GREEN BUILDING POLICY AND PRACTICE IN FAIRFAX COUNTY

Noel Kaplan
Senior Environmental Planner
Fairfax County Department of Planning and Zoning

Built Environment and Energy Advisory Committee
Metropolitan Washington Council of Governments

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Outline of presentation

- Capital Projects
  - Sustainable Development Policy
  - Green building certifications attained and anticipated
  - Experiences and challenges
- Facilities Management
- Green permitting
- Comprehensive Plan Guidance
  - Countywide policy
  - Area Plan policies
  - Commitments received to date
  - Implementation challenges
- Future directions

Capital Projects--Background

- County staff's self-initiated program started in 2001, with two LEED® projects
- Additional green building projects over the next several years, including LEED and Green Globes
- Sustainable Development Policy for Capital Projects—Adopted in 2008 (http://www.fairfaxcounty.gov/dpwes/construction/sdpolicy.pdf).

> *It is the Policy of the Board of Supervisors to finance, plan, design, construct, operate, renovate, maintain, and ultimately decommission its facilities and buildings to be sustainable. The US Green Building Council's LEED rating system and Reference Guide shall be the design and measurement standard used to determine the level of achievement for sustainable buildings under this Policy. This Policy applies to new construction, additions, and renovations to existing buildings and facilities whenever the gross occupied area of the new construction is over 2,500 square feet.*

(excerpt from the policy)

Sustainable Development Policy for Capital Projects

Project Size	Sustainable Design Standard	LEED Accredited Professional	LEED Registration	Minimum Achievement Goal	Formal LEED Certification
> 10,000 SF occupied area	LEED	Yes	Yes	Silver	Yes
> 2,500 SF and < 10,000 SF	LEED	Recommended	Yes	Certified	Recommended
< 2,500 SF	LEED	Recommended	No	Certified	No

- All projects subject to analysis to ensure cost-effective implementation

Capital Projects—Green Building Certifications

As of January 2013:

- 15 certified projects (13 LEED)
  - Eight LEED Gold
  - Four LEED Silver
  - One LEED Certified
  - Two Green Globes
- 17 additional projects in design, under construction or post-construction

Capital Projects—Experiences and Challenges

- Incremental costs associated with LEED have ranged from 1% to 4%
- Life-cycle savings: Approximate 15 year payback
- More difficult to achieve credits with LEED 2009 than previous versions
- Challenges with some types of facilities (e.g., garages; warehouses)

Capital Projects—Experiences and Challenges (continued)

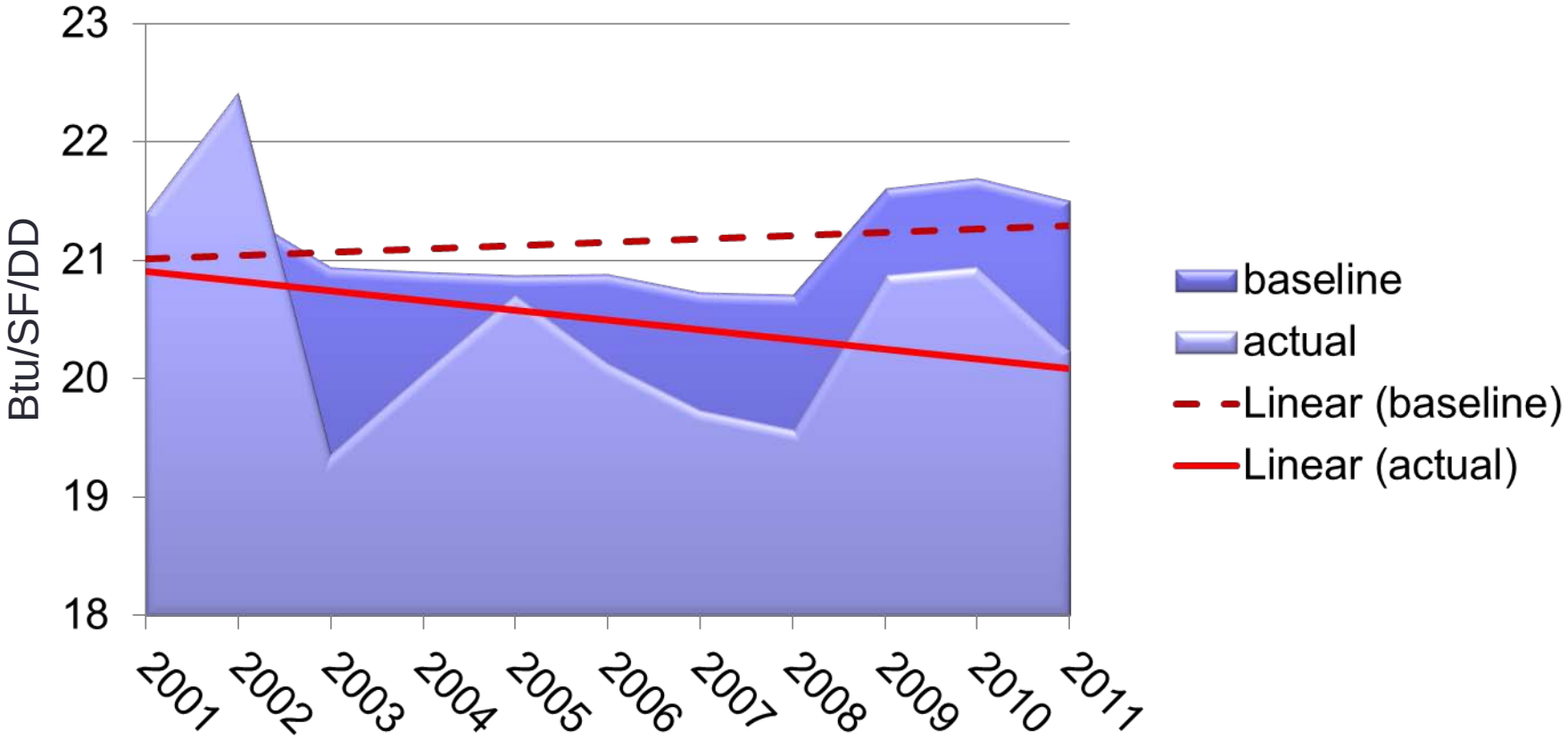
- Analysis of performance data now possible
- Measured energy use does not match what was modeled
  - Need for normalization for temperature differences
  - Operations do not always match what was modeled
- 20%-30% savings in water use through water-efficient fixtures
- Energy tracking helpful in identifying operational issues
- Some building materials we've tried have performed better than others; there are many more options available now than earlier

Energy Efficiency: *Facilities Management*

- 1% avg. annual reduction; cost avoidance over $7,000,000 between FY2001 and FY2010
  - e.g., Government Center lighting and HVAC retrofit project saves almost 10% ($100,000) per year
- Addition of Energy Management Control Systems (EMCS) in existing buildings
- Right-sizing of HVAC equipment
- Upgrading of lighting efficiency and controls

Baseline vs Actual Energy Use

- Baseline energy use assumes that no energy improvements were made.
- Btu/SF/DD – energy use normalized for square footage increase and weather variations.
- FMD goal is to reduce energy use by 1% per square foot annually.
- Building space increase of ~1 million square feet (22%), so while total consumption has increased, Btu/SF/DD decreased by 6%



Green Permitting

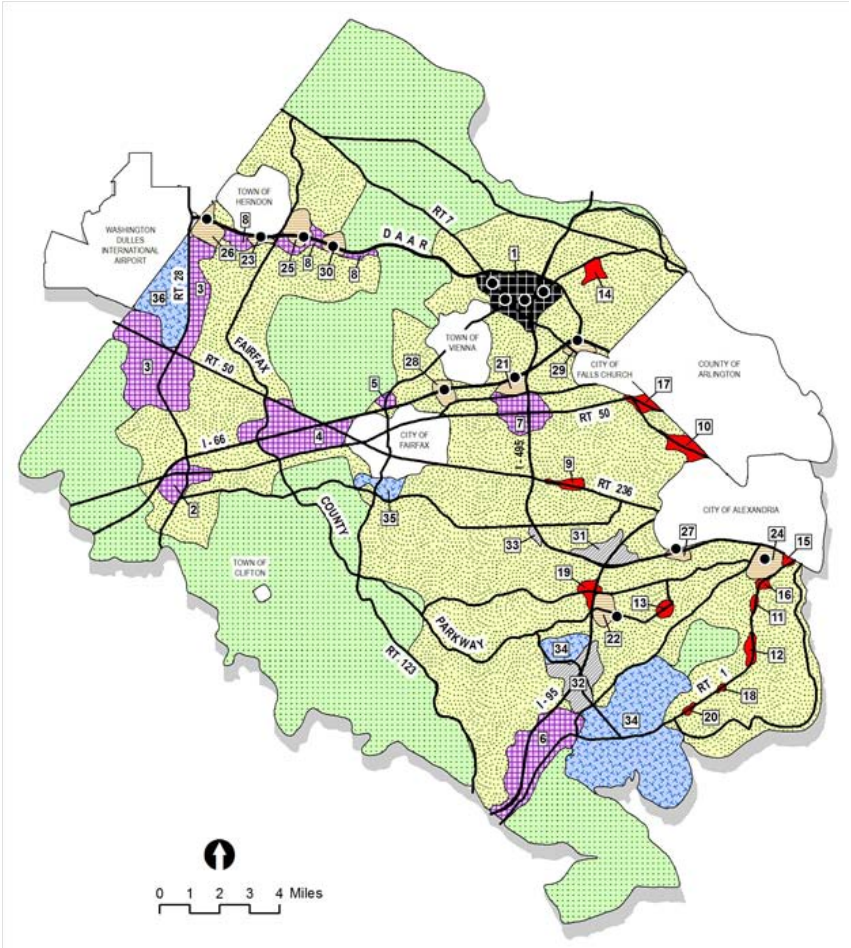
- Prioritized plan review for green building projects
  - Commercial: LEED silver or above
  - Residential: several accepted rating systems
- Can cut 4-5 weeks from the initial plan review

Comprehensive Plan Guidance: Policy Plan

- Support for green building practices
  - Energy and water conservation
  - Commitments to certification under established rating systems (e.g., LEED or comparable programs)
  - Commitments to ENERGY STAR®
  - Accredited professionals on development teams
  - Green fund concept

Policy Plan Guidance--Nonresidential and 4+ Story Multifamily Residential (Growth Centers Only)

- LEED certification (or equivalent) for development:
  - In accordance with Plan options
  - Involving a change in use from what would be allowed under existing zoning
  - At the high end of the planned density/intensity range (referenced as the “overlay” level in one area)



Policy Plan Guidance-- Other Residential (Countywide)

- ENERGY STAR Qualified residential development at the high end of the Plan density range

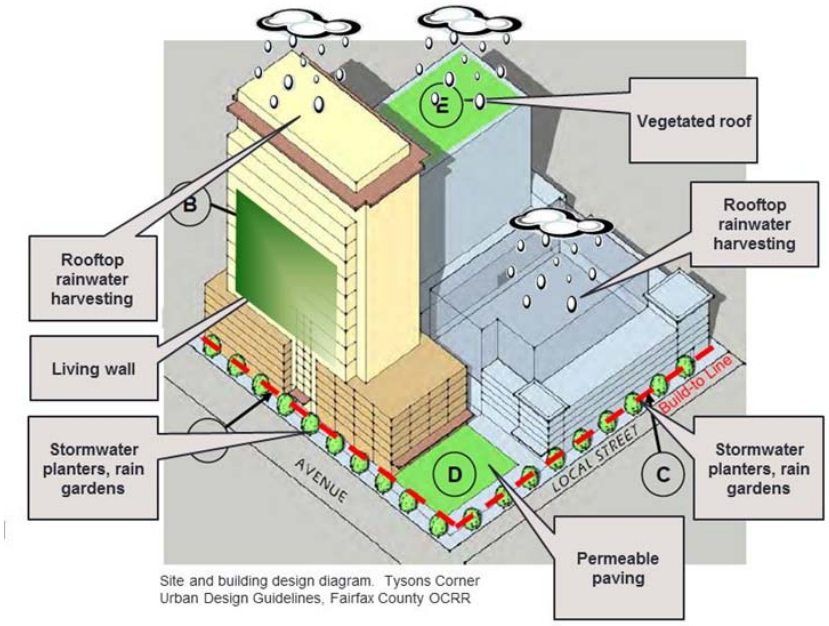
Green Buildings: Area Plan Guidance

- Area-specific green building policy, building from the countywide policy guidance; often tied to specific Plan options
  - LEED Silver or equivalent for nonresidential
    - Tysons Corner
    - A specific area near Herndon
    - Specific areas within the Richmond Highway Corridor
    - Specific areas near the Huntington Metrorail station
    - Specific areas near the Franconia-Springfield Metrorail station
  - LEED Gold and Platinum certifications for attainment of a building height incentive in Annandale

Green Buildings: Area Plan Guidance (continued)

Recommendations for LEED Stormwater Design credits

- Tysons Corner (one-inch retention)
- Annandale
- Baileys Crossroads
- Portions of the Richmond Highway Corridor



Site and building design diagram. Tysons Corner Urban Design Guidelines, Fairfax County OCRR

Comprehensive Plan Guidance (continued)

- Plan is a guide, not a regulation
- Comprehensive Plan guidance is key in the reviews of rezoning, special exception and special permit applications
- To date, we have received 79 proffered or conditioned green building certification commitments, with many more pending
  - 58 are linked to LEED certification, of which 28 are linked to LEED Silver or higher; well over 100 buildings total
  - Others residential (ENERGY STAR; EarthCraft; NGBS)
  - Additional commitments to specific green building practices

Comprehensive Plan Policy—Implementation Challenges

- Direct commitments to green building certification are not recommended
  - Certification occurs after construction
  - Limited recourse in case of failure
- Alternate approaches needed
  - Staff is open to approaches that are enforceable
  - Green building escrow
  - Demonstration of intent and progress towards a higher level of certification
- Geographic distinctions in Plan policy
- Enforcement of commitments to specific green building practices
- Developer reluctance
- Staff resources

Future Directions

- Continue to implement Sustainable Development Policy for Capital Projects
- Expand energy tracking for county facilities
- Complete Comprehensive Plan policy review
- Expand education/outreach effort (Energy Action Fairfax) (http://www.fairfaxcounty.gov/energyactionfairfax/)
  - Continued outreach to homeowners
  - New focus on businesses, including employees

Questions?

Contact me!

Noel Kaplan
Senior Environmental Planner
Fairfax County Department of Planning and Zoning
Noel.Kaplan@Fairfaxcounty.gov