



Metropolitan Washington Council of Governments

22 JURISDICTIONS 5+ MILLION PEOPLE 300 ELECTED OFFICIALS



IMPLICATIONS OF PROPOSED OZONE STANDARD LEVELS FOR JURISDICTIONS & POPULATION IN WASHINGTON REGION

MWAQC Meeting

May 20, 2015

Introduction & Purpose of Study

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- **EPA proposed ozone standard in a range** (November 2014)
 - 65 ppb - 70 ppb (ppb=parts per billion)
 - EPA also sought comments on as low as 60 ppb and retaining the current 75 ppb standard
- New ozone standard expected to be finalized in October 2015
- **Purpose of study** – Which jurisdictions exceed the above proposed standard range (75 ppb - 60 ppb) and the affected number of people in those jurisdictions
- **Four scenarios studied**
 - One scenario each for 75, 70, 65, and 60 ppb threshold
 - Ozone levels (Design values*) for two time-periods: 2011-2013 & 2012-2014
 - # Days exceeding 75, 70, 65, and 60 ppb thresholds in 2011/12/13/14

* Design value = 3-year average of 4th highest daily maximum 8-hour average ozone concentrations.

Ozone Monitoring Locations

Washington, DC-MD-VA Ozone Nonattainment Area

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Metropolitan Washington Ozone Monitors Washington, DC, MD, VA



* Alexandria had an ozone monitor until 2013.

2011-2013 Ozone Design Values >75 ppb

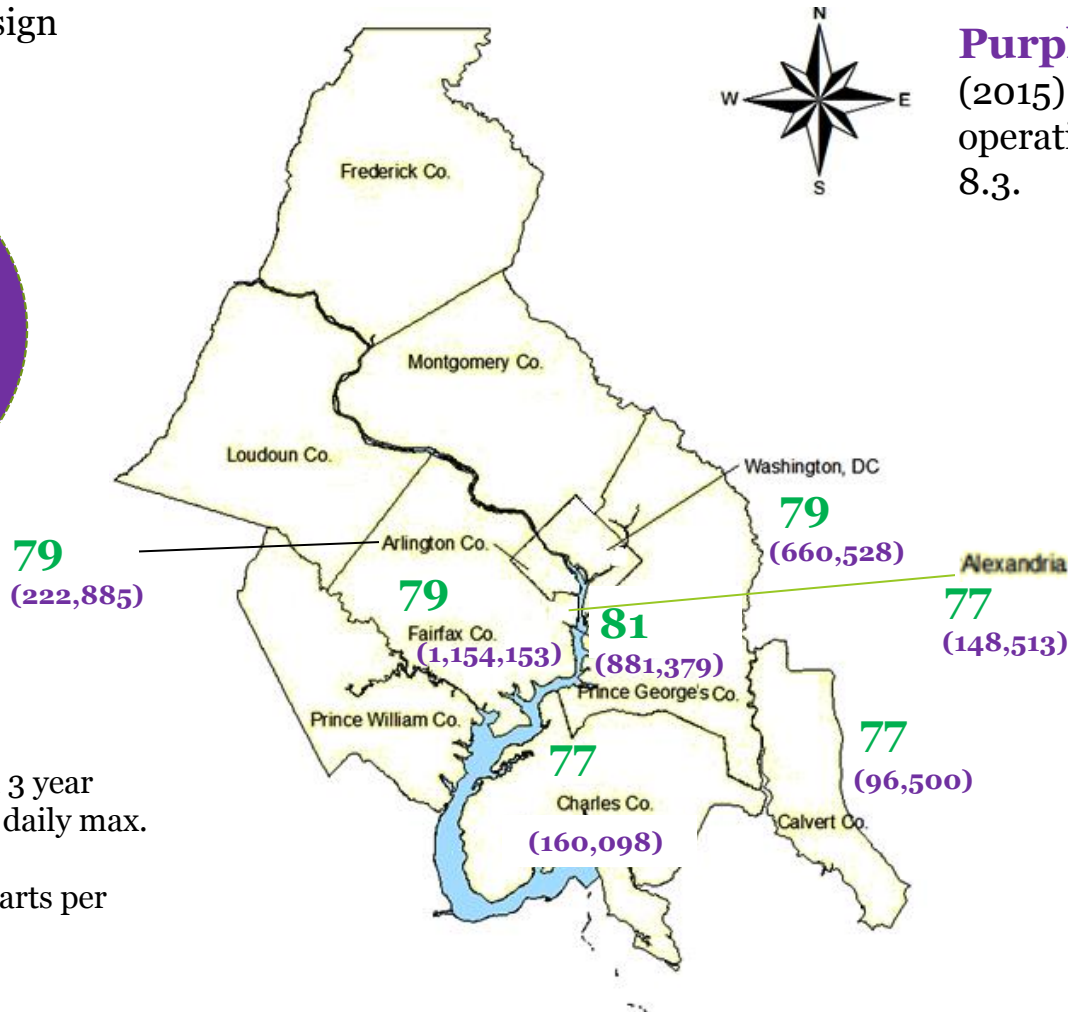
Washington, DC-MD-VA Ozone Nonattainment Area

4

Green = Ozone Design Values in ppb.

Purple = Population (2015) based on COG Co-operative Forecast Round 8.3.

Total population in locality exceeding design value = 3,324,056



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

2008 Ozone Standard = 75 ppb

2012-2014 Ozone Design Values >75 ppb

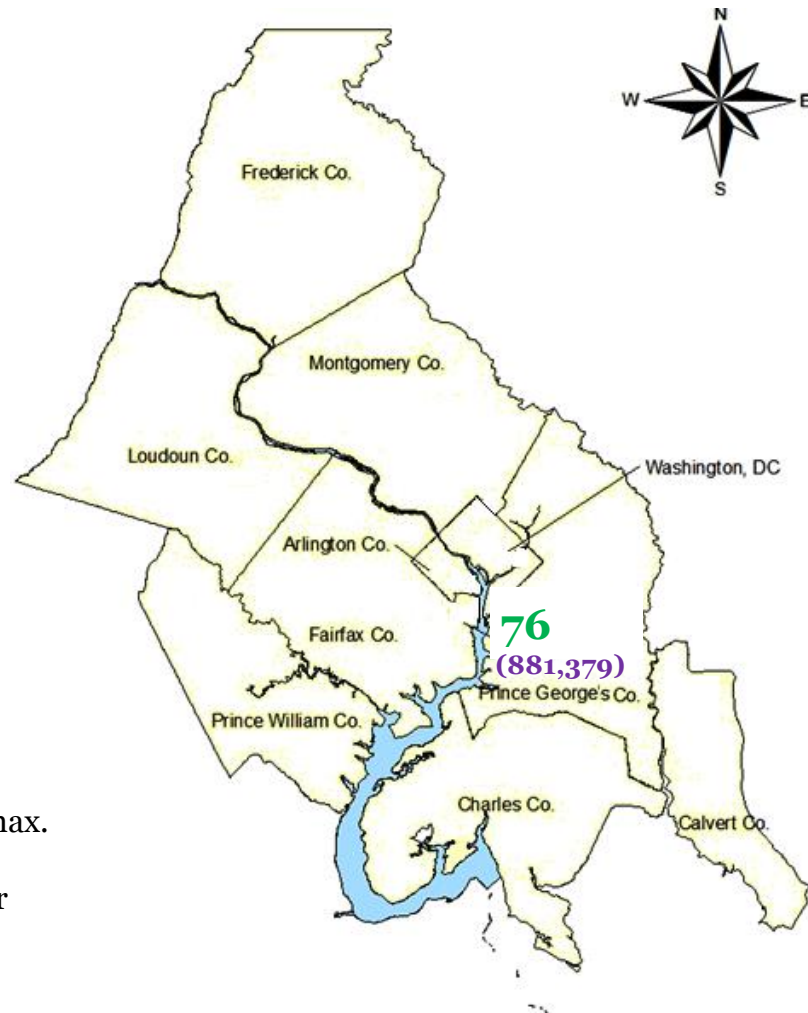
Washington, DC-MD-VA Ozone Nonattainment Area

5

Green = Ozone Design Values in ppb.

Purple = Population (2015) based on COG Co-operative Forecast Round 8.3.

Total population in locality exceeding design value = 881,379



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

2008 Ozone Standard = 75 ppb

2011-2013 Ozone Design Values >70 ppb

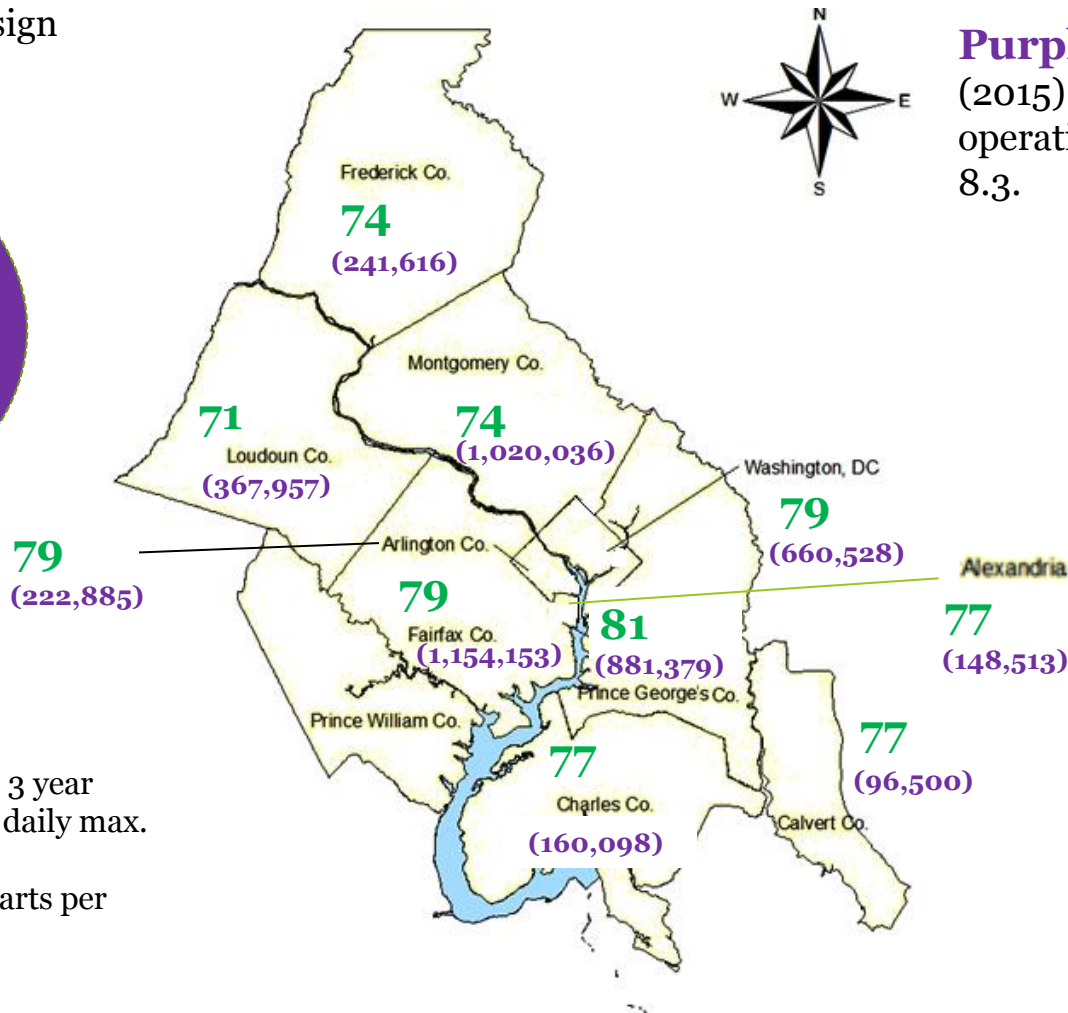
Washington, DC-MD-VA Ozone Nonattainment Area

6

Green = Ozone Design Values in ppb.

Purple = Population (2015) based on COG Co-operative Forecast Round 8.3.

Total population in locality exceeding design value = 4,900,260



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

2008 Ozone Standard = 75 ppb

2012-2014 Ozone Design Values >70 ppb

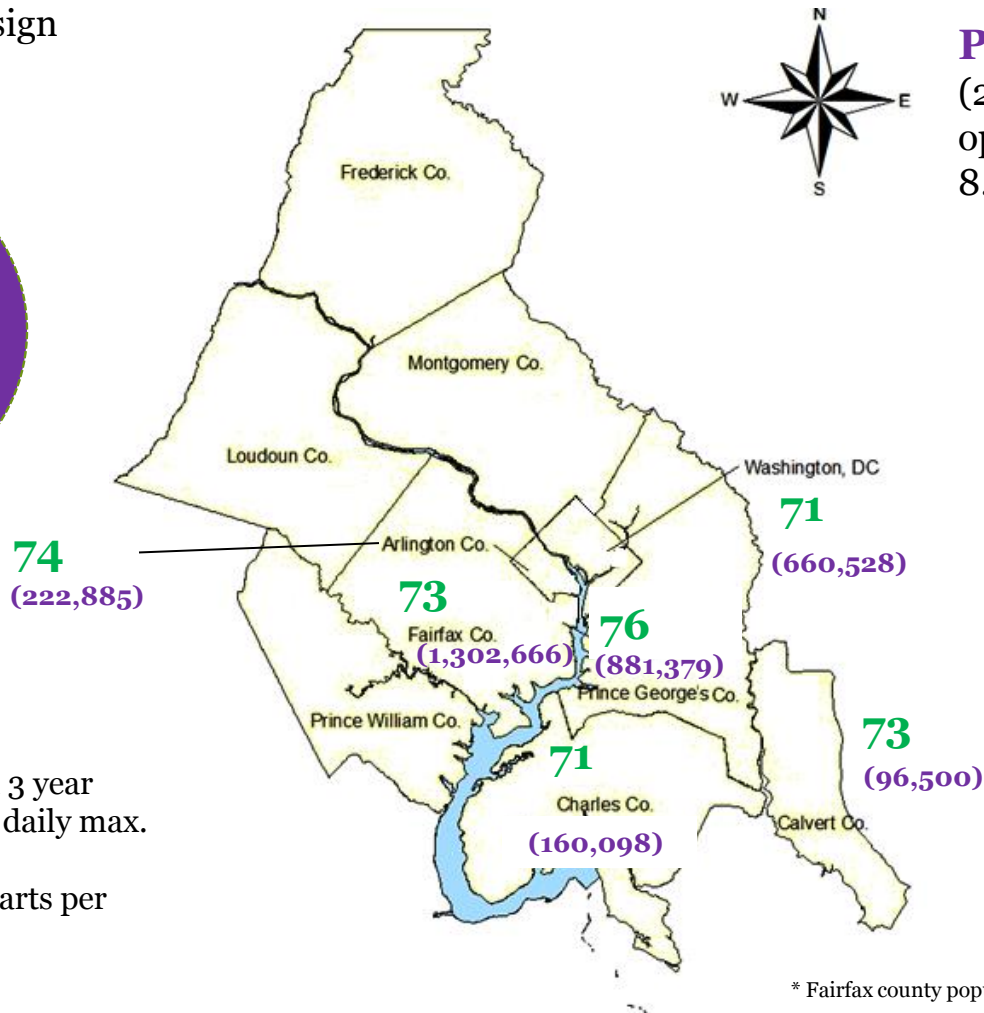
Washington, DC-MD-VA Ozone Nonattainment Area

7

Green = Ozone Design Values in ppb.

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Total population in locality exceeding design value = 3,324,056



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

* Fairfax county population includes Alexandria in 2014.

2008 Ozone Standard = 75 ppb

2011-2013 Ozone Design Values >65 ppb

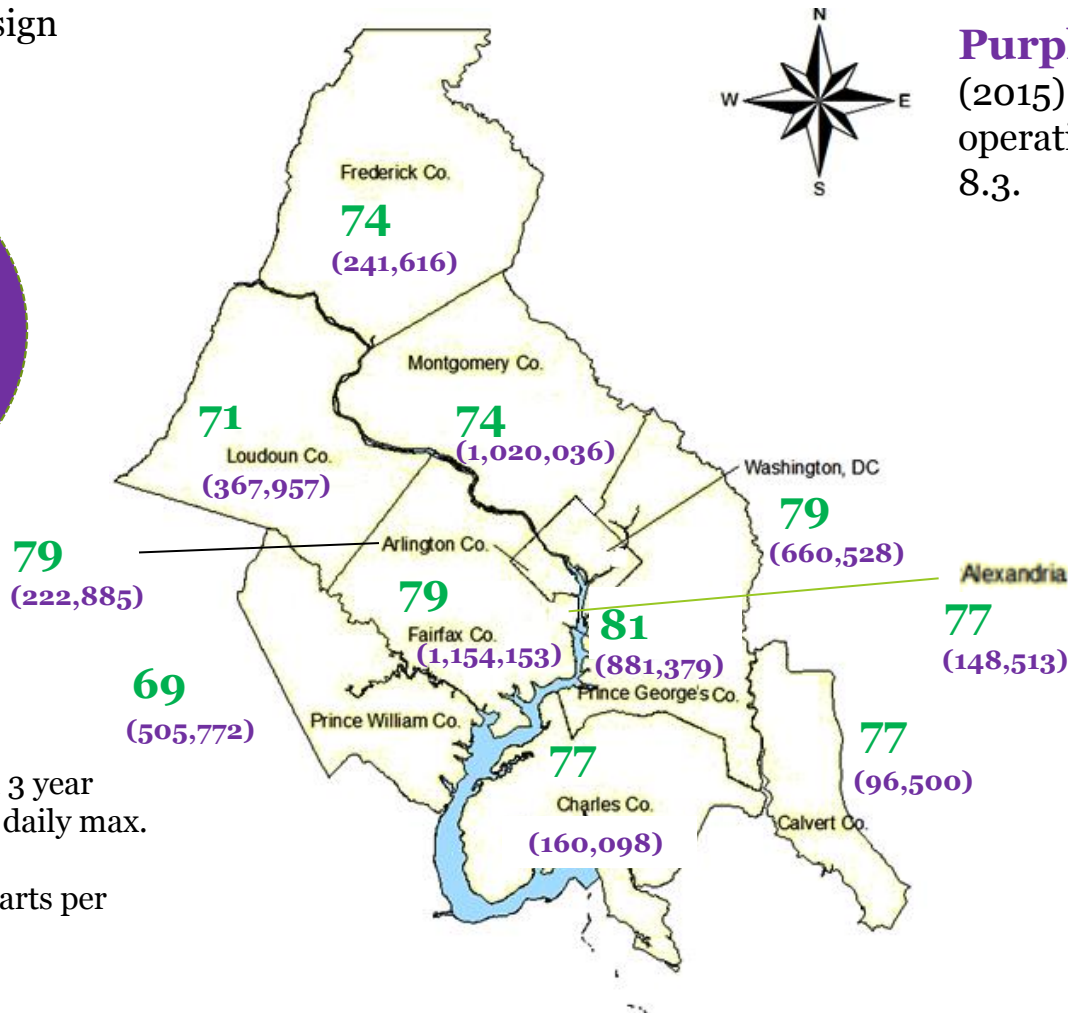
Washington, DC-MD-VA Ozone Nonattainment Area

8

Green = Ozone Design Values in ppb.

Purple = Population (2015) based on COG Co-operative Forecast Round 8.3.

Total population in locality exceeding design value = 5,406,032



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

2008 Ozone Standard = 75 ppb

2012-2014 Ozone Design Values >65 ppb

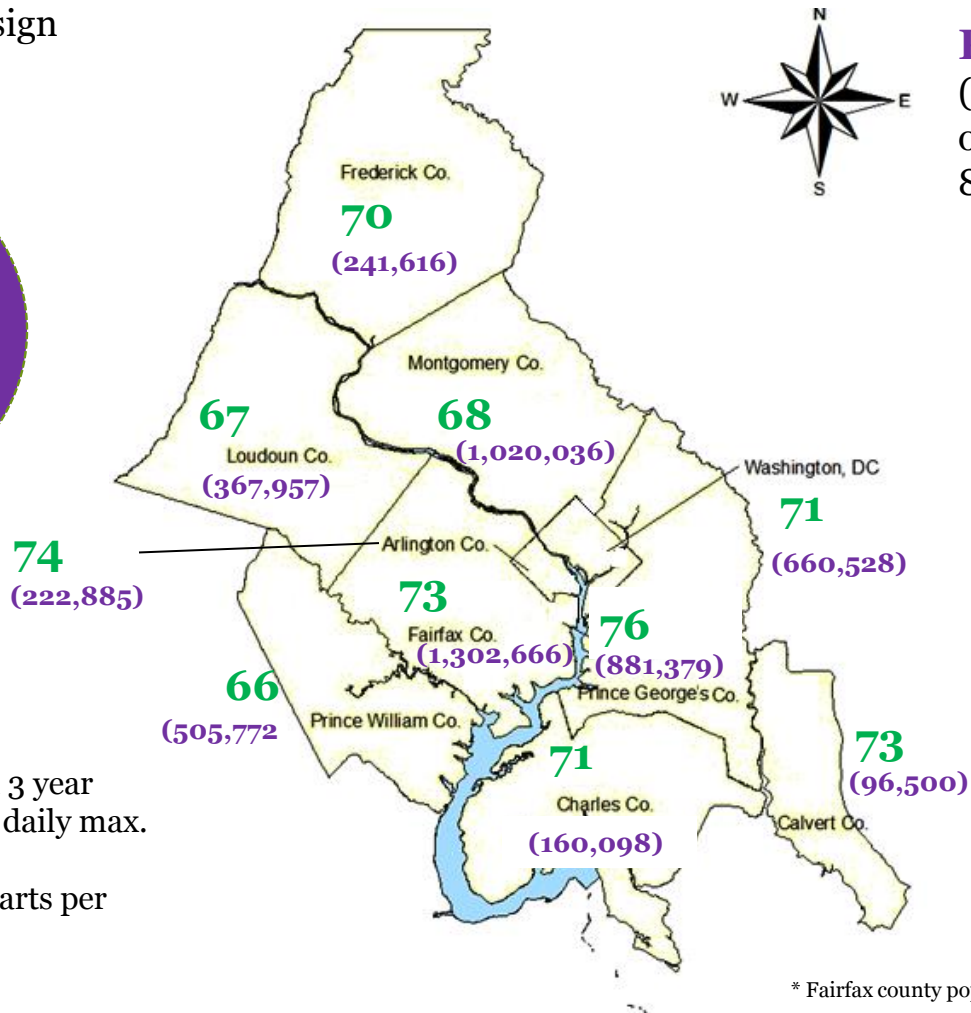
Washington, DC-MD-VA Ozone Nonattainment Area

9

Green = Ozone Design Values in ppb.

Purple = Population (2015) based on COG Co-operative Forecast Round 8.3.

Total population in locality exceeding design value = 5,406,032



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

* Fairfax county population includes Alexandria in 2014.

2008 Ozone Standard = 75 ppb

2011-2013 Ozone Design Values >60 ppb

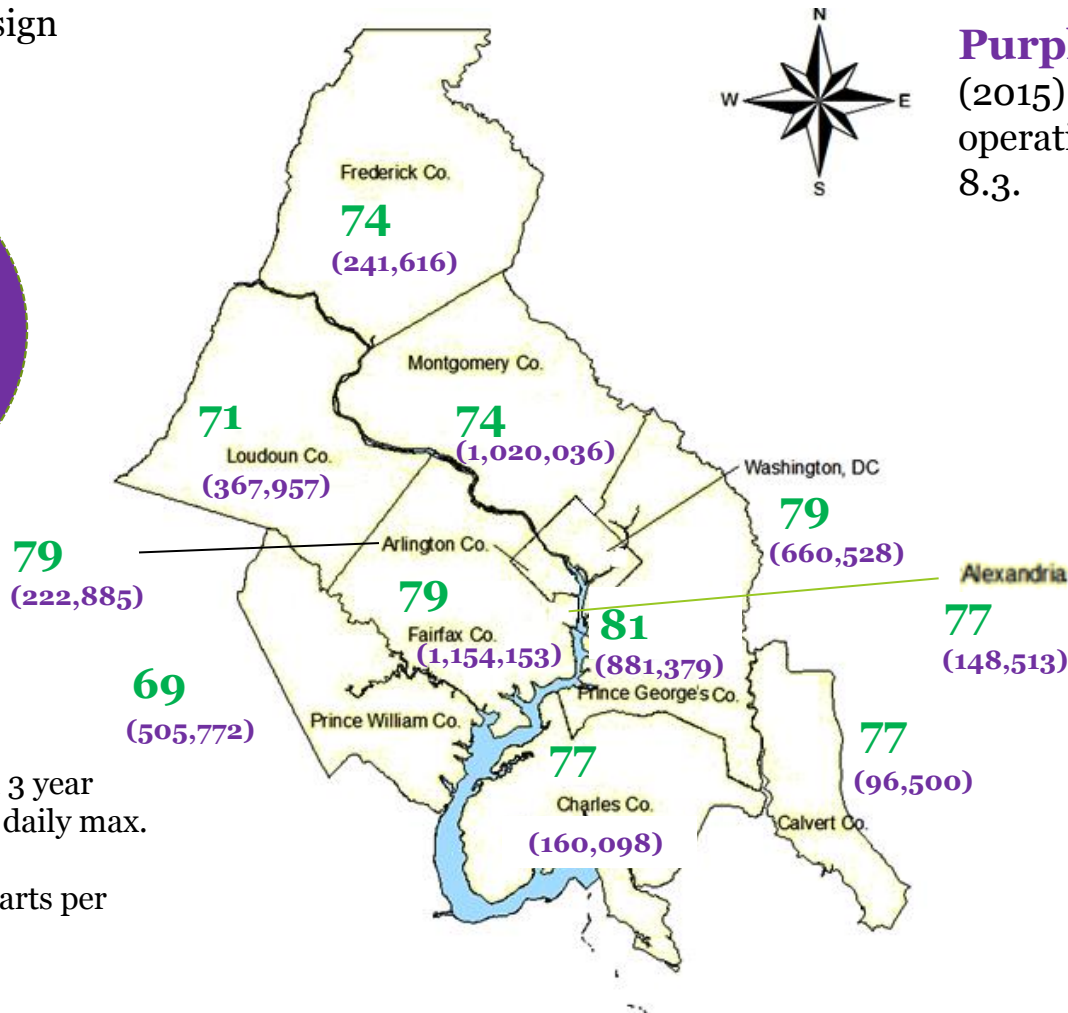
Washington, DC-MD-VA Ozone Nonattainment Area

10

Green = Ozone Design Values in ppb.

Purple = Population (2015) based on COG Co-operative Forecast Round 8.3.

Total population in locality exceeding design value = 5,406,032



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

2008 Ozone Standard = 75 ppb

2012-2014 Ozone Design Values >60 ppb

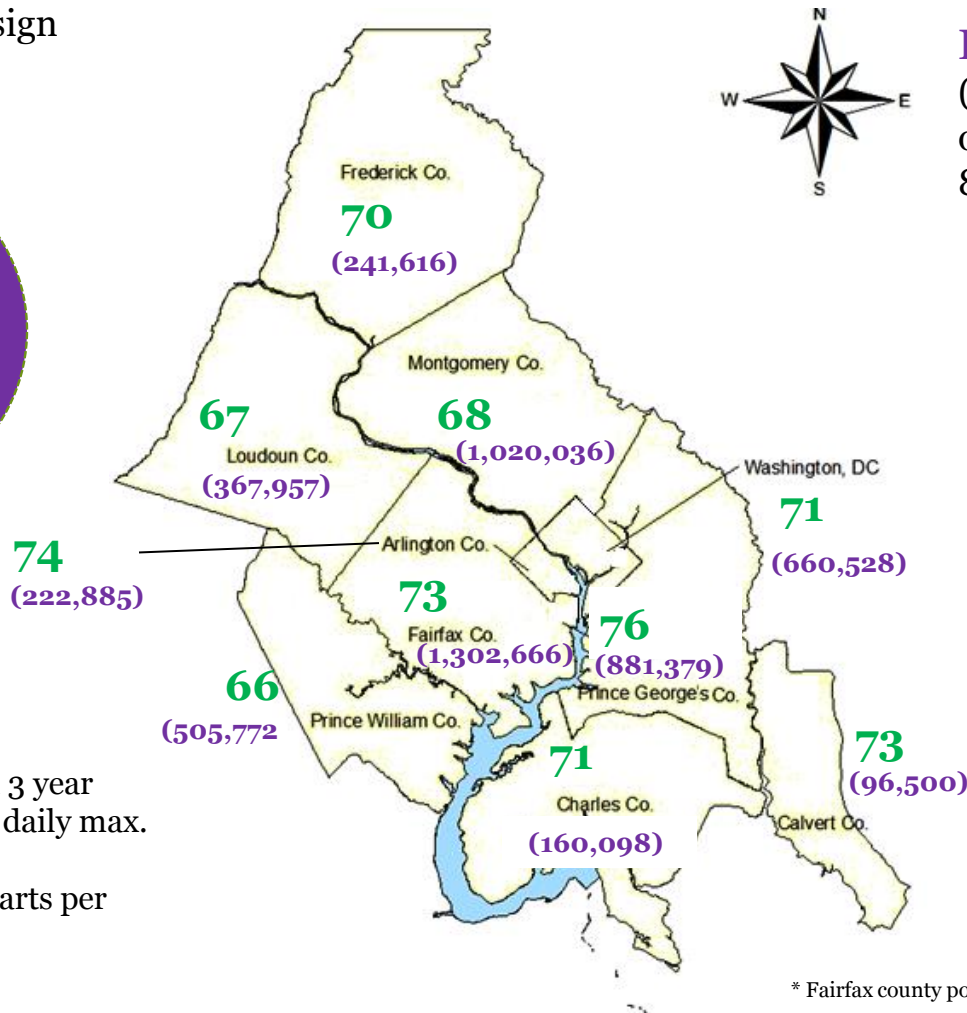
Washington, DC-MD-VA Ozone Nonattainment Area

11

Green = Ozone Design Values in ppb.

Purple = Population (2015) based on COG Co-operative Forecast Round 8.3.

Total population in locality exceeding design value = 5,406,032



Draft Design Values are a 3 year average of the 4th highest daily max. 8-hour average ozone concentrations given in parts per billion (ppb).

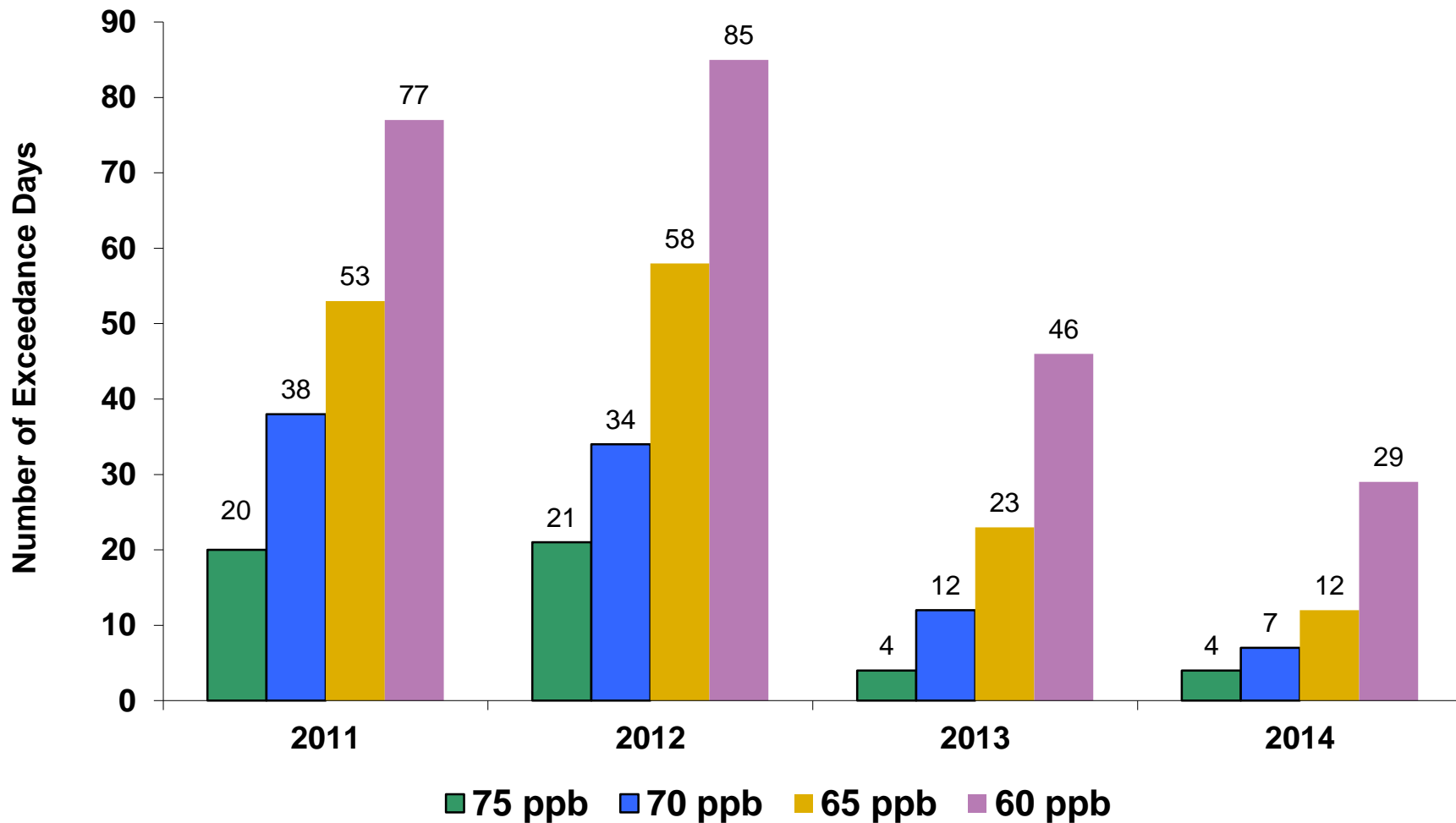
* Fairfax county population includes Alexandria in 2014.

2008 Ozone Standard = 75 ppb

Days Exceeding Proposed Ozone Standard Levels

Washington, DC-MD-VA Ozone Nonattainment Area

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Days Exceeding Proposed Ozone Standard Levels

Washington, DC-MD-VA Ozone Nonattainment Area

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City/County	2015 Population	# Days Exceeding 75 ppb				# Days Exceeding 70 ppb			
		2014	2013	2012	2011	2014	2013	2012	2011
District of Columbia	660,528	1		11	11	2	1	26	16
Calvert County	96,500			11	6		3	15	14
Charles County	160,098	1		9	7	2		11	11
Frederick County	241,616		1	5	6		1	14	9
Montgomery County	1,020,036			2	5		1	7	14
Prince Georges County	881,379		2	17	16		6	23	28
Arlington County	222,885	2		12	8	5	1	19	19
Fairfax County	1,154,153	1	1	12	11	2	1	20	16
Loudoun County	367,957			2	3	1	2	4	7
Prince William County	505,772	1		2	1	1		6	4
City of Alexandria	148,513			7	7		2	14	11
Washington DC-MD-VA	5,459,437	4	4	21	20	7	12	34	38
Total Affected Polulation		2,703,436	2,277,148	5,459,437	5,459,437	3,071,393	4,793,567	5,459,437	5,459,437
Population: COG Co-Operative Forecast Round 8.3									

2008 Ozone Standard = 75 ppb

Days Exceeding Proposed Ozone Standard Levels Washington, DC-MD-VA Ozone Nonattainment Area

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City/County	2015 Population	# Days Exceeding 65 ppb				# Days Exceeding 60 ppb			
		2014	2013	2012	2011	2014	2013	2012	2011
District of Columbia	660,528	5	6	38	31	10	18	57	51
Calvert County	96,500		8	26	20		17	37	35
Charles County	160,098		3	19	21	11	15	32	37
Frederick County	241,616	4	5	26	19	7	10	45	40
Montgomery County	1,020,036	3	7	19	23	12	15	40	38
Prince Georges County	881,379		16	39	37	1	34	62	56
Arlington County	222,885	6	4	32	36	13	21	47	52
Fairfax County	1,154,153	5	5	33	23	12	10	54	45
Loudoun County	367,957	1	6	15	17	10	11	37	34
Prince William County	505,772	2	4	9	9	7	6	36	23
City of Alexandria	148,513		3	20	26		11	34	40
Washington DC-MD-VA	5,459,437	12	23	58	53	29	46	85	77
Total Affected Polulation		4,172,947	5,459,437	5,459,437	5,459,437	5,214,424	5,459,437	5,459,437	5,459,437
Population: COG Co-Operative Forecast Round 8.3									

2008 Ozone Standard = 75 ppb

Conclusions

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- **Scenario 1 (Ozone Standard = 75 ppb)**
 - 7 jurisdictions (population = 3.3 m) exceeded the standard (2011-13 Data)
 - 1 jurisdiction (Prince George's, population = 881k) exceeded the standard (2012-14 Data)

- **Scenario 2 (Ozone Standard = 70 ppb)**
 - Except 1 (Prince William), all jurisdictions (population = 4.9 m) exceeded the standard (2011-13 Data)
 - 6 jurisdictions (population = 3.3 m) exceeded the standard (2012-14 Data)

- **Scenarios 3/4 (Ozone Standard = 65 ppb/60 ppb)**
 - All jurisdictions (population = 5.4 m) exceeded the standard (2011-13 & 2012-14 Data)