

OZONE SEASON SUMMARY 2021

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MWAQC
May 26, 2021

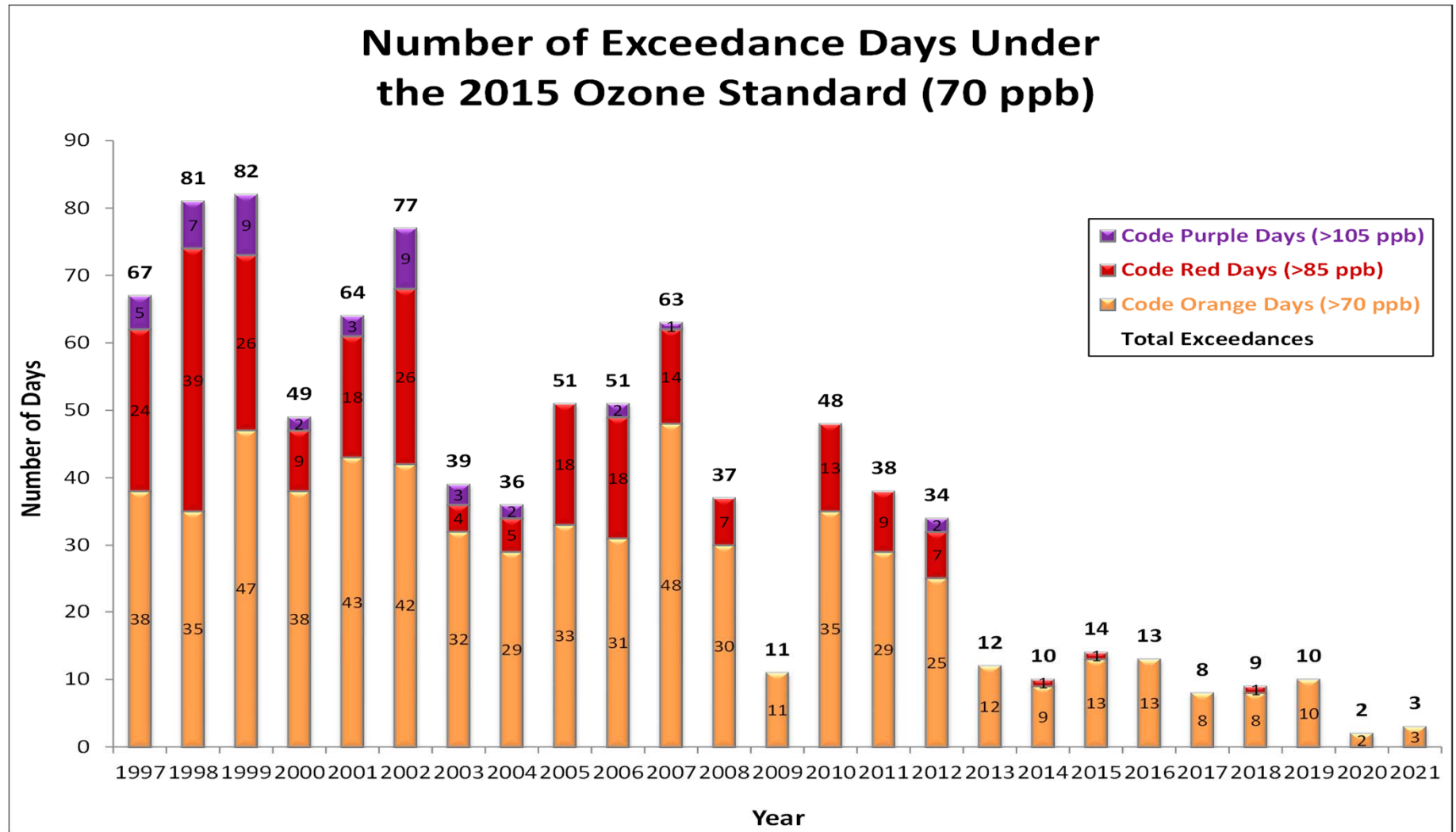
Peak 8-Hour Average Ozone Levels (ppb)

March 2021							April 2021							May 2021							
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
28	01	02	03	04	05	06	28	29	30	31	01	02	03	25	26	27	28	29	30	01	
	39	44	44	46	45	47					37	48	47								49
07	08	09	10	11	12	13	04	05	06	07	08	09	10	02	03	04	05	06	07	08	
48	48	59	63	61	47	52	61	58	63	67	50	36	49	57	38	46	44	43	41	44	
14	15	16	17	18	19	20	11	12	13	14	15	16	17	09	10	11	12	13	14	15	
52	48	44	38	34	47	48	53	36	39	38	46	42	41	44	49	51	41	50	49	60	
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22	
55	52	47	26	33	51	50	45	48	55	45	46	58	58	53	59	66	71	82	74	66	
28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29	
39	47	55	41				51	55	60	61	49	48		59							
														30							

3 Code Orange Days, 21 Code Yellow Days, rest all Code Green Days

Analysis is based on draft data as of May 24, 2021.

Ozone Exceedance Trend

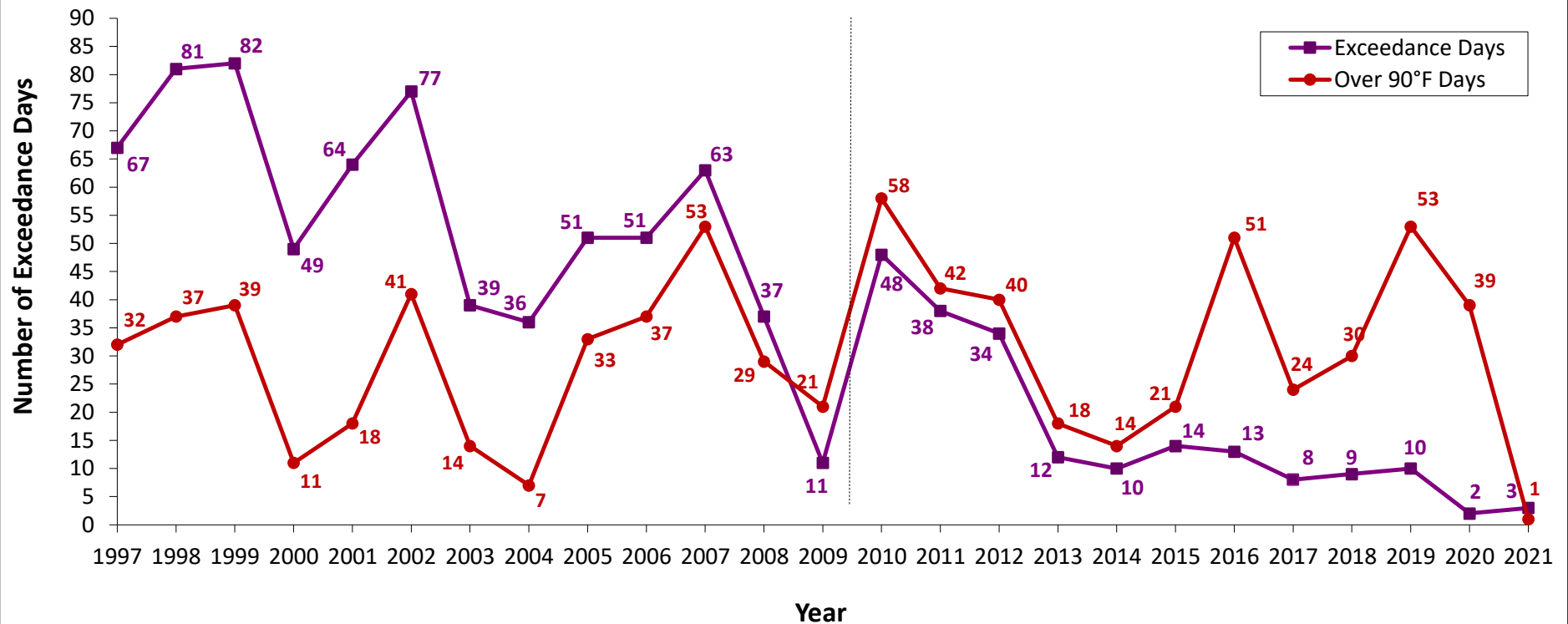


2021 data is draft and incomplete as of May 24, 2021.

Ozone & Temperature Trend

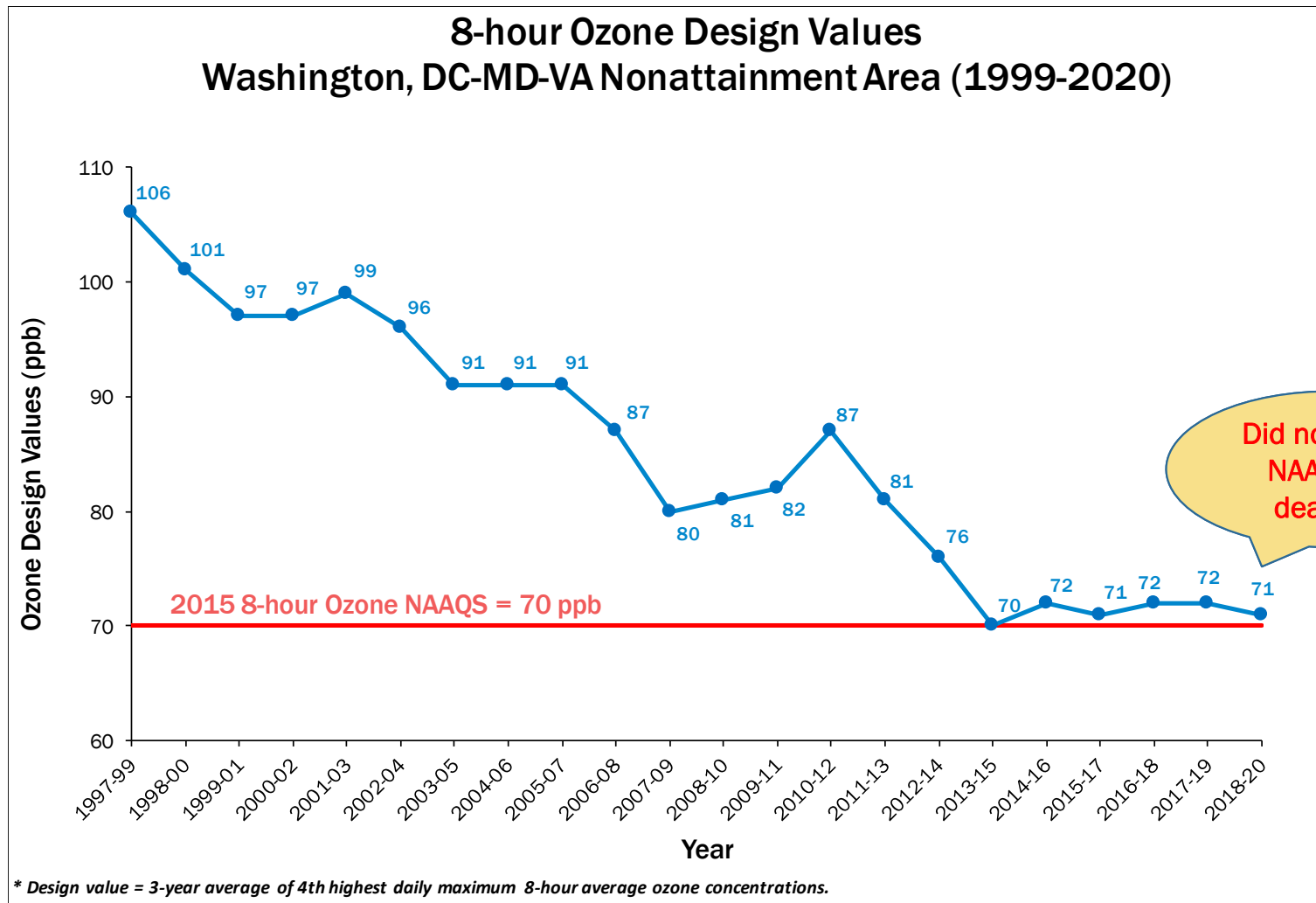
Over 90°F Days (Dulles) and 8-hour Ozone Exceedance Days (2015 std)

Emissions have been declining over the years, resulting in fewer number of exceedance days.



2021 data is draft and incomplete as of May 24, 2021.

Ozone Design Value Trend



2018-2020 design value data is draft as of May 24, 2021.

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 (LD Vehicle) Rule (2004)	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/Revised CSAPR Update (2009/2015/2017/2021)		Gas Can Replacement

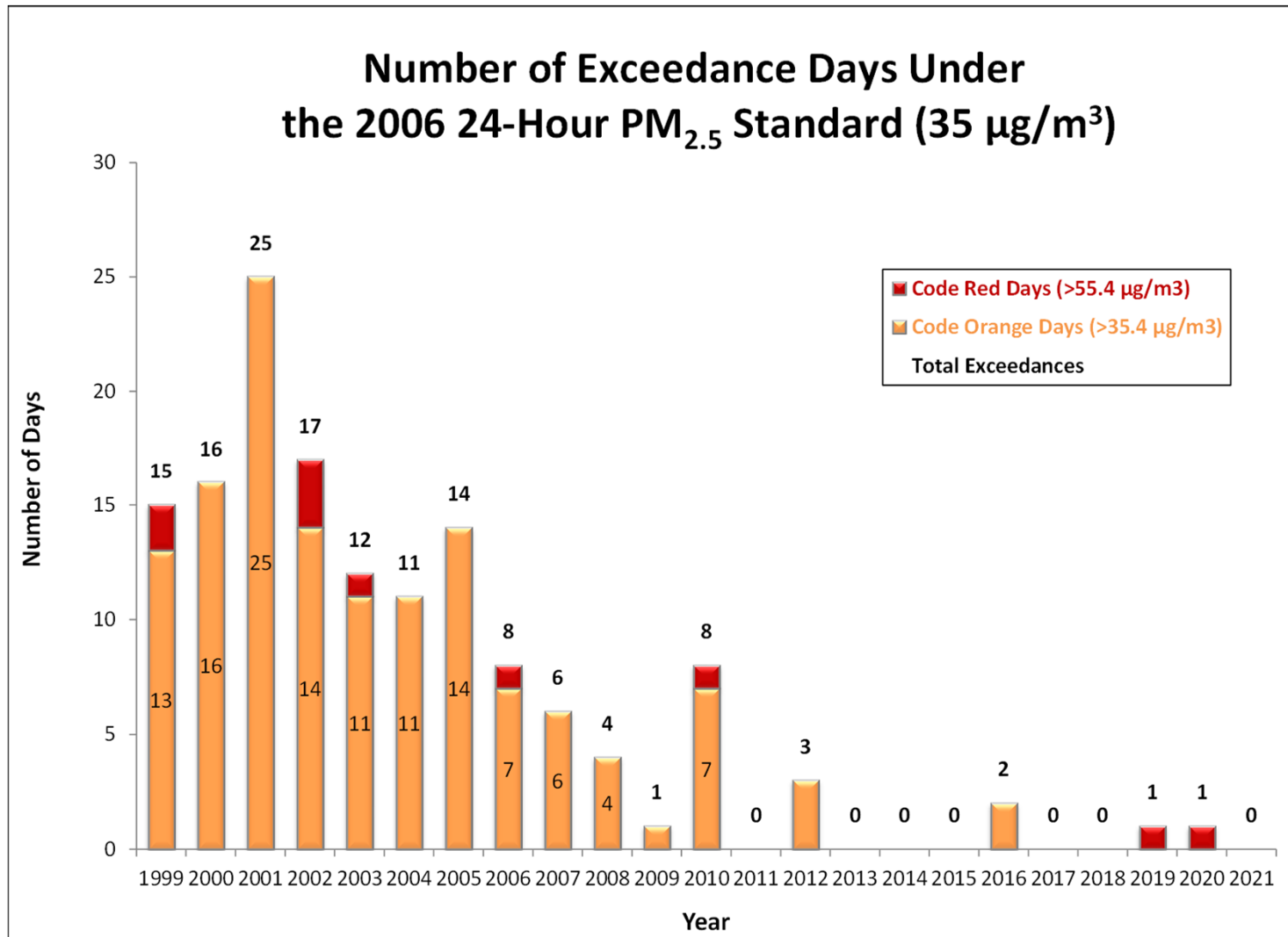
24-Hour Average PM2.5 Levels (µg/m³)

March 2021							April 2021							May 2021						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	01	02	03	04	05	06	28	29	30	31	01	02	03	25	26	27	28	29	30	01
	6.6	5.3	9.5	8.6	5.1	5.5					5.3	4.0	5.8							4.3
07	08	09	10	11	12	13	04	05	06	07	08	09	10	02	03	04	05	06	07	08
8.6	14.0	15.2	20.0	17.7	8.6	4.8	9.2	12.0	12.7	13.5	5.3	6.6	9.7	8.9	11.0	15.0	8.0	5.9	8.0	4.5
14	15	16	17	18	19	20	11	12	13	14	15	16	17	09	10	11	12	13	14	15
5.5	5.0	8.0	9.3	5.8	5.0	7.5	5.9	6.3	7.7	10.5	6.7	4.2	6.5	6.8	4.2	6.8	5.0	7.3	10.6	9.7
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22
14.7	11.3	9.2	8.1	11.4	6.7	5.0	7.2	8.5	8.4	6.7	6.3	9.4	11.6	8.2	10.9	11.3	12.7	12.3	9.9	12.5
28	29	30	31				25	26	27	28	29	30	23	24	25	26	27	28	29	
6.5	4.9	9.4	7.7				9.2	6.0	12.4	14.4	12.4	3.9	12.3							
													30	31						

15 Code Yellow Days, rest all Code Green Days

Analysis is based on draft data as of May 24, 2021.

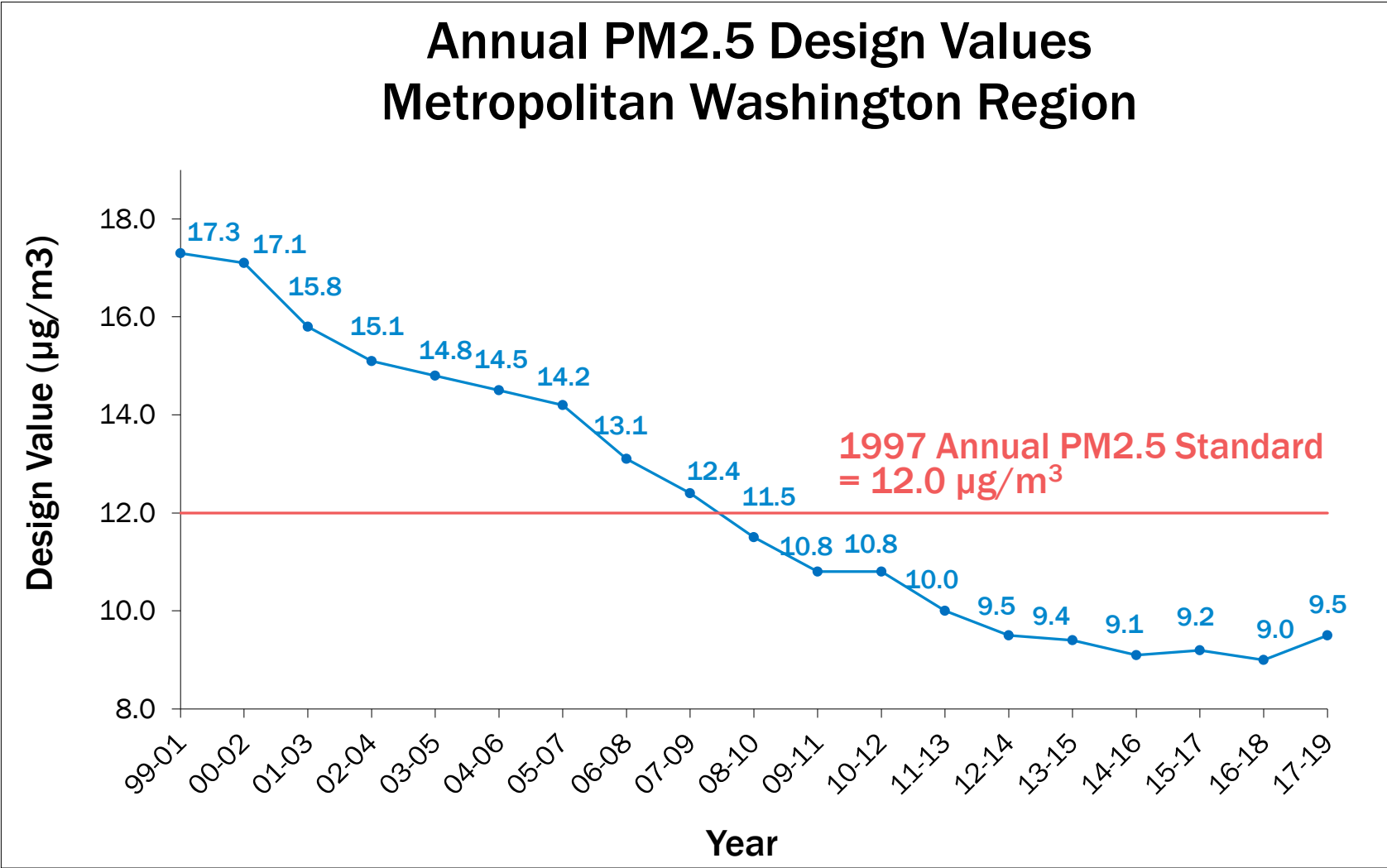
PM2.5 Exceedance Trend



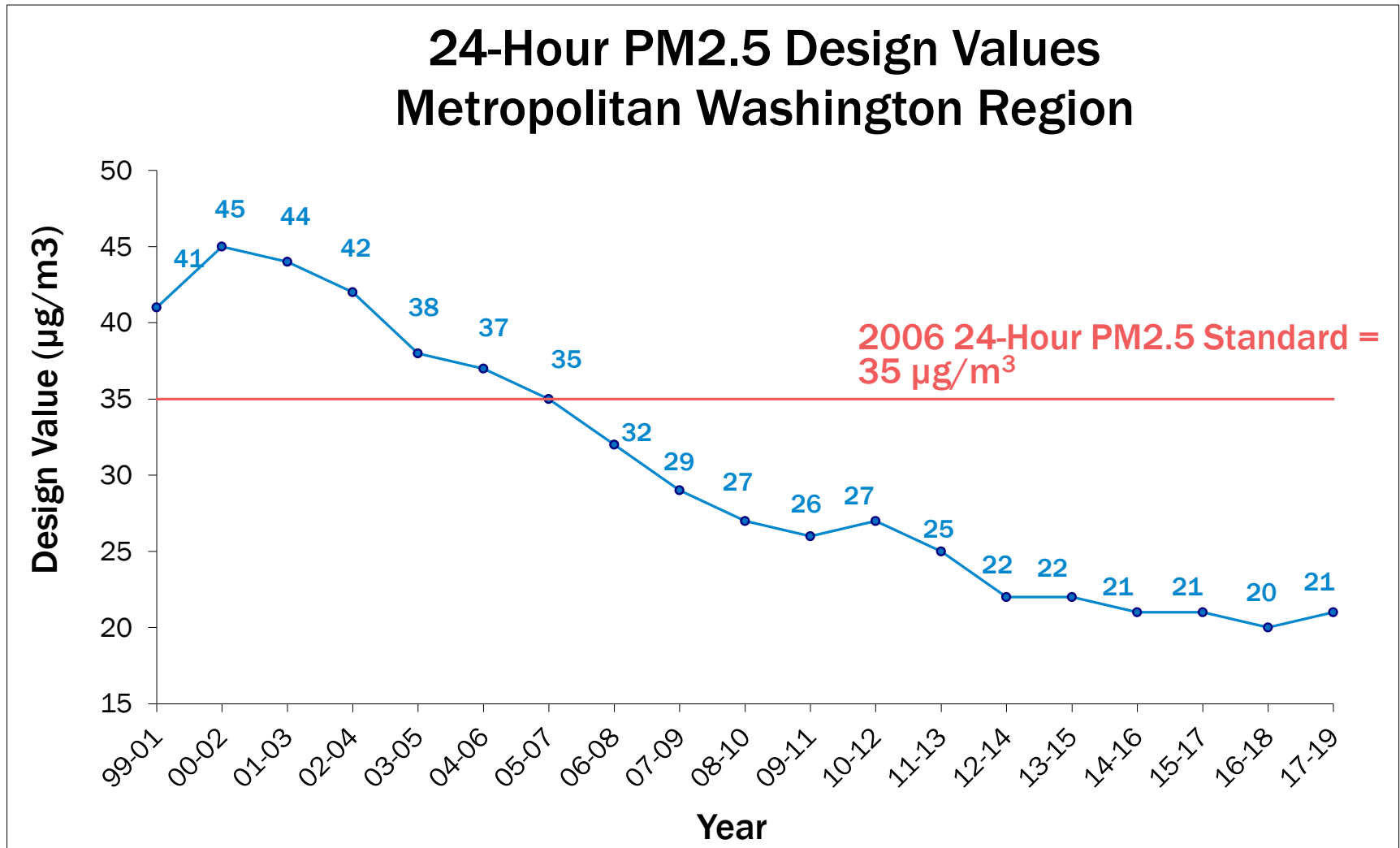
2021 data is draft and incomplete as of May 24, 2021.



Annual PM2.5 Design Value Trend

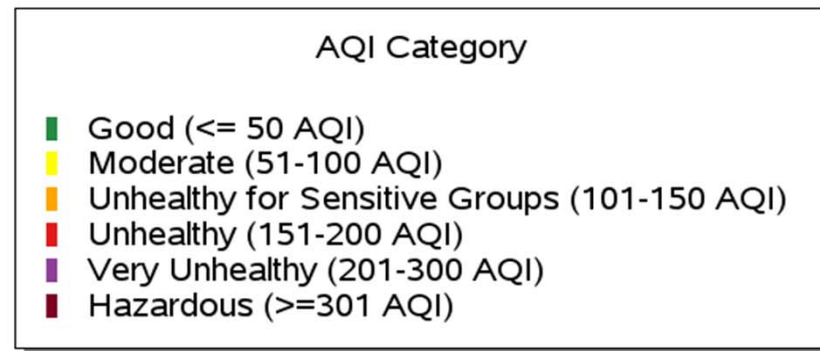
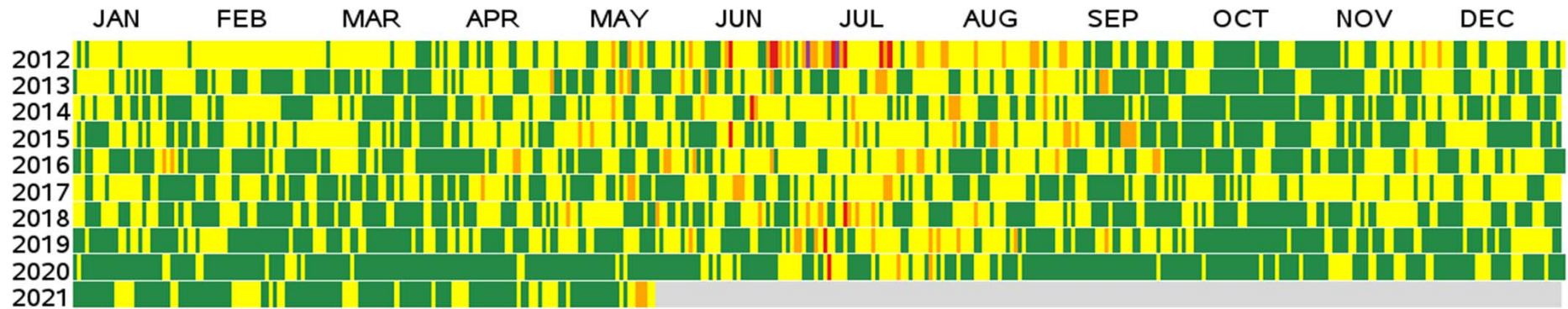


24-Hour PM2.5 Design Value Trend



AQI Value Trends

Daily AQI Values, 2012 to 2021 Washington-Arlington-Alexandria, DC-VA-MD-WV

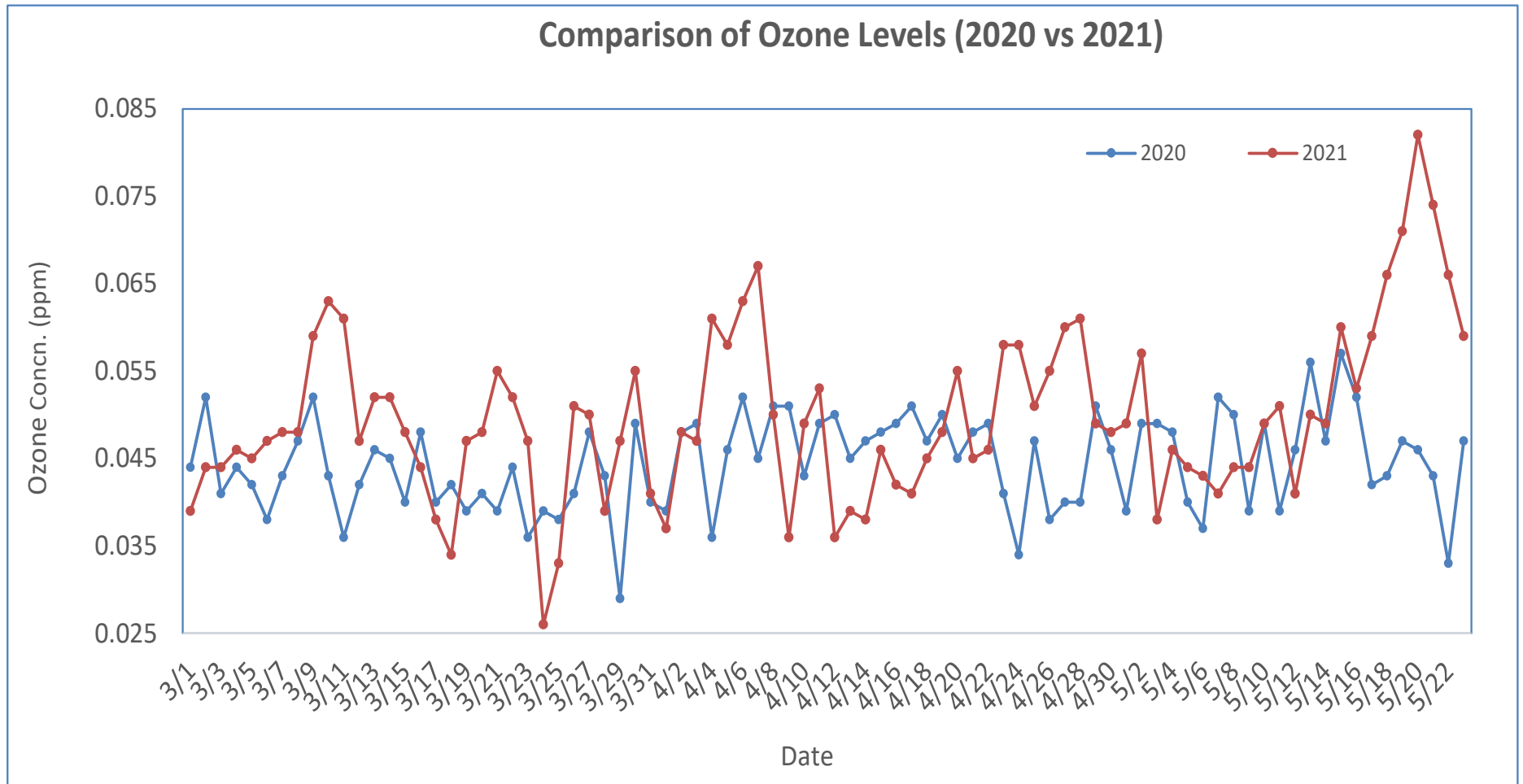


Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>

Generated: May 24, 2021

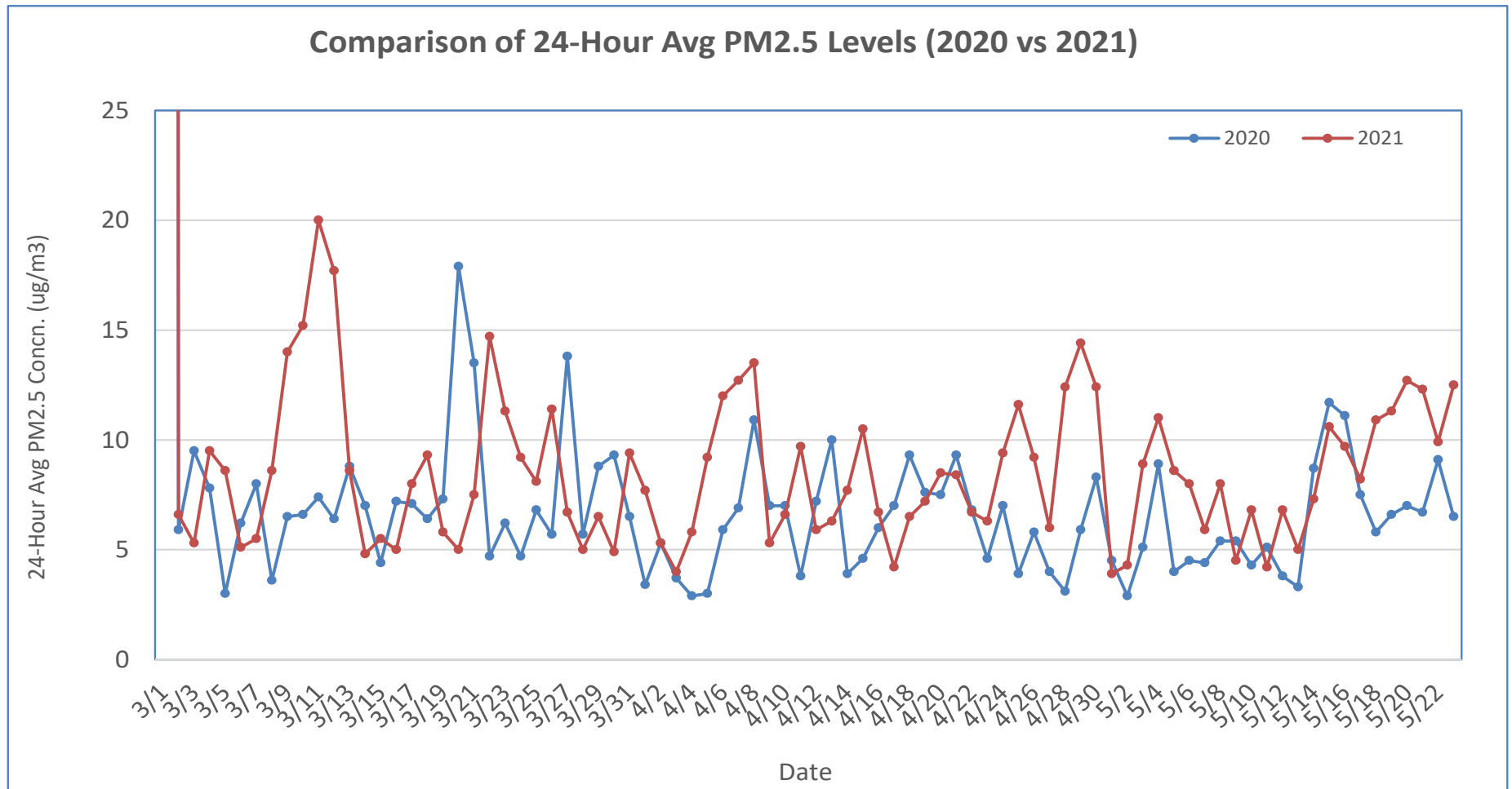
Note: Data shown above is for combined AQI values for ozone, PM2.5, PM10, CO, NO2, and SO2 for the Washington-Arlington-Alexandria CBSA.

OZONE LEVELS – 2020 Vs 2021



Draft 2021 ozone levels mostly higher. Warmer and drier than normal weather might be partly responsible.

PM2.5 LEVELS – 2020 Vs 2021



Draft 2021 PM2.5 levels mostly higher. Warmer and drier than normal weather might be partly responsible.

Ozone Data & Attainment Status

Monitor	County, State	Ozone Concentration (ppb)				
		Draft 2018-20 Design Value	4 th Highest Daily Max 8-Hr Avg Ozone (2019)	4 th Highest Daily Max 8-Hr Avg Ozone (2020)	4 th Highest Daily Max 8-Hr Avg Ozone (2021)	Max 4 th Highest Daily Max 8-Hr Avg Ozone allowed in order to attain (71 ppb) in 2021
Beltsville	Prince George's, MD	71	75	65	64	72
McMillian	District of Columbia	69	71	63	59	78
HU- Beltsville	Prince George's, MD	68	71	64	64	77
Takoma	District of Columbia	67	67	63	64	82
Arlington	Arlington, VA	66	68	62	60	82
PG Equestrian	Prince George's, MD	65	65	60	66	87
Franconia	Fairfax, VA	64	70	57	62	85
Frederick	Fredrick, MD	65	65	63	66	84
Rockville	Montgomery, MD	63	62	59	66	91
S. Maryland	Charles, MD	60	61	52	62	99
Ashburn	Loudoun, VA	61	60	60	61	92
Long Park	Prince William, VA	60	60	57	60	95
Calvert	Calvert, MD	59	58	54	59	100
River Terrace	District of Columbia	55	62	54	54	96

2021 data is draft and incomplete as of May 24, 2021.

CONCLUSIONS

- Ozone and PM2.5 levels were overall higher in March through May 23 of 2021 compared to same months in 2020.
- Overall warmer and drier than normal weather and increased emissions associated with economic recovery might have contributed towards higher pollutant levels observed this year.