2008 Auburn University at Montgomery Campus Master Plan
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EXECUTIVE SUMMARY

The Master Plan for Auburn University at Montgomery provides a vision and a framework for future growth. The plan builds on the unique qualities of the campus, its pedestrian core and scenic landscape, and develops a design narrative that links academic, natural, physical systems and community space.

AUM's original 1969 master plan envisioned a 30,000 student campus with development sprawling across the entire campus, including the wooded western section. Although the first phase was built on the eastern portion of campus, AUM has no need for such expansive development in the foreseeable future. Instead, the 2008 Master Plan preserves the western portion of campus for its natural beauty and focuses new development within the academic core. In doing so, it strengthens the pedestrian network, ties into existing infrastructure and focuses attention on the campus experience.

The Master Plan for AUM comes at a time when academic programs are beginning to draw from wider student markets. The University needs a plan to rectify existing space deficits as well as accommodate new students. As the University builds partnerships with institutions in India and China, its student body makeup will include more international students. To accommodate their needs, additional housing and greater accessibility to student services will be required.

The Master Plan is based on the following assumptions:

- Student enrollment will increase from 5,124 to 8,000 students over the next 15 years
- AUM will begin to draw new students from an international pool
- On-campus housing will grow to accommodate 20-25% of full-time equivalent students (between 488 and 776 new beds)

PROCESS

The planning process developed along three parallel tracks. The University employed Comprehensive Facilities Planning, Inc. (CFP) to analyze academic space needs, Krebs Engineering to access existing infrastructure and Skipper Traffic and Transportation Engineers to evaluate campus traffic and parking demand. Sasaki Associates absorbed the recommendations of these three firms and under the direction of the AUM Master Planning Committee, developed a clear and comprehensive understanding of relevant issues and concerns. Through interviews, presentations and discussions with university personnel, students and the various University consultants, a series of alternative plan strategies were developed to respond to the needs of the campus. After review and subsequent modifications, a preferred plan was developed and confirmed as the basis for the master plan.

OVERARCHING OBJECTIVES

As Sasaki Associates worked with the AUM Master Planning Committee to develop goals for the plan, several strategic objectives emerged:

1) Improve campus identity

University stakeholders expressed the need to improve AUM’s front door and student amenities to attract greater enrollment and update the character of the University; both are enhanced in the Master Plan. The plan improves wayfinding and legibility through a new entry sequence and added community space. This new entry sequence straightens the current circuitous route and establishes a strong ceremonial axis into the heart of campus.

The plan also improves the main entrance by alleviating traffic back-up along AUM Drive through increased vehicular accessibility at other points along Taylor Road. Although the main entrance
will remain ceremonial and grand, traffic will be assuaged from present intersections through the introduction of two right-in, right-out entrances along Taylor Road, flanking the existing ceremonial entrance to the north and south.

The circulation improvements are combined with new building projects and open spaces to simultaneously improve the University’s entry experience and provide a new public face. With the amount of new building development projected to meet future enrollment growth (more than 180,000 assignable square feet, or about 275,000 gross square feet), the University has a significant chance to improve the overall image of the campus. The plan responds to this opportunity through a series of new buildings that announce the campus and place spaces of learning and exchange on display. The plan envisions the terminus of the new ceremonial axis as such a place, with outside community space transitioning into a new transparent building that highlights the learning environment of AUM and gives the University a new center.

Along with new buildings, the plan calls for selected improvements to existing buildings, especially on the ground floor, to increase public exchange and interaction. Once within the campus core, existing buildings offer little to engage potential students. Even buildings designed for student use, such as the library and student center, are fortress-like in appearance. Therefore, when walking through the campus, student space and community space appear to be lacking. The master plan reinforces the notion of a public learning environment through improved landscape and building facades at the ground floor of existing buildings.
2) Expand the core collegial environment

Closely tied to this notion of a public learning environment is the idea of expanding the core civic structure of the campus. The two themes work in conjunction with each other to build a more collegial environment. AUM’s core is a compact association of academic buildings with landscape linkages and clear open spaces. Its central quad is shaded with mature trees and an obvious, civic structure is anchored by this ensemble of buildings, open spaces, trees and pedestrian ways.

Once past this core however, the civic structure dissolves and is noticeably lacking in the central parking lot. Therefore, the master plan extends “fingers” of this core civic structure throughout the campus as a unifying system of pedestrian corridors. In doing so, it also provides a framework for future buildings to be incorporated into the campus fabric over time. New building sites are identified in the plan and contribute to this sense of collegiality. The same compactness that is enjoyed within the core is extended to future building sites. These new buildings also frame public areas while providing for future space needs.

By extending the core collegial environment, a more pedestrian-friendly, walkable campus is fostered. In doing so, a more welcoming environment is promoted for both visitors and the larger campus and Montgomery communities.

3) Preserve natural landscapes and systems

AUM possesses what many other urban universities would envy, developable land. However, the campus also has a unique role in being the “metropolitan campus of a land-grant university.” Because of its relationship with Auburn University and the history of land-grant universities in the U.S., many of which have lost their natural land to unchecked expansion, AUM has a unique opportunity in its remaining undeveloped land for potential research, as well as public enjoyment. The Master Plan identifies the unique characteristics of this remaining land and denotes opportunities for greater connectivity to these natural amenities.

AUM’s open space also provides a public service to the surrounding Montgomery area by absorbing excess runoff from upstream development. Oliver Creek runs through the center of campus and routinely floods. The Master Plan respects this natural system by relocating tennis courts outside the floodplain, mitigating the effects of impervious surfaces and reducing further water runoff on site. A system of swales through the surface parking will help absorb and slow storm-water runoff. Also, the plan calls for the removal of impervious surfaces and the extensive planting of trees to additionally reduce strain on the existing system.

Lastly, the campus landscape is also part of a larger open space system. The wooded area to the west of Oliver Creek provides habitat, offers storm-water mitigation and improves air quality. A benefit of containing growth to the core of the existing campus is the preservation of these natural systems and landscapes.

4) Embrace a sustainable approach to campus operations

The Master Plan seeks to instill a mind-set of sustainability within the operations of the University. As the twin problems of energy consumption and climate change continue to rise in importance, so Universities are increasingly leading the charge to face these issues. Not only does the plan encourage the educational value of improved operational sustainability, but it also responds to rising costs of energy.

The Master Plan builds on the sustainable activities that AUM already does and suggests areas for further improvement. For instance, the University functions within a compact development pattern. The master plan preserves this condition, curtailing sprawl and utilizing existing infrastructure in an efficient manner. Also, the University’s goals of increasing on-campus housing and improving its pedestrian network will potentially reduce vehicle demand and associated carbon emissions. The master plan also decreases energy demand through increased tree canopy to provide shade, better building orientation, and the reduction of heat radiating surfaces. Many of these surfaces are impervious and the reduction of this area also helps to mitigate flooding. Lastly, in a region of the U.S. that has endured severe recent droughts, the plan seeks to minimize water consumption.

MASTER PLAN RECOMMENDATIONS

The proposed concept for the growth of the University is to retain a compact academic core by locating future expansion south and east of the core, on empty land across and adjacent to Moore Hall and in unused commuter parking areas. These new buildings frame space along a new south quad and define a new ceremonial entrance. New student housing is placed within the present residential district between existing housing communities, connecting the North Commons to the West Courtyard housing.

The Master Plan accommodates the projected target enrollment of 8,000 headcount students. The program requirements for this target enrollment include an additional 275,000 GSF of academic and support space and another 488 to 776 beds (representing 265,000 GSF) to the University’s existing buildings. The following list represents the major construction projects envisioned by the master plan:
EXECUTIVE SUMMARY

Hydrology

Oliver Creek

Wetland

Duck Pond

Flood Zone

“The Ditch”
ATHLETIC AND RECREATION CENTER
A new athletic and recreation center is planned to announce the campus from Taylor Road and provide a fresh image for the University. It is located on unused commuter parking and will help frame a new ceremonial entrance to campus. The new wellness center located within the complex will give a home to valued university research and help alleviate space strains on the existing Physical Education Complex.

STUDENT CENTER EXPANSION
A new student center social space and building adjoined to the existing Taylor Center will serve as a new terminus to the ceremonial entrance sequence and will anchor a central campus crossroads. It will highlight student learning and provide a “living room” and home base for commuters as well as resident students. This iconic building will breathe new life into the campus community by combining student meeting space, library and study space, and food services into one facility. Also, it will improve the image and character of the existing Taylor Center.

NEW ACADEMIC BUILDINGS
Academic expansion near Moore Hall at the south end of campus will accommodate university growth and help define the southern portion of campus by establishing a new academic quad. A new pedestrian bridge will connect the major north-south walkway of the campus to this quad and views from the existing large specimen tree, with its wooden lookout deck, will be framed and preserved.
STUDENT HOUSING
New housing is planned to transform Housing Drive into a pedestrian corridor and provide for university growth. By tying into the existing housing, it will bridge the North Commons and West Courtyard communities and be centrally located within the existing campus. Also, it will be enhanced by the presence of the proposed recreation center.

EXISTING BUILDING RENOVATION
Existing buildings will be renovated internally as swing space becomes available to reinvigorate academic programs and the learning experience. Ground floor facades along the campus quads will also be targeted for selective improvements to help integrate these buildings and academic activities with the larger campus community and create an inviting atmosphere by introducing transparency.

VEHICULAR CIRCULATION AND PARKING
Roundabouts will be introduced at key intersections to alleviate traffic congestion. Additional, access onto Taylor Road in the form of right-turn only entries/exists will also mitigate traffic. Parking will be consolidated at the periphery, with shaded pedestrian ways leading from parking into the campus core.

CAMPUS LANDSCAPE IMPROVEMENTS
Extensive tree planting and landscape improvements are planned to shade pedestrians and provide cooler environments, which will also help reduce building cooling costs. Many of these projects will also act to link disparate regions of the campus and help strengthen the civic structure of the campus by creating outdoor community space.

The following measures are proposed:
- Extension of the central open space southward
- New recreation/sports fields
- Riparian planting
- Bosque adjacent to student center expansion
- Preservation of existing trees within the core
- Preservation of the meadow
- Tree planting for shade
- Jogging trails
IMPLEMENTATION

An implementation program is proposed to achieve the objectives of the master plan. Implementation is divided into two phases, organizing projects according to the principle needs of the University and allowing for incremental development as enrollment goals are met.

Phase 1
The following improvements will address existing space deficits and update the campus character:

- Softball field at corner of AUM Drive and Senator Drive with fieldhouse and stands
- New Athletic and Recreation Center at corner of new ceremonial entrance from Taylor Road
- Ceremonial entrance – AUM and East Drive road realignments with new rotary intersection and entrance sign
- Tree planting, pedestrian way and other landscape improvements along new Ceremonial Drive
- East Parking reconfiguration, tree planting, swales and other landscape improvements
- Right-turn only entrances between Taylor Road and AUM Drive
- Student Center expansion
- The “Grove” – a shaded, outdoor community space
- Student Center interior renovation – use new student center expansion as swing space during renovation

Potential additional improvements given further study:

- Move library program to first floor of existing student center to enable “living/learning/living room” of campus
- Renovate library tower to accommodate office and administration space
Phase 2
It is estimated that the following improvements would complete the master plan vision and be able to accommodate at minimum, a campus population of 8,000 students, 500 faculty and 900 staff:

- Interior renovations of existing academic buildings and first floor exterior renovations of buildings defining campus quads
- Relocation of tennis courts out of floodplain
- New recreation fields
- Tree planting along central east-west drainage corridor
- Landscape improvements, tree planting and transformation of western north-south edge of East Drive adjacent to the floodplain to pedestrian/bicycle path with limited service vehicle access
- Establish jogging/recreation paths throughout campus, connecting the campus to the forest and meadow
- Landscape
- Incremental housing development along Housing Drive and near North Commons
- Tree planting, curb cuts and other landscape improvements to Housing Drive to change the character of the street from an extended parking lot to a major east-west pedestrian corridor
- Academic expansion near Moore Hall to establish a new south quad
- Pedestrian bridge across drainage way to Moore Hall on axis with main north-south pedestrian path
- Implementation of the master plan is dependent upon funding. Money previously earmarked by ALDOT for the completion of the Loop Road would be better focused on the campus entrance improvements. As enrollment grows, building facilities and site improvements will be phased in response to demand and capital funding.

To ensure responsible implementation of the master plan, it should be governed by a campus planning and design review committee comprised of university personnel, facilities management and design professionals.
PLANNING BACKGROUND
The original master plan by Sherlock, Smith & Adams, Inc. was designed for a campus of 30,000 students.
INTRODUCTION

Auburn University at Montgomery (AUM) was chartered as the “metropolitan campus of a land-grant university” in 1967 by an act of the Alabama legislature. Since its inception, the role and vision for AUM in Montgomery and in relationship to Auburn University (AU) has changed. AUM quickly established a level of autonomy from AU as it began to service the education needs of Montgomery area students. This attitude has fostered rich connections with local institutions, such as Baptist Medical Center East, but has left untapped potential with AU. In recent years, a stronger relationship with AU has been viewed desirable as a growth strategy.

A different future was imagined for AUM by its original 1969 planners. Most notably, Sherlock, Smith & Adams, Inc. envisioned a campus of 30,000 students with the majority of the more than 500 acre site developed. A loop road was envisioned and the central creek preserved. To date, the first phase of the projected development has been realized; the loop road remains unfinished today. Also, at just over 5,100 enrolled students, AUM is far short of the booming population originally imagined.

As recent as 1997, the University commissioned David Volkert and Associates to make a conceptual land use plan for the remaining undeveloped areas of campus that were originally envisioned in 1969 as university functions. The report’s primary objective was to determine the feasibility of public/private development on these areas. The plan called for completing the proposed loop road and opening the western portion of the campus up for development. Volkert proposed new academic, office, residential and conference center along with an 18-hole golf course, effectively removing almost all trees west of Oliver Creek.
However, at the time of the report’s completion, a few unanswered questions remained regarding the feasibility of such development. Also, in the decade since it was written, market forces have significantly changed around the campus. With the advent of the Shoppes at Eastchase, a mixed-use retail center, and active proposals for a conference center abutting the AUM campus, demand for such private development activities on-campus may continue to decrease.

Instead of relying on unpredictable market forces or unsubstantiated enrollment projections, the University has taken a more measured approach to growth plans in recent years. AUM plans to grow by building on its unique academic strengths and investing in physical improvements of the campus character. For planning purposes, AUM is targeting growth from 5,100 students to 8,000 students. AUM plans to reach this enrollment goal by targeting students outside of its current demographic pool.

AUM is looking outside its normal pool of students, typically local commuter students, because of a steady drop in campus enrollment from a zenith in 1991 of 6,690 students to a current enrollment level of 5,100 students. The growth of local universities and recent demographic studies both have bearing on AUM’s enrollment plans. It is uncertain exactly how much the growth of other universities in the Montgomery area, such as Troy, has had on AUM. From 2002 to 2006, Troy Montgomery’s enrollment has increased by 1,263 headcount (Source: Troy University 2007 Fact Book) while enrollment at AUM during the same period was roughly constant. What

1997 Volkert Plan
The 1997 Volkert plan called for expansion west of Oliver Creek through completion of the loop road.
is certain though is that the growth in traditional college age students in Montgomery will slow over the next ten years, according to the AUM Center for Demographic Research. From 2005 to 2010, a 4.4% growth rate is projected. This figure drops to only 1.8% from 2010 to 2015. This drop, coupled with more higher educational choices in Montgomery, is one of the central motivations behind AUM’s growth strategies.

AUM plans to grow through capitalizing on existing strengths and building on untapped connections. AUM has had a strong history of collaboration and partnership. For instance, the nursing program makes full use of adjacent Baptist Medical Center East for educational partnerships, such as on-the-job learning experiences. One program that the University expects to further develop is the business program. AUM plans to grow this program by leveraging its international accreditation status and appealing to students from China and India. Another untapped resource for AUM is the relationship with AU. AUM would like to establish more formal arrangements with AU to accept traditional student overflow. AU recently set an enrollment cap of 25,000 students.
The process for AUM’s master plan began in earnest August 2007 at an early meeting with then physical plant director, Larry Alsobrook. It continued over the course of about nine months including various site reconnaissance trips and five work sessions with a variety of University and community representatives.

Sasaki worked to incorporate findings from three other consultants into the final master plan: Comprehensive Facilities Planning, Inc. (CFP) of Columbus, Ohio; Skipper Traffic and Transportation Engineers of Birmingham, Alabama; and Krebs Engineering of Montgomery, Alabama. CFP produced a space needs analysis based upon existing university population and then projected space needs for the enrollment goal of 8,000 students. Skipper analyzed traffic and parking demands and Krebs documented the existing infrastructure of the university.

The master plan followed a three-phase process built around the aforementioned on-campus work sessions.

**PHASE 1: INVENTORY AND ANALYSIS**

Phase one began with a series of interviews with University stakeholders to ascertain the desired outcomes, principles, goals and objectives for the master plan. A preliminary investigation of existing campus conditions was also conducted. These initial efforts were followed by an in-depth analysis of campus conditions, addressing such elements as program organization, open space structure, circulation patterns, utilities and stormwater management, and overall campus integration.
This analysis also incorporated the findings of other consultants, such as the current and future space needs analysis by CFP and parking demand by Skipper.

The findings of the Phase 1 analysis were presented during an on-campus work session involving presentations and meetings with the Master Planning Committee and other University stakeholders, as well as a presentation to the broader campus community.

PHASE 2: CONCEPT ALTERNATIVES

The alternatives phase of work examined the most favorable and acceptable options for near-term and long-term campus development. The concept alternatives addressed options for land use, building use, reuse and program accommodation, circulation and parking, open space, and overall campus integration. The intent of this phase of work was to achieve a preferred option or hybrid of options by making a comparative assessment of the concept alternatives for consideration by the Master Planning Committee and other University stakeholders.

The sequence of work in the concept planning phase was to establish and investigate three concept alternatives. After University review, a preferred alternative was selected and refined to be developed as the preferred concept in phase three. The preferred concept retained the best elements of each alternative.

PHASE 3: MASTER PLAN DOCUMENTATION

Phase three was devoted to detailed development and documentation of the plan. The final plan will act as a guide to decision-making and to the physical design of the campus for the next ten to twenty years. The plan defines a structure for improvement and illustrates the long-term build out potential of the campus. It prioritizes immediate and long-term strategies, articulating phasing approaches, and identifying specific target projects for implementation. The plan also provides a foundation document for the University to use in supporting fund raising campaigns.
The master plan goals support the mission of the University, build upon its strengths and guide future development to meet projected needs. Campus landscape goals include extending the quality of environment found in the campus core, such as tree plantings, from the core southward and around new development to provide shade and civic structure.

GOALS AND PLANNING FACTORS

The following goals were developed early in the planning process and have been reviewed by the master planning committee:

- **Collegiality and Community.** The Plan should improve the campus identity by creating an environment that facilitates community and an academic setting that fosters robust, innovative and collaborative research, scholarship and creative activity. It should improve student life and the learning experience for each student user group: resident student, day-time commuter & evening student.

- **Campus Access.** The Plan should promote the pedestrianization of the central campus, taking into consideration issues of climate, security, comfort and convenience, including interior/ exterior pedestrian circulation connectivity. In conjunction, it should improve campus gateways and vehicular circulation patterns to address cut-through traffic, provide uncomplicated entrances, encourage pedestrian movement and improve first impressions.

- **Compact Development Framework.** The Plan should maintain a compact land-use pattern in order to: reinforce the pedestrian qualities of the campus; maintain operational and infrastructure efficiencies; preserve natural systems; and enhance campus vitality by placing a variety of activities in close proximity to one another. This development framework should accommodate incremental growth to address the evolving enrollment and mission of AUM.
• **Architectural Design.** The Plan should inform guidelines for future buildings taking into account the materials, building forms, massing and building-to-site ratios of existing buildings while addressing energy efficiency, modern program requirements, and accessibility.

• **Landscape.** The Plan should preserve the natural systems and working landscape for beauty, recreation and shade, enhancing connections between natural and developed areas. The Plan should restore, enhance and extend the quality and character of the campus core landscape and the surrounding natural landscape by means of a well-defined framework of open spaces and linkages as well as sustainable implementation guidelines.

• **Sustainability and Stewardship.** The campus should be planned in a sustainable manner, addressing the following: natural systems and habitats; water resources; energy & atmosphere; coordinated transportation; resource flows and community. The Plan should advance the philosophy of sustainability, quality of life and human betterment. It should promote prudent stewardship and sound management of physical resources and make the campus a working model of sustainability and smart growth.

• **Partnerships and Community Interface.** The Plan should maintain the existing compatible land use relationships with the surrounding business and residential districts of Montgomery in order to enhance partnership opportunities with the local community. New partnerships should be carefully weighed as potential economic and community revitalization generators for both the University and the broader community.

**ASSUMPTIONS**

The master plan was based on the following assumptions, developed through discussions with members of the Master Planning Committee:

• The campus will accommodate a headcount enrollment of 8,000 students.

• Incoming classes will begin to draw from a larger, even international, pool of potential students.

• Given this demographic shift, the percentage of Full Time Equivalent (FTE) students housed on campus will rise from its current level of nineteen percent to between twenty and twenty-five percent to address the housing needs of a more diverse student body.
PLANNING CONTEXT

The 500 acre Auburn University at Montgomery is centrally located in the state of Alabama, 160 miles west of Atlanta, GA and 93 miles south of Birmingham, AL. The University is only 55 miles to the west of Auburn, AL, about a 50 minute drive. Although located in Montgomery, the campus is at the edge of the city. As such, many of the local cultural amenities associated with the city are only a short drive away.

Montgomery is one of the most densely populated areas in the state of Alabama. However, in a 30-minute drive time radius from AUM’s campus there are approximately 250,000 people, according to the 2002 Census. Of this population, only about 20,000 are of traditional college age. Given that some of these students may elect to attend college outside of the state or at AU and that there are at least five significant colleges in the Montgomery area (AUM, Alabama State University, Troy Montgomery, Faulkner and Huntingdon), there is considerable competition for students.

ACCESS

The University is situated between two highways, U.S. Route 80 (the Atlanta Highway) and Interstate Route 85. Because of strip mall development along some stretches of the Atlanta Highway, I-85 is the quickest route for most commuters to AUM. It was estimated that of all campus users (faculty, staff and students), about 65% enter from the east on Taylor Road off of I-85. Access to campus via Brown Springs Road to the north and Oliver Drive to the west accounted for all other traffic.
**30-minute Drive Time Population**
250,000 people live within 30 minutes of AUM and 20,000 of them are college aged

- 30-minute Drive Time
- AUM
- Other Colleges [AU, ASU, Troy Montgomery, Faulkner, Huntingdon]

**Travel Routes**
Based on faculty, staff and student address data and road configurations, an estimated 65% of campus users access AUM from Taylor Drive.
The current entry sequence from Taylor Road into campus is confusing because of inadequate spacing between Taylor Road and AUM drive, a three-quarter completed loop road inscribing the campus. Motorists are tasked to navigate through an angled intersection only feet from their initial Taylor Road turn. After successfully navigating through what amounts to a bit of a right-of-way guessing game, motorists travel along the winding East Drive to their eventual parking destination. However, after departing from their car, pedestrians are left directionless without any dedicated walking route to campus.

Besides poor pedestrian connections, the parking itself is thought to be more abundant than is perhaps currently warranted. Skipper Traffic and Transportation Engineers completed their parking demand analysis of the campus in February 2008 and found that even at peak parking levels, only 54% of available spaces were used (i.e. 1,262 spaces were unused). AUM currently has 2,739 spaces divided between faculty and staff (206 spaces), resident students (591 spaces) and all other commuters (1,942 spaces). For comparison sake, AUM has 0.49 spaces per user (faculty, staff & students) versus ASU’s 0.34 spaces per user. A discussion of projected parking needs is described in the Program section of this report.

Although AUM is predominantly a commuter campus, it still has access to other modes of transit. An on-campus Montgomery Area Transit System (MATS) bus stop (route 1) exists near the main parking lot. However, headways are an hour long on weekdays and 1.5 hours long on Saturdays. Additionally, the bus stop is exposed to the elements and has no posted schedule. Lastly, some members of the AUM community, who elect to use bicycles to commute to campus, have raised safety concerns, especially regarding the curve along AUM Drive as it turns onto Oliver Drive. No dedicated bicycle lanes currently exist on campus. So, although it is possible to commute to campus without the use of a car, it is especially inconvenient.
Entry Sequence
The main entry to campus from Taylor Drive is confusing due to multiple intersections, curving roadways and traffic.

Parking Supply
Parking supply is well distributed across campus by user group

<table>
<thead>
<tr>
<th>User Group</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Staff</td>
<td>206</td>
</tr>
<tr>
<td>Resident</td>
<td>591</td>
</tr>
<tr>
<td>Commuter</td>
<td>1,942</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,739</strong></td>
</tr>
</tbody>
</table>

Parking Demand
Even at peak parking demand, sufficient supply exists. Existing parking spaces will also meet future growth demands.
Further east are tracks of suburban housing. To the immediate north of the University are community playfields, the Baptist Medical Center East (a partner in education with AUM), and the central Post Office for the City of Montgomery, which has created demand for cut-through traffic along AUM Drive. All mail is routed through this location. Further north, just past the post office, is the Atlanta Highway, which includes strip mall development. Some of the cut through traffic along AUM Drive could also be from motorists trying to avoid traffic along the Atlanta Highway to get to I-85.

NATURAL SYSTEMS AND LANDSCAPE

The Federal Emergency Management Agency (FEMA) has designated a large portion of AUM’s campus as a potential flood hazard zone (nearly 32%). Several canals drain rainwater to Oliver Creek, which flows from the south to the north, bisecting the campus. The main canal running east-west is commonly referred to as “the Ditch” by students. Because of the large floodplain associated with Oliver Creek, development on AUM’s campus is constrained. Also, the high clay content of the soils in this region (which slows absorption rates) coupled with increased development upstream has exacerbated flooding on campus. Therefore, the University performs a public service for the surrounding area by slowing flood conditions downstream.

The U.S. Geological Survey (USGS) has designated one wetland area at the north end of campus, near the recreation fields. To the northwest of this wetland, across Senator Drive, is what some have termed the “Duck Pond,” a murky pond that ducks were released into a number of years ago.

Years before the University purchased the land, it was a cotton plantation. Much of the eastern portion of

LAND USE

Land uses surrounding AUM are of a largely suburban character. To the immediate west, along Oliver Drive, is a series of single family homes. Further west, running north-south along Bell Road, are a series of larger single family homes. To the immediate southeast, just before I-85, is an internet University. Continuing southeast, across I-85, lies a new mixed use retail development called the Shoppes at Eastchase. Some light office and retail exists across Taylor Road to the east of AUM.
High Point - 282’

Low Point - 211’
Trees add value to the campus through providing:

- Stormwater absorption
- Habitat
- Improved air quality
- Carbon storage and sequestration
- Shade

See Appendix A for further analysis of tree cover. City Green software was utilized to determine benefits of tree cover in terms of stormwater management, air quality, and carbon sequestration.

Other species include pines (Pinus taeda, Pinus virginiana) and mixed hardwoods such as sweet gum (Liquidambar styraciflua) and tulip trees (Liriodendron tulipfera). A few red maples, willow oaks and even pecan trees also exist on campus. One of the pecan trees just across Oliver Creek was once the largest of its kind in the state but has since seen some of its massive limbs fall and decay. Lastly, trees are not the only form of vegetation to encroach on the former plantation. Kudzu has unfortunately invaded portions of the campus, especially along the edges of water ways.

The campus is built just outside of low lying land associated with the floodplain. The highest point on campus at 282 feet is within the western, forest area of campus and the lowest point on campus at 211 feet is along the north edge of Oliver Creek.
The campus enjoys unique, picturesque qualities, such as those found in its meadow.

LANDSCAPE

The existing AUM campus can be divided into four landscape zones with the following designations: forest, meadow, floodplain and formal. The way in which these landscape elements weave their way through the campus, defining areas and views, gives the campus its formal qualities and provides clues as to how it might build on strengths. For instance, a grove of trees has defined the edge between academic space and residential space. It provides a visual buffer between the two zones and allows for private reflection and enjoyment of the natural qualities inherent to the site. If this landscape feature were to be extended further, greater connections could be made between campus users and the amenities of their environment. Likewise, if the formal qualities of the campus quad could be extended further south, greater campus cohesion could be a reality between the main campus buildings and Moore Hall, which is across “the ditch.” Currently, direct pathways and shade from trees are lacking for pedestrians wishing to walk from one end of campus to another. These small interventions could have a profound and positive effect upon the campus landscape because they build upon established strengths and continue a coherent story of the campus.
Landscape Zones

Forest

Floodplain

Meadow

Formal
BUILT FORM

Because phase 1 of the 1969 AUM master plan was carried out to completion in a relatively short time-frame, the existing campus buildings form an architecturally cohesive set. The campus buildings are very much an expression of the time in which they were designed and built. Elements of the buildings can be found in many other buildings of the time. However, despite how easily identifiable the campus buildings are, they suffer from the same problems as do their architectural contemporaries. The modern buildings of that time often suffered from a brutalism that had little place for human scale or human interaction on the ground plane. At AUM, entrances are often hidden by thick columns placed on center with entryways, obscuring visual clarity and disconnecting people from program. Also, after entering many campus buildings, internal circulation patterns are often maze-like, further disorienting campus users. Additions to buildings, such as the Taylor Center, have also further complicated internal way finding.

What is perhaps most noticeable about some of the changes made over the years though is that student gathering space has been forfeited. For instance, the first floor of the student center is no longer a student space, having been replaced by offices. This deficiency of campus “living room” for students is apparent to visitors. There is no clear space for students to gather themselves before or unwind after classes. Without reason to stay longer, campus life is diminished.

In addition to the academic buildings are a series of trailers set up in the flood zone adjacent to the tennis courts. These few trailers present a poor image for visitors and are in unseemly physical condition as well. Currently, these spaces are used for storage and a few offices for the athletics department. In the past, some of these trailers were even used as changing rooms for visiting sports teams. This use highlights an apparent lack of athletic and recreation space, which is further discussed below.

Existing Campus Development

Phase One of the original 1969 master plan was built. The plan works especially well to form a collegial environment at the core of the campus between Taylor Center and the Physical Education Building. Mature trees provide added civic structure and shade in this area. However, outside this core, opportunities for further tree planting and infill building exists.
PLANNING BACKGROUND

**Library Tower**
The library tower acts as an orienting feature across campus, especially at the campus entrance. However, the pedestrian way passes by Taylor Center’s loading docks.

**West Courtyard Housing**

**North Commons Housing**

**Taylor Center**
Enrollment growth at AUM could reach 8,000 HC by the year 2023 with 3% yearly growth.

Program

The campus space program estimates the facility needs to support the enrollment objectives of the University. The program includes space projections for academic and support facilities, administration, student life, athletics and recreation, student housing and outdoor recreation fields and parking. A detailed program for most of the aforementioned space categories is provided in the Auburn University – Montgomery: Space Needs Assessment, completed in 2008 by Comprehensive Facilities Planning, Inc. (CFP). It is estimated that if the University were to grow at a steady rate of almost 3%, the enrollment goal of 8,000 HC could be met by the year 2023 (in 15 years).

AUM retained CFP to examine current and projected space needs based on the assumption that enrollment will grow to 8,000 HC (nearly 60% growth) and faculty and staff will likewise grow to meet the added enrollment. The University provided CFP with a space inventory, a list of faculty and staff, a class schedule, and credit hour data for the fall semester of 2007.

CFP’s analysis employed standard space planning techniques with special care given to projected faculty levels and how rooms were actually used. They projected space needs by room type (class, lab, office, etc.) and by department:

- Chancellor’s Office
- Vice Chancellor for University Outreach
• School of Business
• School of Education
• School of Liberal Arts
• School of Nursing
• School of Sciences
• Vice Chancellor for Academic and Student Affairs
• Vice Chancellor for Administrative Services
• Vice Chancellor for Financial Affairs
• Campus Wide Space

CFP’s analysis of the AUM campus shows significant projected space needs in athletic/recreation space as well as a need for more library, office and student lounge space. By the time AUM reaches their enrollment goal, there will be a total deficit of academic space of over 184,000 assignable square feet. This figure did not include space from any of the existing trailers in the flood plain; these facilities are of such a transient nature that they were assumed to be removed by the time AUM reaches their enrollment goals. Also, a housing study was outside of the scope of CFP’s work. Therefore, space for this category was estimated with national housing guidelines used by Sasaki and is described below.

The total space needs for the campus to grow to 8,000 HC are described in Tables 2 through 6 and in greater detail as follows. This analysis points to space needs that the master plan might address with new buildings and/or renovations to existing buildings.

Table 1. Existing academic space needs estimate

<table>
<thead>
<tr>
<th>Room Type</th>
<th>Current ASF</th>
<th>Current ASF Need</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td>54,437</td>
<td>35,675</td>
<td>18,762</td>
</tr>
<tr>
<td>Instructional Labs</td>
<td>48,938</td>
<td>46,856</td>
<td>2,082</td>
</tr>
<tr>
<td>Research Labs</td>
<td>4,540</td>
<td>11,694</td>
<td>-7,154</td>
</tr>
<tr>
<td>Offices</td>
<td>105,788</td>
<td>117,117</td>
<td>-11,329</td>
</tr>
<tr>
<td>Library Space</td>
<td>51,710</td>
<td>57,670</td>
<td>-5,960</td>
</tr>
<tr>
<td>Special Use Facilities</td>
<td>9,813</td>
<td>12,923</td>
<td>-3,110</td>
</tr>
<tr>
<td>Athletic/PE/Recreation</td>
<td>21,879</td>
<td>46,708</td>
<td>-24,829</td>
</tr>
<tr>
<td>Assembly Facilities</td>
<td>12,342</td>
<td>13,373</td>
<td>-1,031</td>
</tr>
<tr>
<td>Exhibition Space</td>
<td>582</td>
<td>1,367</td>
<td>-785</td>
</tr>
<tr>
<td>Food Facilities</td>
<td>19,114</td>
<td>14,660</td>
<td>4,455</td>
</tr>
<tr>
<td>Lounge Space</td>
<td>3,463</td>
<td>7,345</td>
<td>-3,882</td>
</tr>
<tr>
<td>Merchandising Space</td>
<td>7,445</td>
<td>7,345</td>
<td>100</td>
</tr>
<tr>
<td>Meeting Rooms</td>
<td>19,011</td>
<td>7,044</td>
<td>11,967</td>
</tr>
<tr>
<td>Support Facilities</td>
<td>15,538</td>
<td>25,851</td>
<td>-10,313</td>
</tr>
<tr>
<td>Health Care Facilities</td>
<td>943</td>
<td>2,000</td>
<td>-1,057</td>
</tr>
<tr>
<td>Other*</td>
<td>1,362</td>
<td>0</td>
<td>1,362</td>
</tr>
<tr>
<td>Totals</td>
<td>376,905</td>
<td>407,628</td>
<td>-30,723</td>
</tr>
</tbody>
</table>

* Space classified as inactive in Clement Hall and Alabama Technacenter
Source: Comprehensive Facilities Planning, Inc.
### Table 2. Space projection estimate for 8,000 headcount

<table>
<thead>
<tr>
<th>Room Type</th>
<th>Current ASF</th>
<th>Projected ASF</th>
<th>Need Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td>54,437</td>
<td>57,081</td>
<td>-2,644</td>
</tr>
<tr>
<td>Instructional Labs</td>
<td>48,938</td>
<td>71,380</td>
<td>-22,442</td>
</tr>
<tr>
<td>Research Labs</td>
<td>4,540</td>
<td>16,094</td>
<td>-11,554</td>
</tr>
<tr>
<td>Offices</td>
<td>105,788</td>
<td>155,788</td>
<td>-50,000</td>
</tr>
<tr>
<td>Library Space</td>
<td>51,710</td>
<td>72,203</td>
<td>-20,493</td>
</tr>
<tr>
<td>Special Use Facilities</td>
<td>9,813</td>
<td>13,373</td>
<td>-3,560</td>
</tr>
<tr>
<td>Athletic/PE/Recreation</td>
<td>21,879</td>
<td>62,133</td>
<td>-40,254</td>
</tr>
<tr>
<td>Assembly Facilities</td>
<td>12,342</td>
<td>15,576</td>
<td>-3,234</td>
</tr>
<tr>
<td>Exhibition Space</td>
<td>582</td>
<td>1,588</td>
<td>-1,006</td>
</tr>
<tr>
<td>Food Facilities</td>
<td>19,114</td>
<td>24,870</td>
<td>-5,756</td>
</tr>
<tr>
<td>Lounge Space</td>
<td>3,463</td>
<td>11,752</td>
<td>-8,289</td>
</tr>
<tr>
<td>Merchandising Space</td>
<td>7,445</td>
<td>11,752</td>
<td>-4,307</td>
</tr>
<tr>
<td>Meeting Rooms</td>
<td>19,011</td>
<td>10,643</td>
<td>8,368</td>
</tr>
<tr>
<td>Support Facilities</td>
<td>15,538</td>
<td>34,996</td>
<td>-19,458</td>
</tr>
<tr>
<td>Health Care Facilities</td>
<td>943</td>
<td>2,000</td>
<td>-1,057</td>
</tr>
<tr>
<td>Other*</td>
<td>1,362</td>
<td>0</td>
<td>1,362</td>
</tr>
<tr>
<td>Totals</td>
<td>376,905</td>
<td>561,230</td>
<td>-184,325</td>
</tr>
</tbody>
</table>

Source: Comprehensive Facilities Planning, Inc.

### RESIDENTIAL

The current amount of on-campus housing accounts for 18% of Full-Time Equivalent (FTE) students (662 beds for 3,659 FTE students). Because AUM intends to increase its international student population and capture more of AU traditional student overflow, it is assumed that this 18% will increase to between 20 and 25% of FTE students housed on-campus.

Also, the quality of housing ranges from the 1970-era West Courtyard doubles with about 157 assignable square feet (ASF) per bed to the recently built North Commons single/suite-style units with 198 ASF per bed. Although, the North Commons tower provides a greater amount of space per bed, current trends in on-campus residential construction suggest that 220 ASF per bed is a more appropriate guideline for new construction. This increase in space per bed reflects the rise of single-suite-style dormitories and other on-campus living arrangements designed to compete with larger off-campus options. This figure translates into approximately 325 gross square feet (GSF) per bed.

Given the two assumptions about the percentage of resident students and space per bed, AUM should provide between 488 and 776 new beds to provide for their housing needs at the enrollment goal of 8,000 HC students. AUM will need to build between 158,000 and 252,000 GSF to accommodate this projected range of new beds. The space needs required for these additional beds is described in Table 3 and Table 6.

### PARKING

Parking need has been estimated using information provided by Skipper Traffic and Transportation Engineers and using typical ratios for a largely commuter campus. Skipper demonstrated that...
current demand for parking spaces hovers at around 55% of existing supply. Parking ratios for typical commuter campuses are 0.32 spaces per FTE for faculty, staff and commuter students and 0.57 for resident students. Given these figures, current supply should accommodate enrollment growth to 8,000 HC without any need for additional spaces. In fact, some spaces, especially at the edge of campus could be lost without appreciable adverse impacts to the University. At present, many of these spaces are unused even at peak parking demand. Table 4 illustrates parking demand for the enrollment goal of 8,000 HC and an assumed level of resident students between 20 and 25% of FTE enrollment.

ATHLETIC & RECREATION FIELDS

Outdoor recreation facility needs were calculated by Sasaki using national standards developed by Gary L. Miller of the University of Michigan-Flint. Miller sampled existing university outdoor recreation use at hundreds of universities of various sizes and geographic regions. For universities in the southeast with enrollments ranging from 5,000 to 15,000 students, total recreation space ranges from 102 square feet to 120 square feet per student. So, an average of the various factors of 108 square feet per student was used to project future need at AUM. Field spaces for soccer, touch football, softball, etc. account for 60 percent of this standard. Court type areas account for 15 percent and another 25 percent is left for specialized athletic areas such as track and field, baseball, and varsity football. Currently, the University plans to build a new softball field at the corner of Senator Drive and AUM Drive. In addition to this field, the equivalent of an additional two soccer fields is recommended for a university of AUM’s projected enrollment, sports program and geographic location. Table 5 summarizes the

### Table 3. Residential Space Needs for 8,000 Headcount (5,750 FTE)

<table>
<thead>
<tr>
<th>Existing Housing</th>
<th>Beds</th>
<th>20% On Campus</th>
<th>25% On Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Commons</td>
<td>376</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Courtyard</td>
<td>286</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>662</strong></td>
<td><strong>1,150</strong></td>
<td><strong>1,438</strong></td>
</tr>
</tbody>
</table>

### Table 4. Parking Needs for 8,000 Headcount

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Existing FTE</th>
<th>20% On Campus</th>
<th>25% On Campus</th>
<th>Spaces per FTE</th>
<th>20% On Campus</th>
<th>25% On Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Staff</td>
<td>641</td>
<td>1,008</td>
<td>1,008</td>
<td>0.32</td>
<td>323</td>
<td>323</td>
</tr>
<tr>
<td>Resident Student</td>
<td>662</td>
<td>1,150</td>
<td>1,438</td>
<td>0.57</td>
<td>656</td>
<td>819</td>
</tr>
<tr>
<td>Commuter Student</td>
<td>2,997</td>
<td>4,600</td>
<td>4,313</td>
<td>0.32</td>
<td>1,472</td>
<td>1,380</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,300</strong></td>
<td><strong>6,758</strong></td>
<td><strong>6,758</strong></td>
<td><strong>0.37</strong></td>
<td><strong>2,450</strong></td>
<td><strong>2,522</strong></td>
</tr>
</tbody>
</table>

### Table 5. Outdoor Recreation Needs for 8,000 Headcount

<table>
<thead>
<tr>
<th>Field Type</th>
<th>Existing Area (SF)</th>
<th>Area (SF) / Student</th>
<th>Existing Need (SF)</th>
<th>Need at 8,000 HC (SF)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation Fields</td>
<td>420,218</td>
<td>65.02</td>
<td>333,162</td>
<td>520,160</td>
<td>-99,942</td>
</tr>
<tr>
<td>Hard courts</td>
<td>61,490</td>
<td>16.26</td>
<td>83,291</td>
<td>130,040</td>
<td>-68,550</td>
</tr>
<tr>
<td>Varsity Fields</td>
<td>140,113</td>
<td>27.09</td>
<td>138,818</td>
<td>216,733</td>
<td>-76,620</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>621,822</strong></td>
<td><strong>108.37</strong></td>
<td><strong>555,271</strong></td>
<td><strong>866,933</strong></td>
<td><strong>-245,112</strong></td>
</tr>
</tbody>
</table>
recommended outdoor recreation facilities for AUM to grow to 8,000 HC.

Currently, outdoor recreation fields are organized near the north entrance of campus next to the Physical Education building and bounded by Senator Drive to the east, AUM Drive to the north, and the gravel road following the edge of Oliver Creek and the wetlands to the west and south. They consist of one varsity baseball field for games, another baseball field for practice, a soccer field and ten tennis courts. For AUM to add any additional athletic fields, they will most likely need to expand into either the meadow or floodplain. While the meadow doesn’t suffer from occasional flooding, it is characterized by gently rolling hills that would need significant grading and is already used for Frisbee golf and visual enjoyment. On the other hand, the floodplain is nearly flat and could be a viable site for additional fields. Using the floodplain for athletic and recreation uses has precedence at other universities. While these fields are designed with periodic flooding in mind, they give added benefit to land which is currently not developable for academic expansion.

**STUDENT CENTER & DINING**

With the potential increase of a student population from outside Montgomery, on-campus amenities such as student and food services will need to be reexamined. Students currently make use of adjacent retail centers to find desirable dining options. With an influx of international students, many without cars, these adjacencies should be further examined. Shuttle buses and greater on-campus options should be explored.
### Table 6. Summary space needs for 8,000 headcount

<table>
<thead>
<tr>
<th>Program</th>
<th>Existing Space (ASF)</th>
<th>Space Need at 8,000 HC (ASF)</th>
<th>Space Need at 8,000 HC (GSF)</th>
<th>Estimated Additional Buildings / Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Space (Class, Lab, Office)*</td>
<td>210,000</td>
<td>291,000</td>
<td>-81,000</td>
<td>-116,000</td>
</tr>
<tr>
<td>Student Living/Learning (Library + Student Center)*</td>
<td>112,000</td>
<td>118,500</td>
<td>-61,500</td>
<td>-82,000</td>
</tr>
<tr>
<td>Athletic/Recreation (Gym + Pool)**</td>
<td>22,000</td>
<td>62,000</td>
<td>-40,000</td>
<td>-58,000</td>
</tr>
<tr>
<td>Residential Space @ 20% On-Campus</td>
<td>662 Beds</td>
<td>-106,000</td>
<td>-158,000</td>
<td>+4 @ 40,000 GSF</td>
</tr>
<tr>
<td>Residential Space @ 25% On-Campus</td>
<td>662 Beds</td>
<td>-169,000</td>
<td>-252,000</td>
<td>+6 @ 40,000 GSF</td>
</tr>
<tr>
<td>Athletic Fields***</td>
<td>622,000</td>
<td>867,000</td>
<td>867,000</td>
<td>+4 soccer fields @ 64,350 GSF</td>
</tr>
</tbody>
</table>

*Adapted from AUM Space Needs Assessment, Comprehensive Facilities Planning, Inc., 2007

**Program for new athletic and recreation center assumes 100,000 GSF for gymnasium, offices, other fitness rooms and 25,000 GSF for swimming pool based on comparable athletic centers.

***Does not include new softball field space

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**Floodplain Recreation Fields**
The fields at Merrimack College (top) and Plymouth State University (bottom) are designed to allow for flooding.
MASTER PLAN VISION

The master plan for Auburn University at Montgomery provides a vision for a vibrant and attractive campus environment. The vision builds upon the unique strengths of the campus and capitalizes on existing opportunities. It also provides a framework for addressing future growth and the evolution of academic goals and aspirations. The vision is guided by the goals developed in conjunction with the AUM master planning committee.

AUM’s strength lies in the value of its undeveloped land. The master plan promotes a philosophy of stewardship and encourages sustainable and responsible development that both preserves the natural aesthetic of the more pastoral areas of campus and enriches campus life. Therefore, the plan concentrates future development around the core of campus rather than expanding into natural habitat and recreation areas. It makes use of existing infrastructure investments and promotes a collegial environment, which is really an extension of the existing pedestrian environment established in the original plan and evident in the shaded campus core.

FRAMWORKS

The master plan is based on several functional and design frameworks. These collective frameworks form a comprehensive and coordinated vision for guiding incremental change on the campus. This section summarizes the frameworks of the master plan.

NATURAL SYSTEMS FRAMEWORK

The Natural Systems Framework provides connections between existing natural features and campus landscape spaces. It also concentrates academic expansion to the east, around existing academic and residential program. By doing so, it protects the existing hydrological system that drains into Oliver Creek and the woodlands to the west of the creek while simultaneously strengthening the existing collegial environment through pedestrian-scaled, compact development.

LANDSCAPE FRAMEWORK

The Landscape Framework links the surrounding natural systems with the more formal campus landscape spaces. The existing campus core, with its collection of mature trees is extended south to form a “south mall” and provide structure to new development. A series of east-west pedestrian routes are planned to stitch together the campus. At the drainage canal, extensive tree planting will provide a strong connection to the creek and woodlands. More formal tree planting along the new ceremonial entrance drive and the existing Housing Drive will transform both streets into pedestrian thoroughfares. A central grove of trees is planned at the terminus of the new entrance to tie together existing landscape and planned improvements with a new student center. The “Grove” is intended to be a shaded outdoor companion to the student center it abuts and will provide students with benches and Wi-Fi capacity, transforming the public experience for students, faculty, staff and visitors. The master plan also promotes increased campus tree planting to reduce heat island effect around buildings, provide shade to pedestrians and mitigate stormwater runoff.

CIRCULATION FRAMEWORK

The Circulation Framework enhances the pedestrian, bicycle and transit networks of the campus with the aim of providing increased campus accessibility. The Framework simplifies vehicular circulation and provides additional access points to alleviate traffic congestion. A series of roundabouts and road realignments make use of existing paved land while making road intersections and the main campus entrance easier to navigate. Future development is concentrated within a 10-minute walk circle to encourage pedestrian circulation. Also, parking options remain at the immediate periphery of the core and are linked to the campus core through a series of tree-lined pedestrian boulevards, encouraging campus users to “park once and walk.”
URBAN DESIGN FRAMEWORK

The Urban Design Framework guides building placement and placemaking in the master plan. The Framework provides a strategy for infill development, renovation and new program placement that forms a transformative whole. The Framework invests new buildings in areas that have greatest civic impact and can be coupled with planned landscape and infrastructure improvements. The recommendations of the Urban Design Framework are organized by campus districts as follows:

- **Existing Campus Core/North Quad** – the campus landscape that defines the area between Taylor Center and the Physical Education building is preserved for its mature trees. However, the rose garden is removed and replaced with benches and lawn to promote student use. Also, ground floor facades of existing buildings are planned for eventual renovation to coincide with internal renovations and promote a safer and more interactive environment within the academic core.

- **Student Center District** – the Taylor Center is transformed in the master plan through the addition of a new student building on axis with a rerouted main entrance drive. This new building would have independent HVAC systems to avoid further complications to the existing student center. Subject to further study, renovation of the existing student center may be possible on the first floor to carry library services, removing library space from the tower for office space and other campus-wide space moves while also establishing a “living/learning” hub at the heart of campus. A new outdoor space, the “Grove,” completes the transformation by creating a signature campus space for student meeting, studying, internet browsing, eating, and relaxing that ties into the natural systems on campus and the more formal campus landscapes as well.

- **Housing District** – Housing Drive is transformed from parking to a tree-lined pedestrian boulevard with new housing strengthening its edges. Additional housing is planned on an as need basis to further define the area around North Commons and create a pedestrian scaled environment, buffered from parking.

- **Campus Entrance District** – a new athletic and recreation center is planned for the corner of the new ceremonial entrance and AUM Drive. It will announce the campus entry in a dynamic way, projecting a transparent façade that displays the energy of people exercising and gathering to...
visitors and campus users. Also, the simplified entry will improve circulation and the double allée of tree plantings along the new Ceremonial Drive will form a strong entry sequence for campus users.

- South Quad – new academic buildings complete the south end of campus while preserving the existing tree and deck as a look-out across the new campus environment. An improved pedestrian network includes a bridge connecting the main north-south thoroughfare across the entire campus and tree plantings to line walkways.

- Athletics District – a new field-house, softball field, and tennis courts define the athletics district. Existing tennis courts will be relocated outside of the floodplain on unused parking.

- Floodplain – new passive recreation fields for intramural sports and general campus use will make use of undevelopable land. They will link into the existing athletics district and be designed to allow periodic flooding.

- Woodlands – new jogging trails will open up the woodlands for passive recreation and site seeing. These trails offer the potential, with further study and landscape design, to create a narrative along the paths of plant and animal/habitat discovery. The trails also tie into the larger campus network of paths and may be used for campus visitors such as the ROTC cadets that travel to AUM to run loops around the campus.

**DEVELOPMENT CAPACITY FRAMEWORK**

The master plan provides ample capacity to accommodate future academic, research and campus life facilities. An estimated 322,500 square feet of new academic, student life and athletic/recreation space is provided in the plan. Also, 715 new beds are indicated in the plan. The master plan proposes locations for known program elements including the new softball field and the athletics/recreation center.
This section describes the natural systems framework. The framework is comprised of the campus forest, wetlands, floodplain and meadow. It explains the importance of each of these components with regards to the nature of the campus environment and the master plan.

**CAMPUS FOREST**

The campus forest is acknowledged by the plan as a source of value for recreation and research but it also serves other natural systems. Trees aid in stormwater absorption, provide habitat, improve air quality, store and sequester carbon and provide shade. Trees occupy a significant portion of AUM, 236 acres or 47% of the entire campus.

**HABITATS**

While the size of the campus forest is conducive to supporting habitat, no record of existing habitat has been inventoried. Therefore, it is recommended that the University consider conducting an inventory of the forest habitat in conjunction with appropriate departments and expertise on the campus, distinguishing between interior versus peripheral habitats.

**CARBON SEQUESTRATION**

CityGreen, software developed by American Forests and the USDA Forest Service, was utilized to calculate the carbon sequestration potential of the campus forest. By absorbing carbon dioxide, a green house gas, from the atmosphere, the woodlands perform a vital environmental service. According to the CityGreen analysis, the campus woodlands sequester approximately 79 tonnes of CO2 annually. Also, an estimated 10,156 tonnes are stored in the forest biomass.
KUDZU

Kudzu, an invasive plant used from 1935 to the early 1950s in the southeastern United States to control soil erosion, is evident in some patches of the forest, especially along edges that receive ample sunlight, like the Oliver Creek area and the southern terminus of AUM Drive. Because the plant grows at such a fast rate, any evidence of it should be eliminated quickly. Kudzu can grow over trees at a rate of 12 inches per day and eventually block sunlight needed for photosynthesis to occur.

WETLANDS

The campus has one designated wetland according to the U.S. Geological Survey (USGS). It resides between the baseball and soccer field to the north of the tennis courts. In addition to this recognized wetland, the “Duck Pond,” is located to the north of the Senator Drive parking lot. The USGS wetland is a known habitat for water moccasin. The wetland drains into Oliver Creek during storms.

FLOODPLAIN

The floodplain is both an amenity and a source of concern. It provides a service to the University and to its neighbors to the south by absorbing stormwater runoff during flood events. The floodplain extends from the forest to the edge of existing academic buildings. Its low lying terrain fills with water during storms. However, the creek basin needs to be cleared of debris to reduce extensive flooding and the campus facilities department expends a great deal of energy regularly mowing these fields.

MEADOW

The meadow defines the southern portion of campus and is one of the first things one notices as they enter AUM. A Frisbee golf course is stationed in the meadow but otherwise, it is preserved from development. The 1969 master plan had envisioned the meadow full of buildings and parking. Today, the meadow provides a pastoral quality to the campus.

RECOMMENDATIONS

- Contain Sprawl – concentrate academic expansion to the east, around existing academic and residential program
- Preserve Creek and Floodplain – protect the existing hydrological system that drains into Oliver Creek
- Plant trees along the east-west drainage canal – link canal to woodlands and rest of campus, providing a connection between the existing natural features and the campus landscape spaces it borders
- Preserve Meadow – protect an iconic landscape and simultaneously strengthen the existing collegial environment through compact development of a pedestrian scale
- Clear Oliver Creek bed of debris to allow quicker flow of water and to reduce flooding
- Only mow sections of the floodplain to project a more “natural” appearance and reduce energy expenditures

Woodland System next to West Courtyard Housing

Trees and paths will transform canal system

Extensive mowing of floodplain should be curtailed
Open Spaces
1. North Quad
2. South Quad
3. The Canal
4. Athletic/Rec. Fields

Connectors
5. Housing Walk
6. Ceremonial Mall
7. AUM Walk
8. Oliver Drive
9. Campus Trails

Plazas
10. The Grove
11. Tower Plaza
12. Taylor Square

Landscape Framework
LANDSCAPE FRAMEWORK

The landscape framework describes the important open spaces across campus. These spaces include the North Quad, the South Quad, the Canal, and the Athletic and Recreation Fields. Linking these various open spaces are significant connectors: Housing Walk, Ceremonial Mall, AUM Walk, Oliver Drive and the Campus Trails. Part of the landscape framework also includes plazas like The Grove, Tower Plaza and Taylor Square. These spaces function as more intense places of congregation and community interaction.

PRINCIPLES

The following principles guided the development of the landscape framework:

- The landscape framework should help connect the university and strengthen its collegial atmosphere
- The landscape framework can be used for wayfinding and to project a more inviting/appealing campus image
- With regards to trees, the framework should:
  - Help define pedestrian ways
  - Provide appreciated shade
  - Decrease heat island effect around buildings
  - Buffer from traffic along Taylor Road
  - Increase indigenous species

OPEN SPACES

The master plan maintains and enhances the existing open spaces and proposes new open spaces in keeping with the most successful aspects of AUM’s landscape.

NORTH QUAD

The North Quad includes some of the most mature campus trees. Transplanted from the Woodlands, these trees provide shade to pathways and create a pleasant environment for campus users. No change within this area is suggested except the removal of the existing rose garden, which detracts from the space because it is better suited to a smaller venue than the terminus of a large lawn. Therefore, the rose garden is removed from the master plan and replaced by simple lawn and seating area.

SOUTH QUAD

The proposed redevelopment of the landscape south of the Taylor Center includes the continuation of a quadrangle configuration of academic buildings with shaded trees and pathways. New tree-lined pedestrian ways define the east and west sides of the space with a few large specimen trees enjoying focal points within the landscape. Moore Hall’s tree with its lookout deck is preserved and retains views both north across the quad and to the southeast across the meadows. This tree forms a node for gathering in the South Quad.
THE CANAL

What is currently described as “The Ditch” by campus users has been transformed by the master plan as “The Canal,” a tree-lined course tying together each side of the campus through added pedestrian circulation along its edges. This circulation connects the canal to a larger network of trails for walkers/joggers and extends the woodland system into the heart of campus.

ATHLETIC AND RECREATION FIELDS

The athletic fields to the north of the Physical Education building remain with the addition of a women’s softball field and field-house. Also, the tennis courts will move from the floodplain to a more suitable site, the underutilized parking area along Senator Drive across from the soccer field. Two additional recreation fields will be added for intramural play in the floodplain. These fields will be designed to withstand periodic flooding.

CONNECTORS

Several landscape and pedestrian circulation connectors are proposed in the master plan.

HOUSING WALK

Housing Walk represents the proposed elimination of parking along Housing Drive to create a tree-lined, intimate, residential street. It continues to the west through the stand of trees into the North Quad. It then links these spaces with the recreation fields in the floodplain and eventually ties into the campus trail network. It is one of the main east-west connectors.

CEREMONIAL MALL

Ceremonial Mall is defined by the double allée of trees along Ceremonial Drive. It is the main east-west landscape connector that brings people from their cars to the heart of the campus and The Grove.
PLAZAS

The master plan preserves and enhances existing plaza space while proposing dynamic new spaces to bring the campus community together.

THE GROVE

At the intersection between natural systems, quads and the main arrival sequence is The Grove. Feeding into both the drainage canal plantings and the existing stand of trees that resides between the West Courtyard houses and the academic buildings, The Grove would connect the two key natural system zones of campus to what might be termed the “formal” campus landscape, or the zone of campus quads and public spaces. The Grove is envisioned as a gridded arrangement of trees with outdoor seating, studying and congregation spaces. Its location at the terminus of the campus entryway and flowing from the student center give it a very prominent position. It stitches together the natural landscape with the campus structure, circulation and arrival sequence.

TOWER PLAZA

Tower Plaza is a small plaza at the base of the library tower with tables and benches. The plaza is exposed to the hot sun and has dark colored paving, which absorbs and then radiates heat more intensely than light colored pavements. The master plan addresses these heat island effects by introducing shade through tree plantings.

TAYLOR SQUARE

Taylor Square is the small plaza on the ground floor of the Taylor Center, hidden from most people through the elevation change that brings people to the second floor of Taylor Center to enter from the west side. It is fairly secluded and presents a fine place to read. If the first floor of the Taylor Center was renovated for library use, more study would need to be conducted to determine how this space would relate. For now, it offers a quiet place to meet people or eat outside.

AUM WALK

The main north-south pedestrian route on campus is defined by rows of trees, building edges and quadrangle lawns. A new pedestrian bridge links the course across The Canal and connects the mature trees of the North Quad to the South Quad and its lookout deck.

OLIVER DRIVE

Oliver Drive invigorates the edge of the floodplain with an undulating line of trees with breaks to provide vistas from within the campus out across the fields. It ties into the bicycle and trail network of the campus.

CAMPUS TRAILS

The Campus Trails connect the Woodlands as an amenity for the whole campus community to enjoy. The trails weave through the existing campus, the meadow, the floodplain and the woodlands, giving walkers or joggers a full picture of the campus and all of its landscape features. In time, the trails will also be a resource for education, after appropriate habitat research and landscape design have been conducted.
Existing Circulation Issues

- Taylor Road
- AUM Drive
- Brown Springs Road
- Oliver Drive
- East Drive
- Senator Drive
- Housing Drive

Campus Access
- Entrance
- Primary Road
- Service Road
- Gravel Road
- Pedestrian Way
- MATS bus stop
CIRCULATION FRAMEWORK

This section describes the vision for access and circulation on the AUM campus and offers more detailed guidance with regard to pedestrian, bicycle, transit, vehicular and parking improvements.

ISSUES

The following existing issues are addressed by the master plan:

- Pedestrian network – improve legibility and wayfinding
- Define pedestrian ways
  - Routes from parking to class
  - Gateways
  - Routes to Pecan Tree or other scenic areas
- Bicycle and trail network needed
- Montgomery Area Transit System stop on campus is near Nursing and is exposed to the elements
- Unified signage is needed
- Improve arrival sequence to campus & overall access
  - Traffic – University roads are being used by outsiders to cut-through campus to other locations
  - Intersection of AUM Drive and Oliver Drive presents safety concerns – accidents have occurred
- Loop Road was planned but has potential to increase cut-through traffic and will present continued maintenance issues
- Parking
  - Sea of parking disconnects users from campus life
  - Currently free [an uncommon situation]
  - Supply is adequate, however inconvenient to some
  - 6:00 PM turnover of day to night students along with non-AUM drivers leaving work causes traffic problems

TRANSPORTATION RELATED GREEN HOUSE GAS EMISSIONS

The high level green house gas inventory conducted for the master planning process indicated that transportation sources contribute to approximately 58 percent of the University’s total carbon dioxide equivalent (eCO2) emissions. Although this figure is high, it is perhaps only a reflection of the nature of the school; AUM has a large commuter population. The fact that the University is targeting foreign students may be an indication that this figure will decrease because more students would ostensibly live on campus. However, a more detailed green house gas inventory may actually yield a higher transportation related contribution to total emissions as more data on student addresses, commuting distances, trips and vehicle types are collected.
PEDESTRIAN NETWORK

A goal of the master plan is to build upon the existing pedestrianized area within the academic core, preserving and extending a Pedestrian Priority Zone. Emphasis is placed on pedestrian safety through restricting automobile use within the campus quads to service vehicles only and removing bicycle access to the edge of the quads as well. Pathways will link public spaces and be designed in conjunction with landscape improvements to create shaded walks for campus users. Beyond the academic core, traffic calming devices will be employed to further protect pedestrians. Specific improvements to the pedestrian network include:

NORTH-SOUTH ROUTES

- Oliver Creek Trail – a new section of the trail network will run along the edge of Oliver Creek. During dry periods, pedestrians will be able to enjoy walking or running along the creek’s edge.
- Oliver Road – the limited access service road will double for a new bicycle and pedestrian route with tree plantings and intramural athletic fields in the floodplain.
- AUM Walk – the shaded experience of the North Quad will be extended south with tree plantings that will line this main north-south walk. A pedestrian bridge will be built at the canal to allow unbroken access along the entire length of AUM Walk.
- Grove Trail – a trail will link The Grove to benches within the existing stand of trees and housing to the north.
- North Commons Walk – in conjunction with improvements to Housing Drive, a new pedestrian...
**North Commons Walk**
The new Recreation Center is tied to proposed housing and the North Commons tower through a new pedestrian oriented street.

**Housing Walk**
Housing Walk is one of the main east-west campus connectors, lying into existing paths through the academic core and eventually linking to the woodlands through the new trail network. Housing Walk is part of the renovations to Housing Drive, which gives pedestrians priority and uses different pavement to signify the pedestrianized zone.
Plan and Section through Ceremonial Drive and new Athletic and Recreation Center

Dedicated pedestrian paths from parking to class are established through the new Ceremonial Mall.

Pedestrian Priority Zone

Pedestrians are given priority over automobiles along Ceremonial Drive through the use of raised speed tables at important pedestrian crossings. Service vehicles may still access Taylor Center loading docks and turnaround but only by crossing a raised pedestrian priority zone. All other vehicles are prohibited.
way will connect the North Commons tower with the planned Athletics and Recreation Center and through the building’s atrium, parking.

**EAST-WEST ROUTES**

- Housing Walk – a new pedestrian way will be established on former parking and will tie into an existing east-west path into the heart of the North Quad. This extended path also continues west to the gravel road adjacent the current trailers (which will be removed and replaced with intramural fields) and connects to the trail network into the woodlands.

- Ceremonial Mall – a pedestrian mall will be established the length of Ceremonial Drive to facilitate pedestrian movement from the parking bays to the heart of the campus. It will have a continuous allée of trees to provide shade and definition to the main entrance path.

- Canal Walk – walking/jogging trails will extend along the edge of the drainage canal, forming an east-west connection from the eastern edge of campus to Oliver Creek and the Woodlands beyond. The canal will be planted with trees and will provide a scenic route for walkers/joggers.

**TRAIL NETWORK**

A new trail network will open the Woodlands District of campus to the community. Walkers, joggers, and researchers will be able to readily access the forest. ROTC cadets will be able to run along the trails and avoid conflicts with vehicles along AUM Drive. After plant and habitat research has been conducted, an interpretive walk with markers, seating areas and other outdoor program can be developed along the trail network with the guidance of a landscape architect. The historic pecan tree should have a marker and should have investment made in its upkeep.

**TRAFFIC CALMING**

A variety of traffic calming strategies are proposed to provide safer pedestrian crossings along campus roads like Ceremonial Drive, Housing Drive, East Drive, Oliver Road, and Senator Drive:

- Raised pedestrian tables
- Narrowed road sections at crossing points
- Limited access roads
- Different paving materials
BICYCLE NETWORK
Bicycle travel to AUM is possible but not currently easy or safe. Therefore, the master plan establishes a bicycle network with dedicated lanes along AUM Drive, Senator Drive, East Drive and Oliver Road, the service road adjacent the floodplain. Bicycle racks are provided along Oliver Road at convenient locations while the interior academic quads remain pedestrian-only zones.

TRANSIT NETWORK
The Montgomery Area Transit System (MATS) serves the AUM community with bus route number one. The current waiting area is exposed to the elements, however, and has no posted schedule. Also, limited choices exist for resident students to easily access grocery stores without the use of an automobile. As the University expands its demographic base to an increased international presence on campus, the lack of accessibility could pose problems for students.

The master plan addresses these issues by providing a better transit gateway to the campus and increasing access to local food choices for resident students. It relocates the bus waiting area to the new student center, providing both shelter and a posted schedule and making this new building the transit hub and gateway into campus. As the student population does change, the master plan recommends establishing a local shuttle to area amenities or adding Zip-Cars to the campus. A Zip-Car, or shared automobile, could alleviate the pressure of purchasing a private car from students while providing access to amenities.
Ceremonial Drive Entrance

The new proposed main entrance to AUM simplifies vehicular traffic by moving the AUM Drive intersection away from Taylor Road and introducing a roundabout. The entry sign is moved to the center of the roundabout and replaced with a sign that is grounded and part of a unified signage and way finding plan for the University.

RECOMMENDATIONS

• Encourage alternative modes of transportation
• Create attractive bus stop, relocating it to student center, providing shelter and posting a schedule
• Increase access to local amenities through the use of a campus shuttle or Zip-Cars (further study required to determine course that best suites evolving student needs)

VEHICULAR CIRCULATION

ISSUES

The main entrance to campus from Taylor Road is the most burdened by traffic. East Drive and AUM Drive is the most heavily traversed intersection by campus users as well as motorists seeking to cut through campus on their way elsewhere. Campus commuters (faculty, staff and students) currently access AUM through three points, in order of use:

1. Taylor Road onto East Drive [64%]
2. Brown Springs Road onto AUM Drive [22%]
3. Oliver Road onto AUM Drive [14%]

However, this data only includes actual campus users. What is more difficult to assess is how many people use AUM’s roads to traverse the campus on their way to another destination. Currently, a great deal of cut-through traffic exists from drivers using AUM Drive to either avoid traffic along Atlanta Highway, get to I-85, or cut through campus on their way to the Post Office located on Brown Springs Road. Skipper Traffic and Transportation Engineers (Skipper) studied this phenomenon and counted more than 495 right turns at the Taylor Road entrance to campus in a one-hour period. By anecdotal observations, about 90% of people observed using the Taylor Road intersection were not AUM students.

RECOMMENDATIONS

Several improvements are proposed to the campus road network to create a Pedestrian Priority Zone, resolve pedestrian / vehicular conflicts, improve the arrival sequence and mitigate traffic along AUM Drive. Improvements include:

• Creation of Ceremonial Drive as a main entrance to campus from Taylor Road for first time visitors
• Raised pedestrian tables and curb cuts along Ceremonial Drive to slow traffic and facilitate pedestrian crossing
• T-intersection of AUM Drive at intersection of loop road with Oliver Drive to address safety concerns
• Introduction of roundabouts at intersection of AUM Drive with Brown Springs Road, Senator Drive, and Ceremonial Drive to facilitate the flow of traffic along AUM Drive
• Creation of right-in, right-out access points north and south of the main entrance from Taylor Road to decrease traffic along AUM Drive, particularly from outsiders cutting-through campus. One access point would be from Amridge University entrance, provided they agree, and another would be north of the water tower and would probably have the most impact on traffic alleviation.
• Limiting access to Oliver Road, the portion of East Drive past the South Quad and the Taylor Center loading docks and turnaround to service vehicles only to encourage a walking environment within the campus core
• Adopting unified signage
• Removing entry obelisk in favor of a more grounded sign to improve visibility at entrance
• Scheduling night classes to begin half an hour later to minimize turnover traffic and conflict with outsiders cutting through campus
PARKING

ISSUES

Existing parking supply is sufficient not only for AUM’s current population but also for its anticipated growth to 8,000 HC and 25% resident students (based on FTE enrollment of 5,750). As observed by Skipper, at current peak parking demand, more than 1,260 spaces were empty. The main entry parking area was only 56% filled at this time. In the projected growth scenario, AUM’s existing 2,739 parking spaces outweighs its 2,522 need by 217 spaces. Therefore, AUM has the capacity to remove parking while still accommodating growth.

The existing distribution of parking across campus is also good, with less than a 5-minute walk from parking to any academic building. The problem with existing parking isn’t the amount of available spaces or their distribution but rather the experience of leaving or returning to the car. Existing parking is in surface lots without trees, for the most part, or clear, pedestrian ways. Anecdotally, students are observed waiting in their air-conditioned cars before heading directly to class. This behavior may indicate that suitable student space is also lacking.

GUIDANCE

The master plan utilizes unused parking lots as future development sites. The growth scenario figures legitimize the use of underutilized parking bays for future building sites or landscape improvements, such as swales or tree-lined pedestrian paths. The master plan replaces displaced parking due to future construction within the district that parking was lost, whenever possible.

Because some new construction projects, such as the Recreation Center, may bring added people to campus, the master plan also indicates how the University will accommodate further parking needs.

Parking is phased to expand on an as-need basis in the main parking area between Ceremonial Drive and East Drive. It will grow by bending East Drive at its southeast corner until it meets AUM Drive at a perpendicular angle. At full build-out, the master plan provides 2,800 parking spaces.

The master plan advocates a parking policy shift that will increase revenue for parking maintenance and increase safety through a permitting process that requires every campus user to register their vehicle and pay for a parking permit. The plan defines areas for staff, resident and commuter student parking (along with visitor, handicap and service spaces). The master plan places priority for available parking near academic buildings first to faculty, staff and commuters recognizing their needs over the convenience of residents, who can walk. Resident students live well within the core academic area of a 5-minute walk to class and are not permitted to drive their cars to class. Proposed housing sites are also located within this close walking circle.

The key difference between the existing parking and the proposed parking is the quality of pedestrian spaces linking parking to academic buildings. Increased landscape interventions will provide pleasant pedestrian routes to the academic core and reduce continuous surface lot coverage to aid in stormwater management. Swales, trees and other landscape improvements will slow stormwater runoff into the Oliver Creek system.

RECOMMENDATIONS

- Utilize unused parking for future academic development
- Phase parking supply to provide for any unforeseen future demand
- Institute a parking permit system to support maintenance and promote safety

Proposed Circulation

The proposed circulation system introduces bicycle and trail networks throughout the campus, creates a sheltered hub for the MATS bus stop, extends the pedestrian network, simplifies vehicular circulation and supplies parking for enrollment growth as well as increased parking demand from added program, such as the recreation center.
This section describes the urban design vision for the AUM campus and offers more detailed guidance with regard to building and landscape improvements. The design recommendations are divided into eight campus districts to more specifically address the particular concerns of each area. The districts are:

1. Existing Campus Core/North Quad
2. Student Center District
3. Housing District
4. Campus Entrance District
5. South Quad
6. Athletics District
7. Floodplain
8. Woodlands

**EXISTING CAMPUS CORE/NORTH QUAD**

The North Quad district is framed by academic buildings on each side. It is at the heart of academic and social interaction and a crossroads of pedestrian movement. It extends north from Taylor Center, Goodwyn Hall and the arcade connecting them to the Physical Education building. Clement Hall forms the eastern edge of the district, with a small grove of trees further east, while the Education and Liberal Arts buildings define the western edge, with the floodplain further west. The interior landscape of the district is defined by its collection of mature trees, which were transplanted from the Woodlands district, and further defined by a gentle northward slope to the Physical Education building.
NORTH QUAD DESIGN GUIDANCE

The master plan acknowledges the significance of this space, especially in regards to its successful tree plantings and compact development. It is a pleasant space for pedestrians because of the ample shade. The master plan extends the type of tree planting found in this district elsewhere. It also imitates the pattern of compact development through advocating infill development to define new campus spaces like the North Quad.

The master plan also recognizes the importance of the actual buildings found within this district which form the academic core and project a unique physical quality indicative of the time in which they were built. The master plan preserves most of the aspects of these buildings as a matter of historical record and existing financial investment. However, it recommends renovations to ground floor facades to open the buildings to the public and enliven the academic heart of the campus. Ground floor façade improvements should be planned as part of a larger strategy of building renovations to make the best use of financial resources. Renovations, such as improving internal circulation or updating academic/research facilities, should be considered on an as-need basis or as part of a larger plan of space moves to consolidate and/or expand programs.

In order to project a unified image, the master plan calls for the removal of the existing rose garden from the apex of the North Quad. As people enter this area of campus, the rose garden interferes with pedestrian movement and is difficult to maintain. By replacing this feature with lawn and seating area, the space can become a natural extension of the Taylor Center.

NORTH QUAD DISTRICT RECOMMENDATIONS

- Renovate ground floor facades of buildings to enliven the public realm
- Combine façade improvements with internal building renovations
- Remove rose garden and replace with lawn and seating
already experienced past additions, by attaching to the building via an atrium space and maintaining its own, independent HVAC system. The atrium will offer pedestrians a new route into campus and is envisioned as the social hub and “living room” of the university. The new space will highlight the importance of AUM’s students to campus users and visitors.

Subject to further study, renovation of the existing student center may be possible on the first floor to carry library services. By removing library services from the tower, an efficient floor plan for library use, a more suitable use could be found for the tower. Office space could occupy the tower more efficiently and campus-wide space moves could then be implemented by using the tower or vacated office space for “swing” space. The renovated first floor of Taylor Center would be more convenient for library use because less vertical travel would be needed. Also, a “living/learning” hub would be established at the heart of campus. The existing bookstore, which occupies the first floor, could move to the second floor of the student center to be near other complimentary retail such as dining. A more detailed study would need to be conducted to determine the financial needs and implementation scenarios of this complicated but promising suggestion.

In addition to potentially renovating the first floor of Taylor Center, other spaces within the building could be improved to simplify circulation and provide better dining options. If a more international student population is desired, greater variety of food choices should be provided. Also, dining facilities should remain open later for commuter students to use. Even a limited selection of food choices could extend the time commuter students choose to stay on campus.

Borrowing the vocabulary expressed by the existing grove of trees and reinterpreting it, the plan creates a signature outdoor space. “The Grove,” as it is called, is envisioned to occupy a special place on campus as both a connector of natural systems, an

STUDENT CENTER DISTRICT

The Taylor Center is one of the first buildings people approach as they enter campus. It is positioned at the intersection of academic and residential uses and serves the campus community as both the student center and the dining center as well. The Student Center District extends from the student center to the Library Tower to the west, East Drive to the south and West Courtyard housing to the east. A grove of trees buffers the student center from the West Courtyard buildings. Aside from these mature trees, the district is otherwise defined by recently planted trees, lawn, service roads and loading docks. Pedestrians pass by the student center loading docks as they enter the academic realm from the main parking area. The site slopes downward from the east to the west.

STUDENT CENTER DISTRICT GUIDANCE

The master plan transforms the pedestrian experience around the student center and gives people a grand new entryway into the campus. Instead of loading docks and service roads, a new building is envisioned. This student center addition will frame views from the new Ceremonial Drive and absorb the height differential across the site. It will also buffer undesirable uses, such as loading docks, from general pedestrian traffic. The small existing service road to the Taylor Center loop/tunaround and east loading dock will remain open to service vehicles but the pavement will be a raised pedestrian surface that is inaccessible to common vehicles. The new addition will avoid taxing the existing HVAC system of Taylor Center, which has

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extension of the student center and a new focal point to campus users. The Grove will connect the existing stand of trees buffering West Courtyard housing from academic buildings to the natural canal system that drains into Oliver Creek to the south. It will also connect to and serve as an outdoor expression of the student center by giving people an outdoor venue for eating, studying and congregating through the addition of benches, tables and Wi-Fi capacity. Near the terminus of the new Ceremonial Drive, it will offer people an inviting entrance to campus.

The pedestrian network is further strengthened along AUM Walk, the main north-south pedestrian spine of the campus, through additional tree plantings.

STUDENT CENTER DISTRICT RECOMMENDATIONS

- Construct student center addition (84,500 g.s.f.) on axis with Ceremonial Drive
- Plant trees (or transplant them from the Woodlands) to create “The Grove,” a signature outdoor space
- Couple outdoor space with student center
- Establish a pedestrian zone around the student center, restricting traffic along service road to service vehicles only
- Study viability of renovating first floor of Taylor Center to house library and establish a “living-learning” center
- Coordinate student center renovations with improved dining options

Student Center Addition and The Grove

The Grove will function in partnership with the new student center addition. It will establish an outdoor meeting area to compliment the indoor functions of the student center addition.
**HOUSING DISTRICT**

The Housing District includes the existing West Courtyard buildings and the North Commons tower. It stretches from the stand of trees separating the West Courtyard houses from the North Quad east to AUM Drive and from Housing Drive to the North Commons tower. Existing housing and Housing Drive are both defined with parking. Pedestrian ways are exposed and few memorable outdoor spaces exist except for two: the easternmost lawn with its large tree is often used for passive recreation and the existing stand of trees between West Courtyard and North Quad has a few trails and seating areas.

**HOUSING DISTRICT GUIDANCE**

The master plan addresses the Housing District environment and its existing housing. A goal of the master plan is to improve the condition of existing housing to compete with other schools and local housing options. The North Commons tower is relatively new and in good condition. However, the West Courtyard housing is reaching lifecycle limits and should replace HVAC systems, roofs and the steam system [see Krebs report]. Given the renovation needs of these houses, further study should determine financial feasibility of continued operation and maintenance costs versus new construction options.

Part of improving first impressions of the campus is to encourage a pedestrian friendly environment. The master plan transforms the Housing District by investing in Housing Drive improvements. Unneeded surface parking is removed from Housing Drive and tree plantings and improved sidewalks will connect the street to the heart of the academic core and establish a major east-west pedestrian way.

**Housing District**

New housing will be built incrementally, as needed, forming new communities and also stitching together the North Commons and West Courtyard Housing communities as well.
To complete this transformation, new housing will frame the boulevard. The new housing will be built in the single room/suite configuration and will provide amenities such as game rooms and a meal plan to attract students. Additional housing is shown in the plan connecting Housing Drive with the North Commons tower and buffering the pedestrian environment from parking. It will form an edge, along with tree plantings, to a north-south pedestrian way linking the North Commons circle with a new recreation center to the south. The new housing will meet demand from increased enrollment by being arranged in a modular configuration so it can be added on an as-need basis.

**HOUSING DISTRICT RECOMMENDATIONS**

- Increase/improve housing options to meet enrollment goal needs
- New housing should be in the single rooms/suite configuration
- Provide amenities to housing
- Build in a modular arrangement to accommodate growth on as-need basis

**Housing Drive**

Housing Drive/Housing Walk is seen as a residential street and an outdoor space with priority given to pedestrians over automobiles. Buildings and trees face the street to create a neighborhood feel and encourage a sense of community.
CAMPUS ENTRANCE DISTRICT

The Campus Entrance District includes the entrance from Taylor Drive and stretches westward to the Student Center District. It includes all of the main parking lot and extends south to the canal that drains into Oliver Creek. It is defined by a gentle slope that drains stormwater runoff from the parking lot into the canal. It is also characterized by the curving East Drive.

CAMPUS ENTRANCE DISTRICT GUIDANCE

The current entrance into AUM from Taylor Road is circuitous. The master plan simplifies this procession by straightening the entry road and planting trees to establish a strong linear relationship with the existing library tower and the planned student center expansion building. The new road will make use of existing paved land and will give the main parking area a logical pedestrian route into campus. The double allée of tree plantings along the new Ceremonial Drive will form a strong and pleasing entry sequence for campus users.

The plan announces the main entrance through the construction of a dynamic, new building, the athletic and recreation facility. This new building will have a transparent façade at the entrance to display the energy of people exercising and gathering to visitors and campus users. It will enliven the entrance and provide an amenity to the campus and potentially the community as well.

Stormwater runoff and heat island effects are addressed through rows of tree plantings and corresponding swales. Trees increase the absorption of stormwater and together with swales, will help slow stormwater runoff into the canal system, reducing strain on the natural systems. In addition, the trees will reduce the temperature of the surface parking. In hot climates, this benefit is particularly useful, not only to pedestrian comfort but also to reducing energy consumption related to building cooling. Large sheets of asphalt soak up sun rays and radiate heat back toward buildings, which then use more energy to cool down. Therefore, by providing shade, trees reduce energy costs.

CAMPUS ENTRANCE DISTRICT RECOMMENDATIONS

- Announce entrance by building new athletic and recreation center at corner of AUM Drive and new Ceremonial Drive
- Simplify entry road and create strong axis with new student center atrium and library tower at terminus
- Form pedestrian mall with tree plantings to connect new parking to campus core
- Plant rows of trees along new swales in main parking lot to reduce heat island effect and mitigate stormwater runoff

Campus Entrance District

A simplified entrance and a new Ceremonial Drive that aligns with the Library Tower and the new student center addition defines the campus entry. A pedestrian mall directs people from their cars into the campus. New swales and trees slow stormwater runoff and decrease the heat island effect. A new Athletic and Recreation Center will announce the entry.
Perspective View of Campus Entrance
The new campus entry will provide a more grounded sign. The new Athletic and Recreation Center will announce the entry and Ceremonial Drive will frame views of the library tower and a new student center addition, designed to be the “living room” of the campus.

Reduced Heat-Island Effect
Proposed trees and swales will diminish the heat-island effect and will also slow stormwater runoff.

Section Through new Recreation Center

Existing Heat Island

Effect of Tree Planting in Master Plan
**SOUTH QUAD**

The South Quad extends from the existing canal to the tree and deck to the south. It is defined by Moore Hall, which stands alone, separated from the campus by the canal. Pedestrian access is limited to one bridge that veers from AUM Walk, the main north-south pedestrian way.

**SOUTH QUAD DESIGN GUIDANCE**

The master plan completes the south end of campus by building new academic buildings in this district. It gathers a critical mass of people and forms a community space through the addition of these buildings. At the heart of this space, the existing tree and deck is preserved. From this vantage point, people will be able to view the campus quads to the north and the meadow to the southeast.

The pedestrian network is strengthened through the addition of a bridge that will connect AUM Walk, the main north-south thoroughfare, across the canal. The pedestrian ways will be lined with trees to provide shade and definition. Trees will also be planted along the canal itself as part of a larger landscape gesture to connect the canal with the woodlands and provide a scenic jogging path. The tree planting along the canal will open at the South Quad to maintain north-south views and visually link the two academic zones of the campus.

**SOUTH QUAD DISTRICT RECOMMENDATIONS**

- Build new academic buildings to frame the south quad (113,000 g.s.f.)
- Construct pedestrian bridge to link AUM Walk across canal
- Plant trees to line pedestrian ways and canal
- Preserve views from tree and deck of campus to north and meadow to southeast

New academic buildings form the edges of the South Quad and supply needed space for AUM to reach its enrollment goals. A new pedestrian bridge links the quad with the rest of the campus via AUM Walk.
ATHLETICS DISTRICT

The Athletics District begins at the Physical Education building and extends north to AUM Drive. It includes tennis courts, two baseball fields, a practice baseball field, batting cages and a soccer field. Several parking lots exist and two wetlands are also present. Because of the close proximity of Oliver Creek and its floodplain, the tennis courts routinely experience settling and shifting. Therefore, their present location presents the University with continued maintenance costs.

ATHLETICS DISTRICT GUIDANCE

The University has need for a women’s softball field and has identified donors to meet this need. The logical choice for this field is in the space adjacent to existing baseball fields at the corner of AUM Drive and Senator Drive. The University has already begun plans to initiate the project on this site. The master plan upholds this decision and indicates potential parking and a field-house between the new softball and existing soccer fields. The field-house will help serve the needs of the athletics program by providing offices and changing rooms, a significant need.

The master plan recognizes the potential of utilizing vacant parking as a substitute site for tennis courts that is outside of the floodplain. By moving the tennis courts outside of the floodplain, the University will avoid continued maintenance costs. The proposed site will have dedicated parking, removing a potential conflict between tennis users and commuters looking for parking spaces. The displaced parking was rarely used (see Skipper report) but additional parking bays have been added to existing lots to compensate for the loss, especially for athletic and other special events.

ATHLETICS DISTRICT RECOMMENDATIONS

- Construct softball field at corner of AUM Drive and Senator Drive
- Build field-house to provide need athletics space
- Relocate tennis courts from floodplain to unused parking area
- Increase available parking through adding bays in existing lots
FLOODPLAIN

The floodplain follows Oliver Creek from the south end of campus to the north end. It spills into the wooded areas of campus along drainage canals and extends to the west edge of AUM’s academic buildings following the line of a service road. The floodplain is a scenic area of campus and is not suitable for academic expansion due to the risk of continued flooding. Because of the service road and the inability to build on the land, it retains a “back-of-house” feel. Trailers and sheds have been located in the northeast corner of the floodplain, across from the Education and Liberal Arts buildings. These trailers are in disrepair and project a poor image.

FLOODPLAIN GUIDANCE

The master plan recognizes the value of the floodplain to the campus and the surrounding community. The floodplain helps absorb stormwater runoff and it projects a pastoral quality. The plan preserves this zone of campus and limits development within the floodplain. It removes the temporary structures from the floodplain, including all the trailers. The space removed from the floodplain is compensated for in new buildings elsewhere. However, because the University has a need for added intramural fields, the plan suggests two fields within the floodplain. Unlike hardcourts, these fields can be designed to flood without losing integrity. They will also preserve the quality of the floodplain while meeting a campus need.

Oliver Creek should be cleared of debris so it will flow quicker and reduce flooding. Funding for cleaning Oliver Creek could be available from the City of Montgomery. Such a task should be coupled with Kudzu removal along the edge of the creek and woodlands.

Tree plantings within the canal will help define zones of the floodplain, separating the new intramural fields from the more pastoral sections to the south. Trees will also line the edge of the existing service road. The plan restricts access along this road to service vehicles and bicycles and pedestrians. Pavement details and a better sense of enclosure from the trees will give priority to pedestrians and bicyclists. Selected breaks in the tree planting scheme will highlight vistas from the interior of campus and will tie into east-west pedestrian connections. The service road will become a section of the larger campus trail network, transforming this section of campus from the “back” to an active element of the social life at AUM.

FLOODPLAIN RECOMMENDATIONS

- Preserve floodplain for stormwater management
- Remove temporary structures from floodplain
- Add two intramural fields within the floodplain that can be flooded periodically
- Clear Oliver Creek of debris to allow quicker flow of stormwater and reduce flooding
- Plant trees within canal and along edge of service road to define pedestrian areas
WOODLANDS

The Woodlands cover the western half of campus, extending from Oliver Creek to the west edge of campus. The area provides habitat and is a source of untapped recreation and research opportunities. The southwest area of the Woodlands was used to provide fill for I-85. The scarring that occurred from this operation has begun to heal, however, with a new crop of trees beginning to cover the ground. The trees in the North Quad were transplanted from the Woodlands and highlight a potential continued practice to complete tree plantings across the campus with indigenous tree species. Kudzu is a problem for sections of the Woodlands, especially at edges.

WOODLANDS GUIDANCE

The master plan capitalizes on the untapped potential for the Woodlands to be enjoyed by the larger campus community. New trails will open the Woodlands for passive recreation and site seeing. A system of markers to highlight plant and animal habitat should be implemented once such knowledge is researched. For instance, a giant pecan tree that was once the largest of its kind in the state could be highlighted on the trail system.

The trails will serve as an extension of the larger campus network of paths and will tie together the Woodlands to the rest of the campus as an accessible amenity. These paths are intended for campus users as well as visitors, such as the ROTC cadets that travel to AUM to run circuits.

WOODLANDS RECOMMENDATIONS

- Define a series of trails for passive recreation and site seeing
- Establish a narrative for the paths and surrounding habitat through way finding and informational signs
- Tie trails into larger campus network for seamless integration
DEVELOPMENT CAPACITY FRAMEWORK

The master plan provides ample capacity to accommodate future academic, research and campus life facilities needs. An estimated 325,000 square feet of new academic, student life and athletic/recreation space is provided in the plan. Also, 725 new beds are indicated, adding another 236,000 sf of development capacity.

New development is concentrated around existing academic and residential uses on the eastern side of campus. By keeping future development from sprawling to the west side of campus, the University reduces infrastructure costs and promotes a pedestrian environment.

The following framework describes development capacity in the plan. Several precepts guided the estimated development capacity of the master plan:

- Forest, meadow, wetland and floodplain resources should be preserved by containing sprawl within the existing 10-minute walk from the center of campus (Taylor Center)
- Infill development/redevelopment should be a priority
- Compact and pedestrian-scaled development should be implemented
- Flexibility should be achieved in the framework to allow decision makers to adapt to unforeseen future needs

The master plan provides flexibility to decision makers by illustrating how individual building opportunities contribute to a larger design vision that builds community, fosters collaboration and preserves valuable natural resources. Within this framework, decision makers can choose buildings that contribute to the overall vision but also best serve particular needs. Closely related to this freedom of choice is the ability to phase aspects of the plan as needs arise. For instance, housing can be constructed incrementally as needed.

The following list of program elements describes the development capacity and corresponds to the adjoining map. Area is estimated in gross square feet. Actual area when built is dependent upon building efficiency, design and programming:

### ACADEMIC, ATHLETIC AND SOCIAL SPACE

1. Athletic and Recreation Center - 80,000 to 100,000 sf
2. Swimming Pool and Wellness Center - 25,000 to 38,000 sf
3. Field House - 5,900 sf
4. Student Center Addition - 67,600 sf
5. Academic - 45,300 sf
6. Academic - 68,200 sf

### STUDENT HOUSING

7. Phase 1 Housing - 69,300 sf (210 beds)
8. Phase 2 Housing - 49,500 sf (150 beds)
9. Phase 3 Housing - 61,300 sf (190 beds)
10. Phase 4 Housing - 31,350 sf (100 beds)
11. Phase 5 Housing - 24,900 sf (75 beds)

### CAMPUS SUPPORT

12. Main Parking - 1,030 spaces
13. South Quad Parking - 165 spaces
14. North Quad Parking - 500 spaces
15. Athletics Parking - 445 spaces
16. West Courtyard Parking - 200 spaces
17. North Commons Parking - 350 spaces
18. Tennis Parking - 80 spaces
19. Field House Parking - 30 spaces
Phase 1
Phase 1 groups together the most important and achievable projects.

Phase 2
Phase 2 addresses long term needs that the University may require.
PHASING

Although a detailed cost analysis of development projects by phase is outside the scope of this report, the master plan does recognize the relative level of importance of projects based on perceived need and the staging of future development (i.e., it considers which projects must be finished before others can commence). It weighs which projects have the most power to transform the campus environment. Also, the plan considers which building projects can be grouped with infrastructure and landscape improvement projects to make the best use of university financial resources.

From grouping landscape, circulation and building projects based on the aforementioned factors, two general phases emerged.

PHASE 1

The intention of Phase one is to transform the image of the University with projects that are viewed to be most important to the success of the plan:

- Build Athletic and Recreation Center in conjunction with entrance reconfiguration and Ceremonial Drive construction through existing parking
- Plant trees for The Grove (possibly transplant from the Woodlands)
- Study viability of space moves throughout campus as part of a larger renovation plan
- Create “living/learning” hub at Taylor Center through construction of student center addition.
- Build softball field
- Install roundabouts at traffic intersections
- Extend AUM Drive slightly to form a three-way stop at dangerous curve onto Oliver Drive
- Build right-in, right-out entrances off AUM Drive onto Taylor Road to alleviate traffic backup
- Reconfigure main parking lot if more parking spaces are needed - add swales and tree planting, directing people from the car to the campus core

PHASE 2

The second phase addresses long-term needs and maintenance issues:

- Relocate tennis courts outside of floodplain on unused parking
- Establish trail and bicycle networks
- Continue tree planting - extend planting into other parking lots and throughout the Canal
- Renovate Housing Drive to be a more pedestrian friendly environment
- Build two intramural fields in the floodplain
- On an as-needed basis, construct additional academic buildings, forming the South Quad, and student housing, stitching together the housing district
- Build pedestrian bridge across drainage way to Moore Hall on axis with main north-south pedestrian path

FUNDING

Implementation of the master plan is dependent upon funding. Money previously earmarked by ALDOT for the completion of the Loop Road would be better focused on the campus entrance improvements. As enrollment grows, building facilities and site improvements will be phased in response to demand and capital funding.

DESIGN REVIEW

To ensure responsible implementation of the master plan, it should be governed by a campus planning and design review committee comprised of university personnel, facilities management, and design professionals.
ENERGY USE

Using utility data compiled by the University for the past several years, Sasaki graphed the trends in energy consumption and compared them to rising costs of energy as it pertains to heating and cooling costs in buildings. It was concluded that the cost of campus energy use has risen by a million dollars in just three years. It cost the university $1.7 million in 2004 to heat and cool campus buildings while in 2007, it cost $2.6 million.

CONCLUSIONS

• Energy efficiency and conservation should be the first priority
• Energy use should be a consideration in building, campus and landscape design

EMISSIONS

Converting all emissions to eCO2 (Carbon Dioxide equivalents) Sasaki analyzed the emissions from vehicles (58%), electricity usage (33%) and natural gas usage (9%). Because AUM has a large number of commuters in its demographic makeup, it is not surprising that transportation related emissions are the highest source of green house gas emissions on campus. The second highest source comes from electricity. Because of the geographic region, coal is often used to generate electricity to run air conditioners during summer.

CITY GREEN ANALYSIS OF CAMPUS TREES

An analysis was conducted to evaluate the impact of AUM’s forest on a variety of environmental factors. Using City Green software, the study demonstrated the value of preserving AUM’s trees and containing sprawl:
Analysis Report
for
Auburn University at Montgomery

Land cover areas are in acres.

- Impervious Surfaces: Buildings/structures 18.2 3.7%
- Impervious Surfaces: Paved 57.2 11.5%
- Meadow (Continuous grass, generally mowed, not grazed) 181.7 36.6%
- Trees: Forest litter understory 236.0 47.5%
- Water Area 3.9 0.8%
- Total: 497.0 100.0%

Total Tree Canopy: 236.0 acres (47.5%)

Air Pollution Removal

By absorbing and filtering out nitrogen dioxide (NO2), sulfur dioxide (SO2), ozone (O3), carbon monoxide (CO), and particulate matter less than 10 microns (PM10) in their leaves, urban trees perform a vital air cleaning service that directly affects the well-being of urban dwellers. CITYgreen estimates the annual air pollution removal rate of trees within a defined study area for the pollutants listed below. To calculate the dollar value of these pollutants, economists use “externality” costs, or indirect costs borne by society such as rising health care expenditures and reduced tourism revenue. The actual externality costs used in CITYgreen of each air pollutant is set by the each state, Public Services Commission.

Nearest Air Quality Reference City: Atlanta

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Lbs. Removed/yr</th>
<th>Dollar Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide</td>
<td>631</td>
<td>$269</td>
</tr>
<tr>
<td>Ozone</td>
<td>9,677</td>
<td>$29,731</td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>2,525</td>
<td>$7,756</td>
</tr>
<tr>
<td>Particulate Matter</td>
<td>7,994</td>
<td>$16,398</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>1,683</td>
<td>$1,263</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>22,510</strong></td>
<td><strong>$55,417</strong></td>
</tr>
</tbody>
</table>

Carbon Storage and Sequestration

Trees remove carbon dioxide from the air through their leaves and store carbon in their biomass. Approximately half of a tree’s dry weight, in fact, is carbon. For this reason, large-scale tree planting projects are recognized as a legitimate tool in many national carbon-reduction programs. CITYgreen estimates the carbon storage capacity and carbon sequestration rates of trees within a defined study area.

Total Tons Stored: 10,155.70
Total Tons Sequestered (Annually): 79.06
Analysis Report
for
Auburn University at Montgomery

Stormwater

Trees decrease total stormwater volume helping cities to manage their stormwater and decrease detention costs. CITYgreen assesses how land cover, soil type, and precipitation affect stormwater runoff volume. It calculates the volume of runoff in a 2-year 24-hour storm event that would need to be contained by stormwater facilities if the trees were removed. This volume multiplied by local construction costs calculate the dollars saved by the tree canopy. CITYgreen uses the TR-55 model developed by the Natural Resource Conservation Service (NRCS) which is very effective in evaluating the effects of land cover/land use changes and conservation practices on stormwater runoff. The TR-55 calculations are based on curve number which is an index developed by the NRCS, to represent the potential for storm water runoff within a drainage area. Curve numbers range from 30 to 100. The higher the curve number the more runoff will occur. CITYgreen determines a curve number for the existing landcover conditions and generates a curve number for the conditions if the trees are removed and replaced with the user-defined replacement landcover specified in the CITYgreen Preferences. The change in curve number reflects the increase in the volume of stormwater runoff.

Water Quantity (Runoff)

2-yr, 24-hr Rainfall: 4.75 in.

<table>
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<tr>
<th>Description</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Curve Number reflecting existing conditions</td>
<td>68</td>
</tr>
<tr>
<td>Curve Number using default replacement landcover</td>
<td>84</td>
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<tr>
<td>Additional stormwater storage volume needed</td>
<td>2,415.549 cu. ft.</td>
</tr>
<tr>
<td>Construction cost per cu. ft.</td>
<td>$2.00</td>
</tr>
</tbody>
</table>

Total Stormwater Savings: $4,831,098

Annual costs based on payments over 20 years at 6% Interest: $421,197 per year

Water Quality (Contaminant Loading)

Cities must comply with Federal clean water regulations and develop plans to improve the quality of their streams and rivers. Trees filter surface water and prevent erosion, both of which maintain or improve water quality. Using values from the US Environmental Protection Agency (EPA) and Purdue University’s L-thia spreadsheet water quality model, American Forests developed the CITYgreen water quality model. This model estimates the change in the concentration of the pollutants in runoff during a typical storm event given the change in the land cover. This model estimates the Event Mean Concentrations of Nitrogen, Phosphorus, Suspended Solids, Zinc, Lead, Copper, Cadmium, Chromium, Chemical Oxygen Demand(COD), and Biological Oxygen Demand (BOD). Pollutant values are shown as a percentage of change.

Percent Change in Contaminant Loadings

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td>Biological Oxygen Demand</td>
<td>47.45</td>
</tr>
<tr>
<td>Cadmium</td>
<td>136.61</td>
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<tr>
<td>Chromium</td>
<td>210.94</td>
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<tr>
<td>Chemical Oxygen Demand</td>
<td>176.55</td>
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<tr>
<td>Copper</td>
<td>4.44</td>
</tr>
<tr>
<td>Lead</td>
<td>27.54</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>54.48</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>133.49</td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>180.03</td>
</tr>
<tr>
<td>Zinc</td>
<td>25.59</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY

2WR Holmes Wilkins Architects.  AUM Softball Field and Field-house design (2008).


Auburn University Montgomery Employee Survey (2007).


Auburn University Montgomery Strategic Plan, August 2007 [http://www.aum.edu/uploadedfiles/Strategic_Plan_AUM.pdf].

Auburn University Montgomery Student Survey (2007).

Center for Demographic Research , AUM.  AUM Image Study (2007).


Clean Air Cool Planet.  Campus Carbon Calculator [http://www.cleanair-coolplanet.org/toolkit/content/view/43/124/, 2007].


Office of Institutional Research, AUM.  AUM and AU: Their Relationship [http://www.aum.edu/uploadedfiles/aum_aupdf].


U.S. Census Bureau, 2002 Census of Population.

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