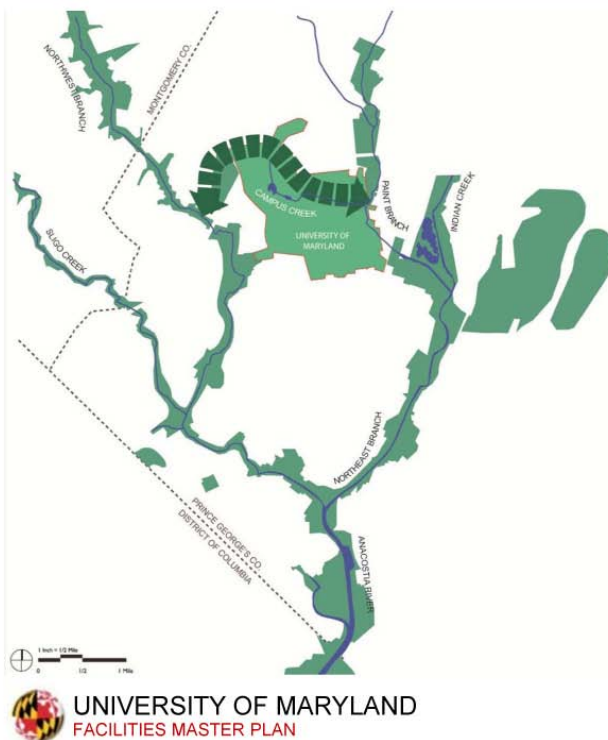
Goal: Conserve, preserve, develop and restore land in the best interests of the environment, the University community and the citizens of the region.

Recommended Actions:

- Identify, prioritize, fund and implement key environmental, open space and landscape projects as a critical part of the campus infrastructure.
- Design and implement signature gateways to create a sense of arrival and welcome
- Develop a diverse yet integrated campus network of open spaces.
- Establish a hierarchical and articulated network of primary accessible walkways, pervious wherever possible.

regional open space network

The University of Maryland completes a link in the regional network of green open space



Goal: Recognize and carefully assess the intrinsic natural value, the cultural value, the pedagogical value, and the commercial economic value of University land.

Recommended Actions:

- Maximize use of land and natural resources in education and research and coordinate awareness of this use through the Arboretum and Botanic Garden (ABG).
- Collect information on academic use of the land and landscape and incorporate into botanical collection information.
- Develop the ABG Outreach Center site as a sustainable site with programming and interpretation.
- Inventory historical assets, including heritage tree designations, and implement historic preservation policies.

Goal: Reveal campus heritage significance and develop strategies to preserve and enhance valued existing campus landscapes and plan and develop new open spaces and botanical gardens.

Recommended Actions:

- Inventory historical assets.
- Implement historic preservation policies.

Goal: Develop a landscape plan that uses the Arboretum and Botanic Garden to promote ecological awareness and celebrate and communicate a sense of place unique to the campus.

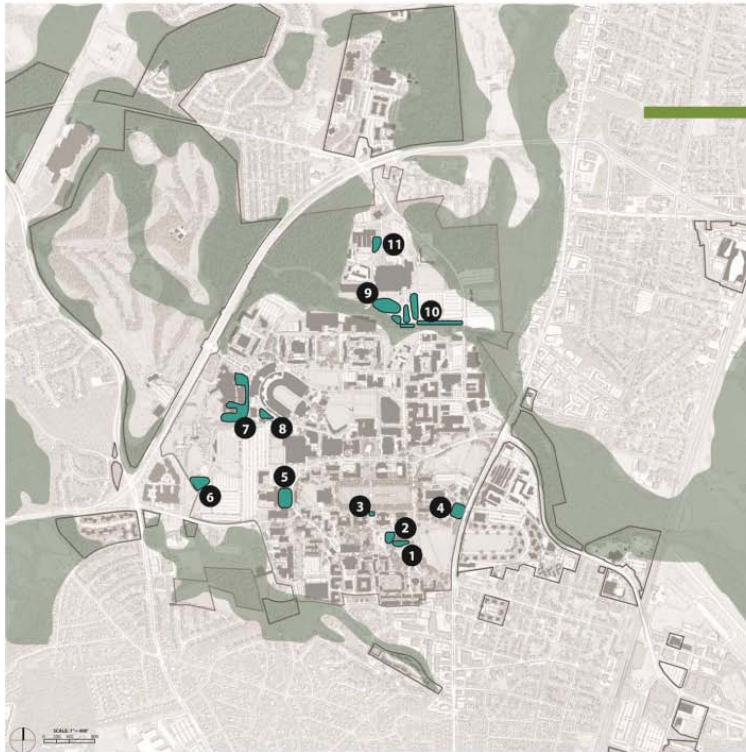
Recommended Actions:

- Use landscape interpretation and outreach to encourage human connectivity with the land, promote environmental awareness and increase understanding of the campus' relation to the region and the Chesapeake Bay.
- Establish a network of botanical collections, representations and ecosystem replications which enhance the educational value of the ABG collection (teaching collection focused on mid-Atlantic native, adapted and appropriate non-invasive exotic vegetation of ornamental or environmental interest) while enhancing aesthetic appeal, wayfinding and campus identity.
- Design and construct a series of trails through natural areas to encourage academic study and understanding of these systems.
- Manage invasive species through trained volunteers.
- Update campus Tree Care Plan to strengthen protection for existing specimen trees.
- Strengthen design and construction standards to reflect arboretum collection policy and consistent environmental site design.
- Support the continued greening of the University Golf Course, including maintaining its certification as an Audubon International Cooperative Sanctuary, and its use as a natural laboratory for education and research.

Goal: Establish the Arboretum and Botanic Garden landscape as inclusive and accessible space that celebrates the University heritage, enhances personal security, and brings aesthetic pleasure to all campus citizens and visitors.

Recommended Actions:

- Use planning concepts such as gateways, districts, centers and edges, and campus landmarks to support wayfinding, connectivity and branding as well as to increase personal security.
- Develop a diverse, yet integrated campus network of open spaces that serve as gathering spaces with outdoor seating, appropriate lighting and programming to increase use and sense of security.
- Create landmarks, milestones and landscape features that attract and engage pedestrians including art, fitness goals and historical features and interpretations to improve the pedestrian environment.
- Incorporate streetscape models that physically separate modes of travel with barriers or vegetative buffers where space permits.
- Connect the North Gate Park pedestrian bridge to Regents Drive and the center of campus through a pedestrian and bicycle enhanced series of plazas and modified roadway along Stadium Drive from Paint Branch Drive to Regents Drive while retaining service access.
- Integrate into the landscape spaces and opportunities for appropriate exercise and recreational activities of students such as recreational trails through woodlands and wetlands and along Campus Creek.



existing arboretum + botanical garden

existing gardens

- natural systems
- existing botanical expressions

Existing Garden Names

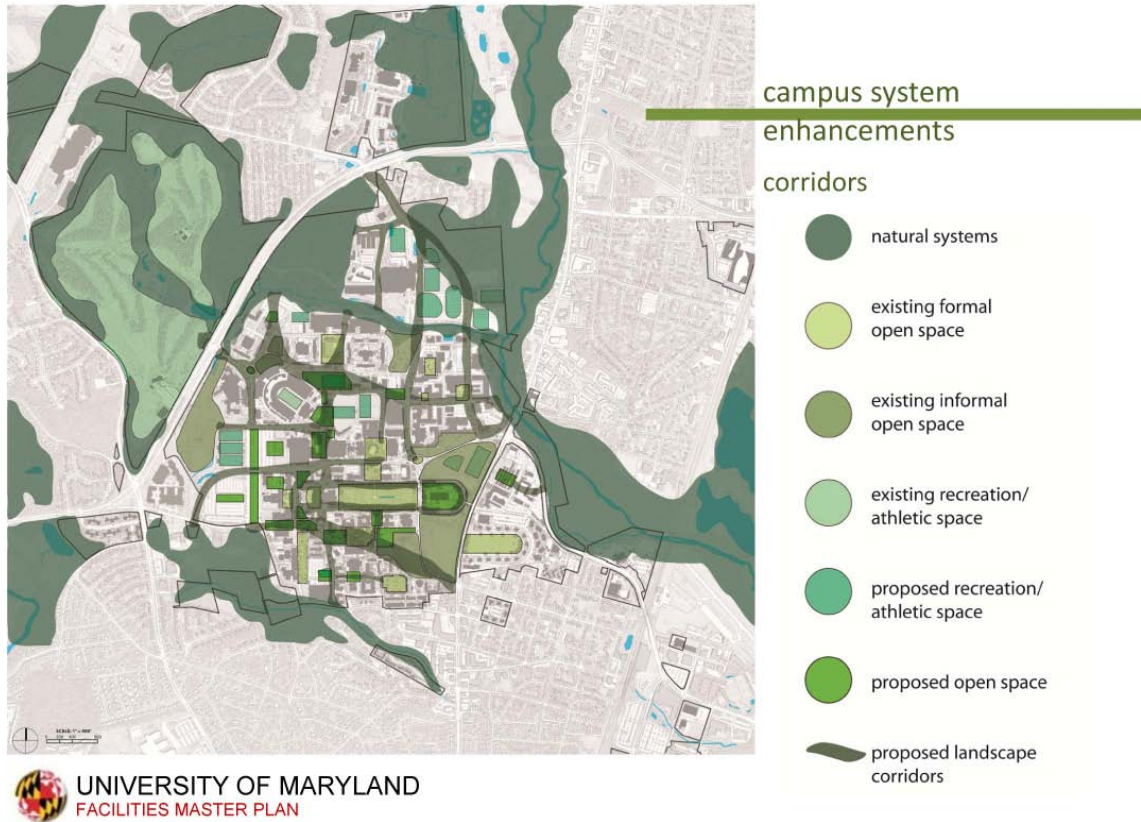
1. Garden of Reflection + Remembrance
2. West Chapel Garden
3. McKeldin Native Shade Garden
4. Rossborough Gardens
5. Tawes Plaza
6. Garden of Peace + Friendship
7. The Garden Walk at CSPAC
8. Moxley Gardens
9. Comcast Native Meadows
10. Comcast Rain Gardens
11. Greenhouse Native Sun Garden



existing arboretum + botanical garden

future corridors

- natural systems
- existing botanical expressions
- future botanical expressions
- proposed arboretum corridors



D. Vehicular and Pedestrian Circulation Systems

Goal: Improve connectivity for all modes of travel.

Recommended Actions:

- Explore traffic patterns, road usage, and possible road relocation from a whole-system approach.
- Locate any new garages on the periphery of the campus and remove surface parking from the center of campus to reduce traffic on the campus interior.
- Consider extending Campus Drive west through Lot 1 and closing or limiting traffic on Campus Drive between Tawes and Anne Arundel Hall to support the pedestrian experience of Tawes plaza and its connection to Anne Arundel Hall.
- Investigate closing Stadium Drive between Regents Drive and Paint Branch Drive to enhance the pedestrian environment in the engineering and sciences neighborhood. Continue investigating other road restrictions on a case-by-case basis.
- Facilitate movement on Campus Drive by accommodating bicycles and enhancing the pedestrian experience without limiting car access unless conditions change.

Goal: Support a campus-wide network of effective transportation.

Recommended Actions:

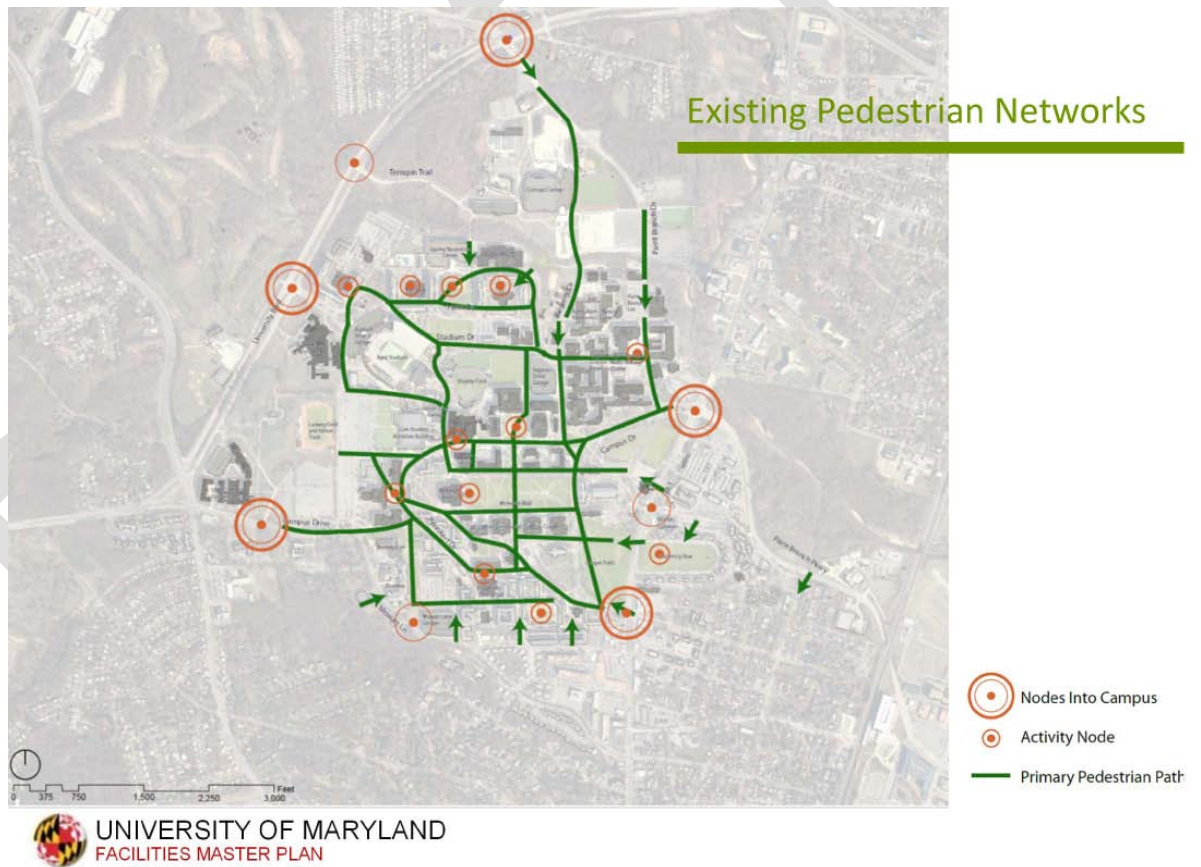
- Design shared streets that serve pedestrians, bicyclists, and low-speed motor vehicles (including cars, scooters, and service vehicles).
- Reduce vehicular congestion on campus by wide-spread dissemination of directions to campus destinations and information on campus transportation opportunities and by installation of clear signage.
- Ensure safe and convenient connections to East Campus development.
- Integrate transit with campus features to support seamless connections between Purple Line and transit buses with bicycles and pedestrians.
- Use consistent "wayfinding" signage throughout campus for pedestrians, bicyclists, transit users, and drivers.
- Develop 'rules of the road' on campus regarding a transportation right-of-way hierarchy for pedestrians, bicyclists, scooters, and vehicles and ensure significant education as well as enforcement of the rules for all vehicles.
- Develop a consistent and ongoing communication program to inform the University community (including prospective students, prospective employees, and visitors) about the University's connected and permeable campus transportation network.
- Collaborate with regional entities, including the Metropolitan Transit Authority and State Highway Administration, to enhance movement to and from campus.

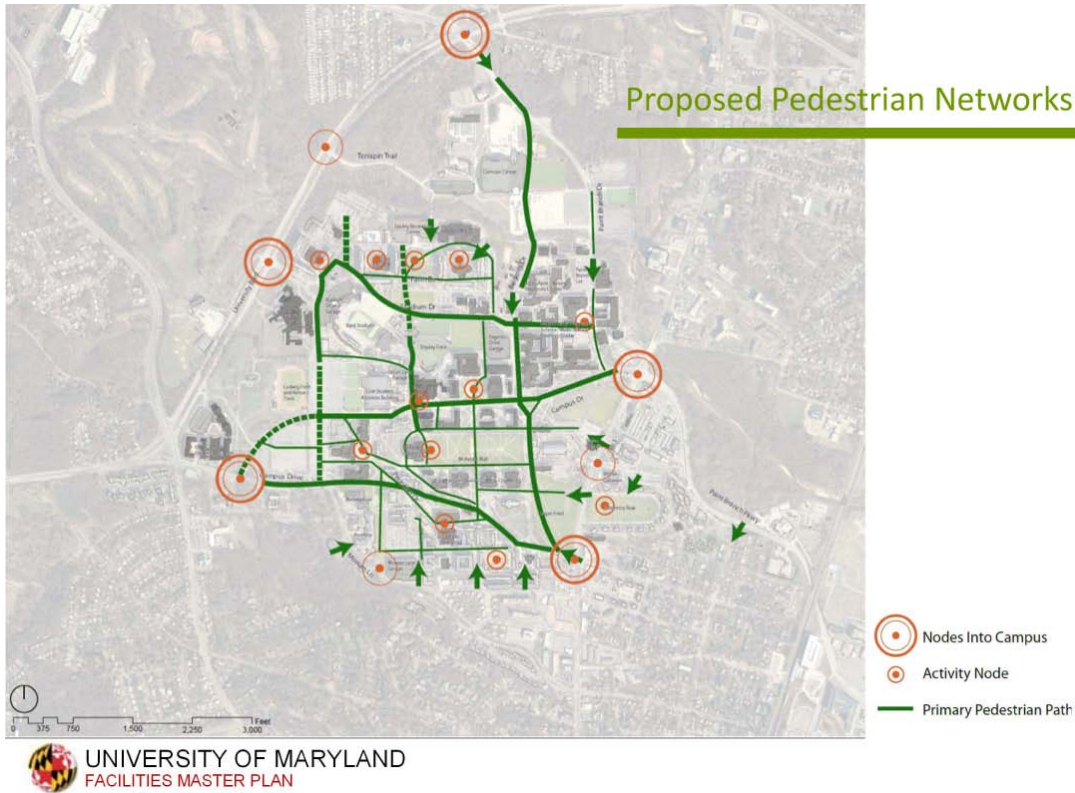
Goal: Create a more pedestrian friendly campus that encourages and supports efficient, pleasant, and safe walking experiences.

Recommended Actions:

- Establish a hierarchy of pedestrian spaces.
- Improve significant pedestrian thoroughfares by providing a series of consistent design elements, for example, uniformly recognized crosswalk styles and curb ramp designs, throughout campus.
- Improve intersections to reduce conflicts between pedestrians and vehicular traffic through signage and traffic control.
- Implement physical changes in parking lots to improve safety for pedestrians. Reconfigure Lot 1 to incorporate a separate road network, addition of safe pedestrian paths to improve safety and addition of appropriately planted trees and landscaping to shade and beautify the lot and support the football tailgate experience.
- Support initiatives to improve pedestrian safety and security on campus particularly after dark or more specifically, ensure walkways are sufficiently lit, have adequate sightlines, and have security infrastructure (for example, blue light phones).
- Widen and improve any shared use paths so that pedestrians and bicycles can utilize them safely.
- Use landscaping for traffic calming and as a buffer between pedestrians and other modes.
- Use wayfinding elements of landscaping, lighting, sound, and art to create different trails of experience across the campus.

- Ensure that campus walkways are appealing and comfortable places for example by locating gardens adjacent to important thoroughfares and providing pleasant landscapes, gathering places, seating, and other amenities.
- Use building design, land use, and open space design to create more activity within the pedestrian network.
- Reduce barriers for pedestrians and ensure sidewalk design and crossings are accessible to all, regardless of their abilities.
- Establish 10-11 foot travel lanes as the preferred lane width throughout campus to reduce pedestrian crossing distances, minimize impervious surfaces, and provide traffic calming benefits.
- Partner with adjacent jurisdictions to ensure streets and roads in the surrounding communities support and encourage walking to campus.

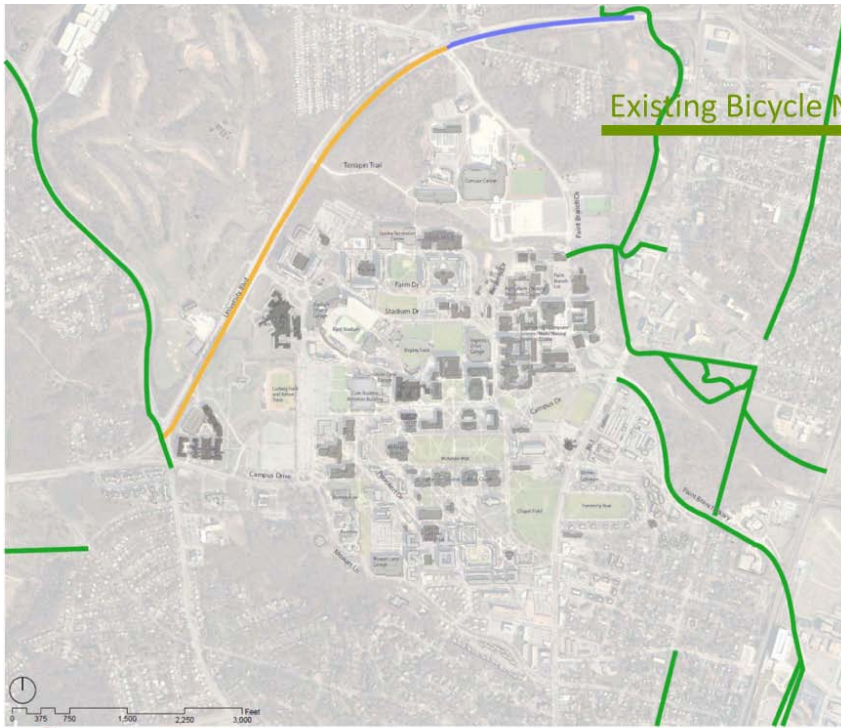




Goal: Create a more bicycle friendly campus that encourages and supports efficient, pleasant, and safe biking experiences.

Recommended Actions:

- Install bike paths, bike lanes, and shared roadway patterns.
- Provide sufficient wayfinding systems for bicyclists.
- Install secure, protected, short and long-term parking for bicycles, as close to buildings as possible.
- Implement physical changes in parking lots to improve comfort and safety for bicyclists.
- Provide clear ways of accessing the campus and traveling through the campus by bike.
- Partner with adjacent jurisdictions to ensure streets and roads in the surrounding communities support and encourage bicycling to campus by supporting the design, installation, and maintenance of bike paths and bike lanes adjacent to campus and in the region.
- Identify clear preferred campus access/egress points for bicyclists connecting campus to surrounding area.
- Provide a range of educational and encouragement programs, including bike registration efforts, bicycle sharing, and bike rental programs, to promote the growth of a bicycle culture on campus.
- Publicize direct, safe and attractive bike routes to and from campus.

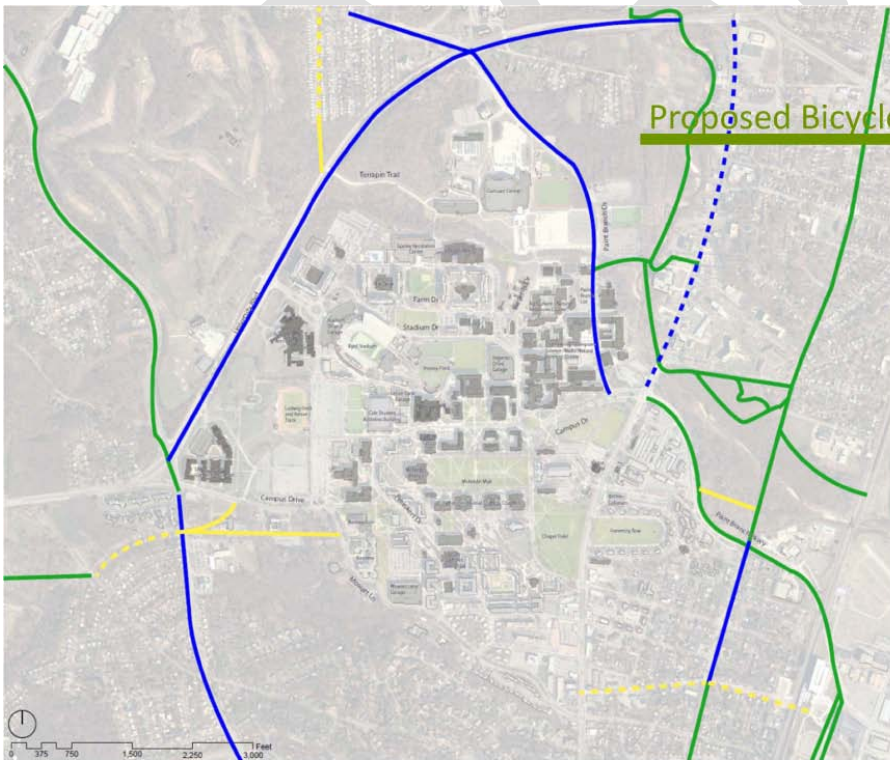


Existing Bicycle Networks

No Internal Routes

- Paved Shoulder
- Hard Surface Trail
- Bike Trail

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Proposed Bicycle Networks

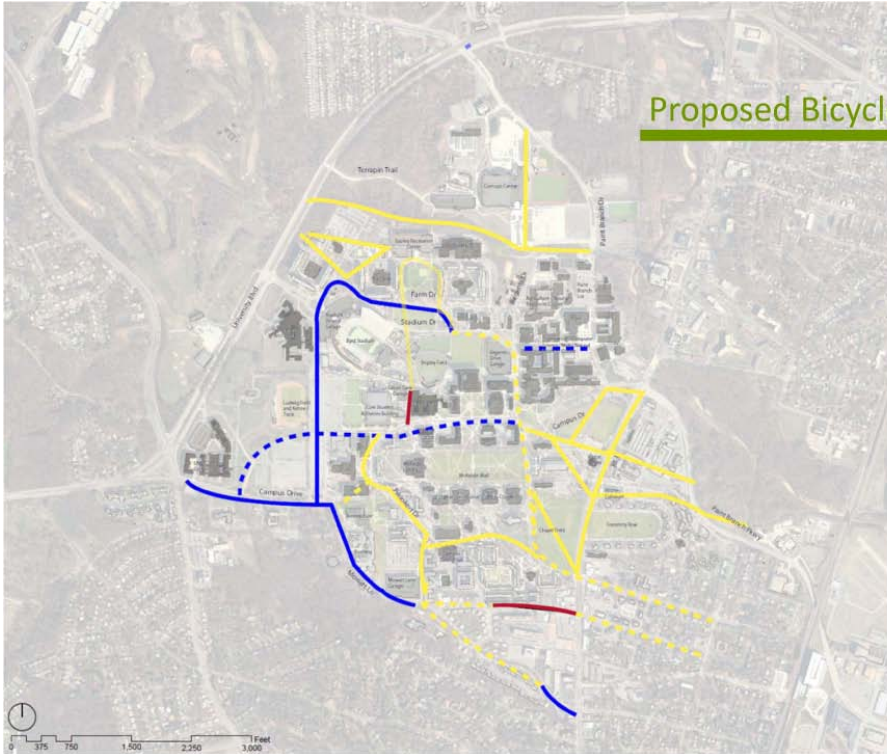
External Routes

- Existing Hard Surface Trail
- Bike Lane
- - - Cycletrack
- Shared Use Path
- - - Shared Lane Marking
- Climbing Lane

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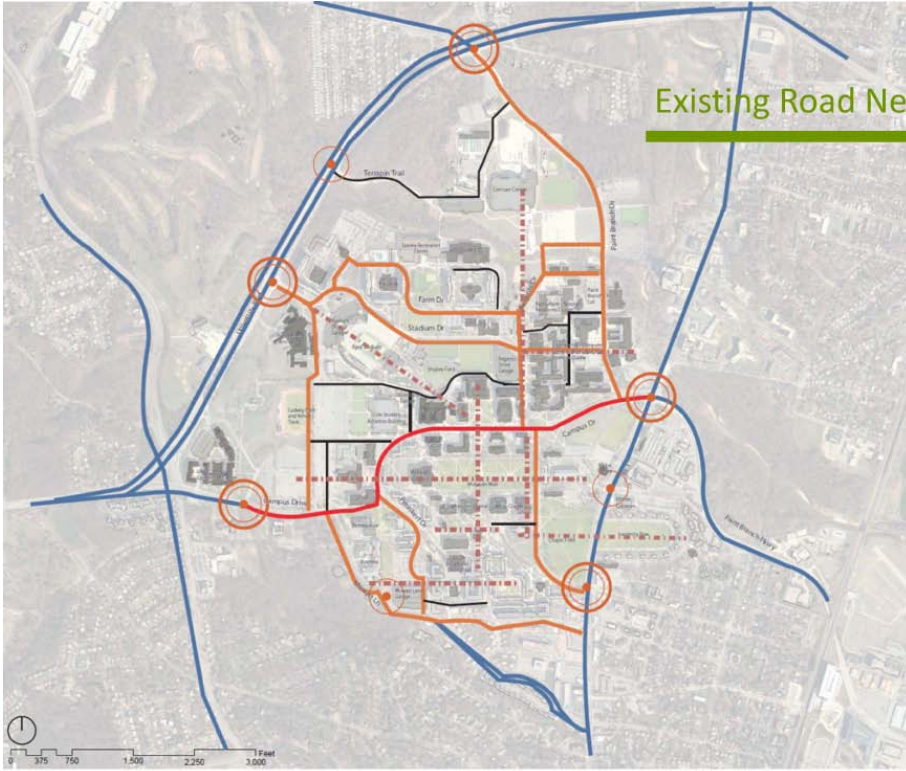
Proposed Bicycle Networks

Internal Routes



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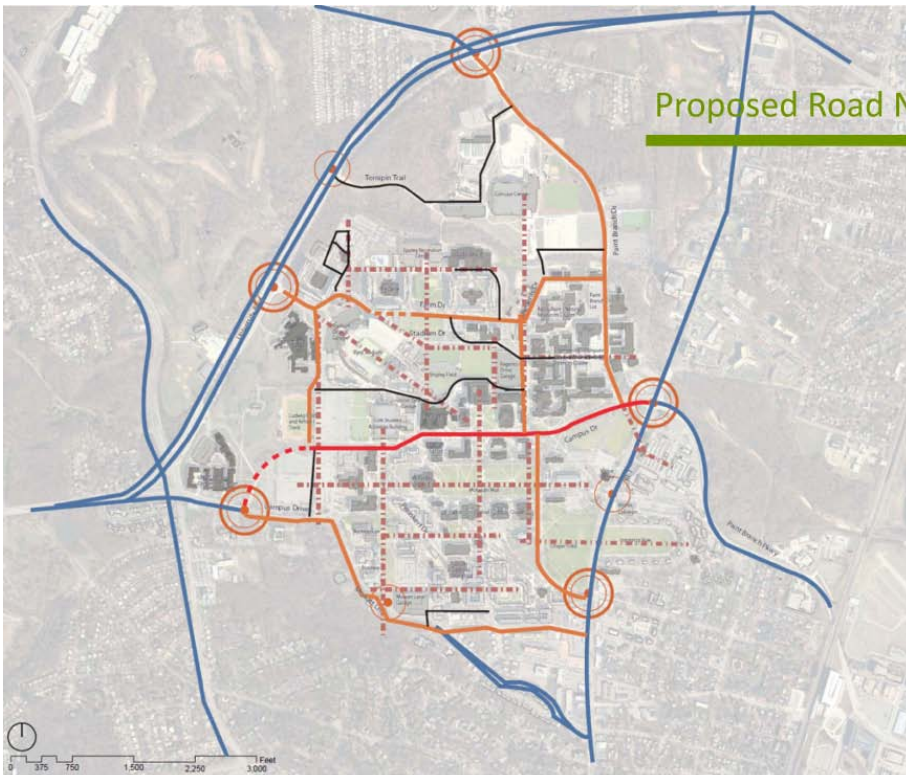
DRAFT



Existing Road Networks

- Nodes Into Campus
- External Streets
- Campus Drive
- Secondary Streets
- Tertiary Streets
- Organizing Axes

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Proposed Road Networks

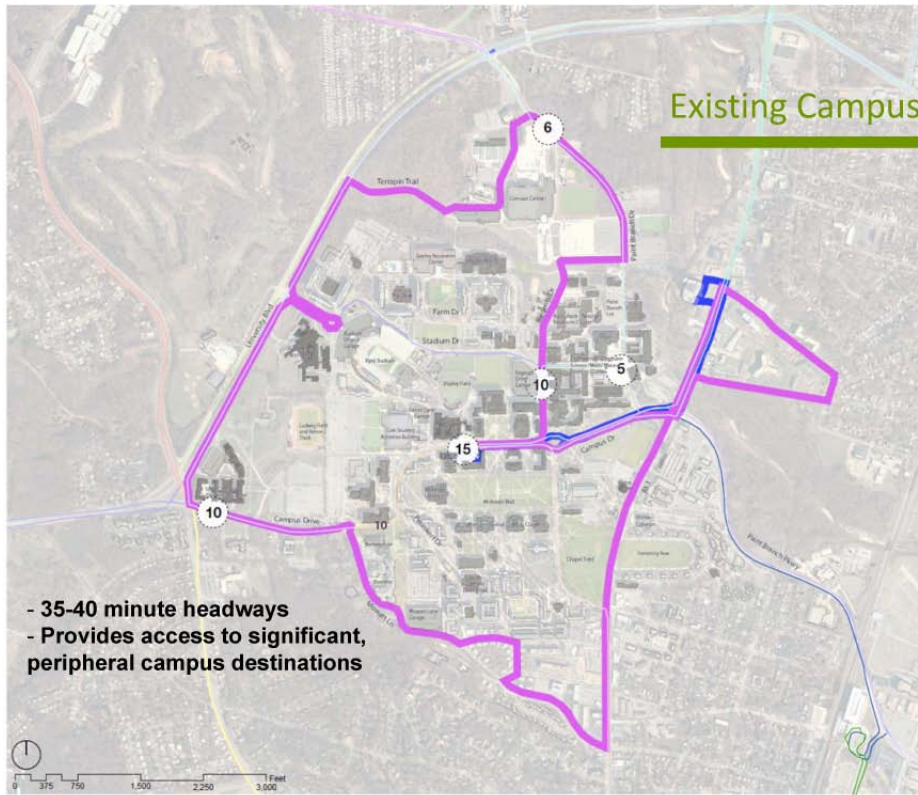
- Nodes Into Campus
- External Streets
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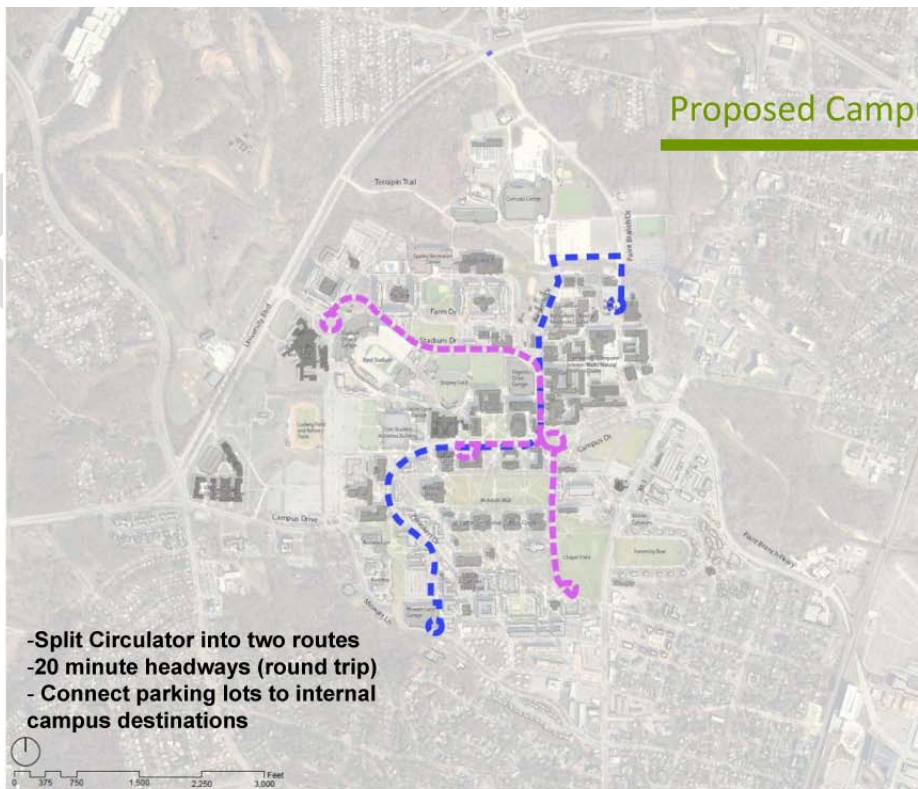
Goal: Create a more transit friendly campus that maximizes the use of alternatives to single occupancy vehicles.

Recommended Actions:

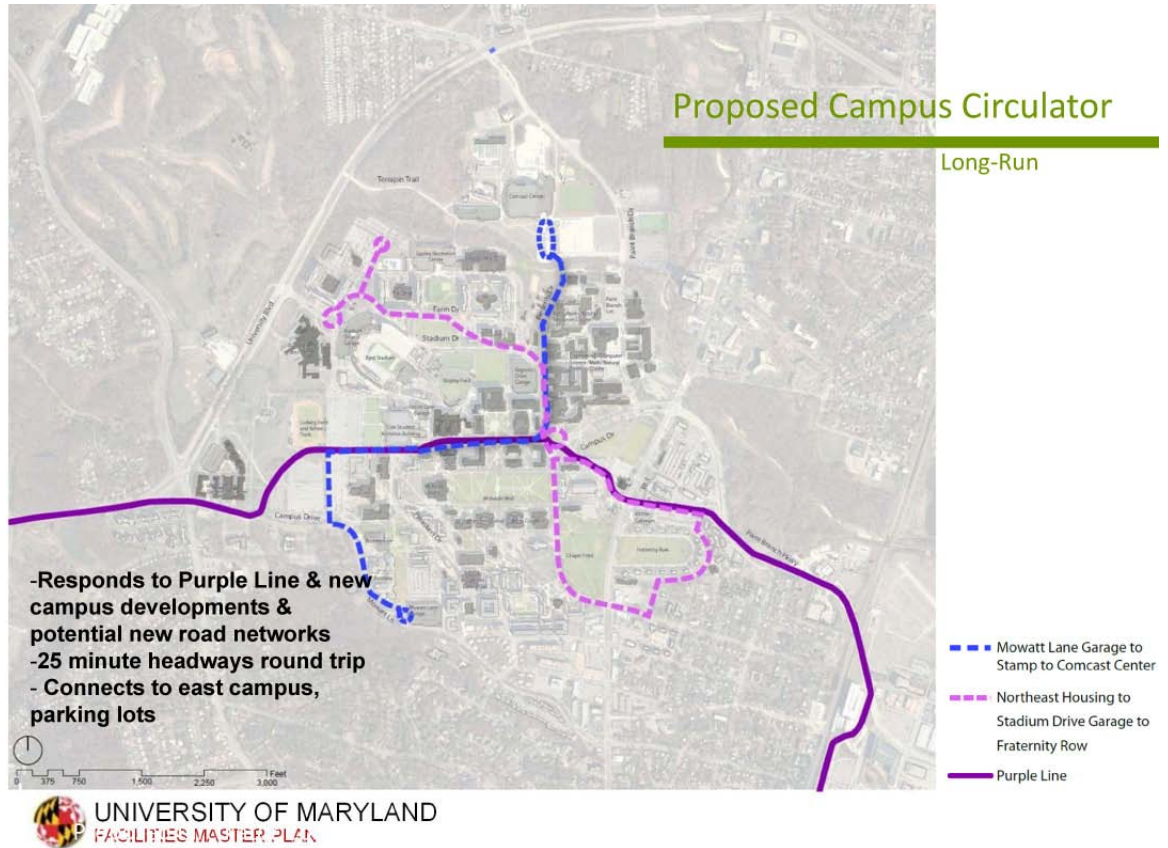
- Provide programs and practices to encourage the use of transit, carpools, and other alternatives to single occupancy vehicles.
- Support flextime and teleworking as practical strategies for reducing vehicular congestion.
- Expand use or availability of convenient and cost-effective occasional parking permits to supplement and provide alternatives.
- Implement marketing campaigns to publicize use of pre-tax funds and payroll deduction for transit and parking at transit sites.
- Provide a “Guaranteed Ride Home” program on campus.
- Encourage alternatives to driving to campus in all outreach and informational messages on UM home and departmental websites and for all special events.
- Ensure bus shelters are complementary to the campus, comfortable and well lit, pleasantly situated in the landscape, and sufficient in number and location, and with appropriate connections to pedestrian and bicycling modes of travel.
- Enhance existing technology and install additional technology supports for transit including fare card machines, electronic schedules and real-time route tracking, and other services.
- Support the reconfiguration of existing Shuttle UM routes and implementation of new routes to capture the maximum number of people who currently drive cars to campus, particularly those people living close to campus.
- Examine residential locations of the entire campus community (including faculty and staff as well as students) living further than 1-2 miles from campus to determine needs and requirements for transit service.
- Model shuttle transit route effectiveness evaluations to determine opportunities to combine routes, improve service frequency and implement other improvements.
- Implement changes to the intra-campus shuttle system to enable people to move from peripheral locations to the campus center and other major destinations quickly and efficiently.
- Implement a marketing campaign in collaboration with regional transit providers to encourage use of public transit by the University community.
- Share demographic and other data with regional transit providers to encourage the provision of service to the University community.
- Work with regional transit providers to eliminate service redundancies between Shuttle UM and other services.
- Proactively work with the MTA and others to ensure that the Purple Line alignment and stations encourage use of multimodal transportation.
- Encourage carpooling by developing and publicizing a range of benefits and incentives, including carpool matching systems, optimal parking locations, and reduced parking fees and implement vanpools if possible where demand for services exist.
- Offer pre-tax benefit for parking at park-and-ride facilities.



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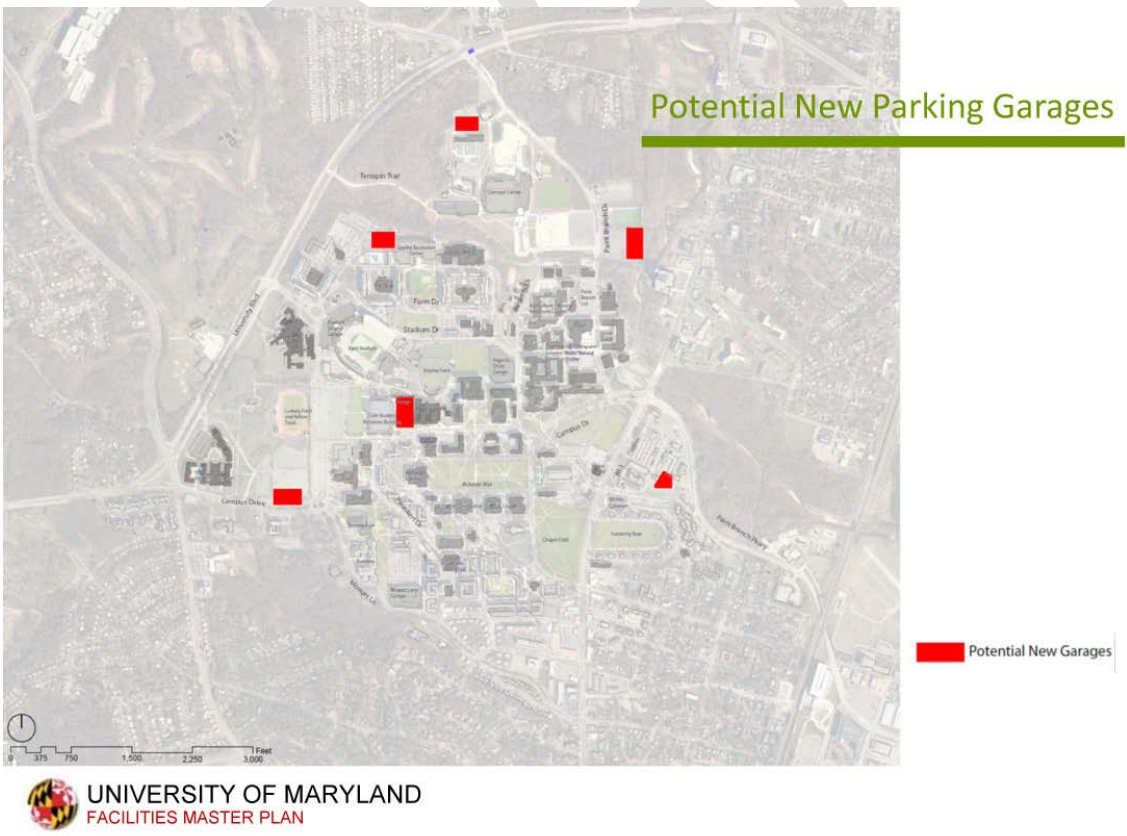
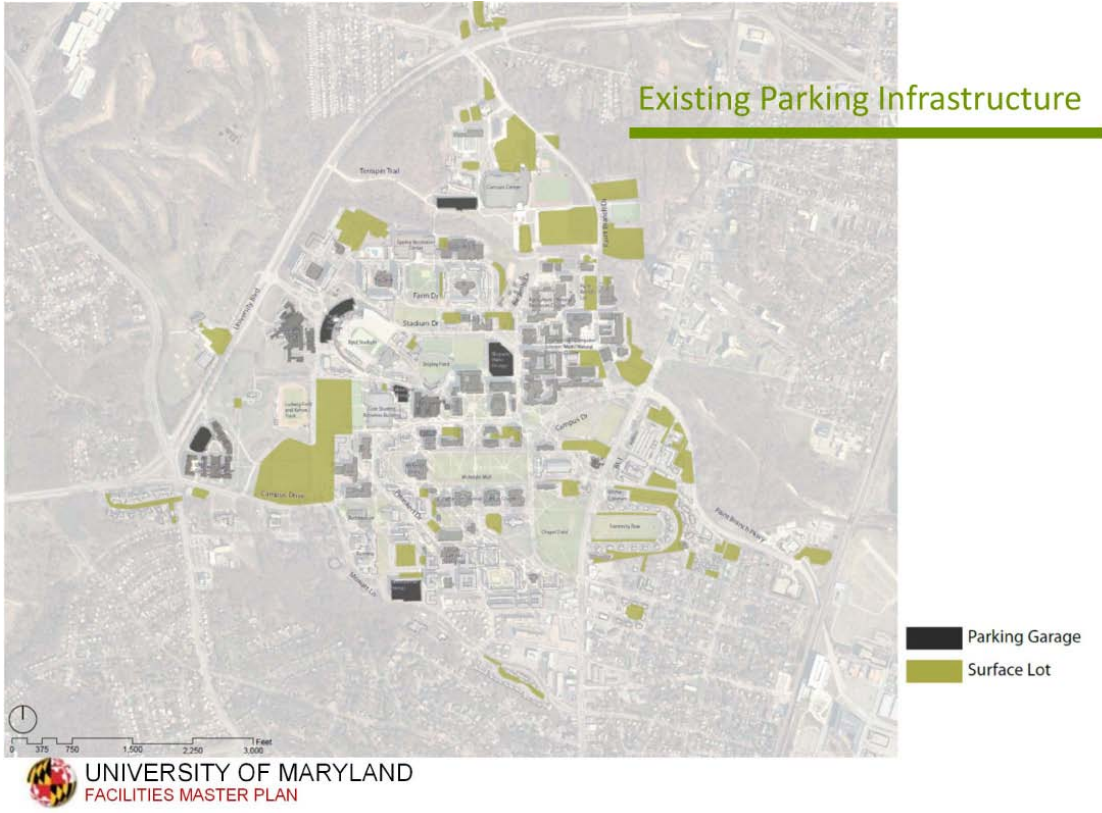
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Goal: Encourage access to campus by alternatives to single occupancy vehicles using parking policies and availability and reduce the overall supply and demand for parking on campus.

Recommended Actions:

- Utilize selected green areas to support episodic large scale parking needs at special events without requiring additional surface parking lots on campus.
- Encourage Shuttle UM service to nearby hotels during high volume visitation events
- Implement existing policies restricting freshmen and sophomore students from having cars on campus.

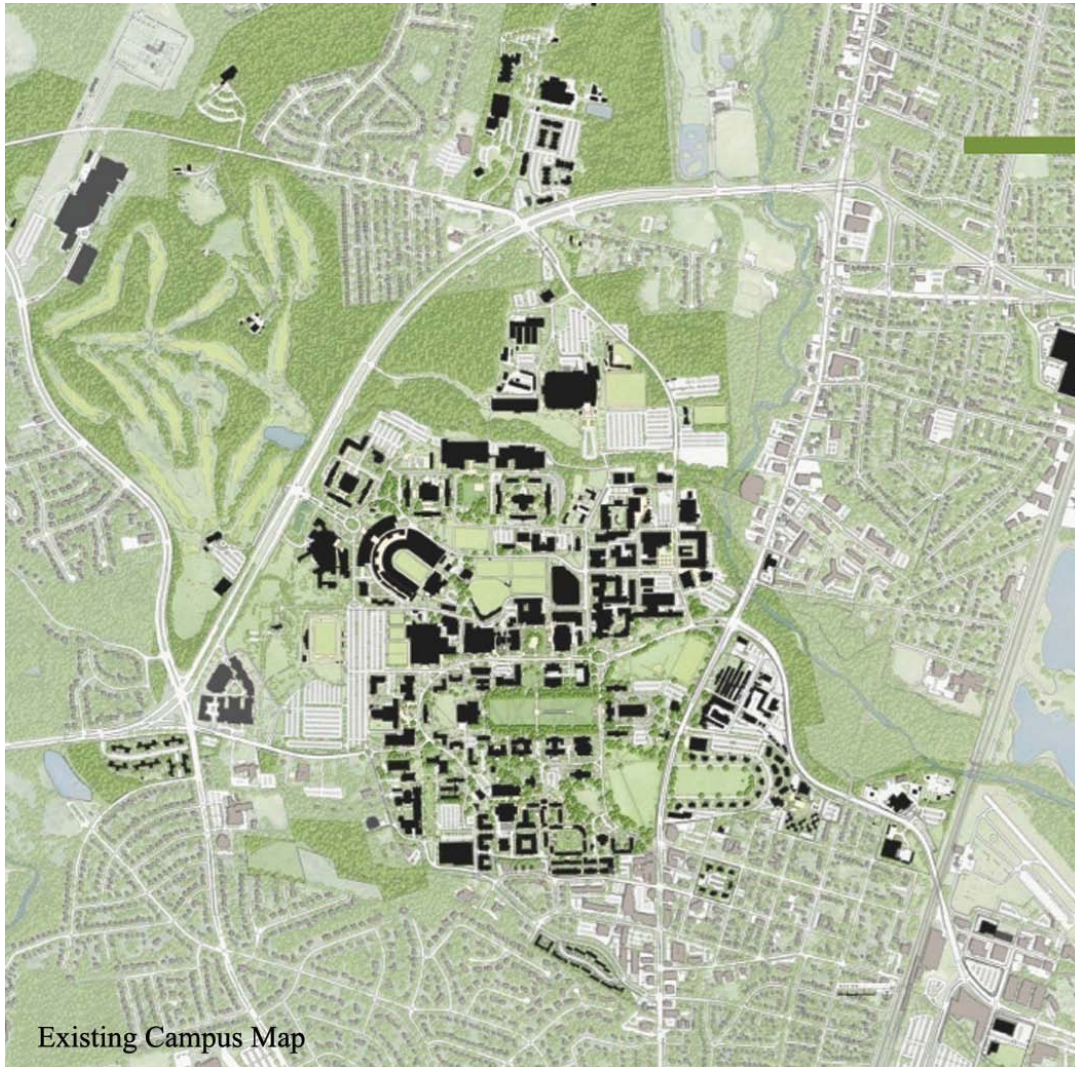


Goal: Establish a financial model that supports the transportation initiatives of the FMP.

Recommended Actions:

- Identify the funding requirements related to each transportation goal including potential net losses due to permit reductions, costs of Shuttle UM initiatives, changes to infrastructure for bicycle efforts and costs of maintaining and promoting carpools and van pools.
- Pursue grants associated with related issues such as transportation, environmental sustainability, and livable communities.
- Partner with nearby housing developments regarding transportation service arrangements.
- Explore sponsorship opportunities with both local small business and national corporations.
- Investigate University revenue sources within existing funding streams at the campus level.
- Explore opportunities for alumni support for various projects.

E. District Plans



A. Overall Campus

1. Guiding principles;

- a. The implementation of the district plans should support and respect these principles;
- b. The implementation of the Plan requires some flexibility, but will always be guided by the physical planning principles;
- c. All components of the Plan should be coordinated such that they support these principles and the following four overarching frameworks:
 - Land Use;
 - Open Space;
 - Pedestrian and Bicycle Circulation, and
 - Vehicular Circulation.

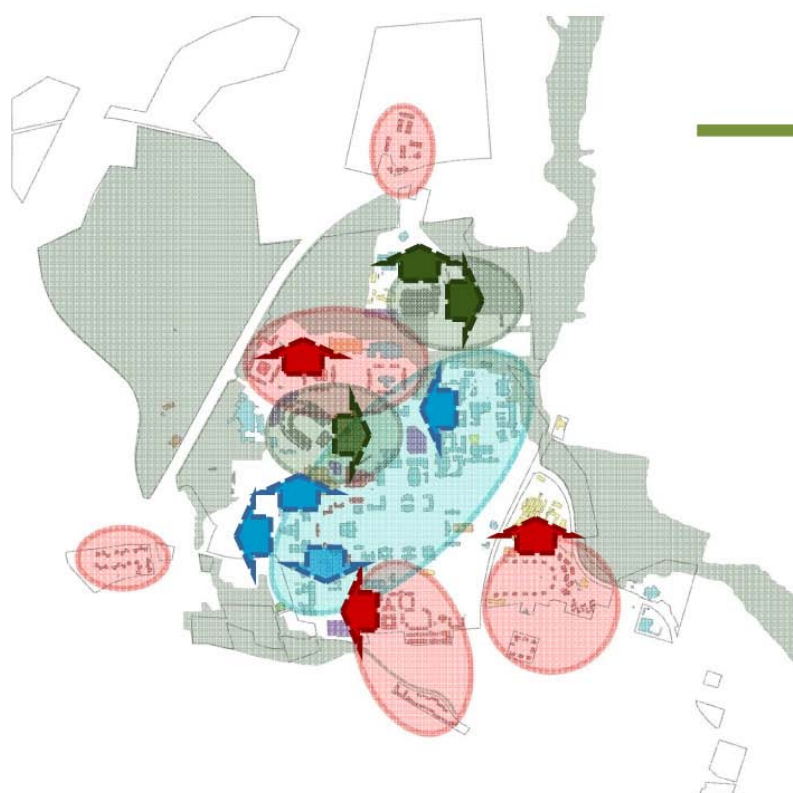


campus

Existing Land Use

- Key
- Academic
 - Housing/Residential Serv.
 - ICA Facilities (Athletics)
 - Recreational Facilities
 - Service
 - Parking Garages

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campus

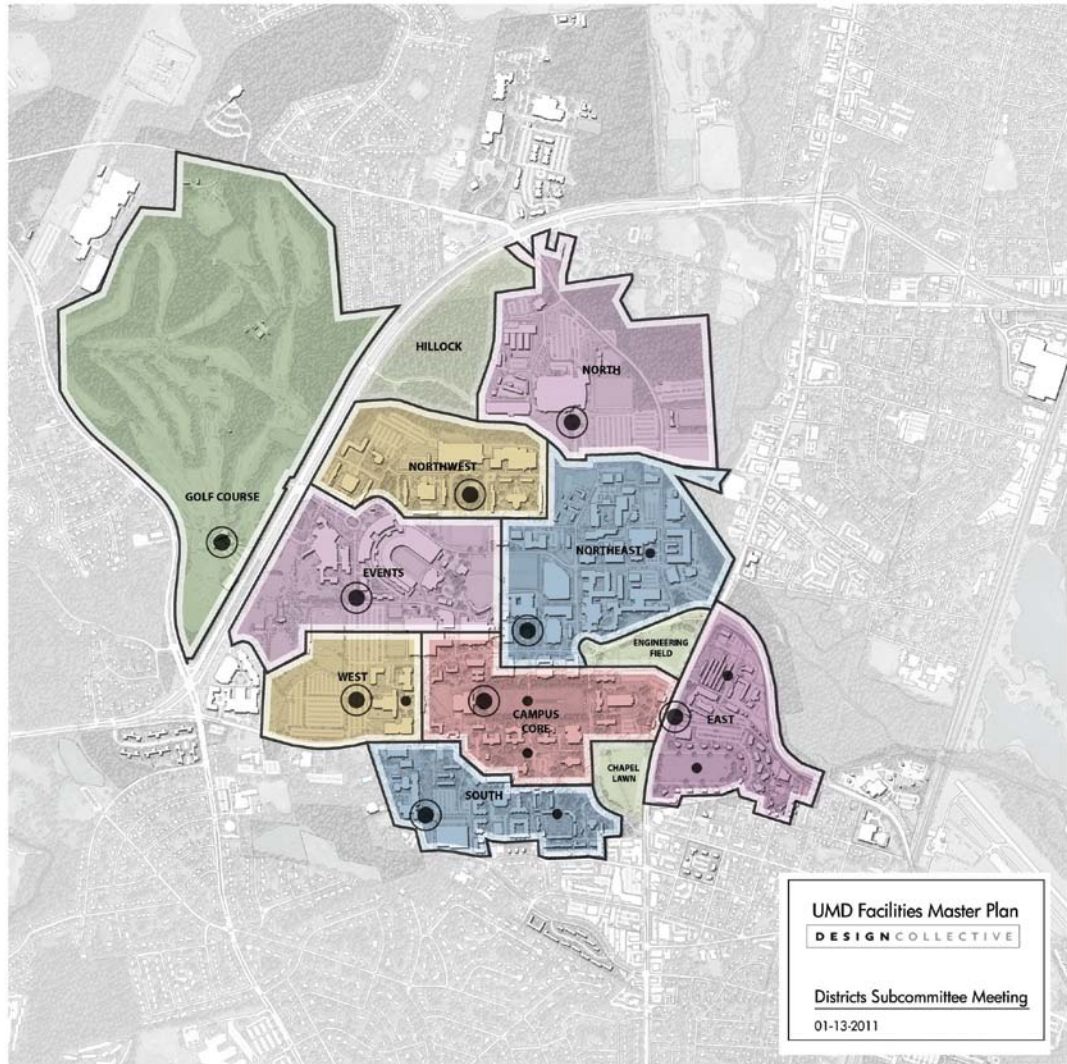
Land Use

Growth Pressures

- Key
- Academic
 - Housing/Residential Serv.
 - ICA Facilities (Athletics)
 - Recreational Facilities
 - Service
 - Parking Garages

 UNIVERSITY OF MARYLAND
FACILITIES MASTER PLAN

2. Planning Recommendations
 - a. When new program demands growth, facilities should be located, generally, with 1) academic in the central area along the northeast by southwest diagonal; 2) residential/housing and support services such as dining and recreation primarily in the northwest and south; 3) ICA and CRS in the north and the northwest; and parking at perimeter;
 - b. Recognize and celebrate the uniqueness of each district; support the identity of each district as defined by the history, landscape and architectural character, topography, use, density, and similar;
 - c. Improve visual and physical connectivity and district identity campus-wide through creation, enhancement, and completion of open spaces and circulation routes, placement, alignment, and composition of new buildings; relocation and selective demolition of obsolete and non-contributing buildings; both within campus from district to district and outside campus to/from neighborhoods, trails in the surrounding communities;
 - d. Create a more coherent, consistent signage system with appropriate hierarchy for vehicles, bicycles, pedestrians, and buildings; improve signage/wayfinding beyond the physical campus (e.g., on surrounding roads, websites, and similar);
 - e. Improve the campus gateway image (particularly on University Boulevard/Rte. 193, Campus Drive, and Mowatt Lane); build brand/image;
 - f. Support other, broad principles [to be informed by the FMP Principles] such as create a coherent campus; support sustainable design; grow compactly and use land wisely/efficiently; promote pedestrian and multi-modal transportation; etc.



B. South

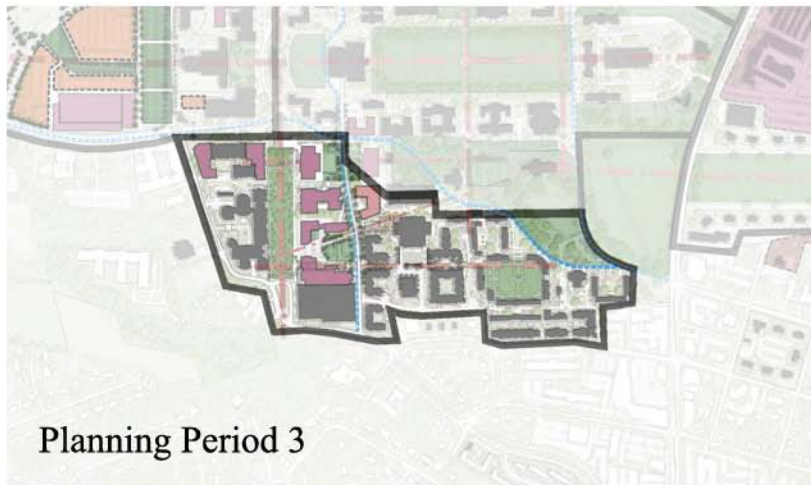
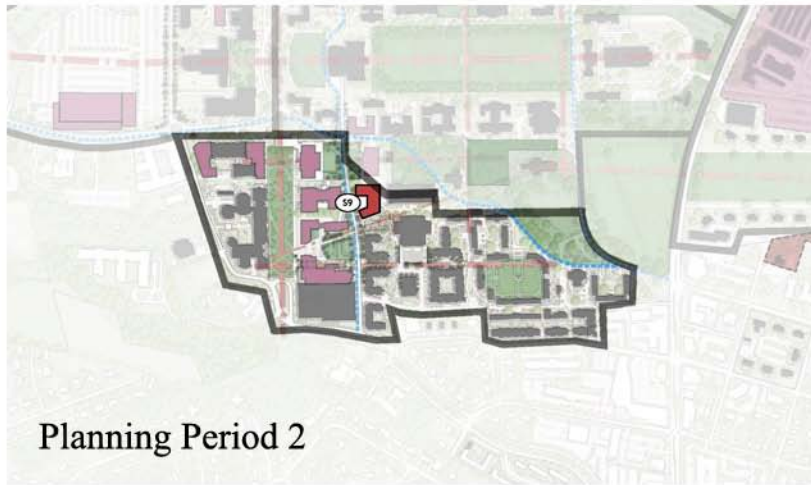
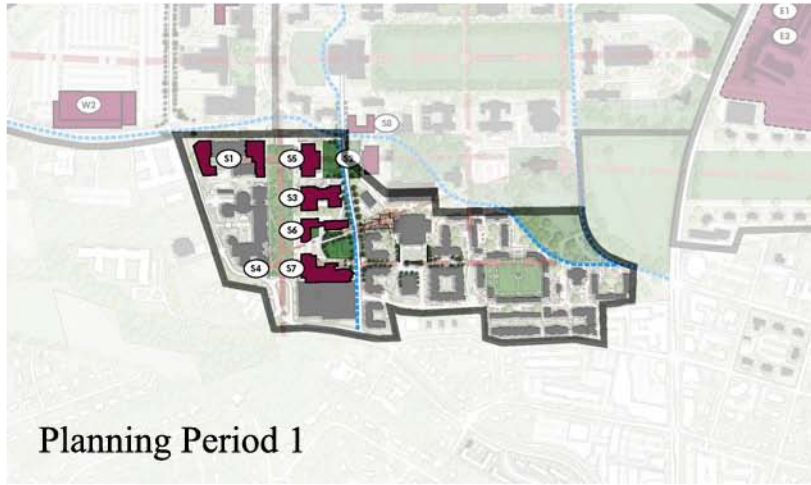
The South District is a predominantly residential district with buildings generally in the 3- to 7-story range. Indoor and outdoor support (recreation, dining, parking) facilities should accommodate student and housing needs. Strong axes and an emerging framework support pedestrian circulation patterns and primary view corridors. The completion of organizing elements such as Mayer Mall as well as the introduction of other open spaces will create a much stronger sense of place and cognitive understanding that better connects the buildings in the South including Van Munching, Architecture, and others west of Preinkert Drive with the Campus Core.

1. Land Use/Program:

- a. Support, largely, a residential land use with support facilities, such as dining and recreation services (both indoor and outdoor);
- b. Support academic/classroom buildings where land allows and where the buildings help frame open spaces (e.g., along Mayer Mall).

- c. Planning Period One (0-10 years):
 - 1) Accommodate 463-bed program for a new Resident Life student housing building and SCUB approximately 5,000 GSF (located in the basement) to serve the above South District building program; to be built prior to the demolition of Carroll, Caroline, and Wicomico Halls (C-C-W); situated north of the Washington Quad-Van Munching Hall (east-west) axis and south of the existing C-C-W buildings;
 - 2) Accommodate program for a new Campus Recreation Services (CRS) facility; may occur after demolition of C-C-W; situated along the north face of the Mowatt Lane Garage; building size 70,000 GSF per current CRS funding strategy;
 - 3) The redevelopment proposes the relocation of building occupants and the demolition of the West Education Annex, loss of parking in Lots U5 and U6, and a partial re-alignment of Preinkert Drive;
 - 4) The new student housing and recreation buildings form an open space/quad; design/plan the open space to include permeable paving walkways, rain gardens for storm water infiltration, and an outdoor pavilion for gathering, recreation and pick-up/drop-off;
 - 5) Integrate/refine the diagonal pedestrian circulation from the new quad up to LeFrak Hall and South Campus Dining Hall with handicap access ramps and terraces;
 - 6) Consolidate service and screen loading on the south side of South Campus Dining; improve the pedestrian walkway along the Washington Quad-Van Munching Hall, east-west axis.
 - 7) Accommodate a new Visual Arts and Cultures Building;
 - 8) Accommodate an expansion to the School of Architecture;
 - b. Planning Period Two (11-20+ years):
 - 1) Provide for future academic/classroom building(s);
 - 2) Accommodate substantial renovation of South Campus Dining Hall;
 - 3) Accommodate a new School of Public Policy;
 - 4) Accommodate a new Public Protection and Security Research Building;
 - 5) Accommodate future SCUB expansion scenarios, including: a) SCUB II expanded to the west and/or south of the existing SCUB building; b) located in a future academic building, retaining the existing SCUB; and, c) located in a future academic building and sized to replace the existing SCUB II (the SCUB II site to be redeveloped as a future academic building);
 - 6) Integrate/refine the open space and pedestrian and bicycle circulation from Memorial Chapel, to Morrill Hall, around Anne Arundel Hall(along ridge line), and leading to Tawes Plaza as part of the South District's Period Two program with or without the removal of private vehicles and/or the reconfiguration of Preinkert Drive.
2. Connectivity and Organization:
- a. Improve cognitive understanding and orientation within the district;

- b. Enhance clarity of pedestrian circulation and open spaces, particularly west of Preinkert Drive;
 - c. Improve connections to adjoining community properties on the campus edge which serve or house students (e.g., Hillel Jewish Center, Catholic Student Center, Graduate Hills Apartments; the proposed Domain mixed-use development, and others)
 - d. Improve overall pedestrian connectivity, attractiveness, and functionality of the service area for South Campus Dining to enhance the Washington Quad-Van Munching Hall axis;
 - e. Consider the placement of new buildings that frame open spaces, respect primary axes, and improve connections from Van Munching, Architecture, and others to Morrill Quad and the Campus Core (see below).
3. Physical Planning:
- a. Respect primary axes and organizational framework:
 - 1) Washington Quad to Van Munching;
 - 2) Chapel, to Morrill, and around Anne Arundel (along ridge line);
 - 3) Mayer Mall, to Anne Arundel cupola, and to Cole beyond;
 - b. Respect the topography of the District, the sloping grade and the ridge line from the Chapel to Morrill, and around Anne Arundel;
 - c. Develop district-specific characteristics to build upon and celebrate the best existing attributes, referencing the Aesthetic Guidelines; [TBD: density, height, architectural character, landscape, impervious coverage, tree coverage, and similar];
 - d. Plan for the demolition of West Education Annex (Dance), C-C-W, Preinkert, and Worcester buildings;
 - e. Plan for the long-term potential demolition of the existing SCUB (and incorporation of replacement facilities into future buildings) together with the renovation of the South Campus Dining Hall and other potential facilities to support improved connectivity, spatial definition, and more efficient use of land;
 - f. Consider, long-term, the replacement of Susquehanna Hall and address the University frontage along Lehigh Road and Mowatt Lane [confirmation required].



C. West:

The West District is predominantly surface parking. Short-term strategies should reduce pedestrian and vehicular conflicts within the parking lots, along drive aisles, and adjacent roads. Long-term strategies should provide flexibility for future growth. A new north-south axis (and open space) and a new, diagonal axis focusing on the relocated President's House, together with an east-west axis that builds from the McKeldin axis, will provide a sense of place and will support physical and visual connections to adjacent districts and to the Campus Core. In this district, a planning framework for the placement of new buildings (rather than specific building footprints) will encourage the creation of these important axes and open spaces to be completed over time, enabling important flexibility for the use, program, and scale of new buildings when they are needed.

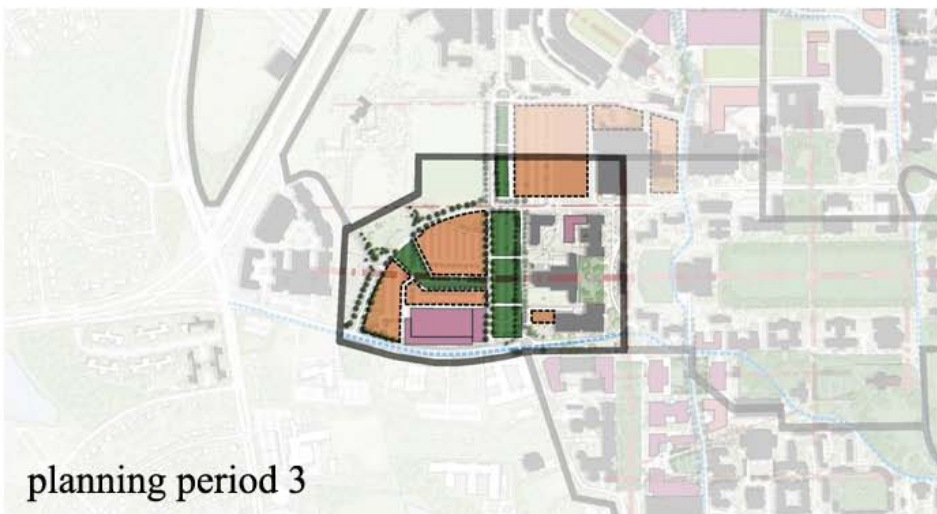
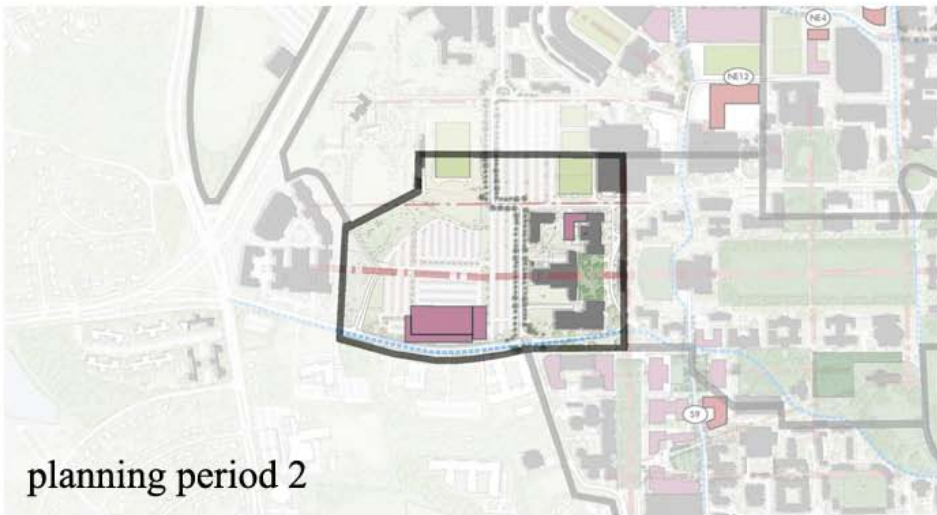
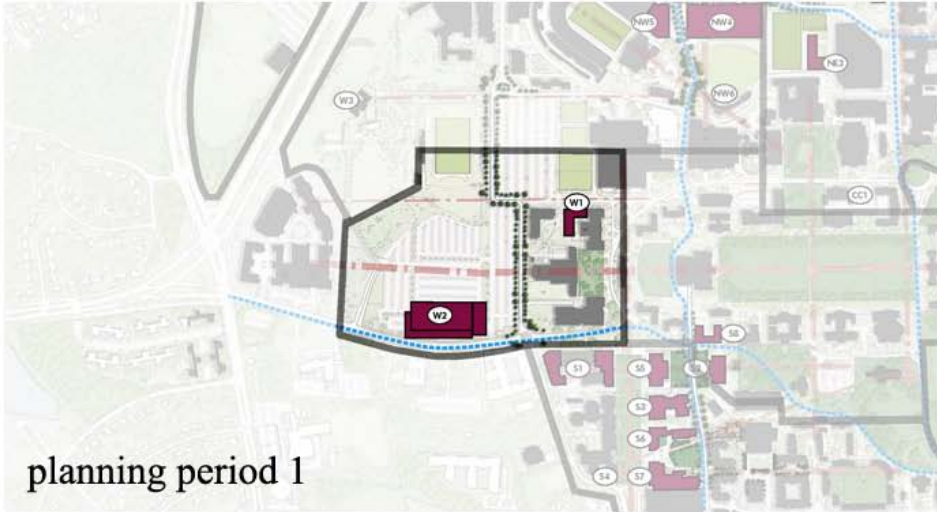
1. Land Use/Program:

- a. Limited program slated for the West District beyond the West District Parking Garage [confirmation required following campus-wide parking and program assessment, therefore instill a planning framework that guides the placement of future facilities and accomplishes the goals below;
- b. Planning Period One (0-10 years) Goals:
 - 1) Reduce pedestrian/vehicular conflicts in Lot1 and improve multi-modal circulation:
 - a) Create a street to the west edge of Lot1 traveling north-south along the edge of Ludwig Field, connecting to an extension of Campus Drive/Union Drive traveling west from Cole Student Activities Building, curving to meet Presidential Drive, and intersecting with Campus Drive when the LPA for the Purple Line is implemented; a vehicular street to the edge of campus and Lot1 will allow pedestrians to walk east to campus with less through-traffic conflicts while improving vehicle movement by minimizing crossings. An immediate improvement for pedestrian circulation to help reduce conflicts with vehicles prior to the implementation of the Purple Line will create a street to the west edge of Lot1 traveling north-south along the edge of Ludwig Field, connecting to Campus Drive.
 - b) Along these new streets, create a consistent streetscape, including sidewalks, street trees, bioswales/ rainwater infiltration, and on-road bike lanes;
 - c) Reserve a sidewalk and "pedestrian zone" between the new north-south road and Ludwig Field;
 - d) Collaborate with the Maryland Transportation Administration to accommodate the Purple Line route in the Campus Drive/Union Drive street section, should the Campus Drive alignment proceed as planned;
 - e) Limit entry points to parking lots to reduce turning movements, improving safety and vehicular circulation; consolidate entry points to the following lots: 1b, Z, and JJ3; allow for flexibility to "open"

- entry points for major university events (e.g. football games, Maryland Day).
- f) Clearly mark sidewalks and pedestrian circulation routes along the new streets and where possible, within/through the parking lots. Create two or three east-west pedestrian circulation routes, marked with pervious pavers and aligning with existing walks on campus (e.g., between the tennis courts and to either side of Tawes). To note, there was general agreement on creating the pedestrian routes and placement, however, further discussion/determination is needed on placement, materials, and acceptable number of lost parking spaces.
- Regarding b) and d) above, planning of the complete streets should include discussions with MTA and MDE to ensure proper design and compliance;
 - Use current design standards for parking stall and drive aisles for altered parking areas within Lot1.
- 2) In the short-term, minimize the loss of parking in Lot1:
- a) While the Department of Transportation has planned to reduce surface parking overall on campus, they need to balance the displacement of surface parking for new building projects with the University's parking needs
 - b) To ensure revenue is maintained, Athletics requires a replacement strategy for surface spaces lost short-term until a garage can be built and the Game Day experience transitions to tents and other event spaces. Grass parking on Fraternity Row and/or Chapel Lawn may offer a short-term solution with significant impacts and maintenance required to keep the appropriate appearance for these major iconic open spaces.
- 3) Improve the West gateway and the edge condition of campus in coordination of the LPA for the Purple Line; in the short-term (Period One), improvements may likely be limited to entry signage and landscaping.
- 4) Improve sustainability in the West District:
- a) Reworking portions of Lot1 should achieve the above goals while reducing impervious surfaces and increasing rainwater infiltration. Improvements should be made where they are likely to be permanent, where investments have long-term impact, where street trees can mature, and where future building program and infrastructure improvements will not displace improvements. Importantly, the location of streets should support the long-term plan (i.e., the streets should be seen as a permanent investment). Avoid investing dollars in the large-scale restriping or greening of surface parking lots or creating new surface parking lots.

- c. Planning Period Two (11-20 + years) Goals:
- 1) The south side of Campus Drive will likely be institutional use (UMUC) and private-sector development mixed-use housing with ground floor retail (e.g., Domain College Park is an approved, 5-story residential building with ground floor retail at the intersection of Campus Drive and Mowatt Lane, at the SW corner of the existing roundabout). On the north/campus side of Campus Drive (between Adelphi and Mowatt lane), the character of Campus Drive should be pedestrian-scaled with ground level retail, to the extent practical and economically feasible, with housing and similar uses on upper floors. Streetscapes should be urban in nature, approximately 15 (similar with Domain?) to 25 feet in width to accommodate activity (the south-facing streetscape should be planned to accommodate gathering areas with tables, chairs, and similar).
 - 2) A build-to-line along the north side of Campus Drive, approximately 15 to 25 feet from curb, will govern future building placement, suggesting utilities may need to be relocated to achieve such a mixed-use streetscape character. (If utilities are not relocated, the build-to-line would be approximately 80 to 100 feet from Campus Drive, creating a vastly different streetscape character and dividing the north and south sides of Campus Drive.)
 - 3) Accommodate a future parking garage to address UM parking requirements; locate along the southern edge of Lot 1, adjacent to Campus Drive, with sufficient space for a “building wrapper” along the south side of the garage facing Campus Drive. This wrapper could accommodate a) graduate housing (ideally 80 to 100 units?), or b) office-type use. A program is not identified and may be challenging for the University to implement. Flexibility is needed for adaption to future growth needs. Other sides of the garage may be wrapped and/or “buffered” (attaching is not critical) with new buildings that visually hide the garage.
 - 4) As needed by program growth, academic buildings, in the long term, should compose the majority of the Lot 1 area and the West District, transitioning to event uses (such as CSPAC, the President’s House and Conference Center, and the Alumni Center) in the north.
 - 5) Accommodate an east-west pedestrian axis and view corridor, at least as a generously wide pedestrian pathway, extending from the McKeldin Mall axis, to Tawes, and further to UMUC.
 - 6) Frame the new north-south open space with buildings, extending from Campus Drive to Stadium Drive, avoiding the area that includes underground utilities.

- 7) Alternate locations should be reserved for a future north-south road extending its proposed intersection with Campus Drive/Union Drive south to Campus Drive. This road could be controlled to allow only buses, cars during off-peak hours, and/or service vehicles only; future flexibility is encouraged. This extension could be 1) a continuation of the proposed alignment, or 2) an “offset” adjacent to Tawes (the off-set would have a traffic calming effect, reducing cut-through traffic), maximizing remaining surface parking to the west.
2. Connectivity and Organization:
 - a. Create a street to the west edge of Lot1 traveling north-south along the edge of Ludwig Field;
 - b. Extend Campus Drive/Union Drive west, south of Ludwig Field, west of Lot 1, and connecting to Campus Drive between Adelphi Road and Mowatt Lane, as an extension to the primary east-west thoroughfare through campus;
 - c. Improve pedestrian circulation within and across the district (current parking area) to the campus;
 - d. Improve pedestrian and bicycle circulation and safety from Adelphi Road along Campus Drive.
 3. Physical Planning:
 - a. Establish primary axes and organizing framework:
 - 1) From, generally, the circle at Campus Drive and Mowatt Lane and extending north to Stadium Drive;
 - 2) From Tawes and extending west to UMUC as a continuation of the organizing McKeldin Mall axis.
 - b. Collaborate with the MTA to establish planning and design principles for the surface light rail along the extended Campus Drive for the Purple Line;
 - c. Develop district-specific characteristics to transition from the Campus Core to the edge, referencing the *Aesthetic Guidelines*; [TBD: density, height, architectural character, landscape, impervious coverage, tree coverage, and similar].



D) Northwest:

The Northwest District largely comprises event facilities buildings in the 1- to 10-story range and indoor and outdoor support facilities: football/athletics, student activities, performing arts and residence halls. Short- and long-term strategies should continue to support the need for these activities, support facilities, and necessary parking. The district's primary streets, including Union Lane, Stadium Drive, and Fieldhouse Drive, should be enhanced with streetscape improvements making them more attractive, more accommodating for pedestrians and bicyclists, and clearer in terms of their hierarchy within the campus. The district's topography and somewhat random organization of buildings compromise circulation and the sense of place; where possible, plans should attempt to improve the overall organization and cognitive understanding.

Currently, the district includes a large student population and has the potential to accommodate more student housing. Improved, safer, and clearer pedestrian and bicycle circulation routes to and from various areas of the campus are a main priority and should be carefully coordinated with similar improvements through the West District. The Northwest District, especially Stadium Drive, portions of Farm Drive, and the area's landscape, give the impression of a back side of the campus; improvements should be made to reverse this appearance and make the district a more attractive entrance.

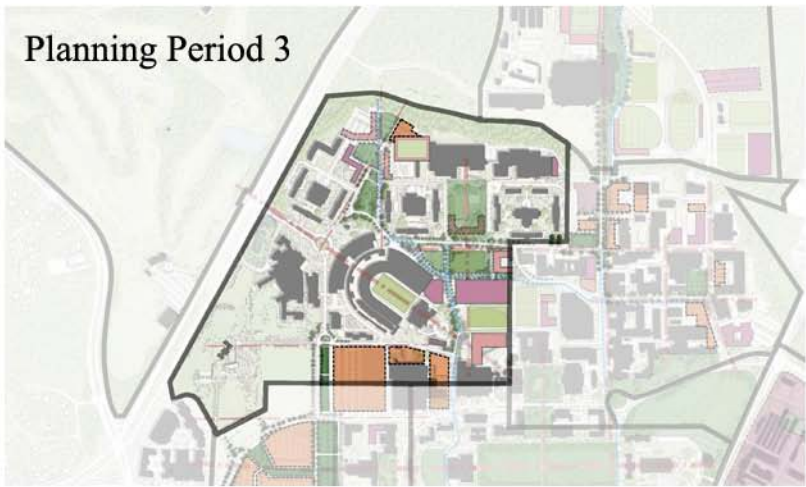
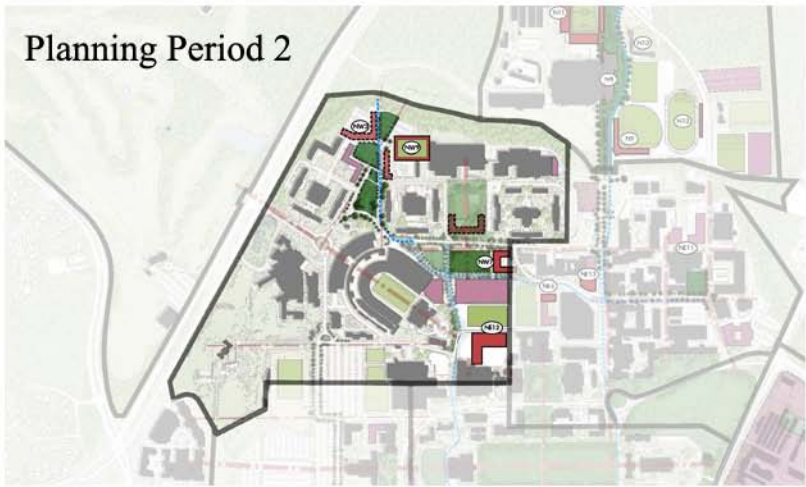
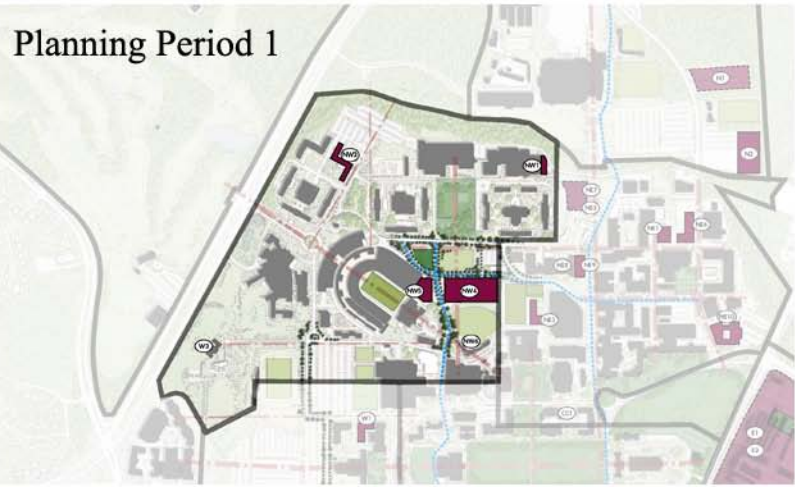
1. Land Use/Program:

- a. Continue to support, largely, athletics, performing arts, Stamp Union and other event-oriented uses;
- b. Continue to support ICA needs and, particularly, outdoor and indoor practice fields associated with football and lacrosse;
- c. Evaluate potential relocation of ICA facilities (except football and lacrosse) to the North District;
- d. Improve attractiveness and functional use of land as part of the Game Day experience in the vicinity of Stadium Drive and adjacent to Byrd Stadium and Ellicott Hall;
- e. Support new buildings and expansions, where land allows and where the buildings help frame open spaces and improve circulation patterns.
- f. Accommodate Bioscience Research expansion for improved animal holding facilities;
- g. Accommodate program and siting of new Indoor Practice facility near Byrd Stadium; this facility is a priority for ICA;
Accommodate program for a new Varsity Team House and support facilities for ICA; this facility is a priority for ICA; (ICA is willing to explore design options of having the Varsity Team House and student athlete housing that wraps the north side of the upper deck).
- h. Reorganize practice fields to improve efficiency of land use and accommodate turf fields.

- i. Continue to support, largely, a residential land use with support facilities, such as dining and recreation;
 - j. Evaluate the ability to accommodate future housing needs (2000 or more beds) should the need arise;
 - k. Support academic/classroom buildings, and other facilities, where land allows and where buildings frame open spaces and promote connections to natural areas including Campus Creek and the Hillock.
 - l. Accommodate program for a “mirror” of Oakland Hall (or other configuration); 650 beds required for the replacement of Leonardtown.
2. Connectivity and Organization:
- a. Improve pedestrian and bicycle circulation past the Varsity Team House, to Stamp, and along Union Lane;
 - b. Improve pedestrian circulation adjacent to Regents Garage leading to Hornbake Plaza;
 - c. Improve attractiveness and pedestrian and bicycle-friendliness of Fieldhouse Drive, particularly in the vicinity of Stamp Student Union; along Union Lane adjacent to Stamp; and on the west and north sides of Bioscience Research; (currently, these areas and the streetscape are essentially a service alley;
 - d. Consider an organization of new buildings that frame new open spaces and strengthen axes/circulation routes.
 - e. Improve pedestrian and bicycle circulation and safety along and across Farm Drive, connecting to the Campus Core and Northeast Districts;
 - f. Improve and celebrate connections to open space and natural areas including Campus Creek and the Hillock.
3. Physical Planning:
- a. Establish primary axes and an organizing framework that includes open space and pedestrian and bicycle paths:
 - 1) From Stadium Drive to Stamp/Union Lane through the Varsity Team House area;
 - 2) Adjacent to Regents Drive Garage and to Hornbake Plaza;
 - b. Build replacement facility and demolish the Varsity Team House;
 - c. Consider relocation/reconfiguration of practice ICA fields;
 - d. Consider (evaluate) the long-term viability and potential demolition of the Union Lane Garage, Cole Fieldhouse (potential for indoor practice facility for football and other ICA sports); the land within this vicinity should be evaluated for other uses and that would improve the overall attractiveness of Fieldhouse Drive, frame new open spaces and circulation routes/axes, and consolidate/buffer service and loading;
 - e. Consider (evaluate) the long-term potential relocation of and the demolition of Shipley Field;
 - f. Establish primary axes and organizing framework:
 - 1) From La Plata/Eppley to the Campus Core;
 - 2) From Cambridge area to Northeast and Hornbake Plaza;
 - 3) From Oakland/Denton around Byrd to Campus Drive;

- g. Consider relocation and demolition of CYC;
- h. Consider relocation of building occupants and demolition of Jull Hall;
- i. Develop district-specific characteristics, referencing the *Aesthetic Guidelines*; [TBD: density, height, architectural character, landscape, impervious coverage, tree coverage, and similar].

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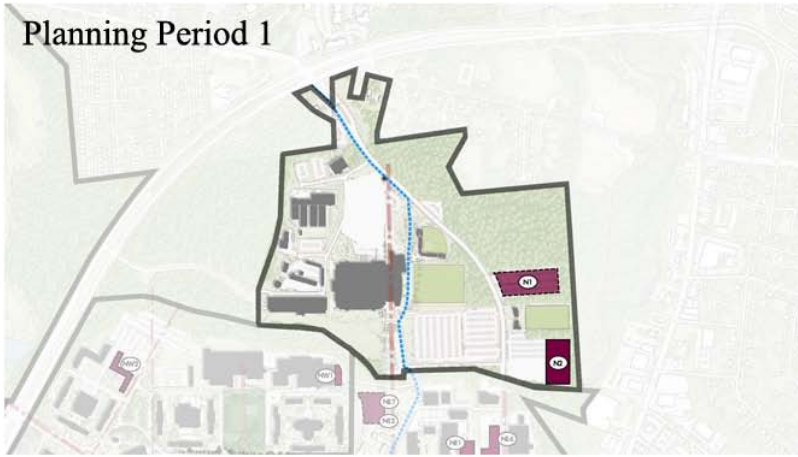


E) North

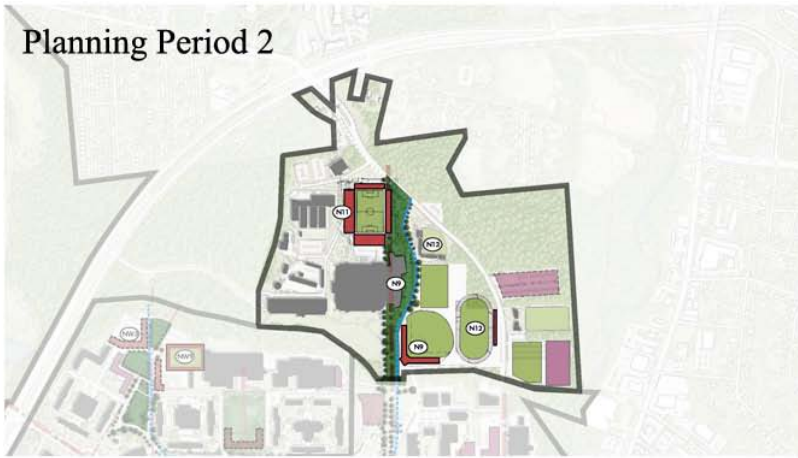
1. Land Use/Program:
2. Connectivity and Organization:
3. Physical Planning:

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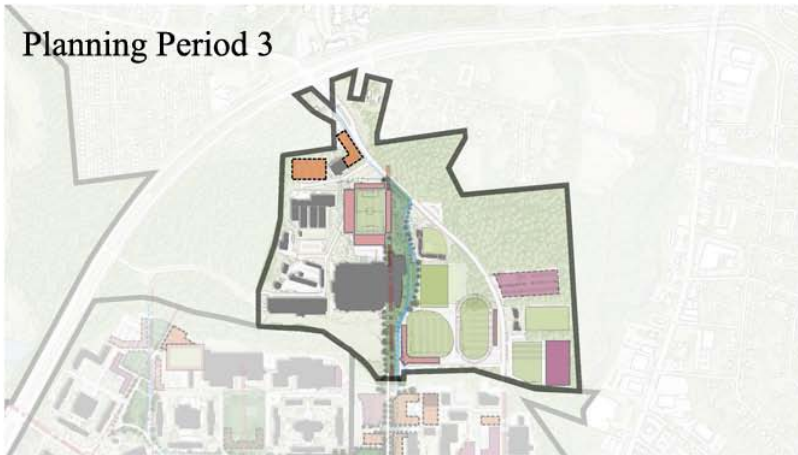
Planning Period 1



Planning Period 2



Planning Period 3



F) Northeast

The Northeast District is a predominantly academic district with buildings in the 2- to 5-story range. The district possesses a mostly “urban” character organized around a 9-square grid. Open space and vegetation are limited in this district to one urban plaza and a series of courtyard spaces. Improved, safer, and clearer pedestrian and bicycle circulation routes to and from various areas of the campus are a priority as Regents Drive and Paint Branch Drive are heavily used traffic connectors that separate the district from the rest of campus and the natural edge.

1. Land Use/Program:

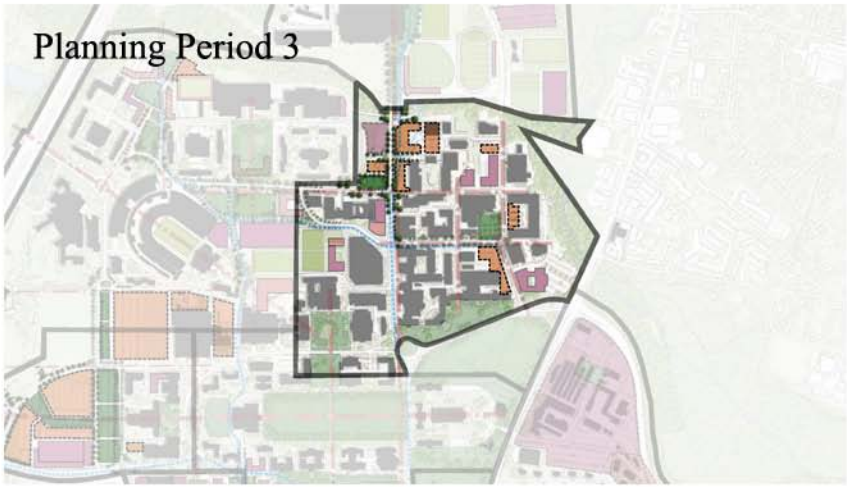
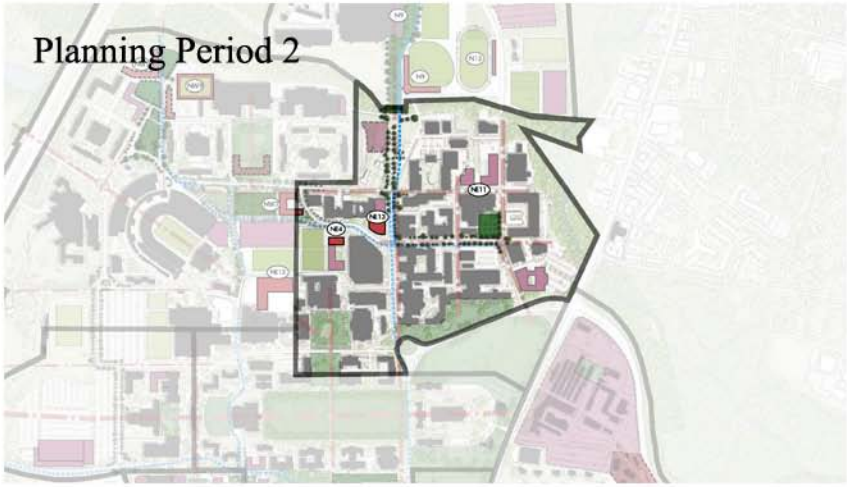
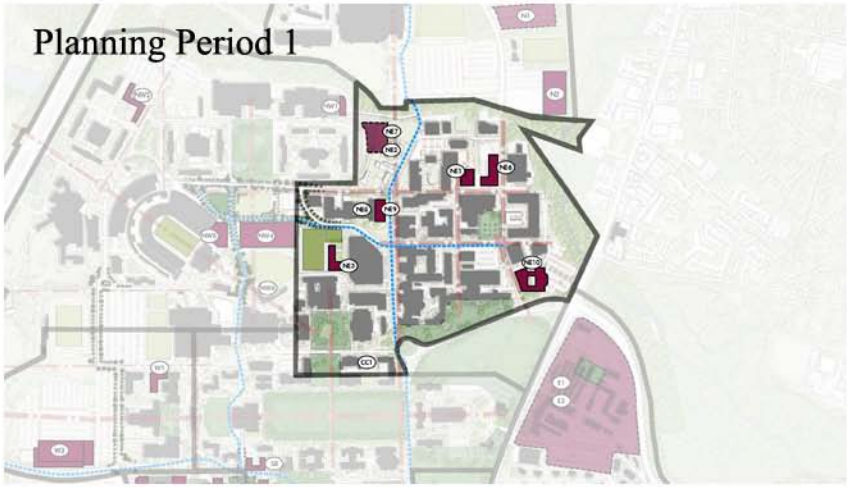
- a. Continue to support an academic and research land use with potential mixed-use buildings containing student/faculty services
- b. Accommodate academic and research infill expansion. Infill locations should contribute to overall urban design principles for the district (i.e., define street edge, pedestrian connection paths, open space)
- c. Replacement and demolition of existing buildings: (ITV and Building 093 Engineering Research)

2. Connectivity and Organization:

- a. Enhance and define the nine-square grid organization of the district
- b. Improve pedestrian and bicycle circulation throughout district
- c. Improve and celebrate connections to open space and natural areas
- d. Allow for natural area to extend into campus along pedestrian and bicycle connections/routes
- e. Improve and enhance connectivity to other campus districts

3. Physical Planning:

- a. Establish primary axes and organizing framework:
 - 1) Along Paint Branch Drive, from recreation field to Kim Plaza;
 - 2) Along Paint Branch Drive, from Kim Plaza to North district;
 - 3) Along Stadium Drive, from Paint Branch to Regents Drive.
- b. Evaluate the long-term potential demolition of small scale sprawling footprint buildings in favor of higher density- smaller footprint buildings that utilize the limited land more efficiently
- c. Develop district-specific characteristics, referencing the *Aesthetic Guidelines*; [TBD: density, height, architectural character, landscape, impervious coverage, tree coverage, and similar].



G) Campus Core

1. Land Use/Program:
2. Connectivity and Organization:
3. Physical Planning:

H) East Campus

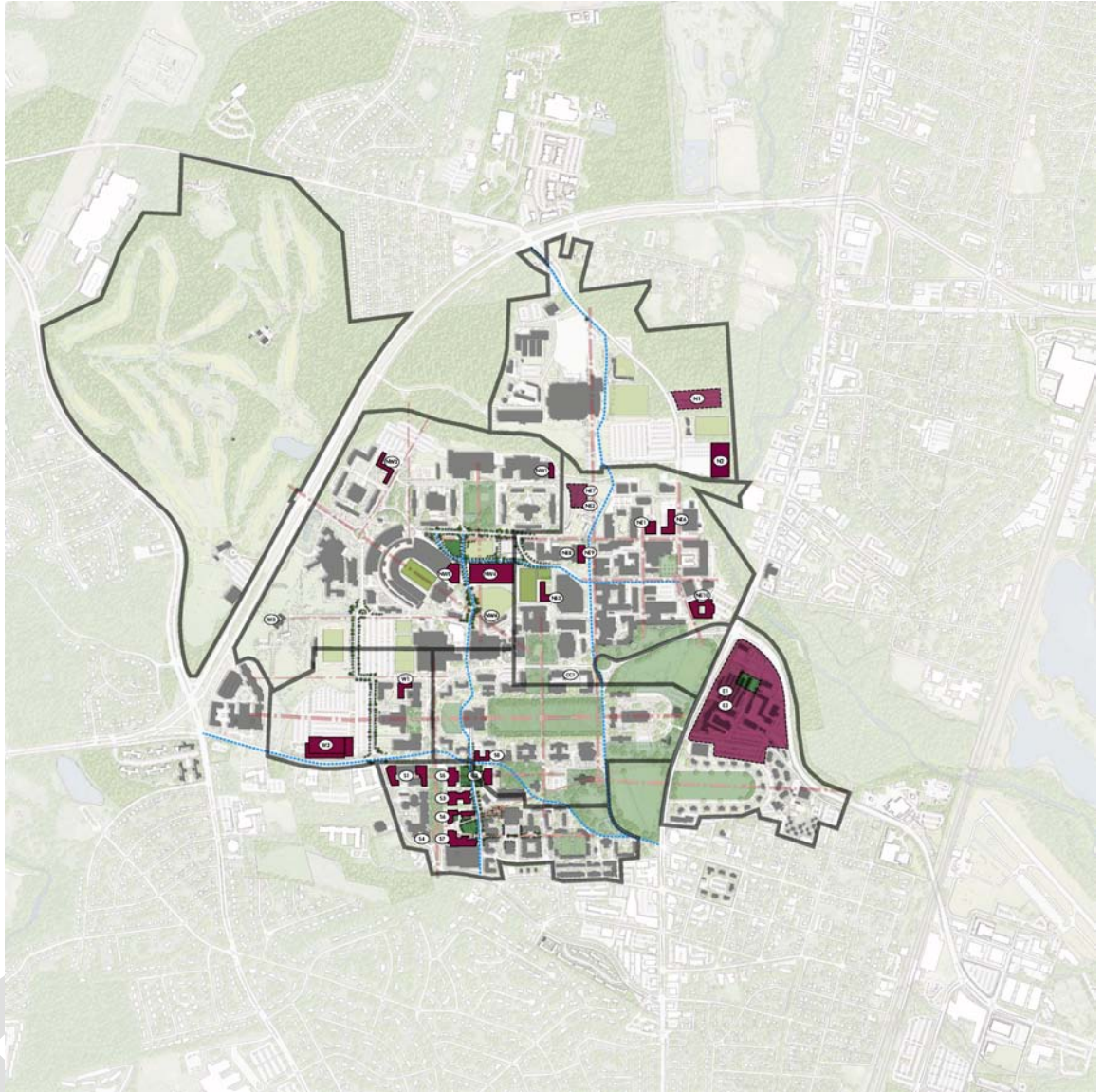
1. Land Use/Program:
2. Connectivity and Organization:
3. Physical Planning:

I) Golf Course

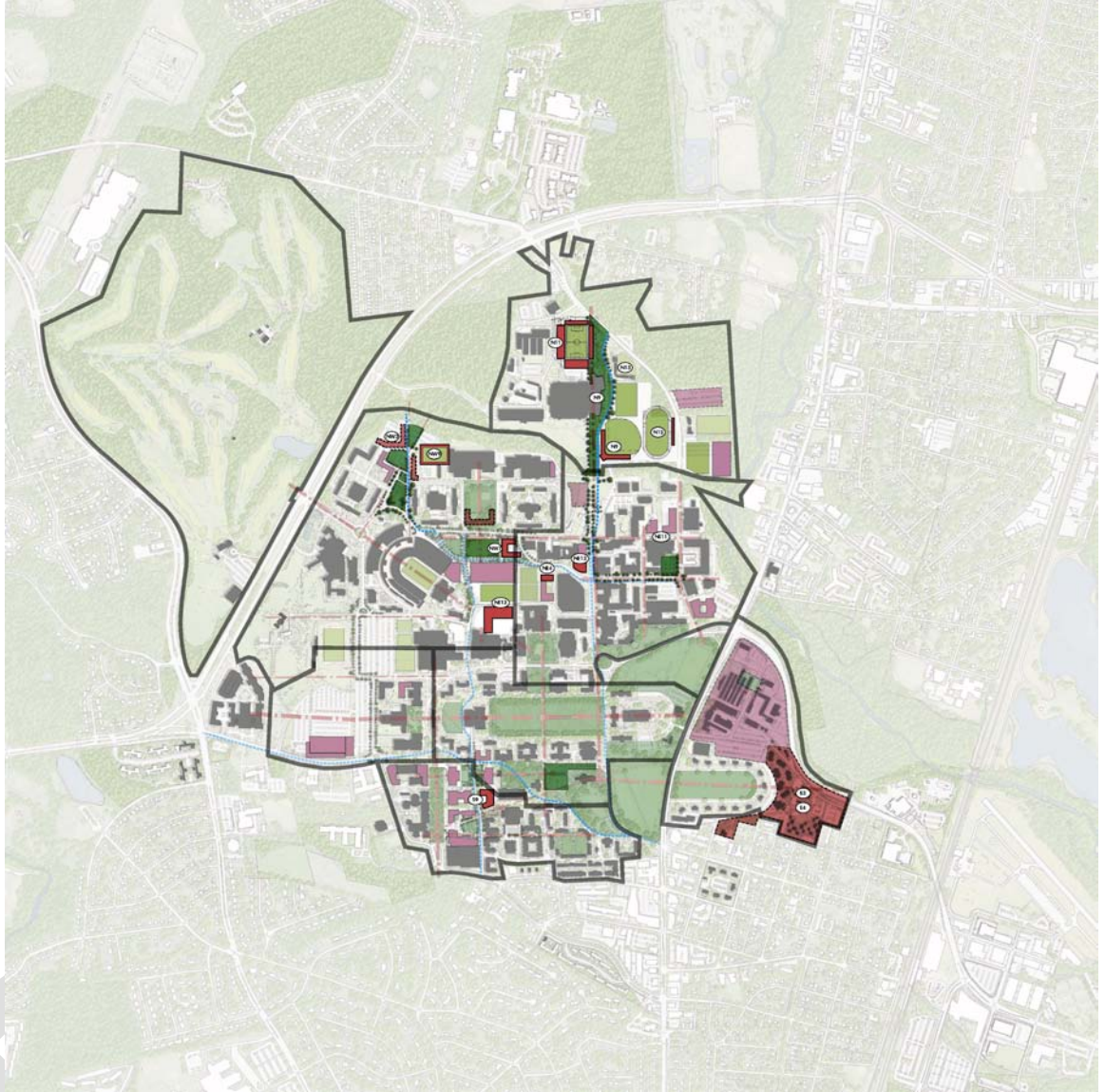
1. Land Use/Program:
2. Connectivity and Organization:
3. Physical Planning:

J) Outlying University-owned Properties

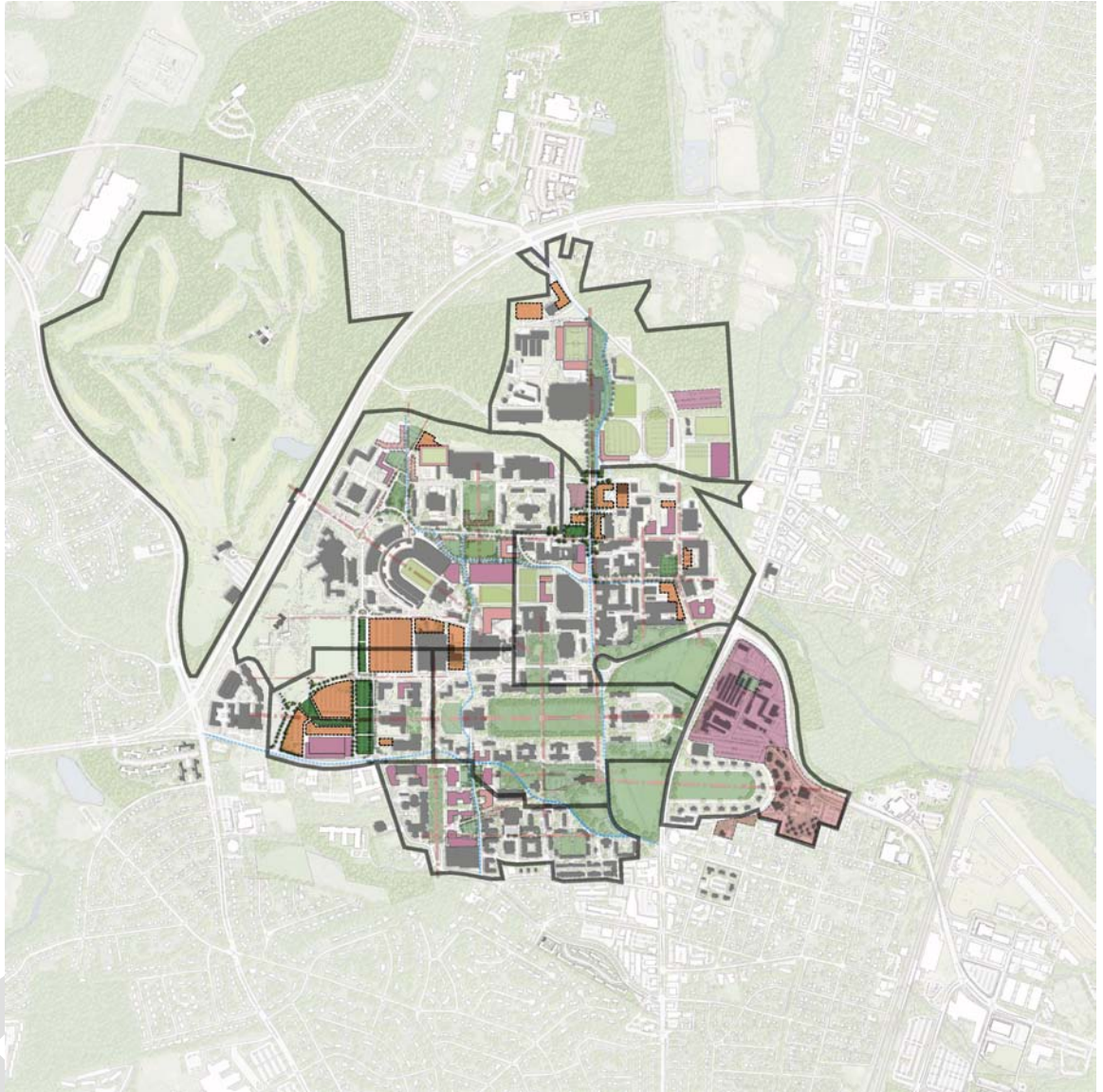
1. Land Use/Program:
2. Connectivity and Organization:
3. Physical Planning:



Planning Period 1 - Composite



Planning Period 2 - Composite



Planning Period 3 – Composite

VII. Implementation

Projection of 10-year planning periods

Implementation (responsibilities and measures of accountability)

Implementation

District		Project	Building Type	GSF	Floors
South		Project	Building Type	GSF	Floors
Planning Period 1	S1	Architecture Building Addition	Academic	122,250	3
	S2	School of Public Policy Building	Academic	74,800	4
	S3	Public Protection and Security Research Building and SCUB Expansion	Academic	127,000	5
	S4	Van Munching Hall Addition/Renovation	Academic	15,282	4
	S5	Visual Arts and Cultures	Academic	112,300	4
	S6	Replacement Housing (463 Beds) and SCUB Expansion	Auxiliary	159,000	6
	S7	South Campus Recreation Building	Auxiliary	68,975 (90,000 +)	3+
	S8	Worcester Hall Replacement	Auxiliary	33,541	3
	Planning Period 2	S9	BSOS Research Building (Displace SCUB?)	Academic	120,000
West		Project	Building Type	GSF	Floors
Planning Period 1	W1	Benjamin Building Addition - Phase 1	Academic	85,000	5
	W2	Campus Dr Parking Garage (1600 sp)	Auxiliary	560,000	6 (5-Story "Read")
	W3	President's House & Events Center	Auxiliary	12,600	1

Northwest		Project	Building Type	GSF	Floors
Planning Period 1	NW1	School of Public health Building Addition /Conversion -II	Academic	27,299	
	NW2	Housing 1 (515 Beds)	Auxiliary	169,950	7 - 8
Planning Period 2	NW3	Housing 2 (515 Beds)	Auxiliary	169,950	7 - 8
	NW4	Indoor Practice Facility	Auxiliary	75,000 (80,000 +)	3 (5-Story "Read")
	NW5	Varsity Team House	Auxiliary	42,100	2
	NW6	Shiplely Field House Upgrades	Auxiliary	16,900	
	NW7	New IT Building	Academic Support	100,000	4
	NW8	North Campus Parking Garage (1600 sp)	Auxiliary	560,000	Not shown
	NW9	North Campus Parking Garage ALT (800-850 sp)	Auxiliary	280,000	4 + roof rec.
	NW10	Replacement Housing (650 Beds) and Residential Facilities Office	Auxiliary	240,300	7 - 8
	NW11	Byrd Stadium Expansion (Phase 2)	Auxiliary		
	NW12	Gossett Football Team House Addition	Auxiliary	7,500	
North		Project	Building Type	GSF	Floors
Planning Period 1	N1	Shuttle UM Facility	Academic Support	10,075	
	N2	Paint Branch Parking Garage (1600 sp)	Auxiliary	560,000	6 (5-Story "Read")
Planning Period 2	N3	Heavy Equipment and Lawnmower Repair Shop	Auxiliary	4,308	
	N4	Barns	Academic	2,400	
	N5	Environmental Service Facility	Academic Support	10,100	2
	N6	Comcast Center Expansion	Auxiliary	7,020	
	N7	Field Hockey/Lacrosse Complex	Auxiliary	5,800	
	N8	Baseball Stadium	Auxiliary	11,700	
	N9	Basketball Practice Facility	Auxiliary	22,500	
	N10	Gymnastics Practice Facility	Auxiliary	15,000	
	N11	Soccer Stadium	Auxiliary		
	N12	Track Stadium	Auxiliary		
	N13	Robert E. Taylor Stadium Expansion	Auxiliary	2,640	

Northeast		Project	Building Type	GSF	Floors
Planning Period 1	NE1	Nutrition and Food Sciences Building	Academic	40,000	4 (Lot HH?)
	NE2	Animal Science Consolidated Activities Building	Academic	18,200	1
	NE3	Bioscience Research Support Facility Phase 1	Academic	118,100	6
	NE4	Bioscience Research Support Facility Phase 2		57,700	6
	NE5	Center for Technology and Distance Learning	Academic	19,850	
	NE6	Computer Science & Engineering Building	Academic	182,000	6
	NE7	Replacement Barns	Academic	40,000	1
	NE8	Physical Sciences Complex - Phase 1	Academic	160,064	
	NE9	Physical Sciences Complex - Phase 2	Academic	106,300	
	NE10	Fishell Institute of Biomedical Devices	Academic	145,300	4
Planning Period 2	NE11	Addition to Kim Engineering Building	Academic	22,000	
	NE12	Biological Science Research Building - Phase 2	Academic	125,600	3 (Events)
	NE13	Physical Science Complex - Phase 3	Academic	102,400	
East		Project	Building Type	GSF	Floors
Planning Period 1	E1	Facilities Management Office Building	Academic Support	65,375	
	E2	East Campus Mixed Use Development	East Campus	1,280,000	
Planning Period 2	E3	Day Care Facility	Auxiliary	13,500	
	E4	East Campus Mixed Use Development	East Campus	365,000	

Campus Core		Project	Building Type	GSF	Floors
Planning Period 1	CC1	University Teaching Center	Academic	90,800	
Planning Period 2	CC2	International Center	Academic	35,300	
	CC3	Graduate Center	Auxiliary	12,500	
Total GSF: Planning Period 1				3,956,645	
Total GSF: Planning Period 2				2,051,360	
Total GSF				6,008,005	

III. Appendices

A. History of campus plans

B. Charge and scope of this plan

The purpose of the Facilities Master Plan (FMP) is to establish a framework to guide the orderly growth and development of the campus over the next decade. This update shall be consistent with the mission of the University, its current Strategic Plan and the recently enacted the University of Maryland Climate Action Plan. The update will focus on the campus landscape and transportation systems.

C. Background documents

1. MTA/UM Purple Line Meeting
2. Transportation Vision
3. American Tree Campus Demands
4. University of Maryland Climate Action Plan
5. State Stormwater Regulations