Virginia Tech Board of Visitors Meeting

Information Session

Sunday, June 5, 2016

12:45 – 2:30 p.m.
Roanoke

Tours of the Virginia Tech Carilion School of Medicine and Virginia Tech Carilion Research Institute

3:30 - 5:00 p.m.

The Inn—Latham Ballrooms D/ E/ F
Virginia Tech Campus

Virginia Tech's Outreach and Engagement Across Virginia and Around the World

- Dr. Guru Ghosh, Vice President for Outreach and International Affairs
- Dr. Karl Markgraf, Associate Vice President for International Affairs
- Dr. Wondi Mersie, Associate Dean and Director of Research, Agricultural Research, Virginia State University
- Dr. Rangaswamy (Muni) Muniappan, Director, Integrated Pest Management Innovation Lab (IPM IL)
- Dr. Susan Short, Associate Vice President for Engagement

(with comments by Mr. Dennis Treacy)

Campus Master Plan

- Mr. Jason Soileau, University Architect & Assistant Vice President of University Planning
- Dr. Sherwood Wilson, Vice President for Administration

Our engagement structure

Our constituents include **scholars** learning English, first-generation **college-bound students**, Virginia Tech **faculty** seeking to connect with **industry**, **graduate students** around the commonwealth, **communities** working to create jobs, and **individuals** adding new skill sets to their resumes.



Carnegie Foundation

Elective Community Engagement Classification

Susan E. Short
Associate Vice President for Engagement

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Reynolds Homestead
Community Enrichment Center

REPTILES VS. MAMMALS

Summer Art Camp

TRiO



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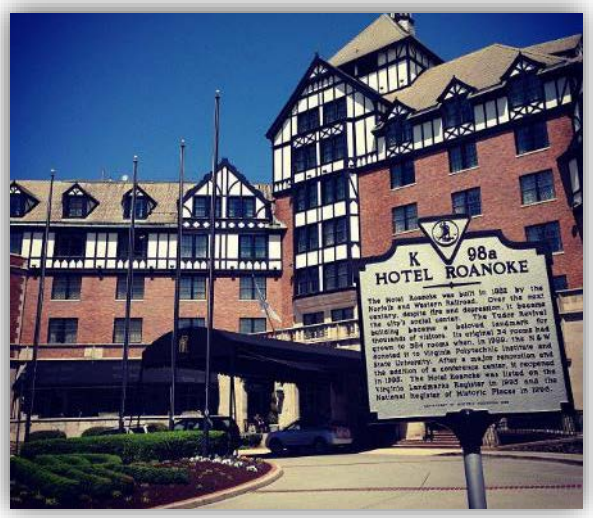
VirginiaTech
Pamplin College of Business

PROFESSIONAL MBA











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SCHOOL LEADERS INSTITUTE



INTERNATIONAL AFFAIRS



Dr. KARL MARKGRAF
Associate Vice President for International Affairs

Board of Visitors

- Global Education
- Safety and Security
- Future Global Gateways
- Ut Prosim in a Global Context



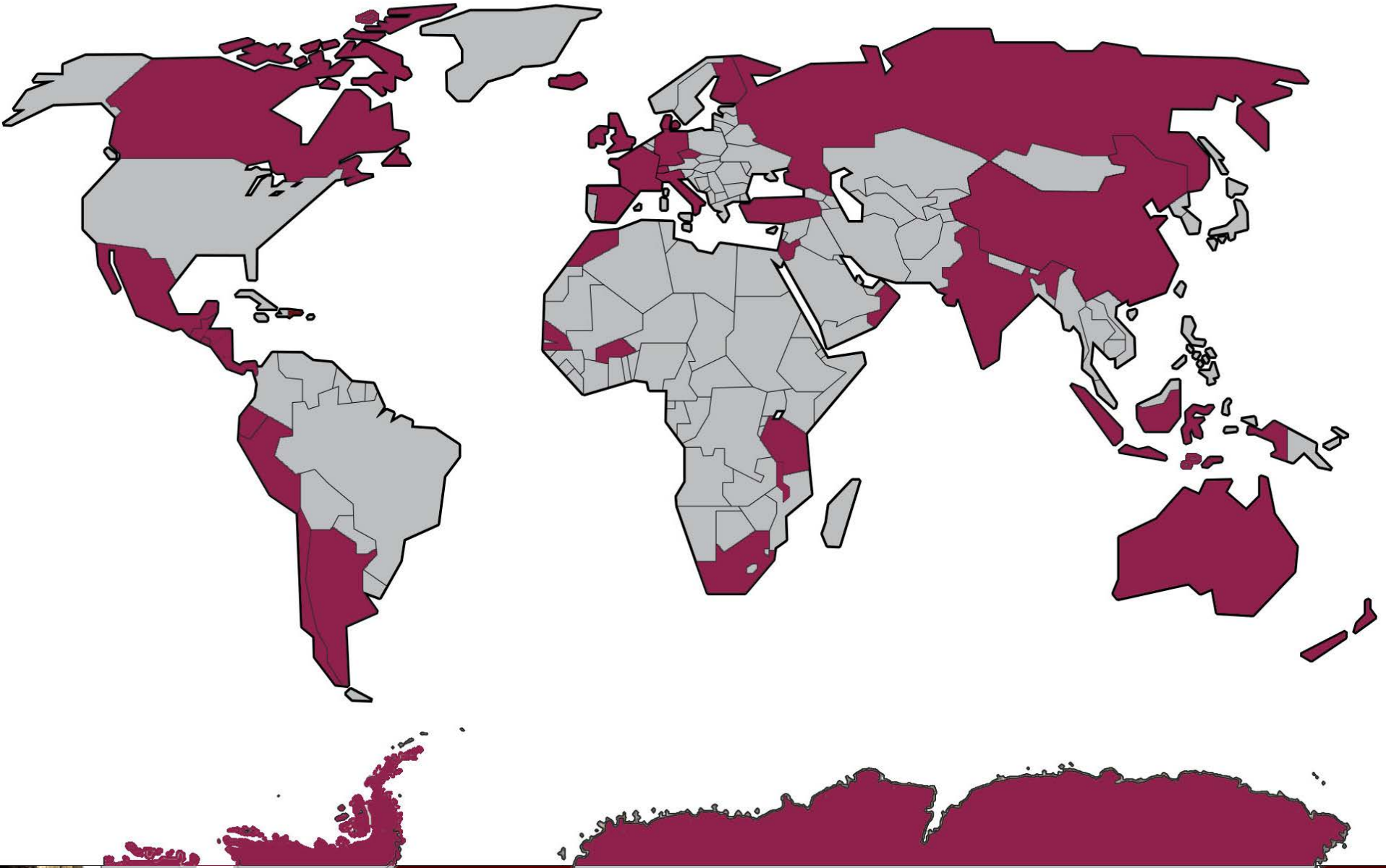
GLOBAL EDUCATION

Strengthening VT's mission of global engagement



- Study abroad
- Risk management
- Faculty support
- Fulbright

HOKIES ABROAD



HOKIE SENTINEL

- **DATABASE** to centrally monitor student, faculty, and staff travel abroad
- **UNIFORM MEASURES** in place to provide emergency response for international travelers
- **NEW COMMITTEES** to review and evaluate travel to regions of concern:
- **GLOBAL TRAVEL OVERSIGHT COMMITTEE** to advise on student, faculty, and staff travel
- **GLOBAL EDUCATION APPROVAL COMMITTEE** to assess safety and risk in new and existing programs

FUTURE GLOBAL GATEWAYS



Research Center
Shandong, China



Bio-inspired Research





TECHNISCHE UNIVERSITÄT DARMSTADT



Ut Prosim: That I may Serve








SABA
POWER
DETERGENT


POLY






Vote
#22296
SPRINGFIEL
DREW RESTORATION PROJ
#DRP

FEED THE FUTURE
The U.S. Government's Global Hunger and Food Security Initiative

IPM Innovation Lab - An Overview

R. Muniappan
Director, Integrated Pest Management (IPM IL)
Office of International Research, Education, and Development,
Virginia Tech

USAID
FROM THE AMERICAN PEOPLE

Feed the Future Innovation Lab
IPM
Integrated Pest Management

VirginiaTech
OIRED
Office of International Research, Education, and Development

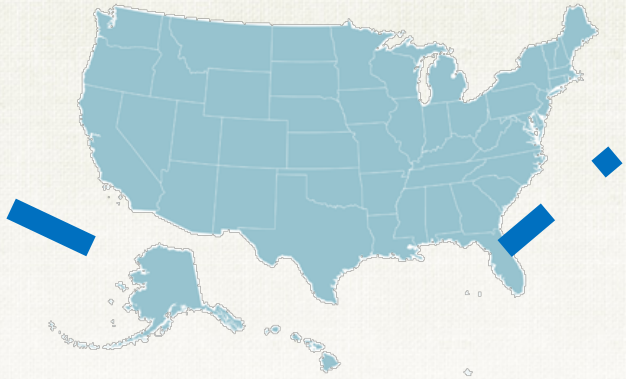


FEED THE FUTURE
The U.S. Government's Global Hunger and Food Security Initiative

IPM Innovation Lab: A program of Feed the Future of Bureau of Food Security of USAID

1993

Established at Virginia Tech



Competed three times nationally

$75 Million

Secured in 22 years



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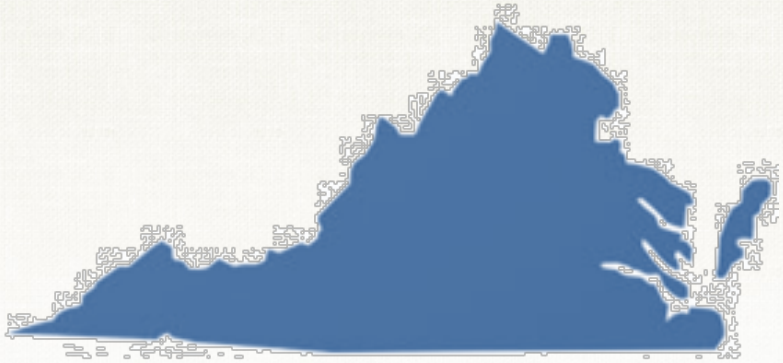
IPM Innovation Lab: A program of Feed the Future of Bureau of Food Security of USAID

$18 Million
Current Funding

(could be raised to $50 million)

$7.5 Million
remains in Virginia





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IPM Innovation Lab Host Countries



FEED THE FUT
The U.S. Government's Global Hunger and F

Vegetable Crops and Mango IPM in Asia



IPM for Exportable Fruit Crops in Vietnam



Parthenium Biocontro East Africa



odiversity
and Climate Change



Vegetable Crops IPM in East Africa



Modeling of Insect Dispersal in Africa, Asia, Central America



Rice, Maize, and (IPM for East /



Rice IPM for Cambodia



Major Aspects of IPM IL

- Development of IPM packages for crops
- Monitoring and management of invasive species
- Long-term training: **Total = 300; at VT= 60**
- Short-term training: Trained over **millions**

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The U.S. Government's Global Hunger and Food Security Initiative

Coconut pith/dust use in vegetable seedling production



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Trichoderma – a beneficial fungus

- Use became very popular in Asia
- IPM Innovation Lab conducted four workshops
- We are introducing this technology into the African countries







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The U.S. Government's Global Hunger and Food Security Initiative



Eggplant grafting in Bangladesh

Eggplant yield ↑ 249% in Bangladesh

Income ↑ 305% in Bangladesh

Technology transferred from Bangladesh to Ohio

Technology transferred to India, Nepal, Uganda, Honduras, Mali, and Kenya

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The U.S. Government's Global Hunger and Food Security Initiative

Tuta absoluta

South American tomato leafminer.
Introduced to Spain in 2006.
Spread throughout Europe, most of West and East Africa and recently to India. **A serious threat to U.S.A.**





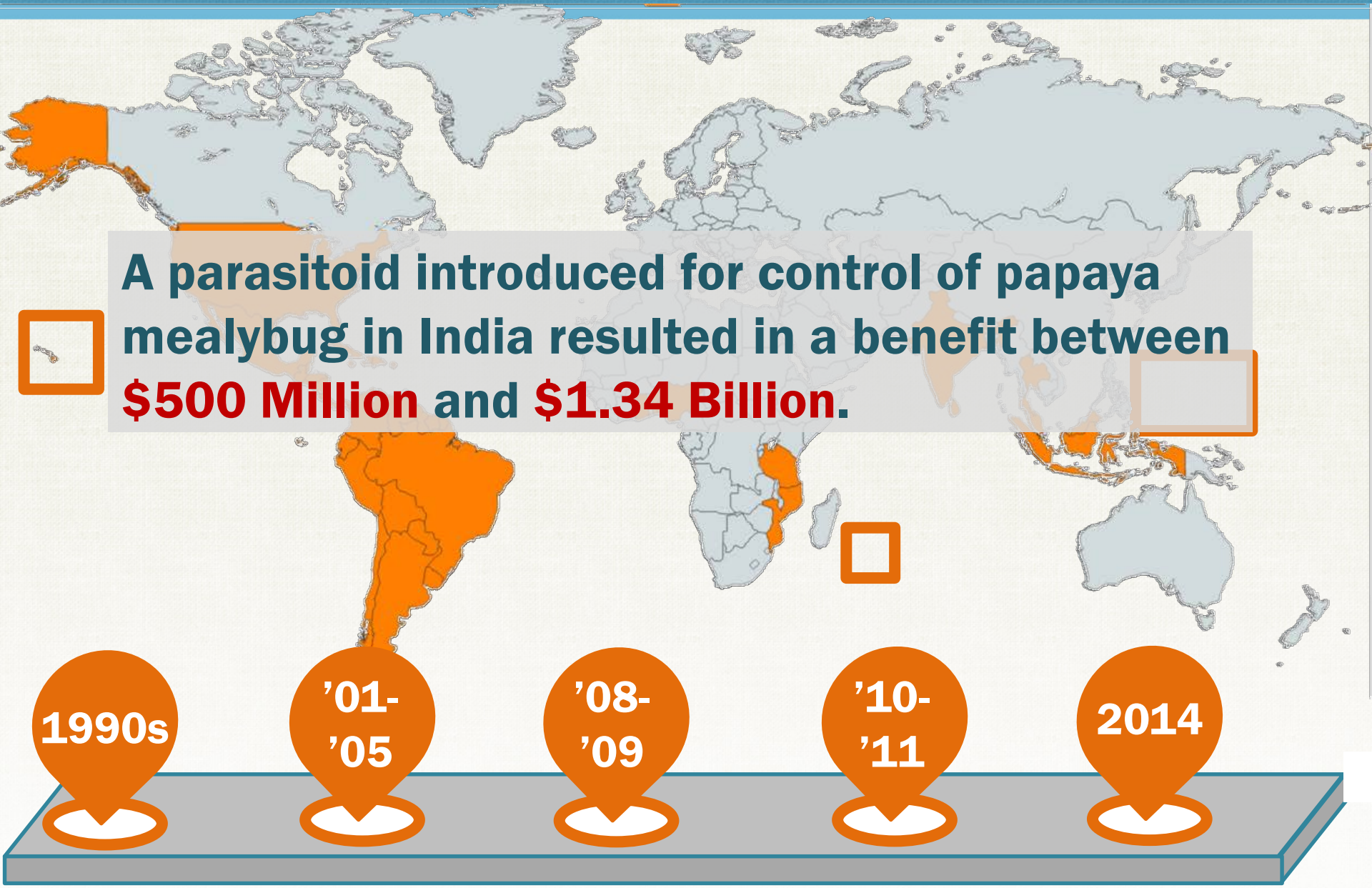






FEED THE FUTURE
The U.S. Government's Global Hunger and Food Security Initiative

Spread of Papaya Mealybug



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IPM IL Impact Assessment

Country and Authors	Crop	IPM Practice(s)	Net Benefits (millions)
Uganda, Moyo et al., 2007	Peanuts	Virus resistant variety	$33-36
Mali, Nouhoheflin, et al., 2011	Tomato	Cultural	$21-24
Uganda, Debass, 2000	Beans and maize	Cultural	$36-202
Bangladesh, Debass, 2000	Eggplant and cabbage	Cultural practices	$26-29
Bangladesh, Rakshit et al., 2011	Cucurbits	Pheromone traps	$3-6
Ecuador, Baez, 2004	Plantain	Cultural	$59-63
Ecuador, Quishpe, 2001	Potatoes	Resistant variety	$50
Albania, Daku, 2002	Olives	Cultural	$39-52
Honduras, Sparger, et al., 2011	Eggplant, onion, tomato, and pepper	Cultural practices	$17
India, Selvaraj, 2012 (preliminary analysis)	Mulberry, papaya, and cassava	Papaya mealybug parasitoid release	$500-$1,340



Thank You.

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The U.S. Government's Global Hunger and Food Security Initiative

Biological Control of the Invasive Weed Parthenium hysterophorous in East Africa

Wondi Mersie
Virginia State University
Ethiopia, Kenya, South Africa, Tanzania, and Uganda

USAID FROM THE AMERICAN PEOPLE

VIRGINIA STATE

IPM Feed the Future Innovation Lab Integrated Pest Management

VirginiaTech 1872 Invent the Future

EIAR

HARAMAYA UNIVERSITY

www.cabi.org

ARC NARO

ARARI KALRO MAFSC

Partners

Virginia State University – Lead Institution
Virginia Tech
Ethiopia – Ambo University
Amhara Regional Agricultural Research Institute
Ethiopian Institute of Agricultural Research
Haramaya University
CABI
Kenya – Kenya Agriculture and Livestock Research Organization
South Africa – ARC-PPRC
Tanzania – Minister of Agriculture Food Security and Cooperatives
Uganda – National Agricultural Research Organization

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Parthenium

A weed known in Ethiopia as "Faramasissa," meaning "sign your land away".



Parthenium is native to Central America.

It has spread to Africa, Australia, and Southern Asia.

The plant is an aggressive invader:

- **A single plant can produce 25,000 seeds.**
- **It can complete its life cycle 6-8 weeks.**
- **It releases toxic chemicals.**

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Parthenium hysterophorous



30 Countries Shabbir 2012

Presentation by Andrew McConnachie July 2014

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The U.S. Government's Global Hunger and Food Security Initiative

Significance of the Problem



reduces crop yield



competes with pasture species; taints meat and milk



causes human health problems



displaces native plants

FEED THE FUTURE
The U.S. Government's Global Hunger and Food Security Initiative

Goal:

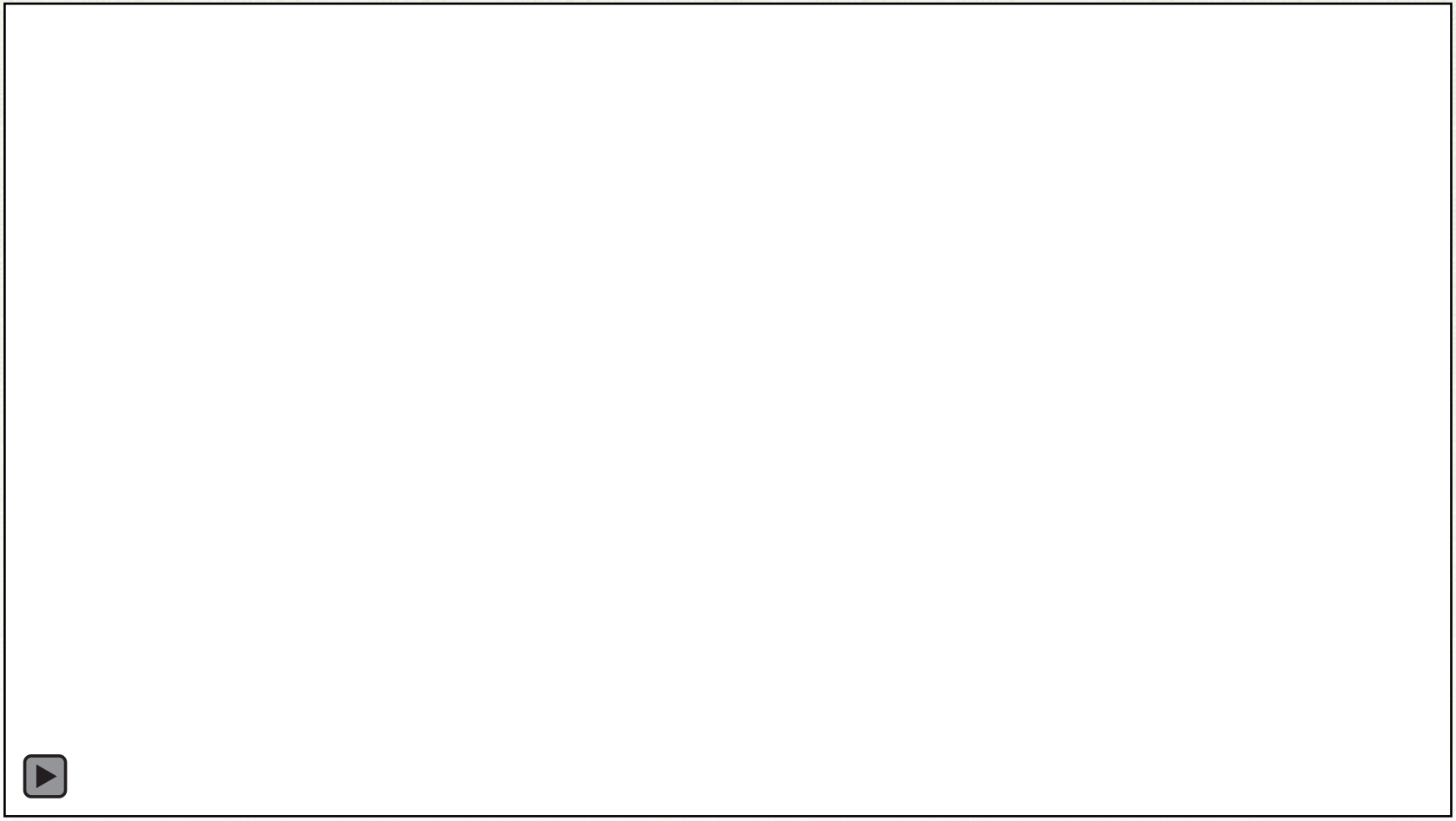
To abate the **spread** and **impact** of parthenium in East Africa using natural enemies





FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

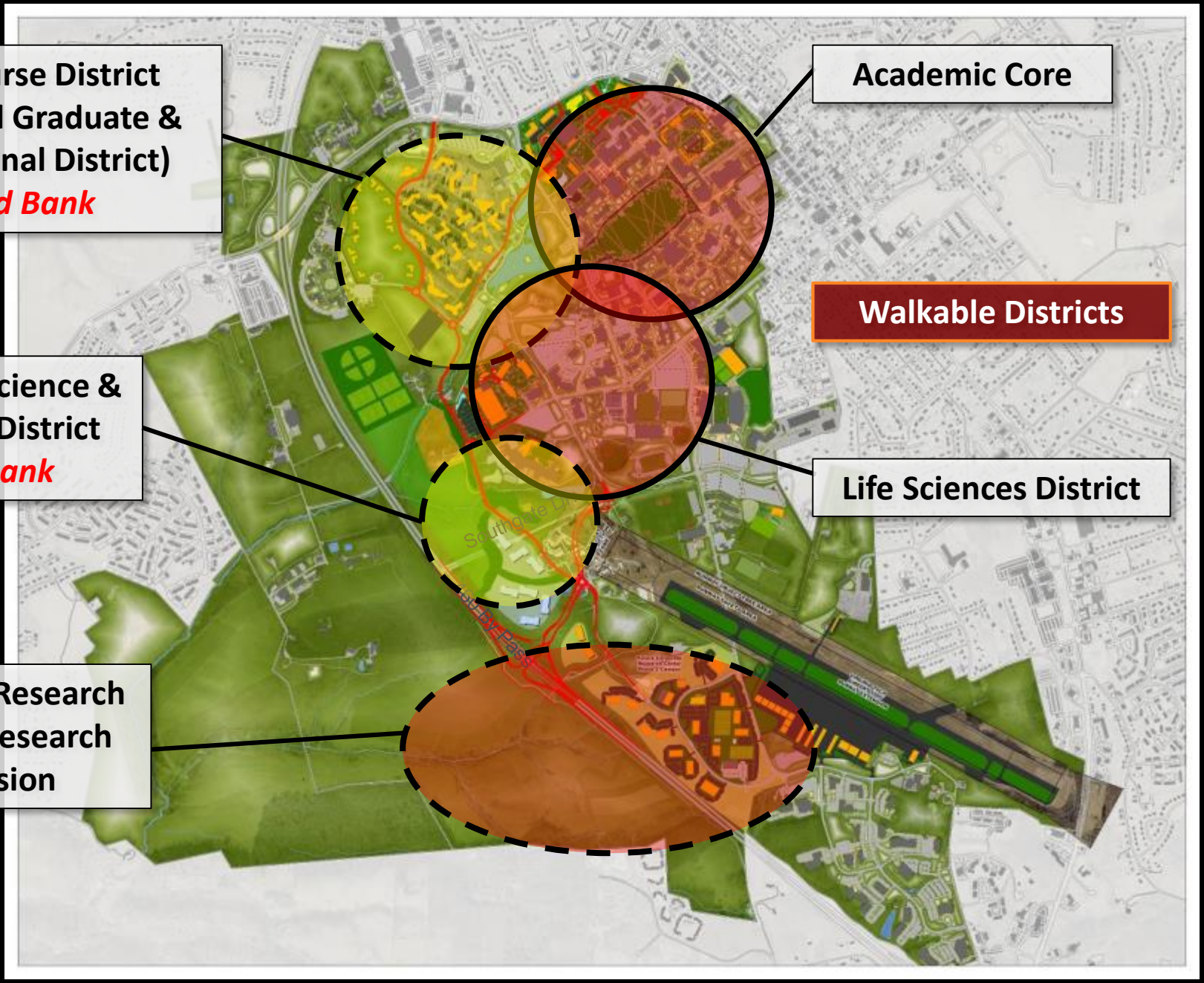




Master Planning the Virginia Tech Campus

Jason Soileau

University Architect & Assistant Vice President of University Planning



CAMPUS MASTER PLAN - Overview



Current Master Plan Initiatives

Parking & Transportation Master Plan

Target Date is Spring 2016

Utility Master Plan

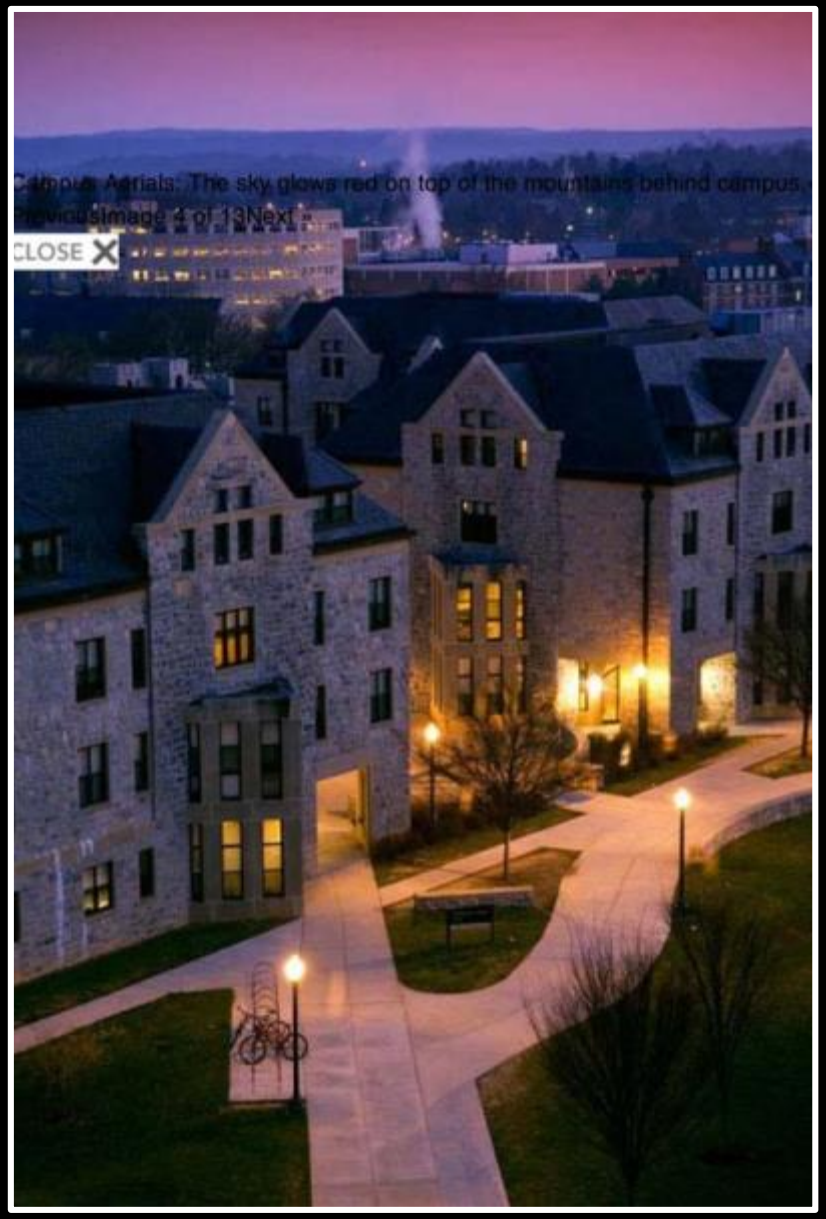
Target Date is Summer 2016

Campus Master Plan

Target Date for Completion is **Fall 2017**



Contextual Background







CAMPUS MASTER PLAN – Greenway Pedestrian Linkages

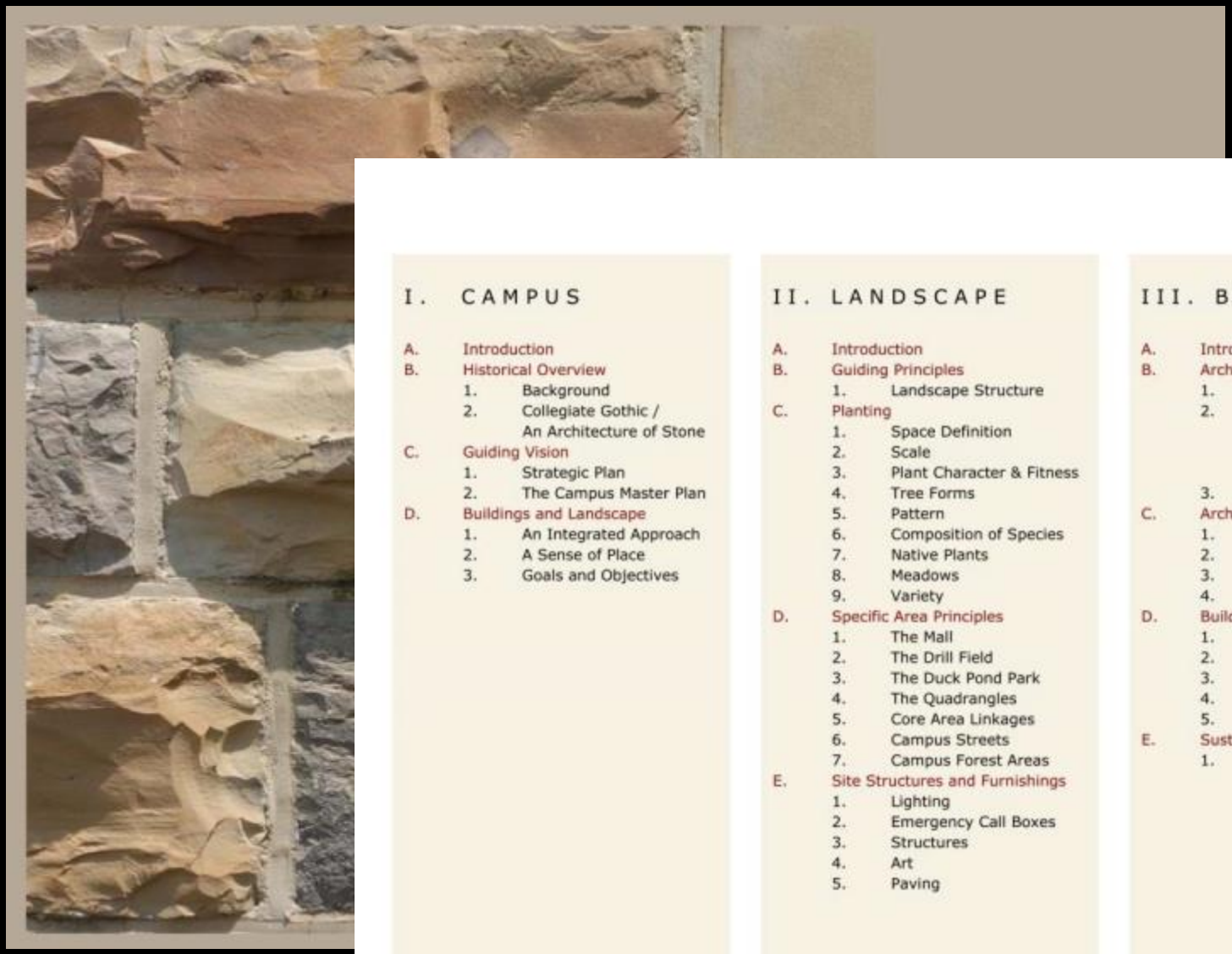
Historically applied design standards and principles help to create a strong

“Sense of Place”









CONTENTS

I. CAMPUS

A. Introduction
B. Historical Overview
   1. Background
   2. Collegiate Gothic / An Architecture of Stone
C. Guiding Vision
   1. Strategic Plan
   2. The Campus Master Plan
D. Buildings and Landscape
   1. An Integrated Approach
   2. A Sense of Place
   3. Goals and Objectives

II. LANDSCAPE

A. Introduction
B. Guiding Principles
   1. Landscape Structure
C. Planting
   1. Space Definition
   2. Scale
   3. Plant Character & Fitness
   4. Tree Forms
   5. Pattern
   6. Composition of Species
   7. Native Plants
   8. Meadows
   9. Variety
D. Specific Area Principles
   1. The Mall
   2. The Drill Field
   3. The Duck Pond Park
   4. The Quadrangles
   5. Core Area Linkages
   6. Campus Streets
   7. Campus Forest Areas
E. Site Structures and Furnishings
   1. Lighting
   2. Emergency Call Boxes
   3. Structures
   4. Art
   5. Paving

III. BUILDINGS

A. Introduction
B. Architectural Order
   1. Siting / Orientation
   2. Building Scale
      Height
      Massing
      Volumetric Variation
   3. Facades
C. Architectural Elements
   1. Roof Forms
   2. Doors, Portals and Passages
   3. Windows and Openings
   4. Architectural Details
D. Building Materials
   1. Walls
   2. Hokie Stone
   3. Roofs
   4. Doors and Windows
   5. Ornament
E. Sustainable Design
   1. Approach

The university fulfills its **Land-Grant** mission of transforming knowledge to practice through technological leadership and by fueling economic growth and job …

Locally, Regionally, and across Virginia!

Through a combination of its three missions of learning, discovery, and engagement, Virginia Tech continually strives to accomplish the charge of its motto ***Ut Prosim* (That I May Serve)**



Assumptions on Campus Growth for the Master Plan

- There were **500+ Additional Entering First-Year Students in Fall 2015,** resulting in **2,000 student** net growth over four years
- Possible **growth beyond 2,000** over an eight year period to approximately **30,000 undergraduates by fall 2022**
- Virginia Tech intends to **house 33% to 40%** of the student population, **to include** housing at **Roanoke and National Capital Region**
- The growth will be planned to intentionally **strengthen the Virginia Tech experience** by promoting diversity and engagement by facilitating multi-disciplinary and cross-generational interaction


Identify, Create and Enhance
Spaces for Experiential Learning
and Engagement















VIRGINIA TECH'S STRATEGIC ADVANTAGE…. ***COMMUNITY!***



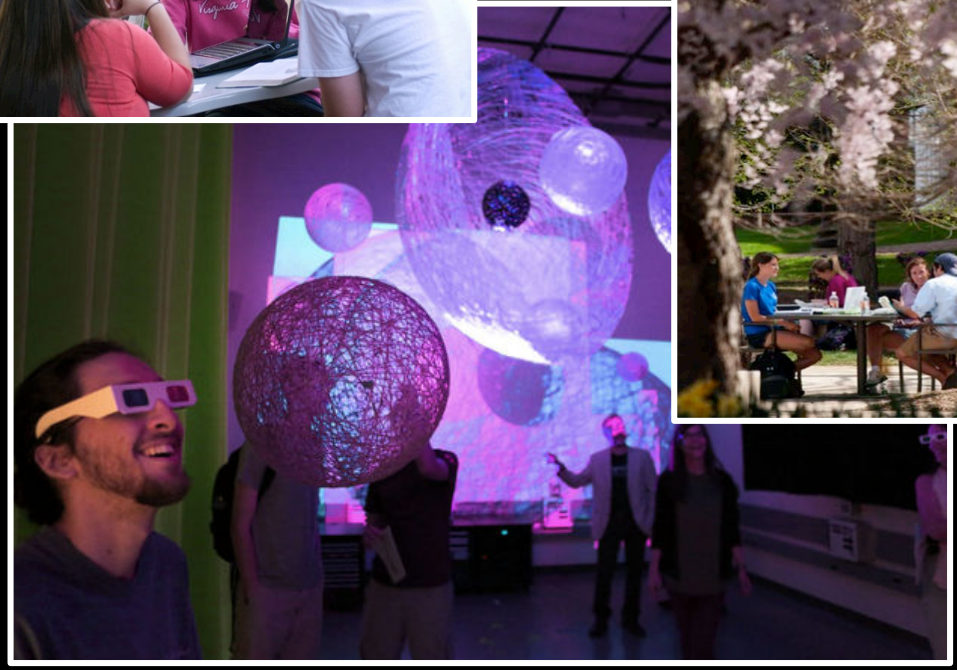
rce Report | January 2015











Insufficient attention to the **physical infrastructure** of communal spaces, both indoor and outdoor, risks the **erosion** of Virginia Tech's **strategic advantage.**

Planning for these spaces must be done with **intention.**

THE VIRGINIA TECH EXPERIENCE

Benefits of Community to the Student and University

Adjustment to the university for first-year students is significantly enhanced through the development of a friendship network and belonging to a diverse and inclusive community (Buote, et al, 2007)

Development of community and participation within a diverse and inclusive community teaches students how to live in a multicultural society and enhances their opportunities to built **transformative leadership skills** (Shields, 2013).

Students and Alumni who have had more **positive and meaningful experiences** in their undergraduate years are more likely to **give their time and financial support** as alumni (Garvey & Drezner, 2013; Daly, 2013; Newman & Petrosko, 2011).



Gallup-Purdue Index 2015 Report on College Graduates

42% of Virginia Tech Alumni are **emotionally attached** to their university vs. 18% (National Average).

Well-being areas in which VT alumni are "thriving" :

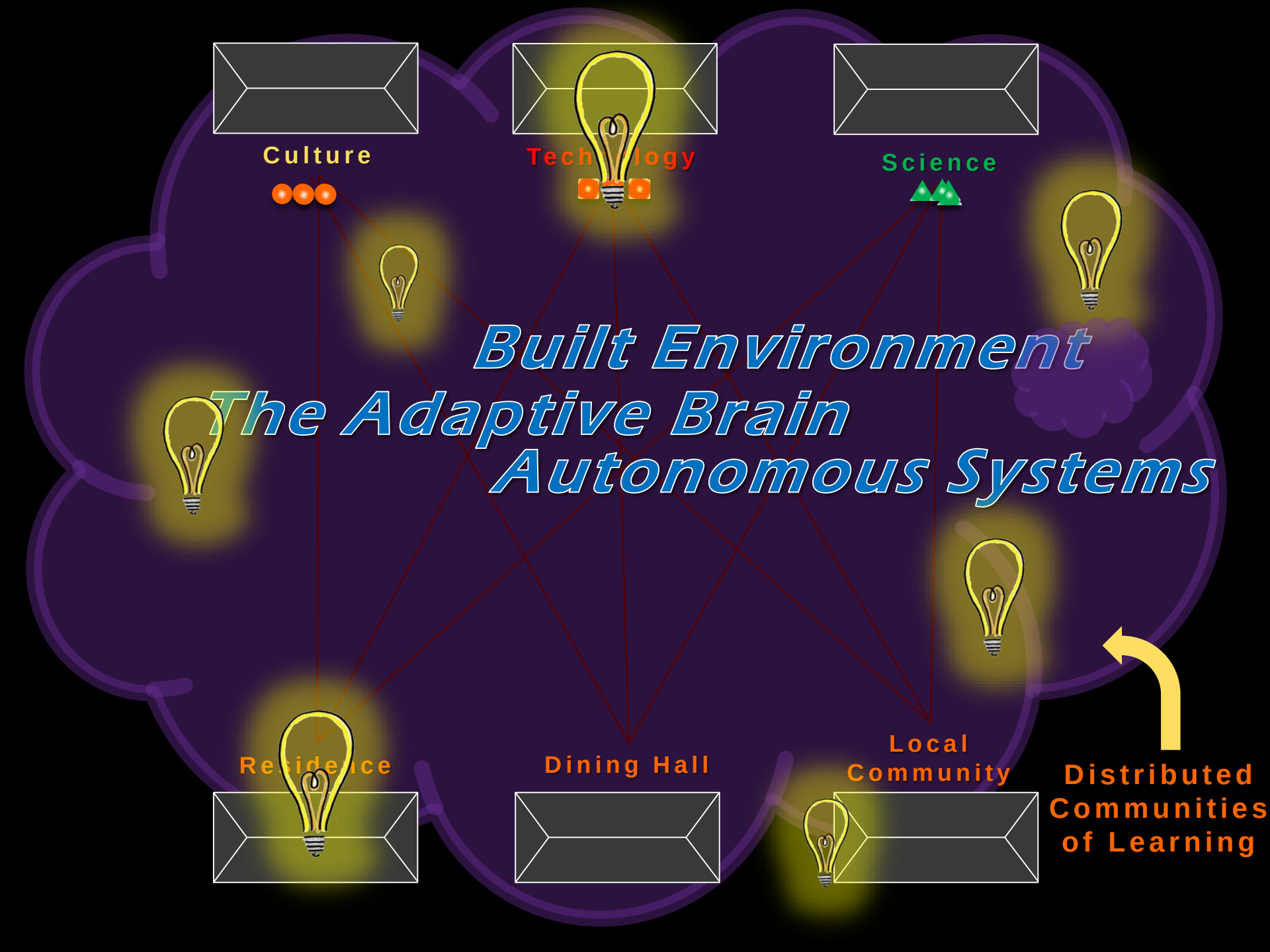
- Index shows **60% (Virginia Tech)** vs 52% (National Average) in **Purpose** (Finding fulfillment in daily work);
- Index shows **57% (Virginia Tech)** vs 49% (National Average) in **Social** (strong social relationships);
- Index shows **56% (Virginia Tech)** vs 42% (National Average) in **Financial** (feeling financially secure);
- Index shows **52% (Virginia Tech)** vs 46% (National Average) in **Community** (taking part in true community/service);
- Index shows **41% (Virginia Tech)** vs 35% (National Average) in **Physical** (good health to get things done on daily basis).

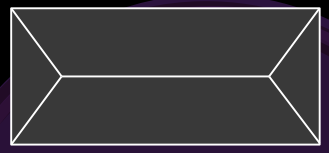
The Master Plan Must Reinforce the VT Experience!



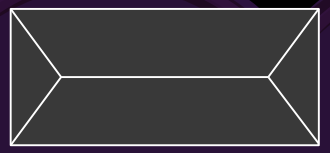
So … Why is diverse engagement important?

Facilitating Productive Collisions

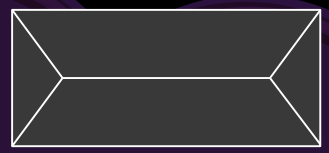

Culture
Technology
Science
Built Environment
The Adaptive Brain
Autonomous Systems
Residence
Dining Hall
Local Community
Distributed Communities of Learning



Culture



Technology

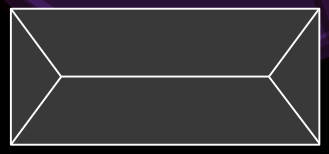


Science

VT-Shaped Students
Prioritize
Purpose-Driven Engagement
with a Combination of
Disciplinary Depth and Interdisciplinary Capacities!



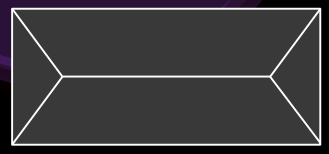
Residence



Dining Hall

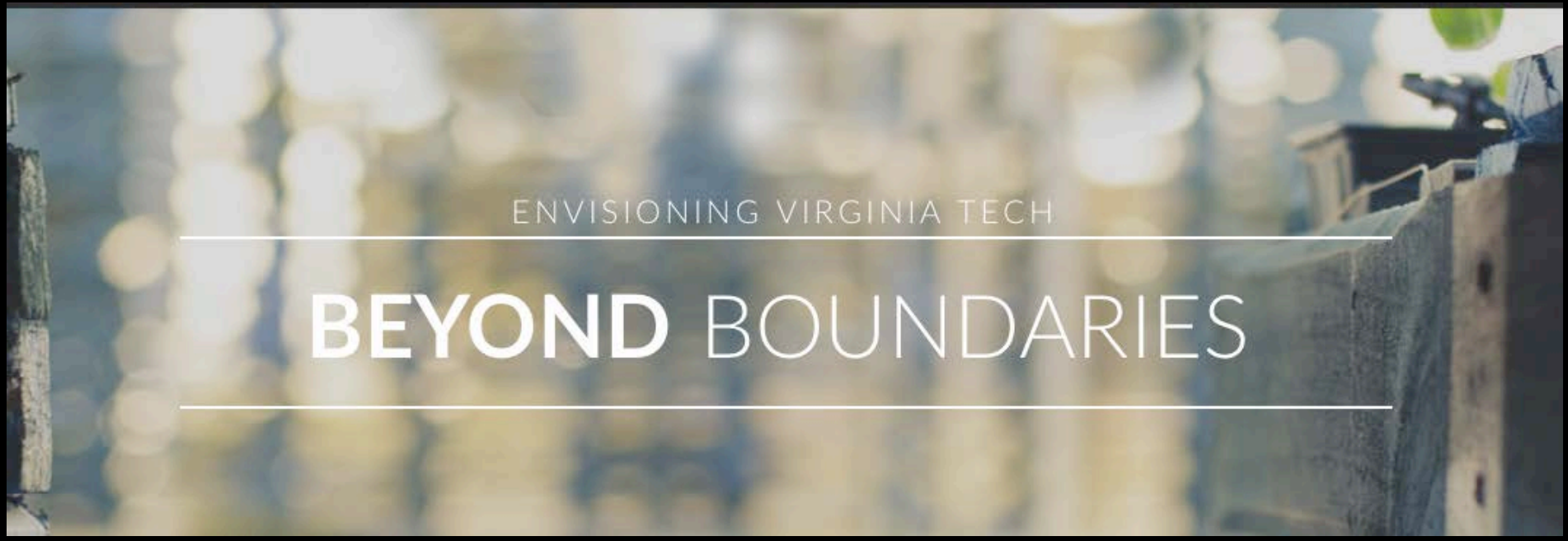


Local Community





Distributed Communities of Learning



LEADERSHIP

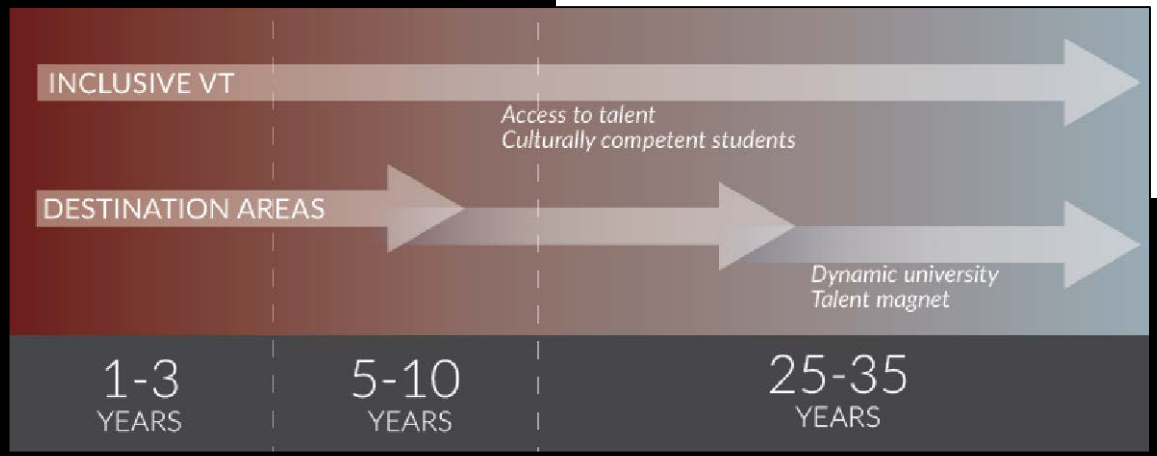
STEERING COMMITTEE

CAMPUS OF THE FUTURE GROUP

FUNDING AND COST GROUP

PREPARING STUDENTS GROUP

GLOBAL LAND-GRANT GROUP



Visioning Document

Distributed Communities of Learning



Develop infrastructure to facilitate Distributed Communities of Learning that combine VT's world-leading research, faculty and technology, with a strong experiential component designed to develop the VT-shaped student

Destination Areas	Living / Learning Communities	Innovation Districts

Matrix Structure and Instruments to Achieve the **VT Shaped Student**

Develop Facilities and Open Space Networks that facilitate Excellence in Inclusion and Diversity on the Virginia Tech Campus

Inclusive VT





Respect the Past…

Impact the Present…

Provide a Vision For The Future!

Only a Land Grant University with a spirit of Service…

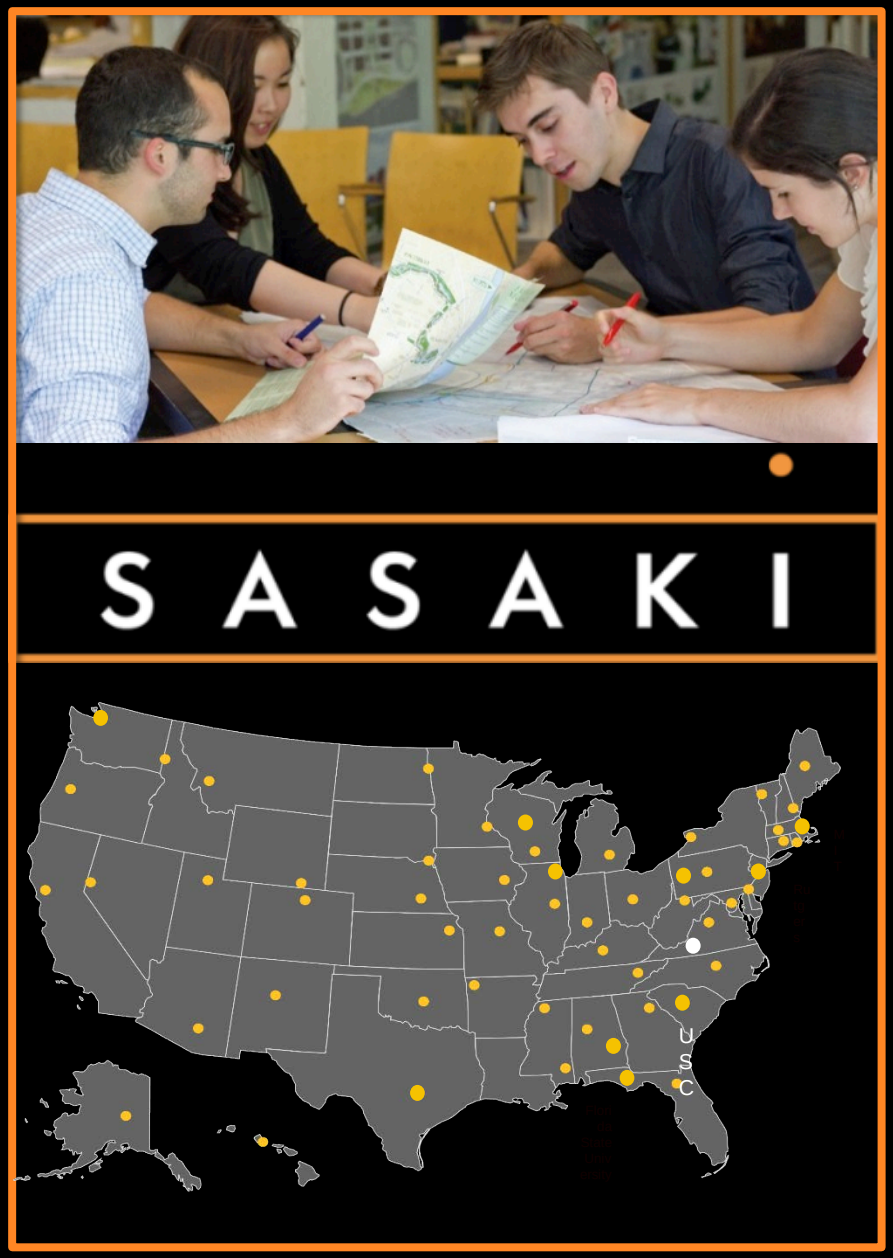
like that embedded at Virginia Tech can evolve to create the

VT-Shaped Student!

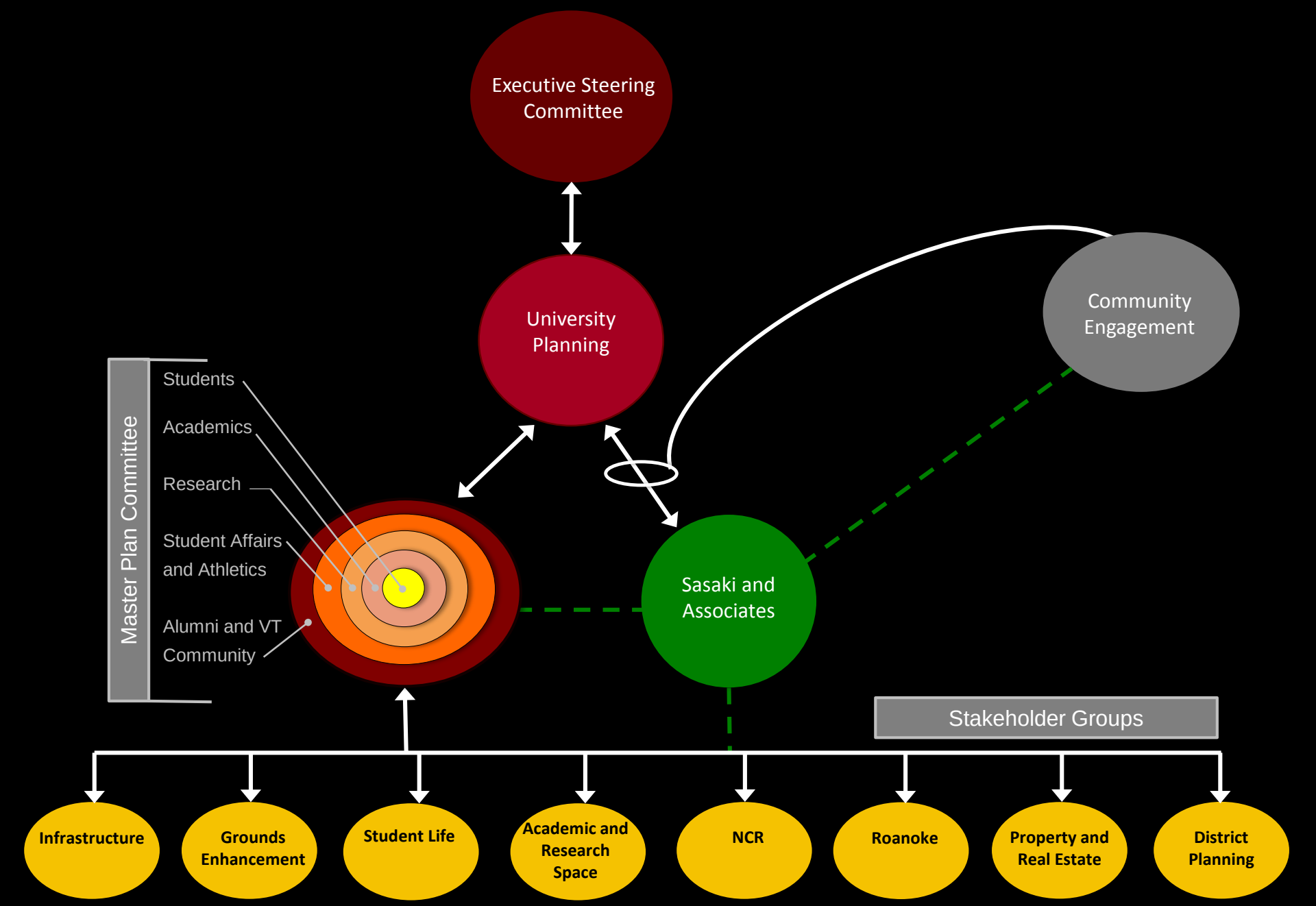
Project Summary / Overview

Internationally Recognized and Highly Awarded Planning Firm!





CAMPUS MASTER PLAN – Consultant - Sasaki



CAMPUS MASTER PLAN – Process and Organization

Master Plan Phases

Phase 1:
Discovery & Inventory
(Data and Analysis)

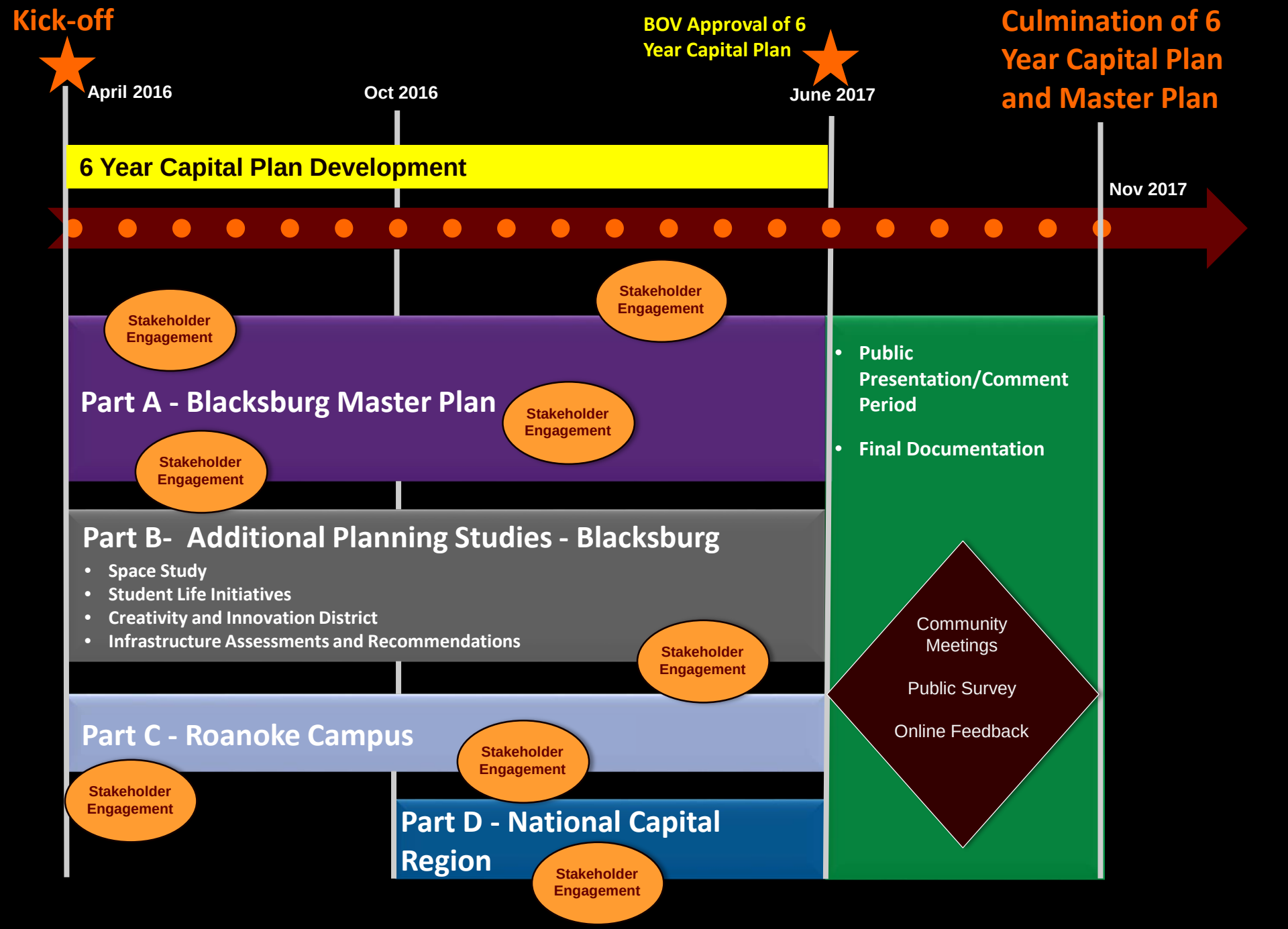
Phase 2:
Concept Development & Testing
(Exploration of Ideas & Strategies)

Phase 3:
Plan Revision & Report Development
(Narrative & Graphics)

Phase 4:
Public Participation & Comment Period
(Stakeholders & Public Comment)

Phase 5:
Final Master Plan Documentation
(Final Narrative, Graphics & Summary)





CAMPUS MASTER PLAN – Timeline – Parts and Phases

Part A: Blacksburg Campus – Traditional Master Plan

Part B: Blacksburg Campus – Additional Planning Studies

- Space Study
- Student Life Initiatives
- Creativity and Innovation District
- Infrastructure

Part C: Roanoke Campus

Part D: National Capital Region

Virginia Tech Campus Master Plan

Scope of Work



PART A: Blacksburg Campus – Traditional Master Plan



Property and Real Estate



Open Space and Density



Infrastructure



VT and VTF Land Use

What's Included?

Grounds Enhancement







Massing and Location of Priority Buildings from 6 Year Capital Plan


Glade Road
Prices Fork Road
North District (Formal Learning)
Academic Core (Formal Learning)
Creativity and Innovation (Formal & Informal Learning)
Main Street and Town of Blacksburg
21st Century Living/Learning Community
Drillfield
Student Life District (Informal Learning)
Intelligent Infrastructure Corridor
Life Science Agriculture and Sustainability
Rt. 460
Athletics
Health, Sciences, and Technology II
Intelligent Infrastructure Corridor
Leverage adjacency to Main Street and strengthen university/private/civic partnerships
District Planning



PART B: Blacksburg Campus – Additional Planning Studies

What's Included?

- Space Study
- Student Life Initiatives:
    - University Commons
    - Housing
    - Recreation, Dining, and Health Services
- Creativity and Innovation District
- Infrastructure
    - Utilities
    - Non-Utility



Space Study

Coordinate with Ongoing Provost Initiative on the Following:

- Existing Conditions Baseline
- Peer Benchmarking
- Assess Utilization (Class and Lab)
- Develop Space Guidelines
- Identify Future Space Needs
- Develop Space Policy













Student Life Initiatives

What's Included?

- University Commons
- Housing
- Recreation, Dining, and Health Services



University Commons Plan:

- Decentralized Hub Network
- Assess Distribution and Potential Sites
- Identify Target User Groups
- Identify Amenities based upon National/Regional trends and Customer Needs
- Link to Creativity and Innovation







Residential Life

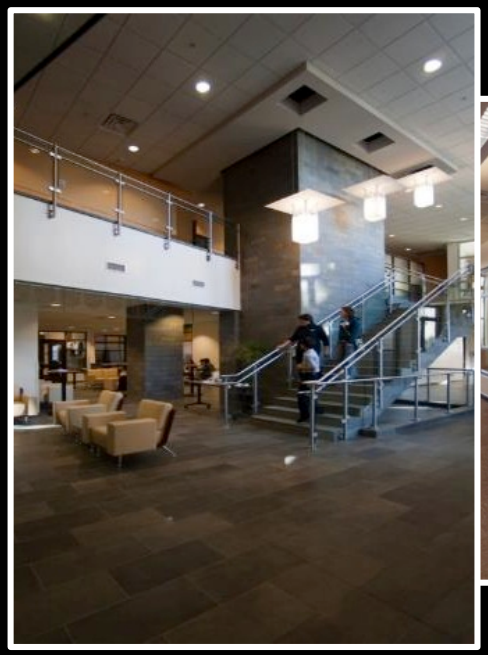


Existing Housing

- Condition Assessment
- Develop Phased Strategy for Renovations
  - Address Facility Condition
  - Enhance Living/Learning Programs

New Housing

- Evaluate Demand Based Upon Planned Growth
- Locate Proposed New Living/Learning Communities







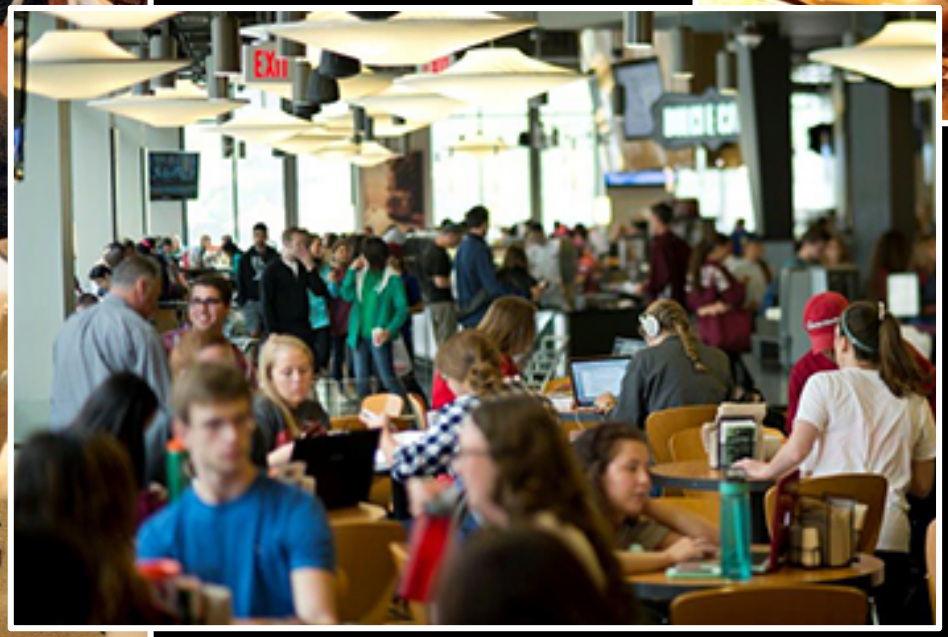
Strengthen Intellectual and Community Engagement

Recreation, Dining, and Health Services

- Assess Existing Distribution and Capacity
- Develop Phased Strategies to Accommodate Growth
- Identify Potential Sites for Development

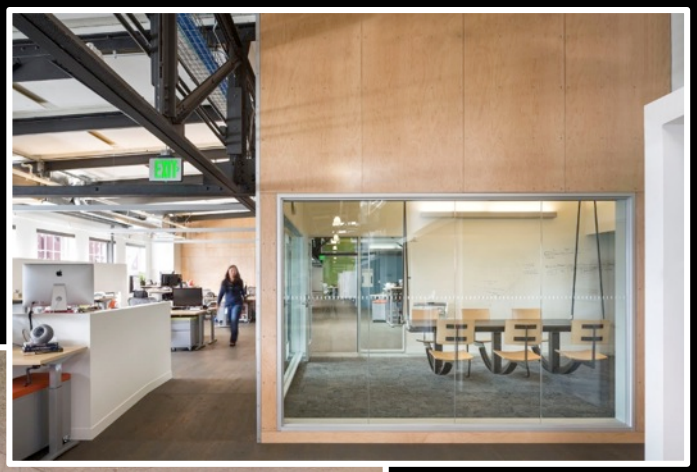






Creativity and Innovation District





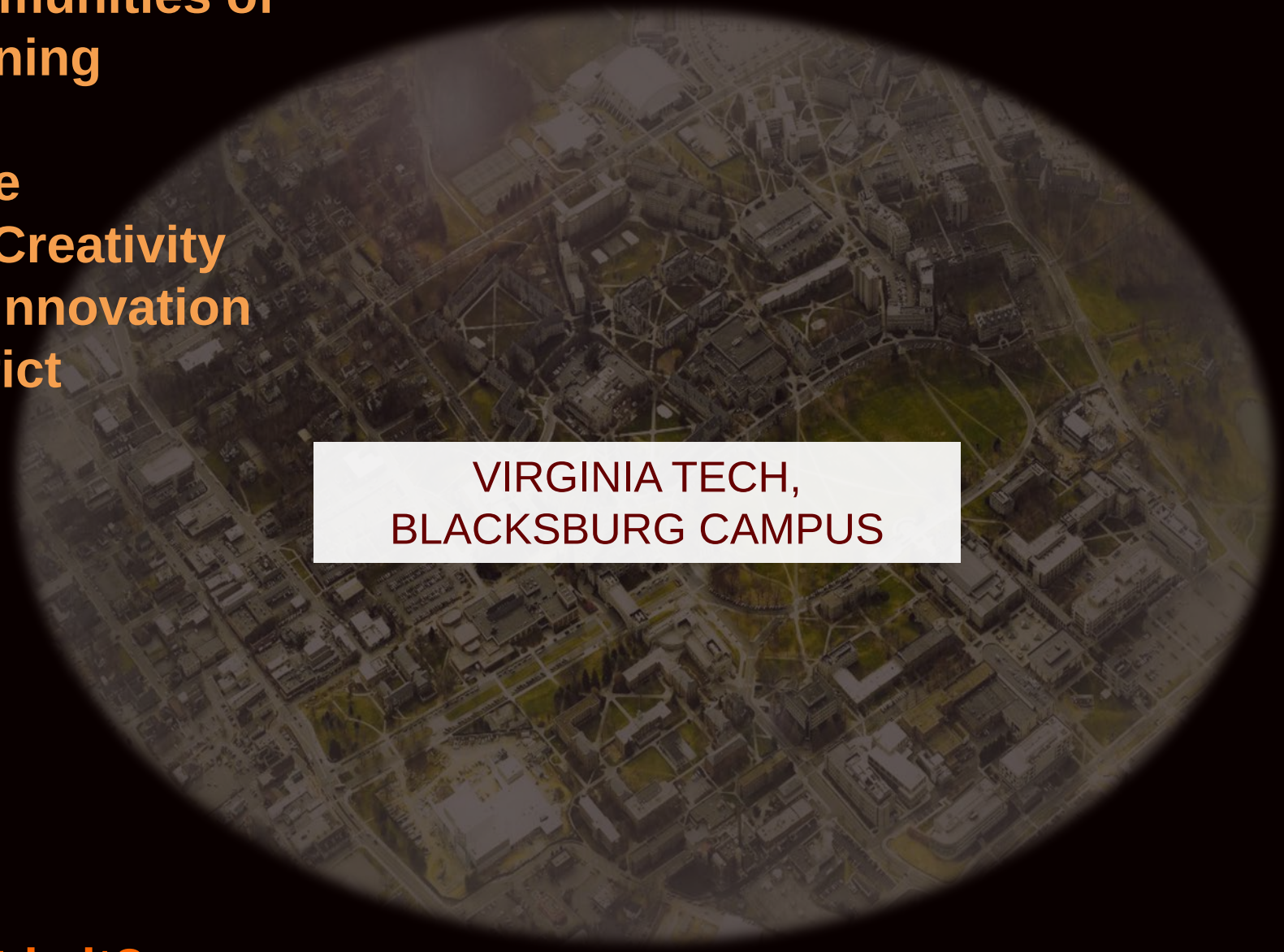


Develop Strategy for Creativity & Innovation District

- Create Bridge to Town by Leveraging Adjacency to Main Street
- Strengthen the culture of Distributed Communities of Learning
- Leverage Private/Public/University Partnerships

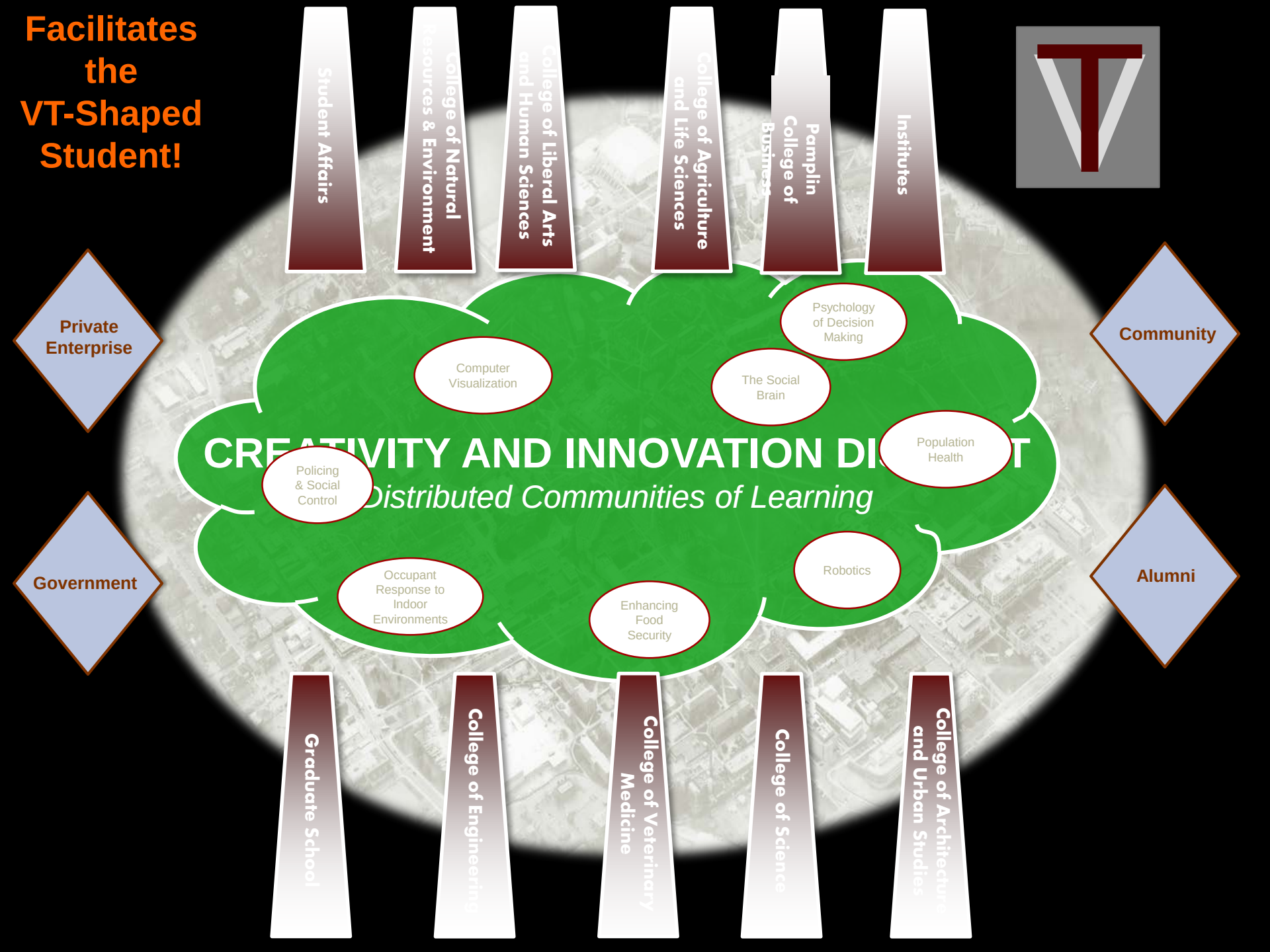
Distributed Communities of Learning

in the The Creativity and Innovation District



What is it?


Student Affairs
College of Natural Resources & Environment
College of Liberal Arts and Human Sciences
College of Agriculture and Life Sciences
Pamplin College of Business
Institutes
Private Enterprise
Community
CREATIVITY AND INNOVATION DISTRICT
Distributed Communities of Learning
Government
Alumni
Graduate School
College of Engineering
College of Veterinary Medicine
College of Science
College of Architecture and Urban Studies


Facilitates the VT-Shaped Student!
Student Affairs
College of Natural Resources & Environment
College of Liberal Arts and Human Sciences
College of Agriculture and Life Sciences
Pamplin College of Business
Institutes
Private Enterprise
Government
Community
Alumni
Psychology of Decision Making
Computer Visualization
The Social Brain
Population Health
Policing & Social Control
Occupant Response to Indoor Environments
Enhancing Food Security
Robotics
Distributed Communities of Learning
Graduate School
College of Engineering
College of Veterinary Medicine
College of Science
College of Architecture and Urban Studies

Infrastructure - Utilities:

What's Included?

Identify Potential Partnerships

- Alternative Energy
- Power
- Potable Water
- Steam
- Natural Gas
- Chilled Water Piping
- High Speed Computing (Wi-fi)













Infrastructure – Non-Utility

What's Included?

- Sustainability
- Storm water Management
- Accessibility and Inclusiveness
- Mobility (Parking & Transportation)





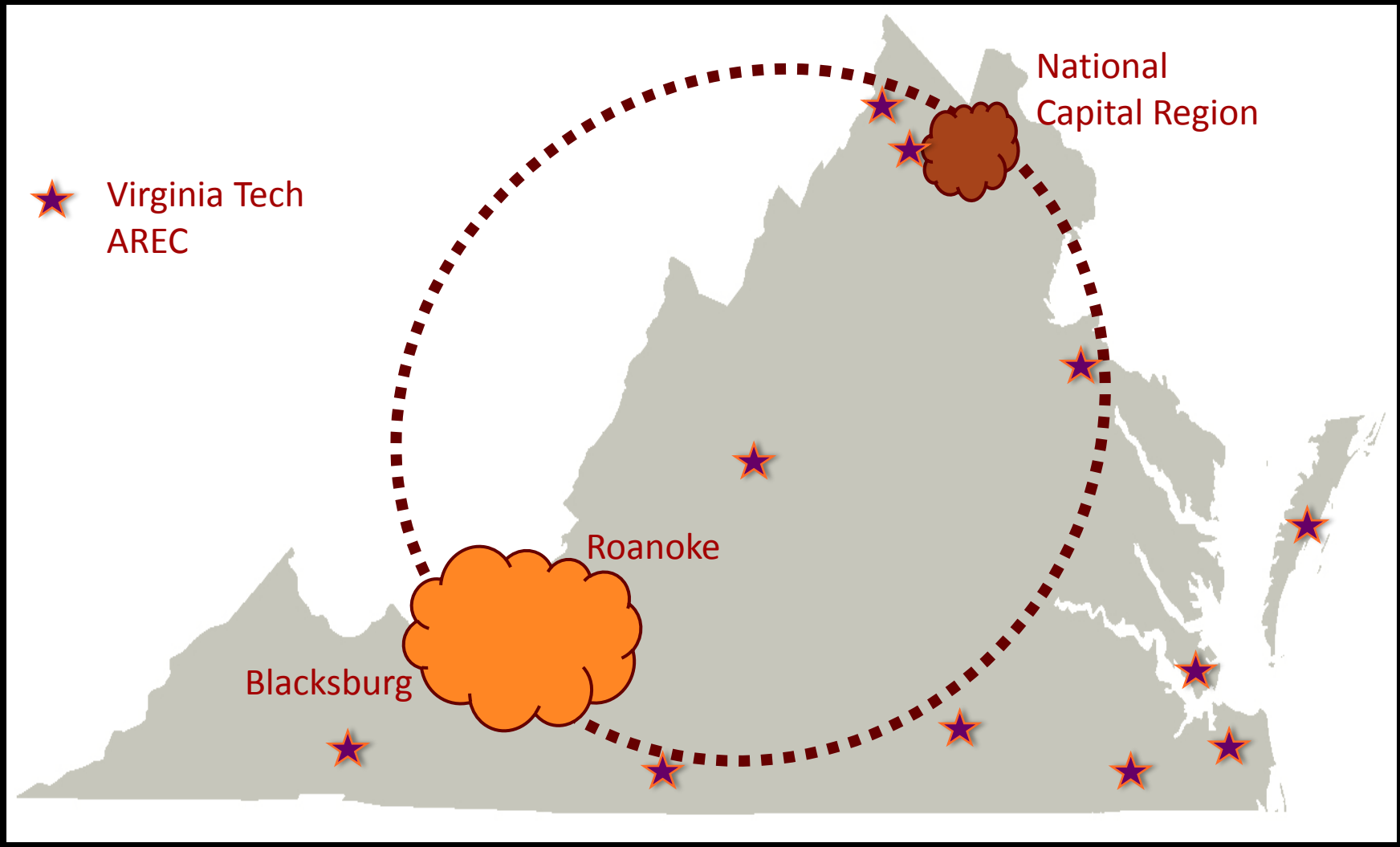




Additional Campuses Studies



Binary Star System



Roanoke Campus:

Located near downtown Roanoke adjacent to Carilion Roanoke Memorial Hospital

Part of VT Health, Science, and Technology District

What's Included?

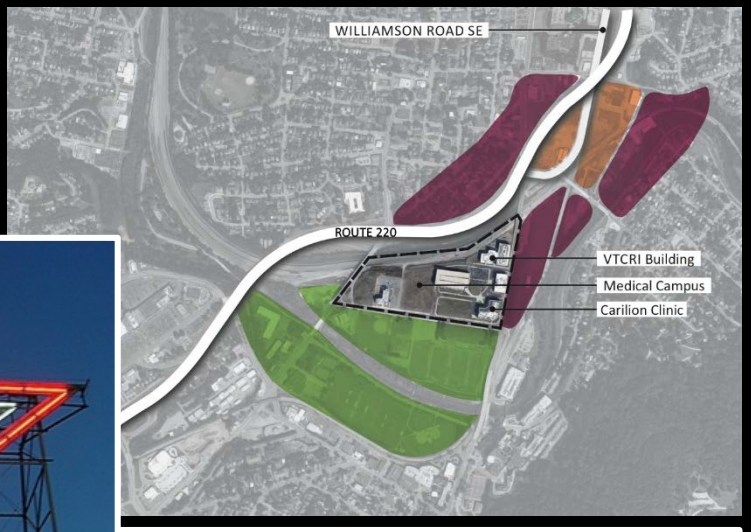
Perform Program, Site, and Space Needs Assessment

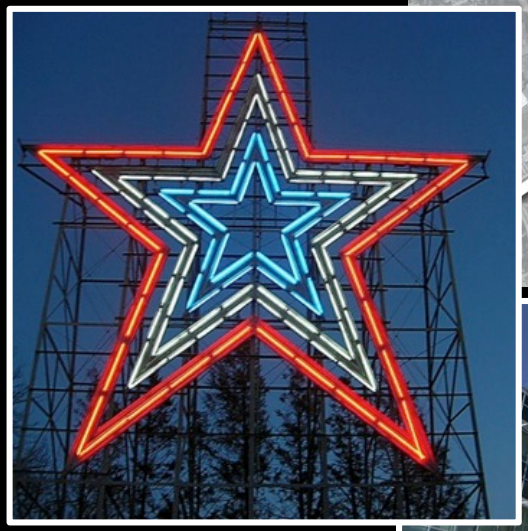
Explore Student Life and Potential Housing Opportunities

Explore Facility Expansion, Property Acquisition/disposition, Transportation and Parking Opportunities.

Explore Opportunities to Strengthen Relationship with Industry and Creation of Mixed Use District

Strengthen Physical Connection Between Blacksburg and Roanoke Campus









National Capital Region:

Located at Seven (7) locations in the NCR Supporting a Variety of Programs and Activities. The University is Conducting Internal Programming to be Provided to Consultant in September 2016.

What's Included?

Explore Opportunities to Leverage VT Presence in NCR

Perform Program, Site, and Space Needs Assessment

Explore Student Life and Potential Housing Opportunities

Explore Facility Expansion, Property Acquisition/disposition, Transportation and Parking Opportunities.

Strengthen Physical Connection Between Blacksburg and the NCR









What's Next?

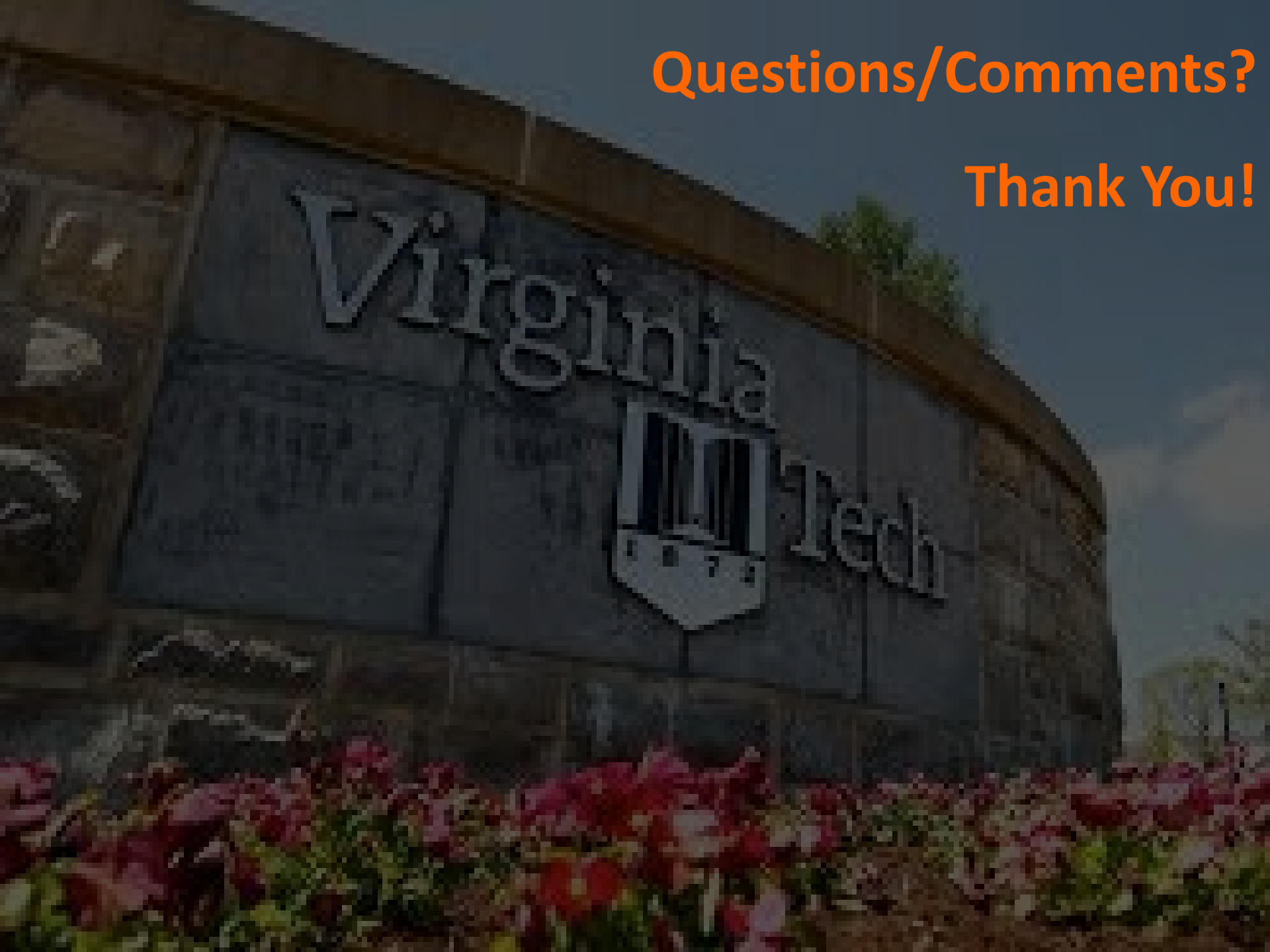
How Do I Get Involved?

Contact:

Jason Soileau jsoileau@vt.edu

Or

Hugh Latimer latimerh@vt.edu



Questions/Comments?

Thank You!