# OZONE SEASON SUMMARY 2020

Sunil Kumar Principal Environmental Engineer

ACPAC September 21, 2020



# Peak 8-Hour Average Ozone Levels (ppb)

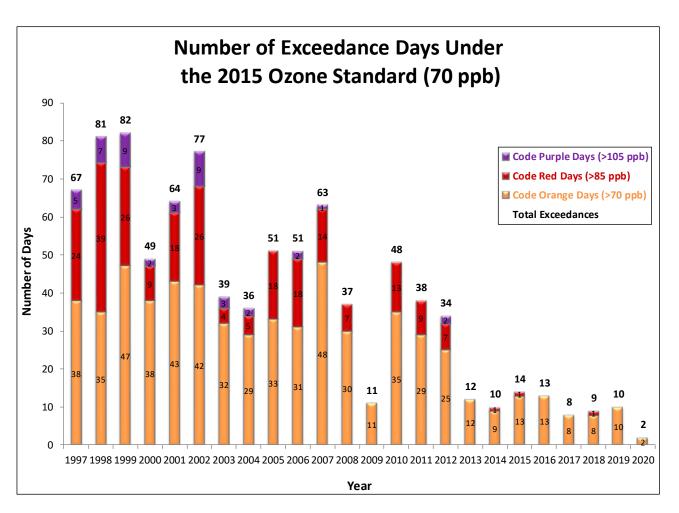
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#### 2 Code Orange, 31 Code Yellow Days, Rest All Code Green Days

Analysis is based on draft data as of August 31, 2020.

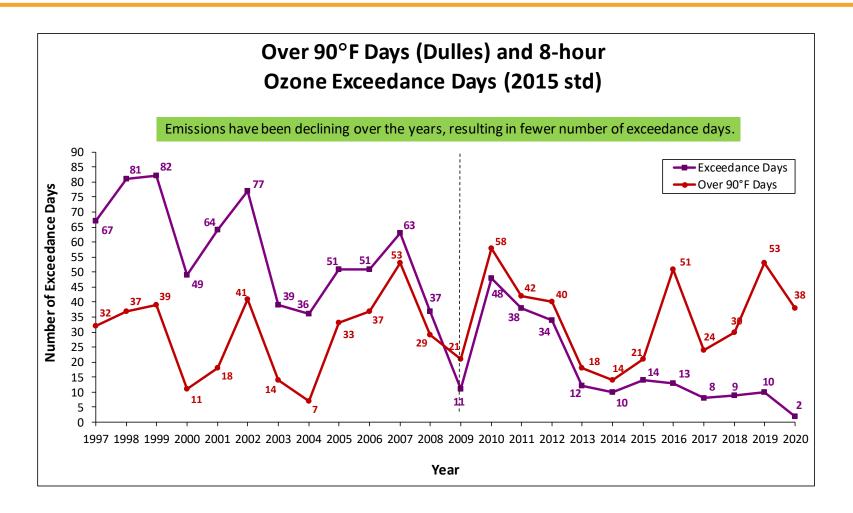


### **Ozone Exceedance Trend**



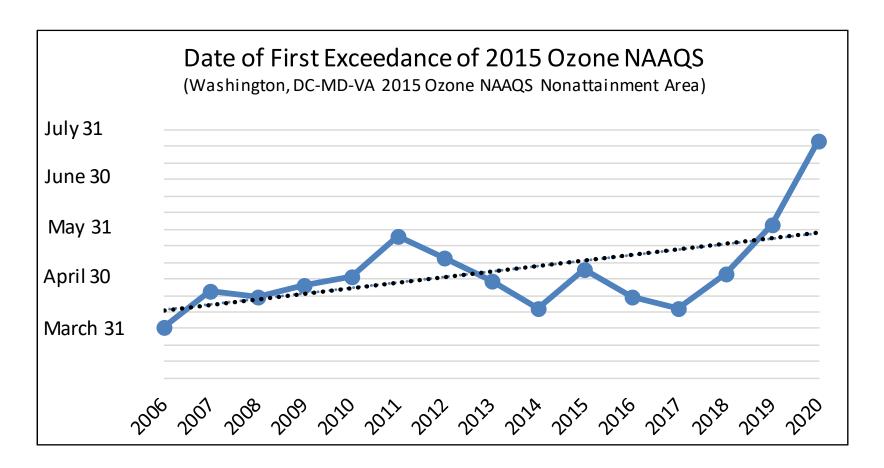


### **Ozone & Temperature Trend**



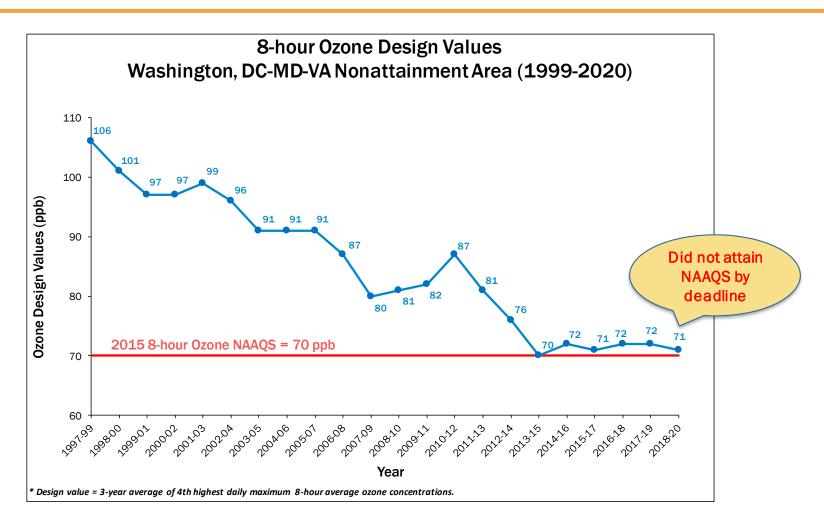


# **Trend - Day of First Code Orange**





### **Ozone Design Value Trend**





### 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 (2009/2015/2017)		Gas Can Replacement



# 24-Hour Average PM2.5 Levels (µg/m³)

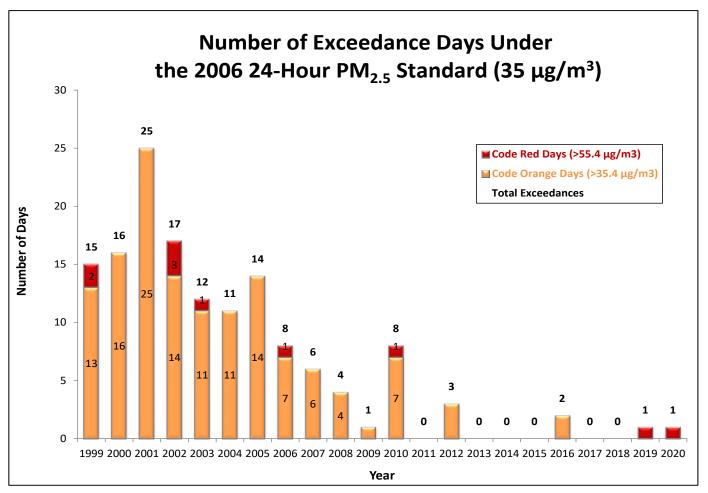
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#### 1 Code Red Day, 36 Code Yellow Day, Rest All Code Green Days

Analysis is based on draft data as of August 31, 2020.



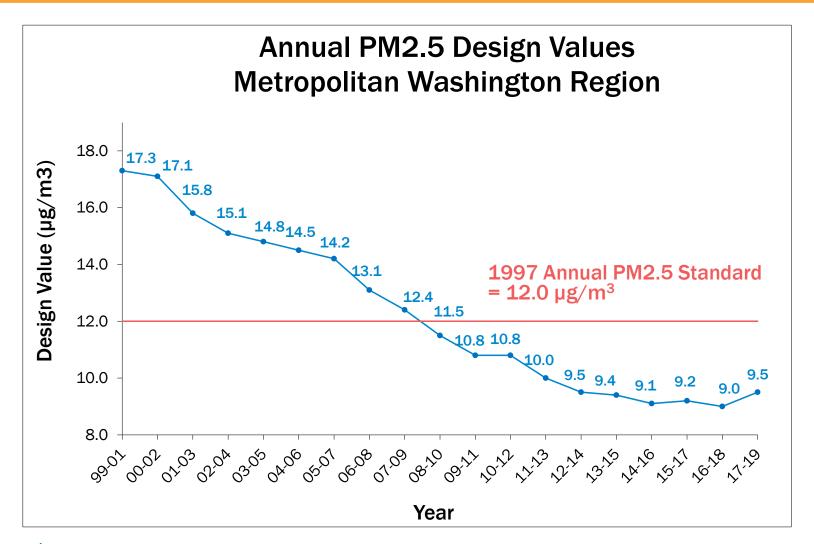
### PM2.5 Exceedance Trend



Analysis is based on draft and incomplete data as of August 31, 2020. 2019 & 2020 code red days recorded on July  $4^{th}$ .

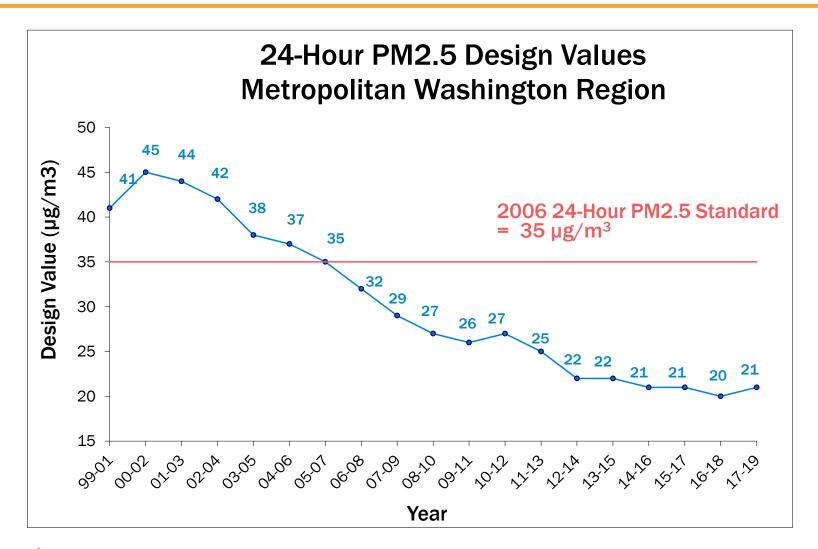


### **Annual PM2.5 Design Value Trend**





### 24-Hour PM2.5 Design Value Trend





### **Historical AQI Value Trends**

#### Daily AQI Values, 2011 to 2020

Washington-Arlington-Alexandria, DC-VA-MD-WV



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

Generated: September 1, 2020

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



### **WEATHER & AIR QUALITY**

- Weather plays an important role in determining air quality besides emission. Except for June, weather was not very favorable for ozone and PM2.5 in the current ozone season.
- May 2020 Much Colder, cloudier, and drier than normal.
- June 2020 Warmer and drier than normal.
- July/August 2020 Warmer, but wetter than normal.

Source: <a href="https://w2.weather.gov/climate/index.php?wfo=lwx">https://w2.weather.gov/climate/index.php?wfo=lwx</a>



### CONCLUSIONS

- Ozone and PM2.5 levels were overall lower in 2020 compared to previous years as COVID-19 related restrictions were implemented in the Washington region.
- Reduction in emissions due to lower traffic and fuel/ electricity consumption coupled with weather contributed towards lower pollutant levels.
- The Washington region did not attain the 2015 ozone NAAQS based on draft 2018-2020 data (71 ppb).

(The attainment deadline is August 3, 2021 based on 2018-2020 data.)



## Ozone Planning - Probable Next Steps

- The Washington region is eligible to apply for an extension of the attainment date by one year to August 3, 2022.
  - Would give the region another year to show attainment and avoid getting bumped up to Moderate nonattainment area.
  - Would not extend the deadline for a State Implementation Plan if the region fails to reach attainment in the additional year
- The region could request for the extension and then start working on Reasonable Further Progress and attainment demonstration plans.
- This will ensure the region's plans will be ready for submittal if and when they will be needed.

