What is a Master Plan?

• A framework to guide future campus development.
• A statement of physical responses to anticipated strategic initiatives.
• Guidelines for responses to unanticipated strategic initiatives.
• Specific parameters to ensure consistency in campus development.
The 2004 Update: Objectives of this Exercise

- **Update to the 1997 Campus Master Plan**
  - Increased enrollments and research activities
  - Resultant increases in faculty and staff
  - Minimal additional property
  - Evolving strategic initiatives

- **Focus on Specific Elements**
  - Sustainability
  - Accessibility
  - The ground plane
  - The area of interest
  - Collaborative planning with community constituencies
  - Carrying capacity for new facilities
AGENDA & CONTENTS*

- Overview of the 1997 Campus Master Plan
- What has happened since 1997
- The current Framework for Planning

- The 2004 Update
  - Facility Expansions
  - Campus Accessibility
  - Sustainability
  - Special Places
  - Area of Interest
  - The Ground Plane
  - Parking
  - Transportation
  - Housing
  - Athletics
  - Recreation
  - Land Use
  - Not Included
  - Acknowledgements

* Click on one of the tabs below to link directly to that subject area.
The Campus in 1996

1800’s
The Campus in 1996
The Campus in 1996
The Campus in 1996
The Campus in 1996
The Campus in 1996
The Campus in 1996
The Campus in 1996

- 1800’s
- 1900’s
- 1910’s
- 1920’s
- 1930’s
- 1940’s
- 1950’s
- 1960’s
- 1970’s
- 1980’s
- 1990’s

9,500 Undergraduates
3,500 Graduate Students
4,000 Faculty/Staff
7,377,000 total GSF
1997 Campus Master Plan:
Statement of Guiding Principles

Three primary areas of concern:

• **Educational Environment**
  – leading edge in facilities, equipment & technology
  – transform library into interactive learning center
  – vibrant learning community

• **Research Environment**
  – integrate education & research
  – foster interdisciplinary collaboration
  – the economic engine
  – private industry participation

• **Campus Environment**
  – vibrant for academic and social interaction
  – flexible and multi-functional facilities
  – proactive in surrounding development activity

One central guiding principle:

The master plan should attain a …“living campus with a strong sense of identity”…

• an intellectual community on
  – a beautiful campus
  – a walking campus
  – a safe campus
  – a sustainable campus
The 1997 Master Plan

Directives

- Dedicated Pedestrian Ways
- Increased Green Space
- Structured Parking
- Expanded Campus Boundary
- New Building Sites: Capacity for 3.2 million GSF
The “2002” Master Plan
(A Continual Updating of the CMP)

Construction &
Major Renovation
Since 1996

Under
Construction

In Planning

$500 million
and
2.7 million SF later…
2004 Update:
Planning Drivers
Strategic Goals with CMP Implications

- “Attract and retain scholars and researchers…”
- “Provide innovative, state-of-the-art facilities…”
- “Develop the campus in a way that… [is] sustainable…[provides] distinctive architecture and open spaces…and [exemplifies] environmentally responsible design.”
- “…facilities that foster collaboration along the lines of neighborhoods…”
- “…comprehensive live/work/play environment.”
- “Student-to-faculty ratio of 16:1…”
- “[‘Increase the number of graduate students to 50% of the total by 20xx’]”
- …
Goals

**Education**
- Enhancement of the Live/Learn//Work/Play environment.
  - Open spaces that encourage and support passive and active recreation.
  - Buildings and building complexes that foster trans-disciplinary interaction.
- Support the strategic initiatives and goals.
  - Enrollment growth in graduate students.
  - Recruitment and retention of world-class faculty and students.
  - Support of the economic development of Georgia.

**Ecology**
- Respect for and renewal of the urban forest and the tree canopy.
- Effective employment of “green building” technologies.
- Use of natural/native vegetation systems.
- Substantial reduction of storm water runoff through management of the “Eco-Commons”.

**Economy**
- Effective use and stewardship of current physical resources.
  - Respect for and maintenance of the historic districts.
  - Ensuring infrastructure capacity for current and future facilities.
  - Removal of cost-burden facilities.
- Design guidelines that mandate flexibility, maintainability, and longevity.
- Adaptive responsiveness to changing parameters and opportunities.
Conceptual Framework

Traditional Campus vs. Knowledge-Based Community

Traditional Campus
- Internally oriented.
- "Ivory Tower" isolated and apart from the community.
- "Silos" of knowledge.
- Single-purpose facilities.
- Traditional campus and facilities.
- "Monastic Lifestyle".
- Consumer of resources.
- Uses traditional funding sources and project delivery methods.

Knowledge-Based Community
- Internally and externally oriented.
- Engaged with the community in many different ways.
- Trans-disciplinary teaching and learning community.
- Multi-functional / interdisciplinary and adaptable facilities.
- Distributed activities involving movement of people and electronic communications.
- Study/Play - Live/Work community.
- Steward of resources.
- Leverages partnerships and funding sources to achieve the best, most cost-effective facilities.
Facility Expansions

1997 Overview
2004 Framework
Facility Expansion
Accessibility
Sustainability
Special Places
Ground Plane
Transportation
Athletics
Not Included
Since 1997
Area of Interest
Parking
Housing
Recreation
Acknowledgements
### Space Needs Projections: Academic Instruction & Research

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2014 Projection</th>
<th>Increase</th>
<th>Space Multiplier (GSF/Person)*</th>
<th>New Space (GSF)</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Faculty &amp; Staff</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional &amp; Research Faculty</td>
<td>3,144</td>
<td>4,350</td>
<td>1,206</td>
<td>2,600</td>
<td>3,135,600</td>
<td>labs, office &amp; support</td>
</tr>
<tr>
<td>Other Staff</td>
<td>2,338</td>
<td>3,235</td>
<td>897</td>
<td>250</td>
<td>224,207</td>
<td>office &amp; support</td>
</tr>
<tr>
<td><strong>Employee Total</strong></td>
<td>5,482</td>
<td>7,585</td>
<td>2,103</td>
<td></td>
<td>3,359,807</td>
<td></td>
</tr>
<tr>
<td><strong>Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>11,257</td>
<td>12,000 - 13,000</td>
<td>1000</td>
<td>100</td>
<td>100,000</td>
<td>classrooms &amp; support</td>
</tr>
<tr>
<td>Graduate, Other</td>
<td>5,535</td>
<td>8,000 – 10,000</td>
<td>4,500</td>
<td>150</td>
<td>675,000</td>
<td>office &amp; support, labs</td>
</tr>
<tr>
<td><strong>Student Total</strong></td>
<td>16,792</td>
<td>20,000 - 22,000</td>
<td></td>
<td></td>
<td>775,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total Gross Square Footage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,134,807</td>
<td></td>
</tr>
</tbody>
</table>

* Derived from GT experience, industry standards, APPA, SCUP, FICIM, BOMA, AIA

Based on the strategic enrollment initiatives and projections by IRP.
## Current Campus Space
*(Atlanta Campus, December, 2003)*

<table>
<thead>
<tr>
<th>Principal Use</th>
<th>Gross Area (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Instruction and Research</td>
<td>5,967,041</td>
</tr>
<tr>
<td>Athletic Association</td>
<td>352,779</td>
</tr>
<tr>
<td>Student Support &amp; Auxiliaries</td>
<td>4,318,182</td>
</tr>
<tr>
<td>Institute Total</td>
<td>10,638,002</td>
</tr>
<tr>
<td>Under Construction/In-Planning*</td>
<td>725,000</td>
</tr>
</tbody>
</table>

**Institute Total** = **11,363,002**

* Necessary to meet current workload demand.

## Projected Campus Space
*(assume year 2014 - 2018)*

<table>
<thead>
<tr>
<th>Principal Use</th>
<th>Gross Area (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Instruction and Research</td>
<td>10,101,848</td>
</tr>
<tr>
<td>Athletic Association</td>
<td>425,000</td>
</tr>
<tr>
<td>Student Support &amp; Auxiliaries</td>
<td>5,553,000</td>
</tr>
<tr>
<td>Institute Total</td>
<td>16,079,848</td>
</tr>
</tbody>
</table>

**Total Campus** = **+4,716,846+ GSF**

* Since 1997
* 2004 Framework
* Accessibility
* Special Places
* Ground Plane
* Transportation
* Athletics
* Not Included
* Since 1997
* Facility Expansion
* Sustainability
* Area of Interest
* Parking
* Housing
* Recreation
* Acknowledgements
Assuming 3 – 4 story buildings, the proposed building footprints will support an additional 3.0 – 3.5 million gross square feet.
Accessibility Issues

• The macro planning is for mobility impairments; other disabilities are managed more at the micro level.

• The constituencies of concern are employees and visitors as well as students.

• Of significant influence in planning: \textit{handicapped accessible} or \textit{handicapped friendly}. 
Accessibility Issues: Mobility and Access

Primary Pedestrian Routes

Extensive Grade Change

Excessive Grade Change

Current Campus

1997 Overview

2004 Framework

Since 1997

Facility Expansion

Accessibility

Sustainability

Special Places

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Transportation

Housing

Athletics

Recreation

Not Included

Acknowledgements
Accessibility Issues: Vehicular Access & Parking

- Existing Parking Decks
- Proposed Parking Decks
- 1000’ Distance
- Underserved Zone
- Possible HC Parking?

Current Campus

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At its root, sustainable suggests
"meeting the needs of the current generation
without diminishing or compromising the
ability of future generations to meet their
needs or to achieve their goals."
Sustainability:
Key components

• Facility Design
  – Energy Conservation
  – Indoor Air Quality
  – Selection of Materials
  – Construction Methods
  – Guidelines & Standards

• Operations
  – Energy Management
  – Alternative Fuels
  – Reduce/Reuse/Recycle
  – Thoughtful Renovation

• Landscape Design & Management
  – Native Vegetation
  – Increased Tree Canopy
  – Reduced Impervious Surface
  – Performance Landscapes
  – Storm Water Management

Goals
• Reduced Hydrocarbon Emissions
• Reduced Material Consumption
• Reduced Water Consumption
• Reduced Storm Water Runoff
Woodland Cover will:

- Enhance ecosystem performance,
- Retain water on site,
- Store more carbon,
- Foster biological diversity,
- Provide human delight.

NOTE: Trees are a renewable resource, but they must be renewed!
Sustainability: Storm Water Management

Storm Water Management will:

- Be a highly visible example and evidence of GT’s commitment to sustainability;
- Reduce GT contribution to Atlanta’s overburdened sewer system (and avoid projected cost increases);
- Reduce or eliminate GT use of potable water for irrigation;
- Reduce erosion;
- Reduce operating costs.

[Diagram of campus area]
Sustainability:
Storm Water Management

Existing Water Basins

A
B

Acknowledgements
Sustainability: Storm Water Management

The Approaches:

• The building as a “tree”
• Performance Landscapes
• Species Selection
• Storm Water Collection & Reuse
  • Cisterns
  • Towers
  • Ponds
  • The “Eco-Commons”
Sustainability:
Storm Water Management

The “Eco-Commons”

• An engineered waterway that replicates the storm water management of a natural stream.

• Approximates the original route of the stream.

• Is surrounded by performance landscape.

• Includes passive and active recreation areas.

• Will be maintained in perpetuity.
“Special Places”

Portions of campus that, because of historic, aesthetic, and/or ecologic significance will be preserved in perpetuity.
Area of Interest

Home Park

Midtown

English Avenue

Centennial Homes

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Not Included

Acknowledgements
Area of Interest

Areas not adjacent to the campus are important as potential sites for development by entities sympathetic with or complementary to the mission of Georgia Tech.

The areas immediately surrounding the campus may provide opportunity for partnerships or acquisitions that directly support the academic and research missions of the Institute.

GIT really cares about and wants to influence the development in these areas to ensure that future developments are mutually beneficial to GIT.
Since the campus presents a variety of styles and types of architecture, reflective of the history of Georgia Tech, a sense of place and uniformity must be achieved through the careful and deliberate design of the ground plane.

Consequently, Tech will continue to refine and implement the landscape standards developed as part of the 1997 Campus Master Plan:

- Consistency of sidewalk patterns and materials;
- Unity of street trees and streetscapes;
- Common landscape furniture and lighting;
- Recognizable, organized formal and informal planting zones.
Parking

Existing Decks
Future Decks
Future Convenience/HC Lots

- Current Surface Spaces: 6,300
- Current Structured Spaces: 6,950
- Current Ratio: 52/100

- Future Surface Spaces: 3,000
- Current Structured Spaces: 6,950
- Additional Structured Spaces: 5,250
- Additional Structured Spaces: 15,200
- Projected Ratio: 52/100

GCATT

Existing Decks
Future Decks
Future Convenience/HC Lots

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Primary delivery points will remain at the periphery of campus to reduce unnecessary service traffic to the interior.

Critical deliveries to research facilities (gasses, equipment) will be scheduled for off-hours.

Most service drives will be treated as and will seem like pedestrian areas.
Housing

Current
Undergraduate 5702
Graduate 738
Total Undergraduate 6440

Planned
Total Undergraduate 6030
Total Graduate 1550
Total Graduate 7580

Acknowledgements

1997 Overview 2004 Framework Accessibility Special Places Ground Plane Transportation Athletics Not Included
Since 1997 Facility Expansion Sustainability Area of Interest Parking Housing Recreation Acknowledgements
NCAA Athletics

Since 1997

Facility Expansion

Accessibility

Special Places

Ground Plane

Transportation

Athletics

Not Included

Parking

Housing

Recreation

Acknowledgements

1997 Overview

2004 Framework

Sustainability

Area of Interest

Football

Basketball

Track

Volleyball

Football Practice

Baseball

GTAA Offices

Interim Softball

Tennis

Swimming

Softball

Football Practice

Volleyball

Baseball

GTAA Offices

Basketball

Track

Volleyball

Football Practice

Baseball

GTAA Offices

Football
Recreation

Passive & Informal

Formal

Tennis

Passive & Informal

1997 Overview

2004 Framework

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Special Places

Ground Plane

Transportation

Athletics

Not Included

Since 1997

Facility Expansion

Sustainability

Area of Interest

Parking

Housing

Recreation

Acknowledgements
EXISTING LAND USE

EXISTING: 400 acres
10%
20%
4%
11%
9%
7%
50%

EXStANDING: 400 acres

11% 15%
52% 6%
11%
PROPOSED: 420 acres

PROPOSED LAND USE

Academic Instruction & Research
Athletics
Student Support & Auxiliaries
Open & Green Space
Recreation
Streets & Surface Parking

Land Use

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Athletics
Recreation
Not Included
Acknowledgements
The perceived campus is limited to approximately 420 contiguous acres (not all owned by the BoR). Consequently, all requests, desires, or needs cannot be accommodated within the current land-bank. However, this plan achieves a reasonable and realistic balance of the goals: Education, Ecology, and Economy.

Not accommodated:
- Remote student parking
- Parking for the bus/trolley fleet
- Additional formal recreation fields
- Additional football practice fields
- Soccer field and stadium
- Soccer practice field(s)
- Golf practice areas
- Footprints for > 1,000,000 GSF of projected space need
- Additional Housing beyond what is planned
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  – Robert K. Thompson, Chair
    Senior Vice President, Administration & Finance
  – Steven G. Swant
    Associate Vice President, Budget & Planning
  – Berdinus A. Bras
    Director, Institute for Sustainable Technology & Development
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