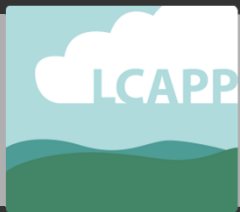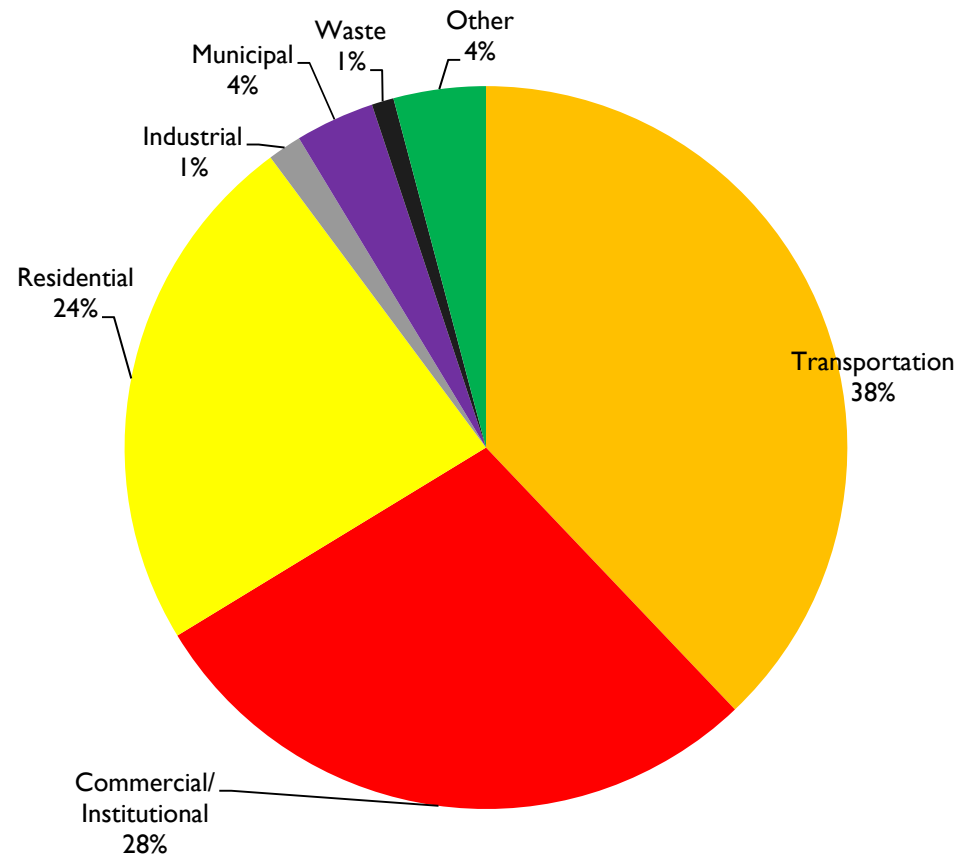# Local Climate Action Planning Process
Final Report

On July 17, 2006, Charlottesville City Council unanimously passed a Resolution endorsing the *U.S. Mayors Climate Protection Agreement*.

Following a July 11, 2007 presentation of the *U.S. Cool Counties Climate Stabilization Declaration*, the Albemarle County Board of Supervisors unanimously approved a Cool County Resolution on December 5, 2007.
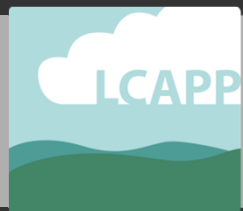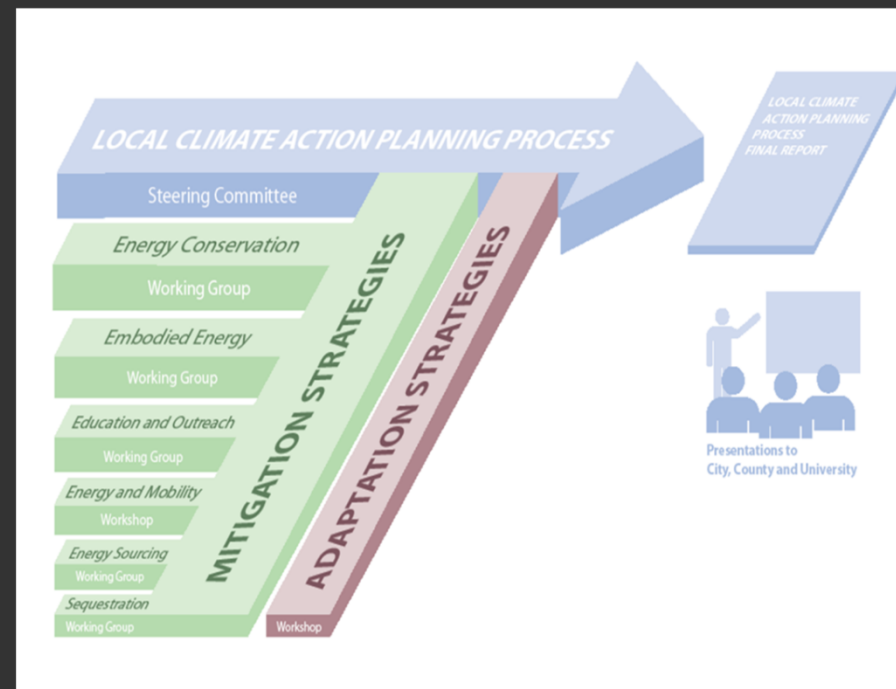
Regional (**City/County**) Summary (CO_2e Baseline: 2000)

- Municipal 4%
- Waste 1%
- Other 4%
- Industrial 1%
- Residential 24%
- Transportation 38%
- Commercial/ Institutional 28%

- Concept presented to PACC Tech on Jan 15, 2009

- Steering Committee (convened Aug 2009)

- Working Groups

1. A network of ~50 subject experts, interested parties, and staff

2. Focused work sessions to inform Steering Committee discussion and debate

- Community Workshop

- Facilitated by City, County and UVA staff

- Presented to PACC, BOS and City Council in Aug./Sept. 2011

LOCAL CLIMATE ACTION PLANNING PROCESS

Steering Committee

Energy Conservation
Working Group

Embodied Energy
Working Group

Education and Outreach
Working Group

Energy and Mobility
Workshop

Energy Sourcing
Working Group

Sequestration
Working Group

Workshop

MITIGATION STRATEGIES

ADAPTATION STRATEGIES

LOCAL CLIMATE ACTION PLANNING PROCESS FINAL REPORT

Presentations to City, County and University

LCAPP Structure and Process

Local Climate Action Planning Process

LOCAL GOVERNMENT

David Brown, City Council
Ann Mallek, Board of Supervisors
Mike Osteen, Charlottesville Planning Commission
Tom Frederick, Rivanna Water and Sewer and Solid Waste Authorities

LOCAL BUSINESSES

Chris Lee, Piedmont Virginia Companies, Inc.
Jay Willer, formerly with Blue Ridge Home Builders Association
Tim Hulbert, Chamber of Commerce

LOCAL NGOs

Bill Edgerton
The Oak Hill Fund
John Cruickshank
Sierra Club, Piedmont Group
Bill Greenleaf
Richmond Regional Energy Alliance
Cynthia Adams
LEAP

LOCAL INSTITUTIONS

Hank Shugart, University of Virginia, Department of Environmental Sciences
David Neuman, University of Virginia, Office of the Architect
**Buck Kline,** Virginia Department of Forestry

LCAPP
Community Steering Committee
Local Climate Action Planning Process

# Steering Committee Discussion

- Political constraints on regulatory approach

- Strong, diverse community support for voluntary actions

- Existing community offers wealth of examples

- Need for local information to guide local community choices

- Many options to capture synergies that make economic and environmental sense

- Significant challenge in meeting long-term goals, but many opportunities to begin heading in that direction
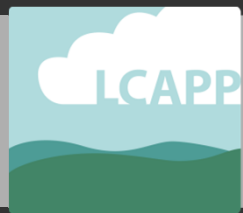
- **Environmental**

 Mitigate global climate change; improve air quality

- **Financial**

  Reduce energy use, reduce emissions, reduce costs

- **Economic**

  Create green jobs, strengthen local economy

- **Infrastructure**

  Alleviate traffic, promote smart growth

- **Health**

  Improve air quality, reduce asthma rates, increase activity

- **Leadership**

  Provide model for citizens, other communities; earn recognition

LCAPP
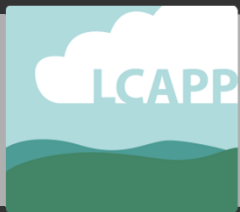
Community Co-Benefits of Climate Action

Local Climate Action Planning Process
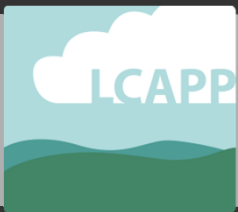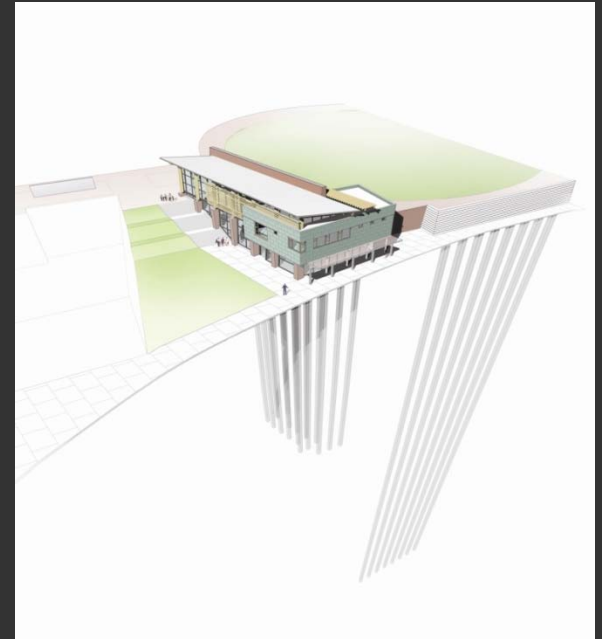
Local Success Stories

Local Climate Action Planning Process

Community Workshop

Local Climate Action Planning Process
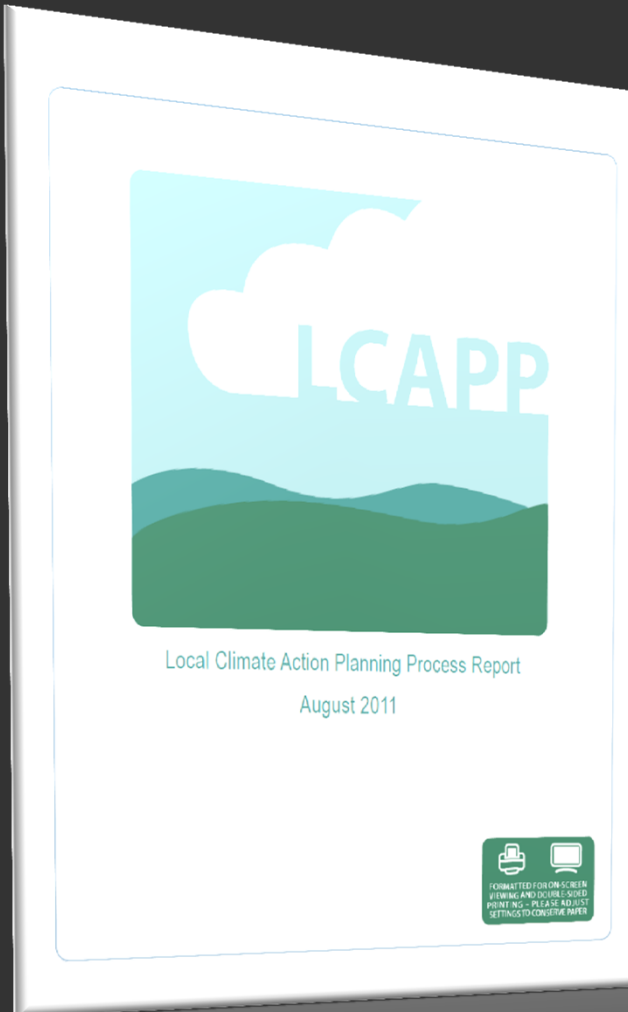
LCAPP Report
www.charlottesville.org/agreencity

Products

Local Climate Action Planning Process

5 Five-Part Framework for Our Community Energy Profile

1 Energy & the Built Environment
Reduce Energy Demand in Existing Buildings
Increase Energy Efficiency Performance of New Buildings
Enable Building to Green Building Standards and Practices

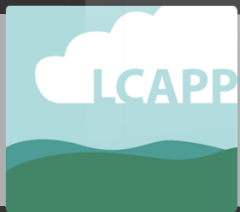### 2 Energy & Mobility
Focus Land Use and Transportation Planning on Density and Infill
Improve Travel Efficiency
Encourage Alternatives to Single Occupancy Vehicle Use

3 Energy Sourcing
Promote Adoption of Cleaner Sources of Electrical Energy
Promote Adoption of Cleaner Sources of Energy for Heating and Cooling
Promote Adoption of Hybrid, Electric and Biodiesel Vehicles and Fuels

4 Energy & Materials
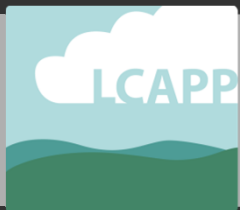Promote Zero Waste Principles of Waste Reduction and Minimization
Consider Impacts of Purchasing Decisions; Prioritize Local Procurement
Reuse and/or Repurpose Existing Buildings

5 Energy & the Landscape
Maintain Existing Tree Canopy and Forestland Base
Expand Forest Cover
Manage Existing Tree Canopy and Forests to Promote Health and Diversity

LCAPP

Products

Local Climate Action Planning Process

Promote Wider Awareness and Adoption of Hybrid, Electric and Biodiesel Vehicles and Fuels

- Increase availability and use of renewable fuels in vehicles
- Expand use of biodiesel and other alternative fuels in municipal vehicles and other fleets
- Develop municipal and private sector guidelines for electric vehicle charging, parking, and incentives

Geothermal Technology for Heating and Cooling

Three recently constructed facilities in Charlottesville incorporate the use of ground source (geothermal) technology. This type of heating and cooling system takes advance of the relatively constant temperature of the Earth's surface and reduces the energy needed to heat or cool a building. The Downtown Transit Station has 18 closed-loop, ground source geothermal wells (12 wells are 300 feet deep; 6 wells are 600 feet deep) that contribute to the energy efficiency of the building as well as eliminating noise and visual impacts of a traditional roof mounted cooling tower. The payback period for this system is estimated to be about 9.4 years and, along with other energy efficiency measures that were incorporated in this project, the building was designed to achieve a 33% energy reduction compared to a standard building. Both Smith Aquatic Center and the Charlottesville Area Transit also incorporate geothermal systems, using alternative approaches that offered further cost savings due increased effectiveness and reduced numbers of wells required.

Promoting Hybrid and Biodiesel Vehicles and Fuels

The purchase and use of hybrid vehicles in the Albemarle County fleet has increased over the last several years. Currently the County has 10 gas/electric hybrid vehicles in the fleet. The County has also experimented with the use of biodiesel fuel in school buses and Fire and Rescue vehicles.

Energy Sourcing

Consider Environmental Impacts of Purchasing Decisions; Preference Local Procurement

- Integrate source reduction strategies in home, school, and business to eliminate waste (minimize packaging, reduce use of disposable products, reuse materials, support reuse programs and services)
- Adopt environmentally preferable purchasing policies (e.g., recycled content; EnergyStar appliances/electronics; safer cleaning products; water efficient fixtures, low/no VOC materials)

Environmentally Preferable Purchasing Practices

The City of Charlottesville has implemented several Environmentally Preferable Purchasing related practices, including specifying products that include high-recycled content (e.g, 35% recycled content paper) or are made of materials that can be recycled, are durable and long-lasting, conserve energy and resources during their manufacture and operation, and have the fewest toxic compounds used in their products. For those major building projects pursing LEED certification, local sourcing and manufacturing has been a consistently manageable element to incorporate and demonstrate.

"Green" Dining Materials

In an initial move to reduce the negative environmental effects of disposable products, UVA replaced styrofoam and plastic materials with compostable cups and other "green" materials. Given the lack of compost collection outside of dining halls, this initiative provided only a partial solution. Compostable products end up either in landfill trash or improperly in recycling bins, which threatens contamination of the recycling stream. To address these issues, UVA Dining returned to using #1 plastics, a high-value plastic that is recyclable in all UVA and City recycling streams, for beverage and other appropriate containers. Compostable containers remain where a recyclable alternative is not available. To further address disposable products, UVA Dining introduced a reusable to-go container program in fall 2009, one of the first large institutions to do so. After use, participants return their dirty containers to a residential or participating retail location in exchange for a token.
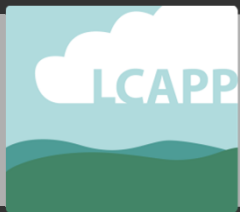
Energy & Materials

Framework Action Strategies

Local Climate Action Planning Process

LCAPP

Recommended Principles

- To continue to demonstrate leadership in energy and carbon reductions at the local level;

- To build on existing synergies by continued collaboration of City, County, University of Virginia and community partners;

- To integrate the role of energy and carbon emissions in projects and planning;

- To equip the community at all levels to make informed decisions about the impacts of carbon emissions and energy; and

- To identify and promote actions that enable the community to reap the health, economic, and environmental benefits that accompany sound energy-based decisions.

Recommended Next Steps

1. Act on existing commitments to further address carbon and energy considerations in planning and operations, including:
   - Comprehensive and other planning efforts
   - *Action Plan* for each entity establishing near-term goals
   - Regular updates on progress toward reducing emissions

2. Build on stakeholder involvement developed through the *LCAPP* to expand information exchange via:
   - Celebration of local successes in private sector
   - *Community Toolkit*
   - Annual meeting of management and project leaders
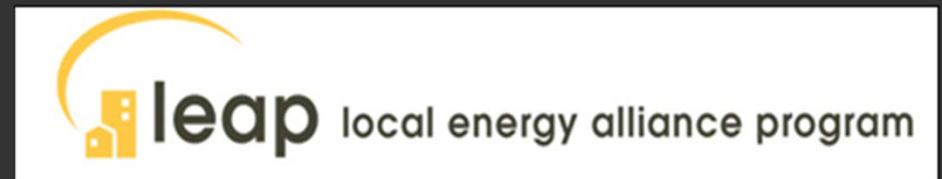   - Community engagement

LCAPP
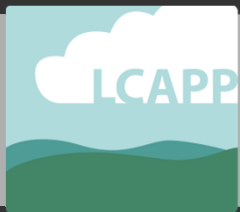
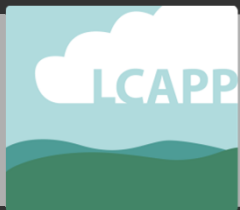## Recommendations

Local Climate Action Planning Process

- Local Energy Alliance Program (LEAP)
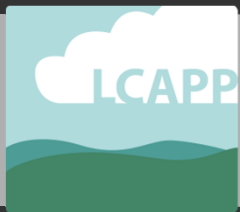
- Better Business Challenge

CHARLOTTESVILLE AREA
BETTER BUSINESS CHALLENGE
SMART. SUSTAINABLE. SUCCESSFUL.

www.cvillebetterbiz.org

leap local energy alliance program

www.leap-va.org

- Updating Charlottesville GHG inventory (City)

- PowerSaver EE Loan Program (LEAP/UVA Credit Union)

- Commercial Loan Program for RE & EE (City/LEAP)

- 106 kw PV installation of Charlottesville High School (City)

- County Environmental Stewardship Strategic Plan (County)

- UVA 2025 GHG Reduction Commitment (UVA)

- Biomass Test Burn in Main Heating Plant (UVA)

- Green Building Practices (City/UVA/County)
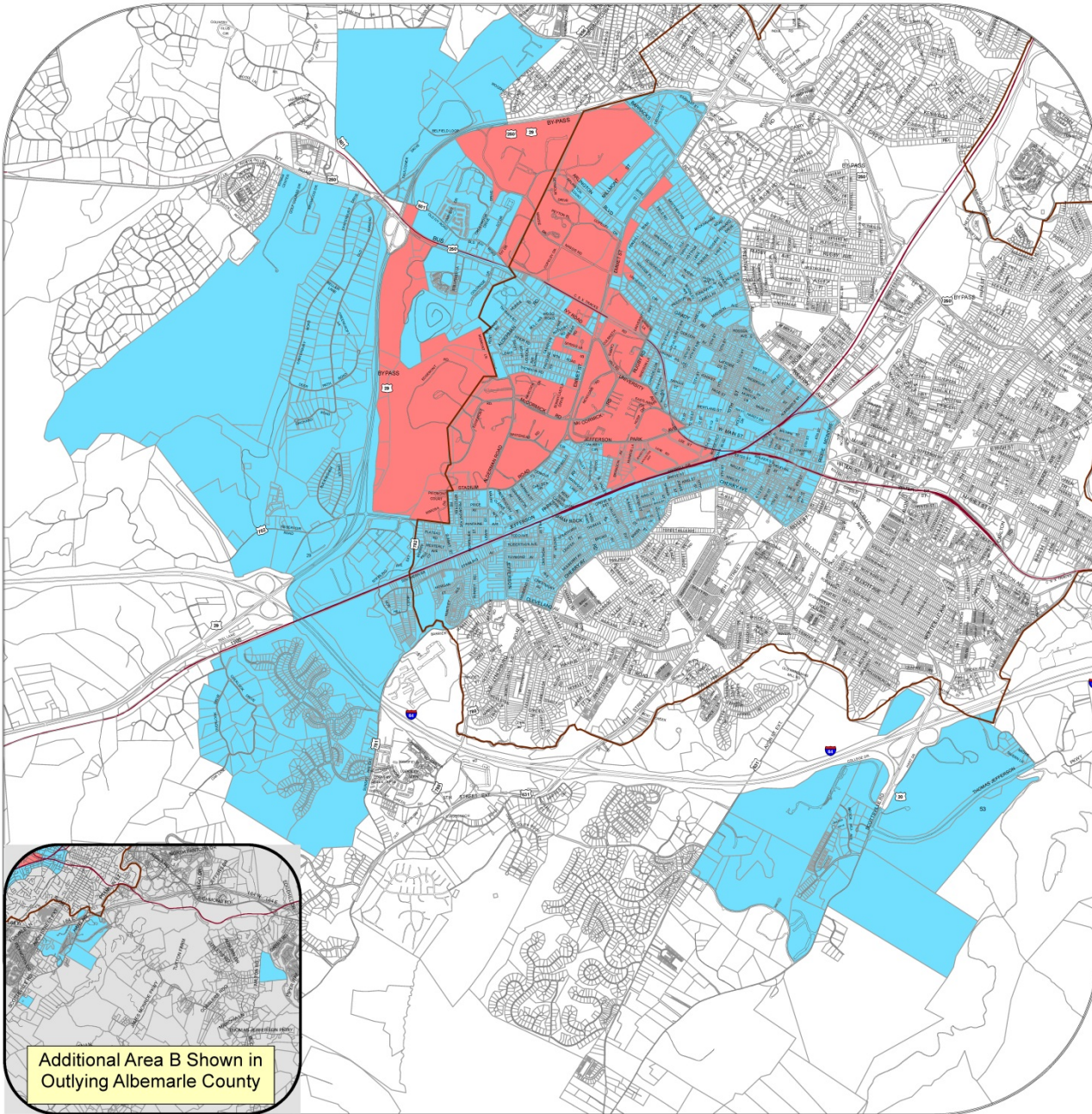
- Pilot Fast-Charging Electric Vehicle Stations (City)

Colthurst Subdivision

C

B

US-250 Bypass

A

Ednam

Birdwood

B

US-250 Bypass

University Grounds

C

C

B

Valley Road

Cherry Road

B

Country Greene

C

C

Avon St. Ext'd

B

Blue Ridge Hospital

Not Shown - Zone B for University Airport

N

B Vivarium Farm

Original 1986 Map

AREA A
and
AREA B

Albemarle County, City of Charlottesville
and
University of Virginia
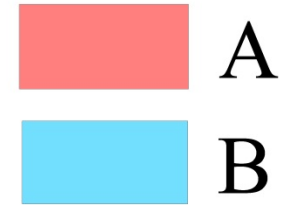
	A
	B

Approved by the PAC Tech Committee:
January 19, 2012

Neighborhood Development Services
January 2012

Additional Area B Shown in
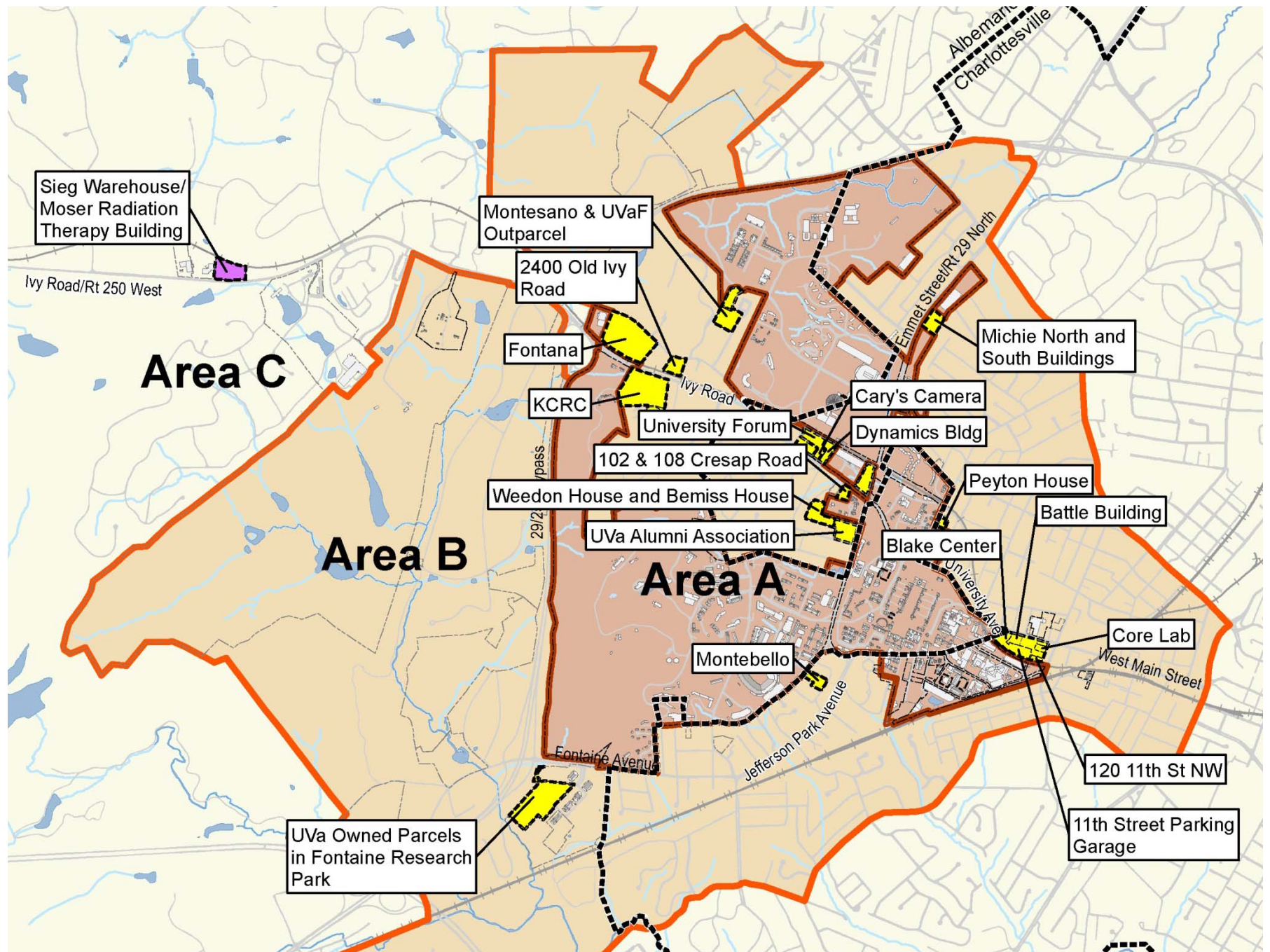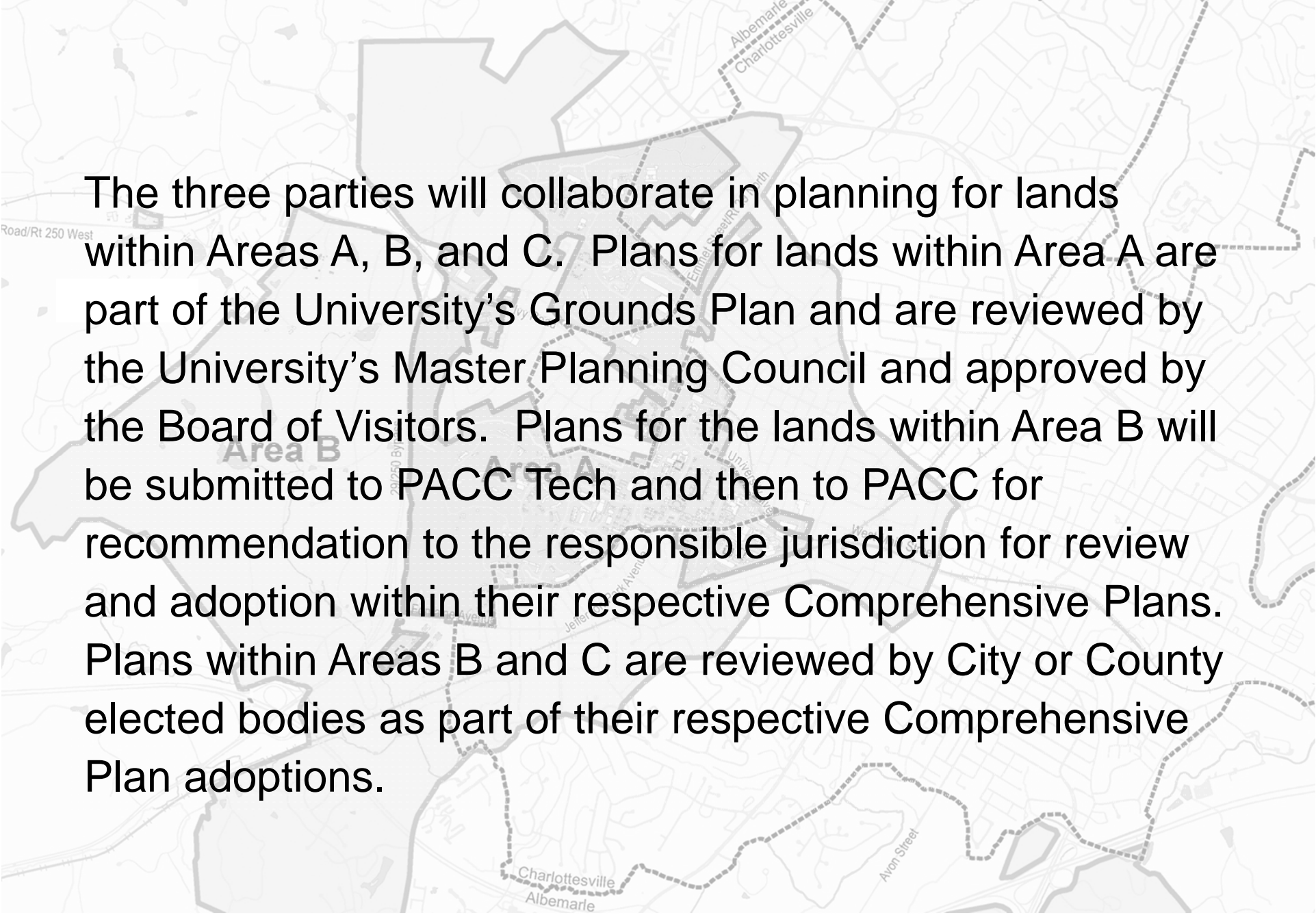Outlying Albemarle County

Revised Common Map

Area A – All Properties now owned by the University of Virginia and its related foundations that are used for educational purposes as designated on the Map

Area B – Land which lies at the boundaries of the University in either the City or the County, or has otherwise been designated as part of Area B, and on which the activities of any, or all three, of the parties might have a significant effect, as disignated on the Map. Development in these areas continues to be guided by the current City and County Comprehensive Plan and the current University of Virginia Grounds Plan

Area C – All land on the Map not included in Areas A and B

Sieg Warehouse/
Moser Radiation
Therapy Building

Ivy Road/Rt 250 West

Area C

Montesano & UVaF
Outparcel

2400 Old Ivy
Road

Fontana

KCRC

University Forum

102 & 108 Cresap Road

Weedon House and Bemiss House

UVa Alumni Association

Area B

Area A

Montebello

Michie North and
South Buildings

Cary's Camera

Dynamics Bldg

Peyton House

Battle Building

Blake Center

Core Lab

West Main Street

UVa Owned Parcels
in Fontaine Research
Park

120 11th St NW

11th Street Parking
Garage

Fontaine Avenue

Jefferson Park Avenue

University Ave

Ivy Road

Emmet Street/Rt 29 North

29/250 Bypass

Albemarle
Charlottesville

UVa Proposed Changes to the Map

The three parties will collaborate in planning for lands within Areas A, B, and C. Plans for lands within Area A are part of the University's Grounds Plan and are reviewed by the University's Master Planning Council and approved by the Board of Visitors. Plans for the lands within Area B will be submitted to PACC Tech and then to PACC for recommendation to the responsible jurisdiction for review and adoption within their respective Comprehensive Plans. Plans within Areas B and C are reviewed by City or County elected bodies as part of their respective Comprehensive Plan adoptions.
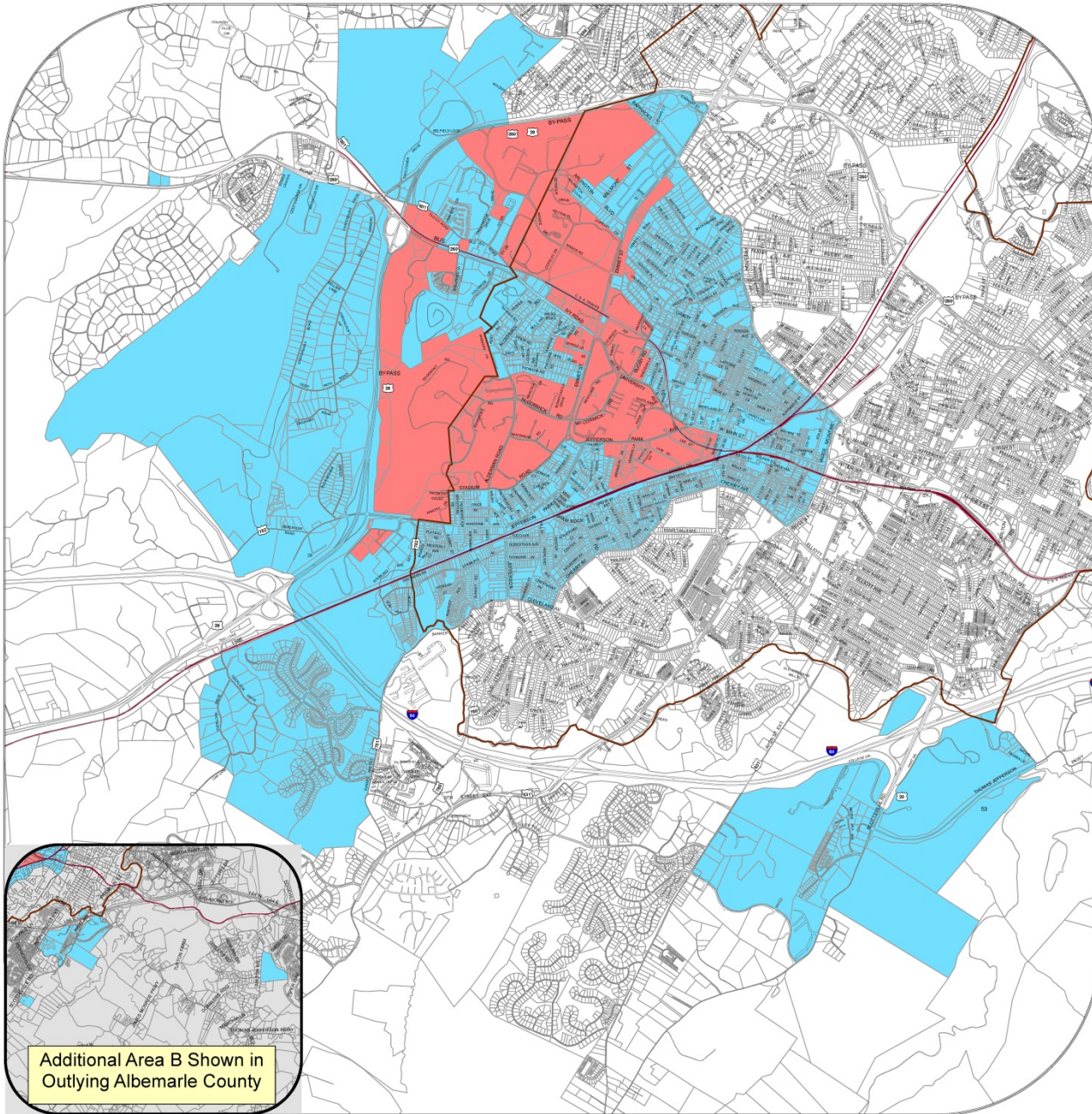
AREA A
and
AREA B

Albemarle County, City of Charlottesville
and
University of Virginia
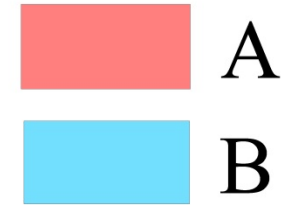
A

B

Approved by the PAC Tech Committee:
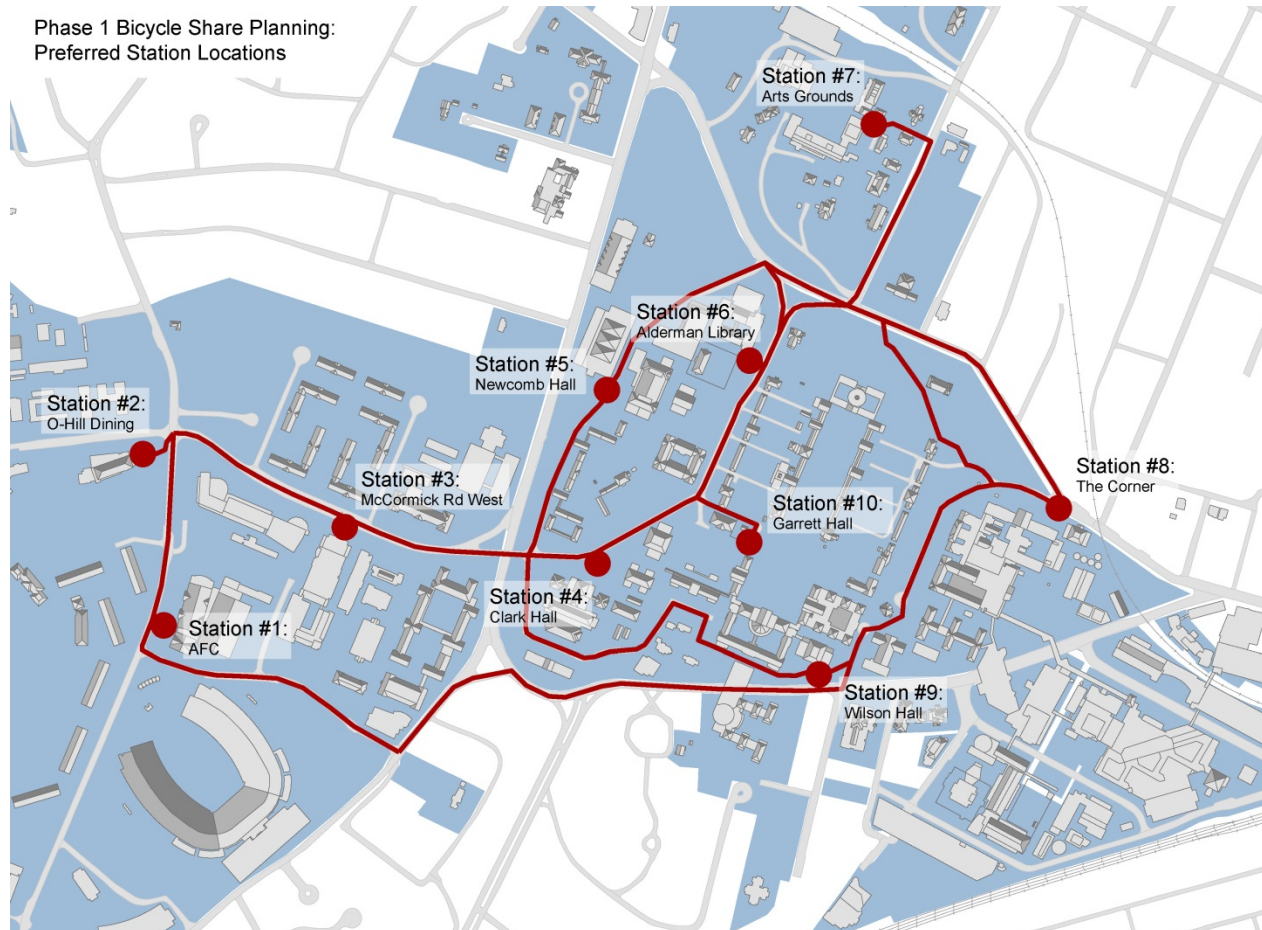**January 19, 2012**

Neighborhood Development Services
January 2012

Additional Area B Shown in
Outlying Albemarle County

Adopted Map – February 2012

UVa Bicycle Share Proposal
Rebecca White, Parking and Transportation
Julia Monteith, Office of the Architect

VDOT Transportation
enhancement grant (TEP)
2010 — Planning Grant
2011 — Implementation Grant
Phase 1

Coordination and support
from the MPO and City
Open Community Use

What is Bicycle Share?

Where in the World is Bicycle Share?

How Bicycle Share will Work at UVA?

McCormick Road Corridor

Central Grounds

West Grounds

100 Bicycles. 11 Stations

Solar Powered Kiosk

1st Generation
Yellow Bikes

2nd Generation
Bike Library

3rd Generation
Bike Share

Custom Designed Bicycles

Secured Docking Station

Membership Options

24 Hour

30 Day

Annual

Bike Transit

Swipe UVA ID

Undock Bike

Ride & Return!

First 30 min...Free!

Next 30 min...$

Next 30 min...$$

24 hours...$$$$$

Solar Powered Kiosk

Custom Designed Bicycles

Secured Docking Station

Swipe UVA ID

Undock Bike

Membership Options

24 hours

30 Day

Annual

Rental Options

First 30 minutes - Free

Next 30 minutes - $

Hourly - $$

Daily - $$$
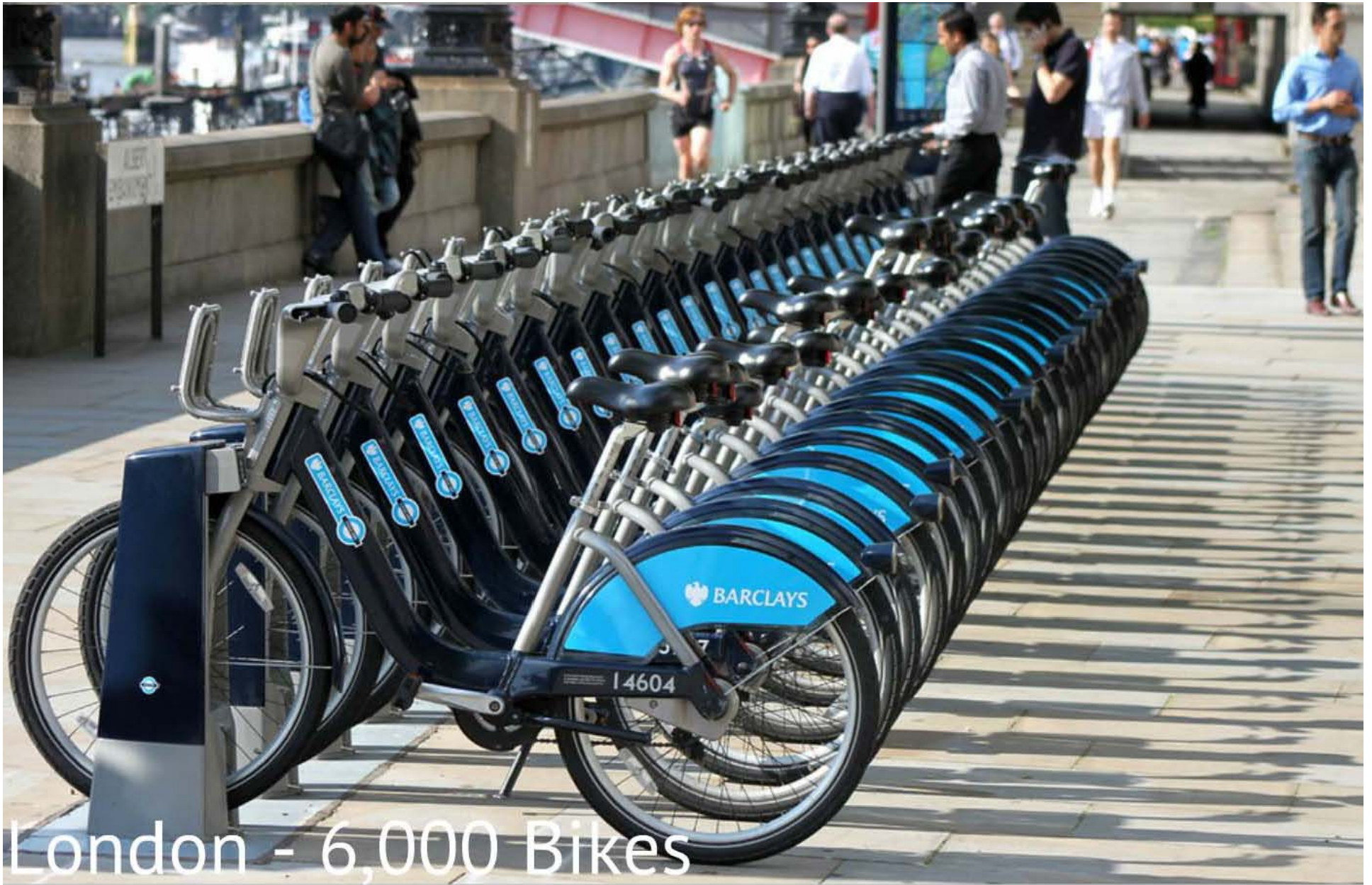
Principle Planning Efforts

Office of the
Architect for the
University

Montreal

Paris - 20,000 Bikes

Bicycle Share Locations, Decaux

Office of the
Architect for the
University

London - 6,000 Bikes

Bicycle Share Locations, Bixi

Office of the
Architect for the
University

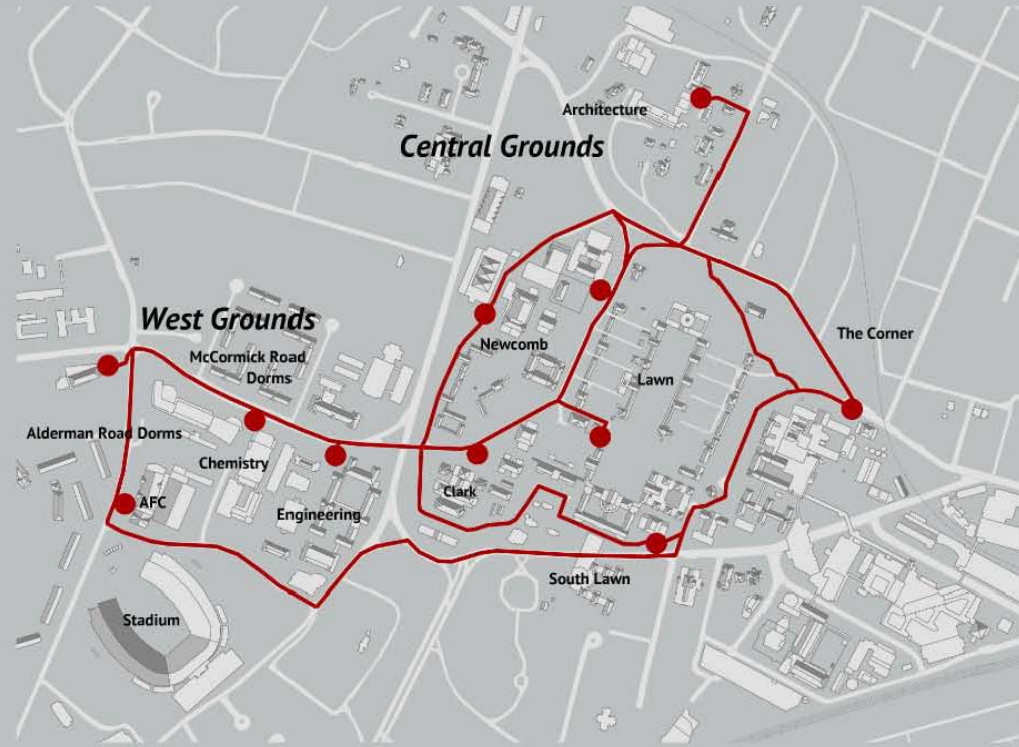Montreal - 5,000 Bikes
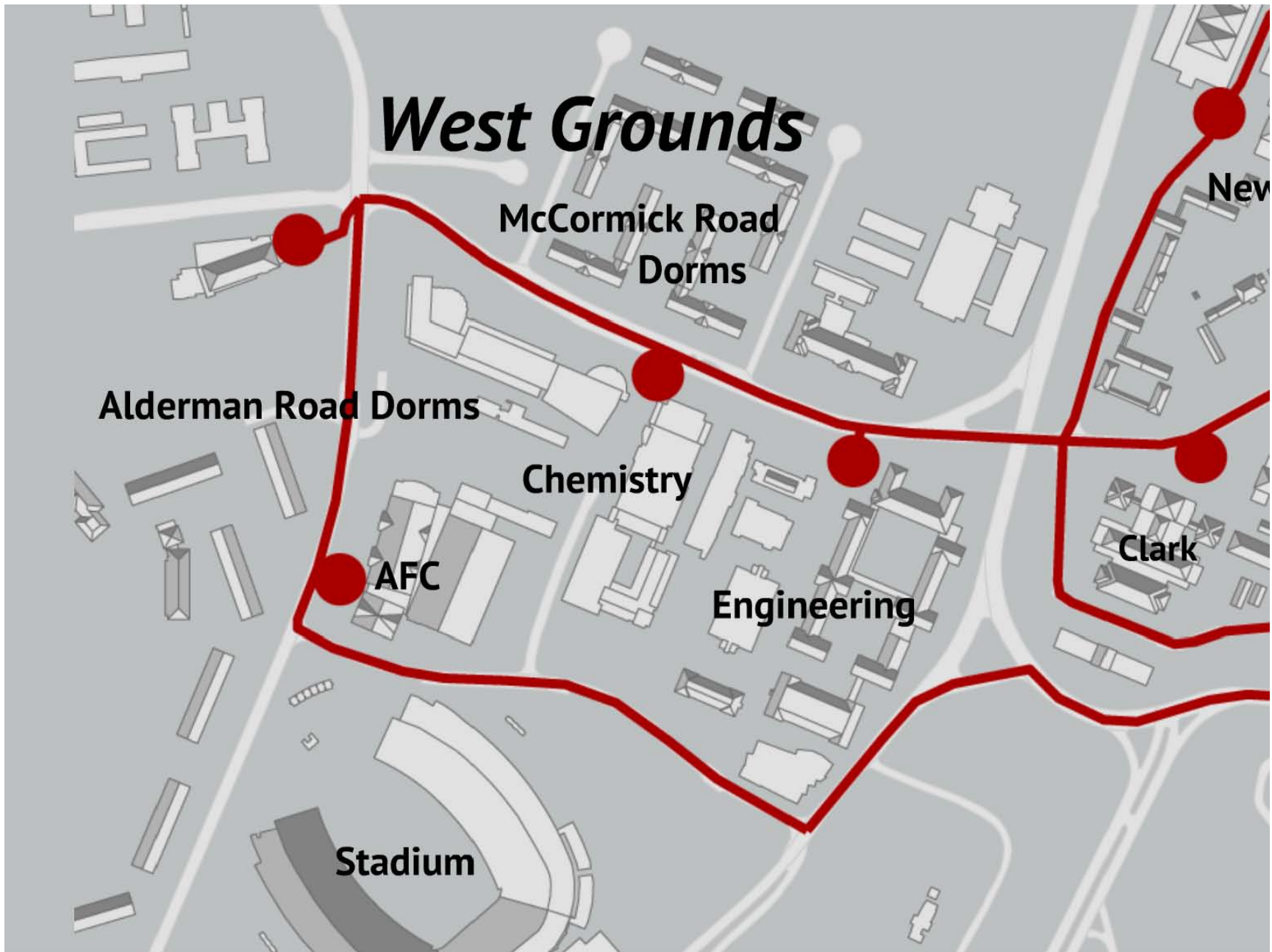
Montréal

Twin Cities - 1,200 Bikes

Denver - 510 Bikes

Washington D.C. - 1,100 Bikes

McCormick Road Corridor

Central Grounds

Architecture

West Grounds

The Corner

McCormick Road Dorms

Newcomb

Lawn

Alderman Road Dorms

Chemistry

Clark

AFC

Engineering

South Lawn

Stadium

100 Bicycles. 11 Stations

West Grounds

McCormick Road Dorms

Alderman Road Dorms

Chemistry

AFC

Engineering

New

Clark

Stadium
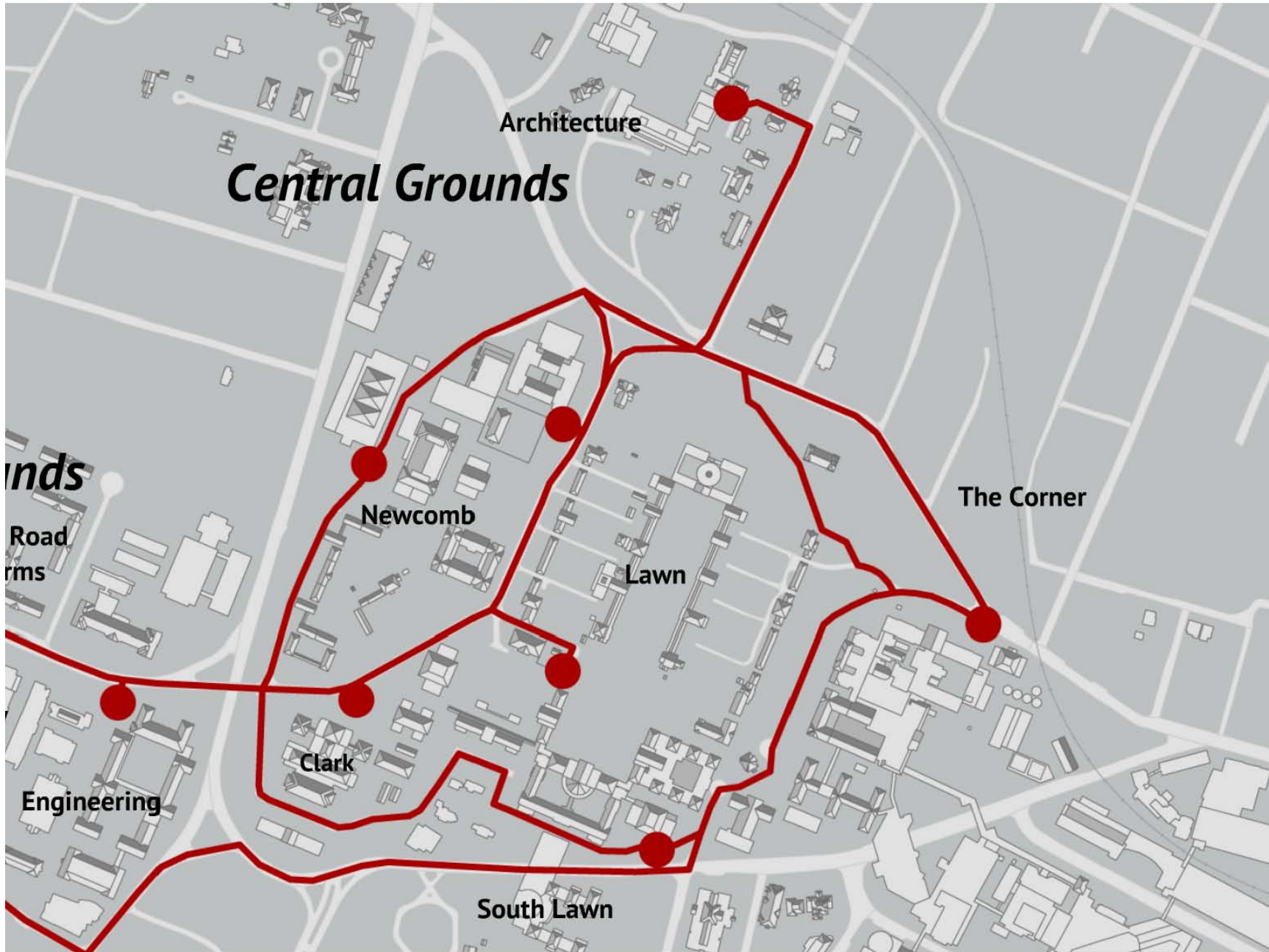
Architecture

Central Grounds

Road
rms

nds

The Corner

Newcomb

Lawn

Clark

Engineering

South Lawn