

OZONE SEASON SUMMARY 2017

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MWAQC-Technical Advisory Committee
September 5th, 2017

Peak 8-Hour Average Ozone Levels (ppb)

APRIL 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	31	01 39
02 56	03 50	04 52	05 57	06 47	07 43	08 57
09 62	10 68	11 71	12 61	13 54	14 64	15 55
16 52	17 45	18 58	19 43	20 48	21 45	22 28
23 33	24 37	25 35	26 35	27 57	28 61	29 49
30 46	01	02	03	04	05	06

MAY 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	01 35	02 55	03 49	04 48	05 40	06 33
07 43	08 54	09 58	10 68	11 48	12 35	13 34
14 61	15 51	16 64	17 76	18 72	19 55	20 43
21 45	22 35	23 33	24 50	25 46	26 48	27 49
28 49	29 47	30 43	31 57	01	02	03
04	05	06	07	08	09	10

JUNE 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	31	01 61	02 66	03 63
04 62	05 50	06 53	07 41	08 59	09 62	10 70
11 61	12 74	13 72	14 73	15 64	16 58	17 43
18 45	19 36	20 57	21 61	22 60	23 29	24 52
25 51	26 55	27 53	28 56	29 65	30 63	01
02	03	04	05	06	07	08

8 Code Orange Days, 71 Code Yellow Days, 74 Code Green Days

Analysis is based on draft data as of September 1st, 2017. Data is subject to change



Peak 8-Hour Average Ozone Levels (ppb)

July 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27	28	29	30	01 43
02 59	03 64	04 64	05 56	06 36	07 57	08 58
09 51	10 56	11 56	12 58	13 56	14 59	15 57
16 55	17 56	18 66	19 76	20 80	21 68	22 63
23 48	24 60	25 43	26 57	27 56	28 46	29 36
30 47	31 61	01	02	03	04	05

August 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	01 63	02 58	03 63	04 65	05 43
06 47	07 38	08 43	09 64	10 60	11 43	12 44
13 55	14 41	15 34	16 69	17 59	18 39	19 55
20 59	21 60	22 60	23 49	24 51	25 58	26 52
27 53	28 45	29 33	30 47	31 62	01	02
03	04	05	06	07	08	09

8 Code Orange Days, 71 Code Yellow Days, 74 Code Green Days

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2017 Ozone Exceedances

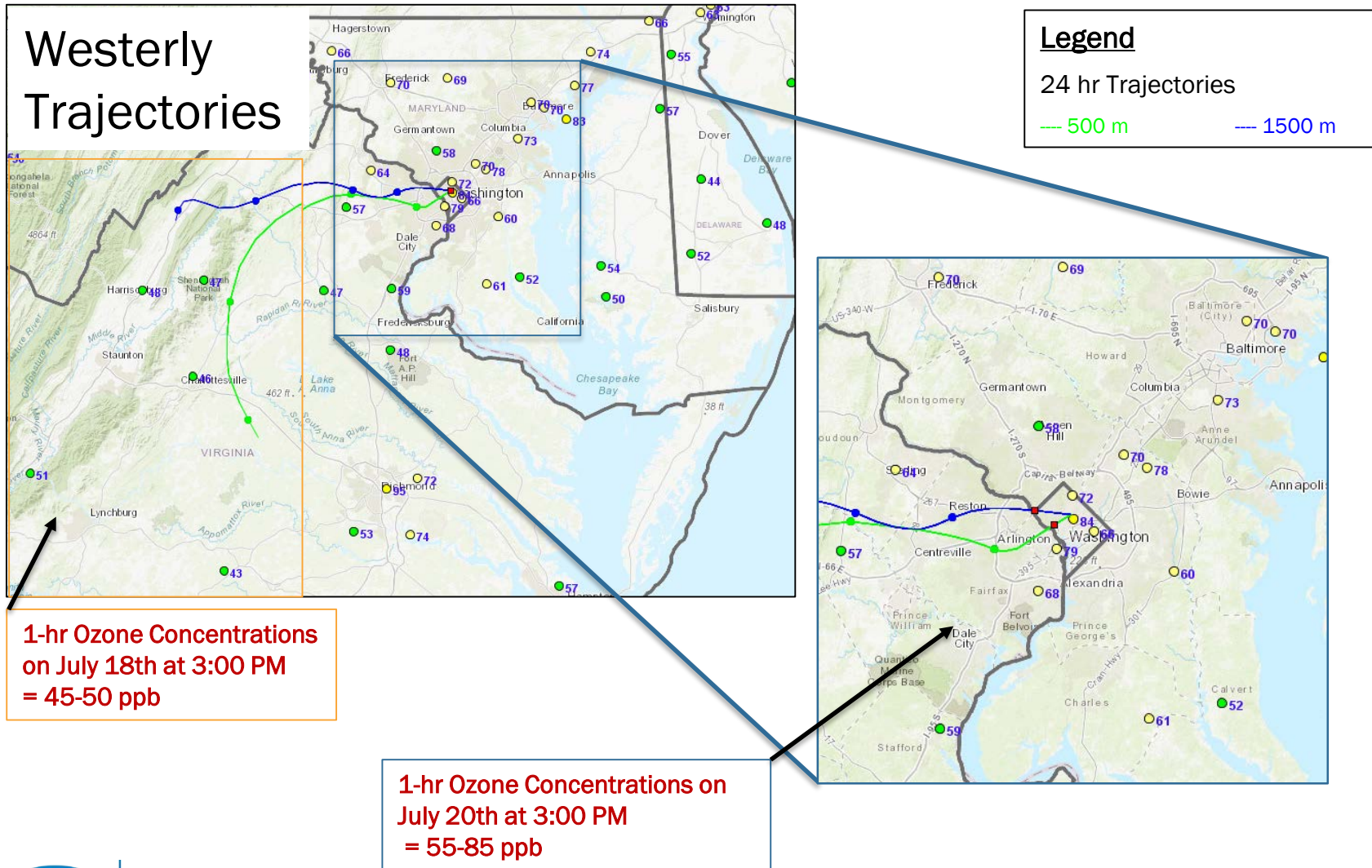
Date	Monitors Exceeding	Highest Monitor	8-Hr Max (ppb)
4/11	2	HU-Beltsville/Rockville	71
5/17	8	Beltsville	76
5/18	2	HU-Beltsville	72
6/12	1	PG Equestrian Center	74
6/13	1	PG Equestrian Center	72
6/14	4	McMillan N CORE	73
7/19	3	McMillan N CORE	76
7/20	3	PG Equestrian Center	80

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Meteorology on Exceedance Days

- July 19th & 20th
 - High Temperature: 90° F - 95° F, Clear sky
 - Light west winds, stagnant air mass
 - Ozone build up on previous days
 - Ozone build up mainly due to local emissions on both days
 - Regional emissions (southwestern Pennsylvania) also affected ozone on July 20th

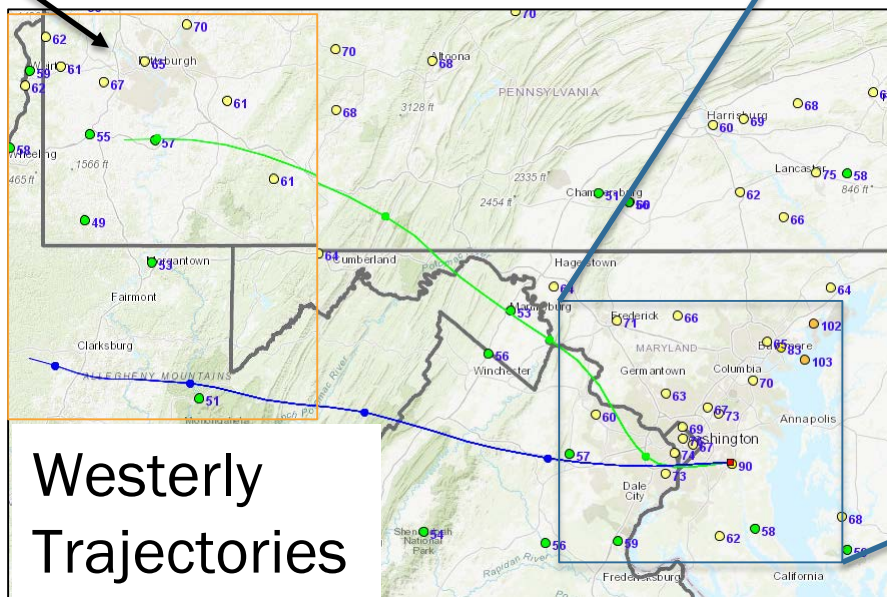
July 19th, 2017



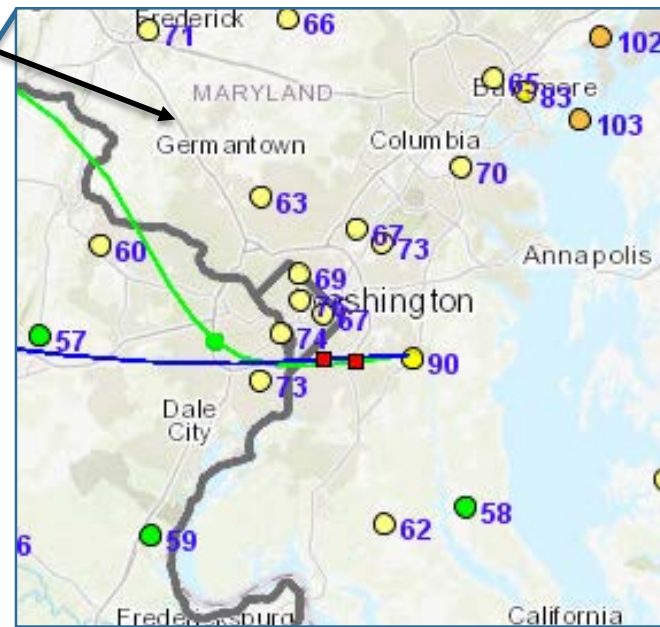
July 20th, 2017

1-hr Ozone Concentrations on July 20th at 1:00 PM = 55-90 ppb

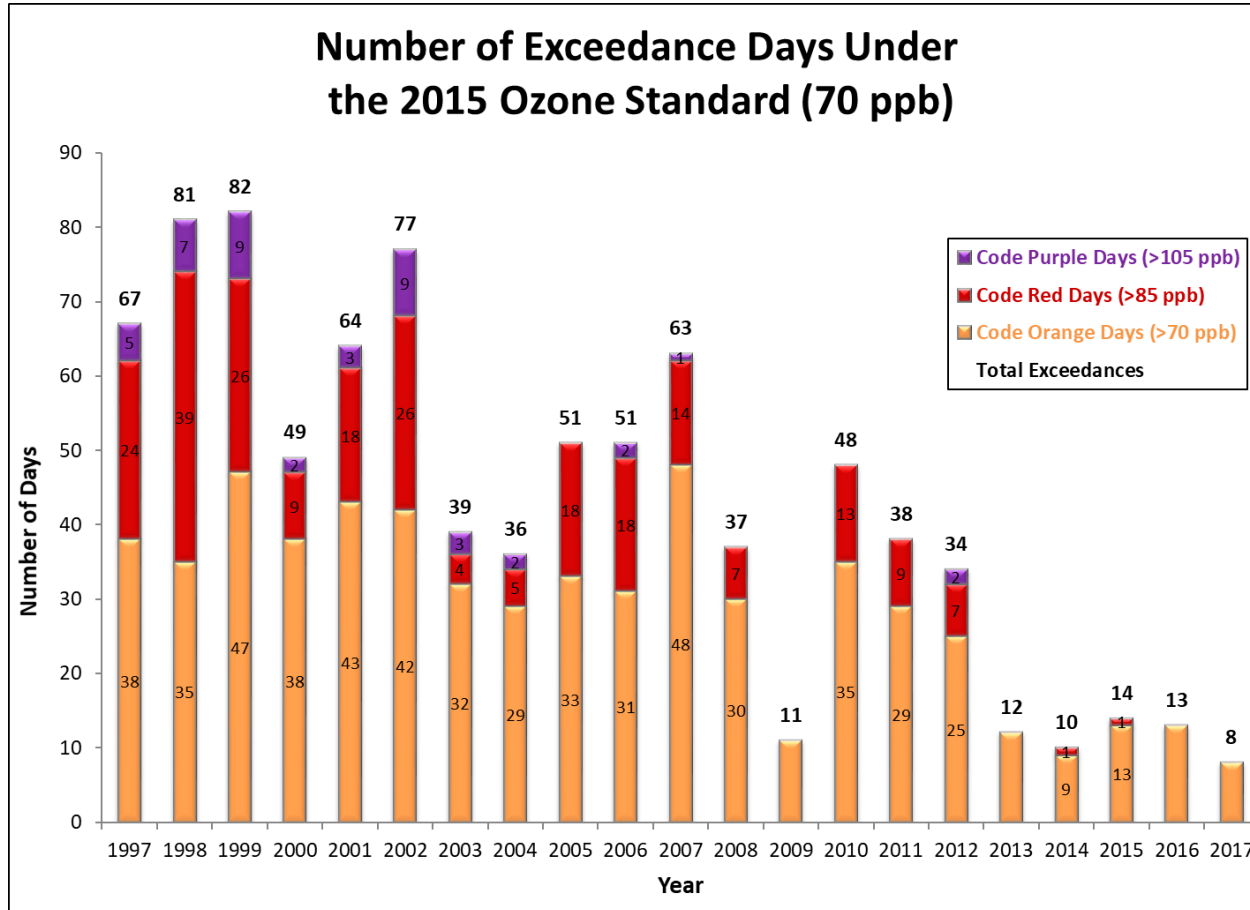
1-hr Ozone Concentrations on July 19th at 1:00 PM = 50-70 ppb



Westerly Trajectories



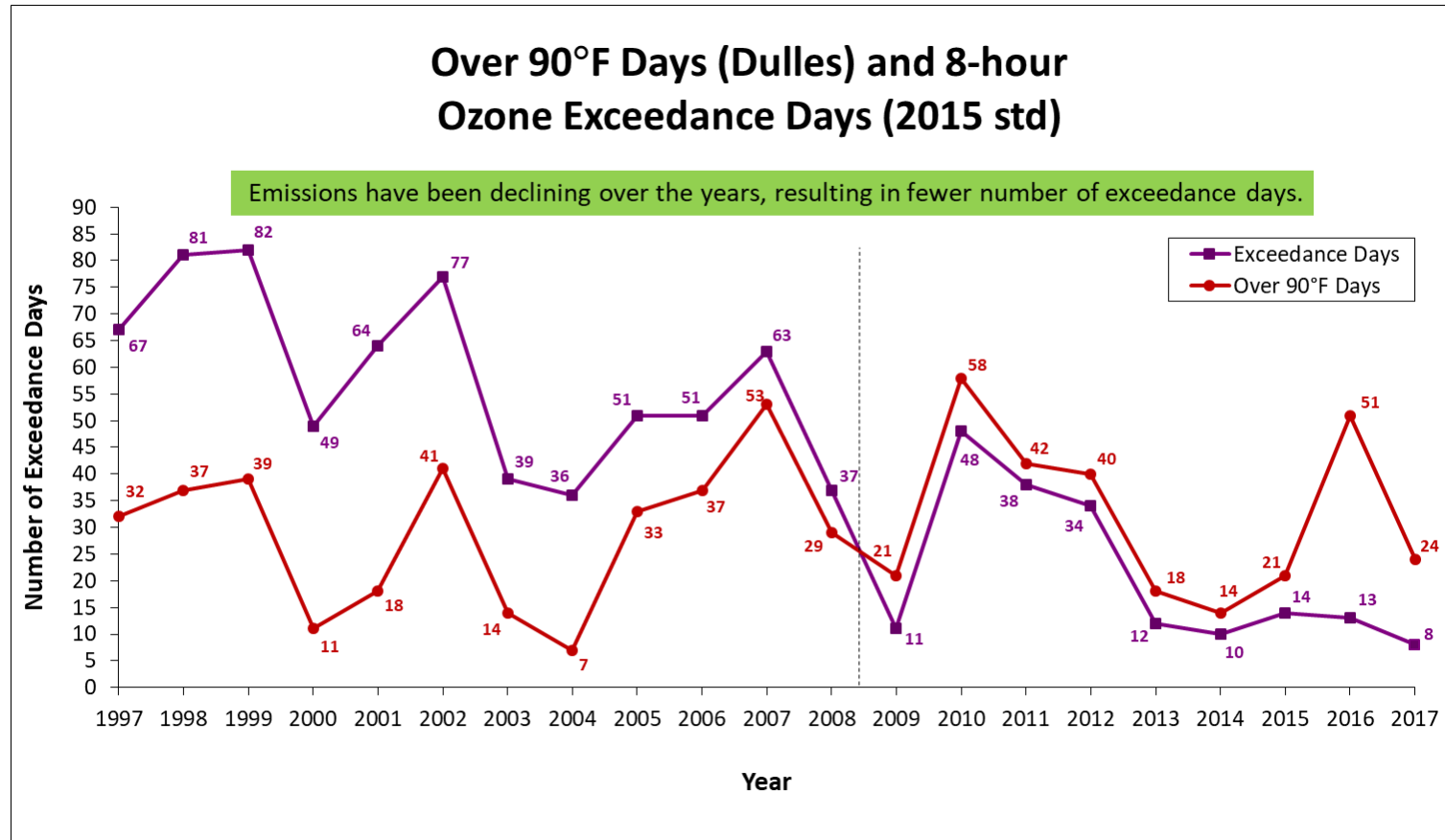
Ozone Exceedance Trend



* 2017 data is incomplete and preliminary as of September 1st, 2017.

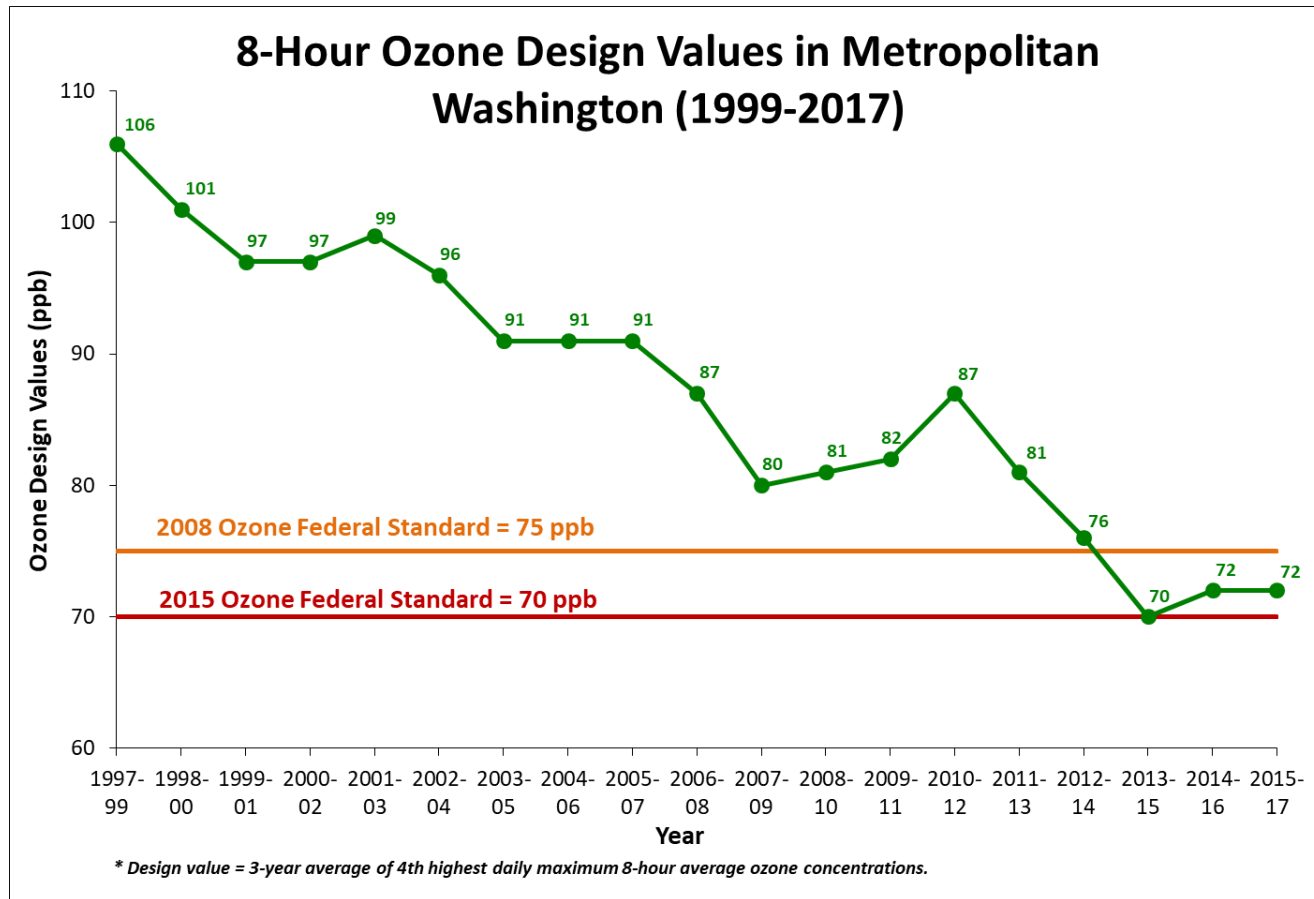


Ozone & Temperature Trend



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Ozone Design Value Trend



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Why Fewer Exceedance Days Now ?

Emission Control Programs		
Federal	State	Local
Acid Rain Program Phase 1/2 (1996/2000)	Vehicle Inspection and Maintenance Programs	Renewable Energy Programs: <i>Regional Wind Power Purchase Program</i> <i>Clean Energy Rewards Program</i> <i>Renewable Portfolio Standards</i>
Tier 2 (LD Vehicle) Rule (2004)	MD Healthy Air Act (2009/2012)	Energy Efficiency Programs: <i>LED Traffic Signal Retrofit Program</i> <i>Building Energy Efficiency Programs</i>
HD Diesel Vehicle Rule (2004/2007)	VA CSAPR Rule	VRE Idling Reduction
Nox SIP Call (2004)	Ozone Transport Commission Rules	Low VOC Paint
Clean Air Interstate Rule/CSAPR/CSAPR Update (2009/2015/2017)		Gas Can Replacement



24-Hour Average PM_{2.5} Levels (µg/m³)

APRIL 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	31	01 6.7
02 6.8	03 7.1	04 5.2	05 6.1	06 6.4	07 2.6	08 4.7
09 8.5	10 11.0	11 14.0	12 8.7	13 6.7	14 9.7	15 8.6
16 10.3	17 7.2	18 4.2	19 6.1	20 8.2	21 13.6	22 14.0
23 5.0	24 6.0	25 3.4	26 5.0	27 15.3	28 16.1	29 17.2
30 16.3	01	02	03	04	05	06

MAY 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	01 9.8	02 4.7	03 5.1	04 5.6	05 5.2	06 3.1
07 3.7	08 4.8	09 5.6	10 8.4	11 8.6	12 5.2	13 3.2
14 6.7	15 3.6	16 6.8	17 13.8	18 12.8	19 12.6	20 7.4
21 6.1	22 6.3	23 10.6	24 7.7	25 3.0	26 5.5	27 8.6
28 9.2	29 8.1	30 8.3	31 9.9	01	02	03
04	05	06	07	08	09	10

JUNE 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	31	01 8.0	02 9.0	03 11.4
04 14.5	05 12.9	06 8.5	07 6.4	08 6.5	09 8.5	10 10.8
11 13.0	12 17.0	13 17.7	14 15.0	15 10.7	16 11.5	17 8.2
18 11.3	19 9.0	20 6.6	21 10.7	22 14.5	23 10.5	24 8.3
25 7.2	26 6.0	27 5.4	28 5.5	29 10.7	30 12.1	01
02	03	04	05	06	07	08

26 Code Yellow Days, 127 Code Green Days

Analysis is based on draft data as of September 1st, 2017. Data is subject to change

24-Hour Average PM_{2.5} Levels (µg/m³)

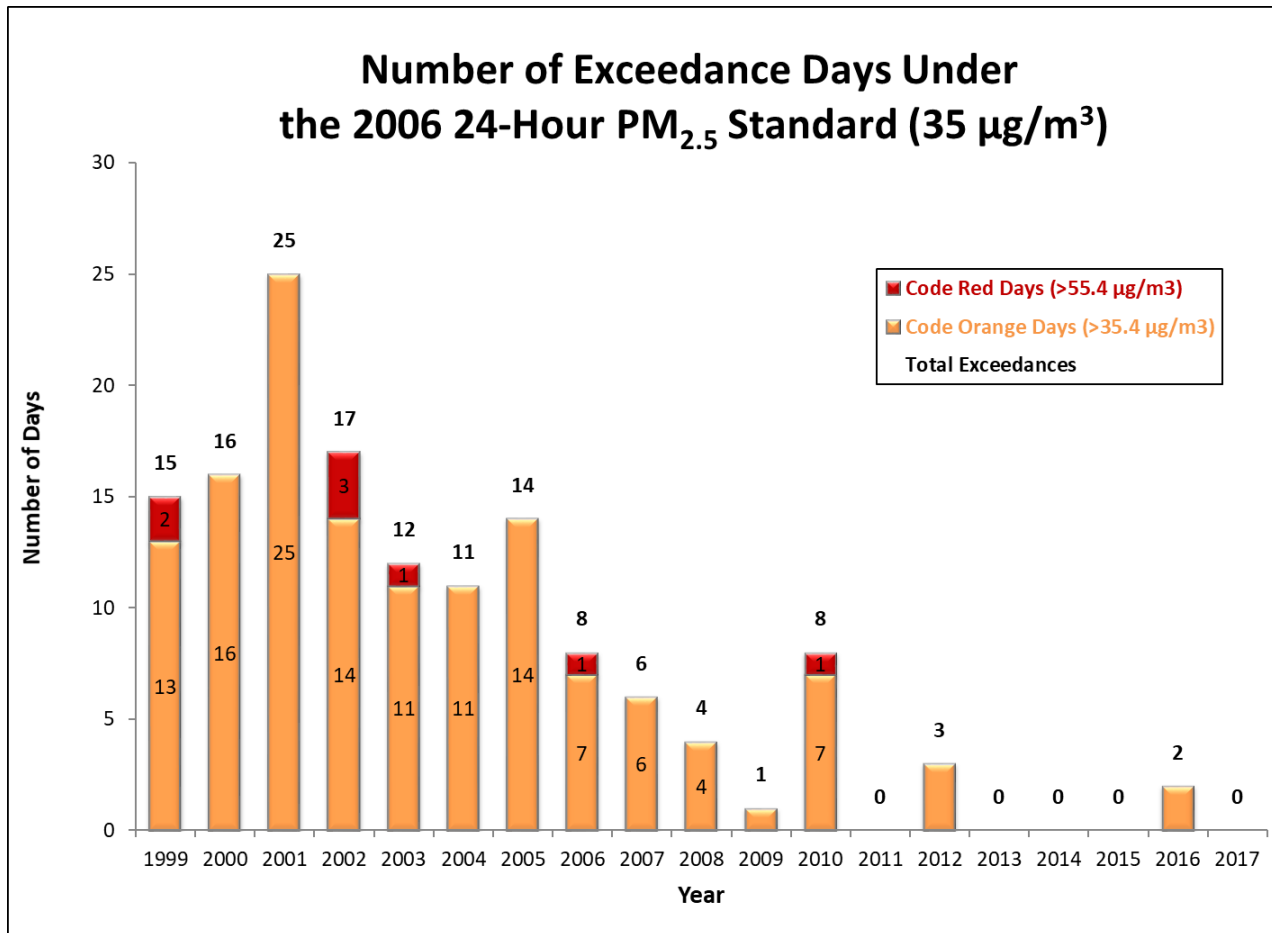
July 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27	28	29	30	01 9.7
02	03	04	05	06	07	08
12.4	12.0	26.5	20.2	8.3	6.2	7.2
09	10	11	12	13	14	15
7.7	13.1	14.7	10.4	11.0	7.7	7.1
16	17	18	19	20	21	22
6.9	8.4	9.4	10.0	18.0	14.2	7.5
23	24	25	26	27	28	29
6.2	6.9	5.5	7.5	9.2	8.8	5.2
30	31	01	02	03	04	05
6.0	9.2					

August 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	01	02	03	04	05
		10.1	11.0	10.7	11.7	6.3
06	07	08	09	10	11	12
7.2	5.8	7.5	8.7	10.7	6.6	5.9
13	14	15	16	17	18	19
8.8	10.7	8.0	10.4	13.2	8.7	5.6
20	21	22	23	24	25	26
8.7	10.4	12.7	6.5	11.0	10.3	10.0
27	28	29	30	31	01	02
11.3	9.7	5.3	8.2	9.2		
03	04	05	06	07	08	09

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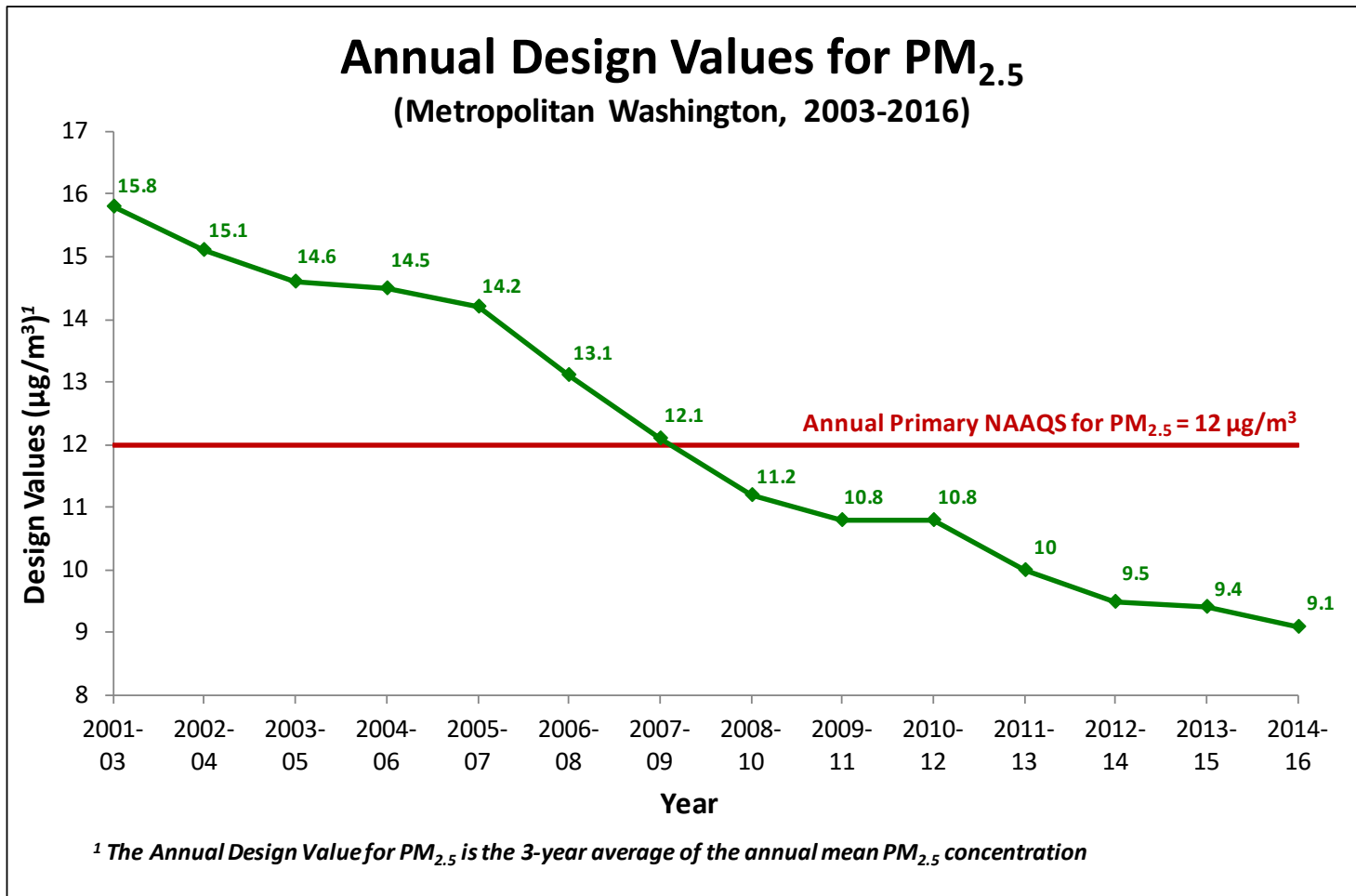
PM_{2.5} Exceedance Trend



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Annual PM_{2.5} Design Value Trend



24-Hour PM_{2.5} Design Value Trend

