9-2011

Long Range Master Plan

University of Tennessee - Knoxville

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Long Range Master Plan
September 2011
Introduction
This master plan is intended as a guide for future capital improvements on the campus of The University of Tennessee, Knoxville (UTK) and on the Knoxville campus of The University of Tennessee Institute of Agriculture (UTIA). The outlying units and UT Medical Center are no longer a part of the Campus Master Plan study area. A separate master plan for the Cherokee Campus, a research-based installation in Knoxville, was developed by Gresham, Smith and Partners in 2009.

The goals of this master plan are:

- Define current and future facility needs
- Integrate instruction, research, student living, and student activities
- Provide an overall impression of quality
- Promote a sense of community
- Create a pedestrian-friendly environment
- Develop comprehensive solutions for traffic, parking, and infrastructure
- Promote sound environmental policies and practices
- Recognize and consider the cultural and architectural heritage of existing buildings and grounds
- Strengthen the interrelationships of the City of Knoxville and the campuses
- Provide a plan for implementing the master plan

Process

Campus Master Plan Scope
The master plan portrays a 50-year vision for the two adjacent main campuses, identifies long-term opportunities, and defines phases for the cohesive development of facilities on the two campuses as a unified plan.

Campus Master Plan Process
Campus master plans require review and updating on a regular basis. In 1994, UT prepared, with the help of Bullock Smith & Partners, Inc. and Sasaki Associates, Inc. a comprehensive master plan for development of all UT units in Knoxville. That 1994 plan was reconsidered and revised in 2001 with the assistance of Bullock, Smith & Partners and Ayers/Saint/Gross. This 2011 work is greater than a simple update of the 2001 plan and is required because of wide ranging

Figure 1-1 The University of Tennessee Knoxville Campuses
changes in the direction of UTIA and UTK. These changes include:

- revisions to the anticipated enrollment mix
- significant changes in research productivity and sponsored research projects
- the continued expansion of partnerships with Oak Ridge National Laboratory (including construction of three new Joint Institute facilities on the ORNL “campus” since the original comprehensive master plan was developed)
- the UTK Chancellor’s signing of the American College and University Presidents’ Climate Commitment (UTK goal of climate neutrality by 2061 - signed in 2007 and reiterated 2010)
- increased strength in disciplines within the arts, humanities, social sciences and in professional schools
- economic changes
- strengthened relationships with the City of Knoxville and Knox County.

Both the 1994 plan and its 2001 update provided a sound basis for specific facility improvements and site development, and much has been accomplished in accord with those plans including:

- The renovation of Claxton, Alumni Memorial, Hesler, Glocker [now Haslam], and Ayres were funded by the State and the work completed.
- The renovation of Estabrook Hall has been funded by the State, and, due to a major private gift, has grown to become the 114,000 square foot John Tickle Building project, which will provide new Engineering Space for Civil and Environmental Engineering and Industrial Engineering. Construction on that building begins Spring 2011.
- The expansion of the Music Building was funded, and the 123,000 square foot Natalie L. Haslam Music Center is currently under construction
- The Joe Johnson/John Ward Pedestrian Mall, envisioned by the plans has been completed.
- The renovation of Brehm/McLeod is soon to be completed as well.

Accomplishments emphasized in the previous plans which have progressed toward their goals include:

- Establishment of a campus transit system
- Completion of a transit hub on Phillip Fulmer Way
- Installation of Greenways—on both the north and south sides of the river
- Cooperation with the City of Knoxville in development of a major connector from Cumberland Avenue to the river
- Removal of parking from The Hill and landscaping of the back lawn of Ayres Hall
- Cooperation with the State to create a pedestrian lane on the Buck Karnes Bridge
- An increase in available parking spaces
- A pedestrian connectivity with a bridge from the 11th Street parking garage to The Hill
- Establishment of Design Guidelines for facilities and campus hardscapes
- Development of standards for lighting, benches, and signage
- Major utility upgrades of the Steam Plant
- Expansion of the regional chiller plant program
- Major increases in recycling and energy conservation

In addition to changes directly addressed in the 1994 Master Plan and its 2001 update, unforeseen opportunities have allowed additional progress:

- With a major private gift from GARMIN co-founder and UT graduate Min Kao and special matching funds from the State, the 180,871 square foot Min Kao building has been funded and will be completed in early Fall, 2011. This building will house the Electrical Engineering and Computer Science Department.
- Private contributions resulted in the funding and construction of the 52,944 square foot Howard H. Baker Center for Public Policy building
- Federal Funding and special State allocations made possible the funding of the 144,000 square foot JIAMS Building, which will be located on the Cherokee Campus
- Golf practice facilities were able to be moved from Lakeshore Park to the Cherokee Campus by generous private gifts
- A specialized 5,025 square foot Forensic Anthropology Processing Laboratory Building was made possible by private gifts. The William H. Bass Building will open in Summer 2011 adjacent to the Anthropological Research Facility near UT Medical center
- A 109,000 SF Student Health Center, consolidating medical and psychological services to students, funded by the Student Health Fee, is under construction and will open Fall 2011. The Alan Jones Aquatic Center, the Pratt Basketball Pavilion, the Brenda Lawson Athletic Center, expansion of Tennis facilities, improvements to the interior of Thompson-Boling Arena and to the interior and exterior of Neyland Stadium were made possible by the “Step-Up” campaign of the UT Athletics Departments.
Executive Summary

- The new Football Training Center, also possible because of private gifts, is under construction.
- Morgan Hill, on the western edge of the campus, is being developed into a Sorority Village, with houses to be built by the individual participating sororities.

In December 2009, a Master Plan Committee was established by the Chancellor, co-chaired by the Vice Chancellor for Finance and Administration and an Associate Dean of Engineering, to reconsider and recommend an updated master plan. Bullock Smith & Partners was employed to assist the effort under the direction of the Director of Facilities Planning for the University of Tennessee. The master plan will most directly affect students, faculty, and staff, and all are represented on the committee. In addition, presentations seeking input from the Deans, the Faculty Senate, Student Government Association, and Graduate Student Association were set forth by the Chancellor as necessary components for building the strongest plan for the future of the campus. The Chancellor additionally charged the group to seek input broadly from the University community, the local community, alumni/ae, and all interested parties by maintaining a web site through which progress could be displayed and comments received.

The 2011 Master Plan will serve as a guide for future construction, renovation, land acquisition, and physical improvement.

Participants

Campus Master Plan Consultants
Bullock, Smith & Partners, Inc., Planners
Wilbur Smith Associates, Transportation

Campus Planning Advisory Committee
Chris Cimino............... Co-Chair
Bill Dunne............... Co-Chair
Bruce Bursten ........... Arts & Sciences
Steve Catlett.............. Alumni Affairs
Betsey Creekmore ...... Space & Facilities
Mike Keel ................ UTIA
Robert Hinde .......... Arts & Sciences
John Nolt............... Philosophy
Jeff Maples............... Finance
John McRae .......... Architecture & Design
Heather Mason......... Athletics /Commission for Women
Susan Martin.......... Provost
Katrice Morgan......... Law
Bill Myers............... Athletics
Greg Reed................. Office of Research
Jenny Richter.......... Equity & Diversity
Tim Rogers............. Student Affairs
Scott Studham........... Information Technology
Kevin Seymore......... Student Government Rep

Campus Master Plan Sub-Committees
Academic Facilities & Infrastructure.... Robert Hinde, Chair
Athletics Facilities........................ Bill Myers, Chair
Design & Historic Preservation ....... John McRae, Chair
Energy & Environment.................... John Nolt, Chair
Housing & Student Engagement....... Ken Stoner, Chair
Parking & Transit......................... Ken Studham, Chair
Research Facilities...................... Greg Reed, Chair

Governing Principles
- Improve campus to support UT Knoxville’s Top 25 goal
- Assume limited growth in undergraduate population and significant growth in graduate students in keeping with UT Knoxville’s strategic plan
- Continue to develop a more pedestrian friendly campus
- Optimize limited space on campus
- Promote energy and environmental responsibility
- Expand and improve the east-west spine with better linkages north-south
- Provide convenient parking structures
- Continue to develop the campus transit system
- Encourage preservation of historic and cultural resources
- Recommend refinements to various campus design guideline documents
- Maximize connections to surrounding communities
- Coordinate with appended Cherokee Campus Master Plan
Master Plan Recommendations
The Master Plan recommendations are organized into a three-phase implementation plan which defines a sequence of projects rather than being time specific. Improvements within these phases include facility renovation, the addition of new space and site improvements including such systems as open space, campus edges, entrances, precincts, transportation, parking, utilities, and land acquisition.

Summaries of the master plan analysis and recommendations are provided in this executive summary under the headings Space Needs, Campus Systems, Specific Proposals and Phased Funding Plan.

Space Needs
Space needs for the campuses are achieved through the renovation of existing space and addition of new space. Tables 1-1 and 1-2 represent the proposed capital outlay improvements for academic and class lab space in the near-term, mid-term and long-term.

Application of the THEC Space Allocation Guidelines User’s Manual (2009) reveals there is a significant space formula deficiency at UTK (Table 1-3). Generally, there is a deficit of about 282,000 Net Assignable Square Feet (NASF) of academic space that includes classroom, classroom service, class lab, class lab service and open lab space. Using an efficiency factor of 0.50, this translates into some 564,000 Gross Square Feet (GSF) of building space required to meet the current academic needs of the university. In addition, there is a deficit of approximately 155,000 NASF, or 309,000 GSF of Research Lab Space based on current research funding.

Renovated Space
Renovation needs were identified by the university by assessing the physical condition and functional suitability of existing facilities. In addition, the 2009 THEC Space Allocation Guidelines were considered. The resulting master plan recommendations for each campus’s facilities renovation as outlined in Table 1-1 and 1-2 require verification on a project-by-project basis as part of the detailed planning and design process prior to construction. Near-term and mid-term renovation projects represent approximately 343,000 GSF of academic and 605,000 GSF of class lab space.
**New Space**

**UT, Knoxville:**
Specific and clearly justified programmatic space needs for specialized functions have been identified and added to the Capital Outlay List over a period of years by the campus administration. Additional spaces are added in this update to accommodate the university’s goal to reach a Top 25 status among universities. These additions are listed in Tables 1-1 and 1-2 in the near- and mid-terms and represent a total of approximately 612,000 GSF of academic space and 1,216,000 GSF of class lab space. This total is offset by space lost to demolition, abandonment, or repurposing (non-academic) totaling some 935,000 GSF with a net gain of 893,000 GSF. This creates an excess of 329,000 GSF realized mostly in the last eight mid-term projects. This excess allows for future undergraduate student population growth and creates necessary surge space for future renovations projects.

**Table 1-2 Capital Outlay Projects - Class Lab Buildings**

<table>
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<tr>
<th>Class Lab Building</th>
<th>Renovated (GSF)</th>
<th>New (GSF)</th>
<th>Total (GSF)</th>
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<td>Strong Hall Renovation and Expansion</td>
<td>16,648</td>
<td>213,352</td>
<td>230,000</td>
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<tr>
<td>Class Lab Building I (Cumberland and 13th Street)</td>
<td>-</td>
<td>200,000</td>
<td>200,000</td>
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<td>Walters Life Sciences Renovation and Expansion</td>
<td>-</td>
<td>250,000</td>
<td>250,000</td>
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<td>Jessie Harris Building and Early Learning Center Renovations</td>
<td>93,200</td>
<td>-</td>
<td>93,200</td>
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<td>Ellington Plant Sciences Expansion</td>
<td>-</td>
<td>120,000</td>
<td>120,000</td>
</tr>
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<td>EPS/Nielsen Complex Renovation and Expansion</td>
<td>-</td>
<td>200,000</td>
<td>200,000</td>
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<td>43,000</td>
<td>123,900</td>
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<td>70,000</td>
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<td>Dabney-Buehler Renovation and Reconfiguration</td>
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<td>90,000</td>
<td>240,000</td>
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</table>

**Table 1-3 Application of the THEC Space Standards to UTK and College of Agriculture Space**

<table>
<thead>
<tr>
<th>Space Type</th>
<th>Available (NASF)</th>
<th>Justified by THEC Formula (NASF)</th>
<th>(Deficit) or Excess (NASF)</th>
<th>(Deficit) or Excess (GSF)*</th>
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<td>Classroom/Service</td>
<td>283,945</td>
<td>343,248</td>
<td>(59,303)</td>
<td>(118,606)</td>
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<td>Class Lab/Service</td>
<td>213,113</td>
<td>401,875</td>
<td>(188,762)</td>
<td>(377,524)</td>
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<tr>
<td>Open Lab</td>
<td>87,450</td>
<td>121,070</td>
<td>(33,620)</td>
<td>(67,240)</td>
</tr>
<tr>
<td>Research Lab/ Service</td>
<td>357,058</td>
<td>511,778</td>
<td>(154,720)</td>
<td>(309,440)</td>
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</tbody>
</table>

* Assumes an efficiency factor of 0.50 for planning purposes.
Campus Systems

Open Space
Within each unit there exist several significant open spaces that should be preserved and enhanced. They include the land on the "Hill", Circle Park, Morgan Hill, and plot and pasture land at the UT Institute of Agriculture.

The creation of additional space and interconnected pedestrian areas are recommended. This would be accomplished at the UT Knoxville campus by additional closures of Andy Holt Avenue, Most of Volunteer East, and Melrose Avenue, by the careful siting of building additions, and the development of "pocket parks" at 1841 Melrose Avenue and elsewhere. Likewise at UTIA, a new quad would be developed between Morgan Hall and the new Biotechnology Research Building.

Transportation
The transportation component of the Master Plan encompasses all modes of travel relevant to the UT Knoxville and UTIA campuses including automobile, transit, bicycles, and pedestrians. The overall concept of the Master Plan recommends moving parking to the perimeter; creating a collector road system on the perimeter; developing a comprehensive bicycle system; creating a grand mall using Andy Holt Avenue, Joe Johnson Drive, and the Joe Johnson/John Ward Pedestrian Mall that services bikes and pedestrians; and providing service and accessible parking to all buildings.

Road Network
The proposed road network provides reasonable access to the campuses through several existing portals. Neyland Drive portals will continue to meet the access needs of approximately 44 percent of the traffic entering and exiting the campus. Cumberland Avenue portals will continue to service campus access needs but significant traffic will shift away from Melrose Place and Volunteer Boulevard East in favor of a wider two way Phillip Fulmer Way.

Major changes proposed to the internal UT Knoxville and UTIA campuses road network include:
- Closing Volunteer Boulevard East to vehicular traffic at the Joe Johnson and John Ward Pedestrian Mall.
- Converting Andy Holt Avenue between Volunteer Boulevard East and Phillip Fulmer Way to a bicycle and pedestrian facility that is not open to automobiles.
- Downsizing Volunteer Boulevard to two lanes (one in each direction) between the Facilities Services buildings and Circle Park.
- Creating a new major collector road system to replace most of Volunteer Boulevard. It would be comprised of Volunteer Boulevard West, Phillip Fulmer Way, Chamique Holdsclaw Drive, and Todd Helton Drive. This perimeter road would need to be multilane with a median to accommodate left turn movements. It would require widening Phillip Fulmer Way and converting it to two way operations between Cumberland Avenue and Andy Holt Avenue.
- Andy Holt Avenue would be converted to a grand mall from Melrose Place to 20th Street, thus severing the access into the heart of the campus that utilizes Melrose Place, Andy Holt Avenue, and Pat Head Summitt Street.
- Improving Caledonia Avenue by adding width and enhancing bicycle and pedestrian mobility

Parking
There are 16,205 off street and 1,062 on street parking spaces on the campuses. The Master Plan calls for continuing the trend of moving parking to the perimeter so that vehicular trips are intercepted on the outside edges of the campus. Campus circulation will be accomplished by the transit system and a better developed bicycle and pedestrian infrastructure.

No net gain of parking supply is proposed. Instead parking spaces that are eliminated will be replaced, primarily by parking garages on the perimeter of the campus. Major new parking garages that are proposed include:
- 1,200 spaces on Phillip Fulmer Way near Neyland Stadium. This facility would serve the University Center, Neyland Stadium, staff needs now in the S9 lot, and performing arts parking needs.
- 1,700 spaces on Volunteer Boulevard West one block south of Cumberland Avenue.
- Add 900 spaces to the existing parking garage on Volunteer Boulevard West at Joe Johnson Drive.
- 800 space garage on the Ag Campus just north of the Joe Johnson bridge.
- 600 space garage on Johnny Majors Drive.
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- 700 space expansion of the Lake Avenue Parking Garage
- Replace the University Extension parking structure at Circle Park with a similar size structure

Most of the on-street parking would be eliminated in favor of bike lanes or added green space. These spaces would be replaced by parking garages in key locations. The 1,200 space University Center parking garage would meet much of the visitor parking needs that currently are underserved. The overall concept is to move parking to the perimeter, but the Master Plan recognizes that adequate accessible parking will need to be provided for each building.

Bicycles and Pedestrians
Generally, pedestrian facilities are adequate on the two campuses but bicycle facilities are not. The Master Plan will change that. Some strategic changes to the pedestrian infrastructure are proposed and the proposed street closures will significantly improve pedestrian mobility and safety. The significant bike changes include:

- Provide bicycle facilities so that bicyclist can travel from Neyland Drive to the Hill via a combination of greenways, dedicated bike lanes on the Joe Johnson bridge, and bike paths on the Grand Mall.
- Provide bike lanes on Volunteer Boulevard West and Volunteer Boulevard (downsized segment).
- Provide bike lanes on Phillip Fulmer Way from Cumberland Avenue to the proposed bike path just south of Neyland Stadium.
- Provide a bike path south of Neyland Stadium that would link into the Neyland Drive and Second Street greenway.
- Provide bike lanes on Caledonia Avenue.
- Provide a bike path on Volunteer Boulevard East from Cumberland Avenue to Circle Park.
- Provide a “sharrow” on Lake Loudon Boulevard from Neyland drive to Volunteer Boulevard.

Transit
The on-campus system, The T, is extremely popular and heavily utilized by students, facility, and staff. Its functionality allows the strategy to move parking to the perimeter to be advanced. The transit transfer facility should continue to be in the heart of campus at Neyland Stadium’s Gate 21. This allows users to transfer from off campus to on campus transit vehicles. Converting Phillip Fulmer Way to two-way traffic will necessitate a change to the east-west T route on the Hill. Buses will no longer be able to access Phillip Fulmer Way from the Hill via the road link just north of the Walters Building. Making a left turn onto Phillip Fulmer Way will be too difficult. Instead, the T buses may have to utilize Cumberland Avenue. Changes to the road network will require route changes to The T, but the basic east-west and north-south concept should be maintained. It is also important to expand service to include the Sorority Village that is under construction on Neyland Drive at Kingston Pike.

Utilities
Improvements and upgrades to utilities are on-going annual projects either as a part of a building project, or as a general system upgrade. These are addressed in Section 3 of the full master plan and include steam distribution, regional chiller plants, sanitary sewer, storm sewer, electrical distribution, natural gas, communication, security systems, and information technology.

Land Acquisition
UT Knoxville campus acreage in Knoxville totals slightly more than 400 acres, with 375 acres constituting the core campus area. The UT Institute of Agriculture core campus totals approximately 75 acres. The University’s long-range projected building needs exceed both its current acreages and that provided through parcel-by-parcel acquisition within the Institutional Zone established in 1965 by Knoxville City Council between Lake Avenue and Andy Holt Boulevard.

Near term, the institution will continue to acquire property in the Institutional Zone; acquire the remainder of the site adjacent to the Jessie Harris Building, as announced in the 1994 Master Plan; and acquire, as they become available, parcels which complete the link between the campus and Laurel Apartments. The institution will continue to monitor the possibility of acquisition of the former Fulton-Sylphon plant.

Long term recommendations include acquisition of the CSX Rail Yard, and, if the Third Creek Sewer Treatment Plant is replaced, acquiring that property to complete the move to the natural boundary of the campus.
Specific Proposals
The near-term proposed improvements are for the UTK Main and Ag Campuses include the following projects. (Proposed renovations for existing residence halls were recommended in a proposal to the campus by a separate study and are not illustrated here.)

Figure 1-2 Strong Hall Renovation and Expansion
1.01 Strong Hall Renovation and Expansion
230,000 GSF (115,000 NASF), five/four-story class lab building and renovation of the Cowan Cottage

The first phase of a regional chiller plant is proposed as part of this project

Figure 1-3 Class Lab Building I (Cumberland and 13th Street)
1.02 Class Lab Building I (Cumberland and 13th Street)
200,000 GSF (100,000 NASF), five/four-story class lab building

Expansion of the Hoskins Library chiller plant will provide adequate service
Executive Summary

1.03 Academic Building I (Melrose Site)
130,000 GSF (65,000 NASF), five/four-story classroom building

1.04 Walters Life Sciences Renovation and Expansion
250,000 GSF (125,000 NASF), four-story class lab building

1.05 Jessie Harris Building and Child Development Center Renovations
93,200 GSF (46,600 NASF), three/two-story and one-story class lab buildings

Expansion of the Hoskins Library chiller plant will provide adequate service
1.06 Hoskins Library Restoration

This significant structure will be restored to its original grandeur and later additions will be removed. The resulting space will have approximately 55,000 GSF (27,500 NASF.)

1.07 Facility Services Renovations

This project intends to improve and partially replace the existing facility. 90,100 GSF (45,050NASF.)

1.08 Phillip Fulmer Way Improvements Phase I

As part of the University Center and Parking Garage projects, the widening of Phillip Fulmer Way will provide adequate infrastructure to serve the new garage and future closure of Volunteer Boulevard east. Improvements will include a landscaped boulevard and bicycle lanes.
Figure 1-10 Andy Holt Avenue East Improvements

1.09 Andy Holt East Improvements

Also as part of the University Center and Parking Garage projects, the conversion of Andy Holt to a pedestrian/bike path between Volunteer Boulevard East and Phillip Fulmer way will extend the Joe Johnson/John Ward Pedestrian Mall to the base of The Hill. A new pedestrian/bike bridge is proposed over Phillip Fulmer Way.

Figure 1-11 Ellington Plant Sciences building Expansion

A1.01 Ellington Plant Sciences Expansion

120,000 GSF (60,000 NASF), four-story class lab building

Figure 1-12 CVM Teaching and Learning Center

A1.02 CVM Teaching and Learning Center

6,700 GSF (3,350 NASF), one-story addition
A1.03 Publications and Services Building Renovation (Academic Surge)

10,000 GSF (5,000 NASF) one-story metal building renovation into academic office surge space

A1.04 CVM Small Animal Clinic Second Floor Finish Out

10,000 GSF (5,000 NASF) finish out of existing space

A1.05 UTIA Parking Garage (800 Spaces)

800 space, five-story new parking structure
A1.06 North Greenhouse Expansion (Phase II)

13,000 GSF (6,500 NASF), one-story greenhouse and head house expansion
<table>
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<tr>
<th>Near-Term Projects</th>
<th>Renovated Gross Square Feet</th>
<th>New Gross Square Feet</th>
<th>Total Building Gross Square Feet</th>
<th>Budget (2011 Dollars)</th>
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<td>1.01 Strong Hall Renovation and Expansion</td>
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<td>120,000</td>
<td>58,000,000</td>
</tr>
<tr>
<td><strong>Other Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1.02 CVM Teaching &amp; Learning Center</td>
<td>-</td>
<td>6,700</td>
<td>6,700</td>
<td>3,000,000</td>
</tr>
<tr>
<td>A1.03 Publications and Services Building Renovation (Academic Surge)</td>
<td>10,000</td>
<td>-</td>
<td>10,000</td>
<td>2,500,000</td>
</tr>
<tr>
<td>A1.04 CVM Small Animal Clinic Second Floor Finish Out</td>
<td>10,000</td>
<td>-</td>
<td>10,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>A1.05 Parking Garage (800 Spaces)</td>
<td>-</td>
<td>279,700</td>
<td>260,000</td>
<td>14,500,000</td>
</tr>
<tr>
<td>A1.06 North Greenhouse Expansion (Phase II)</td>
<td>-</td>
<td>13,000</td>
<td>13,000</td>
<td>2,600,000</td>
</tr>
</tbody>
</table>

* Based on an independent residence hall study by others currently under review and subject to change
Executive Summary

Figure 1-18 Near-Term Capital Improvements Plan
<table>
<thead>
<tr>
<th>Mid-Term Projects</th>
<th>Renovated Gross Square Feet</th>
<th>New Gross Square Feet</th>
<th>Total Building Gross Square Feet</th>
<th>Budget (2011 Dollars)</th>
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<tbody>
<tr>
<td><strong>UTK Main Campus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.01 College of Nursing Renovation and Expansion</td>
<td>41,800</td>
<td>40,000</td>
<td>81,800</td>
<td>$37,500,000</td>
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<tr>
<td>2.02 Academic Building (Silverstein-Luper Building Site)</td>
<td>-</td>
<td>50,000</td>
<td>50,000</td>
<td>17,000,000</td>
</tr>
<tr>
<td>2.03 EPS/NIelsen Complex Renovation and Expansion</td>
<td>-</td>
<td>200,000</td>
<td>200,000</td>
<td>85,000,000</td>
</tr>
<tr>
<td>2.04 Clarence Brown Theatre/Ula Love Doughty Carousel Theatre Renovation and Expansion</td>
<td>62,933</td>
<td>78,067</td>
<td>141,000</td>
<td>73,000,000</td>
</tr>
<tr>
<td>2.05 Academic Building II (Stokely Athletics Site)</td>
<td>-</td>
<td>150,000</td>
<td>150,000</td>
<td>55,000,000</td>
</tr>
<tr>
<td>2.06 Perkins Hall Renovation and Expansion</td>
<td>80,900</td>
<td>43,000</td>
<td>123,900</td>
<td>29,000,000</td>
</tr>
<tr>
<td>2.07 Class Lab Building II (Cumberland and James Agee Street Site)</td>
<td>-</td>
<td>70,000</td>
<td>70,000</td>
<td>34,000,000</td>
</tr>
<tr>
<td>2.08 Ferris Hall Renovation and Expansion</td>
<td>48,400</td>
<td>30,000</td>
<td>78,400</td>
<td>25,000,000</td>
</tr>
<tr>
<td>2.09 Art/Arch Renovation and Art/Arch/Humanities Addition (HSS)</td>
<td>183,300</td>
<td>71,000</td>
<td>254,300</td>
<td>92,000,000</td>
</tr>
<tr>
<td>2.10 Academic Building III (HSS Quadrangle)</td>
<td>-</td>
<td>93,000</td>
<td>93,000</td>
<td>33,000,000</td>
</tr>
<tr>
<td>2.11 Austin Peay Renovation</td>
<td>62,900</td>
<td>-</td>
<td>62,900</td>
<td>18,000,000</td>
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<tr>
<td>2.12 Dougherty Renovation</td>
<td>124,134</td>
<td>-</td>
<td>124,134</td>
<td>50,000,000</td>
</tr>
<tr>
<td>2.13 Pasqua Nuclear Engineering</td>
<td>28,338</td>
<td>-</td>
<td>28,338</td>
<td>11,400,000</td>
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<tr>
<td>2.14 Dabney-Buehler Renovation and Reconfiguration</td>
<td>150,000</td>
<td>90,000</td>
<td>240,000</td>
<td>92,000,000</td>
</tr>
<tr>
<td><strong>Other Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.15 Andy Holt Tower Garage Replacement (800 Spaces)</td>
<td>-</td>
<td>260,000</td>
<td>260,000</td>
<td>14,500,000</td>
</tr>
<tr>
<td>2.16 Parking Garage (Stokely Athletics Site, 600 Space)</td>
<td>-</td>
<td>195,000</td>
<td>195,000</td>
<td>11,000,000</td>
</tr>
<tr>
<td>2.17 New Residence Hall (700 Bed, Shelbourne Towers Site)*</td>
<td>-</td>
<td>196,000</td>
<td>196,000</td>
<td>48,000,000</td>
</tr>
<tr>
<td>2.18 Presidential Courtyard (Exterior Public Space) Renovation</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
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</tr>
<tr>
<td>2.19 Morrill Hall Renovation*</td>
<td>168,200</td>
<td>-</td>
<td>168,200</td>
<td>18,000,000</td>
</tr>
<tr>
<td>2.20 Phillip Fulmer Way Improvements Phase II (TBD)</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>2.21 Chamique Holdsclaw Dr/Todd Helton Dr Improvements (TBD)</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>-</td>
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<tr>
<td><strong>Ag Campus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2.01 Class Lab Building (McCord Hall Site)</td>
<td>-</td>
<td>100,000</td>
<td>100,000</td>
<td>40,000,000</td>
</tr>
<tr>
<td>A2.02 UT Gardens Education &amp; Visitor Center (Split Funding)</td>
<td>-</td>
<td>15,000</td>
<td>15,000</td>
<td>4,000,000</td>
</tr>
<tr>
<td>A2.03 Greenhouse I Replacement Project (Phase I)</td>
<td>10,000</td>
<td>21,000</td>
<td>31,000</td>
<td>6,700,000</td>
</tr>
<tr>
<td>A2.04 CVM Research Space Renovation &amp; Expansion</td>
<td>15,000</td>
<td>5,000</td>
<td>20,000</td>
<td>8,000,000</td>
</tr>
<tr>
<td>A2.05 Research Building I</td>
<td>-</td>
<td>14,000</td>
<td>14,000</td>
<td>6,300,000</td>
</tr>
<tr>
<td>A2.06 Research Building II</td>
<td>-</td>
<td>18,000</td>
<td>18,000</td>
<td>8,100,000</td>
</tr>
<tr>
<td><strong>Other Funds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2.07 UT Gardens Education &amp; Visitor Center (Split Funding)</td>
<td>-</td>
<td>15,000</td>
<td>15,000</td>
<td>4,000,000</td>
</tr>
<tr>
<td>A2.08 North Trial Gardens Expansion (TBD)</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>-</td>
</tr>
</tbody>
</table>
Figure 1-19 Mid-Term Capital Improvements Plan
### Table 1-6 Long-Term Capital Improvements

**Long-Term Projects**

<table>
<thead>
<tr>
<th>UTK Main Campus</th>
<th>Long-Term Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Funds</strong></td>
<td></td>
</tr>
<tr>
<td>3.01 Estabrook Renovation</td>
<td></td>
</tr>
<tr>
<td>3.02 Henson Hall Renovation</td>
<td></td>
</tr>
<tr>
<td>3.03 HPER Building Replacement</td>
<td></td>
</tr>
<tr>
<td>3.04 Law Complex Addition</td>
<td></td>
</tr>
<tr>
<td>3.05 Music Building Addition</td>
<td></td>
</tr>
<tr>
<td>3.06 Academic Building IV (Gibbs Hall Site)</td>
<td></td>
</tr>
<tr>
<td>3.07 Academic Building V (Old Student Health Services Site)</td>
<td></td>
</tr>
<tr>
<td>3.08 Academic Building VI (Lake Avenue)</td>
<td></td>
</tr>
<tr>
<td>3.09 Academic Building VII (Greve/Dunford Site)</td>
<td></td>
</tr>
<tr>
<td>3.10 Academic Building VIII (McClung Tower)</td>
<td></td>
</tr>
<tr>
<td>3.11 Academic Building IX (Lake/Terrace Area)</td>
<td></td>
</tr>
<tr>
<td>3.12 Academic Building X (Lake/Terrace Area)</td>
<td></td>
</tr>
<tr>
<td>3.13 Academic Building XI (Lake/Terrace Area)</td>
<td></td>
</tr>
<tr>
<td>3.14 Academic Building XII (Lake/Terrace Area)</td>
<td></td>
</tr>
<tr>
<td>3.15 Class Lab Building III (Senter Hall)</td>
<td></td>
</tr>
<tr>
<td>3.16 Class Lab Building VI (Clement Site)</td>
<td></td>
</tr>
<tr>
<td><strong>Other Funds</strong></td>
<td></td>
</tr>
<tr>
<td>3.17 Hess Hall Renovation*</td>
<td></td>
</tr>
<tr>
<td>3.18 Lake Avenue Parking Garage Expansion (700 Spaces)</td>
<td></td>
</tr>
<tr>
<td>3.19 McClung Museum Renovation and Expansion</td>
<td></td>
</tr>
<tr>
<td>3.20 New Parking Garage (Volunteer W, 1700 Spaces)</td>
<td></td>
</tr>
<tr>
<td>3.21 New Special Purpose Building</td>
<td></td>
</tr>
<tr>
<td>3.22 Residential Life building Phase I (West)</td>
<td></td>
</tr>
<tr>
<td>3.23 Residential Life building Phase II (East)</td>
<td></td>
</tr>
<tr>
<td>3.24 Volunteer Boulevard Parking Garage Expansion (900 Spaces)</td>
<td></td>
</tr>
</tbody>
</table>

**Ag Campus**

<table>
<thead>
<tr>
<th>Long-Term Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Funds</strong></td>
</tr>
<tr>
<td>A3.01 CVM Small Animal Hospital Renovation</td>
</tr>
<tr>
<td>A3.02 North Central Greenhouse Replacement Project</td>
</tr>
<tr>
<td>A3.03 Morgan Hall Renovation and Expansion</td>
</tr>
<tr>
<td><strong>Other Funds</strong></td>
</tr>
<tr>
<td>A3.04 Research Building III</td>
</tr>
<tr>
<td>A3.05 Research Building IV</td>
</tr>
</tbody>
</table>
Executive Summary
Program and Space Plan

The University of Tennessee, Knoxville (UTK) combines the roles of State University and Land Grant institution. The primary mission of the institution is to move forward the frontiers of human knowledge and enrich and elevate the citizens of the state of Tennessee, the nation, and the world.

The UTK Carnegie Classification is: Research University (very high research activity). Most undergraduates are full-time and admission is selective with a fairly low transfer-in rate. Admission to graduate programs is also competitive. Graduate offerings range from professional master’s to doctoral programs focused both on research and on practice. Nationally ranked graduate programs combined with partnerships at Oak Ridge National laboratories are among unique characteristics of graduate study at UTK.

The Center for Measuring University Performance at Arizona State University 2009 report ranked UTK as the 27th highest ranked public research university in the country, and UTK has embarked upon a strategic planning process to place itself firmly among the top 25 public research universities by 2015.

Five strategic priorities have been institutionally adopted as necessary for inclusion in the top 25 group of public research universities:

- Retain and graduate a diverse body of well-educated undergraduate students
- Produce increasing numbers of diverse graduate students
- Strengthen capacity and productivity in research, scholarship and creative activity
- Attract and retain stellar faculty and staff
- Continually improve the resource base

Having sufficient and appropriate facilities is an absolute prerequisite for increased actual and perceived quality, and is a base element within each of the strategic priorities. This Master Plan sets forth the immediate and long-range needs of the institution within a planning framework that insists upon universal design; application of requirements for sustainability; commitment to preservation of the culture and history of the institution in its built environment; superior land-use planning; and, through careful planning, results in a better organized campus that provides significant green spaces and emphasizes pedestrian and bicycle movement throughout.

The University of Tennessee Institute of Agriculture (UTIA) includes the College of Agricultural Sciences and Natural Resources (CASNR), the College of Veterinary Medicine (CVM), UT AgResearch (formerly the Agricultural Experiment Station) and UT Extension (formerly the Agricultural Extension Service). The instructional programs of the two colleges within the Institute are also part of the UT Knoxville academic enterprise. Integral to the university’s land-grant mission, the Institute contributes to improving the quality of life, increasing agricultural productivity and income, protecting the environment, promoting the economic well-being of families, and conserving natural resources for all Tennesseans. The clientele served includes students, farmers, families, homeowners, 4-H and other youth, agribusinesses, state and federal governmental agencies, consumers and the general public.

UT AgResearch administers ten Research and Education Centers located throughout the state, including Jackson, Milan, Grand Junction, Spring Hill, Lewisburg, Springfield, Crossville, Oak Ridge, Knoxville and Greeneville.

UT Extension has agents and offices in all 95 counties in the state. Extension also operates three 4-H centers, located in Greeneville, Crossville and Columbia, and three regional offices in Jackson, Nashville, and Knoxville. In addition, Extension faculty (specialists) located in Knoxville, Nashville and Jackson provide expertise and support the transfer of knowledge to field staff (agents) throughout the state.

Having sufficient and appropriate facilities is essential for the UTIA, both for the units with on-campus instructional responsibilities (College of Agricultural Sciences and Natural Resources and College of Veterinary Medicine) and those (UT Extension and UT AgResearch) with direct responsibility for the continuation and growth of the land-grant mission of the institution.

UTIA has immediate need for building renovations, expanded and new facilities, and greenhouse upgrading or replacement, and for additional parking facilities.
Analysis

Existing Conditions:

UTK currently operates its programs and services in on-campus buildings which total 13,133,549 square feet, ranging in age from 1872 to five buildings with completion dates from 2011 to 2013. 7,138,269 gross square feet of institutional facilities are auxiliary ones—intercollegiate athletics (1,691,069), fraternity (194,711), housing (2,589,957), panhellenic (54,384), and parking (2,608,148). Five buildings totaling 485,136 square feet are exclusively dedicated to student activities and services. 266,622 square feet are in former residences purchased for land acquisition but in use because of lack of other space. Of the 12,906,927 square feet of space in permanent buildings, 55% is auxiliary space, and 3.7% (473,755 square feet) consists of former residence halls and buildings intended to be temporary which have been pressed into service for academic programs. An additional 60,000 square feet of space in Neyland Stadium’s former dormitory areas are being used for academic purposes.

External research funding grew by $70,000,000 between FY 2006 and FY 2010, and significant, sustained increases are anticipated as the Governor’s Chair program (joint with Oak Ridge National Laboratory) matures, the joint degree program with Oak Ridge National Laboratory begins and moves toward its goal of increasing doctoral level enrollment by 400, and faculty and students in disciplines across the institution investigate problems and make vitally important discoveries, many of which will have economic impact ancillary results. It is this area of involvement of students—undergraduate through post-doctoral—in original inquiry that distinguishes UTK among Tennessee’s public universities, and it is this which attracts increasing numbers of Tennessee’s and the nation’s best students to UTK. This places a special responsibility upon UTK to provide both its beginning and most advanced students with adequate facilities for intellectual and professional growth.

Academic Space Needs:

In 2009, THEC issued new “space guidelines” designed to compare academic space needs among Tennessee public universities. The guidelines project only square feet needed, failing to take account of the quality and inefficiency of space (former residences, former dormitories and the like) totally inappropriate for their current use. The guidelines also fail to allow for a qualitative deflator for space unrenovated to meet current pedagogical needs, and do not recognize the need for dedicated classrooms in some disciplines such as Law and Business. Institutional data problems, in addition, appear to prevent showing the full extent of the deficit. The institutional data problem is particularly acute in the area of research space. Although THEC provides alternative methods of calculating research space needs, UTK is able only to utilize the research expenditures method, which provides an outdated need and cannot account for some types of research. Even with all the problems, however, UTK needs additional classrooms, class laboratories, open laboratories, research space, and service space in academic areas.

UTK also, being the State’s oldest public university, has the greatest complement of older buildings—buildings not up to current codes, and whose infrastructure does not support today’s pedagogy, equipment, or inquiry.

<table>
<thead>
<tr>
<th>Space Type</th>
<th>Available (NASF)</th>
<th>Justified by THEC Formula (NASF)</th>
<th>(Deficit) or Excess (NASF)</th>
<th>(Deficit) or Excess (GSF)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom/Service</td>
<td>283,945</td>
<td>343,248</td>
<td>(59,303)</td>
<td>(118,606)</td>
</tr>
<tr>
<td>Class Lab/Service</td>
<td>213,113</td>
<td>401,875</td>
<td>(188,762)</td>
<td>(377,524)</td>
</tr>
<tr>
<td>Open Lab</td>
<td>87,450</td>
<td>121,070</td>
<td>(33,620)</td>
<td>(67,240)</td>
</tr>
<tr>
<td>Research Lab/Service</td>
<td>357,058</td>
<td>511,778</td>
<td>(154,720)</td>
<td>(309,440)</td>
</tr>
</tbody>
</table>

* Assumes an efficiency factor of 0.50 for planning purposes
The issue is not need, but priority. The needs are critical throughout the institution, but of the needs, science facilities and protection of its major institutional assets must head the list. UTK is in a unique position to attract top science and engineering students and faculty because of its participation in the management of Oak Ridge National Laboratory, long-term relationships with TVA, and proximity to the Great Smoky Mountains National Park.

- Its 1929 Earth and Planetary Science Building, opened in 1929, has had only an interior 1963 “facelift,” does not have central HVAC, and cannot support the research of the department, which must carried on in the 1994 Science/Engineering Building.
- The 1963 Nielsen Physics Building has not been systematically renovated since it opened, and is far too small for the numbers of Physics students at both the undergraduate and graduate levels. It has infrastructure that well supported 1960's experimentation and is totally inadequate for today's work in this discipline.
- The Walters Life Sciences Building was badly designed in 1977 and the deficiencies in infrastructure and configuration seriously impede both instruction and research in the Life Sciences. Moreover, there are simply not enough laboratories in this 33-year old facility.
- The Dabney/Buehler Chemistry facilities were renovated in a 7-year phased renovation completed in 1994, meaning that some parts have not been renovated in 23 years. The infrastructure of 1994—and certainly not that of 1987—does not support the laboratory needs of the discipline today. Again, there are too few laboratories for the instruction and research of the institution in the discipline.
- The Hesler Biology Building completed a two-phase, multi-year renovation in 2009, but the increase in demand for upper division and graduate courses and their attendant research requirements made it necessary to house the entire freshman biology program in what was built as a "temporary" facility in 2001. In the "temporary" facility, there is insufficient space to allow for the number of laboratories required and infrastructure only to allow for demonstration laboratories rather than intensive hands-on experience.
- The Science/Engineering Research Building, completed in 1994, is out of capacity to install additional fume hoods, and various other infrastructure issues make this a costly building to retrofit for new research initiatives which are critical for the advanced graduate education which UTK must offer.
- The nationally-known nutrition department, which is doing extremely important research, is housed in a facility that has not been systemically renovated since 1954.
- The nationally-acclaimed anthropology department is entirely housed in former dormitory rooms in Neyland Stadium—in which fume hoods cannot be installed.

Were it not for generous donations, the College of Engineering would be in a similar plight. Two major new engineering buildings funded partially with State money and partially by private donations are currently under construction and will add 294,871 square feet of Engineering space for Electrical and Computer Engineering (the Min Kao Building) and Civil/Environmental Engineering and Industrial Engineering (the John Tickle Building). These facilities will alleviate some of the qualitative and quantitative space problems of the College, but renovation of existing engineering facilities will be required to make them directly useful for the programs which they will house.

Some of the major research initiatives of the institution are carried on either at the four (155,392 gross square feet) UTK-owned facilities on the Oak Ridge National Laboratory “campus” which house UTK/Oak Ridge National Laboratory Joint Institutes (Joint Institute for Heavy Ion Research, Joint Institute for Computational Sciences, Joint Institute for Biological Sciences, Joint Institute for Neutron Sciences) or at other facilities at Oak Ridge. While such arrangements are extremely beneficial, they do not incorporate instructional aspects of the research programs. In addition, research conducted at ORNL is tied to ORNL and DOE priorities, thus failing to provide comprehensive opportunities which support graduate programs across the disciplines. The cross-fertilization of disciplines available in a University setting— e.g. the sciences, engineering, agriculture, social sciences, communication, humanities, education, and the fine arts is the precious prerogative of a major comprehensive research university.

Clearly, new science facilities and renovation of existing facilities must be top UTK priorities. The
The University of Tennessee

The ultimate goal must be to have at least 15% of first-rate science space that can be used as "surge" or "swing" space for start-up and seed inquiries by faculty and students and sufficient surge or swing space to relocate faculty and programs in non-science areas to allow for renovation of facilities.

The age (1968) of the institution's major classroom building and its principal office area for faculty in the Humanities and Social Sciences points to a critical need to upgrade facilities in the social sciences and humanities, as well, and the fact that major departments (for example, History) cannot be housed in the facility due to lack of space underscores the need. There is, additionally, only a former dormitory to serve as "surge" space when buildings just as Jessie Harris are taken offline for renovation.

The institutional performing arts facilities date from 1952 and 1968. They are in serious need of modification to bring them to modern performance hall and instructional standards. The Theatre Department, a League of Resident Theatres member, is nationally known for its graduates, but certainly not for its facilities. The Music Department's new 123,000 facility (replacing the existing facility) will significantly enhance the instructional and creative capacity in the various areas of music, but that building will not, because of financial constraints, include a hall suitable for opera or major musical theatre performances.

The College of Nursing Building, completed in the 1970’s, was built to house a baccalaureate program in nursing. Today, baccalaureate through doctoral programs are offered, and new discoveries are made in spite of the lack of space.

UTK has never had sufficient space for its academic programs. It has gladly accepted and “made do” with space abandoned by the auxiliary functions of athletics and housing, and has used former residences and other properties acquired within its “institutional zone” for academic purposes because of lack of alternatives. In the facilities it does have, aging and astounding changes in equipment and requirements within disciplines make facilities an absolutely critical issue for this institution. In buildings which have been renovated (Ayres, Haslam, Claxton, Alumni Memorial, Hesler) use of modern building techniques have resulted in greatly improved academic usefulness of the building and have resulted in significant energy efficiencies. New buildings and major renovations will comply with LEED Certification requirements, thus decreasing the operational cost of buildings, going forward.

Academic buildings included in the near-term and mid-term phased capital plan are:

- Strong Hall Renovation and expansion
- Class Lab Building I (Cumberland and 13th Street)
- Academic Building I (Melrose Site)
- Walters Life sciences Renovation and Expansion
- Jessie Harris building and Child Development Center Renovations
- Hoskins Library Restoration
- College of Nursing Renovation and Expansion
- Academic Building (Silverstein-Luper Building Site)
- EPS/Nielsen Complex Renovation and Expansion
- Clarence Brown Theatre/Ula Love Doughty Carousel Theatre Renovation and Expansion
- Academic Building II (Stokely Athletics Site)
- Perkins Hall Renovation and expansion
- Class Lab Building II (Cumberland and James Agee Site)
- Ferris Hall renovation and Expansion
- Art/Architecture Renovation and Art/Architecture/Humanities Addition (HSS)
- Academic Building III – Phase I (HSS Quadrangle)
- Austin Peay Renovation
- Dougherty Renovation
- Dabney-Buehler Renovation and Reconfiguration
Figure 2-1 Strong Hall Renovation and Expansion

1.01 Strong Hall Renovation and Expansion

230,000 GSF (115,000 NASF), five/four-story class lab building. The first phase of a regional chiller plant is proposed as part of this project.

Figure 2-2 View of Strong Hall from Southeast
Figure 2-3 Class Lab Building I (Cumberland and 13th Street)

1.02 Class Lab Building I (Cumberland and 13th Street)

200,000 GSF (100,000 NASF), five/four-story class lab building
1.03 Academic Building I (Melrose Site)
130,000 GSF (65,000 NASF), five/four-story classroom building

1.04 Walters Life Sciences Renovation and Expansion
250,000 GSF (125,000 NASF), four-story class lab building

1.05 Jessie Harris Building and Child Development Center Renovations
93,200 GSF (46,600 NASF), three/two-story and one-story class lab buildings
1.06 Hoskins Library Restoration

This significant structure will be restored to its original grandeur and later additions will be removed. The resulting space will have approximately 55,000 GSF (27,500 NASF.)

2.01 College of Nursing Renovation and Expansion

81,800 GSF (40,900 NASF), four/three-story class lab building including a new 40,000 GSF (20,000 NASF) addition

2.02 Academic Building (Silverstein-Luper Building Site)

50,000 GSF (25,000 NASF), five-story classroom building

Expansion of the existing Communications Building chiller plant may be required as part of this project.
2.03 EPS/Nielsen Complex Renovation and Expansion

200,000 GSF (100,000 NASF), seven-story class lab building

This suggested approach to renovating two existing structures into one complex suggests an architectural approach utilizing the existing EPS building façade and completely replacing the Nielsen Physics Building. The intent is to enhance the existing scale of the buildings surrounding Ayres Hall and to respect the new Ayres Quadrangle.
2.04 Clarence Brown Theatre/Ula Love Doughty Carousel Theatre Renovation and Expansion

141,000 GSF (70,500 NASF), five/two-story classroom building theaters, shared lobbies and expanded support area. New space includes 50,000 GSF (25,000 NASF) of new academic space.

2.05 Academic Building II (Stokely Athletics Site)

150,000 GSF (75,000 NASF), five/two-story classroom building

This facility will be tied into a new regional chiller plant to be located in the adjacent garage project (2.16).

2.06 Perkins Hall Renovation and Expansion

200,000 GSF (100,000 NASF), four-story classroom building including a new 43,000 GSF (12,500 NASF) addition
2.07 Class Lab Building II (Cumberland and James Agee Site)

70,000 GSF (35,000 NASF), three-story class lab building

The existing chiller plant adjacent to Hoskins Library may need expansion to add this facility.

2.08 Ferris Hall Renovation and Expansion

78,400 GSF (39,200 NASF), four-story class lab building including a new 30,000 GSF (15,000 NASF) addition

2.09 Art/Architecture Renovation and Art/Architecture/Humanities Addition (HSS Building Site)

254,300 GSF (127,150 NASF), four-story academic building including a new 71,000 GSF (35,500 NASF) three-story addition
2.10 Academic Building III – Phase I (HSS Quadrangle)
93,000 GSF (46,500 NASF), four-story classroom building

2.11 Austin Peay Renovation
62,900 GSF (31,450 NASF), four-story classroom building

2.12 Dougherty Renovation
124,134 GSF (62,067 NASF), eight/five/three-story class lab building
In addition, long-term academic buildings include:

- Henson Hall Renovation
- HPER Replacement Building
- Law Complex Addition
- McClung Museum Renovation and Expansion
- Music Building Addition
- Academic Building IV (Gibbs Hall site)
- Academic Building V (Old Student Health Services Site)
- Academic Building VI (Lake Avenue)
- Academic Building VII (Greve/Dunford Site)
- Academic Building VIII/Academic Building III Expansion/Art+Architecture Expansion (McClung Tower and Garage Site)
- Academic Building IX (Lake/Terrace Area)
- Academic Building X (Lake/Terrace Area)
- Academic Building XI (Lake/Terrace Area)
- Class Lab Building III (Senter Site)
- Class Lab Building VI (Clement Site)

The two UTIA units with degree-granting instructional functions (College of Agricultural Sciences and Natural Resources and the College of Veterinary Medicine) have similar needs to the other colleges and academic departments of UT, Knoxville. The land-grant mission of the other two UTIA units (UT Extension and UT AgResearch) have those and additional needs for their research/outreach efforts. Faculty in both these units work directly with professional staff across the state in Research and Education Centers and county Extension offices, and require office and laboratory space equivalent to that needed by the units delivering on-campus instruction. In addition, due to the outreach mission, there is a critical need for better facilities for activities such as meetings, seminars, certification instruction and testing, 4-H events, in which both large and small groups are involved.

The Brehm/McLeod building project, to be completed in 2011, has served to establish the model for facilities for onsite instruction, including state-of-the-art classroom technology; modern, flexible laboratory space; adequately equipped office space; specialized space required by disciplines, such as the animal arena; and appropriate infrastructure to support a wide range of current and future activities.

Renovation and expansion of the College of Veterinary Medicine’s Large Animal Hospital will begin in 2011, adding a 33,436 square foot addition to the hospital and a 32,225 orthopedic diagnostic center and renovating 18,764 square feet of the existing hospital. Construction of a 6,700 square foot College of Veterinary Medicine Teaching and Learning Center will also begin in 2011.

Two facilities on the UTIA campus, Crops Genetics (1935) and the Animal Science Laboratory (1946) are in very poor condition and are not of a size or configuration which suggests their retention.

- Before renovations/expansion/replacement of Ellington Plant Sciences, McCord and Morgan Halls can commence, adequate surge space will need to be available to allow functions to continue during construction. Construction of a small facility...
to allow relocating some administrative functions to land on Alcoa Highway is needed.

• Ellington Plant Sciences Building: The need for major renovation of this facility (completed in 1968) has been documented by THEC evaluations and confirmed by consulting architects. Programmatically, it no longer serves the needs of the disciplines it serves: classrooms and laboratories are too small and lack infrastructure for today’s pedagogy and inquiry; the design is inflexible; and the offices are not well-located or designed. A well-integrated totality, including an expansion of the facility to 120,000 gross square feet (from its existing 81,000 square feet) is required to meet the current and foreseeable needs of the disciplines served.

• McCord Hall: Completed in 1949 with its companion Dairy Manufacturing Building, McCord Hall is now used for programs for which it was not designed. Like Ellington, evaluations confirm that it no longer has the infrastructure or configurations needed for current discipline uses, and does not meet current building codes. To recapture space required to meet current building and accessibility codes and meet anticipated needs for laboratory and office space for the next two decades, an expansion to 60,000 will be required.

• John and Ann Tickle Small Animal Hospital: The build-out of the second floor of facility entails interior construction of 10,000 square feet, to include 16 offices, a seminar room for 85 students, a medical records facility, and two clinical research laboratories, as well as service space for the functions.

• UT Gardens Education and Visitor Center: Established in 1983 by the Department of Plant Sciences, the UT Gardens’ support The University’s teaching, research, and outreach missions. The vision for the Gardens is to be recognized as the preeminent university garden linking the people and green industry of Tennessee horticulturally to the nation and the world. The Gardens are comprised of 10 acres, with collections of annuals, perennials, roses, herbs, vegetables, fruits, aquatics, ornamental grasses and xeriscape plants. The Gardens are recognized as a Tennessee Certified Arboretum and an American Conifer Society Reference Garden. More than 70,000 people visit the Gardens each year. An education and visitor center is needed to support and enhance the mission of the Gardens and the university. The Gardens currently have no restrooms, educational classrooms, all-purpose meeting rooms, staff offices or storage space attached to the Gardens. The Center of approximately 30,000 square feet will house the Gardens’ director and staff, multipurpose-room, classrooms, conservatory, atrium and equipment storage, as well as other specialized facilities.

• Greenhouse Replacement and Expansion: The demand for state-of-the-art research greenhouse space for UTIA continues to increase. The nature and diversity of research requires sophisticated environmental controls and research bays. Currently, there are three greenhouses (10 and 13, built in 1974 and the TVA greenhouse, built in 1936, which are obsolete and in poor condition. In addition to replacing this 10,000 square feet of greenhouse space, two additional greenhouses of 12,000 square feet each are needed to carry out the instructional and research missions of the UTIA.

• Morgan Hall Renovation and Addition: Morgan Hall, designed by the same architects as Ayres Hall, constructed at the same time, and dedicated on the same weekend as Ayres in 1921, is the iconic building of the UTIA and serves as the UTIA main administrative building. It requires a sensitive historic renovation similar to that recently completed of Ayres Hall, and will also require an addition of approximately 20,000 square feet to recapture space lost to modern code requirements.

• Renovation and Expansion of the College of Veterinary Medicine’s Research Space: Renovation and upgrades of approximately 15,000 square feet of existing research space in the York Animal Hospital Building is required, together with construction of a 5,000 square foot addition above the administrative offices to accommodate the College’s growth in cancer research, infectious diseases, and public health.

Academic buildings included in the near-term and mid-term phased capital plan are:
A1.01 Ellington Plant Sciences Expansion

120,000 GSF (60,000 NASF), four-story classroom building

A1.06 North Greenhouse Expansion (Phase II)

13,000 GSF (6,500 NASF), one-story research greenhouse and head house expansion

A2.01 Class Lab Building (McCord Hall and Crops Genetics Lab Site)

100,000 GSF (50,000 NASF), four-story classroom building
A2.02/A2.07 UT Gardens Education and Visitor Center
30,000 GSF (15,000 NASF), two-story building with half dedicated to a welcome center and half dedicated to education

A2.03 Central Greenhouse Expansion – Phase II
31,000 GSF (15,500 NASF), one-story research greenhouse and head house expansion
Auxiliary and Student Service Space Needs:
The square feet of facilities dedicated to student services and programs currently totals 485,136. There are three major facilities needs in the student services and programs area: an expanded University Center, a consolidated Student Health Facility, and intramural playing fields.

- The initial portion (105,000 square feet) of the current Carolyn P. Brown University Center opened in 1954 and an addition opened in 1966 which brought the total square feet to 212,195. Although the 1954 portion of the University Center was additionally renovated in 1966, both the original and added portions of the building have major infrastructure issues, and the construction techniques of both (bearing walls) prohibit integrated reconfigurations for today's needs. The facility requires replacement to provide for the vastly different needs of today's students and to provide the flexibility to adapt to changing needs in the future. Planning is under way for a 324,000 square feet student center, with completion anticipated in 2016.

- Student Health Services are currently delivered in two major structures, a 15,295 Student Health Clinic, and a 16,681 Student Counseling Center. The Student Counseling Center is located in the former Weston Fulton Memorial Infirmary, in facilities which do not lend themselves to their current purpose. The student health clinic is far too small for the variety of services it needs to offer and the patient load it currently has. A 109,200 square feet building is currently under construction to replace these two facilities and to combine health services.

- The intramural program of the institution had its beginnings in 1915, and an extensive, formal intramural program was created in 1923. UTK is generally regarded as the first college or university in the South to initiate and sponsor an intramural sports program. UT currently has only three intramural fields, one of which must be used with consistency for practice by the Pride of the Southland Marching Band in the Fall. The number of intramural fields is absolutely inadequate, limiting the types of competitions that can be held and requiring many competitions to be held very, very late in the evening. The immediate need for intramural fields was recognized in the 2001 Master Plan update by placing the fields on the Cherokee Campus. With the repurposing of the Cherokee Campus to contain research facilities, the intramural field location has been changed to the site of the former married student housing units on Sutherland Avenue. That property is being converted to contain 11 intramural fields and associated facilities, with the expectation that the fields will be complete in 2012.

The 51,022 square feet Panhellenic Building, opened in 1964, was designed to provide meeting suites for 19 sororities with a college chapter membership of 50. The building became woefully inadequate as college chapters passed the 100 member mark, and the building’s structure did not allow for the extensive renovation and addition of space required for the leadership experiences provided to today's female undergraduates by sororities. The current Sorority Village under construction on the Morgan Hill section of the campus will provide for houses funded by the individual sororities and allow for a residential component, as is the case for fraternities. When all the houses are completed, 450-500 female undergraduates are expected to live within them.

A Master Plan for campus residential facilities has been completed. It confirms the inadequacy of the existing residence halls built in the 1960's, requires their complete upgrading, replacement, or repurposing, and requires construction of a new residence hall of 230,000 square feet (which will also contain a major dining facility). The new residence hall is being planned at this time. When the new facility is complete, older facilities can be taken out of service sequentially. The Sorority Village currently under development, with its eventual residential component of 450-500, has been factored into the Housing Plan. The Master Plan is an appendix to this document.

In the area of parking, the University Center Parking Garage is past its reasonable period of usefulness, and a larger facility is required to provide properly for visitor parking on the campus. A replacement garage, with expanded capacity, is planned for the large surface lot across from Neyland Stadium. This garage will connect to the new student center and to The Hill to provide easier pedestrian access throughout the campus. The parking garage built in association with the Andy Holt Tower will need to be replaced or rebuilt, and additional parking facilities are needed in the Lake Avenue area.
In the area of athletics, golf facilities will be added on the Cherokee Farm, and a new indoor track and volleyball arena will be constructed in the Stephenson Drive Area. Renovations of Neyland Stadium and Thompson-Boling Arena will continue, and Stokely Athletics will be razed.

At the UTIA campus, there is an immediate, critical need for additional parking, that can be partially mitigated in the near-term by identification of areas for surface lots, but which requires construction of an 800 space parking garage.

Figure 2-28 View of UTIA Extended Trial Gardens Quadangle from North
Sequencing Plan and Capital Outlay

The Capital Outlay projects proposed for the Knoxville Main and Ag Campuses, and their sequencing are shown by the following lists. The lists are divided into three main categories; near-term, mid-term and long-term projects. These are subcategorized by Main Campus and Ag Campus projects which are in turn subcategorized by state funding and “other” funding sources.

The three-phases represent non-time specific periods because of the unknown timing of project funding. Near-term projects are of the highest significance and are listed in a prioritized order. Mid-term projects are programmed spaces listed in an anticipated prioritization. Long-term projects are not prioritized and represent potential development areas that may be required in the long-term future to meet program, formula and growth needs of the campuses.
<table>
<thead>
<tr>
<th><strong>Near-Term Projects</strong></th>
<th><strong>Renovated Gross Square Feet</strong></th>
<th><strong>New Gross Square Feet</strong></th>
<th><strong>Total Building Gross Square Feet</strong></th>
<th><strong>Budget (2011 Dollars)</strong></th>
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<td><strong>UTK Main Campus</strong></td>
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<tr>
<td>1.01 Strong Hall Renovation and Expansion</td>
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<td><strong>Other Funds</strong></td>
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* Based on an independent residence hall study by others currently under review and subject to change
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<th>Mid-Term Projects</th>
<th>Renovated Gross Square Feet</th>
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<th>Budget (2011 Dollars)</th>
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<td><strong>Ag Campus</strong></td>
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<td><strong>Other Funds</strong></td>
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<td>A2.07 UT Gardens Education &amp; Visitor Center (Split Funding)</td>
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<td>15,000</td>
<td>4,000,000</td>
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<tr>
<td>A2.08 North Trial Gardens Expansion (TBD)</td>
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Program and Space Plan

Figure 2-31 Mid-Term Capital Improvements Plan
## Table 2-4 Long-Term Capital Improvements

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<th>Long-Term Projects</th>
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<td><strong>UTK Main Campus</strong></td>
<td><strong>Ag Campus</strong></td>
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<tr>
<td>State Funds</td>
<td>State Funds</td>
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<td>3.01 Estabrook Renovation</td>
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<tr>
<td>3.02 Henson Hall Renovation</td>
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<tr>
<td>3.03 HPER Building Replacement</td>
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<tr>
<td>3.04 Law Complex Addition</td>
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<td>3.05 Music Building Addition</td>
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<td>3.06 Academic Building IV (Gibbs Hall Site)</td>
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<td>3.07 Academic Building V (Old Student Health Services Site)</td>
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<td>3.08 Academic Building VI (Lake Avenue)</td>
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<td>3.09 Academic Building VII (Greve/Dunford Site)</td>
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<td>3.10 Academic Building VIII (McClung Tower)</td>
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<td>3.11 Academic Building IX (Lake/Terrace Area)</td>
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<td>3.12 Academic Building X (Lake/Terrace Area)</td>
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<td>3.13 Academic Building XI (Lake/Terrace Area)</td>
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<td>3.14 Academic Building XII (Lake/Terrace Area)</td>
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<td>3.15 Class Lab Building III (Senter Hall)</td>
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<td>3.16 Class Lab Building VI (Clement Site)</td>
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<td>Other Funds</td>
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<td>3.17 Hess Hall Renovation*</td>
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<td>3.18 Lake Avenue Parking Garage Expansion (700 Spaces)</td>
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<td>3.19 McClung Museum Renovation and Expansion</td>
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<td>3.20 New Parking Garage (Volunteer W, 1700 Spaces)</td>
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<td>3.21 New Special Purpose Building</td>
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<td>3.22 Residential Life building Phase I (West)</td>
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<td>3.23 Residential Life building Phase II (East)</td>
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<tr>
<td>3.24 Volunteer Boulevard Parking Garage Expansion (900 Spaces)</td>
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General Plan
The General Plan section provides the background information used to develop the proposed physical master plan for the main campus and the agricultural campus within the oxbow of the Tennessee River. The Cherokee Campus and the UT Medical Units campus are not a part of this plan. The Master Plan for the Cherokee Campus is an appendix to this plan. The goals and governing principles of the plan are identified; an analysis of existing buildings and systems is summarized; proposed improvements are described and illustrated.

Overview and Historical Context
Two major entities of The University of Tennessee System have facilities in the Knoxville area: The University of Tennessee, Knoxville (UTK) and The University of Tennessee Institute of Agriculture (UTIA).

UT, Knoxville is both Tennessee’s State University and Tennessee’s 1862 Land Grant institution. It is the flagship institution of The University of Tennessee and, as such, has a broad mission in instruction, research, and public service. The Institute of Agriculture has four divisions: the College of Agricultural Sciences and Natural Resources; the College of Veterinary Medicine; UT AgResearch (formerly designated as the “Agricultural Experiment Station,” which remains a part of this division); and UT Extension – Outreach. The College of Agricultural Sciences and Natural Resources is located on the Knoxville Agriculture campus. Its instructional functions are funded as part of UTK, and are jointly administered by the UTK Chancellor and the UTIA Chancellor. The College of Veterinary Medicine, funded by a line-item State appropriation, is predominantly located in Knoxville and is responsible to the Chancellor of UTIA. Base funding for the remaining two Divisions, UT AgResearch and UT Extension – Outreach, comes from federal land-grant statutes and their extensions and line-item State appropriations. These Divisions are statewide, responsible to the Chancellor of UTIA, and have headquarters and major presences in Knoxville and the surrounding area.

University of Tennessee, Knoxville
The present location of the institution is its third. Chartered as Blount College by the Assembly of the Territory of the United States South of the River Ohio in 1794, UTK is two years older than the State of Tennessee. Its classes were held in the home of its...
president until the 1799 completion of a building on its first “campus”—a four acre tract at the corner of what are now Gay and Clinch Streets in downtown Knoxville purchased by the college from James White in 1795 for $30.00. Funds for this first facility, designed to accommodate foreseeable growth of the student body—to 40 students—were raised by public subscription.

In 1807, a section of the Act of the General Assembly rechartering the institution as “East Tennessee College” and designating it as the recipient of funds collected from the sale of lands specified in the Compact of 1806, specified a different ten-acre location for the college. The Trustees concurred that the College must relocate to provide for future growth, but delayed action because the site specified in the Act was not acceptable to them. In 1821, the Trustees petitioned for an amendment to the institutional Charter, and they made a second request for a change of location in 1822, which was granted. In 1826, the Trustees purchased “the hill west of Knoxville and south of the residence of Charles McClung...forty acres in extent” from James Pleasant Miller for $600.00. That tract is “The Hill” area of the campus today, together with part of the seventy-four acre tract “including the spacious residence, gardens, and grounds” purchased by the Trustees in 1827 for $2,304 as the president’s residence. By the end of the 1920’s, UT had acquired most of the property on both sides of Cumberland Avenue (except for the area in front of the University Center and a few parcels on what is now Volunteer Boulevard. The plan, at that time, was to expand north of Cumberland Avenue. In 1930’s, UT began to purchase property along what is now Volunteer Boulevard. In 1937 UT purchased “Hudson Field,” the area now occupied by Haslam Field, Stokely Athletics Center, Neyland-Thompson, and Brenda Lawson, and followed that purchase in 1941 with the purchase of “Lower Hudson Field,” which is where the Lindsey Nelson Stadium now is.

After World War II, the influx of veterans attending under the G.I. Bill required rapid growth of facilities and land upon which to build them. Parcel-by-parcel acquisition was slow, and failed to provide the contiguous areas required for a long-term building program that would accommodate immediate and intermediate institutional needs. The University had developed a concept plan of the area required for its expansion and in 1963 entered into an agreement with the Knoxville Housing Authority (now Knoxville Community Development Corporation) which provided that KHA would acquire all land not then owned by UT lying between 15th and 23rd Streets on the east and west and between Rose Avenue and the railroad properties on the north and south—134 acres. KHA acquired the land, relocated the more than 400 families living in the area, razed the more than 325 houses and other buildings not owned by UT, and graded the area. UT purchased the area from the KHA for $3,000,000. UT also leased land from the City of Knoxville on Sutherland Avenue for a temporary “barracks village” for returning service men, property which it purchased in 1970 and developed along with the Golf Range Apartments, land for which was acquired in 1965.

UT projected that its expansion needs would be greater than the boundaries of the federal urban renewal project, and in 1965 the Knoxville City Council passed a Zoning Ordinance designating the area south of Lake Avenue, between west Volunteer Boulevard and Melrose Place and south of White Avenue between Eleventh and Seventeenth Streets as an “institutional zone.” To the east of the campus, the blighted area between the campus and the Central Business District was removed as an urban renewal project, providing land for an interim use by the 1982 World’s Fair. UT’s property at 1000 White Avenue was acquired as part of the assembling of land for the Fair, and UT obtained the land along the river which it had been renting from the railroad and other parcels at the east end of the campus at the conclusion of the Fair.

UT’s Knoxville campus is today somewhat fragmented—there is the central campus; the property on Sutherland Avenue, which is being converted to intramural fields because of lack of closer land which can be used for the purpose; a major office and storage facility on Middlebrook Pike; a large office and storage facility, formerly the headquarters of Albers Drug, off Kingston Pike, the former Millers Building on Henley Street that currently houses UT conferences and other administrative and academic offices, and a recently renovated dormitory on part of land acquired in 1948 for apartment housing. The outlying parcels are well used, but the foreseeable building and attendant land needs of the institution are significant.

University of Tennessee Institute of Agriculture Campus
In 1869, the General Assembly enacted a Bill, as amended, introduced by T.A. Hamilton of Shelby County establishing Tennessee’s agricultural college home economics knowledge. The purpose of the
Agricultural Extension Service is to diffuse, among the people, practical and useful information on agriculture and home economics to improve the quality of life. Amendments followed which expanded this responsibility to include 4-H/Youth work and community resource development. The Smith-Lever Act provided an organizational framework for people in local communities to receive educational assistance from their land-grant institution and the United States Department of Agriculture.

The Tennessee Agricultural Extension Service has faculty located in all 95 Tennessee counties. The County Agricultural Extension Program is a three-way partnership between the federal, state, and local governments. Subject matter support for county faculties is provided by agricultural faculty located in Knoxville.

The College of Veterinary Medicine (CVM) was established by an act of the Tennessee Legislature in 1974. Land on the Agricultural campus was provided for the construction of appropriate facilities. In addition, the College of Veterinary Medicine was granted the use of approximately 40 acres of land north of the Memorial Research Hospital for the CVM Research Farm for research/teaching facilities.

The land, building and livestock facilities used to support the agricultural teaching program of the College of Agricultural Sciences and Natural Resources and College of Veterinary Medicine are operated by the Agricultural Experiment Station as one of eleven branch agricultural experiment stations used as field laboratories in the execution of the agricultural program under the Federal Morrill Land-Grant Act of 1862. The Morrill Act prohibits the use of the land fund or the interest from it for “the purchase, erection, preservation, or repair of any building or buildings”. Before the institution would be eligible to receive the State bonds in which the land fund and interest were invested, East Tennessee University, as it had become in 1840, was required to have “provided suitable lands, not less in extent than two hundred acres” for the agricultural college. Less than a month after receipt of the certified Act of the Legislature establishing the State’s agricultural college as part of the institution, the Trustees purchased the James H. Armstrong tract of land of 262 acres for $30,000 which is the site of the Agricultural campus.

The Agricultural Experiment Station was established by the University’s Board of Trustees on June 8, 1882. It was located in Knoxville, and its first mission was to evaluate seeds and fertilizers. Five years later the U. S. Congress passed the Hatch Experiment Station Act which authorized the use of Federal funds to support agricultural research in all states.

The action of the University in 1882 established the Tennessee Agricultural Experiment Station as one of the first five created in the country. Since Tennessee’s topography, soil resources and climate varied greatly from Bristol to Memphis, as did the nature of the agricultural enterprises, the early Experiment Station moved quickly to establish outlying or branch stations across the state. The first branch station established was the 1907 West Tennessee Station at Jackson. Between 1907 and 1965, nine additional stations were established: Middle Tennessee, Spring Hill; Highland Rim, Springfield; Plateau, Crossville; Dairy, Lewisburg; Tobacco, Greeneville; Ames, Grand Junction; Forestry, Oak Ridge; Milan; and Martin.

The Agricultural Extension Service, created by the Smith-Lever Act in 1914, was a natural outgrowth of the development of a body of tested agricultural and research programs. The land resources associated with the Knoxville Station include 1,884 acres owned by the University (located in six distinct tracts of land) and 1,289 acres of leased land.

The tracts adjacent to the core campuses are: Morgan Unit: The 75 acres of land (a portion of the original Armstrong tract) which lies north of the Fort Loudoun Lake adjacent to the Agricultural campus is commonly referred to as the Morgan Unit. The unit is divided into two sub-tracts (1) Morgan Hill, which is the triangle bounded by Kingston Pike, Neyland Drive and Alcoa Highway and (2) Morgan Bottom, the area along Neyland Drive and bordered on the East by Third Creek and Northwest by the Agricultural campus. The Morgan Hill is a major green space in the campus area and is the site of planting for various trees and shrubs which are used as specimens in the teaching program. The lower portion of the Morgan Bottom lies below the 820 ft. elevation level on which TVA restricts building as the area is subject to occasional flooding. However, a large part of Morgan Bottom lies below the 830 ft. elevation and is poorly suited for building sites. Both of these areas are utilized for the ornamental horticultural teaching and research programs.

Cherokee Unit: The 450 acres adjacent to the South shore of Fort Loudoun Lake was acquired in 1918 and
is known as the Cherokee Unit. This tract is functionally three sub-tracts: Cherokee West - 210 acres, bounded by Alcoa Highway, Fort Loudoun Lake and the Naval Reserve Station. The Cherokee West unit is being utilized by the Experiment Station as a Dairy Research Unit. This tract contains 25 acres which are included in the TVA restricted building zone. Cherokee East - 75 acres bounded by Alcoa Highway and Fort Loudoun Lake (40 acres of this tract are assigned to the College of Veterinary Medicine and are operated by CVM to support its teaching and research mission.) Although the TAES formerly utilized this area as a Poultry Research Facility, it currently utilizes the 25 acres assigned to it as an Intensive Care Animal Research Facility for sheep, cattle, swine and poultry research. This is the preferred site of the Institute of Agriculture’s proposed building for expanded capability in intensive-care animal research. Cherokee South - 165 acres of forest land bounded by Cherokee Trail and Alcoa Highway. This land contains some very steep hillsides and is somewhat limited for alternative uses. This tract is now used by the Forestry, Wildlife, and Fisheries Department in teaching and field demonstration activities.

Other experiment station units in the Knoxville area are: Plant Science, Small Grains, Holston, Blount, Alcoa and Proffit. The last two are leased to the University.

### Existing Campus Context

**Location:**
The UT Knoxville and UTIA campuses are located in Knoxville, Knox County, Tennessee. Adjacent Agricultural Experiment Station land is in both Knox and Blount Counties. The two campuses are located immediately west of the central business district, south of the Fort Sanders neighborhood, and north of Fort Loudoun Lake. On the north side of the river, the UT Knoxville campus and the adjacent Agricultural campus are generally bounded on the north by Cumberland Avenue/Kingston Pike and White Avenue; on the east by 11th Street and the Southern Railroad; on the south by Fort Loudoun Lake and the CSX Railroad yards; on the west by Fort Loudoun Lake and Neyland Drive. (Figure 3-2) The two campuses are

![Figure 3-2 Regional Context](http://www.utk.edu/masterplan/)
connected by a four-lane vehicular/pedestrian bridge on Joe Johnson Drive.

The UT Knoxville and the UT Institute of Agriculture campuses are located near the major regional highways. Two interstate routes are located north of the campuses: I-40 (east-west) and I-75/I-275 (north-south). There are three existing connections between the Interstate system and the campuses. These connections are Alcoa Highway (U.S. 129) which connects to Cumberland Avenue and Neyland Drive; Seventeenth Street to Cumberland Avenue; and the James White Parkway to Neyland Drive exit. Cumberland Avenue is the major east-west arterial street through the UT Knoxville campus, which provides connections from the central business district and the area west of the campus, as well as through traffic movements. It is expected that this major connection will significantly be reduced in the coming years as the City of Knoxville moves forward with its road diet for this corridor. Neyland Drive and Cumberland Avenue are the principal points of connection to Alcoa Highway and to the streets connecting I-40/75, although Chapman Highway/Broadway also provides substantial secondary access. The sole direct external entry to the UT Agricultural campus is from Neyland Drive, a major arterial street along Fort Loudoun Lake on the south edge of both the UT Knoxville and UT Agricultural campuses.

Alcoa Highway provides access to the campuses from both the north and the south. This is the principal route from the McGhee-Tyson Airport. Alcoa Highway provides access also to the Cherokee, Plant Sciences, and Blount Agriculture Experiment Station units. Tipton Station Road and John Sevier Highway/Govt Farm Road provide access to the Small Grain Unit. The Holston Unit, located at the confluence of the Holston and French Broad Rivers, is accessed from Riverside Drive.

Both campuses lie in an oxbow of the Tennessee River along Fort Loudoun Lake. Knoxville is at the headwaters of the inland waterway system and the Tennessee-Tombigbee Waterway. There is water access to both the agricultural lands and the campuses on the north side of the river, and boat docks presently exist along Neyland Drive. The UTIA and UT, Knoxville campuses are additionally accessible by rail lines though no passenger service currently serves Knoxville or East Tennessee.

External Factors:
A number of projects are either planned or are under construction adjacent to the University which may impact its environment, some of the known projects include:

- Knoxville South Waterfront: The Knoxville South Waterfront Vision Plan, adopted in 2006, describes a long-term improvement strategy for an approximate 750-acre area fronting the 3-mile shoreline of the Tennessee River, directly south of downtown Knoxville and the University of Tennessee-Knoxville and is described in detail on the City’s website. A proposed pedestrian bridge from the South Bank to land relatively close to the Lake Loudoun Boulevard entrance is being discussed with the city. The current thought is for it to land on the Thompson-Boling Arena “west ramp” at the north entry plaza to achieve the required clearance over the railroad track.
- Cumberland Avenue Corridor Project: The project was established to guide the City in the creation of a more inviting, vibrant and safe Cumberland Avenue that enhances the connections to the University of Tennessee and area employers and improves the residential and retail character of the district while providing for all modes of transportation.

The current status of the Corridor Project is available on the City of Knoxville’s website. The Streetscape Plan proposes a “road diet” for Cumberland reducing the street from four lanes to three lanes which has been taken into consideration in this Master Plan. The project also calls for a strong pedestrian linkage from the “Strip” along Mountcastle Street through the student housing area west of Carrick Hall to Andy Holt Avenue.
- Fort Sanders residential development: As more dense residential development occurs within and around the Fort Sanders area in the form of condominiums and apartments, the university will consider the impact of bike and pedestrian traffic.
- Inner-City Connector Project: This proposed project will provide better access from North Knoxville and the I-275 corridor by way of the 17th Street exit. This implies the master plan should address the campus image and vehicular circulation at the Cumberland Avenue and 17th Street intersection.
• Alcoa Highway Widening Plan: This project is currently in the environmental planning stage. The ultimate goal is to widen Alcoa Highway to 6-lane access control from the Buck Karnes Bridge to Alcoa. This improvement will provide better access to and from Blount County, especially during periods of high traffic volume.
Architectural Styles and Forms

The historic campus architectural style can be generally referred to as “Collegiate Gothic.” The building material palette is red brick (as close to Virginia Moss Rose as is available) with contrasting limestone or precast concrete. While there are numerous interpretations of “collegiate / academic gothic” around the world, all are designed to impart a sense of the institution having a tradition of excellence, stateliness, and stability. The hallmarks of the use of this style at UTIA and UTK are the gothic arch at portals and as a decorative feature, window surrounds of limestone or precast concrete, and a base or watercourse demarcation of limestone or concrete. On The Hill, along Cumberland Avenue, and in other locations within the viewscape of The Hill, red tile roofs are expected. Multi-paned windows are preferred.

In future projects at UTIA and UTK architectural teams must ensure that the views toward the proposed project, from all directions, conform to the campus architectural style. New projects on both campuses must be presented to the campus administration for review and subsequent approval. A review of existing buildings which can inform the design approach would include: Ayres, Austin Peay, Jessie Harris, Haslam, the Law Complex, Claxton, Henson, and Morgan.

Organizing Principles

The overarching spatial concept of this master plan is that campus buildings are definers of open space and not, with a few justifiable exceptions, isolated showpieces. So called foreground and background buildings each have their place and are necessary for a campus that is pleasing in both building form and spatial ensembles. The pedestrian center of UTK’s main campus, at the intersection of Volunteer East and Andy Holt Boulevards should become the heart of the pedestrian and bicycle movement with all other traffic moved to a perimeter loop.
Existing Land Use Zones and Districts

The existing form of the campuses reflects their age, development sequence, spatial organization and architectural styles. As a means of organization, areas within the campuses have been placed in the major categories of land use zones and spatial districts.

Land use zones are based on general uses and help determine character of the campuses, establish circulation patterns, illustrate possible expansion areas, and give an overall sense of order to the units. The major zones are academic, research, administration, student services, and athletic.

Districts are areas which have common spatial and visual characteristics. Rather than quantitative as with land use zones, the determination of districts is subjective in nature. They define the homogeneous character and visual image of the campuses. Conflicts often occur in undefined, or amorphous, districts. Areas of this type should be incorporated into adjacent districts or established within independent identities.

Proposed Emphasis of Major Axis and Open Space Network

During the early 20th Century the campus grew in what has been called a “suburban” model in which long straight streets are flanked by variegated buildings, each of these buildings surrounded by parking lots and lawn or other landscaping. There are two unfortunate consequences with this development pattern: the open space system on the campus was defined by vehicular movement, and the buildings and their placement were generally inadequate to define exterior open space that feels comfortable and complementary to pedestrians.

"The Hill" district, a grouping of some of UTK’s oldest buildings, affords perhaps the most cohesive example of how a grouping of buildings and the spaces between them, can define an open exterior space that is welcoming and conducive to both pedestrian movement and more structured activities. With few notable exceptions, the remainder of both campuses affords little in the way of such outdoor rooms, those areas that create a distinctive sense of place for the buildings that inform them and the people who inhabit them. The current form of UTK campus continues to struggle with having mostly athletic playing fields that are bounded by heavily trafficked streets as the major open spaces on campus. This master plan continues to push toward the creation well-defined outdoor rooms throughout the acres of campus to serve as places for all types of outdoor activities ranging from casual pick-up games to place-to-place movement between other indoor activities.

In conjunction with the gradual removal of vehicular routes from the axial west-east pedestrian spine, is the definition of a system of defined open spaces. While often familiarly called “quads” in reference to those iconic spaces found on many historic British and early American university campuses, such spaces need not and indeed should not be considered strictly rectangular or highly confined by contiguous building facades.

As an organizing principle for campus development, open space and the placement and massing of buildings must be executed in an integral way. That is, campus buildings cannot stand in isolation, but must shape campus spaces and form an ensemble that gives spatial and visual clarity to the campus. The principle will be increasingly important for the University of Tennessee, where the next generation of development will take place as infill sites and as additions to buildings. The space-defining characteristics of the building edges will be critical in framing and amplifying the open spaces and pedestrian passages necessary to tie the campus together in a unified manner. The higher densities resulting from future development will be balanced by the improved clarity and linkage of pedestrian open spaces. The sense of campus order is enhanced by greater consistency in building form and expression, and by conceiving of buildings as a backdrop to campus spaces as opposed to a series of attention-commanding set pieces.

The master plan proposes a variety of defined open space types which are desirably linked in ways that mix predictability with surprise. They include:

- Quads – as existing in the Hill, Circle Park, and the Clarence Brown theatre vicinity, and the proposed improvements in the Morgan Hall area.
- Malls – being elongated, well-defined spaces that provide linear cohesion, including an extension of the Andy Holt Joe Johnson Pedestrian Mall, the proposed Volunteer East Mall, and the UTIA Garden Mall Extension.
- Parkways – the notable example of this is the Cumberland Avenue area between 17th Street
and 11th Street with its variegated and partially contiguous flanking shaded lawns which form the symbolic front door of the UTK’s main campus.

- Plazas – being the specially defined and largely paved spaces, as at Gates 21 and 10 of Neyland Stadium and the south face of the University Center.
- Many “pocket parks” or small squares, likewise well defined, which occur throughout the campus as at Mountcastle Park, providing often unexpected and shady respite on an urban campus.

Hand in glove with the issue of well-defined open space is the matter of the buildings which do the defining. As mentioned previously, “The Hill” is well known and respected for its tastefully interpreted examples of Collegiate Gothic architecture, as are portions of the Cumberland Avenue parkway and UTIA’s campus. It is widely agreed that this precedent of architectural historicism should be carefully respected, within reasonable interpretive bounds, specific to those areas of campus.

Other districts of the two campuses reasonably afford greater freedom in their architectural expression, while adhering to the desire that the proposed network of open spaces requires good definition of built edges. By definition, with certain exceptions, present and future buildings will need to adjoin each other in relatively close proximity in order to achieve this goal. It is also intended that the open spaces form a hierarchy, with special landscape treatments highlighting key open spaces and junction points. The landscape, therefore, reinforces the organizing principle of unity with diversity. The built form of the campus will be predicated on the complementary relationship between open space and architecture, and the capacity of each element to reinforce the sense of campus continuity, with “punctuation” at strategic locations.

Natural Boundaries

It is expected that the University will continue to acquire properties as they become available within the natural boundaries of the two campuses in the institutional zone.
Systems

Transportation

The transportation component of the Master Plan encompasses all modes of travel relevant to the UT Knoxville campus including automobile, transit, bicycles, and pedestrians. The overall concept of the Master Plan recommends moving parking to the perimeter; creating a collector road system on the perimeter; developing a comprehensive bicycle system; creating a grand mall using Andy Holt Avenue, Joe Johnson Drive, and the Joe Johnson/John Ward Pedestrian Mall that services bikes and pedestrians; and providing service and accessible parking to all buildings.

UTIA and UTK have a multimodal transportation system that serves its students, employees, and visitors. This system is comprised of a street network for automobiles and bicycles, sidewalks and greenways for pedestrians, an internal transit system called the “T”, and a series of parking lots and garages to store vehicles. The primary street system within the campus is primarily owned and maintained by the City of Knoxville including the traffic signals, signs, pavement markings, and parking meters. However, there are some streets within the campus which are owned and maintained by the university. The internal transit system is operated by Knoxville Area Transit (KAT) and UTK has a Parking Services division that operates and maintains the parking facilities. Today, there is a well-developed and well utilized system for all modes of transportation except bicycles.

In addition to circulating within the UTK campus and between UTK and UTIA, it is also important to have adequate external transportation systems. People travel to and from the UTK campus by automobile, bikes, bus, and walking. At present, the vast majority of people arrive and depart the UTK campus via automobile. In the near term future this will not likely change significantly, but it is a worthy goal to realize a greater shift from cars to other modes of travel.
Relative to the internal transportation system, this UTK campus master plan is very purposeful in terms of enhancing alternate modes of travel—namely pedestrians, bicycles, and transit. In fact the plan includes closing some of the campus streets, converting parking lots to green space or building sites, and moving primary streets and parking more to the perimeter of the campus. In the future, the UTK campus’s transportation system will look significantly different than it does today.

**Streets**

**Existing**

The UTK main campus is bounded by Neyland Drive on the west and south, Cumberland Avenue on the north and Second Creek on the east. A few main campus functions are located north of Cumberland Avenue primarily south of Clinch Avenue and east of Seventeenth Street. The Appendix presents four supporting illustrations: Street Classification System, Traffic Signals, Existing Peak Hour Volumes, and Portal Usage. Portal usage is intersection/street gateways into the campus. An example is the intersection of Lake Loudoun Boulevard at Neyland Drive.

**External**

Reasonably good access is offered by the Knoxville regional street network that is shown in Figure 3-3. From the west motorists destined to UTK have the option of using I-40, Middlebrook Pike, Western Avenue, or Kingston Pike. I-275 and Broadway (US 441) are the primary arterials used by motorists oriented to the north. To and from the east, the principal routes include I-40, James White Parkway, and Magnolia Avenue, which becomes Asheville Highway near the I-40 interchange. From the south the majors routes used to access UTK are Chapman Highway (US 441) and Alcoa Highway (US 129).

Closer to the campus, the external street system presents challenges that impact the portals utilized and the internal circulation. Cumberland Avenue is a four lane mostly undivided facility which carries as much as 33,000 vehicles per day. Because of barriers like Second Creek and the terrain, the campus does not have immediate access to the east except via Cumberland Avenue and Neyland Drive. In general, Cumberland Avenue operates near capacity and Neyland Drive operates below capacity. For this reason, automobile traffic should be encouraged to use Neyland Drive to access the campus. In fact, a significant amount of the population in the Knoxville and Knox County area is located west and north of the UTK campus, and to a lesser extent, east of it. The first opportunity to access the campus is from Cumberland Avenue. In other words a significant amount of the population must bypass Cumberland Avenue to access the campus via Neyland Drive.

Cumberland Avenue is classified as a Major Arterial in the Metropolitan Planning Commission’s (MPC) street hierarchy, so its primary function is to move traffic. It obviously has the dual purpose of providing access to abutting property. Neyland Drive carries the designation of a Minor Arterial, which is a lower classification than a Major Arterial. Within the UTK campus, Joe Johnson Drive, Volunteer Boulevard, and Lake Loudoun Boulevard are classified as Major Collectors.

There are nine traffic signals along Cumberland Avenue adjacent to the UTK campus and they provide gaps for side street traffic to enter or cross that street. Those directly affecting UTK include Volunteer Boulevard West, Volunteer Boulevard East, Phillip Fulmer Way, the “Hill”, and Estabrook Road/Eleventh Street. There are only two traffic signals on Neyland Drive serving the UTK campus: Joe Johnson Drive and Lake Loudoun Boulevard. Inside the UTK campus, five traffic signals are located on Volunteer Boulevard along with one at the intersection of Phillip Fulmer Way and Lake Loudoun Boulevard and one at the intersection of Joe Johnson Drive at Chapman Drive on the Ag campus.

In 2010, 45 percent of the automobile traffic entered and exited the UTK campus via a Neyland Drive portal. This is up from 28 percent in 2006, probably because of motorists avoiding Cumberland Avenue traffic congestion and becoming more familiar with the Ag campus bridge. If the Volunteer Boulevard West portal is included, almost two-thirds of the automobile traffic uses either it or a Neyland Drive portal to access the campus. Volunteer Boulevard East is utilized by 19 percent of the automobile traffic entering and exiting the campus.

UTK generates approximately 60,640 vehicular trips per day with about 30,320 entering and 30,320 exiting during a typical 24 hour period. This is slightly less than was measured in 2006 when the campus generated approximately 61,050 trips per day. There...
are more students now than in 2006 so the daily trip rate is less, meaning fewer daily trips are generated per student than occurred in 2006. Included in the Appendix is a table summarizing the trip generation characteristics of the UTK campus.

During the morning and afternoon peak hours, the UTK campus generates a higher number of trips per student than in 2006 or as compared to other universities. In fall 2010 the UTK campus generated 5,572 AM and 6,079 PM peak hour trip, which is up from 2006 when it generated 4,630 and 4,960 AM and PM peak hour trips, respectively.

Internal
Figure 3-4 depicts daily traffic volumes on and near the UTK campus plus congestion levels at principal intersections.

Volunteer Boulevard West accommodates the most daily traffic of all UTK internal streets with a 2009 count of 12,653 vehicles per day (VPD). Following closely behind Volunteer Boulevard West is Volunteer Boulevard East with a daily traffic volume of 10,839 VPD and Lake Loudoun Boulevard with a daily traffic volume of 10,420 VPD. Phillip Fulmer Way had a 2009 daily count of 4,862, so it combined with the Volunteer Boulevard East volumes adds up to 15,701 VPD.

Most major intersections on the UTK campus operate with acceptable levels of service (defined as average vehicular delays); however a few are approaching unacceptable conditions as depicted in Figure 3-4. That illustration shows overall average vehicular delays during the morning and afternoon peak hours, but it does not show unacceptable approach delays. Some intersection approaches on the campus experience long delays and queues and the simulation model identified those that occur under existing conditions. For example, the Lake Loudoun Boulevard at Neyland Drive intersection and the Lake Loudoun Boulevard at Phillip Fulmer Way intersection both experience long queues in the peak hours.

Future
External
Cumberland Avenue has received a substantial amount of attention recently due to MPC’s and the City of Knoxville’s desire to stimulate redevelopment. After several studies were conducted and significant public involvement undertaken, those agencies decided to revise its typical section from four travel lanes to three with wider sidewalks. To reduce visual clutter and enhance its attractiveness, utilities will be relocated
underground and significant streetscaping will occur. This road diet/complete street project is in the early design phase and construction is projected to commence in 2012. The road diet and streetscaping project limits are Volunteer Boulevard West to just east of Seventeenth Street.

When this project is complete, it will result in more traffic congestion on Cumberland Avenue. Some traffic is predicted to divert to Neyland Drive and some to the Fort Sanders neighborhood. Likewise, it is reasonable to assume that the UTK Neyland Drive portals will become even more desirable than they are today.

Other external street projects that will have a less direct impact on the UTK campus are the proposed Inter-City Connector that would improve existing streets to provide better connectivity from Seventeenth Street to Baxter Avenue parallel to I-40 and I-275. Refurbishing the Henley Street Bridge is now underway, so access to the south is restricted to the James White Parkway Bridge, Gay Street Bridge, and to a lesser extent Cherokee Trail. Finally, TDOT plans to widen Alcoa Highway to a six lane access controlled facility making it a safer and more convenient route to/from the UTK campus.

The City of Knoxville has retained a consulting team to examine the feasibility of constructing a pedestrian bridge across Lake Loudoun to connect the South Knoxville waterfront with UTK and the Neyland Drive greenway. The bridge may touch down near Thompson-Boling Arena.

A goal of this master plan is to provide a more pedestrian/bike friendly campus that is much more walkable and bikeable than it is today with considerably more green space. To do that, this master plan proposes closing some streets, reconfiguring others, and downsizing others. The proposed internal UTK street network is shown in Figure 3-5 and features the following:

- Closing Volunteer Boulevard at the Joe Johnson/John Ward Pedestrian Mall
- Widening Phillip Fulmer Way to 5 lanes or 4 lanes with a raised median and converting it to two-way operation between Andy Holt Avenue and Cumberland Avenue
- Close Andy Holt Avenue between Volunteer Boulevard East and Phillip Fulmer Way

![Figure 3-7 Proposed Internal Street Network](image-url)
- Extend the pedestrian mall to the west to 20th Street and to the east to and over Phillip Fulmer Way to the Hill
- Modify Andy Holt Avenue from Volunteer Boulevard to Twentieth Street, to accommodate separate one-way bike paths.
- Create a 5 lane or 4 lane divided typical section using portions of Todd Helton Drive and Chamique Holdsclaw Drive that would extend from Volunteer Boulevard West to Lake Loudoun Boulevard. This street segment combined with an improved Phillip Fulmer Way would provide the principal circulation route within the campus and replace Volunteer Boulevard, which currently serves that purpose.
- Downsize Volunteer Boulevard to one lane in each direction with bike lanes and extend it eastwards along Peyton Manning Pass to its intersection with Phillip Fulmer Way. Instead of Volunteer Boulevard being one continuous loop on the campus, it would become a smaller street that would extend from both the east and west ends of the new outer loop.

These proposed changes are significant, hence detailed traffic analyses were undertaken to assess the impact to automobile traffic and the ability to get to and circulate on the UTK campus. In general though, reshaping the campus to make it greener and more pedestrian/bike friendly requires moving parking facilities to the perimeter, thereby intercepting vehicular trips before they get to the heart of the campus. This results in fewer and shorter internal vehicular trips.

A traffic micro-simulation model was developed and intersection level of service analysis performed to determine the adequacy of the proposed street network to accommodate vehicular traffic. Figure 3-6 shows an estimate of key intersection operation subsequent to the new street network being constructed. Note that the traffic estimates were developed without the benefit of a travel demand model, and are therefore order-of-magnitude in nature. That being said, there was rational behind the traffic estimates in that existing volumes were reassigned to reflect street closures and the location of existing and proposed parking garages.

Almost all of the intersections should operate with acceptable delays. The intersection of Neyland Drive at Joe Johnson Drive may operate at near-unacceptable conditions in the morning peak hour unless some mitigation occurs. The intersection of Volunteer Boulevard/Peyton Manning Pass at Phillip Fulmer Way may need to be signalized in the future. However, it should be monitored and a traffic signal installed only if necessary.

Figure 3-8: Anticipated Traffic Conditions at Key Intersections with Road Changes
traffic volumes meet the standard criteria.

Closing Volunteer Boulevard East near the Joe Johnson and John Ward Pedestrian Mall is the most significant change to the street network that is being proposed in this master plan. Improvements to Phillip Fulmer Way will need to be completed before that segment of Volunteer Boulevard East is closed to vehicular traffic. Therefore, as shown in Figure 3-7, the Phase 1 street changes should include:

- Closing Volunteer Boulevard East.
- Widening Phillip Fulmer Way and converting it to two way operation between Andy Holt Avenue and Cumberland Avenue.
- Converting Andy Holt Avenue from a vehicular roadway to a roadway limited to bicycles and pedestrians.
- Reduce Volunteer Boulevard to one travel lane in both directions from Lake Loudoun Boulevard eastwards to the entrance to Circle Park. In conjunction with that change, Volunteer Boulevard would be extended eastward and follow the alignment that is now Peyton Manning Pass.

Another significant change to the internal street network is reducing Volunteer Boulevard to one traffic lane in each direction with bike lanes between the ninety degree horizontal curves on its east and west ends. However, before this change can be implemented, the Chamique Holdsclaw Drive and Todd Helton Drive corridor must be widened to five lanes. This change in the internal street system is called Phase 2.

Phase 3 changes to the internal UTK street system feature closing a significant portion of Andy Holt Avenue to vehicular traffic and converting it into a bike and pedestrian pathway. In addition, the sections of Pat Head Summitt Street and Melrose Place intersecting Andy Holt Avenue will be closed to vehicles.

The fourth phase involves closing and reconfiguring streets in the area bounded by Cumberland Avenue on the north, Caledonia Avenue on the south, Volunteer Boulevard on the west, and Melrose Place on the east.
Parking

Existing

UTK has 16,205 parking spaces with approximately one-third being designated for commuter students, just over one-third for staff, about one-fourth for non-commuter students, and about seven percent for visitors and miscellaneous uses. The appendix has a table breaking down the parking supply by user category and permits issued.

In recent years as opportunities became available, UT has reduced parking supply within the interior of the campus in favor of perimeter parking. Figure 3-8 depicts the location and utilization of most major parking facilities on the UTK campus. The Appendix includes a set of maps and tables which further describe the parking supply. The maps include the following: Percent Parking by Zone, Parking by Zone, Parking Inventory by Facility, and On Street Parking Inventory by Zone. The tables include: University of Tennessee Inventory by Zone and University of Tennessee Population and Parking Supply Rates.

There are 2,011 off street parking spaces north of Cumberland Avenue (Zone 2 in the Parking Zone Map in the Appendix) in three parking garages and several small parking lots. The Eleventh Street Garage contains 1,383 parking spaces and is one of the most preferred facilities on the UTK campus. The Ag Campus zone (Zone 9 in the Parking Zone Map in the Appendix) contains 1,409 spaces that include three large parking lots of 358, 379, and 203 spaces. In the area near Thompson-Boling Arena (Zone 19 in the Parking Zone Map in the Appendix) there are 2,201 parking spaces, which represent the largest total of any single zone. The next largest number of parking spaces is contained in the Circle Park Zone (Zone 9 in the Parking Zone Map in the Appendix) with 2,119 parking spaces.

The UTK campus contains 1,062 on-street parking spaces with a significant number being located on Volunteer Boulevard. Most of those spaces have parking meters owned and maintained by the City of Knoxville. This master plan recommends changes that will result in many of the on-street spaces being eliminated in favor of bike lanes or more green space. These spaces will need to be replaced with off street parking. If all on-street parking spaces were eliminated, a 1,062 space parking facility(s) would have to be constructed to replace them.

Most UTK parking facilities are operating above their practical capacity of 85 to 90 percent of the actual capacity as illustrated in Figure 3-8. Many students prefer the Eleventh Street garage so it fills up early in
the morning and remains that way for most of a typical day. The Ag campus parking lots also operate near or at capacity for much of a typical day and are utilized by many "main campus" students that use the "T" transit system to access their classes.

**Future**

The goal for parking is to continue to provide enough supply to adequately meet the needs of students, facility, staff, and visitors, but to locate the supply on the perimeter so that the core area is greener and more pedestrian friendly. Not only will this goal result in more green space and a more pedestrian oriented campus, but it will also reduce the number and length of internal trips that occur. Many internal vehicular trips will be replaced by bicycle, transit, and pedestrian trips.

There will remain a need to provide accessible parking for all buildings and parking for service vehicles. Therefore, the campus will need to maintain a street network to all buildings that will meet these needs.

Figure 3-9 shows the major parking facilities that exist today or are proposed for the future. There are over 6,800 new parking spaces proposed in 6 new parking garages and 2 expanded garages. The only exception to the perimeter parking concept is the proposed 1,200 space parking garage on the current S-9 parking lot across the street from Neyland Stadium. This facility needs to be located there to serve the University Center and performing arts venues nearby. It will also serve Neyland Stadium. The existing University Center parking garage will be demolished as part of the University Center reconstruction project.

The parking garage behind Circle Park is not efficient and is expensive to maintain, hence it should be replaced when it approaches a reasonable service life. An approximate 800 space parking garage is proposed that would continue to serve the needs of that campus zone.

This master plan calls for expanding the Lake Avenue Garage and the non-commuter Volunteer Boulevard garage. Both facilities can probably expand by approximately 600 spaces.

The Ag campus experiences an existing parking deficiency because of its own needs and the fact that "main campus" students use their lots for convenience. As such, an approximate 800 space parking garage is proposed that would be tucked in behind the Racheff Research Building near the Joe Johnson Drive Bridge.
Also proposed is an approximate 1,700 space parking garage along Volunteer Boulevard West one block south of Cumberland Avenue. This facility might be a mixture of commuter, non-commuter, and perhaps facility/staff. Its location meets the perimeter parking requirement and would intercept a significant number of trips coming from the west. One potential drawback of locating a large parking garage in this location is that access may be lessened because of the Cumberland Avenue road diet/complete street project.

The effect of moving parking to the perimeter of the campus is the creation of a pedestrian and bike zone that is also illustrated in Figure 3-9. This zone would include the pedestrian mall and adjacent green space that has been created through eliminating streets and parking lots.

**Bicycles and Pedestrians**

**Existing**

There is a quantifiable assessment tool called the Bicycling Suitability Assessment that was developed by James Emery, MPH and Carolyn Crump, PhD at the University of North Carolina Chapel Hill to which existing streets can be evaluated to determine how well they accommodate bicyclists. At UTK Dr. Eugene C. Fitzhugh is an expert in physical epidemiology and the needs of pedestrians and bicyclists. One of Dr. Fitzhugh’s, Physical Epidemiology undergraduate classes at UTK rated the UTK campus bikeability and the results are illustrated in Figure 3-10. Streets are given a grade of either very good, good, fair, poor, or very poor, and these grades are color-coded and mapped. It is clear that the UTK campus as a whole provides less-than-adequate bicycle facilities. Bicycling suitability factors used to evaluate streets include:

- Daily vehicular traffic
- Number of through lanes
- Speed of motorized vehicles
- Outside lane widths
- Existence of bike lanes or paved shoulders

- Pavement factors like condition (i.e. rough or smooth), curb, storm drains and railroad tracks
- Location factors like parking, turn lanes, shoulders, grades, curves, access control, and land use

Many campus streets are rated as either poor or very poor relative to accommodating bicyclists. One campus street feature that is detrimental to bicyclists is on

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**Figure 3-12 Rating of Existing Bikeability of the On-Campus Roadway System**

*Source: Dr. Eugene C. Fitzhugh, Physical Epidemiology Undergraduate Class*
street parking. Parking maneuvers and car door openings can be dangerous to bicyclists.

Pedestrians, on the other hand are more than adequately accommodated on the UTK campus. Sidewalks are prevalent along most streets, and painted crosswalks exist midblock where needed and at all major intersections. Pedestrian flow is heaviest east and west as students walk from their dorms to academic buildings on the Hill and along Volunteer Boulevard East. To accommodate this heavy flow, UTK opened the Joe Johnson and John Ward Pedestrian Mall, previously Andy Holt Avenue. At the east end of the Joe Johnson and John Ward Pedestrian Mall is Volunteer Boulevard East, which is signalized. This traffic signal contains a long all-pedestrian phase where pedestrians moving in all directions are protected from vehicles. The Appendix includes an illustration summarizing the Walkability Suitability Assessment, also conducted by one of Dr. Fitzhugh’s, Physical Epidemiology undergraduate classes.

Bicyclists use the Joe Johnson and John Ward Pedestrian Mall even though it was never intended to accommodate them. This creates an unsafe condition between pedestrians and bicyclists that should be corrected. The pedestrian mall is used by bicyclists because demand is there and because there is no other viable alternative for bikes.

Pedestrian and bicycle facilities are reasonably well developed around the UTK campus as illustrated in the Center City Bike Routes and Greenways illustration included in the Appendix. The Second Creek and Neyland Drive greenways provide access to the west and there are bike routes designated in the Fort Sanders neighborhood.

Future
One of the most significant features of the transportation component of the master plan is the accommodation of bicycles. Figure 3-11 illustrates the recommendations. These include expanding the Joe Johnson and John Ward Pedestrian Mall and providing a bike path its entire length. The bike path would consist of a six foot lane in each direction on the outside of the mall. The bike path needs to be aesthetically pleasing, yet designed for the safety of pedestrians and bicyclists.

Bike lanes are proposed for Phillip Fulmer Way from Cumberland Avenue to a new bike path south of Neyland Stadium and for Volunteer Boulevard from...
Cumberland Avenue to Phillip Fulmer Way. These five foot bike lanes will be constructed when Phillip Fulmer Way is reconstructed as part of the University Center and/or “S-9” Parking Garage project.

In this master plan, Volunteer Boulevard would be reduced to one lane in each direction with bike lanes on both sides. The north half of Volunteer Boulevard would be converted to sidewalk or green space and the south side would remain for vehicles and bikes. Therefore, the parallel parking on the south side of Volunteer Boulevard would be converted to a bike lane and the north side bike lane would use some of the existing median plus left-over road bed.

The bike path south of Neyland Stadium would connect the Neyland Drive and Second Creek Greenway with the heart of the campus and provide bicyclists a safer way onto campus than Lake Loudoun Boulevard. Lake Loudoun Boulevard cannot be widened to accommodate bicyclists, but sharrow pavement markings (a bicyclists symbol painted on the street when it is not wide enough to accommodate a bike lane) can be installed along with share-the-road signs to help protect bicyclists and provide motorists with a reminder to be on the lookout for them.

Bike lanes on Volunteer Boulevard will require removing parallel parking, much of it metered, and special signs and markings at intersections.

The Joe Johnson Avenue Bridge connecting the Ag and main campus has shoulders that should be marked for bike lanes. Today, bicyclists use the sidewalk but this is undesirable. Wayfinding signs should to be installed to guide bicyclist from the north side of the Joe Johnson Bridge to the greenway.

Transit

Existing

UTK campus transit is operated by Knoxville Area Transit (KAT) and consists of the East-West T, the North-South T, the Ag Express, and the Late Nite T. The East-West T travels between the Ag Campus and the Hill and is the spine of the on-campus transit system. Its route includes Andy Holt Avenue, Volunteer Boulevard, and streets on the Hill. The North-South T travels on Phillip Fulmer Way to Thompson-Boling Arena, and to Highland Avenue in Fort Sanders via Sixteenth Street and Seventeenth Street. The Ag Express T route was implemented because the East-West T was not able to travel from one end of the campus to the other within the 15 minute class-change interval. Figure 3-12 shows the existing on-campus transit system. In addition to the shown routes, the campus transit system offers the T-Link service which provides point-to-point transportation services for the students during nights and weekends. Also the T-Access provides a service to transport individuals with mobility issues.

Additionally, two of KAT’s downtown trolleys including the Orange and Late Lines connect downtown with the UTK campus (See Appendix for an illustration showing these routes). The UTK campus is also served by four apartment transit routes: Route 43- University Heights Apartments, Route 44- Gateway at Knoxville Apartments, Route 56- Woodlands Apartments, and Route 57- Quarry Trails Apartments (See Appendix showing how the buses approach and depart the UTK transit center). All transit routes converge on the on-
campus transit center on Phillip Fulmer Way near Andy Holt Avenue. Most buses stop at the transit center but a few stop at the Money Wall on the west side of Phillip Fulmer Way beside the University Center Parking Garage.

Ridership on the T is exceptional and students have learned to depend on it to shorten walking trips from far-reaching locations on the campus. This well-developed transit system has made perimeter parking possible and has helped reduce internal vehicular trips.

**Future**

Extending the Joe Johnson and John Ward Pedestrian Mall, as is proposed in this master plan, will significantly enhance bike and pedestrian flow on the campus. However, transit routes will need to be adjusted and these will become slightly less convenient than exist today. By necessity, when the pedestrian mall is extended, more of the transit route will utilize Volunteer Boulevard.

When Phillip Fulmer Way is converted to two-way operation, north-south transit flow will be enhanced. T buses will not be able to use Volunteer Boulevard East because it will be closed, but traveling both directions on Phillip Fulmer Way should simplify the route for users.

As UTK continues to move parking to the perimeter of the campus, transit via the T will become even more important than it is today. Ideally, the T and bikes would accommodate the vast majority of long internal trips that cannot be conveniently made on foot. It is recommended that the basic east-west, north-south,
and Ag Express T routes be maintained as close as possible to what is now provided.

Obviously, when roads are closed on T routes, the routes will have to be modified. For example, the connector street between Circle Drive on the Hill and Phillip Fulmer Way will need to be eliminated because of its proximity to Cumberland Avenue. With Phillip Fulmer Way one way southbound, this connector street functions adequately, but when Phillip Fulmer Way is widened and converted to two-way operation, it will not. The east-west T route may need to use Cumberland Avenue instead of the eliminated connector street. Likewise, closing Andy Holt Avenue between Phillip Fulmer Way and Volunteer Boulevard East will impact transit routes.

In addition to maintaining the existing T routes, UTK should make strategic investments in expanding on campus transit including adding a route to serve the sorority village, and a route to serve the new intramural fields. Moreover, transit service should be provided on weekends and UTK breaks. It is also important to provide routes for new off-site student housing. Finally, it is extremely important to maintain the transit center on Phillip Fulmer Way near Gate 21 of Neyland Stadium.

Service and Emergency Access
All buildings and public spaces must provide service and emergency access as stipulated by code requirements. Service includes facilities for deliveries, equipment and furniture change out, maintenance vehicles, trash storage and access, etc. For all new construction and renovation projects, service areas are to be hidden from view by placement or screening.

Utilities
As of the publication of this document, the Governor has recommended funding of a campus-wide utility study that will document and evaluate the existing systems. As a part of the study, the University desires that the utility plans be integrated into KGIS (geographic information system) that is jointly maintained by the City of Knoxville, Knox County and the Knoxville Utilities Board (KUB). In addition, the University desires a computer modeling package that can 1) evaluate the existing systems and 2) provide demand projections for future project needs.

Descriptions of the existing systems follow:

Steam Distribution
The steam distribution system is maintained and upgraded by the Facilities Services Department. The system is constantly updated to provide service to new and expanded facilities, and to repair or replace damaged equipment. The steam plant boilers continue to be upgraded and converted to meet emission standards. In addition, the boilers are aging significantly and will require systematic replacement beginning in the near term.

Regional Chiller Plants
The university will continue to develop regional chiller plants throughout both campuses where practical. In some cases where a stand-alone plant is impractical, new buildings will include space for expansion to service future buildings identified in this master plan. In addition, the university desires that as regional chiller plants are renovated or constructed, the capacity to
provide thermal storage be provided to allow moving electrical loads to off-peak periods. This will have implication on project cost and programmatic space requirements.

Potable Water
The University maintains its own water lines in “The Hill” area and on the Agricultural campus. On the rest of the UT, Knoxville campus, water service to buildings is provided by the Knoxville Utilities Board. As in other utility systems on the campuses, the age of some lines and the changing requirements for water services require that substantial maintenance and continuous upgrading of the systems be provided.

Sanitary Sewer
As in the case of water and natural gas, some sanitary service is provided by UT, Knoxville and some by the Knoxville Utilities Board. The Facilities Services Department provides maintenance and upgrading of these systems. The age of some sanitary sewer lines requires constant maintenance and upgrading of the system.

Storm Sewer
Future construction and densification of the campus will put a strain on the existing storm sewer system. Areas near Lake Loudoun with direct access will not require storm water detention per current City of Knoxville regulations. Areas of development replacing old residential sections such the Terrace Avenue area and the White Avenue area, may not have an adequate existing systems to handle such development. A possible method of resolving this issue may be use of on-site storm water detention. In some cases, cost for a system compatible with the master plan may have a significant impact on project cost.

Electrical Distribution
The University of Tennessee purchases power directly from the Knoxville Utilities Board at 13,200-volts and distributes power to University buildings. The University owns and maintains all components of the distribution system, including protective equipment, underground conductors, transformers, and switchgear. Facilities Services performs maintenance on this system, including repair and replacement of overhead and underground distribution lines, repair and replacement of transformers and switchgear, rerouting power as necessary during emergencies, repair of a building electrical system, and repair and replacement of outdoor lighting systems.

UTK Campus
The Main Campus has all major distribution at 13,200-volts. Power is distributed from a central substation utilizing ten nominal 400-amp, 13,200-volt circuits. This substation, located on the south side of campus, is an open substation utilizing vacuum circuit reclosers. Power is provided from an immediately adjacent KUB substation.

Due to continuing campus growth, the substation with its ten circuits has reached its maximum practical limits. As of publication, a new substation has been designed and is under construction at the corner of Sixteenth Street and Laurel Avenue, which will provide four additional 400-amp, 13,000-volt circuits. The substation is housed within a structure designed to blend in with the neighborhood. From this substation, new underground circuits are extended onto the main campus. One will serve the new Min Kao Engineering Building, plus other critical circuits on The Hill. One will be extended to the heart of the campus at Middle Drive and Phil Fulmer Way onto the main campus. One will serve the north side of Cumberland Avenue and extend to a central point on campus, along Andy Holt Drive. There is space for the future addition of four circuits.

Much maintenance and replacement is required for the campus 13,000-volt distribution system. Older lines insulated with cross-linked polyethylene are reaching their useful lives and require replacement. In addition, new sectionalizing switchgear is needed throughout campus to enhance reliability of the system, minimizing duration of power outages, allowing rerouting of feeds, etc.

Other 13,000-volt work required is the replacement of older inefficient distribution transformers with new modern transformers with higher efficiencies, resulting in lower operating costs.

Existing SCADA systems which have been begun on campus should be expanded and fully implemented to allow remote control and switching of new and recently installed sectionalizing switchgear.

Ag Campus
With the exception of a minor amount of overhead lines serving some of the older greenhouses, all power distribution on the Agricultural Campus is underground, utilizing the 13,200-volt system served from the Main
Campus. There are two circuits providing power to this campus, which originate at a major piece of sectionalizing switchgear located on the Main Campus adjacent to the Allan Jones Intercollegiate Swimming Facility.

Some of the conductors on the Agricultural Campus are the older installed cross-linked polyethylene-insulated power conductors. These older lines require replacement with new conductors utilizing EPR insulation. In addition, some of the older transformers on campus will require replacement with new, more energy efficient transformers.

Site Lighting
The university campus-wide exterior lighting system is currently being replaced with new campus-wide system. Replacement will consist of campus standard fixtures, which is combination of pedestrian scale post units utilizing induction lighting, and taller units utilizing a pulse-start metal halide source.

Site lighting on the Agricultural Campus is currently under construction, replacing existing systems with new pedestrian scale induction units and new modern pulse-start metal halide area lights.

Natural Gas
The University maintains its own natural gas distribution system in "The Hill" area. On the rest of the UT, Knoxville campus, the Knoxville Utilities Board brings the service to a meter located adjacent to the building. The Facilities Services Department maintains the University's gas distribution system and all gas lines within buildings.

Communication
UT, Knoxville owns its own switch and cable plant, both exterior cabling and interior wiring. In addition to providing telephone service within University buildings, the Department of Telephone Services maintains a campus "blue light system" through which emergency calls are routed directly to the E-911 system.

Security Systems
The campus security system is administered by UT Police Department, which maintains a central receiving station 24 hours a day for receipt of emergency calls, and then responds to them. A sophisticated emergency blue phone system and exterior cameras are in place. The security system is maintained by Facilities Services. The blue phone system is jointly maintained by Telephone Services and Facilities Services.

Information Technology
Information technology will continue the trend towards improved wireless service on both campuses. However, hardwiring distribution will continue to be required throughout the campuses and in buildings to satisfy the data transfer demands.
Sector Plans
The following are select sector plans detailing projects identified in the Phased Capital Improvements Plan included in Chapter 2.
Sector Plan 1
Central Cumberland

A. Class Lab Building VI (Clement Hall Site)
   130,000 GSF, 4 Story
B. Strong Hall Renovation and Expansion
   201,600 GSF, 4/5 Story
C. Law Complex Addition
   60,000 GSF, 4 Story
D. Henson Hall Renovation
   30,500 GSF, 3 Story
Sector Plan 2
East Cumberland East

A. Class Lab Building III (TANDEC Building Site)
   66,000 GSF, 3 Story
B. Class Lab Building II (Cumberland and James Agee Site)
   70,000 GSF, 3 Story
C. Hoskins Library Restoration
   55,000 GSF, 3 Story
D. Class Lab Building I (Cumberland and 13th Site)
   200,000 GSF, 5/4 Story
E. Jessie Harris Building and Early Learning Center Renovations
   93,200 GSF, 3/2 Story
F. Walters Life Sciences Renovation and Expansion
   250,000 GSF, 4 Story
Sector Plan 3
Lake Avenue

A. New Parking Garage (Volunteer West)
   1700 Spaces, 5 Levels
B. Academic Building X
   100,000 GSF, 4/3 Story
C. Academic Building XII
   100,000 GSF, 4/3 Story
D. Academic Building IX
   100,000 GSF, 4/3 Story
E. New Residence Hall
   700 Beds, 6 Story
F. Reese Hall Renovation
   463 Beds, 7 Story
G. Volunteer Boulevard Parking Garage Expansion
   900 Spaces, 5 Levels
H. Carrick Hall Renovation
   925 Beds, 12 Story
I. Presidential Courtyard Renovations
Sector Plan 4
Melrose

A. Lake Avenue Parking Garage Expansion
   700 Spaces, 5 Levels
B. Academic Building VI (Lake Avenue Site)
   130,000 GSF, 4/3 Story
C. New Special Purpose Building
   9,000 GSF, 2 Story
D. New Residence Hall and Dining Facility
   700 Beds, 7 Story
E. Hess Hall Renovation
   870 Beds, 9 Story
F. Academic Building I (Melrose)
   130,000 GSF, 5/4 Story
Sector Plan 5
Volunteer East

A. Massey Hall Renovation
   500 Beds, 8 Story

B. Academic Building VII
   (Greve/Dunford Site)
   146,000 GSF, 5/4 Story

C. Henson Hall Renovation
   30,500 GSF, 4/3 Story

D. University Center Replacement
   360,000 GSF, 5/4 Story

E. Walters Life Sciences Renovation
   and Expansion
   250,000 GSF, 4 Story

F. Academic Building I (Melrose)
   130,000 GSF, 5/4 Story

G. New Parking Garage (Lot 9)
   1200 Spaces, 5 Levels

Figure 3-20 Sector Plan 5 - Volunteer East
Sector Plan 6
Vol Walk
A. Walters Life Sciences Renovation and Expansion
   250,000 GSF, 4 Story
B. University Center Replacement
   360,000 GSF, 5/4 Story
C. New Parking Garage (Lot 9)
   1200 Spaces, 5 Levels
D. College of Nursing Renovation and Expansion
   81,800 GSF, 4/3 Story
E. Academic Building (Silverstien-Luper Building Site)
   50,000 GSF, 5 Story
F. Academic Building III (HSS Quadrangle)
   129,000 GSF, 5/4 Story
Sector Plan 7
The Hill

A. University Center Replacement
   360,000 GSF, 5/4 Story

B. Walters Life Sciences Renovation and Expansion
   250,000 GSF, 4 Story

C. Austin Peay Renovation
   62,900 GSF, 4 Story

D. Dabney-Buehler Renovation
   240,000 GSF, 8/7 Story

E. EPS/Nielsen Complex Renovation and Expansion
   200,000 GSF, 7 Story

F. Dougherty Renovation
   124,100 GSF, 8/5/3 Story

G. Ferris Renovation and Expansion
   78,400 GSF, 4 Story
Sector Plan 8
Grand Mall West

A. Apartment Residence Hall
   930 Beds, 15 Story
B. Morrill Hall
   716 Beds, 15 Story
C. Apartment Residence Hall
   930 Beds, 15 Story
D. Residential Life Building Phase I
   13,000 GSF, 2 Story
E. Residential Life Building Phase II
   13,000 GSF, 2 Story
F. New Residence Hall and Dining Facility
   700 Beds, 7 Story
G. New HPER Building
   240,000 GSF, 3/2 Story
Sector Plan 9
Grand Mall East

A. New Residence Hall and Dining
   700 Beds, 7 Story
B. Hess Hall Renovation
   870 Beds, 9 Story
C. Academic Building I (Melrose)
   130,000 GSF, 5/4 Story
D. Academic Building V (Old Student Health Services Site)
   160,000 GSF, 4 Story
E. Clarence Brown Theatre/Ula Love Doughty Carousel Theatre Renovation and Additions
   141,000 GSF, 3 Story
F. Academic Building VIII (McClung Tower Site)
   97,000 GSF, 4/3 Story
G. Music Building Expansion
   40,000 GSF, 3 Story
H. Art/Accepture Renovation
   183,300 GSF, 4 Story
I. Art/Accepture/Humanities Expansion
   71,000 GSF, 3 Story
J. Academic Building III (HSS Quadrangle)
   129,000 GSF, 5/4 Story
Sector Plan 10
Lake Loudoun

A. Academic Building II (Stokely Athletics Site)
   150,000 GSF, 5/2 Story
B. New Parking Garage (Stokely Athletics Site)
   600 Spaces, 4 Levels
C. Academic Building IV (Gibbs Hall Site)
   180,000 GSF, 5/4 Story
D. McClung Museum Renovation and Expansion
   138,600 GSF, 3 Story
E. Andy Holt Tower Garage Replacement
   800 Spaces, 3 Levels
Sector Plan 11
Neyland Stadium
A. New Parking Garage (Lot 9)
   1200 Spaces, 5 Levels
B. Perkins Renovation and Expansion
   123,900 GSF, 4 Story
C. Ferris Renovation and Expansion
   78,400 GSF, 4 Story
D. College of Nursing Renovation and Expansion
   81,800 GSF, 4 Story
E. Estabrook Renovation
   57,000 GSF, 3/2 Story
F. Academic Building (Silverstien-Luper Building Site)
   50,000 GSF, 5 Story
G. Renovated Gate 10 and Bus Lane

Figure 3-26 Sector Plan 11 - Neyland Stadium
Sector Plan 12
Ag Campus North
A. Class Lab Building (McCord Site)
   100,000 GSF, 4 Story
B. Morgan Hall Renovation and Expansion
   140,000 GSF, 4 Story
C. Ellington Plant Sciences Renovation and Expansion
   120,000 GSF, 4 Story
D. Parking Garage
   800 Spaces, 5 Story
Sector Plan 13
Ag Campus South

A. CVM Teaching and Learning Center
   6,700 GSF, 1 Story
B. Research Building I
   4,000 GSF, 1 Story
   (or 8,000 GSF, 2 Story)
C. Greenhouse I
   25,000 GSF, 1 Story
D. Research Building II
   7,000 GSF, 1 Story
   (or 14,000 GSF, 2 Story)
E. Greenhouse II
   31,000 GSF, 1 Story
F. Research Building III
   9,000 GSF, 1 Story
   (or 18,000 GSF, 2 Story)
G. Greenhouse III
   28,000 GSF, 1 Story
H. Research Building IV
   9,000 GSF, 1 Story
   (or 18,000 GSF, 2 Story)