

# Facilities Master Plan



## Troy Campus

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Troy State University – Troy – Alabama

# FACILITIES MASTER PLAN

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# TROY STATE UNIVERSITY FACILITIES MASTER PLAN

## TECHNICAL REPORT

### Purpose of Master Plan

The Purpose of the Troy State University Facilities Master Plan is to delineate physical development guidelines for the University for an enrollment of 6,449 in the year 2007. The plan accomplishes this by establishing an overall framework for campus growth and development and phasing proposals suitable for the projected enrollment and time period. This will ensure comprehensive, coordinated long-term development that:

- ✓ Improves the quality of campus life;
- ✓ Simplifies and enhances campus organization;
- ✓ Establishes a unified, positive image;
- ✓ Guides the effective use of resources for campus growth and development; and
- ✓ Serves as a mechanism for guiding internal decisions and guiding future development opportunities.

Furthermore, the Facilities Master Plan is designed to support six of the nine Initiatives of the Troy State University Strategic Plan *Over the Horizon: Strong Values – Clear Vision* because implementation of Initiatives 1, 2, 5, 6, 8, and 9 will require consideration of additional facilities. These Initiatives follow:

### Initiative #1

Troy State University will increase the size of its campus enrollment to 7,000 students while providing quality “customer” service and using technology to increase the speed of delivery in all activities offered to students.

### Initiative #2

Troy State University – working with strategic partners to provide education, training, and technology learning options individually or in groups – will fully develop an educational and service relationship with schools, colleges, businesses, organizations, governments, and associations within its service area of southeast Alabama as well as within all of Alabama, the nation, and the world.

### **Initiative #5**

Troy State University will build continuing education and professional development programs to meet the needs of the life-long learner.

### **Initiative #6**

Troy State University will seek national accreditation for all of its academic programs that offer this standard of excellence.

### **Initiative #8**

Troy State University will have fuller utilization of its main campus as a dynamic living-learning environment through aesthetic enhancement of its facilities and grounds and through continued development of its athletic programs.

### **Initiative #9**

Troy State University will be known as a multi-dimensional university that effectively uses traditional higher educational methods in exciting combinations to make TSU the best value in higher education and the best place to live and learn in the South.

This Facilities Master Plan is an update to the comprehensive master planning effort undertaken by the University in 1995. Many exciting ideas are identified which have the potential to improve the campus for students, faculty and visitors. Implementation of this plan will be a milestone in University growth and development as well as an aid in the implementation of the Strategic Plan Over the Horizon: Strong Values – Clear Vision.

This Facilities Master Plan is an update to the comprehensive master planning effort undertaken by the University in 1995. In addition, University planning now considers the original ideas of the Olmstead designs for the campus as an effort to preserve and restore this history in future renovations and plans. As a result, many exciting ideas are identified which have the potential to improve the campus for students, faculty and visitors. Implementation of this plan will be a milestone in University growth and development.

### **Master Plan Process**

The Facility Master Plan was developed based on investigations that were conducted at several levels of detail. The planning process started with a broad view of the service area and regional setting and evolved to detailed evaluations and proposals for the Troy campus.

Existing campus conditions were inventoried and evaluated by assessing land asset development patterns and various construction systems and interrelationships of the systems. These evaluations identified problem areas and opportunities for resolving the problems. A broad development framework was established after examination of alternatives for each of the many systems that comprise the physical development of the campus. General principles regarding how the broad framework recommendations should be implemented to result in long term campus unity and cohesiveness were then developed. Alternatives for detailed recommendations were considered within the overall framework for campus development. During the process, planning documents were developed that provide the details for the Plan presented herein. An Inventory and Analysis Report and Projections report have been produced as an appendix to this document and is on file at the Troy State University Library. All findings and reports were presented and reviewed by the Strategic Planning Committee. This Committee made recommendations and adopted standards as used herein.

### **Master Plan Concepts**

This Facilities Master Plan uses a long-term flexible development planning approach rather than limiting the perspective to the short and moderate term needs of the campus. This allows the plan to address a series of broad topics and issues regarding space utilization and development options. As such, the plan does not begin by specifically addressing targets like enrollment and specific increases in space needs. It begins by focusing on total space use and functioning of systems that would improve existing conditions and provide long-term guidance for the campus. This approach allows the flexibility to make logical adjustments to the plan in the future. Adjustments to changing conditions, while maintaining the framework of systems and related design criteria, will encourage and support consistent development of the campus over a series of decades.

It is recognized that, because this master plan looks into the future to establish the conceptual framework for development, TSU may never achieve the level of development that is conceptually illustrated by the framework presented in this plan. However, the solid framework established by the plan will allow short-term growth and objectives to be confidently achieved within long term consistency leading to unified development of the campus.

The Troy State University Facilities Master Plan is presented in sections, discussing campus areas and then physical development systems within each section. In these sections the recommendations proceed from the general to the specific.

#### **1. Sub-campus Areas**

The campus is divided into five sections to define the general organization of the campus. Given this basic understanding of the organization of the campus, the relevance of more detailed proposals can be easily related to the overall plan.

## 2. Campus Systems

A series of physical development systems compose the Troy campus including Buildings, Streets, Parking, Pedestrian Walkways, Bikeways, Open Space, Landscaping, Signage and Utilities. Each of these systems serves each sub-campus area in some manner, but can be most effectively considered from a system basis.

For purposes of this report, the campus systems are divided into two categories. All types of circulation, buildings and open space are considered the primary systems that influence the shape and form of the campus. The remaining campus systems are considered support systems but are necessary to make the campus function and are vital to the overall image. However, it is emphasized that all systems must work together to create the functional and aesthetic campus environment that is desired. All campus systems included in this report are shown in their respective category in the following listing.

### **Primary Systems**

Buildings

Circulation

- Bicycles
- Parking
- Pedestrians
- Streets

Open Space

### **Support Systems**

Landscaping

Lighting

Signage

Utilities

Within the consideration of each system there are two parts. First, the general framework of the system is considered in terms of the long-term development influence on the campus. This is especially true for the primary systems that shape the fabric of the campus beyond the 2010-planning horizon. This provides a guide for long-term growth that can be used to assess short-term projects and provide interim adjustments to the plan as development opportunities occur.

Second, within each system there are short-term projects that are needed to meet the planning period projections. These components of the respective systems are presented in the implementation section of the Facilities Master Plan. Although written as a separate part of the master plan, this part of the campus systems sections identify a number of recommendations that should be immediately considered for implementation. They address the required needs within the planning horizon and will have an impact on the function and appearance of the campus.

## **Sub-Campus Areas – Long Term Development Patterns**

For purposes of explaining the Facilities Master Plan, the campus has been divided into five major use and development areas. The areas are shown graphically on the Campus area map that follows, and are described in the following paragraphs that indicate the general location, current development, and long term use objectives for each area.

### **Area 1**

Area 1 on the east side of the campus which is defined as being south of Elm Street, east of College Street and Luther Drive, west of George Wallace, and north of Collegedale Street. The area is primarily comprised of sporting and athletic facilities including the golf course, football stadium, baseball field, practice football field, and softball field. In the long-term framework, this area is recommended for development as the athletic and sports portion of the campus.

### **Area 2**

Area 2 on the west side of the campus which is defined as being south of Elm Street, west of College Street, west of McKinley Drive, east of the fence line bounding the campus and residences on Folmar Street, and north of Collegedale Street. The area is primarily comprised of open space, the Chancellors' home, and dormitories. In the long-term framework, this area is recommended to continue to be developed as open space and campus housing.

### **Area 3**

Area 3, the south side of the campus, is defined as being south of Collegedale Street and north of Pell Street. The east and west boundaries of the area are the current University property lines. The area is primarily comprised of fraternity housing, band practice field and intramural fields. The major exception to this pattern of development is the Collegeview building which is an education facility. In the long-term framework, this area is recommended to be developed primarily for fraternity and intramural play area.

### **Area 4**

Area 4 is the core campus area and is defined by the east, north and west loop road of Luther Drive and the by Collegedale Drive on the south. This is the academic and administrative core of the campus. The dormitories and student union, located in the eastern portion of the area are the major exceptions to this development pattern. In the long term, this area will continue as the campus core area with emphasis on academic and related administrative functions. This should be the most densely developed portion of the campus. Some core campus type development may be projected on the

immediate west side of Luther Drive. There is also some core campus type development and parking proposed to occur immediately south of Collegedale.

## **Area 5**

Area 5 is known as Sorority Hill is defined by Elm Street on the south, Academy Circle the east and north and a property line on the west. The area is primarily comprised of fraternity housing and one administrative building.

### **Area Overlap and Use Variance**

The sub-campus areas defined above give a general idea for the long-term development of the campus. As noted within Area 4, there are likely to be some exceptions to the general use and development of any area. For example, recreation and parking areas are likely to occur in any of the areas. Future development and refurbishing should strive to minimize conflicting uses over the long term. Likewise, the boundaries of each area are not really as precise as the general description given. For example, the core campus (Area 4) overlaps the perimeter road into Area 2 and into Area 3. The cost of relocating the existing roadways to encircle the future building sites which are adjacent to the core campus is not effective and not needed since the long term objective is to provide pedestrian right-of-way thus reducing present hazards of mixing automobiles and pedestrians.

## **PROJECTIONS**

This section of the Master Plan examines historic population data and provides projections, through 2010, for the general population and student age cohorts. A summary of the findings is presented herein. Detailed projection information was previously presented in the Projections Report. The United States general population and college age data is from the U. S. Bureau of Census and college student data is from the National Center for Education. Similar data and projections were considered for three southeast states: Alabama, Georgia and Florida. Georgia data is from the Georgia Governors Office of Planning and Budget; Florida data is from the Florida Bureau of Economic and Business Research, Florida State University; and Alabama data is based on information from the Center for Business and Economic Research, University of Alabama. This data was used to identify population and college student trends for the nation, Southeast, and Troy State service area that influence the Troy State University student market. The pertinent findings are presented below.

### **General Population Projections**

#### **1. United States Population and College Student Trends**

The total U.S. population projection for growth is 4.4% over the next five years between the years 2002 and 2007. During this same period, the age group 15 to 19 will increase at a rate of 7.5%. From 2007 through 2012 the total U.S. population projection will increase 4.2%. During the 2007-2012 time period the age group 15 to 19 will decrease 2.3%.

The age group 15-19 is used as a student market population for the next five-year projection period. The five-year projection period shows ages 17-19 will be entering college in the 2002, 2003 and 2004; those ages 15-16 will be entering the student market during 2005 and 2006.

College age students, 18-24, nationwide are projected to increase 5.1% from 2002 through 2007 and about 5.4% from 2007 to 2012. These projections verify the growth trend in the college age population throughout this period.

Nationwide, women and minorities will continue to increase. Likewise, the number of full-time students will continue to grow at a faster rate than part-time students.

#### **2. Southeast United States Population and College Student Trends**

Projections for the three Southeast states, Alabama, Florida and Georgia, indicate that all three states are expected to have continuous growth throughout the projection period for the overall population and the age group 18-24. However, Florida and Georgia are expected to have greater growth for the same projection period in both these categories than Alabama.

New projections by the National Center for Education Statistics (NCES) show patterns of decline and increase for secondary education. Future levels of college enrollment are projected to increase.

Most children in the United States attend school from elementary to high school. Table 9 reflects a decrease in K-8 enrollment between 2002 and 2007; however, this trend will reverse and increase slightly between 2007 and 2012. At the grades 9-12 enrollment levels are projected to increase between 2002 and 2007; however, this trend will reverse and decrease between 2007 and 2012. According to these projections total high school enrollment will reach 16.1 million students in 2007 and then decline to 15.4 million students by 2012.

### 3. Troy State University Service Area Population and College Students

Troy State University Service Area is defined as follows:

- a.) Primary Service Area – fifteen select counties in Southeast Alabama
- b.) All other Alabama counties
- c.) Northwest Florida – commonly called the Florida panhandle – 15 counties
- d.) Southwest Georgia – eight counties

Projections for these respective service areas are presented in Chapter II, Projections Report of the appendix. The findings are summarized below.

Troy State University's "primary service area" currently provides 64% of the total enrollment. During the 2000 to 2010 projection period the 15 to 19 age group will increase 0.26%.

"All other Alabama counties" currently provide 25% of the current student population. During the 2000 to 2010 projection period the 15 to 19 age group will grow a 7.4%.

In Northwest Florida during the 2000 to 2010 projection period the 15 to 19 age group will experience 9.6% growth.

For Southwest Georgia the population projection between 2000 to 2010 for the 15 to 19 age group will decline 7.0%. Overall, the rising generation of future college age students for this region will decline.

Overall the Troy State University service area is projected to experience a 6.5% (27,895) increase in the 15 to 19 age group for the period 2000-2010.

The Projections Report includes detailed age, sex, and race population projections for all of the Troy State University service area. This data is included for use by various University departments that could use the more detailed information. That report also profiles the 1996 through 2001 system-wide student enrollment trends and the permanent residence of students.

**Troy State University Enrollment Projections**

All the historic trends and projections data were considered to project the enrollment at the main campus as presented in the following table.

TROY STATE UNIVERSITY  
MAIN CAMPUS ENROLLMENT

Year	2002	2003	2004	2005	2006	2007
Enrollment (fall)	4935	5256	5571	5878	6171	6449

## **CIRCULATION SYSTEMS**

This section deals with the access ways to the campus, circulation through and around the campus and the walkways that serve various facilities. In additions, this section discusses the related topics such as campus entryways, service and emergency access, parking, pedestrian crossings, and site furniture that is typically used in conjunction with the pedestrian circulation systems.

### **Vehicular Circulation**

#### **REGIONAL AND CITY ACCESS**

Troy, Alabama is accessible through a network of well-maintained federal and state highways. The major connector in the vicinity of the campus is U. S. Highway 231 that connects with Montgomery to the northwest and Dothan to the southeast.

The campus lies within a grid of Troy City arterial streets composed of Elm Street, Brundidge Street, George Wallace Drive and U. S. 231. George Wallace Drive provides the primary access to the campus by virtue of being located on and defining the eastern edge of the University proper. East / west access to and through the campus is provided by East Madison, portions of McKinley Drive, University Avenue, Collegedale Street, and Pell Street. All of these are well-maintained two-lane public streets. These streets all connect with other city streets and create relationships between the campus and the community. The Vicinity Map and Existing Transportation Map that follow show these connections graphically.

Within the campus, north / south circulation is provided by a portion of McKinley Drive, College Street, and Luther Drive. Incremental internal roadways and drives provide automobile access and circulation to all parts of the campus and parking facilities. These streets are of varying widths and reasonably well maintained. In total, there are 8.5 miles of campus streets and drives. Of these, 6.0 miles are streets used for campus circulation and access, while 2.5 miles of drives provide access to a specific building or group of buildings.

The relationship to city streets must be acknowledged in order to maintain local traffic while providing control and direct access to the campus. At this time, four streets, Collegedale, University, McKinley, and portions of Luther Drive, provide circulation from the community at large to the University area and divide the developed portion of campus. However, since other high volume streets exist in the immediate vicinity of the

campus, the opportunity exists to modify community streets within the campus area without causing traffic problems in the community.

## CAMPUS STREET PATTERN

The location of campus streets is typically a major determinate of the character of the campus. To date the campus traffic circulation pattern has not set forth a strong statement regarding how the campus vehicular circulation system will work. It appears that as the campus has grown, the street pattern has expanded incrementally by providing access and parking at every building without regard for an overall system.

## STREET CIRCULATION ANALYSIS

The analysis of the existing campus street pattern and the relationship to community streets revealed the following:

### 1. Weaknesses

- ✓ Approaches to the campus are through local residential neighborhoods
- ✓ Local neighborhoods are accessed by using streets passing through the University campus
- ✓ There is no discernible hierarchy of streets
- ✓ Traffic flows are hampered by various factors, such as curb parking and the use of streets for parking area circulation
- ✓ Cars parked on-street, reduce visibility of the campus, limit sight distances which impair pedestrian safety, and create traffic movement hazards
- ✓ Service needs of existing structures are often disruptive to the campus

### 2. Strengths

- ✓ The major components of an on-campus perimeter road system already exist
- ✓ University Avenue is the most logical street to maintain as a collector street for city access. It also provides an opportunity to become the focal point of the campus

### 3. Opportunities

- ✓ Identifiable vehicular entrances to the campus can be created

- ✓ These same campus entry points can be used to control access to the campus and enhance future security
- ✓ Existing campus access streets can be changed to become modified access streets in order to create an arrival / entry sequence that can be readily sensed
- ✓ Streets can be partially eliminated to improve circulation and reduce the number of barriers that divide the campus
- ✓ Intersection improvements can be made to enhance turning movements at key intersections
- ✓ The number of locations of vehicular / pedestrian conflict can be significantly reduced

## ALTERNATIVES EXAMINED

Four options were considered for on-campus street circulation including:

- 1) Acceptance of the existing street pattern and proposed local street improvements as set forth in the Troy Comprehensive Plan;
- 2) Development of an on-campus outer loop which would require minor changes to the Troy Comprehensive Plan and development of on-campus streets;
- 3) Development of an on-campus inner loop which also would require minor changes to the Troy Comprehensive Plan, but significantly reduces the amount of on-campus street development; and
- 4) A one-way paired streets concept that would require the realignments of portions of University and Collegedale. This proposal would primarily facilitate movement through campus and would have to rely on either option 2 or 3 above to improve campus circulation.

Of the above options, the inner loop concept (3) is recommended. The inner loop is highly compatible with existing city streets in Troy and is cost effective for the University because of limited street changes. In this plan, the inner loop is referred to as the "perimeter road".

## PROPOSED CAMPUS STREET SYSTEM

### 1. Perimeter Road

The Perimeter road utilizes Luther Drive create two parts of the loop access to the campus. It is proposed that both Luther Drive and College Street be extended south of University Avenue and be aligned to connect to Collegedale Street. The majority of the

on-campus section of Collegedale would be used to complete the campus loop. This would provide a perimeter road that encircles most of the major campus facilities.

The off-campus ends of Collegedale would be closed or realigned. It is recommended that the west end of Collegedale be terminated with a cul-de-sac immediately inside the University property. In connection with this, Folmar Street would be extended to Pell Street. The east end of Collegedale should be turned south to join East Street on the east side of the Rotary International Center and a short portion turned into a pedestrian corridor.

## 2. University Avenue

University Avenue is maintained as an east / west through street. It is recommended that direct campus access to University Avenue be controlled to the fullest extent possible. This will facilitate the movement of traffic, increase traffic safety, and enhance the visual image of the central area of the campus. As will be discussed later in this plan, boulevarding sections at each end of this street as it enters the campus, the removal of parallel parking, providing pedestrian improvements, and landscaping are proposed to reinforce University Avenue street improvements.

## 3. McKinley Drive

Recommendations regarding McKinley Drive are:

- A. Close the west side portions of McKinley Drive removing a segment of street past the Chancellor's home to the intersection of Madison Street. This will:
  - 1) Create a private drive to the Chancellors' residence that is accessed from University Avenue and include two scenic overlooks.
  - 2) Temporarily close the north end of McKinley Drive by eliminating access from Madison Street. The northwest corner of the campus is proposed for future college housing development. When this development is designed, the McKinley Drive access to Madison Street can be re-opened or redeveloped as appropriate.
- B. Remove the segment of McKinley Drive from the intersection at Luther Drive east to George Wallace Drive. This will consolidate the golf course. The intersection at George Wallace Drive should be completely removed since no future access is contemplated at this location.

## STREET SYSTEM DESIGN CRITERIA

Eventually the street system should be developed or renovated to conform to the following design criteria.

### 1. Create Easily Identifiable Campus Entry Points

When Visitors arrive at the campus for the first time, clearly defined campus entries is needed to give the university a positive image and serve as a guide for visitors. Easily identifiable entrances to the campus function similarly to the front door of a house.

Presently the campus has a nicely created access point at University Avenue from George Wallace Drive. The proposed perimeter road system creates the opportunity for two more major access points to the TSU campus. They are: 1) University Avenue from Park – Folmar Street east to the intersection of McKinley Drive (south of the Chancellors’ residence) and 2) Madison Street to McKinley Drive then south to the proposed perimeter road (south of the lakes). At each of these locations the concept of a boulevard should be developed using, as a minimum, landscaping, hardscaping, signage, and lighting. Further details of these aspects are presented later in this plan. Other features to enhance the focal point, such as fountains or sculpture, may also be appropriate. In total, the campus access points should be clearly identified for visitors and indicate a change in jurisdiction and development. These should provide a visual signal that the area has increased pedestrian traffic. These recommended improvements are in addition to the street treatments discussed immediately below.

All three of the one block segments of the streets falling immediately inside the respective campus entry points should be redeveloped as boulevards. Each entry street should be maintained as a wide paving surface until it intersects with the perimeter road. At the intersection with the perimeter road, turning lanes should be provided as necessitated by each intersection design. That portion of University Avenue located between the perimeter road intersections should have narrower paving to encourage traffic to use the perimeter road.

Besides creating a positive image at these entrance locations, the University may want to consider including traffic control features at these locations in the future. This is especially true of the north entrance that could be closed by gate at night. Detailed designs should include the space for such facilities even if they are not installed immediately.

## 2. Create Direct Access to Parking Facilities

The perimeter road provides direct access to the majority of the existing parking facilities. New parking facilities are planned adjacent to the perimeter road to increase accessibility and reduce vehicular / pedestrian conflicts within the core campus area.

## 3. Provide Service Access

The perimeter road, by virtue of providing access to the majority of existing parking areas, also provides service access to most of the campus buildings. To the extent practical, service functions should be accessed from the perimeter road or from parking facilities connected to the perimeter road. This will reduce vehicular / pedestrian conflict

on-campus. All proposed building sites are adjacent to the perimeter road so direct service access can be easily provided.

To further reduce conflicts with pedestrians and campus traffic, the University should work with service vendors to schedule off-hour services.

#### 4. Minimize Pedestrian / Vehicular Conflicts

The perimeter road, in conjunction with the development of the major pedestrian corridors, significantly reduces the number of locations at which vehicular / pedestrian conflicts occur. Detailed designs for projects undertaken on the campus should avoid streets and drives which cross pedestrian corridors. When pedestrian corridors cross areas where vehicular / pedestrian conflicts could occur, it is recommended that special treatment be provided to make the crossing locations highly visible with the pedestrian having the right-of-way.

#### 5. No perimeter Road Parking

No on-street parking should be allowed on the perimeter road. The function of the road is to safely move vehicles to parking areas near on-campus destinations. All sections of the perimeter road should be developed with parking restrictions. Over time, as additional off-street parking is created, the existing on-street parking should be removed.

#### 6. Buffer Parking Areas

All parking areas should be separated from the perimeter road by the use of physical barriers and include appropriately landscaped buffers. In most cases, this can be implemented through design and renovation. In a couple of instances, existing parking areas use portions of the perimeter road for parking area circulation. This means that slow moving vehicles, with drivers concentrating on parking, are mixed with faster moving vehicles. This creates a high probability for accidents. A high priority should be given to correcting locations where parking infringes on the perimeter road.

#### 7. Align or Adequately Off-set Intersections

All intersections of drives and streets should be aligned opposite each other or off-set by a minimum of 125 feet from other drives.

### SERVICE ACCESS

Each building requires service access. There are no existing structures located on any portion of the streets which are proposed to be closed. Service access was considered as a part of the design process, so that service access is provided to each proposed building site.

Service access to existing buildings should be developed in accordance with the concept of 'access cul-de-sacs'. Access to parking and service areas which cross one or more pedestrian corridors, should be designed as cul-de-sacs. The intent is to limit the number of vehicular / pedestrian conflicts. Access cul-de-sacs should be primarily designed to create direct service access to buildings. Preferably, in such instances, each access cul-de-sac would serve more than one building. Access to parking from an access cul-de-sac should be a secondary consideration.

Service delivery schedules should be negotiated with vendors to reduce the number of deliveries made during primary class time (8:00 to 3:30).

## EMERGENCY ACCESS

Emergency access is defined as being limited to emergency vehicles such as ambulances and fire trucks. To provide full building coverage for emergency services, particularly fire fighting, portions of certain pedestrian corridors near buildings may need to be used for vehicular access. During the detail design process, portions of building entry plazas and pedestrian corridors may need to be developed with 10 to 12 foot wide travel capability and be free of steps.

## **Parking System**

### EXISTING PARKING

Existing parking lots are scattered around the campus as well as on-street curb parking. The University provides all of the parking lots. Street parking is provided by the University along interior University streets and by the City along public street rights-of-way. All of the on-street parking is available to students and the public, so no attempt has been made to differentiate between the two.

The survey found 3,428 existing parking spaces. Additional parking spaces are available at the married student apartments located east of the campus and at the Physical Plant, also east of the main campus core. Since these spaces are located at these two facility groups which are remote from the main campus, they are not included in the above figures. Of these 704 spaces are designated for special use only, such as faculty, staff, administrators and services. This leaves 2,724 spaces for students and visitors. In all cases, parking spaces are presently available within reasonable walking distances of all facilities. All of the parking, except one gravel parking lot on Collegedale, is paved, has good drainage and is in good condition.

### EXISTING PARKING DEMAND

Table 2 shows the parking demand by building with a total demand of 2,131 spaces for normal weekday functions. This demand was calculated using the parking requirements as follows:

- a) Educational Use - one space per employee, plus one space per ten students.
- b) Auditoriums / Stadiums - One space per three seats, plus one space per employee.
- c) Offices – one space per 200 SF of gross floor area.
- d) Cafeteria – one space per three seats, plus one space per employee.
- e) Housing – Dormitories: one space per each living unit, plus one space per employee; Apartments: two space per unit.
- f) Support Services (Security, Physical Plant, Library, etc.) – One space per 400 SF of gross floor area.

**TABLE 2  
SUMMARY OF PARKING DEMANDS**

<b>USE AREAS</b>	<b>BASE DEMAND UNITS</b>	<b>DEMAND (Spaces)<sup>1</sup></b>
Office Space	117,120 SF <sup>2</sup>	586
Classrooms/laboratories	4,935 students	494
Dormitories	785 rooms	785
Apartments	42 units	84
Cafeteria / Dining	350 seats	145
Fraternities / Sororities	114 bedrooms	114
Library	48,734 SF	122
Physical Plant	19,477 SF	49
	<b>Total</b>	<b>2,379</b>
Gymnasium	4,000 seats	1,333
Stadium	18,000 seats	6,000
Auditorium / Ballroom	2,274	758

**Total**

**8,091**

<sup>1</sup>From standards in parking section above

<sup>2</sup>Includes Administration and Faculty offices

From Table 2 and the inventory of 3,428 spaces, it is evident that there is ample parking on campus to support the normal weekday building functions. The auditoriums and ballrooms could easily be accommodated with the existing parking even during full academic attendance. Maximum attendance at a gymnasium function during full academic attendance would tax the available parking by approximately 284 spaces. Such events are rare occurrences that may happen a few times each year for outside users and visiting groups.

The football stadium is the only facility that would exceed the total parking spaces available. This facility requires additional 2,572 spaces at full occupancy. Since this would only occur at times when classes were not in session, the overflow is handled on open lawn areas, parallel street parking and at City school facilities to the north of the stadium.

## PARKING ANALYSIS

There are 3,428 parking spaces on campus of which 704 (21%) are designated by name or services. The remaining 2,724 spaces are available for student and visitor parking. With the current enrollment there are 1.81 students per parking space. In 1994 the Strategic Planning Committee after reviewing parking supplies at other Alabama institutions, established the goal of providing parking at the rate of 1.7 students per parking space. Presently 179 parking spaces are exceeding this goal.

The projected 1,514 increase in students by fall enrollment 2007 will require and additional 1,069 parking spaces. Faculty and staff parking needs (special use) are provided 704 spaces. Assuming that staff parking requirements grow in proportion to the growth in the student body, an estimated 211 more spaces will be required for faculty, staff and service. In total, 1,280 additional parking spaces will be required by 2007 to meet future needs at the stated rate. Further, the Bibb Graves Quadrangle Revitalization project will also reduce available parking 154 spaces that will need to be considered when this work is done.

The Facilities Master Plan also proposes to reorganize existing parking lots for safer circulation and provide landscaping within existing and new parking areas. These recommendations decrease the number of parking spaces available per acre of land. For planning purposes, 100 vehicles per acre have been used. The parking demand

thereby translates into the need for an additional 21 acres of parking that can be provided by expanding existing or developing new parking areas.

## PARKING SYSTEM OPTIONS

Three options were considered for the provision of parking on the TSU campus.

- 1) Providing parking dispersed throughout the campus area,
- 2) Providing parking at the perimeter of the campus area, and
- 3) Allocation of parking spaces through a parking program.

Providing parking throughout the campus area would require the development of more parking in proximity to a number of buildings and require maintenance of an increasing system of access drives throughout the campus area. This would also increase parking space at a detriment to existing campus open spaces. Dispersed parking also increases the number of locations of vehicular / pedestrian conflict and clutter the visual appearance of the campus.

Providing the majority of parking at the perimeter of the core campus area would increase the relative size of the street needed to serve the parking facilities. However, perimeter parking reduces on-campus street requirements and limits internal vehicular / pedestrian conflicts. Perimeter parking does increase the distances walked, but the Troy campus is compact enough that easy walking distances are maintained even when parking facilities are located at the perimeter. A rule of thumb would be the ability to reach the center of campus within ten minutes after leaving a perimeter parking lot. The TSU campus is slightly over one-quarter of a mile across, so a person parking on the west side would still be able to reach the east side of campus within 5 to 7 minutes. Therefore the center of campus is well within the walking time design criteria.

The third aspect related to a parking system is the allocation and use of spaces. A parking program can be instituted using either of the above physical arrangements for parking facilities. The most common type of parking program at institutions of higher education is parking “zones”. In 2001 the campus implemented this recommendation made in the 1995 Facilities Master Plan.

It is recommended that the campus be developed using major perimeter parking facilities, consistent with the perimeter road concept. Some smaller “in-fill” lots can be maintained in conjunction with service access drives. As major perimeter parking facilities are developed, existing in-fill lots should be removed and redesigned as necessary.

Major parking facilities which are to be located along the perimeter road are indicated on the plan. In some instances, existing parking areas may also have to be incorporated as a part of a proposed parking area. Existing parking areas may have to

be expanded to add parking or reduced to allow space for the development of street buffers and pedestrian corridors.

## PARKING SYSTEM DESIGN CRITERIA

Eventually, all new and existing parking areas should be developed or renovated to conform with the following design criteria.

### 1. Buffer Parking Areas

All parking areas should be separated from campus streets and drives by physical barriers including appropriately landscaped buffers.

### 2. Landscape Within Parking Areas

All major parking areas should be developed to include landscape islands to enhance the appearance of the area. Only one exception is recommended. The parking area behind Long Hall should be left open to provide a surfaced area for band practice following inclement weather. It is realized that insufficient area will be provided for marching drills.

### 3. Align or Adequately Off-set Intersections

All parking access drives should be aligned with intersections of drives and streets or other parking lot access points or off-set with a minimum of 125 feet between the drives.

### 4. Redesign Existing Parking

Due to the terrain changes and interconnections of parking areas, some existing parking arrangements are hard for a visitor to understand. As repairs are required or when changes are made for the development of other facilities, the circulation within existing parking lots should be improved. The need to control access and interconnections between parking areas will increase when a parking program is adopted.

### 5. Parking Signage

All parking facilities should be well signed and consistent with the current campus signage. This should include clearly marking directions to parking areas and indicating the appropriate parking zone(s) of the existing parking program.

The Master Plan recommends four major parking actions that form a strategy to ensure pedestrian safety and to meet future parking needs.

- ✓ Remove parking from the academic core to the extent possible after replacement peripheral parking is developed.

- ✓ Maintain a system of zoned parking.
- ✓ Locate new parking facilities on the periphery of the core campus (within a five minute walk of the center of campus).
- ✓ Reconfigure existing lots which are not removed to be readable to the motorist, provide internal areas for circulation, and where absent create landscaped islands to improve their appearance.

These objectives should be aggressively addressed concurrently.

Specific plan recommendations for parking facility development are as follows:

- ✓ Remove all curb parking along University Avenue to create open fields of view for safety purposed since the street will remain open to community through traffic. This will also improve the appearance of the campus portion of the street and allow an unobstructed view of campus open spaces and buildings fronting on University Avenue. Most of this recommendation will be implementation as part of the Bibb Graves Quad Revitalization project during 2003-2004.
- ✓ Maintain existing fill in lots until they can be replaced with parking in peripheral parking areas to prevent a net loss of spaces.
- ✓ Continue to reduce the number of reserved parking spaces.
- ✓ Maintain a zone program for efficient use of all available spaces.

To meet the needs of future growth and demand for parking spaces, larger more efficient lots should be developed outside the core campus (academic sub-area) with access and egress to the perimeter road.

### **Pedestrian Circulation System**

The pedestrian circulation section of the Facilities Master Plan contains information and proposals on walkways, bikeways and the site furniture use to supplement these systems. It is recommended that these features be incorporated into a series of pedestrian corridors that are then used as the primary means to organize the campus.

#### **PEDESTRIAN CIRCULATION PATTERNS**

The walkway system on the TSU campus has grown on a random basis with generally undersized facilities and inadequate central circulation areas. The pedestrian circulation system is almost totally lacking bikeways and bicycle storage areas. Pedestrian traffic is channeled through a system of sidewalks, paved parking lots and drives that connect to all building. The campus survey measured a total of 30,794 linear

feet (5.83 miles) of sidewalks and is generally a minimum of four feet and range up to six feet wide. Most of the walkways are in good condition. Approximately 290 linear feet (10 %) are in need of repair and /or replacement.

Reasonable wheel chair ramps along the streets are provided and functional. There are some areas on campus that need additional walkways. The walkway system on the campus seems to have evolved from a formal grid design. This has been modified through the years with additions and alterations that accommodated student demands and desires by paving pathways. Some accommodations for student demand, not yet paved, exist in the way of sod pathways created in recent years. A total of 880 feet of such pathways was found. Some areas where narrow walkways meet and are congested do result in the adjacent grass areas that suffer from the overflow of pedestrian traffic.

## PEDESTRIAN CORRIDORS

A system of improved pedestrian corridors and plazas can be used to improve pedestrian circulation and reinforce campus zones. Such a system for pedestrian circulation would be designed to facilitate pedestrian movement and organize the structure of the campus. In essence, the pedestrian corridors would become the 'city blocks' within the core area of the campus.

"Pedestrian corridors", as used in this plan, are access ways through the campus that include walkways and bikeways. These are to be separated within each corridor with small landscaping, lighting, street furniture and directional and informational signs. Conceptually, the pedestrian corridors are straight lines of access that create a grid pattern within the campus area. When viewed in detail, the alignment of the corridors should be adjusted to utilize existing walk, allow for offsets in buildings, and accommodate terrain changes. The walkways in the pedestrian corridor should be wider than the sidewalks currently found on campus, and should relate to the pedestrian traffic volume to be handled. Additional information on walkways is provided late in this section. When the walkways encounter steep terrain changes there should be a combination of steps and ramps to enable unassisted handicapped access throughout the campus area.

The bikeways in the corridor should be separated from the walkways and allow two bicycles to pass in opposite directions. Bike storage areas should be planned adjacent to the bikeways in the vicinity of building entrances. Bikeways also need to be ramped at locations with significant terrain changes but the slope can be much steeper than the slope used for sidewalks.

Street furniture, such as benches, planters, lighting and trash receptacles, should be included along the pedestrian corridors. Directional signage and information kiosks should also be planned as a part of the pedestrian corridor. Paving materials, furniture and signage should all be designed and located consistent with the pedestrian scale of the corridors. Small landscaping can be provided within the corridor and create part of

the separation between sidewalks and bike paths. Consistent landscaping patterns and materials should be used to define the edge(s) of the pedestrian corridors throughout the campus area.

The proposed system of pedestrian corridors is composed of a series of east-west and north-south corridors that are shown in the Facilities Master Plan.

## PEDESTRIAN WALKWAYS

Walkways in pedestrian corridors as in other locations on campus should suggest a hierarchical network of walkways and paths based on the number and frequency of pedestrian traffic.

### 1. Primary Walkways

Major walkways accommodate the highest volume of pedestrian traffic. Typically they connect major uses within a university campus. Primary walkways are characterized by special paving surfaced (concrete with exposed aggregate or brick), high illumination levels, and numerous site furnishings. Primary walkways should be a minimum of 10' wide and accommodate four people abreast.

### 2. Secondary Walkways

Secondary walkways accommodate moderate pedestrian activity. The majority of the walkways on a typical campus, especially in housing areas, would be considered secondary walkways. These walks provide a direct link between the major walkways and various activity centers. Secondary walkways are characterized by hard paving surfaces (brick or concrete), have fewer site furnishings, and lower illumination than the primary walkways. Secondary walkways are a minimum of six feet wide and can accommodate three people abreast.

### 3. Tertiary Walkways

Tertiary walkways accommodate local and low volume pedestrian movements between buildings and informal areas. Scenic qualities, indirect alignments, concrete paving, lower illumination levels and few site furnishings characterize Tertiary walks. They are often integrated with natural vegetation. Tertiary walkways should be a minimum of five feet wide. They can be informally landscaped to capture views and focal points.

A view zone of fifteen feet on each side of all walkways should be maintained to eliminate potential hiding places.

## PEDESTRIAN PLAZAS

A primary objective of the pedestrian circulation plan is to make the campus more pedestrian friendly. This is accomplished by making it easier and more enjoyable for

students to walk between classes. The plan recommends that activity nodes or plazas be created at key locations to enhance the walking experience on campus. These plazas should vary in size and shape so that at busier locations space is provided for students to sit, congregate and talk to each other and to allow slight adjustments in alignment of the pedestrian corridors.

Plazas and quadrangles are primarily gathering areas within the campus area. They are essentially social spaces that are only successful if they are used. These spaces will be successful if they accommodate site amenities such as benches, seating walls, trees, planters, lighting and human scaled paving. However, the paving in some plazas may need to support emergency vehicles. These open spaces should provide color by using flags, flowering shrubs, and seasonal plants. Social spaces should also provide a regular schedule of activities to attract people to the area on a regular basis.

Paving material used in the design of plazas and quadrangle should be consistent throughout the campus and coordinated with material used in buildings and walkways. Brick and concrete are the preferred materials for these areas if found in the surrounding areas.

Drainage from the development of plazas and quadrangles tends to become concentrated. This drainage should be handled by installing catch basins, French drains, tree grates and porous paving material. These elements should be carefully incorporated into the paving and landscape patterns within the area.

Lighting patterns and fixtures are important elements in plazas and quadrangles. Varying illumination intensities and patterns can create differing atmospheres within the plaza and quadrangle areas. Lighting should be designed at a pedestrian scale and relate to the paving patterns that exist in each of the respective areas.

Student oriented plazas are recommended at the following locations:

- ✓ Between Stewart and Alumni Hall
- ✓ Expand the areas south of Malone Hall and west of Adams University Center
- ✓ In front of Bibb Graves Hall

As new buildings are constructed and as existing structures are renovated, the entryways should be developed with courtyards of sufficient size to disperse students leaving the building and provide smaller areas, perhaps including shaded sitting areas, for students to meet each other.

## PEDESTRIAN CROSSINGS

Pedestrian / street crossings should be provided at each intersection and any mid block locations where pedestrian walkways cross streets. Crossings should essentially be extensions of the sidewalks that gather people into identifiable areas to safely cross streets. Crossings are characterized by material changes, such as brick pavers or

marked with paint. Crossings should be four to eight feet wide depending on the volume of pedestrian traffic. These crossings should be identified with traffic signs giving the pedestrian the right-of-way.

## BIKEWAYS

At present, there is no bikeway system and related bike storage areas; this has depressed the use of bicycles on campus. With the provision of bikeways and an increasing on-campus population, bicycle transportation will become more popular. Bike lanes are to be integrated with pedestrian walkways to form pedestrian corridors. Bike lanes in pedestrian corridors generally parallel the walkway but are physically separated from the walks. Basic bike lanes should be a minimum of four foot wide in each direction and should differentiate lane direction.

## **Site Furniture**

Site furniture refers to man-made elements such as bike racks, benches, trash receptacles, bollards, lighting (discussed as a separate system under “Utilities”), flag poles and other fixtures located within the campus area. The following brief descriptions of the features specifically listed above convey both recommendations for these items and the general design intent for other site furniture that may be used on campus.

### 1. Bike Racks

Bike racks should be of a color and design to coordinate with other site furniture. Bike racks need to be accessible and easily maintained, but not visually disruptive. Bike racks should be located off pedestrian routes and near building entrances. In high visibility areas, bicycle storage areas should be screened.

### 2. Bench Seating

The campus provides benches around the major quadrangles, Amphitheater and Student Union Building areas. The addition of more of these features at other campus locations would provide more open-air study areas and off-walk meeting areas. This would reduce the congestion at building entrances and walkway intersections. These areas would also offer an alternative to going back to ones' car between classes.

The majority of bench seating should be brick, concrete, or wood. Benches without back rests allow people to sit down from all directions, but they are not as comfortable. Disabled persons should be given consideration when designing seating areas. It is recommended that all seating be located on paved areas for ease of maintenance.

### 3. Trash Receptacles

The overall appearance of the University grounds is good. More trash receptacles through the general grounds of campus and more cigarette disposal receptacles at building entrances are recommended. Upgrading and changing out existing trash receptacles across campus is recommended.

Trash receptacles should be of a color, material and design to match the design of the area in which they are used. The major consideration when providing trash receptacles is location. Receptacles should be located where they are accessible and will be used. Key locations are heavily used pedestrian intersections, building entrances, plazas and recreation areas. Ideally, receptacles used along walkways should be located on small paved areas appended to the walkway in order to avoid pedestrian traffic.

Larger dumpsters should be located in the vicinity of high volume trash generators, accessible from service roads, and screened from view. The use of 95-gallon roll-type trash receptacles at buildings should be eliminated by the use of large dumpsters where possible.

#### 4. Bollards

Bollards are typically used to separate vehicular and pedestrian areas in locations where the two systems come in close contact, such as drop off zones. Bollards can also be used as directional devices. They should be constructed of the same material, color and design and be consistently used throughout the campus. Deviations should only be considered when they are used adjacent to significant architectural elements or they are used in key plaza area designs.

#### 5. Tree Gates

Tree gates are usually used in plazas, quadrangles and other hardscaped areas. They should be designed as an integral part of the space and not randomly placed. Tree gates should be sized according to paving lines, edges and adjacent architectural elements. Typically, tree gates are square or round and constructed of cast iron.

#### 6. Flagpoles

Flagpoles, if used, should be located in groups to create focal points. Paved areas should extend a minimum of three feet from the flagpole to facilitate raising and lowering flags. The pole height should be related to adjacent buildings. It is recommended that a typical flagpole standard be used throughout the campus.

## **BUILDINGS**

A structural survey was conducted of the Troy State University Troy campus area between the summer of 2001 and spring 2002. A walk through survey was used to identify the use areas and assess the general condition of each building on the campus. The survey was supplemented by reviewing existing building studies and information collected by the Troy State University Physical Plant staff. Since the technical survey additional work to verify or correct specific building area information has been performed by Sodexho Planning and Development and the Physical Plant staff as needed for this study.

## **DEFINITIONS**

Definitions for some of the terms used in the presentation of the survey findings are presented below.

### *Assignable Area*

The amount of space that can be used for programs is known as assignable area. The assignable area of a room is measured within the interior walls of the room. Total assignable area of a building is the sum of the space allocated to the major room use categories: classrooms, laboratories, offices, residential. This is also known as Net Assignable Square Feet (NASF). There are various kinds of other spaces within a building that are essential, but which are not assigned directly to support programs.

### *Building*

A building is a roofed structure for permanent or temporary shelter of persons, animal, plants, material, or equipment. This building inventory encompasses different types of structures including residences and storage without regard for whether they house staff or not.

### *Buildings Included*

This inventory includes buildings that are under the jurisdiction and control of Troy State University's governing board and located within the main campus property lines at Troy, Alabama.

### *Building Service Area*

The sum of all areas of a building used to support its cleaning and public hygiene functions.

#### *Building Support Area*

That area of land around a structure required to provide a safe and sound use and occupancy of a building for its intended use.

#### *Circulation Area*

The sum of all areas required for physical access to floors or subdivisions of space within a building, whether directly bounded by partitions or not.

#### *Gross Area*

The floor area of a structure within the outside faces of the exterior walls.

#### *Mechanical Area*

The area of a building to house mechanical equipment and utility services, and shaft areas.

#### *Net Assignable Square Feet (NASF)*

See "Assignable Area".

#### *Non-assignable Area*

The sum of building service areas, circulation areas, and mechanical areas of a building.

#### *Net Usable Area*

The aggregate interior of a building is known as net usable area. It is the sum of assignable area and non-assignable area.

#### *Structural Area*

The difference between the exterior or gross area and the interior or net usable area. Structural Area is the floor area upon which the exterior and interior walls sit and the unusable areas in attics and basements.

## OVERVIEW OF SURVEY

The purpose of the structural inventory was to provide a generalized picture of the number of structures, their purpose, and existing condition. The survey found that the

TSU Campus at Troy contains 78 buildings with a total of 1,555,423 gross square feet. In addition, the University leases one building in Montgomery for use by the main campus School of Nursing. This building is not included in the list that follows. The on-campus buildings include: 162 labs/practice/classrooms containing 112,684 square feet, 262 administrative offices containing 63,888 square feet; 785 dormitory rooms, a library, maintenance and utility buildings, 42 married student apartments, fraternity houses and student activity buildings. An overview describing the general use characteristics and condition of each building has previously been provided as a separate document.

### **Structure Sizes**

The following list presents the major buildings, the gross square footage (GSF), the net assignable square footage (NASF), year constructed, and year of last renovation. The EXISTING USE MAP that follows the table shows these buildings as well as the general uses found on the campus.

## BUILDING SUPPORT AREA

The building support area in any urban type development would be the total land required necessary to support the building use including the parking and access areas which are considered separately in campus planning. An adequate building support area is considered essential at a university in order to provide a pleasant, relaxing environment for learning. Since there are no property lines to measure the building support areas in a campus setting, each building was assigned an area equal to lot area requirements for similar types of uses as required in the Troy Zoning Ordinance.

For educational, office and auditorium type uses, a site area was assigned so that the footprint of the building covered a maximum of 40% of the available land. For the dormitories and housing, residential apartment standards from the ordinance were used. Other identified uses were compared with similar type urban uses to determine the needed building support area.

The table Summary of Building Support Area represents the use areas found on the campus along with the required support area needed for each use.

## **Structural Space**

The inventory of structural space is a more detailed look at existing classrooms, offices, labs, dormitories, and other student activity buildings. This inventory is concerned with the amount of space that is available, occupied or not. It is also an examination of the amount of space in which the professors and staff members have to work, size of classrooms by department, and living space provided by dormitories. Documents provided by the Provost Office and the Admissions Office were utilized in determining which departments were housed in each building. This information was also compared against the most recent print of the University Telephone Directory.

The only space categories that are reported here are offices (both administrative and those occupied by instructors / professors), classrooms, and laboratories. Building name, college, department, and assignable square feet breaks down the category of offices. Classrooms and laboratories are presented by college, academic department, building occupied and by assignable square footage. These portions of the inventory are important to be able to determine the amount of space that can be assigned to people and programs.

### **OFFICES**

#### **1. University Administrative Staff**

Staff positions are inventoried here according to their department, building name, room description, and the amount of office space they occupy. All primary administrative offices for the administration of Troy State University are located in the Adams Administration Building. Other staff administrative offices are located in academic buildings and other locations across campus. The square footage of space allocated for various staff functions at universities is shown in the following table.

**SIZES OF COLLEGE ADMINISTRATIVE OFFICE<sup>1</sup>**

<b>General Type of Administrative Space</b>	<b>Range Net Area SF</b>	<b>Comments</b>
Office of the president	300-350	Dignified atmosphere; elegant and formal; fully carpeted.
President's conference room	350-400	Adjoining office near waiting area; carpeted; accessible from corridor.
Office of the deans of provost	200-250	Formal; carpeted.
Conference room	350-400	General conference room adjoining dean's office but

		also accessible from corridor.
Department head	175-200	Adjoining secretary's office.
Conference room		Same as for dean.
Office of treasurer	175-200	Adjoining business office.
Office of principal directors (guidance, admissions, student affairs, etc.)		Near the respective operational unit.
Office of assistant directors	150-175	Near the respective operational unit.
Office of supervisors	125-150	Near the respective operational unit.
Office of assistant supervisors	100-125	Near the respective operational unit.
Office of chief clerk	75-100	Plus space for files and other equipment where needed. Near the respective operational unit.

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<sup>1</sup> Bareither, Harlan D. and Schillinger, Jerry L., University Space Planning, Univ. of IL Press Urbana, 1968.

## 2. Faculty and Staff

Existing space allocated to faculty and staff members is shown in the Buildings Appendix. The colleges and department are presented in the following order in the Appendix.

- College of Arts and Sciences
- Sorrell College of Business
- College of Communication and Fine Arts
- College of Education
- College of Health and Human Services
- Department of Athletics

The structural inventory determined that the faculty and staff is provided 354 offices ranging in size from 40 square feet to 656 square feet. The recommended minimum office size is 88 square feet and only six offices are below this size. As future alterations are made, these offices should be improved to the recommended size.

Additional administrative and faculty space will be needed when staff is added as the University grows. It is recommended that the actual full time employment head count

be used to calculate office space requirements. These requirements can be set using the same office standard as were used in the analysis conducted for this plan. Once the office space needs are calculated, the office support space (copier and workrooms, etc.) can be added at the ratio of 1 square foot of support space for every 3 square feet of office space. To guide future building efficiency, the actual office space provided in any building should not exceed 15% of the projected office space needs.

For the purpose of this plan, office space was considered to be included in the gross square feet of building required per classroom. In this manner, offices were estimated as a part of the gross need for all non-classroom space when proposed building sites were analyzed. Therefore, although office space is not specifically addressed, it is accounted for.

### 3. Storage

Storage space is at a premium. Material is being stored in building areas priced at the cost of office space. The university should consider building a secure, easily accessible storage building to relieve this need. It is not considered necessary that this building be located on the campus. This type of building could be built for considerably less and could release space in existing buildings for more productive use. When such a building is constructed, existing “dead storage” areas could be converted to more appropriate use in the existing buildings.

## CLASSROOMS

Presently the 93 spaces on campus are classified for classroom space for 68,872 NASF and 41 spaces are classified classroom laboratories for additional 32,894 NASF. In 1995 Troy State University adopted 20 NASF as the standard student station size for classrooms and 12 NASF in large theater type halls. These standards are consistent with generally accepted standards used by other institutions of higher education.

Using the *capacity method* and the existing combined average ASF per student station for combined classrooms and laboratories the University has the capacity of 80,912 WSCH when the average classroom hours utilized per week is 40 hours. The following table provides classroom capacity utilization for WSCH ranging from 30 to 50 hours per week.

### Classroom Needs

Classroom space needs have been calculated using 20 net assignable square feet per student station with classrooms being utilized 40 hours per week for scheduled use while the student station occupancy rate when the classroom is in use is 70%. This results in the following equation:

$$\frac{20 \text{ NASF / Student Station}}{(40 \text{ Weekly Room Hours}) \times (70\% \text{ Student Station Occupancy})}$$

This calculation results in .71 NASF of weekly student contact hours (WSCH) of instruction.

The approach used for determining the classroom space needs of Troy State University is called the *Classroom Analysis – WSCH Method*. This method uses FTE enrollment and credit hours used per FTE. It was assumed that each credit hour equals a weekly student contact hour (WSCH). The net assignable square feet (NASF) for classrooms is determined by dividing the NASF by WSCH, which determines the required net assignable square feet (NASF) of 52,875.

Based on enrollment growth trends over the next five years *the Weekly Student Contact Hour (WSCH) method* projects the future classroom needs of the campus.

<b>Classroom Analysis - WSCH Method</b>				Base Year Enrollment 2002	
<b>Year</b>	<b>Enrollment</b>	<b>CH/FTE</b>	<b>Total CH (WSCH)</b>	<b>NASF/WSCH</b>	<b>NASF</b>
2002	4935	15	74,025	0.71	52,875
2003	5256	15	78,840	0.71	56,314
2004	5571	15	83,565	0.71	59,689
2005	5878	15	88,170	0.71	62,979
2006	6171	15	92,565	0.71	66,118
2007	6449	15	96,735	0.71	69,096

Based on the current available classroom space of 68,872 NASF and available classroom laboratories space of 32,894 NASF Troy State University does not require additional space be added at this time.

## STUDENT SUPPORT BUILDINGS

### 1. Library

The library and communications center is located in Wallace Hall in the northwest section of the core campus area. The structural inventory determined that the net available space in the second and third floor of Wallace Hall, where the library is located, contains 61,413 net assignable square feet. A listing of the net available space in the TSU library follows.

The area in Wallace Hall utilized for the library encompasses 48,734 net square feet and houses 390,000 volumes. A facility designed to handle this many volumes should contain a minimum of 71,011 square feet. The recommended standards are: volume stack space – one square foot of floor space for every 10 to 15 volume (390,000 divided by 15 or 26,000 SF); student stations (reading) – 25 to 40 square feet for 25% to 40% of the student population (25 square feet for 25% of the students or 30,844 square feet); and service area – 25% of the reading area (7,711 square feet). Added to the above is

10% for circulation and common spaces such as halls, bathrooms and elevators for the total of 71,011SF.

The TSU library does not meet the recommended space for a library; it is lacking in sufficient stack space, reading areas, student stations, faculty study areas, conference rooms, and staff lounge. Based on this assessment it is recommended that additional library space be allocated.

## 2. Gymnasium / Natatorium

These facilities are located in Wright Hall. This building contains a total of 19,374 square feet. The gymnasium occupies 6,770 square feet. The Natatorium and pool equipment area is 16,573 square feet. This brings the assignable area total to 23,343 square feet. This closely approximates the typical recommended university standard of 23,000 square feet for this use.

Trojan Arena is a health and physical education building containing a basketball gymnasium with a seating capacity of 4,000.

The "Recreational Gym" building which was part of the Children's Home property acquisition, provides additional recreational gymnasium space but is not considered assignable space for the athletic program.

The amount of space provided in all of the existing facilities falls short of the recommended 39,300 square feet for a Division I University. At Division I status, it is recommended that the University provide additional space. For this reason, a multipurpose building is recommended. With the proper design and placement, this building could provide for several future space needs on campus. The facility should include an auditorium large enough to increase the seating capacity over the present and be capable of hosting other functions such as Division I athletic events, concerts, conventions and other major entertainment events.

## 3. Student Union Building

The Student Union is located in the Trojan Center that is located in the northeast portion of the core campus area. The Trojan Center houses the following: Recreation Room, Offices, Food Court, University Bookstore, Lounges, TV Room, Theater, Ballroom, Post Office, Reading Area, Game Room, Conference/Meeting Rooms, and various Storage Areas.

The Trojan Center has a total of 73,218 net square feet including dining facilities and theater. This is more than the 68,250 net assignable square feet, which is recommended in *University Space Planning* for a university with a student population of 6,500.

Space shortages within the current configuration are the lack of restroom facilities within the building. While the Trojan Center may not meet the standard areas recommended for specific uses, it contains sufficient space and is functioning well.

## STUDENT HOUSING

University housing has been divided into three categories for consideration in the Facilities Master Plan; dormitories, married student housing, sorority houses and fraternity houses. Each category is separately presented in the following paragraphs.

### 1. Dormitories

The building inventory determined that Troy State University provides dormitory rooms in seven building with the square feet per student ranging from 162 to 328. *Time Saver Standards for Interior Design and Space* recommends 160 square feet per student for dormitory rooms without kitchenettes. As shown in the following table, all existing dormitories at TSU exceed this minimum.

<b>Dormitories</b>	<b>NASF/Student</b>	<b>Recommended SF<sup>2</sup></b>
Shackelford Hall	328	160
Pace Hall	313	160
Cowart Hall	182	160
Gardner Hall	237	160
Hamil Hall	194	160
Clements Hall	162	160
Alumni Hall	200	160

<sup>2</sup>Dechiara, Joseph, et al., *Time Saver Standards for Interior Design and Space Planning*, McGraw-Hill, New York, 1991.

In addition to the above dormitories, Dill Hall provides 80 apartment units capable of housing 160 students.

The University provides housing in dormitories at the rate of .33 beds per fulltime equivalent student. Occupancy has been on the increase in the recent past with the rate for the fall 2002 at 96%<sup>1</sup>. The dormitory occupancy data indicates that the provision of .32 beds per student is the actual utilization rate. Based on the projected enrollment of 6,449 and a rate of .32 beds per student, a total of 2,051 dormitory beds will be required by 2007. This means 416 dormitory beds will have to be added. The table below gives the dormitory needs for the planning period for the next five-years.

DORMITORY BED NEEDS  
TROY STATE UNIVERSITY  
2002 THROUGH 2007

<u>YEAR</u>	<u>STUDENTS</u>	<u>DEMAND</u>	<u>NEED</u>
2002	4,935		
2003	5,256	1,672	37
2004	5,571	1,772	137
2005	5,878	1,870	235
2006	6,171	1,963	328
2007	6,449	2,051	416

The dormitory bed / student ratio is expected to remain constant through the planning period. It is expected to increase following the year of 2007 due to the influx of children of the 'baby boomer' and the increase in education standards for students now in elementary school.

The design of student living units is a critical concern in attracting non-commuting students. Currently the trend in student housing is to build two or three story buildings containing suites (two rooms sharing a bath) with up to 200 students per building. Typically, such residence halls are clustered with a food service building.

This means that two dormitory buildings of this size should meet future student needs. In addition to reducing the bed per student ratio, it would also be desirable to reduce the vacancy rate to eight percent or less. It is recommended that future dormitories be located in the northwest quadrant of the campus; north of Madison and west of College Street in area 2. This area should be planned for the ultimate development of more than the two required structures. In the long term, it would be desirable to relocate dormitories to this area and convert some of the dormitory buildings on the east side of the core campus area or to free the land for development of academic buildings.

The building area requirements are based on 160 SF per bed and this represents 70% of the total building. Land needs are based on the building being three stories and occupying 60% of and building site.

DORMITORY BUILDING AND LAND NEEDS

<u>YEAR</u>	<u>BUILDING</u>	<u>LAND AREA</u>
2003	7,013	3,896
2004	27,173	15,096
2005	46,821	26,011
2006	65,573	36,429
2007	83,365	46,314

## 2. Married Student Housing

There are 48 married student apartments. These units usually operate at 100% occupancy. It is recommended that additional married student apartments be constructed in the northwest quadrant of the campus south of Madison Street and in the vicinity of McKinley where the street plan recommended street closure. When constructed, the development should be sensitive to the natural environment, which is being used to buffer this area from other campus development.

## 3. Sorority Houses

Sorority houses are currently developed north of Elm Street on the northern part of campus. The occupancy rate for these houses is currently 100%.

## 4. Fraternity Houses

Fraternity houses are currently developed in the south campus area along the north side of Pell Street. Occupancy for these locations operates between 85% and 90%.

## **Building Sites**

The recommended plan identifies four new building sites, which are consecutively labeled "A" through "D". Sites "A" through "D" are individually discussed in the following sections. The identified building sites are the best. These sites have been selected based on three objectives:

- ✓ To maintain and enhance the human scale of the campus
- ✓ To define and enclose open spaces
- ✓ To use existing facilities and land resources more efficiently

## BUILDING SITE DESIGN CRITERIA

New building sites were located and sized using the following design criteria. The same standards should be applied to existing buildings when they are renovated or expanded to create similar transition spaces to streets, pedestrian corridors and quadrangles.

### 1. Building Density

Create a uniform density of building coverage as a measure of the relative distribution of building and open space throughout the campus. This is a long-term goal. In the short term, it will be more efficient to develop sites close to existing academic areas. Future

growth can expand to the more peripheral building sites to disperse the campus building density.

## 2. Building Setbacks

Create building setbacks from other facilities to provide transition areas. For purposes of planning and evaluating the proposed building sites, the following criteria were applied.

- A. Setbacks of 50 feet from major circulation streets such as the perimeter road and University Avenue. Where existing buildings are located along circulation streets, the setback should equal or exceed the existing setbacks.
- B. Setbacks of 30 to 40 feet from service and access drives which will allow maneuvering space for service to buildings.
- C. Setbacks of 20 to 30 feet from pedestrian corridors depending on the design of the building. Generally, larger buildings should have larger setbacks. However, the design of the building that abuts a plaza developed in conjunction with the pedestrian corridor may provide a basis for variance. For example, depending on the actual design of the building and the plaza, there could be either a minor setback required for landscaping or the design of the building could continue the exterior space to the interior and virtually mandate the elimination of a setback.
- D. Setbacks from quadrangles of up to 20 feet. The quadrangle, by virtue of being an open space, may provide adequate transition space if the building access hard surfaced area is properly designed.

## 3. Building Heights

With the availability of building sites and the projected enrollment, it is not anticipated that taller structures are required for future campus development. Elevation changes are naturally provided by the topography of the campus area. If the building heights similar to those already found on campus are maintained, the change in topography will provide adequate variation to prevent monotony. Topographic changes also create the opportunity to construct buildings that appear taller on one side than the other does and have entrances from two different floor levels. Due to the majority of building sites proximity to existing buildings, the mass of the new structures should be balanced based on nearby buildings. This will prevent buildings over-powering each other.

## 4. Building Orientation

Primary building entrances should be oriented to front on quadrangles and pedestrian corridors.

## PROPOSED BUILDING SITES

### 1. Site A

Recommended Building Site “A” is located on the north side of the core campus area on the inner edge of the perimeter road. An existing power substation is located northeast of the site. The nearest campus structure is Sorrell Chapel that is south of the site. The resulting building site is trapezoidal shaped and contains about 28,560 square feet.

Site “A” is a high visibility site from the north campus entry. Due to topographic changes from the core campus area the site is not visible from the campus. Only the roof is expected to be visible when the site is developed unless a tall structure is developed. As recommended, two pedestrian corridors would serve the site. Service access to the site would be provided on the southwest side of the site. This site is presently one of the more remote sites and would help to balance campus density.

### 2. Building Site “B”

Building Site “B” is located on the northwest side of the campus on the outside, but immediately adjacent to the edge of the perimeter road (Luther Drive). The site is west of Wallace Hall. In the future, the site could be bordered on the northeast end by the pedestrian corridor proposed for extension to serve the on-campus housing area. A pedestrian corridor along the street frontage would also serve the site. The south end of the site is defined by the access drive immediately north of Stewart Hall. The rear of the site is now natural open space of which a small area could be developed for open play recreation.

Site “B” slopes down from the road, so the building will be taller on the backside in order to take advantage of the terrain. The site curves slightly due to following the west edge of the perimeter road. The lineal distance of the site along the perimeter road is sufficient that perhaps two structures could be constructed in this area. For purposes of this plan, the site is considered to be the largest of the recommended sites with 47,500 square feet.

The site is highly visible due to the location on the perimeter road and ability to be seen from the core campus area. Site “B” is one of the sites that would help balance the density of campus development.

### 3. Building Site “C”

Building Site “C” is located southwest of the core campus. The site is outside the perimeter road (Collegedale Street) where the extension of College turns into the west end of the on-campus portion of Collegedale.

Existing parking facilities are located to the rear and as part of the existing gravel parking lot of the proposed Building Site “C”. Building Site “C” is also important to the

overall campus environment because it creates a direct linkage to the Collegeview Building. The removal of part the existing parking would allow the extension of the pedestrian corridor between the structures and the development of a quadrangle.

With the above modifications, the building site contains about 41,870 square feet. Site “C” is not a prominent site and is not expected to be available until the distant future. It is another site that would help diversity campus development density.

#### 4. Building Site “D”

Building Site “D” is located on the south side of the perimeter road (Collegedale Street) and south of Dill Hall. This site is also on acquired property. Site “D” is also less prominent, but will be visible from University Avenue due to the open spaces between Smith Hall, Dill Hall and Sartain Hall. The site and structure will become a marker for the southern edge of the core campus.

The perimeter road and three pedestrian corridors bound the site. The site is rectangular in shape and contains 34,860 square feet.

### ANALYSIS OF PROPOSED SITES

The building sites identify the “envelope” within which new construction can occur. The outlines of buildings shown on the Facilities Plan within the proposed building sites are for illustrative purposes only. The actual outline of the building, or foot print, would actually be developed by the architect when the purpose of the project is better defined and funding is available for detailed design. The building site is larger than the building is expected to be, giving both the University and the architect flexibility to explore design opportunities and to meet specific needs.

Building sites are used to identify potential areas where buildings can be added to achieve objectives such as enhancing development patterns or enclosing open spaces. The building site areas are determined by setbacks from roads, walks, other buildings, and special open space areas. The total building site adequately serves the purpose of allowing the estimating of the development capacity of each site in terms of gross square footage of building space.

Based on the determined building area of the four proposed sites, the potential size of structure can be estimated. For purposes of this plan, it was assumed that 90% of the building area would be used and that each structure would be three floors high. In addition, the number of net classrooms per building was determined based on the gross square feet in the building. The net building area by site, building gross square footage, and number of classrooms, is shown in the following table.

Site	Site Building Area (SF)	Building Gross Square Feet	Net Classrooms
A	28,560	77,110	28
B	47,500	128,250	46
C	41,870	113,050	40
D	34,860	94,120	34

### **Site Recommendations**

Building Sites “A” and “B” are short to moderate term construction sites because the University already owns the property. Sites “C” and “D” are considered long term sites for development since they must be acquired.

Based on the previously determined need for approximately 60 classrooms, and considering the above factors, proposed Building Sites “B” and “C” are considered the highest priority for immediate development.

## **OPEN SPACE SYSTEM**

The last primary campus system to be considered is the open space system. The open space system consists of natural open space, recreation, and proposed community/campus open space buffer. Augmenting the natural and recreational open spaces that exist at the edge of the campus creates the buffer. Transportation areas, pedestrian corridors and utility easements also create open space but are discussed as separate campus systems in this report. Their relationship to open space can be briefly highlighted as follows.

Streets and parking areas create open space on the Troy State University campus. Landscaping lining streets and plantings in and around parking lots should enhance the visual appearance and create a sense of open space. Utility easements and utility corridors create a lineal pattern of open space on the campus. However, if successfully planned and implemented, these spaces should be located in conjunction with other campus open spaces and should not be readily apparent.

### **Natural Open Space**

Natural open space areas are typically the most likely to be considered for future development sites. With today's building technology, there is no reason why additional University facilities could be built on any of the open space sites on the campus. However, since the natural areas are limited, careful consideration should be given prior to the conversion of natural open space to development. To the maximum extent practical, the recommendations for future campus development contained in this plan, have preserved the majority of existing natural open spaces and utilized them as buffers and dividers.

There are a limited number of natural open space tracts on the Troy State University campus. The most notable are the drainage ways and related bottomland to the northwest, north, and south of the campus. The largest tract of undeveloped land on the campus is found between south of Pell Street known as the Arboretum. The area contains 58.2 acres, is wooded and has a small pond. Most of this area is protected wetlands.

The second largest property is North of Sorority Hill in an undeveloped tract of land formally owned as part of the Baptist Children's Home. This area contains 21 acres, is wooded and on steep terrain. Part of the lower portion of the property is protected

wetlands. This area has been considered for future expansion of recreation facilities. However, such development is more costly than flatter terrain.

Another large tract of undeveloped land on campus is between Luther Drive and McKinley Drive north and west of Stewart Hall. This area of 17.21 acres is wooded and has a steep terrain with a drainage area through it feeding into Lake Lagoon. This area offers an excellent opportunity for wooded walkways, sitting areas and passive type recreation without destroying the natural character of the area. A second small sediment pond should be built above Lake Lagoon to help keep this lake clear and free of sedimentation.

Another undeveloped area exists of approximately 3.03 acres located west of McKinley Drive and north of the Chancellor's home. Although this area has good slope conditions for development, it is remote from the main campus and has a property depth of only 150 to 230 feet. With the closing of a portion of McKinley, it could be unified with the area above.

The entire area around the four lakes is included as another open space grouping. These areas are intermingled with the golf course. The largest is Lake Lagoon with 2.55 acres. The other three lakes are on the north side of the golf course with 1.3 acres, followed by a lake behind the Army ROTC in front of the 8<sup>th</sup> tee box with .46 acres, and the smallest being a sediment pond between the fairway of the 2<sup>nd</sup> hole with .34 acres. These four lakes offer limited passive recreation opportunities. These lakes are small and act as drainage control features.

A large undeveloped area around Sorrell Chapel contains approximately 4.62 acres of open space. This area is also wooded, contains a drainway, and the slope is not severe. This area is recommended for preservation as a campus buffer to separate the chapel from other uses in the core campus area.

The next largest open space areas are located to the east of the golf course along George Wallace Drive. South of the main campus, there are smaller natural open space between Collegedale Street and Pell Street near the fraternity houses.

It is recommended that the natural open space within the campus area be designated for preservation. The majority of the open space between McKinley Drive and Luther Drive should be maintained as natural open space. The majority of the open space west of Luther Drive and the area around the lakes is proposed for preservation.

Natural and passive use open space should be maintained around the three lakes that exist on the north side of the campus property. A natural setting around the lakes will increase natural filtration of surface water drainage that fill the lakes and provide areas from which to observe and enjoy the lake environment. The lakes also provide an opportunity to help in the development of a very picturesque northern entry point to the main campus area.

Natural open space should also be preserved around the amphitheater and Sorrell Chapel. Landscaping should be added between the theater and both Malone Hall and the University Center. The landscape development of this area should be done in a manner that screens, but does not obscure, the view. This should be accomplished in conjunction with other improvements related to the amphitheater that were discussed in conjunction with proposed pedestrian corridors.

## RECREATION

Recreational open space needs to be provided considering the type, quantity and distribution of the open space. Interscholastic sports facilities are included in this part of the plan. However, these facilities are not typically available for use by the student body and should be excluded in the calculation of usable recreation open space that is considered in this part of the plan. The recreation open space that is considered part of the usable recreation open space can be classified into structured or open play areas.

Structured recreation includes those locations, such as tennis courts, where facilities determine the type of activity that occurs. Open play areas, such as the intramural fields can be used by groups for organized, competitive team play. Smaller groups and individuals for free play or passive recreation use other open play areas. Some dual-purpose open spaces, such as quadrangles, fit into this latter category. There are indoor recreation activities available on campus including a fitness center, a theater, a recreation room offering pool at the Adams Center, and an Olympic sized swimming pool available at the Natatorium.

### 1. Interscholastic Athletic Facilities

The Athletic Department manages the football, basketball, baseball, and softball programs at the University; the golf course is managed the student Auxiliary Services. Facilities include a nine-hole golf course with approximately 40 acres, a football stadium with approximately 18,000 seating capacity, a football practice field containing approximately 3.14 acres, Pace Baseball Field which contains 4.26 acres, an intramural field on Collegedale Street with 6.86 acres, and a new softball complex containing approximately 1 acre.

The band practice area is included in this category because it is a recreation / education related area similar to the football field and the golf course. This area encompasses approximately 2.18 acres of well drained, grassed open area used for precision marching and formation practice by the University band. This area is located in the southwest quadrant of the campus with only minimum development nearby. Located neat the new intramural field, this space is also available for other recreation activities.

### 2. Intramural Sports

The intramural fields are located in the southwest corner by Collegedale Street that contains 6.86 acres. In recent years the existing intramural fields, once considered

adequate for organized, extracurricular sports play, do need improvements to keep up with increasing participation. The two intramural areas and marching band practice fields provide, within a couple of acres, almost enough recreational space for the existing enrollment at TSU main campus. However, the addition of night lighting to the intramural field will provide for longer hours of use after daylight hours are gone. This does not consider the tennis court area, golf course or passive recreation areas around the lakes. The provision of recreational open space is needed primarily to enhance the distribution of recreational areas and only secondarily to meet future growth in enrollment.

### 3. Recreational Open Space

The remaining recreational open space can be divided into structured play area and minor recreation areas. Structured recreation areas include those locations, such as tennis courts, where the facilities provided determine the type of activity that occurs. Minor recreation areas include low intensity play areas and passive recreation space. Some dual-purpose open spaces, such as quadrangles, fit into this latter category.

#### A. Structured Play Areas

Golf Course: The golf course, with nine-holes occupying approximately 40 acres, is available to all students and to the public. Included around the golf course is a paved walking trail offering exercise and tranquil nature areas.

It is recommended that the Pro Shop be located to the north side of the lake area and drainage ways on the east side of Luther Drive. This will remove golf traffic from the campus area. The open space between the lake and Elm Street can be used to develop a driving range that in turn will enhance the perimeter greenway buffer.

Tennis Courts: Currently there are 12 tennis courts. This is new facility on the north side of campus just south of Elm Street and next to the new softball complex. Adequate parking space is available for the tennis courts.

Amphitheater: The Amphitheater, east of the library, provides space for open air plays, speeches and meetings as well as a passive area for study.

#### B. Minor Recreation Areas

The type of recreational space that is most needed is for informal play that is more likely to occur at lower intensity and involve smaller groups. Some of this type space can be considered to be dual-purpose space provided as a part of campus quadrangles. If provided as a part of quadrangles, the space should exclude sidewalks and other landscape or hardscape. A durable grass should also be established in the event of heavy use.

There are open areas throughout the campus that the students use for unorganized passive recreation. Other passive areas are available in the undeveloped acreage on the campus and around four small lakes.

## COMMUNITY / CAMPUS BUFFER

It is not practical to create a large enough barrier between the community and the campus to deflect noise and other distractions. A greenway buffer can be developed and maintained to physically and visually define the perimeter of the campus. The establishment of a community / campus buffer is recommended. It will be relatively easy to implement because many attributes of the perimeter-defining buffer already exist.

George Wallace Drive defines the eastern edge of the campus. Open space along this edge of the campus consists of natural open space in the vicinity of the golf course and recreation open space near the campus. The football practice fields provide the desired open space buffer. The football stadium is the only structure located in this open space buffer. It is recommended that this buffer be maintained with its present uses and enhanced with landscaping. It is recommended that a perimeter landscaping be added parallel to the west side street right-of-way of George Wallace Drive. This will only be necessary in the practice field area.

Pell Street generally defines the southern edge of the core campus area. Some of the smaller natural open spaces are located along this campus perimeter. The intramural field is located north of Pell Street near the western edge of the campus property. The Arboretum is located south of Pell Street. The visual quality of the greenway buffer can be maintained by preserving existing open spaces north of Pell Street and by landscaping the area in front of the Collegeview Building and the intramural field in a manner similar to the landscaping proposed along George Wallace Drive.

The western edge of the campus is defined by the fence line between the campus and the back yards of residences which front on Folmar Street. A narrower landscaped buffer could be used along this side of the campus because it is less visible. It will also be easy to achieve the desired effect since major portions of this segment of the perimeter are naturally wooded open space. Enhancements to the perimeter definition should be made along the edge of the marching band practice field and near University Drive. In the long term, it would be preferable to remove the Upholstery Shop structure from this buffer area.

It is recommended that an open space buffer be created and preserved parallel to Elm Street to define the northern edge of the campus between the middle school and golf course.

## **Landscape System**

The campus shows evidence of an active landscape program with plantings incorporated into plazas and open neutral ground areas across the central part of the campus. However, a number of academic buildings need plantings and other updates to the landscaping. There are some areas with heavy tree coverage that have no ground cover. There is a program to incorporate ground cover or seeding with a shade loving variety of grass into these areas. Over the next few years this will continue to improve the appearance of the area as well as reduce tracking of dirt and sand into the buildings.

The park like quality, visual appeal and image of the campus environment can be enhanced through the on-going efforts of the landscape program. The landscape program should continue to set forth a systematic approach to landscaping features of the campus such as roads, pedestrian corridors and the campus boundary. In instances such as the example cited, it would be desirable to use uniform planting materials to create consistency in appearance and a cohesive image for the campus. In other instances, such as landscaping around buildings, the landscaping program must be sensitive to the need to allow variation in design and must avoid monotony by over using the same landscape materials.

The current plan purposes a series of locations for plantings that, when implemented, should consider future vegetation growth. This will ensure that trees and other plants have adequate room to grow to full maturity. Although the immediate plantings may appear slightly sparse, this practice will conserve short fiscal resources.

This plan does not specifically address the removal of trees and other landscape material. It may be necessary to address problem areas or remove existing trees, even if they are healthy, where they are obscuring a view or prominent building.

### **NATURAL PLANTING AREA CONSERVATION**

The plan proposed the preservation of much of the natural vegetation areas throughout the campus as previously discussed in the Open Space System section. Plantings introduced in these areas, either as replacements or near them, such as the boundary buffers discussed below, should blend with the existing landscape material and be limited to plants which would grow naturally to reinforce the indigenous environment. In some instances, subtle transitions from natural areas to formal plantings at the boundary of the campus and along roadways may be needed. To achieve this it may be necessary to coordinate masses of trees, flowering shrubs and ground covers to provide the transition.

#### **Community / Campus Boundary Buffer**

The planting of large, hardy trees of the same species with regular spacing along portions of the campus boundary was previously recommended in the Open Space System section of this report.

### Street Trees

Perimeter and internal streets should be edged with trees of the same species to create the effect of tree lined lanes. The trees used along streets should be smaller than those used for campus boundary plantings. The use of a low maintenance species, such as Crepe Myrtle or Bradford Pear, is recommended. The trees should be regularly, but relatively widely spaced and adequately set back from roads to allow safe sight lines and turn lanes.

### Vehicular Entrances

This plan proposed three main vehicular access points to the campus in the Street System section of the report. These vehicular entryways should be considered primary locations for landscape plantings. Ornamental trees, shrubs, ground cover and plants providing seasonal color could be appropriately arranged in bold masses. The formality of the entrance can also be determined by the symmetrical or asymmetrical arrangement of the construction and plantings provided at the entryways.

Minor entrances within the campus should also be considered as locations for landscape plantings. The type and number of plants should be substantially lower than those used at the main campus entrances and the use of other special material should also be decreased. These landscape areas can also be varied in size to provide a hierarchy of importance between the entrances.

### Pedestrian Entrances

The scale of a pedestrian entry should be significantly smaller than vehicular entrances, but the demarcation of the entrance is similar in concept. The formal or informal arrangements, special use of material, or features such as walls, can be used to design and reinforce pedestrian entrances. Like wise, ornamental and flowering shrubs and canopy trees for shade should be considered for use.

### Building Planting

In 1998, Goodwyn, Mills, & Cawood, Inc. produced a set of Planting Plans for landscaping around campus buildings. This plan is being followed. In addition to the plan other planting plans are developed as needed. Additional changes may yet be required in view of the pedestrian corridor, plaza and other recommendations included herein.

Informational landscape planting areas around buildings can effectively reduce the scale of larger buildings. Vegetation with various textures and colors can be planted

near building edges to decrease the contrast between the building and any open areas. To a certain extent, the use of similar trees with uniform spacing and naturally grouped foundation plantings can unify buildings of different architectural styles. Natural plantings around the buildings will create the needed transition and should require less maintenance.

### Parking Areas

Landscaping and earthen berms can be used to buffer the outer edges of parking areas. However, it must be remembered that clear sight distances are needed for safety reasons at entrances and exits.

Within parking areas, landscape islands can be used to control traffic movements and soften the effect of the expanse of the parking area. To improve the environment it would be desirable to provide landscaping between every group of parking bays. Wheel stops should eventually be replaced with concrete curbs and landscaped islands. If continuous islands are not provided, intermittent islands should be provided. As noted in other sections, these islands can be located to incorporate lighting fixtures and the type of plant material should be coordinated with the lighting needs of the parking area.

If the landscape islands in parking lots are wide enough and properly aligned, they can also serve as extensions of pedestrian corridors to create direct linkages to the campus pedestrian system.

### Landscape Buffer Areas

Landscape buffers can be used to separate use areas on campus, screen utilities and service areas, or decrease the effects of nearby development. When planting buffers, space should be allowed for the use of dense evergreen material to provide a year round buffer. Buffer landscaping can be used in conjunction with berms and screening walls.

### Problem Areas

Typically on campuses there are two types of landscape problem areas: dead planting areas and over planted areas.

Dead planting areas are areas where turf is difficult to maintain. Dead areas must be examined for excessive use or improper planting. This may occur in areas that have been over planted, have the wrong type of plant material. In some cases, dead planting areas are the result of soil compaction caused by pedestrian traffic. Regardless of the cause, these areas are visual eyesores that need to be corrected through positive physical controls or remedial actions. Erosion may require retaining walls and the aggressive planting of deep root ground covers. If there is excessive use in the area plant or tree removal and pruning may be required to provide open space for the smaller plants.

To date on the TSU campus, pedestrian compaction of soils has been interpreted as the need for walkways. Landscape areas defined by walls and planted with holly might offer the degree of control required. In extreme cases, adequate space for dispersal of groups of users may not exist and a hardscape treatment, such as a plaza or courtyard may need to be developed.

If an area is improperly planted, the landscape materials may be competing with each other. For example, a dense stand of trees may be blocking out sunlight and preventing the establishment of either turf or ground covers. In these cases a decision must be made as to the ultimate character of the space and remedial actions taken such as the removal of selected trees.

## Wall and Decorative Fences

Walls can be used in high image areas for retaining soil, to provide seating or to create screening. It is recommended that decorative fences, if used, be limited to use along the campus perimeter and in areas of high visibility. Walls and fences should be consolidated into a few standard types to create a consistent appearance on the campus. Standard wall and fence materials would typically include brick or concrete with a limited use special treatment.

### 1. Walls in High Image Areas

Walls may be required in some high image areas such as the vehicular and main pedestrian entrances to the campus. Ornamental trees and shrubs can be used in conjunction with these walls to create focal points rather than a roadblock and can emphasize the entry point. Entry area walls should preferably be three to five feet high, twelve inches thick and have columns at the ends to stabilize the wall. Columns should also be added at locations where the wall direction changes.

The actual design of the wall should be determined by the location and scaled to suit the location. Vehicular entrance walls are bigger than pedestrian entrance walls. Vehicular entrance walls may also be used for campus entrance signage. If this is done, both decorative and functional lighting should be considered to make the area legible at all times of the day and night.

### 2. Seating Walls

Retaining walls, planters and walls used to separate site elements can also be used for seating. When a wall is to be used for seating it should not exceed three feet in height and be at least fourteen inches wide. The top surfaces of these should have a smooth finish and be pitched slightly to ensure water run-off.

### 3. Retaining Walls

Retaining walls can be an effective way of retaining soil. Due to the terrain conditions on campus, retaining walls may be needed where sharp grade changes occur. Generally, retaining walls are used when the slope is in excess of 2:1. Depending on the slope of the ground in the area of the retaining wall, erosion control planting may also be desirable to protect the slope.

### 4. Screening Walls

Screening walls should be used to enclose service (trash dumpsters, etc.) and utility areas. Screening walls should be opaque. Where space allows, screening walls should be combined with planting and berming to enhance the view.

## SECURITY AREAS

The most common and economical type of security enclosure is a chain link fence. All replacement chain link fences, rails and posts should be coated with non-luster vinyl of the same color. Top and bottom rails should be used on all fences to avoid sagging and minimize future maintenance problems. Where fences abut a parking area, a minimum clearance of 3 feet is recommended between the fence and the wheel stops to ensure that vehicles do not damage the fence. Berming and landscaping should be added whenever possible to screen both the fence and the area it encloses.

## **Signage System**

The establishment of a signage and graphics theme, consistent throughout the campus, is critical for any signage system to be effective. A coordinated sign system, especially if well designed, unifies and improves the image of the campus. To create an effective signage program, it is necessary to create a hierarchy of signs which includes all the types of signs needed on the campus. Types of signs within a campus signage program include directional, identification, informational, regulatory, and temporary. Color coding sign by type helps considerably in their effectiveness. Consultation with a graphics designer is recommended to fully develop the University signage program.

Since signage is required for numerous purposes and signs are located throughout the campus, the life cycle of signs, including maintenance, is important. Low maintenance materials, such as aluminum, should be considered.

## DIRECTIONAL SIGNS

Directional signs are mandatory to guide vehicular and pedestrian traffic on the campus and create a sense of order and orientation. The major directional signs should be located on the primary streets of the campus, specifically University Avenue and the perimeter road. Minor directional signs should be placed at lesser directional points, on

the campus, including along the pedestrian corridors, to guide visitors and students to specific facilities and functions.

The scale of directional signs should primarily be related to the speed of the viewer and secondarily to the importance of the sign. As such, directional signage can range from quite large to relatively small.

Off-campus directional signage is also important for Troy State University. This signage needs to begin along major regional access routes, lead users through the surrounding city neighborhoods on selected arterial, and deliver them to the campus entrances.

## IDENTIFICATION SIGNS

Identification signs are used to identify the campus itself, buildings on the campus, and specific on-site uses such as tennis courts. Identification signage at the campus entry is the most important since it establishes the initial impression of the University and is typically the most prominent sign in the system. Campus identification signs can be incorporated into high image area walls and set the theme for the rest of the identification signage system.

Often, color-coded systems are used to readily distinguish between academic, administration, athletics, residence, student services and parking.

## INFORMATIONAL SIGNS

Informational signs provide data about diverse events or even hazards. These signs are typically located in proximity to the element they are providing information about and can range in size from small to large. A kiosk is a special form of an informational sign. A kiosk provides space to mount posters, memorandums and other notices. Larger signs and kiosks should be conveniently located in high traffic areas, but situated to minimize the obstruction of movement.

Directory signs, another form of information sign, display location information. Directories are typically located near activity nodes and main entrances. Since they guide users, their placement, legibility and orientation characteristics are very important.

## REGULATORY SIGNS

Regulatory signs control the actions of vehicular and pedestrian circulation. Examples are traffic signs. Many of the regulatory signs are composed of standard graphic symbols that can easily be adapted to the signage standards set by the University.

When designing the regulatory sign system it must be remembered that University Avenue is a city street providing through traffic movement. Therefore, traditional, readily recognizable traffic signage is required. It is recommended that the use of traditional traffic signage be minimized to the extent possible and that University

signage be minimized and clearly separated from the location of the traffic signs. Minimizing all signage along University Avenue will enhance the visibility and image of the campus.

## TEMPORARY SIGNS

Temporary signs are often needed for activities and events that do not warrant the expense of permanent signage. Generally, any sign that is to remain for more than a year should be considered a permanent sign and be required to comply with the selected signage program. In some instances temporary signs are posted in the same location and changed for specific events. Therefore, the recurrence of the need for different temporary signage is an important consideration in determining if the sign is to be classified as permanent or temporary.

Typically, temporary signs are needed for construction operations and special events. These signs are usually made of less durable material and colors and display logos unique to the event. Control of the placement and duration of use of temporary signs is important to minimize conflicts with the selected signage program.

## **Lighting System**

Lighting can be used for purely functional purposes or to accent areas and features. Specific lighting needs on campus should be analyzed in conjunction with project planning. It would be advantageous for the University to consult with lighting professionals regarding changes to existing lighting and for coordinating the planning of future projects. General guidelines for the lighting of typical areas are as follows.

## ACCENT LIGHTING

Accent lighting creates a sharp contrast with surrounding elements and may include up lighting or silhouette lighting. Accent lighting is applied to provide a striking effect to draw attention or create a focal point. In a University environment, it is wise to design the accent lighting first because it is often the most dominant lighting effect used throughout the campus. Generally, accent lighting is used for:

- ✓ Signage (using up-lighting from above ground adjustable light fixtures which are usually concealed with landscaping)
- ✓ Architectural elements (using flood lighting of facades or spot lighting of spires or towers)
- ✓ Highly visible locations such as plazas with ornamental plantings (using lower level light 'washes' to create visibility for features such as sculpture or special landscaping)

- ✓ Building entrances (using silhouette lighting which sets off masses of plantings from the plane of the building wall in the entrance area)

## PARKING AREAS

Parking areas should be lighted using a uniform style fixture that approaches maximum efficiency to reduce the number of fixtures required. Decorative lighting and fixtures should be avoided except in specialty areas such as turnarounds or when used adjacent to a building with special architectural characteristics. Generally, the fixtures should have sharp cut-off patterns to avoid light spill over and glare.

Lighting within parking areas must be coordinated with the design of the lot. The scale and dimensions of the parking lot should be considered in conjunction with the selection of pole height and spacing. Planting areas can be used to provide protection for the lighting fixtures since they should be situated out of the way of pedestrian and vehicular circulation areas and parking spaces. For security reasons, the lighting levels within the parking area should be slightly above the average required parking lots.

Generally speaking, the larger the parking lot size, the higher lighting fixtures are mounted. Therefore, interior landscaping must be planned in conjunction with the lighting plan to prevent dark areas within parking lots. If a parking area is small and close to a building, it may be more practical to provide building mounted fixtures to light the parking area.

## PEDESTRIAN CORRIDORS AND WALKWAYS

Lighting levels for pedestrian areas can be slightly less than that provided in parking areas but should be sufficient to maintain safety. In pedestrian areas, pole mounted fixtures of 10 to 12 feet can usually illuminate an area efficiently. Although, in some areas such as pathways, stairs, or pick-up and drop-off points, fixtures with lower mounting height are often used. This type of lighting should not be used in areas where vandalism is of concern.

Lighting fixtures used in pedestrian areas should be allowed to vary in design, but the number of types of fixtures should be limited to maintain design consistency and reduce the inventory of lighting maintenance supplies required. From a design standpoint, it would be desirable to have a lighting fixture plan that uses similar size, shape, and color.

## **Utility Services**

Troy State University operates 'on campus' utilities, therefore there are few existing public utility easements that can influence the future development of the campus. The Heat Plant, the primary feeder lines to the west side of the campus and the transformer station near the lakes are the primary on-campus utilities of concern.

Public service utilities, such as electric, water and sewer, are located in the rights-of-way along city streets such as University Drive and Collegedale. Any changes in the public rights-of-way would require the creation of utility easements unless the existing utilities are relocated. The proposed perimeter loop road, which closes small segments of Collegedale, is not expected to create a problem. The utility services in these limited areas can be relocated or installed as underground service.

A detailed utility study was not conducted to determine the exact capacities of each utility. However, all utilities seem adequate for current service and should be flexible enough to be expanded as campus development occurs.

The visual distraction of overhead utility lines, typically located along or stretching across roadways to provide service to buildings, can be minimized by consolidating utility services into common corridors or eliminated by installing underground utility services. It is recommended that all future utility development be placed underground to improve the appearance and image of the campus. Although the initial costs will be higher, the life cycle costs usually yield a net benefit. At the transformer station at the Lagoon the use of plant material for a buffer using a tall juniper or Laylan Cyprus has scaled down its visual impact, especially since this is located near one of the primary entrances to the campus.

## UTILITY CORRIDORS

When new utility lines are planned, they should be located in designated utility corridors. The concentration of utility services in major corridors has several benefits. The use of corridors facilitates maintenance and when future building sites are defined, utility corridors enable all major services to be easily avoided.

## SCREEN UTILITY AREAS

All utility buildings and features, such as the transformer station and air conditioning units, should not be located in visually prominent locations. In addition to being in areas that are not highly visible to the public, they should be screened with walls, fences, berms, and / or landscaping material.

## **IMPLEMENTATION**

A number of recommendations offer opportunities to improve the campus environment at relatively low cost within the short term. This includes programs such as landscaping that can be accomplished in affordable increments by annually committing to sustain the development of certain systems in accordance with the master plan. The implementation of short-term projects and the annual improvements of campus systems will reinforce the long-term goals and demonstrate the credibility of the Facilities Master Plan.

General cost levels, expressed in current dollar values, are provided for conceptual level evaluations. The costs should be considered as “ballpark” estimates. The costs shown are based on data in *R. S. Means Cost Estimating Data Book* and include contractor overhead and profit as well as associated financing charges, and architectural or engineering costs. These costs also reflect CPI inflationary factors as part of this update to the 1995 Facilities Master Plan. After specific projects are selected for implementation and detailed plans are prepared, the construction drawings should be used as the basis for detailed construction budgeting.

### **Project Costs**

Each project recommended in the Facilities Master Plan for development within the planning period 2010 is highlighted below and a cost estimate is provided. A number of low cost projects should be grouped for implementation purposes so the contractor mobilization costs are not excessive in comparison to the project costs. The projects are listed by physical development systems. Following the list of projects, a table is included which summarizes the projects. The project list and summary table at the end of this section is cross-referenced with assigned project numbers.

## **STREET MODIFICATIONS AND DEVELOPMENT**

### **1. Loop Road**

- A. East Collegedale Street Closure – \$7,045  
Remove 170' of Collegedale Street (east end) by Rotary International Center and realign intersection (50' of paving repair and curb and gutter one side).
  
- B. West Collegedale Street Closure – \$45,295

Remove 1200' of Collegedale Street (west end) and create 2 cul-de-sacs (60' diameter minimum) at the remaining ends of the streets.

C. College Street Extension – \$7,731

Extend College Street south 330' from University to Collegedale generally following the existing parking lot access drive and realigning the intersection at Collegedale.

D. Luther Drive Extension – \$7,496

Extend Luther Drive 320' from University to Collegedale including cutting existing curbs and repairing intersections.

E. Luther / University Intersection – \$3,164

Improve Luther Drive and University Avenue intersection with 400' of turn lanes.

F. College / University Intersection – \$3,164

Improve College Street and University Avenue with 400' of turn lanes.

G. College / Luther Intersection – \$17,075

Realign intersection of College Street and Luther Drive (north of campus) to create loop road traffic flow (100' of paving) and simultaneously improve with turn lanes.

H. North Luther Drive Improvement – \$40,986

Realign and widen 1750' of Luther Drive from intersection with College Street to Eldridge Hall.

I. College Street Improvement – \$3,510

Widen 450' of College Street from University Drive to Stewart Hall.

J. College Street Parking Separation – \$11,241

Remove parking area access (280') on College Street across from Stewart Hall.

2. University Avenue

A. East University Boulevard – \$49,601

Create 650' of boulevard from George Wallace to Luther Drive intersection and remove curb parking.

B. West University Boulevard – \$49,601

Create 650' of boulevard from the west campus boundary to the parking access drive at the west end of Alumni Hall and remove curb parking. Maintain wide

paving surface from the west parking access drive to the intersection with College Street.

C. University Parking Signs – \$816

Remove curb parking between College Street and Luther Drive.

D. University Traffic Lanes – \$865

Create one moving lane in each direction and develop center turn lanes at College Street and Luther Drive.

3. McKinley Street (west side)

A. West McKinley – \$50,037

Remove 1350', including both parts of 'y', from Madison to first scenic overlook and repair turnaround at scenic overlook.

B. North McKinley Closure – \$121,524

Remove 2750' from intersection of College to George Wallace and install 200' curb and gutter on west side of George Wallace to repair old intersection location. This partially consolidates the golf course property with a net increase of 3.79 acres. Remove paving and replace with grass and landscaping.

4. Luther Drive

A. Luther Drive Closure – \$55,398

Remove 1250' from intersection with McKinley to east side of Heat Plant building. This partially consolidates the golf course property with a net increase of 1.61 acres. Remove paving and replace with grass and landscaping.

B. Luther Drive Parking Conversion – See Parking

Incorporate 240' of Luther Drive in proposed parking lot and access drive. See new parking lot proposal number 12.

5. Madison Street and north College Street

North Campus Entry Boulevard - \$78,857

Create 1450' feet of boulevard from the campus entry point on Madison Street around the north side of the lake and south on College Street to the intersection with the perimeter road.

6. McCall, Bibb Graves, Adams Administration Loop Drive

Campus Center Loop Drive – \$51,065

Redesign the loop to be 100' closer to University Avenue to make room for the main campus plaza to be developed in front of Bibb Graves Hall.

7. Parking Access Drive at Alumni and Stewart Hall

Revise Alumni / Stewart Parking Access – \$7,025

Remove the access drive (180') between the dormitories and create a new access drive (140' x 26') north of Stewart Hall to connect with the access drive which is west of Alumni Hall so the access loop serves both dormitory parking lots. (See parking area proposals 7 and 8.)

### CAMPUS ENTRY POINTS

1. Madison Street (north entry) – \$96,779
2. University Avenue (west entry) – \$102,959
3. University Avenue at George Wallace (east entry) – \$109,139

Create vehicular campus entry points at three locations. Each entry point includes decorative walls, signage, accent lighting and landscaping. All costs are assumed to be included within the cost per entry point.

### PARKING SYSTEM MODIFICATIONS AND PROJECTS

1. North Malone Hall – \$35,455  
Create buffer from newly aligned perimeter road and increase the parking area by .34 acres with expansion south and inclusion of part of old roadway.
2. East Hamil Hall – \$23,874  
Create buffer from newly aligned perimeter road and organize parking area using portion of old roadway with an increase of .48 acres.
3. East Pace Hall – \$4,944  
Create buffer to Luther Drive and redesign parking area for no net loss of parking spaces.
4. West Sorrell Chapel – \$14,609  
Separate parking area from existing parking to allow development of a pedestrian corridor with buffers from the adjacent parking areas. Redesign Sorrell Parking Area for circulation with approximately .27 net acres. The net loss of parking area for the pedestrian corridor is .08 acres.

5. West Wallace Hall – \$4,103  
This parking area was separated from Sorrell Chapel as a part of the previous proposal. Redesign this parking area for circulation and add an access drive at the north end of the parking area. Maintain the buffer from the College Street portion of the perimeter road.
6. West Stewart Hall – \$28,304  
Expand the existing parking area to the west with a net increase in parking area of .39 acres.
7. East Alumni Hall – \$32,950  
This parking area is across College Street from Alumni Hall. It is proposed for removal to create Building Site “c”. The net loss of parking area is .78 acres.
8. West Alumni Hall – \$54,210  
Expand the existing parking area to the north and east with a net increase in parking area of .41 acres.
9. West and South Clements Hall – \$185,289  
Create a new parking area to the west and south of Clements Hall. The southern portion of this parking area is adjacent to the marching band practice field and the portion of the parking area south of the Collegedale Street right-of-way should not be landscaped. The net gain in parking area is 4.72 acres with 1.72 including landscape islands and 3.0 acres being open parking.
10. North Building Site “A” – \$75,101  
Create a new parking area west of the perimeter road with buffering from the road and north of Building Site “A” with a net increase area of 1.51 acres.
11. Northeast Adams Activity Center – \$54,851  
Create a new parking area north of the perimeter road (northeast of Adams Center) maintaining buffering from the road and increasing parking area by 1.12 acres.
12. East Luther Drive Number 1 – \$75,458  
Create a new parking area east of Luther Drive in the vicinity of the location of the existing golf Pro Shop with a net increase in parking area of 1.35 acres.
13. East Luther Drive Number 2 – \$90,284  
Create a new parking area east of Luther Drive at the location of the existing tennis courts with a net increase in parking area of 1.35 acres.
14. South Collegedale / New Building Site “E” – \$50,231  
Create a new parking area south of Collegedale Street and east of Building Site “E” with a net increase of 1.01 acres.

15. South Collegeview – \$33,446  
Create a new parking area in part of the loop drive area south of the Collegeview Building and maintain the buffer strip for the community / campus boundary between the parking area and Pell Street. The net increase in parking area is .67 acres.
16. South Collegedale Street, south of Smith Hall – \$99,968  
Create a new parking area south of Collegedale Street, except for the Baptist Student Union property and buffer areas, with a net increase in parking area of 2.01 acres.
17. South Collegedale Street, south of Sartain Hall – \$66,645  
Create a new parking area south of Collegedale Drive and behind Sartain Hall, with a net increase in parking area of 1.34 acres.
18. Multipurpose Building – \$53,704  
Create a new parking area west of the primary site for the multipurpose building with access on the perimeter road and buffered from University Avenue with a net gain in parking area of 1.01 acres.
19. Married Student and Dormitory Developments  
The Facilities Plan proposes married student housing south of Madison Street where McKinley Street was closed and dormitories north of Madison and east of College Street. No parking areas are reported here for those facilities. It is assumed that parking areas will be included as a part of the project design and meet part of the projected parking demand.

## PEDESTRIAN CORRIDOR DEVELOPMENT

This section lists the recommended pedestrian corridors which are to be developed with walkways, bike paths, landscaping, lighting and street furniture. For cost estimating purposes it is assumed that all corridors in the core campus area are 24' wide and that corridors in all remaining campus areas are 18' wide.

1. Sorrell Chapel / Building Site "A" (650') – \$27,557
2. Building Site "A" / Malone Hall (500') – \$21,197
3. North Wallace Hall / College Street and Parking Area (700') – \$29,696
4. North Wallace Hall / Adams Activity Center (620') – \$26,284
5. South Adams Activity Center / Parking Area (240') – \$10,172
6. South Wallace Hall / Hamil Hall and Luther Drive (1,500') – \$63,592

7. Alumni and Stewart Hall / Eldridge and Pace Hall (1650') – \$69,951
8. Eldridge and Pace Hall at Luther Drive / Intramural Area (950') – \$40,275
9. North University Avenue at Alumni Hall / Luther Drive (2,020') – \$85,636
10. West College Street at Clements Hall / Building Site "B" (1,250') – \$52,993
11. East Wallace / Adams Administration Center at University (1,050') – \$44,515
12. Eat Malone Hall / Smith Hall at University (1,150') – \$48,754
13. East Adams Center / West Dill Hall at Collegedale (1,270') – \$53,840
14. East Pace Hall / West Sartain Hall at Collegedale (850') – \$36,035
15. Fraternity Area (all corridors south of Collegedale) (2,650') – \$112,346

#### PEDESTRIAN CROSSINGS

1. Pedestrian Crossing (\$5,000 Each) – \$74,160

There are twelve locations where pedestrian corridors cross the perimeter road or University Avenue which are considered to be major crossings. These locations are to receive special paving and other treatments to clearly identify the pedestrian crossing. For cost estimating purposes no distinction is made between crossings.

#### PLAZA DEVELOPMENT

1. Main Campus Plaza at Bibb Graves Hall – \$93,998  
Create a plaza approximately 260' x 150' in front of Bibb Graves Hall to serve both as a major pedestrian area and as the focal point of the campus. In addition to the plaza surface this area should include landscaping, site furniture, accent lighting, and special effects such as sculpture or fountains.
2. Alumni / Stewart Hall – \$20,283  
Create a 70' x 120' plaza between the dormitories. This plaza should be surfaced, landscaped and have lower levels of lighting and to avoid distraction in the adjacent dormitories.
3. Malone Hall / Adams Center Expansions – \$195,375  
Expand the existing patios to 70' x 200' on the south of Malone Hall and 50' x 190' to the west of Adams Center. These areas should have less paved surface area, abundant shape producing landscaping and site furniture and higher levels of lighting.

## BUILDING SYSTEMS

The following estimates addressing building development costs exclude the annual maintenance programs that are already being conducted by the University.

### 1. Storage Building – \$388,104

A storage building was proposed to increase the efficiency of the administrative areas. A building of 10,000 square feet is estimated with the assumption that it will be built on University owned property.

### 2. Campus Housing

#### A. Dormitory Building 1 – \$2,998,289

#### B. Dormitory Building 2 – \$2,998,289

Two dormitory buildings housing approximately 200 students each are required. This means two structures with 32,000 square feet of dormitory assignable space each will be required.

#### C. Married Student Apartments – \$2,115,785

Married student apartments were also recommended. The tract of land proposed for this development is estimated to contain 8.5 acres, which can be a significant number of apartment units. For cost estimating purposes a development of 30 units was used.

## OPEN SPACE SYSTEM

### 1. Community / Campus Buffer – See Landscaping, Tree Program

The Community / campus barrier requires tree plantings at regular intervals along open spaces where natural foliage does not exist. A tree spacing of 120' is recommended.

South side of Elm Street	2,150'
West side of George Wallace Drive at McKinley	400'
West side of George Wallace from north of practice field to University Avenue	620'

West side of George Wallace – University Avenue to Collegedale Street	190'
North side of Collegedale – University to East Street	530'
West side of East Street – Collegeview to Pell Street	350'
Pell Street in front of Collegeview Building	300'
Collegedale Street at marching band practice field and intramural fields	1,020'
West Property line – Pell to Collegedale	1,110'
West Property line – Collegedale to University	380'
South side of Madison at McKinley closure	680'
North side of Madison from property to north of lake	620'
West side of property from Madison north to Elm	1,050
Total lineal feet of buffer	9,400

Based on these calculations, a total of 79 large trees would be required to complete the perimeter buffer. Refer to 'Landscaping Program' for cost information.

## 2. Amphitheater Perimeter Improvements – \$175,895

Open space around the amphitheater is to be preserved and enhanced. The amphitheater area is defined by recommended pedestrian corridors. The landscape buffers around this campus 'block' should be augmented with landscaping, arbors and seating walls to create entrances to the amphitheater and accent lighting in the following locations:

- North side opposite Malone Hall – 130'
- East side opposite Adams Center and Parking Area – 320'
- South Side opposite the back of Bibb Graves Hall – 240'
- West side from south edge to natural open space buffer – about 100'

A total of 790' lineal feet of special treatment are recommended.

## LANDSCAPING SYSTEM PROGRAMS

### 1. Tree Planting Programs

- A. Community / Campus Buffer – \$33,300  
\$370 per tree installed using 90 trees as proposed under community campus buffer.
- B. Tree Lining Primary Streets – \$43,200  
\$240 per tree installed along 7,200' of perimeter Road (7,200' on both sides of the road with trees at about 80' spacing).
- C. Trees Bordering Pedestrian Corridors – \$106,250  
\$125 per tree installed along 17,050 lineal feet of corridors with trees on both sides with a spacing of about 40' – 850 trees.

### 2. Building Landscaping Program (\$14,800 per building) – \$740,000

It is recommended that a building planting program be developed based on the Rinehart study. Building landscaping should be undertaken after the pedestrian corridors and building entry courts are developed. The 'Building Landscaping Program' should be funded incrementally on an annual basis.

### 3. Pedestrian Campus Entryways (\$9,800 each) – \$39,200

It is recommended that four pedestrian entryways to the core campus area be improved with low walls and landscaping. The related pedestrian corridors and locations are listed below. These four pedestrian entryways are assumed to be similarly developed and have equal costs.

- A. The corridor in front of Adams Administration Building at University Avenue.
- B. The corridor in front of McCall Hall at University Avenue.
- C. The corridor on the east side of College Street opposite the Alumni – Stewart Plaza.
- D. The corridor on the west side of Luther Drive and north of Pace Hall.

### 4. Parking Area Buffers

Buffers are recommended around parking areas. These buffers are divided into those which screen the parking areas from the road and screening from other development. Landscape islands in parking lots are estimated to be required for 15.4 acres of parking area resulting in the need for about 3 acres of landscape

treatment. The cost for landscaping within parking areas was included as a part of the parking area.

A. Buffers for parking areas adjacent to perimeter road (4,970 lineal feet) – \$19,776

B. Buffers for other parking area screening (7,330' lineal feet) – \$104,442

#### LIGHTING SYSTEM – no cost estimated \*

The accent lighting program for the campus should be followed and supplemented with other lighting as needed. Lighting should primarily be included with respective projects, such as pedestrian corridors or renovating building plantings, and should not require separate cost estimates. However, it is recommended that annual allocations be provided for a lighting program. More costly projects can be undertaken in consecutive years if required.

\*An allowance was included with the pedestrian corridor cost estimate for wiring, but no fixture costs were included. No allowance was made for lighting along the perimeter road.

#### UTILITY EXTENSION (underground service) PROGRAM

Existing utility service extensions are estimated to cost \$310 per lineal foot.

#### **Land Acquisition**

The Troy campus of TSU consists of 533 acres. This includes the golf course that is restricted to recreational use. Both the current student and building development densities are considered to be low. As the campus develops, new construction should eventually provide a uniform density of buildings in the core campus area. This could be achieved on the property that is already owned by TSU, but there are other reasons why limited land acquisitions is logical.

The future acquisition of privately owned property on the south side of Collegedale Street is recommended. This excludes properties such as Baptist Student Union and the Christian Student Center, which are compatible with and support campus life. The acquisition of other property, involving and estimated 19 parcels, is recommended for the following reasons.

- The Acquisition of private property is considered to be critical to the long-term development of the perimeter road which will enhance circulation and reduce vehicular / pedestrian conflict on campus.

- The land acquisition will provide two future building sites and significant perimeter parking areas.
- The future development of Building Site “F” and an intervening quadrangle and plaza will create a positive linkage between the campus and the Collegeview Building.
- The land acquisition will develop a cohesive core and unified main campus.

It is recommended that the private tracts of property be acquired over time as they become available to enhance the long term development of the campus. In the short term, options for the right of first refusal could be acquired to begin implementation.

Acquisition of 19 parcels (\$86,000 each average) – \$1,634,000

#### BUILDING DEMOLITION

A recommendation to remove buildings was included as a part of the community / campus buffer in the open space section for his report. The development of the two dormitory buildings, tennis courts and Golf Pro Shop in the northeast quadrant of the campus property suggests that all University owned structures in this area should be removed to avoid conflict with new development. In addition, three small structures on the south side of University Avenue on the west boundary of the campus should be removed. In total, 17 structures would be removed.

Structure Demolition and Removal (\$8,000 each) – \$64,000

## **Acknowledgements, Credits, and Bibliography**

### **Participants**

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