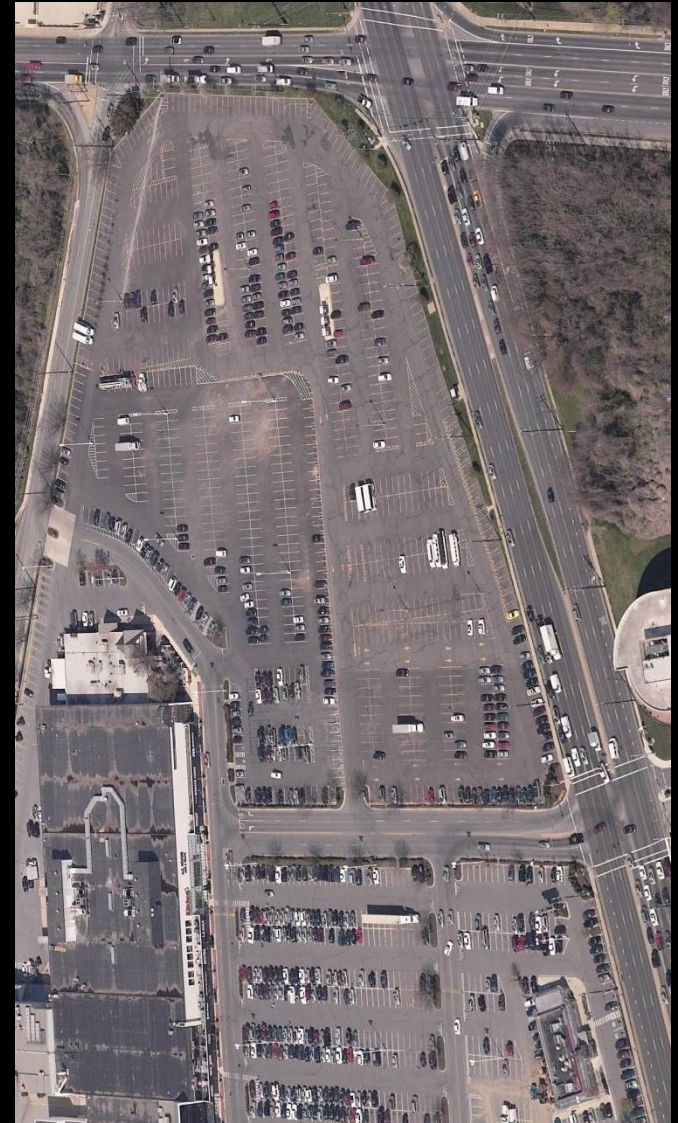


Environmental Recommendations for White Flint

White Flint Steering Committee Meeting

White Flint Today

- Highly imperviousness suburban development with acres of “underperforming asphalt”.



White Flint Today

- Tree cover and vegetation is limited to undeveloped parcels and marginal streetscape plantings.

White Flint Today

- Uncontrolled runoff is not treated and has resulted in degraded water quality.

White Flint Tomorrow

- A mixed-use sustainable community
- Density with livability
- An attractive green-looking and functioning place that people want to live, work, and play



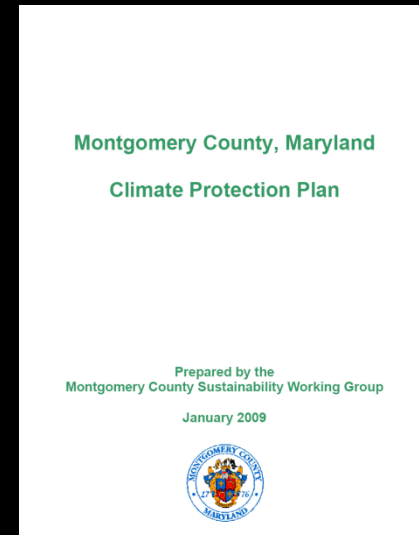
Goals

- **Minimize greenhouse gas emissions**
 - Energy efficiency
 - On-site energy generation
 - Non-auto transportation
 - Increase tree canopy



White Flint Carbon Modeling

- Carbon Footprint Analysis required by Code
- Corresponds with Montgomery County's commitment to National "Cool Counties" initiative
- County Code also mandates Climate Protection Plan, now under review.
- Carbon modeling one part of overall effort aimed at climate protection



White Flint Carbon Modeling Methodology

- Spreadsheet model developed by King County, Washington.

★ We are coordinating with MCDEP

The model considers:

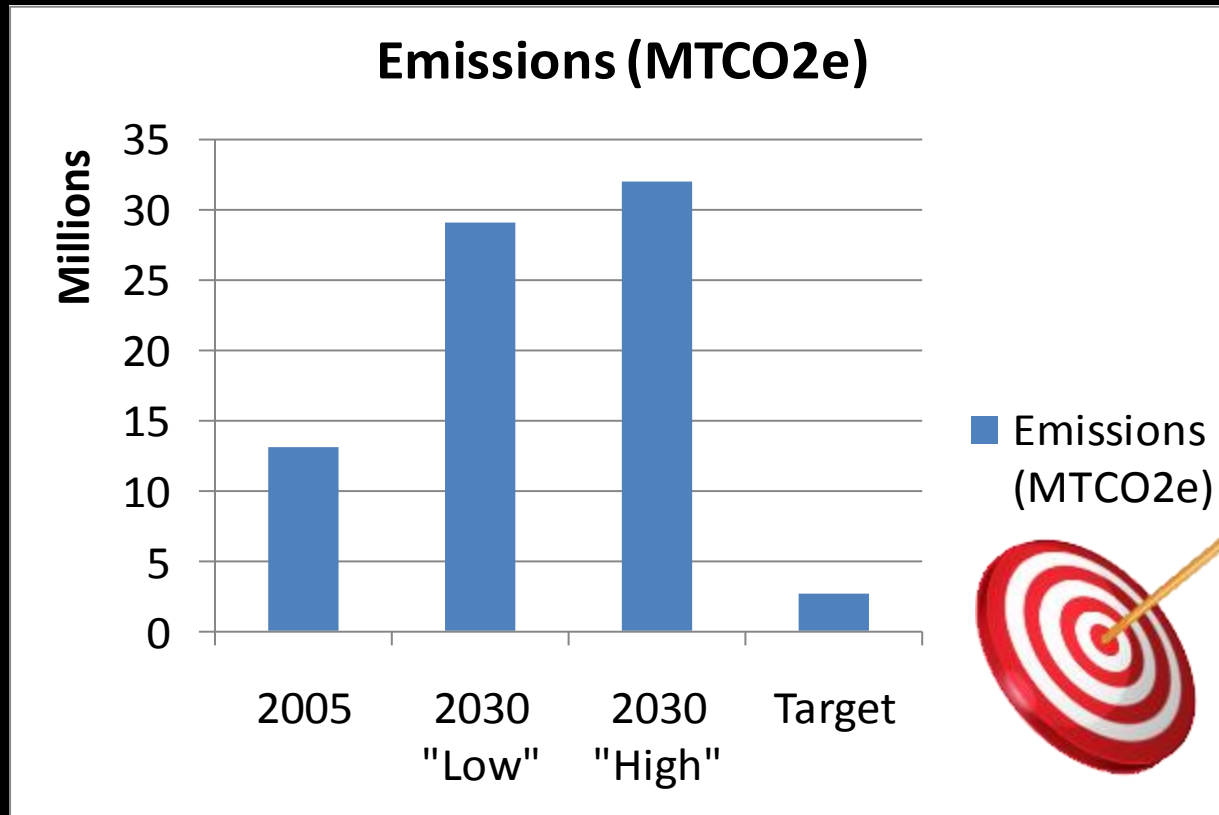
- Carbon from materials production
- Energy emissions from buildings
- Transportation energy emissions

White Flint Carbon Modeling Methodology

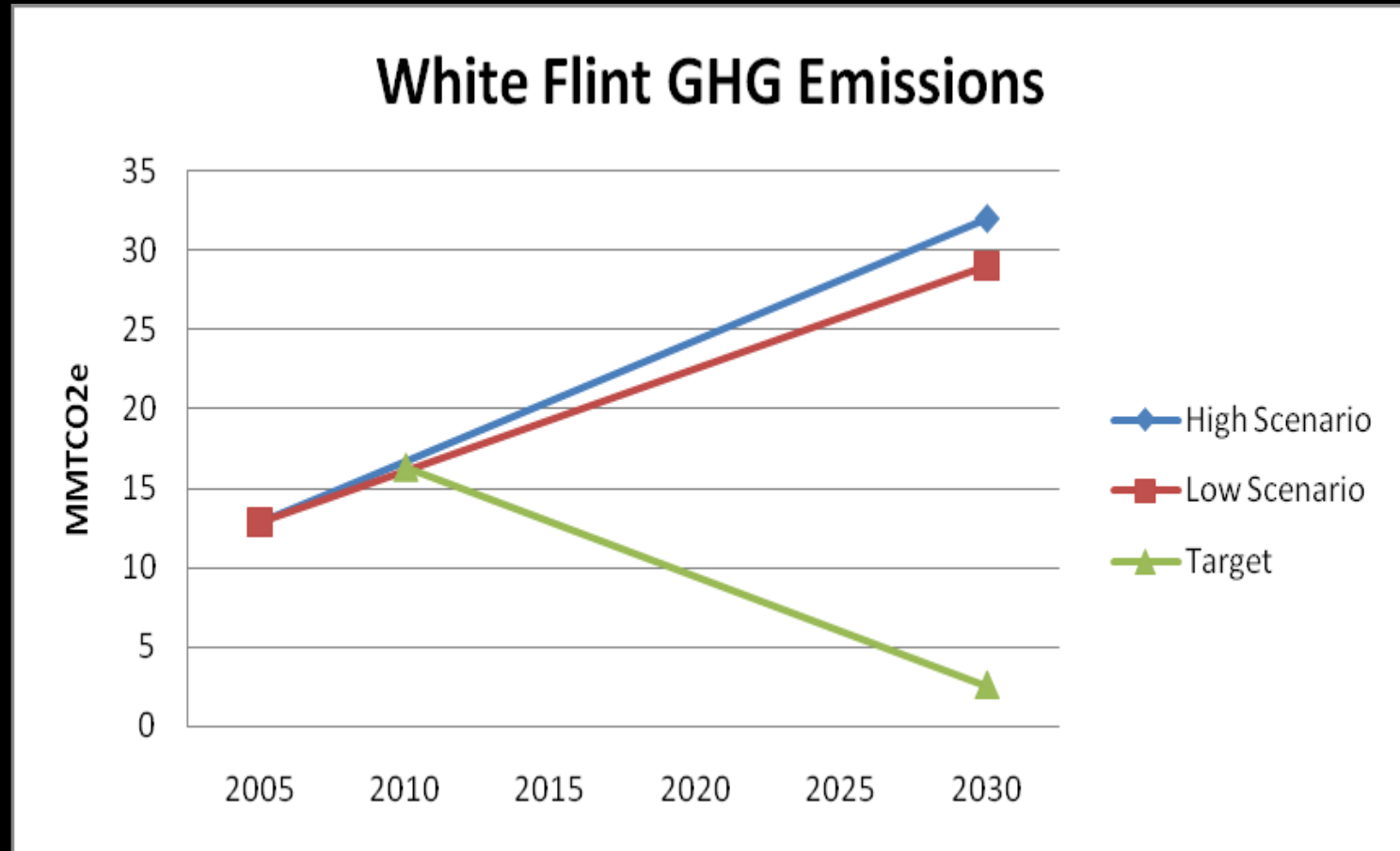
Assumptions

- Estimates emissions
- Based on “current practice”
- Results (outputs) are for life cycle of the development
- Results are for a given Master Plan or Sector Plan area

White Flint Carbon Modeling – Gross Results

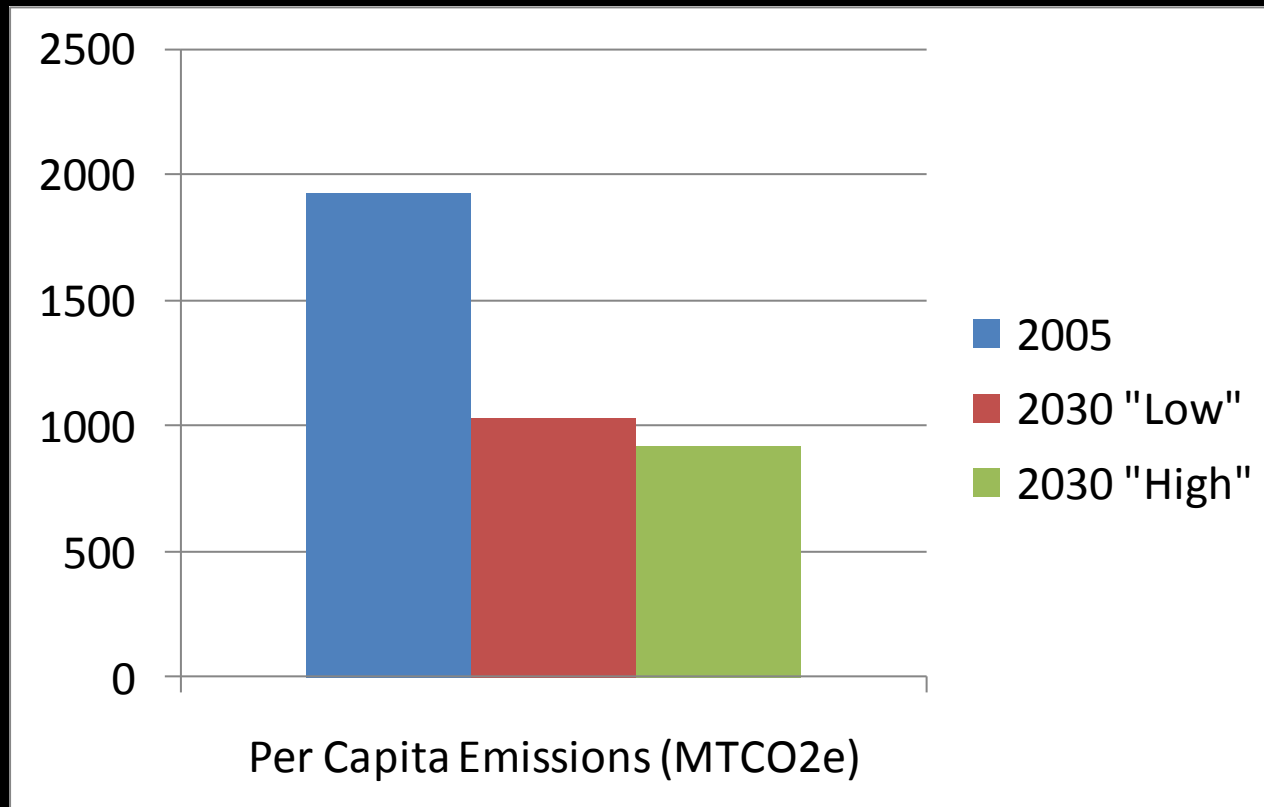


White Flint Carbon Modeling – Gross Results



Projected Lifetime Emissions (MMTCO₂e) and
Target for White Flint Sector Plan

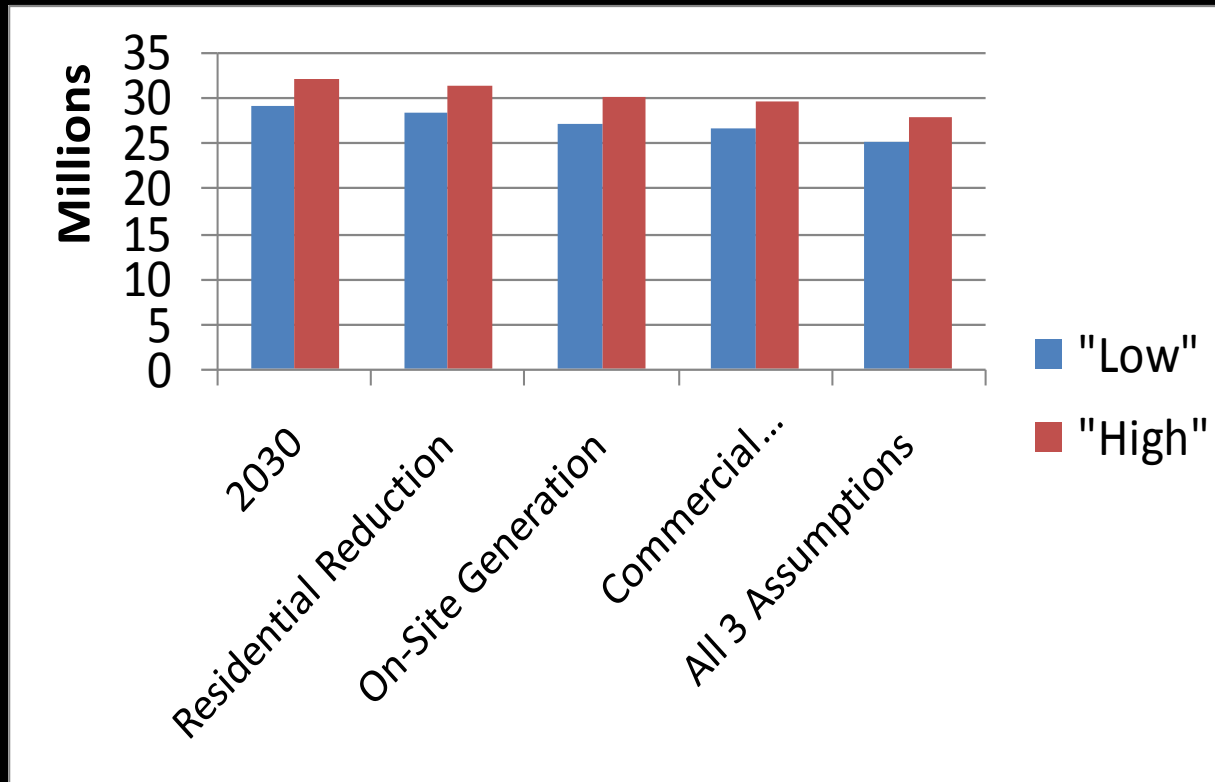
White Flint Carbon Modeling – Per Capita Results



White Flint Carbon Modeling – Reduction Scenarios

1. 50% of residences reduce energy by 25%
2. 20% renewable energy onsite for commercial buildings
3. 25% increased energy efficiency for commercial buildings

White Flint Carbon Modeling – Reduction Scenarios



White Flint Carbon Modeling

How do we protect the **environment**?

- Compact, transit-oriented neighborhoods with a **diversity** of land uses
- **Connect** within and between communities
- Green site **design**
 - Increase vegetation
 - Energy efficiency
 - On-site energy generation
 - Minimize pavement, reduce heat island
 - Save/reuse water



Goals

- “No net loss” of pervious land surface
 - Pervious area required
 - Environmentally sensitive stormwater management
 - Increase tree canopy



No Net Loss of Pervious Land 30% Tree Canopy

- **Originally proposed to:**
 - Retain green area for water and air quality
 - Reduce urban heat island/store carbon
 - Increase livability and attractiveness
- **New Requirements**
 - State regulations to strengthen
 - New County Permit will require pollutant reduction
- **Pervious surface requirements may interfere**
- **Instead promote “green factor” in new zone to complement and create flexibility**

Goals

- Establish community character with native vegetation
 - Sustainable, lower maintenance
 - Authenticity of place



How do we reach ALL these goals?

- Previous recommendations included specific tree canopy and pervious space requirements
- Revised recommendations include the use of a “green factor” to reach the same goals using a more flexible methodology

Proposed Montgomery Green Factor

- Based on the Seattle Green Factor program
- Performance-based system to compensate for and enrich natural functions



Proposed Montgomery Green Factor

- Encourages creative methods to add green features to development
- Allows developer to be flexible in meeting requirements
- Works within the current regulatory framework



Proposed Montgomery Green Factor

- Point system similar to USGBC LEED systems
- Points granted based on green systems provided
 - Tree cover
 - Planting beds (shrub and herbaceous)
 - Vegetated roofs
 - Vegetated walls
 - Advanced LEED certification with energy generation credits

Proposed Montgomery Green Factor

- **Bonuses given for**
 - Use of native plants
 - Visibility or accessibility to the public
 - Stormwater quality or quantity credits
 - Community garden space
- **Factors are assigned based on environmental benefits**

Proposed Montgomery Green Factor

- All developments have to meet the same level, but the points are weighted by net tract area
 - If property A has twice the net tract area, it will need twice the points
 - Area within the ROW is removed from calculations but improvements within the ROW are counted
- The Montgomery Green Factor will be tied to the zone, with bonuses given for exceeding the required level

Proposed Montgomery Green Factor

		Points needed			30
		Property size			Score
		1			0
	Area	Factor	Points	Score	
Vegetation with a soil depth less than 24"					
	Lawn, grass, or groundcovers	0	2	0	0
	Landscape area	0	3	0	0
Vegetation with a soil depth 24" and greater					
	Lawn, grass, or groundcovers <24"	0	7	0	0
	Planting beds	0	10	0	0
	Small trees (number) 100sqft	0	5	0	0
	Medium trees (number) 150 sqft	0	7	0	0
	Large trees (number) 200 sqft	0	10	0	0
	Retention of existing tree stand	0	3	0	0
	Retention of existing specimen trees (>24" DBH) 250 sqft	0	5	0	0
	Permeable paving	0	6	0	0
Vegetated roofs (4" and greater) (intensive)		0	7	0	0
Vegetated walls		0	7	0	0
LEED certification levels					
	LEED gold (achieving)	0	6	0	0
	LEED platinum	0	9	0	0
Bonuses					
	Landscaping with more than 50% natives	0	1	0	0
	Visible or accessible to public	0	1	0	0
	Landscaping with stormwater quality or quantity volume	0	5	0	0
	Community garden space	0	3	0	0

Proposed Montgomery Green Factor

Example application



Credit given for

- Planting beds
- Medium trees
- Large trees
- Bonus for stormwater planters

Proposed Montgomery Green Factor

Example application: North Bethesda Market

Net Tract Area: 4.3 acres

Points given for

Lawn: 1108 sq ft

Planting beds: 31571 sqft

Small trees: 54

Medium trees: 90

Large trees: 78

Vegetated roofs: 31398 sqft

Vegetated walls: 3040 sqft

Bonuses

Visible or accessible to public: 41193 sqft

Stormwater credit: 23017 sqft

Proposed Montgomery Green Factor

Example application: North Bethesda Market

Net Tract Area: 4.3 acres

Points needed: 30

Points earned: 53