

Proposed Changes - Fairfax County Air Quality Monitors

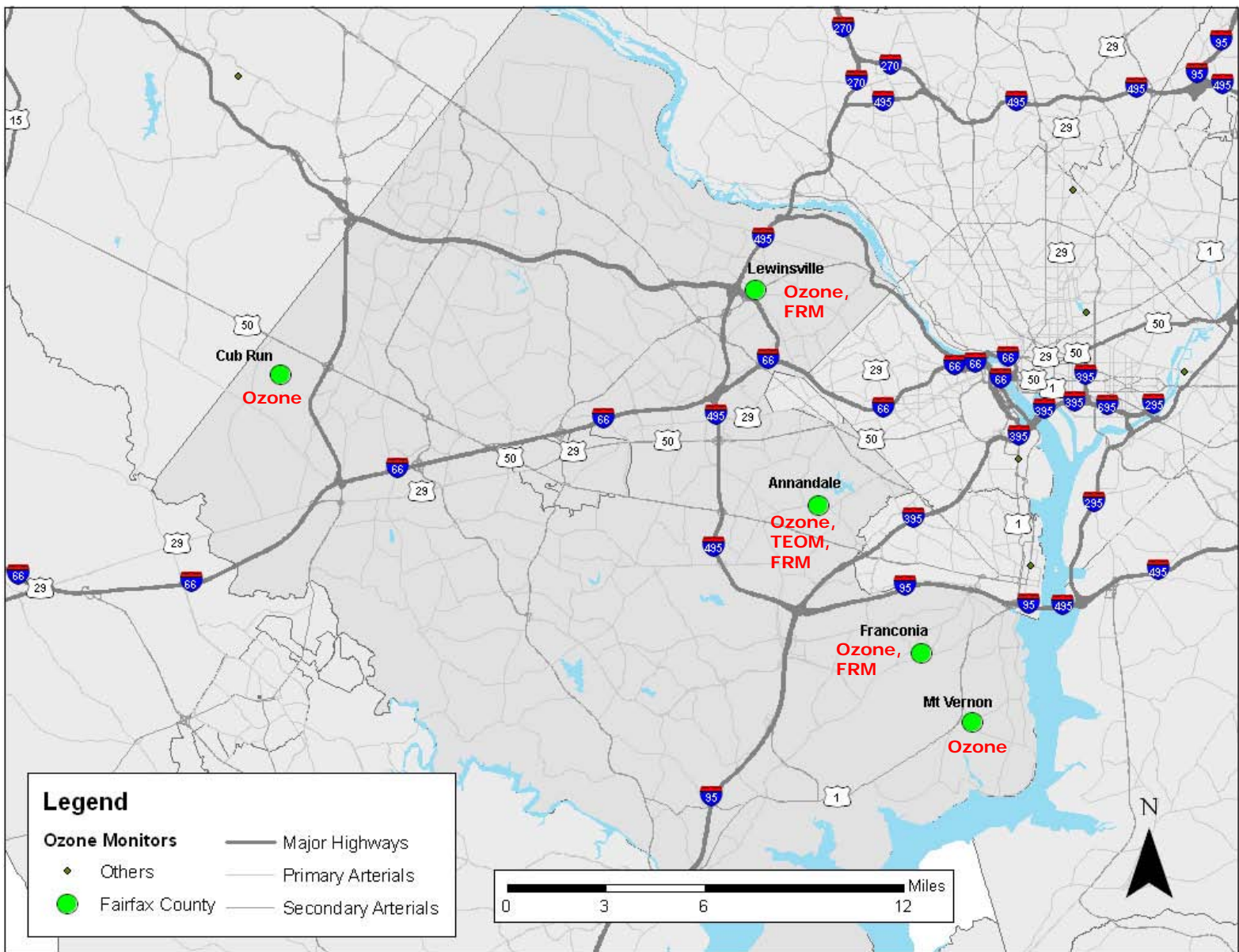
Sunil Kumar

MWAQC Meeting

MWCOG

April 28, 2010

Fairfax Monitor Locations (Before Changes)



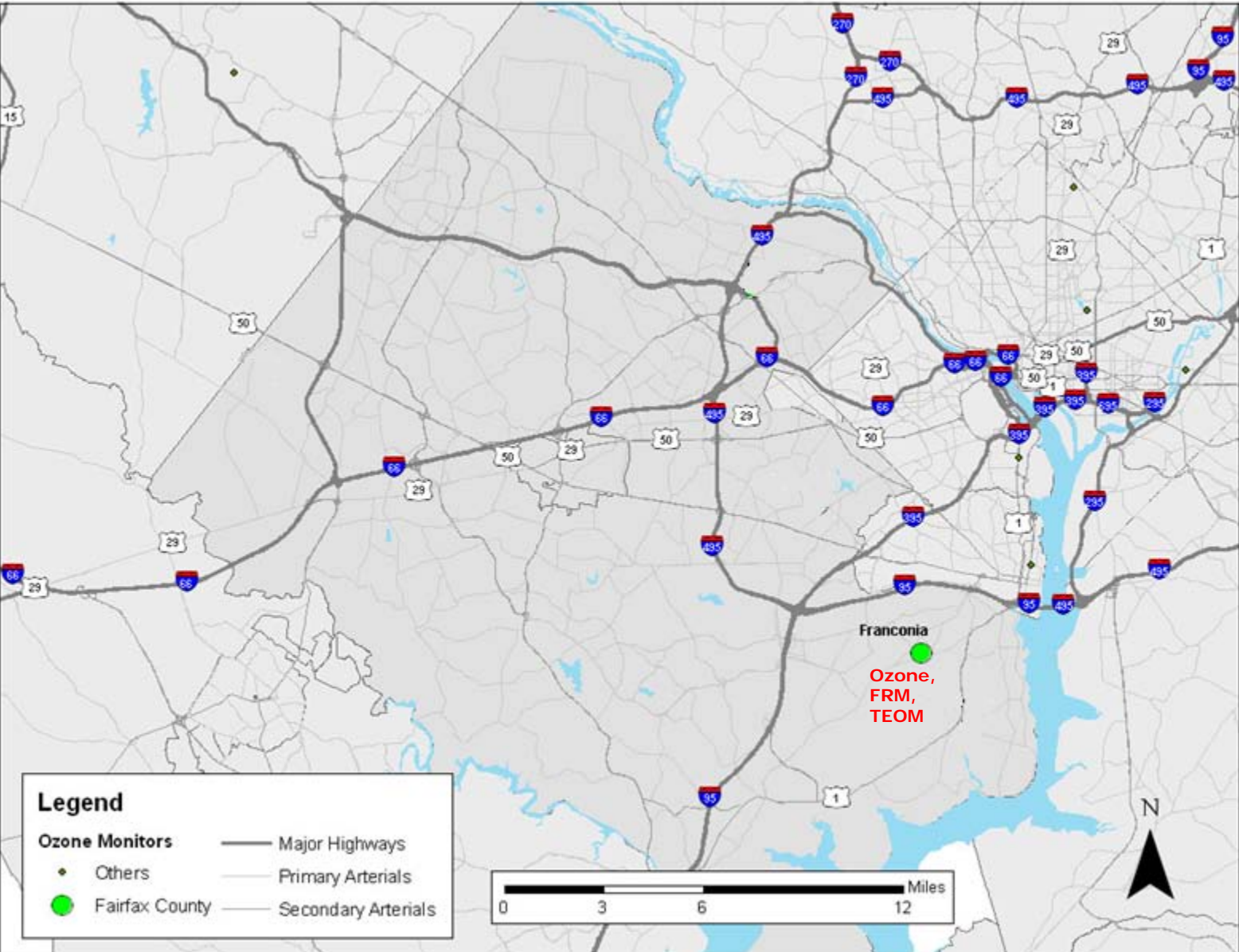
Fairfax Monitors (Before Changes)

Total Monitoring Locations - 5

Total Monitors – Ozone (5), PM2.5 (4) - 1 TEOM + 3 FRM

Monitor Location	Monitor Type	Owned/Operated by
Cub Run (Chantilly)	- Ozone	FxCo/FxCo
Lewinsville (McLean)	- Ozone	FxCo/FxCo
Mount Vernon	- Ozone	FxCo/FxCo
Annandale	- Ozone, TEOM	FxCo/FxCo
Annandale	- FRM	VDEQ/FxCo
Lewinsville (McLean)	- FRM	VDEQ/FxCo
Lee Park (Franconia)	- FRM	VDEQ/FxCO
Lee Park (Franconia)	- Ozone	VDEQ/VDEQ

Fairfax Monitor Locations (After Changes)



Fairfax Monitors (After Changes)

Total Monitoring Locations - 1

Total Monitors – Ozone (1), PM2.5 (2) - 1 TEOM + 1 FRM

- Lee District (Franconia) monitoring site:
 - Ozone monitor
 - FRM monitor (PM2.5)
 - Will also house a TEOM monitor (Hourly PM2.5 data)

Metro. Washington Regional Monitors (Before Changes)

Washington, DC Metropolitan Region Air Quality Monitors



Information Current as of April 7, 2010

Metro. Washington Regional Monitors (After Changes)

Washington, DC Metropolitan Region
Air Quality Monitors



Minimum Monitoring Requirements for Washington, DC MSA

- Ozone: 3 monitors needed
 - Currently = 18, After VDEQ proposal = 14
- PM2.5 (FRM/FEM): 3 monitors needed
 - Currently 12, After VDEQ proposal = 10
- PM2.5 (TEOM): 2 monitors needed
 - Currently 3, After VDEQ proposal = 3 (No change)

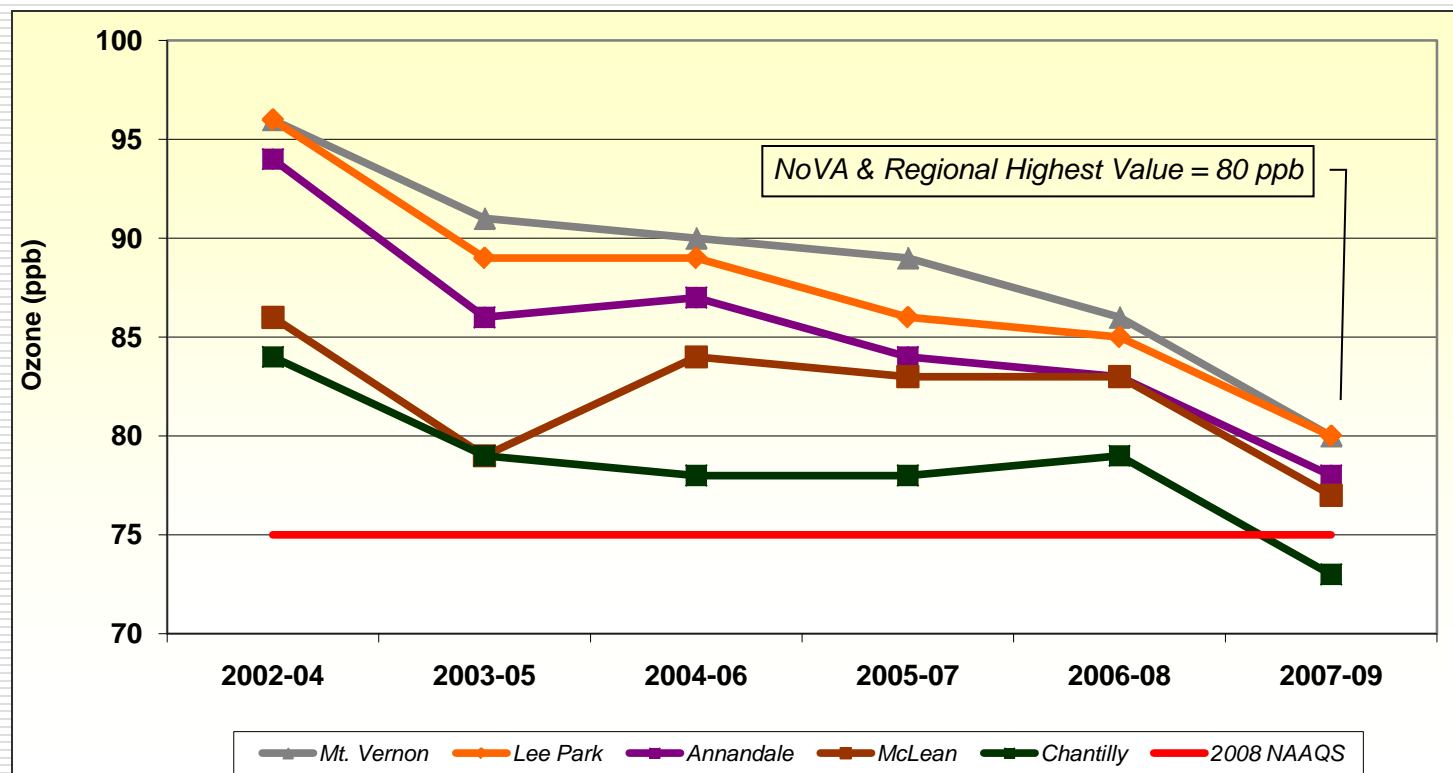
Fairfax Monitors – General importance of data

- Monitor ozone and fine particle concentrations in highly populated areas
- Data used by the general public, federal, state and local air agencies for :
 - Air quality evaluation and long-term trend analysis
 - Calculating design values for checking attainment of ozone and fine particle standards for the region
 - Forecasting and issuing health advisories

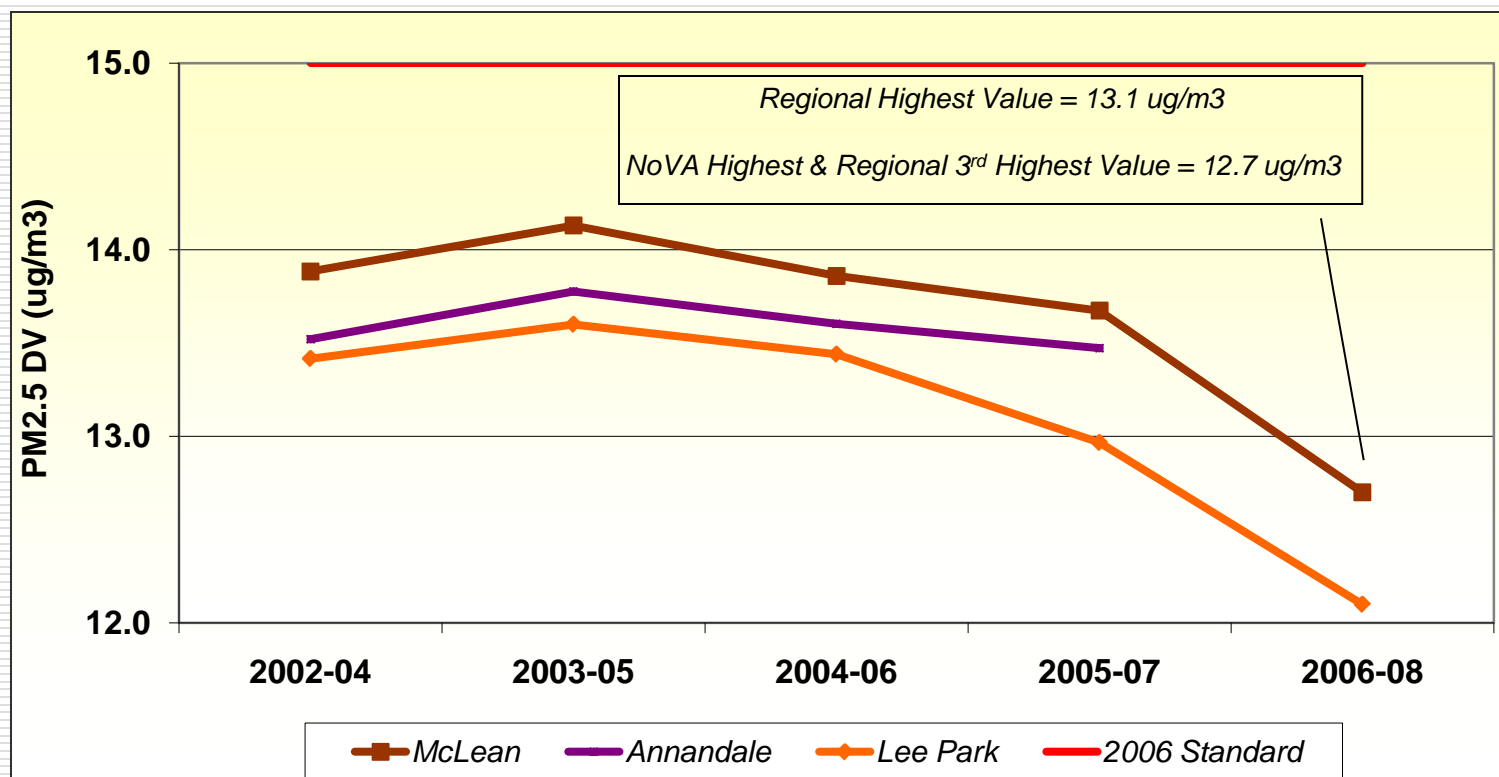
Fairfax monitors – Specific use of data

Monitor	Data Reporting	Data Use
Ozone	Hourly (Real-time)	Ozone Design Value* Washington SIP Daily Ozone Forecast Ozone Trend Analysis
TEOM (PM2.5)	Hourly (Real-time)	Daily PM2.5 Forecast
FRM (PM2.5)	Daily Average	PM2.5 Design Value* Washington SIP PM2.5 Trend Analysis

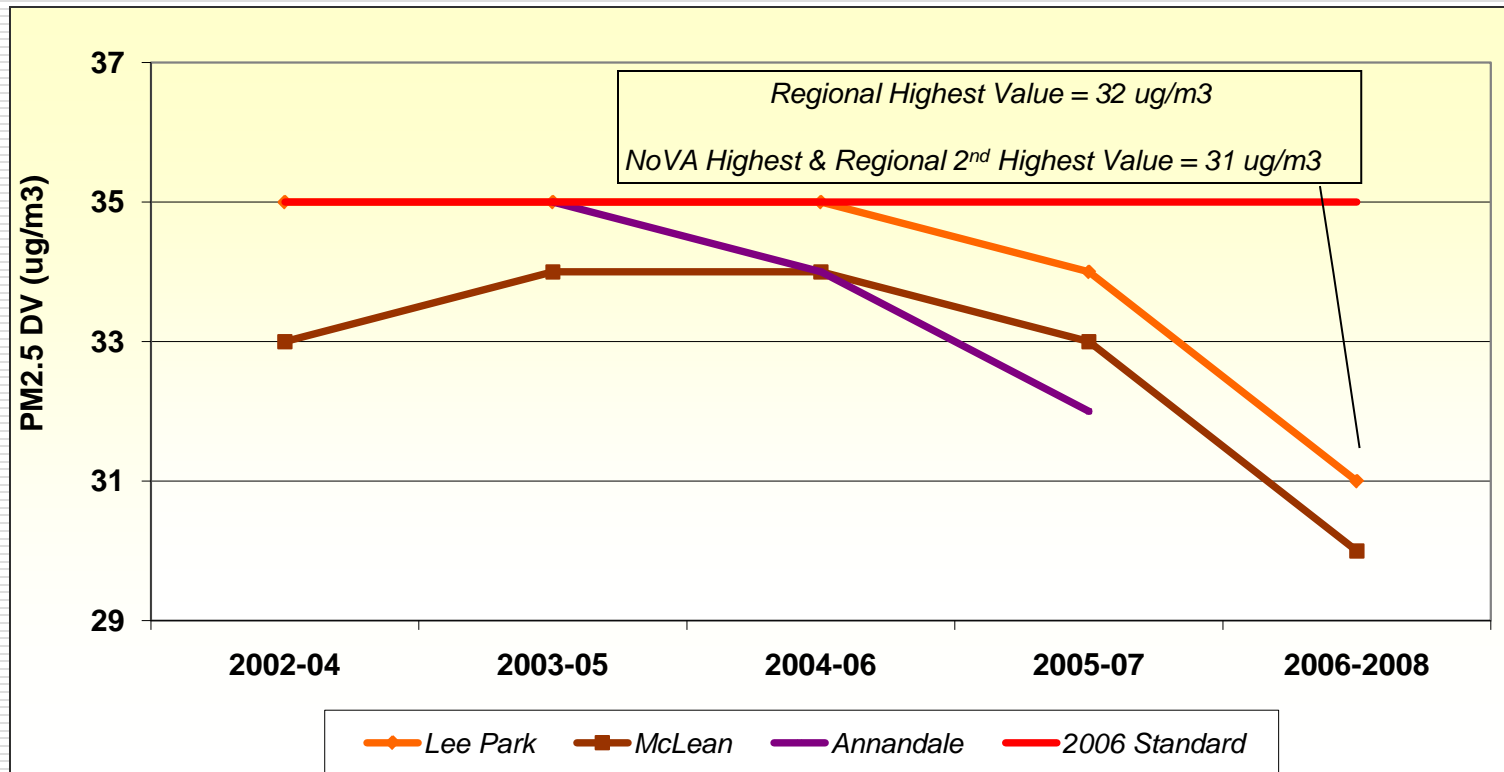
Fairfax Monitors – Trend in 8-hour ozone design values



Fairfax monitors – Trend in annual PM2.5 design values



Fairfax monitors – Trend in 24-hour PM2.5 design values



Fairfax Monitors – Public Comment

-
- Proposed network monitoring plan available on DEQ website for comment
 - Public notice for the monitoring network review:
<http://www.deq.virginia.gov/air/permitting/monitoring.htm>
 - Comment period closes 4/30/2010

VDEQ Air Monitoring Division

Cost Estimates

- **Estimated Additional Operating Costs if VDEQ Continued Operations:**
 - 4 ozone monitoring sites: approximately \$80,000 annually
 - 2 PM2.5 FRM sites: approximately \$84,000 annually
 - No funding source available for these operating costs
- **Upcoming Network Changes Over The Next Two Years**
 - Significant additional monitoring necessary to meet requirements of ozone, lead, NO₂, and SO₂ NAAQS
 - Costs will only partially be covered by federal grant money
 - Lead: \$74,000 annually for operating expenses
 - Ozone:
 - \$280,000 installation expense
 - \$168,000 annual operating expenses
 - SO₂:
 - \$250,000 installation expense
 - \$124,000 annual operating expenses
 - NO₂ :
 - \$260,000 installation expenses
 - \$149,000 annual operating expenses