OZONE SEASON SUMMARY 2019 & 2015 OZONE NAAQS PLANNING SCENARIOS

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MWAQC-Technical Advisory Committee
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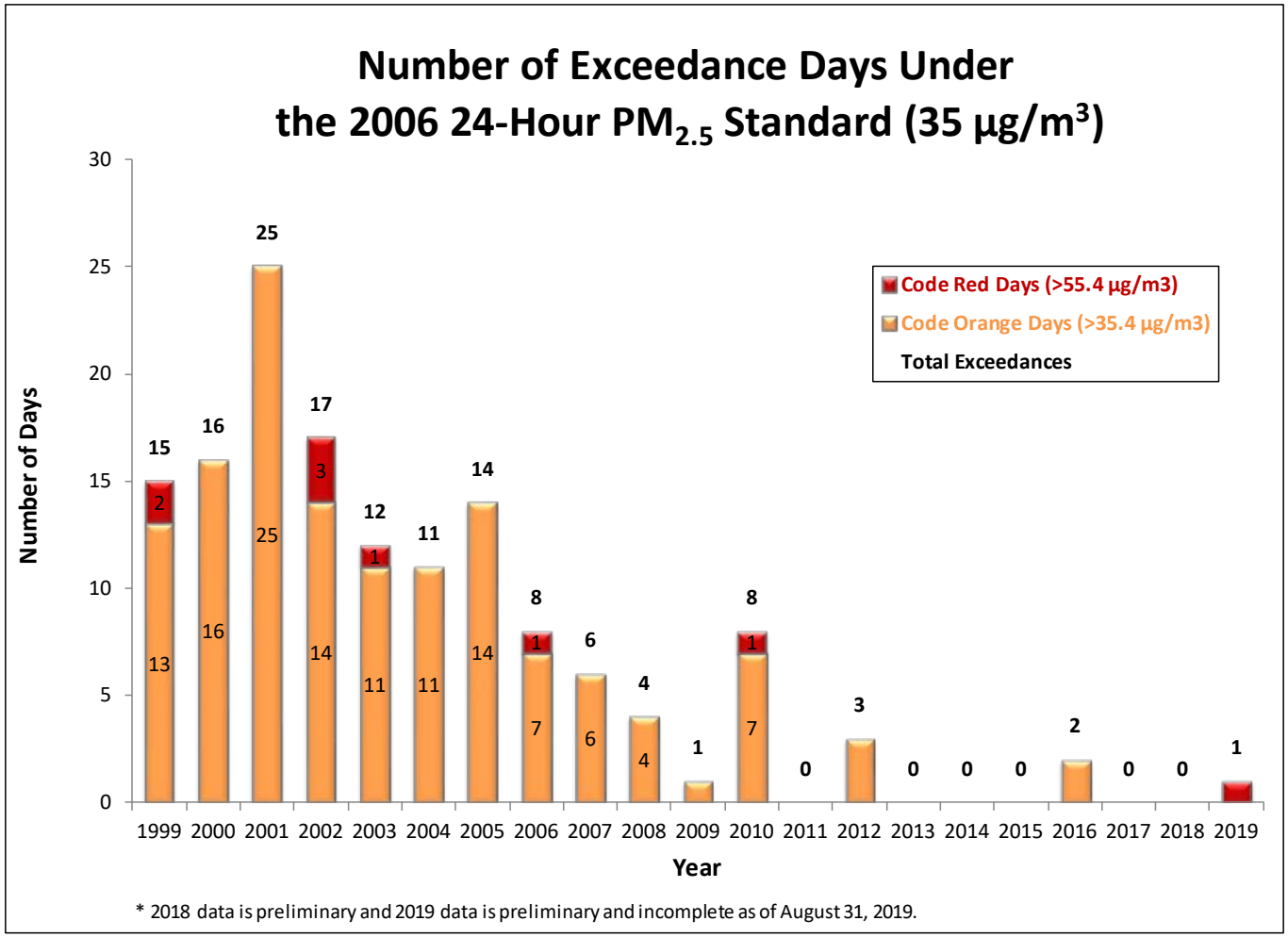
Agenda Item 2

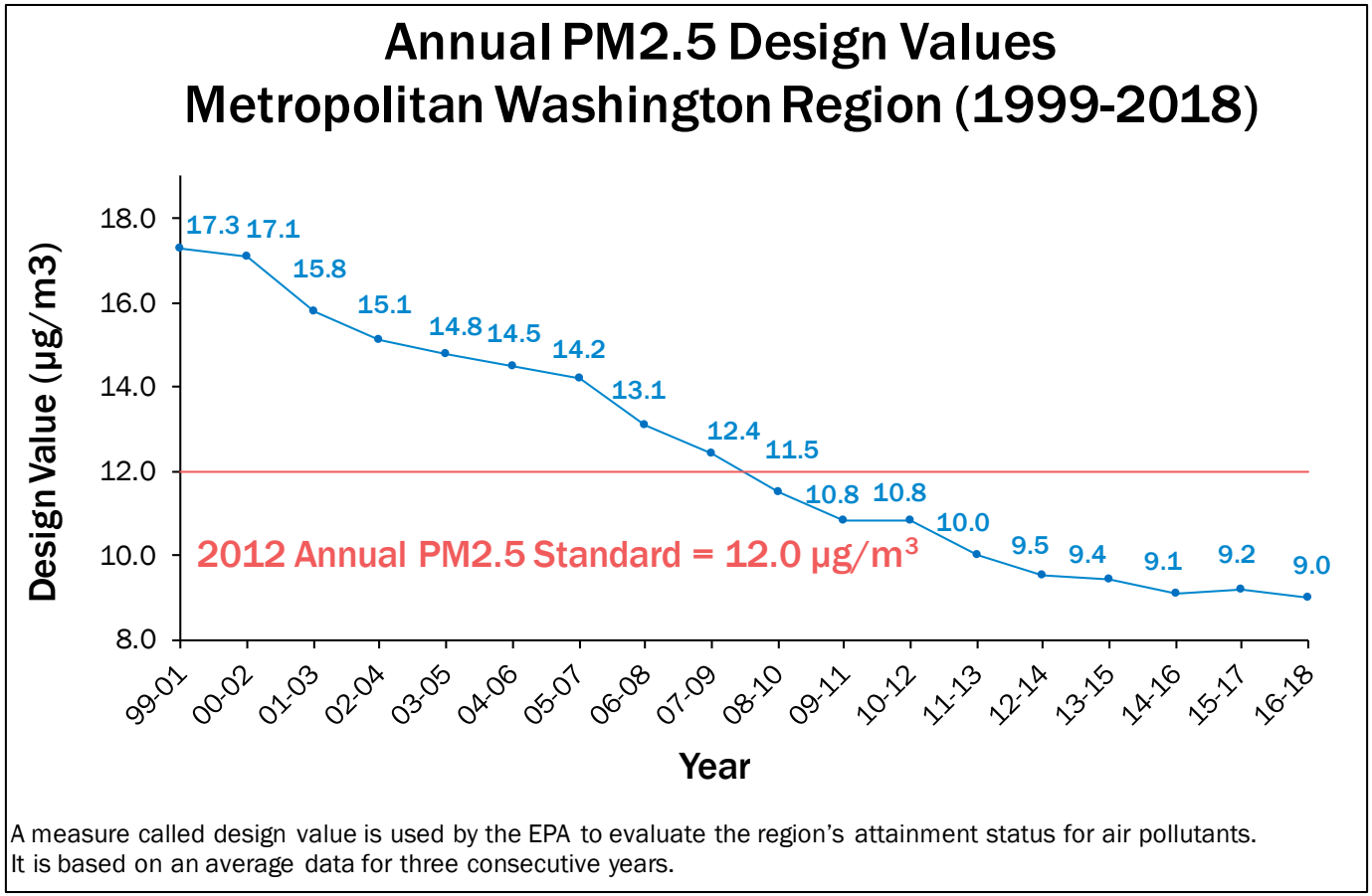
Metropolitan Washington
Council of Governments

PM2.5 Exceedance Trend



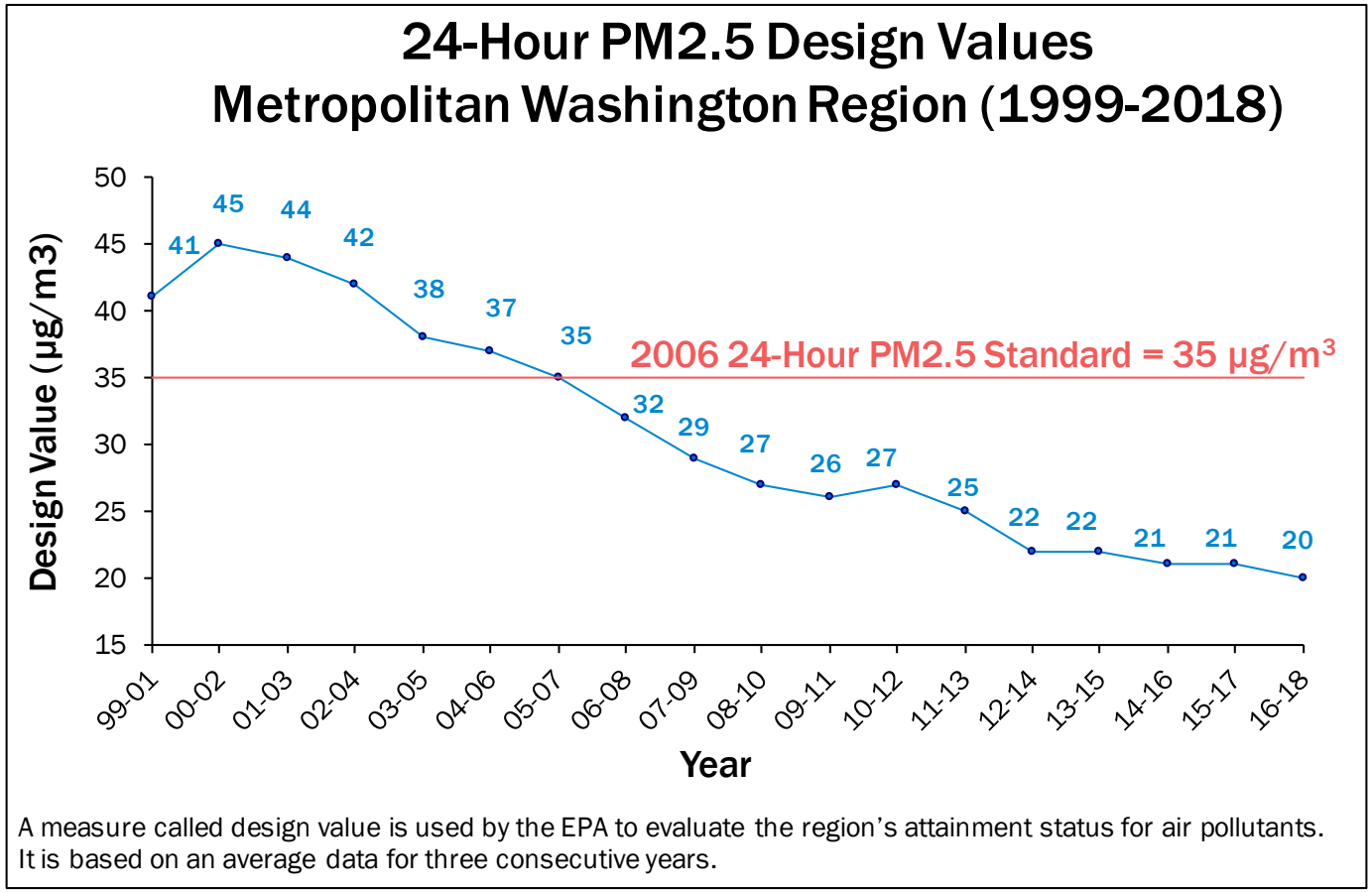
* Code Red occurred on July 4th.

Annual PM2.5 Design Value Trend



A measure called design value is used by the EPA to evaluate the region's attainment status for air pollutants. It is based on an average data for three consecutive years.

24-Hour PM2.5 Design Value Trend



A measure called design value is used by the EPA to evaluate the region's attainment status for air pollutants. It is based on an average data for three consecutive years.

Peak 8-Hour Average Ozone Levels (ppb)

March 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
24	25	26	27	28	01	02
					35	38
03	04	05	06	07	08	09
42	48	44	43	47	44	43
10	11	12	13	14	15	16
40	50	55	56	54	46	52
17	18	19	20	21	22	23
49	47	51	53	45	48	48
24	25	26	27	28	29	30
54	55	47	49	55	55	63
31						
47						

April 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	01	02	03	04	05	06
	48	48	57	58	45	54
07	08	09	10	11	12	13
56	47	55	56	45	47	49
14	15	16	17	18	19	20
42	45	51	54	58	37	47
21	22	23	24	25	26	27
43	45	58	56	55	48	56
28	29	30				
46	45	62				

May 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	01	02	03	04
			39	48	44	39
05	06	07	08	09	10	11
31	50	59	43	44	42	38
12	13	14	15	16	17	18
39	34	41	51	58	55	66
19	20	21	22	23	24	25
56	54	44	50	52	56	53
26	27	28	29	30	31	
52	51	45	56	51	59	

June 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	31	01
						71
02	03	04	05	06	07	08
58	47	53	51	63	59	62
09	10	11	12	13	14	15
44	30	44	51	42	41	54
16	17	18	19	20	21	22
51	62	41	48	49	46	44
23	24	25	26	27	28	29
48	59	53	66	74	76	60
30						
49						

July 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	01	02	03	04	05	06
	53	71	61	55	57	54
07	08	09	10	11	12	13
51	30	64	54	47	58	66
14	15	16	17	18	19	20
59	61	76	54	47	58	52
21	22	23	24	25	26	27
52	59	34	46	51	63	66
28	29	30	31			
63	66	75	68			

August 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	31	01	02	03
	66	72	68	72	66	63
04	05	06	07	08	09	10
61	66	77	57	59	55	51
11	12	13	14	15	16	17
45	67	51	55	57	57	57
18	19	20	21	22	23	24
52	61	74	50	64	29	38
25	26	27	28	29	30	31
39	40	40	36	51	63	70

9 Code Orange Day, 64 Code Yellow Days, 111 Code Green Days

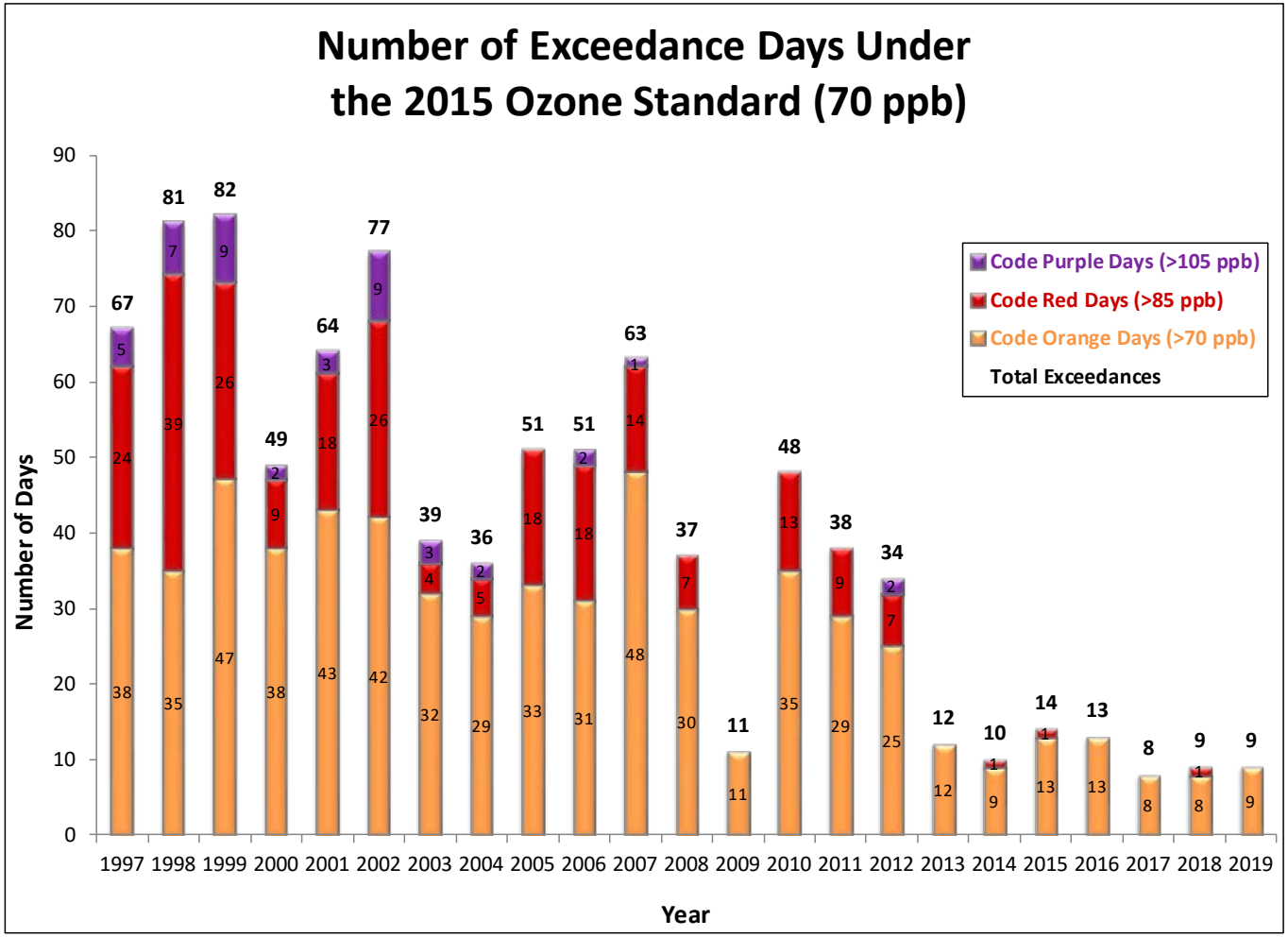
Analysis is based on draft and incomplete data as of August 31, 2019.

2019 Ozone Exceedances

Date	Monitors Exceeding	Highest Monitor	8-Hr Max Ozone Concentration (ppb)
6/1	1	Franconia	71
6/27	2	Arlington	74
6/28	3	Beltsville	76
7/2/2019	1	Beltsville	71
7/16/2019	4	Beltsville	76
7/30/2019	3	Beltsville	75
8/1/2019	1	Franconia	72
8/6/2019	4	HU-Beltsville	77
8/20/2019	2	Fredrick/Loudoun	74

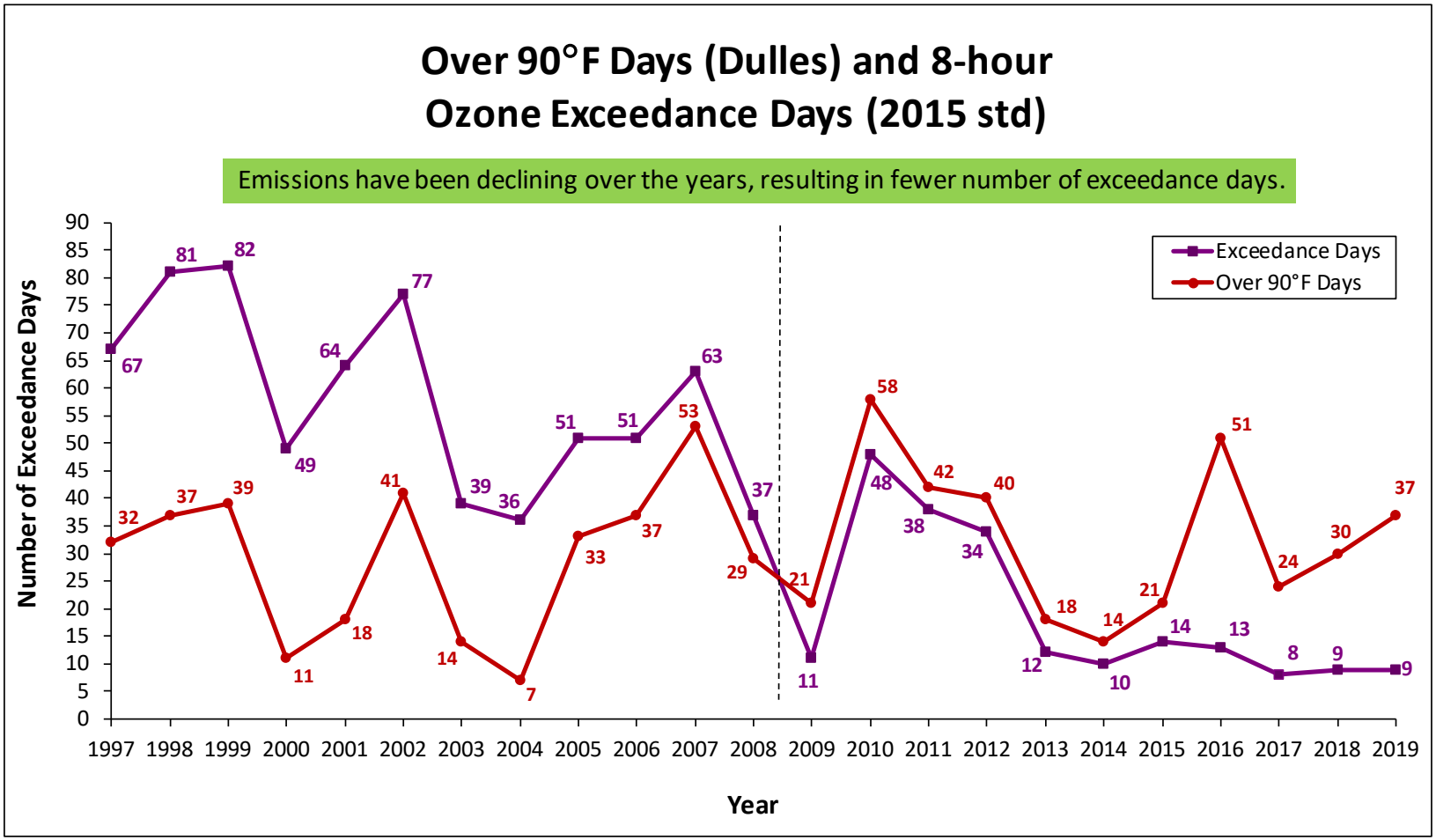
Analysis is based on draft and incomplete data as of September 3, 2019.

Ozone Exceedance Trend



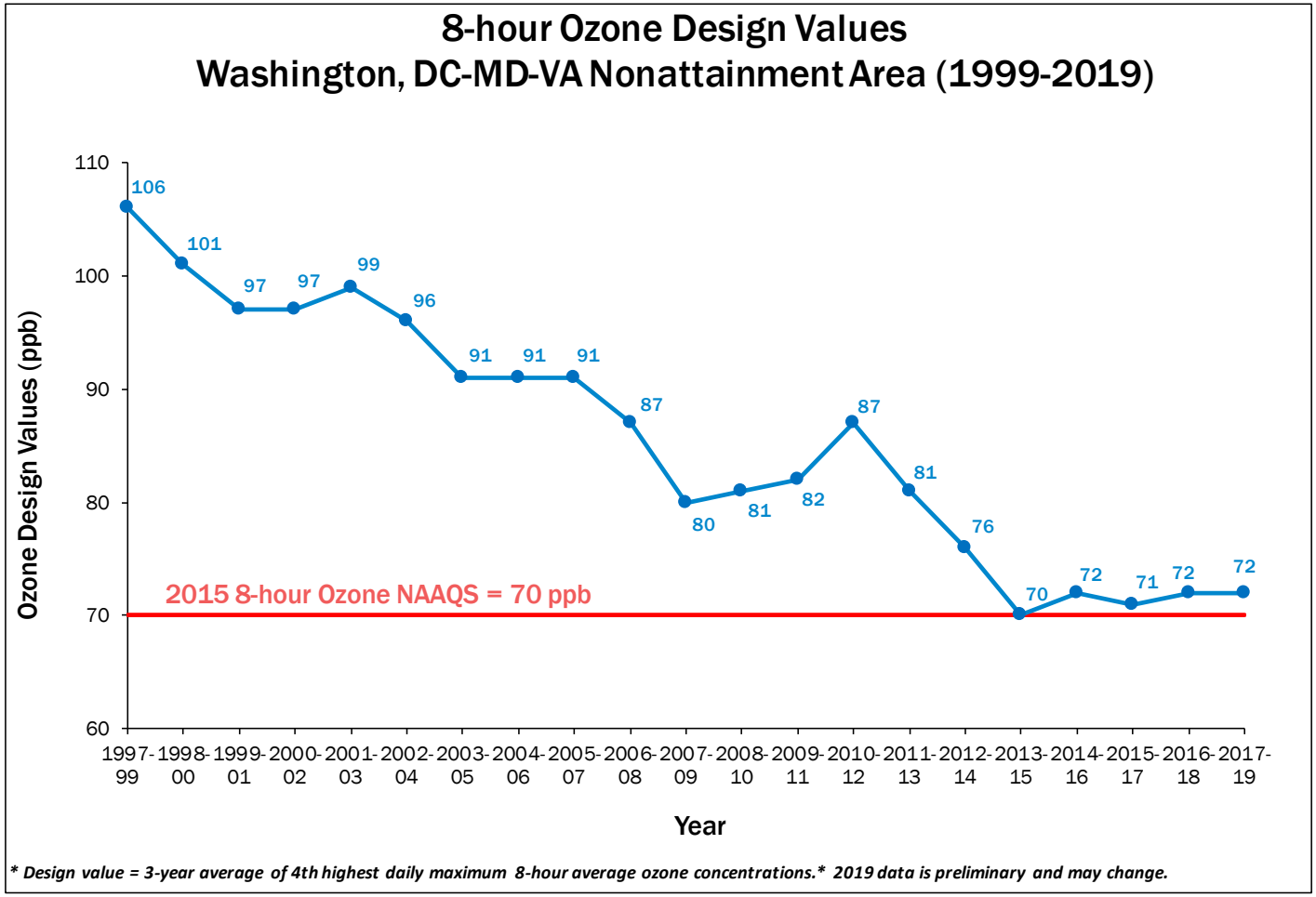
Analysis is based on draft and incomplete data as of September 3, 2019.

Ozone & Temperature Trend



Analysis is based on draft and incomplete data as of September 3, 2019.

Ozone Design Value Trend



** Design value = 3-year average of 4th highest daily maximum 8-hour average ozone concentrations.* 2019 data is preliminary and may change.*

Why Fewer Exceedance Days Now ?

Emission Control Programs

Federal	State	Local
Acid Rain Program (1996/2000)	Vehicle Inspection & Maintenance Programs	Renewable Energy Programs Regional Wind Power Purchase Program Clean Energy Rewards Program Renewable Portfolio Standards
Tier 2/Tier 3 (LD Vehicle) Rule (2004/2017)	Maryland Healthy Air Act (2009/2012)	Energy Efficiency Programs LED Traffic Signal Retrofit program Building Energy Efficiency Programs
HD Diesel vehicle Rule (2004/2007)	Virginia CSAPR Rule	VRE Idling Reduction
NOX SIP Call (2004)	Ozone Transport Commission Rules	LOW VOC Paint
CAIR/CSAPR/CSAPR Update (2009/2015/2017)		Gas Can Replacement
Marine Emission Control Areas (2012/2015/2016)		

Planning for 2015 Ozone NAAQS – Initial Thoughts on Next Steps

- Minimum 4th highest daily 8-hour max ozone (by monitor) in 2020 that can lead to nonattainment based on 2018-2020 Design Value

Monitor	County, State	4th Highest Daily Maximum 8-Hour Ozone Concentration (ppb)			Design Value (ppb)
		2018	2019 (Preliminary)	2020 (Minimum needed for nonattainment)	2018-2020
Beltsville	Prince George's, MD	73	75	65	71
McMillian Ncore	District of Columbia	73	71	69	71
HU- Beltsville	Prince George's, MD	70	71	72	71
Takoma	District of Columbia	73	66	74	71
Arlington	Arlington, VA	70	68	75	71
PG Equestrian	Prince George's, MD	70	65	78	71
Franconia	Fairfax, VA	66	68	77	71
Frederick	Fredrick, MD	67	65	81	71
Rockville	Montgomery, MD	69	62	82	71
S. Maryland	Charles, MD	68	60	85	71
Ashburn	Loudoun, VA	65	60	88	71
Long Park	Prince William, VA	65	60	88	71
Calvert	Calvert, MD	67	57	89	71
River Terrace	District of Columbia	50	61	102	71

Planning for 2015 Ozone NAAQS – Initial Thoughts on Next Steps

- Based on the design value table in the previous slide, there seems to be a good chance the Washington region may not attain the 2015 ozone NAAQS in 2020
- **Possible Scenarios & Follow Up Actions**
  - Case 1 (Best case scenario - Attainment)
    - Can submit Redesignation Request/Maintenance Plan
  - Case 2 (Nonattainment, but regional max 4th highest daily max 8-hour ozone concentration in 2020 is ≤ 0.070 ppm)
    - Can apply for a one-year extension of the attainment deadline to August 3, 2022 (New attainment DV period: 2019-2021) to get more time for attainment and avoid getting bumped up to moderate Nonattainment Area.
    - Can also apply for a second extension to August 3, 2023 (New attainment DV period: 2020-2022) if the 4th highest daily max 8-hour avg ozone concentration averaged over both the original attainment year (2020) and the first extension year (2021), is ≤ 0.070 ppm.

Planning for 2015 Ozone NAAQS – Initial Thoughts on Next Steps

- **Possible Scenarios & Follow Up Actions**
  - Case 2 continued
    - For the second 1-year extension, the area's 4th highest daily max 8-hour average concentration for each year would be for the monitor which, for that year, has the 4th highest daily max 8-hour average. Therefore, the value for each year could be derived from a different monitor.
    - Failure to attain by August 3, 2023 would lead to a bump-up likely by December 2023.
    - Moderate Nonattainment Area attainment date – August 3, 2024 (Attainment DV period: 2021-2023)
    - Not clear what nonattainment category EPA may choose to redesignate the region since the moderate attainment date would then be past.
    - Depending on the redesignation category, the 15% Reasonable Forward Progress (RFP) plan, attainment SIP, and additional requirements might be due soon (1 year after the redesignation?). Need to confirm submittal date with EPA. Consequently, the region would need to start developing an attainment SIP soon.

Planning for 2015 Ozone NAAQS – Initial Thoughts on Next Steps

- **Possible Scenarios & Follow Up Actions**
  - Case 3 (Nonattainment; regional max 4th highest daily max 8-hour ozone concentration in 2020 > 0.070 ppm)
    - The region would be bumped up to moderate Nonattainment Area
    - The region would need to submit a 15% Reasonable Forward Progress plan and an attainment SIP soon (1 year after redesignation?)
  - Case 4 – (Reach attainment (Case 1) but revert to nonattainment status in future years)
    - Fluctuating data over the last 5 years show that we could attain the standard one year and then exceed it in a future year
    - This would complicate planning unless future emissions reductions bring ozone level down below NAAQS
    - Action would depend on EPA taking an action to place the region back as a marginal nonattainment area
    - Develop redesignation request/maintenance plan with contingency measures to avoid going back to nonattainment is an option