Areawide Approach

1. Ecology
2. High Performance Area
A truly sustainable Downtown...

- Economic: competitive + innovative
- Social: unique + affordable
- Environmental: greener + connected
Goals

Reduce vehicle miles traveled
Improve building energy efficiency
Increase overall tree canopy
Improve air quality
Reduce untreated stormwater runoff
A competitive Downtown that fosters innovation
More energy-efficient buildings
A greener and more connected Downtown

Improved sidewalks and bicycle routes
Better stormwater management
Enhanced community health and quality of life
A truly sustainable Downtown...

economic
  competitive
  + innovative

social
  unique + affordable

environmental
  greener + connected
1. Greening Bethesda/ Canopy Corridors
   Recommendation
   • Economics

2. Green Roofs & Green Cover
   Recommendation

3. Energy
   Recommendation

4. Stormwater
   Recommendation
Greening Bethesda

RECOMMENDATIONS:

3 Strategies to Greening Bethesda

1. Expand Parkland
2. Increase Green Cover
3. Improve Tree Canopy Corridors
Conditions and Goals

Impervious Cover
67% Existing

Green Cover: 30 Acres
200 + 30 = 230 Acres
52+% Green Cover
RECOMMENDATION:

Supplement tree planting along streets and public space to achieve a minimum of 45% canopy cover.

Implemented by:
• Private Developers
• Department of Transportation
• State Highway Administration
• Bethesda Urban Partnership
• Shades of Green
Agenda

1. Canopy Corridors
   Recommendation

2. Green Roofs & Green Cover
   Recommendation

3. Energy
   Recommendation
   • Economics

4. Stormwater
   Recommendation
Green Roofs/Vegetated Roofs

RECOMMENDATION:

“Provide a minimum of 35% green cover which may include either singularly or a combination of the following:

- Intensive green roof
- Tree canopy cover
OPTIONS FOR 35% GREEN COVER

A. 35% green roof

B. 35% canopy (tree) cover

C. 35% total green cover

% green roof + % canopy cover = 35%
(f) **Vegetated Roof**: Up to 15 points for installation of a vegetated roof with a soil depth of at least 4 inches covering at least 33% of a building’s roof, excluding space for mechanical equipment.

Additional incentive density points may be appropriate if other criteria are met, including:

- **Greater coverage**
- **Greater depth**
  - Plant species that provide habitat
  - Native plant species

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RECOMMENDATION:

“Install a green roof of at least 6” in soil depth”
Greening Bethesda
Agenda

1. Canopy Corridors
   - Recommendation

2. Green Roofs & Green Cover
   - Recommendation

3. Energy
   - Recommendation
     - Economics

4. Stormwater
   - Recommendation
Energy

65% of Montgomery County greenhouse gas emissions come from **BUILDINGS**

*The county is **NOT ON TRACK** to meet the goals established in the “Climate Protection Plan”.*

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**County Legislation**

**General Plan:** Promote the **efficient use of energy** and consider **energy conservation** practices during the master plan, subdivision, site plan, and mandatory referral process

**Bill 34-07:** Requires the Planning Board to make recommendations for carbon emissions reductions

**Bill 32-07:** Reduce GHG to 80% below base year [FY05]

**Climate Protection Plan:** Stop increasing GHG by 2010
Energy Conservation

Commercial/Residential Zone Incentive Density Guidelines

*Energy Conservation and Generation*: Up to 15 points for constructing buildings that *exceed the energy-efficiency standards* for the building type by **17.5%** for new buildings or 10% for existing.

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RECOMMENDATION:

- Any building located in whole or in part within the High Performance Area should exceed ASHRAE 90.1 (Appendix G) standard by 15%.

- Should the County approve the International Green Construction Code (IgCC), building energy performance must be 2 points more efficient.
Green Premiums

**ONE-TIME PREMIUM**
- 2%
- 15.1%
- 36%

**COMPOUNDING PREMIUMS**
- RENT: 1.8%, 5.4%, 12%
- OCCUPANCY: 1.3%, 6.8%, 14%
- EFFECTIVE RENT: 4.7%, 6.2%, 7.6%
Construction Costs

The Business Case for Green Building
by the World Green Building Council

The Cost of LEED
by Chad Mapp, Mary Ellen C. Nobe, and Brian Dunbar

Value Beyond Cost Savings
by Scott R. Muldavin

High Performance Green Building: What’s It Worth?
by Theddi Wright Chappell and Chris Corps

Does Green Pay Off?
by Norm Miller, Jay Spivey and Andy Florance

Green Building Costs and Savings
by Nora Knox

Cost of Green Revisited
by Davis Langdon Construction

Costing Green: A Comprehensive Cost Database and Budgeting Methodology
by Davis Langdon Construction

GSA LEED Cost Study
by Steven Winter Associates

Costs and Financial Benefits of Green Buildings
by Greg Kats

Additional construction cost to achieve LEED certification <2%
Energy Savings

70% of building professionals CITE LOWER OPERATING COSTS as the greatest benefit of green building.
Green Construction Trends

49% of people consider eco-friendly features more important than luxury items in a home

Based on Harris poll of 2,000 Americans
Green Competition

Attitudes in real estate moving in a greener direction
By Jordan Blam | May 10, 2015 | Updated May 10, 2015 8:55pm

Millennials embrace LEED
By Demetrius Minor

Millennial buyers expect energy savings
By Rick Davenport
Discussion

- Any building located in whole or in part within the High Performance Area should exceed ASHRAE 90.1 (Appendix G) standard by 15%.

- Should the County approve the International Green Construction Code (IgCC), building energy performance must be 2 points more efficient.
Agenda

1. Canopy Cover
   Recommendation
   - Water
   - Habitat Health
   - Energy
   - Identity

2. Green Roofs & Green Cover
   Recommendation
   - Water
   - Habitat Health
   - Energy
   - Identity

3. Energy
   Recommendation
   - Energy
   - Identity
   • Economics

4. Stormwater
   Recommendation
   - Water
   - Habitat Health
   - Identity
RECOMMENDATION:

Integrate stormwater management within the right-of-way where feasible

Woodmont Ave.