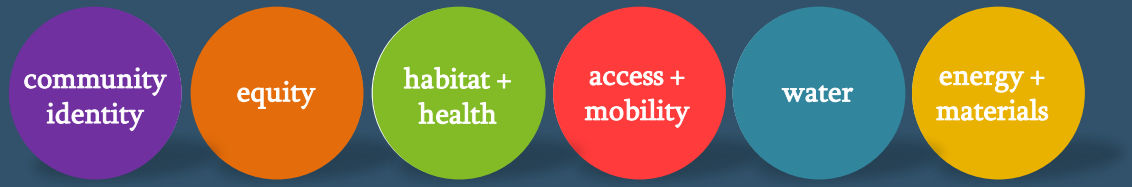
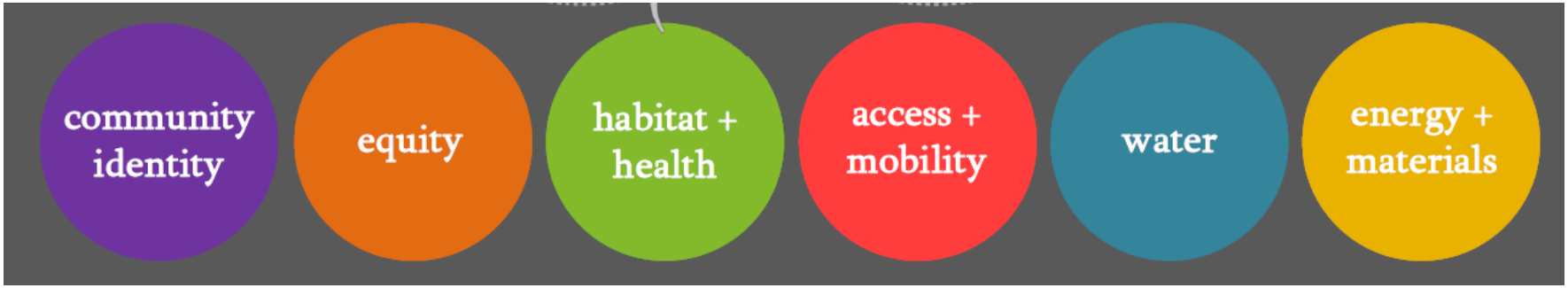
2.3 Ecology


community identity
equity
habitat + health
access + mobility
water
energy + materials

Environmental Sustainability

Performance Areas



Sector Plan Goals:

⇧ Ecological biodiversity

⇧ Carbon sequestration

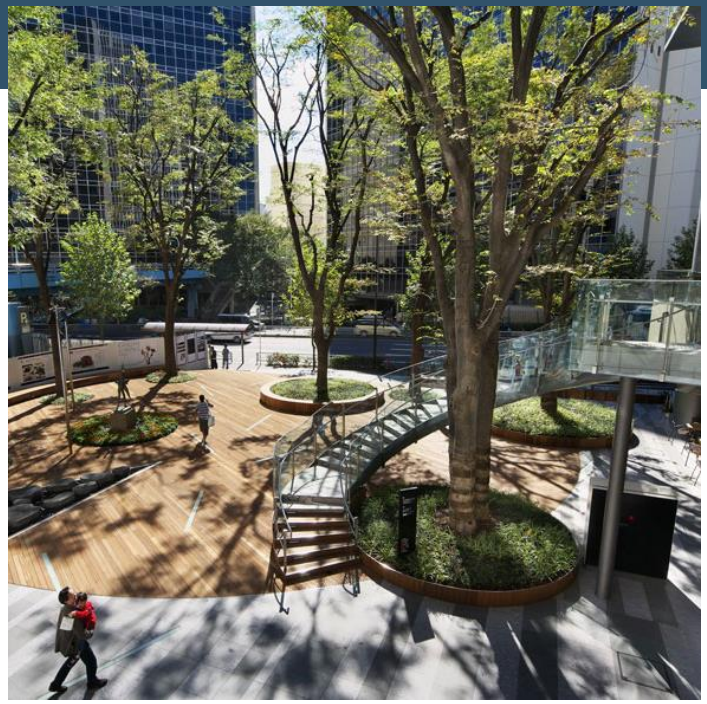
⇧ Air quality

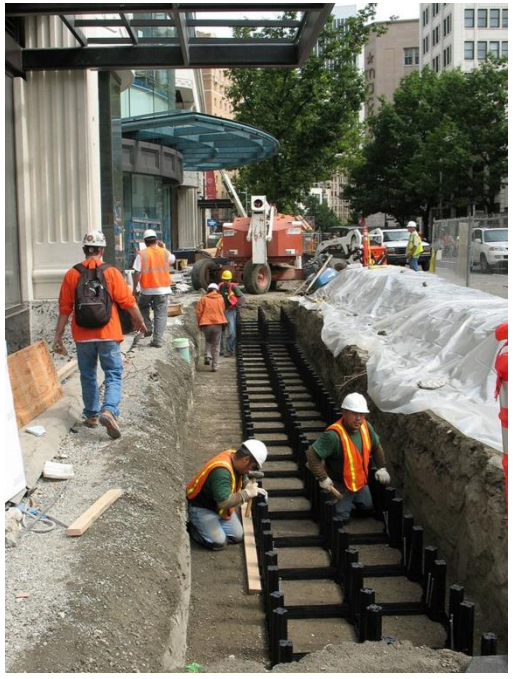
⇩ Heat island effect

⇩ Greenhouse Gases

Overall Recommendations

- Appropriate & stratified planting
- Green roofs: 6”of soil. 35 % roof.
- Increased Soil Volume
- Well connected canopy cover





Canopy & Green Corridors

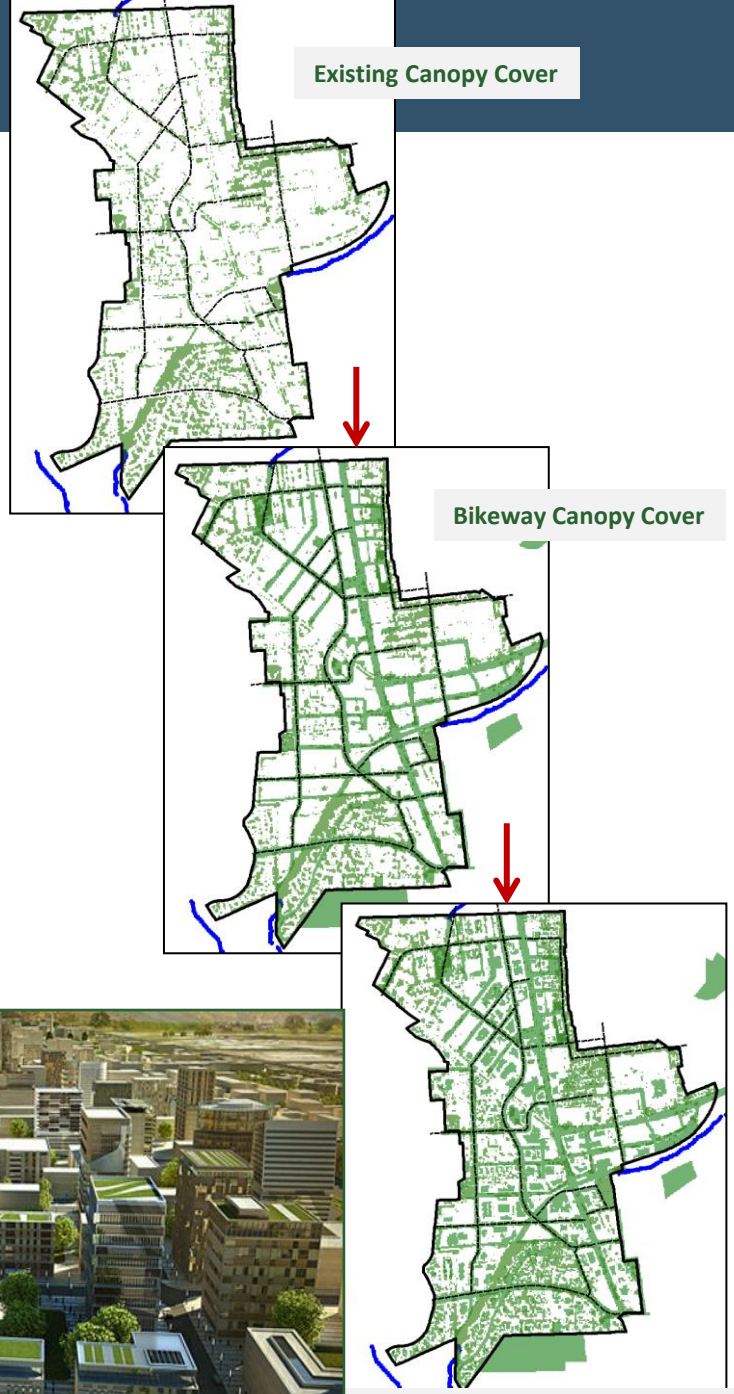
Recommendations:

- Priority Plantings: Bicycle networks

  Goal: 50% street canopy cover

- Large Lots: Tree cover + Green roof
  - Green roof AND
  - Tree plantings

- Small lots: Green roof
  - Minimum 35% green roof



Water Quality

Goals:

⇩ Untreated stormwater runoff

Recommendations:

- Maximize onsite SWM
  - SWM within the ROW
  - *Artful* ESDs
  - SWM as *educational* tool
  - SWM *treatment train*

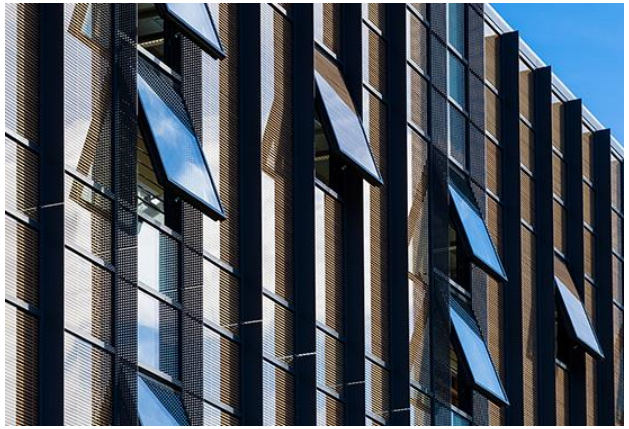
Water Quality: Recommendations

- Reduce impervious surfaces
- Permeable paving
- Reduce water demand

Energy

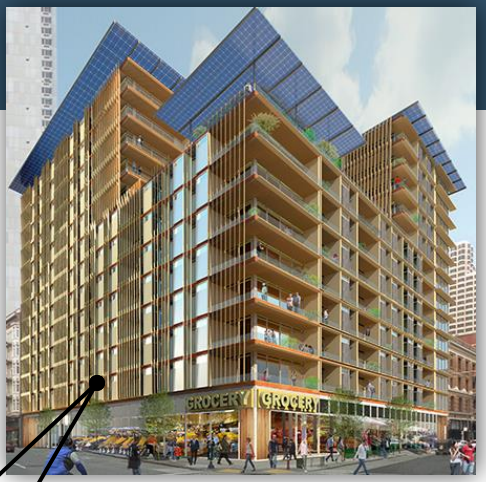
Goals

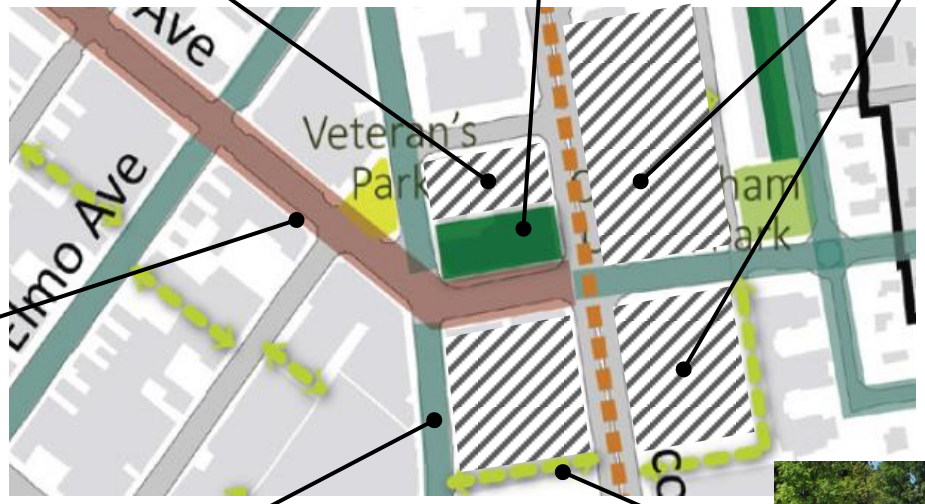
- ⇧ Building energy efficiency
- ⇩ Energy demand
- ⇩ Vehicle miles traveled



Recommendations:

- Optimize building performance
  - Renewable energy
  - Solar orientation
  - Operable windows
  - Reflective surfaces





Proposed Bike Priority Street
+ Canopy Corridor

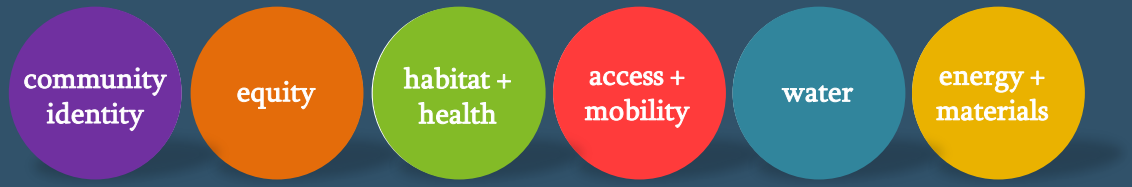
Proposed Public Connection

County DOT Owned Public Space

Proposed BRT

Proposed Shared Street

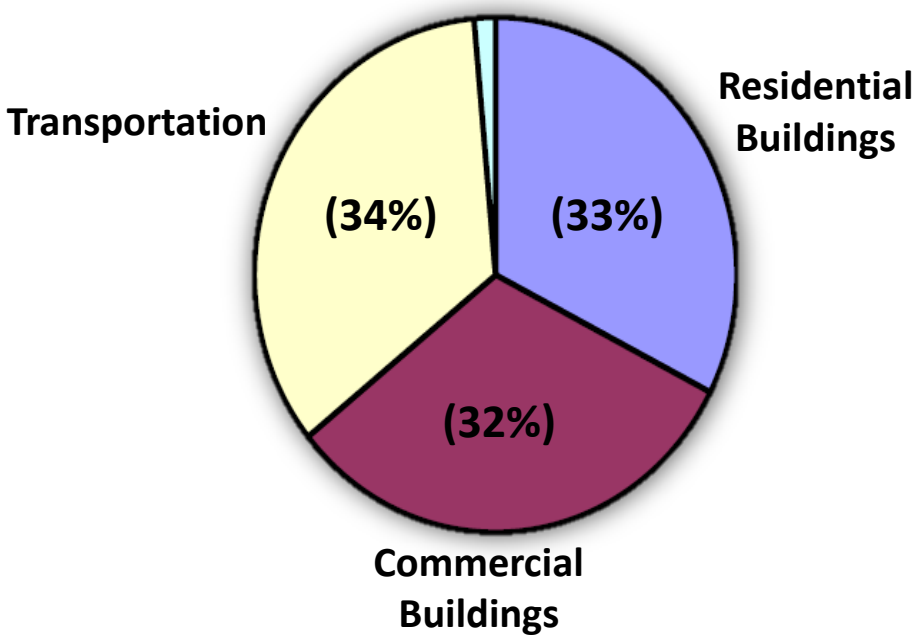
2.4 High Performance Area



Energy Facts

Montgomery County Sources of Greenhouse Gas (GHG)

65% of GHG from Buildings



Source: Montgomery Climate Protection Plan

WHERE ARE WE TODAY?

March 2015: ***Department of Environmental Protection*** determined that "while some progress has been made in reducing energy use in the building sector, ***the County is not on track to meet the goals established in the Climate Protection Plan".***

Montgomery County Goals

Bill 32-07: reduce Countywide GHG emissions to **80% below** the amount of greenhouse gas emission in the base year [FY05] by January 1, 2050.

Climate Protection Plan: **stop increasing** Countywide GHG emissions by 2010 and **achieve a 10% reduction** every 5 years through 2050.

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

High Performance Area

GOING BEYOND THE MINIMUM…

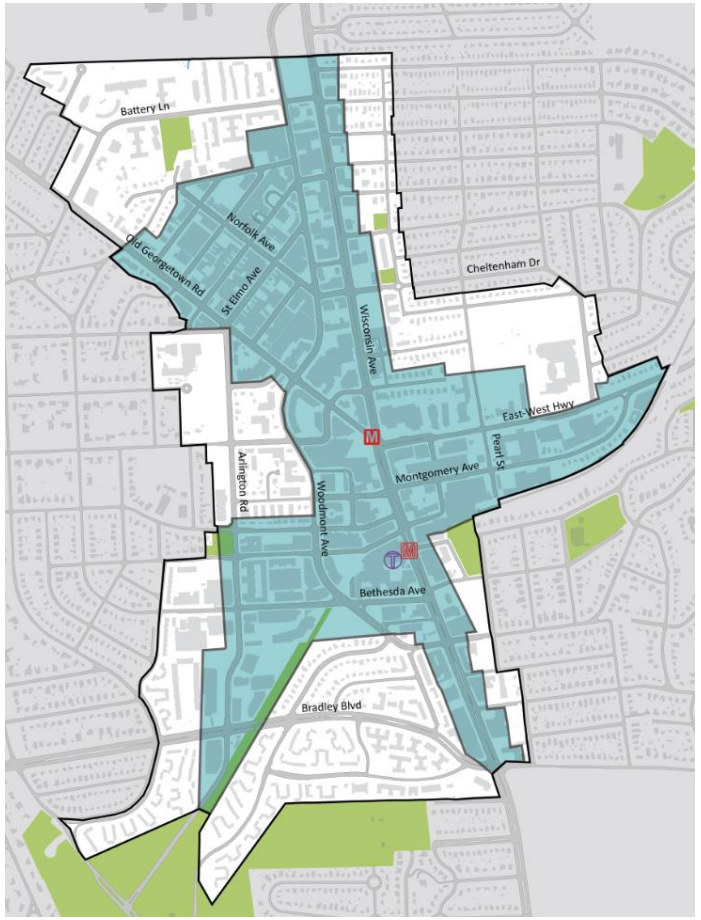
Goals:

- Help achieve goals of the County's Climate Protection Plan (Bill 32-07)

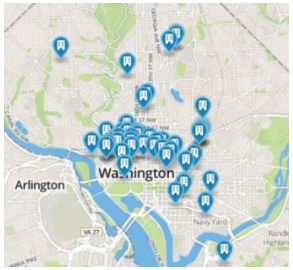
Recommendation:*(buildings over 4 stories)*

- *For maximum public benefit points…*

Any building located in whole or in part within the boundary of the high performance area must exceed ASHRAE standard 90.1 by 15 percent.



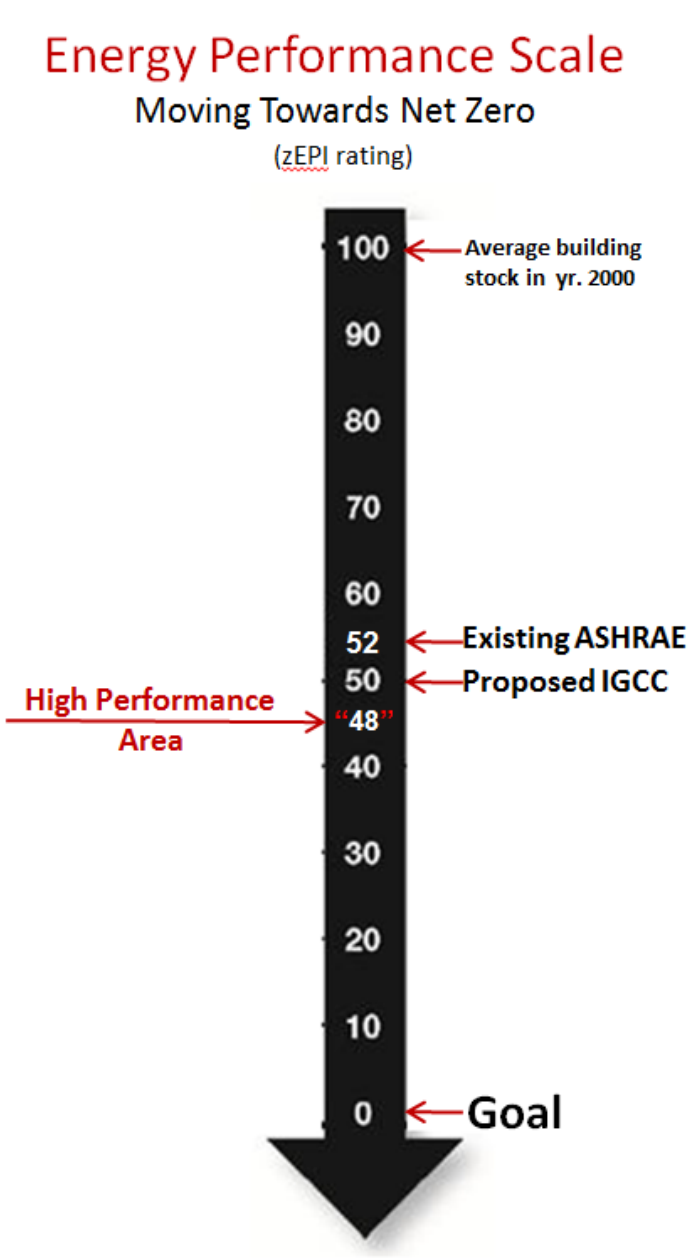
1225 Conn Ave: Platinum. RTKL



DC: LEED Platinum

700 Sixth St NW DC

High Performance Area



Based on research: Montgomery County DEP's Energy Planner, Metropolitan COG, Institute for Market Transformation, local USGBC chapter, Bethesda Green, the New Buildings Institute, and the American Council for an Energy-Efficient Economy