

IMPACTS OF THE COVID-19 PANDEMIC IN THE NATIONAL CAPITAL REGION

On the Environment

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Climate, Energy and Environment Policy Committee
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Overview

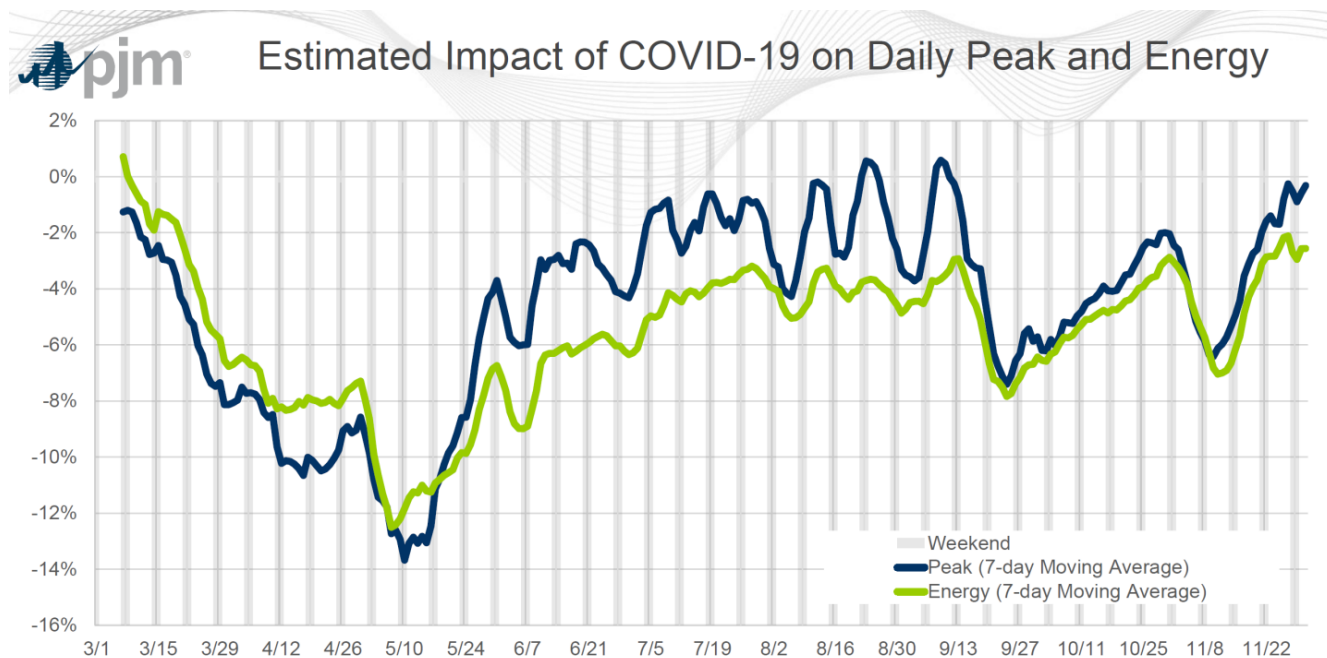
- Numerous actions have been taken to contain the pandemic spread of COVID-19 and to mitigate its threat to personal and public health.
- These actions have restricted socio-economic activities throughout the country, including the metropolitan Washington area.
- Staff from various COG departments have developed and continue to update a snapshot summary of observed impacts on the region from a multisectoral perspective.
- Sectors of analysis will include:
 - Transportation (Roadways and Public Transportation)
 - Economy
 - Environment
 - Health

Overview

- A multisectoral approach will provide a snapshot summary of impacts from a broader perspective to provide more context.
- Analyses and findings, while empirical, are intended to provide a general contextual understanding of the impacts and are not intended to constitute a comprehensive “deep dive.”
- Analyses will measure what has occurred and will not be predictive in nature due to remaining uncertainties.
- COG analysis will look at two phases:
 - *Near-term Activities*: readily available data that can be presented to stakeholders starting in December.
 - *Longer-term Activities*: data collection and analysis activities that may take longer to complete.

Impact on Electricity Consumption

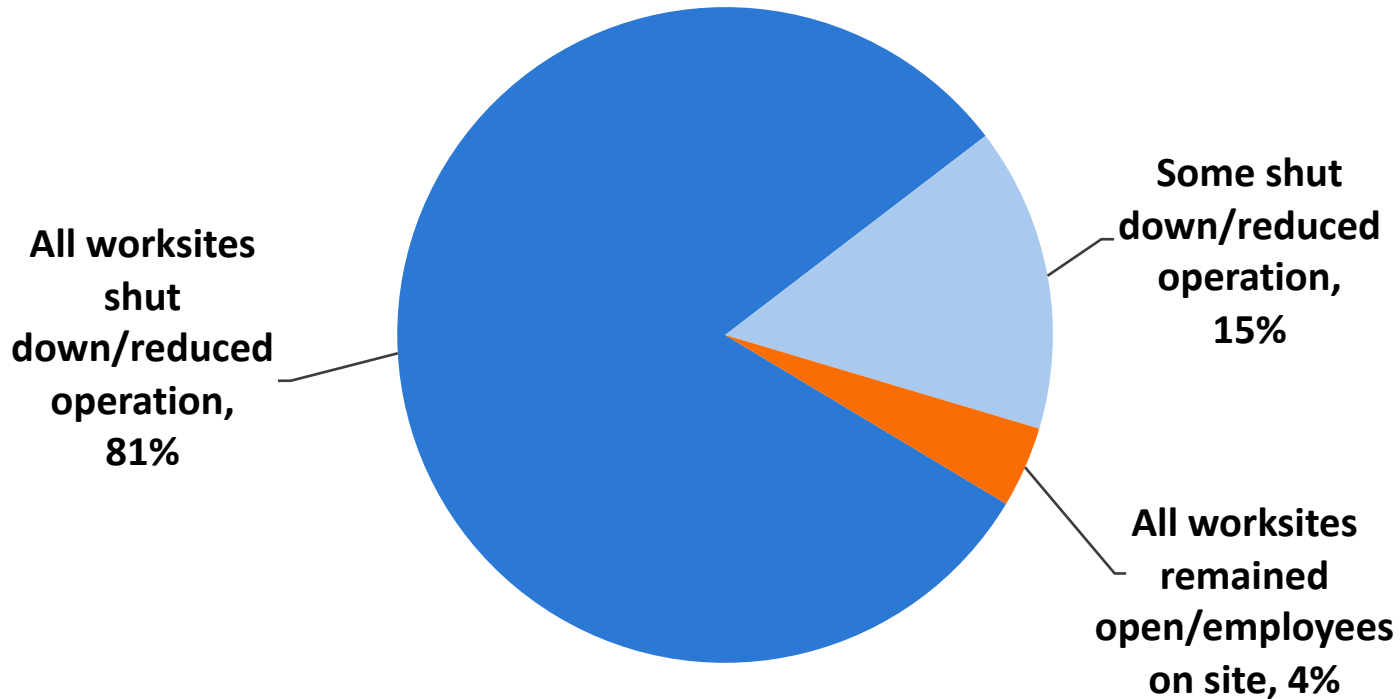
- Total daily electricity use was down to about 7.9% on average through late March. Annual electricity use is down about 4.3% compared to the pre-COVID-19 level as many offices, businesses, schools, etc. remain closed & people are still teleworking/staying at home.
- Note recent PJM-wide data may differ from metropolitan Washington due to differing rates of reopening across the PJM territory.



<https://www.pjm.com/-/media/committees-groups/pandemic/postings/estimated-impact-covid-19-daily-peak-and-energy.ashx?la=en>



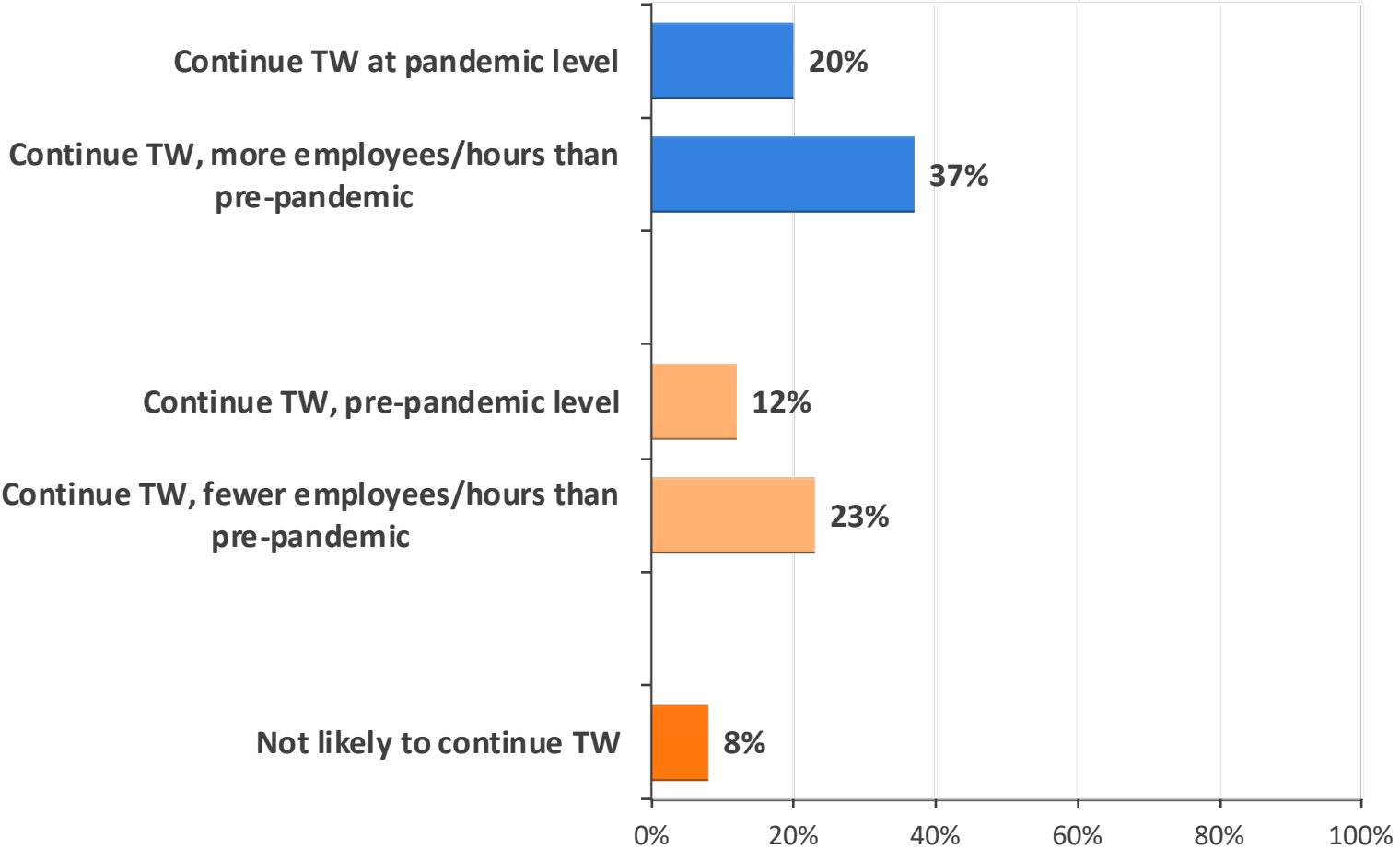
Worksite Operations



Source: Commuter Connections 2020 Employer Telework Survey

96% of Worksites Shut Down or Reduced On-site Operation Either Completely (81%) or Partially (15%) Since Coronavirus Pandemic Began

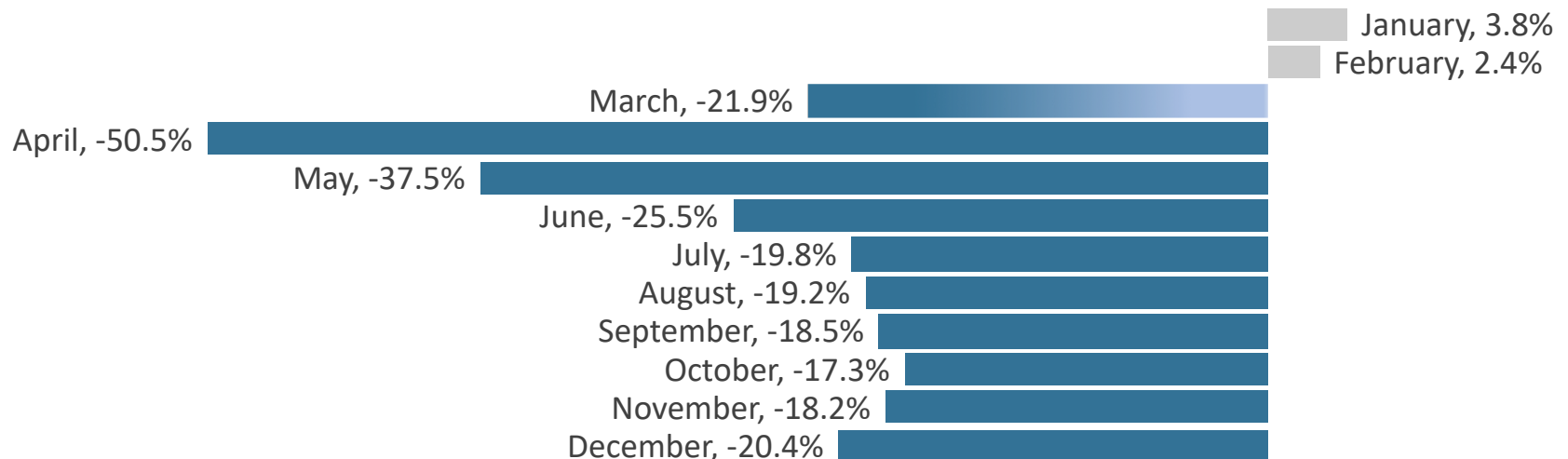
Anticipated Post-Pandemic Teleworking



Source: Commuter Connections 2020 Employer Telework Survey

Roadway Traffic Volumes: TPB Region

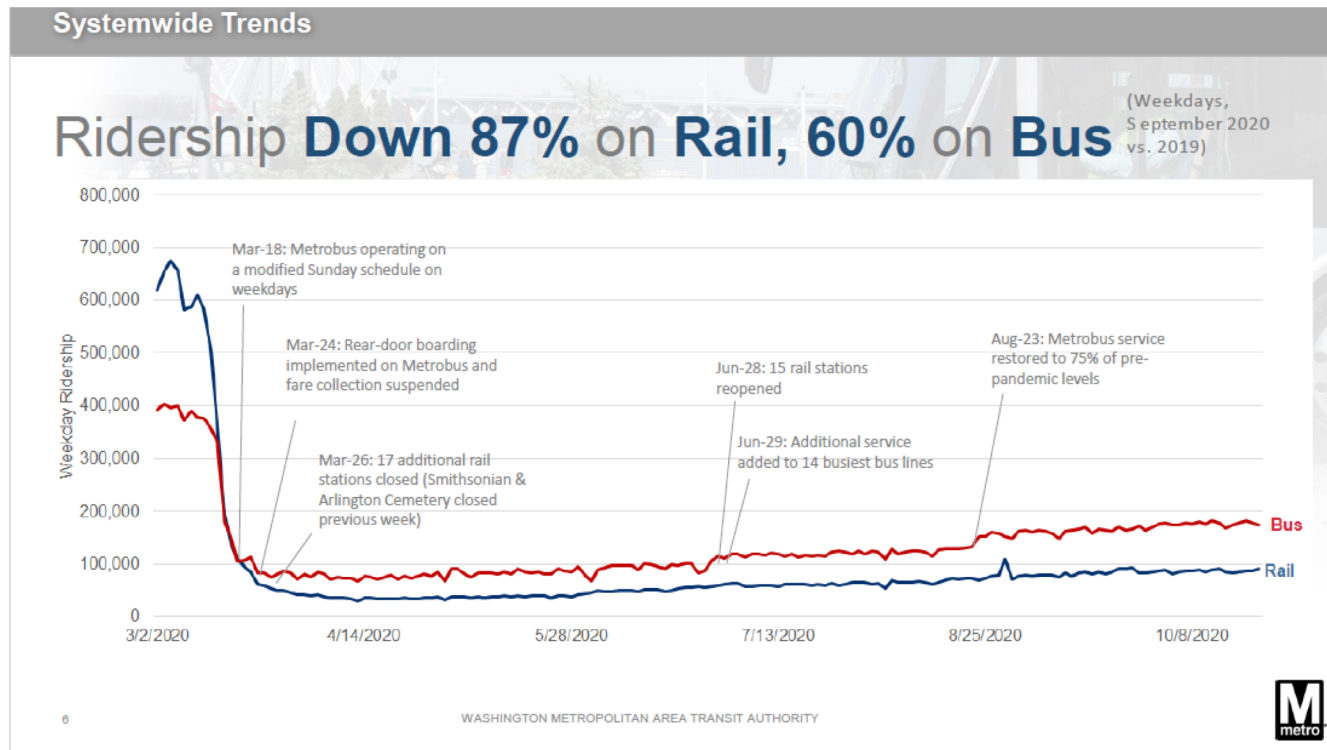
TPB Region - Monthly Average Percent Change from Equivalent 2019 Month



Source: COG/TPB

- Regional traffic volumes, which in April 2020 had dipped below 50% of 2019 volumes, had recovered to over 80% of 2019 volumes by July, and continued a slow recovery through October 2020. Volumes, however, decreased once again region-wide in November and again in December 2020.

Metrorail and Metrobus Ridership

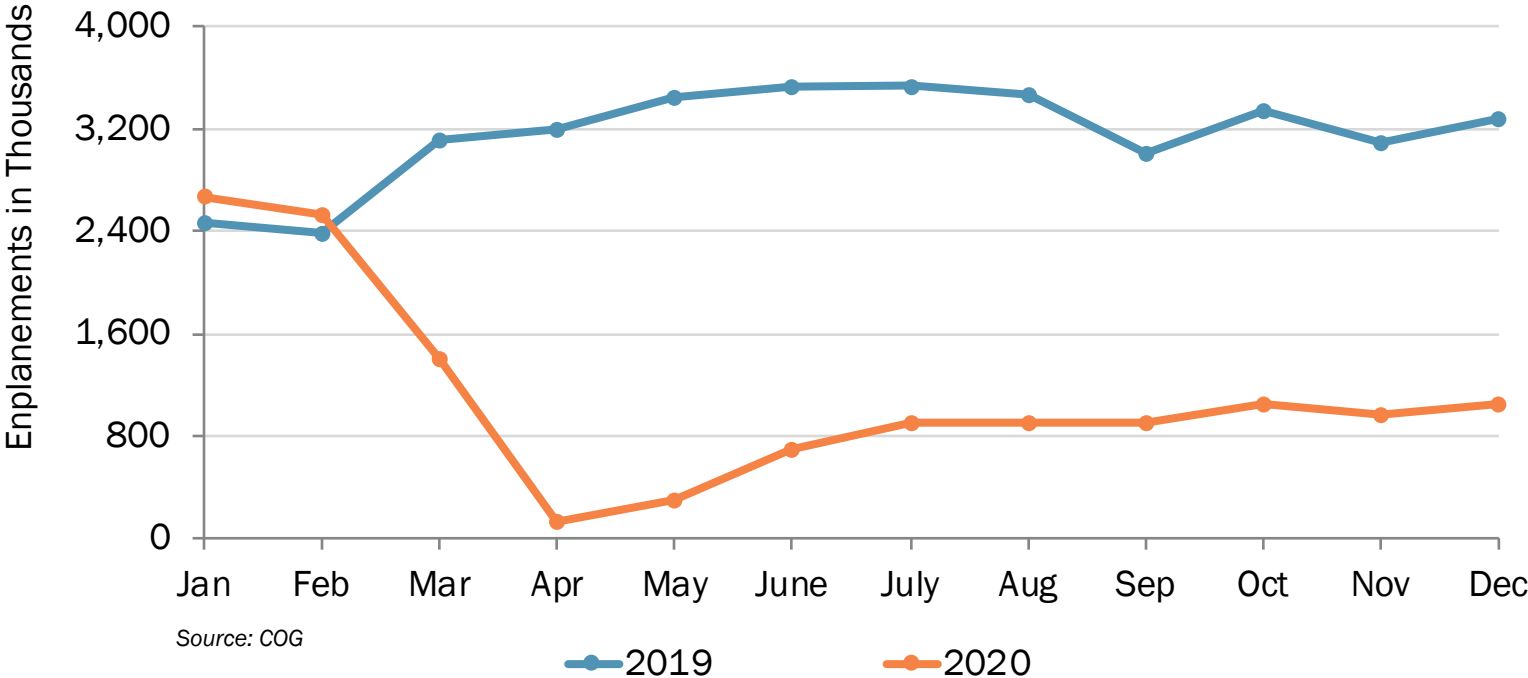


WMATA Regional Bus Ridership Workshop, November 17, 2020. COVID Ridership Trends, Diane Patterson.

Ridership decreased as a result of both reduced demand and reduced transit capacity, underscoring the complex interrelationship of supply and demand on transit. This contrasts to roadway volume decreases, which resulted from demand reductions.

Air Travel

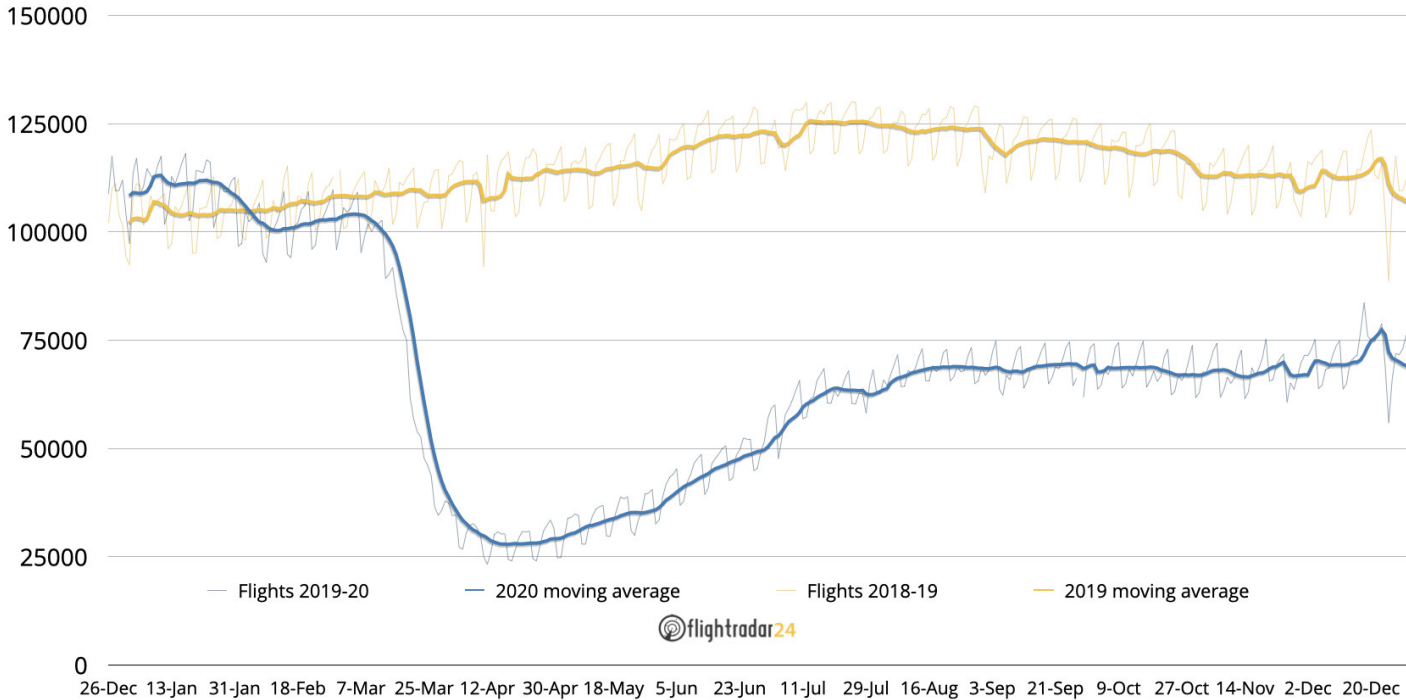
2019 and 2020 Monthly Enplanements at Washington/Baltimore Regional Airports



- Air travel has recovered somewhat at the region’s three major airports since April, but remains much lower than 2019

Air Travel

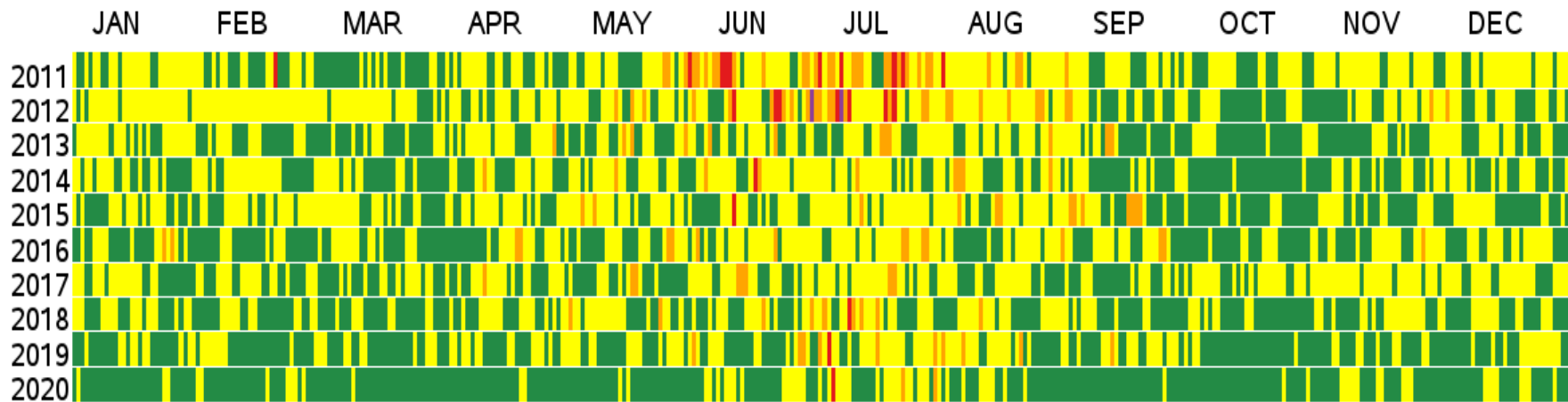
7-day moving average of commercial flights tracked by Flightradar24
2019 vs 2020



- Source: Graph - <https://www.flightradar24.com/blog/commercial-flights-down-42-in-2020/>

Criteria Pollutants

Daily AQI Values, 2011 to 2020 Washington-Arlington-Alexandria, DC-VA-MD-WV



Source: U.S. EPA Air Data, generated January 5, 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.

Criteria Pollutants

- **Ozone and fine particulate matter (PM2.5) were lower in 2020 compared to 2019.** (March 1 – September 30)
- COVID-19 related restrictions and closures reduced activities and related emissions.
- Weather was unfavorable to the formation and build up of pollutants.

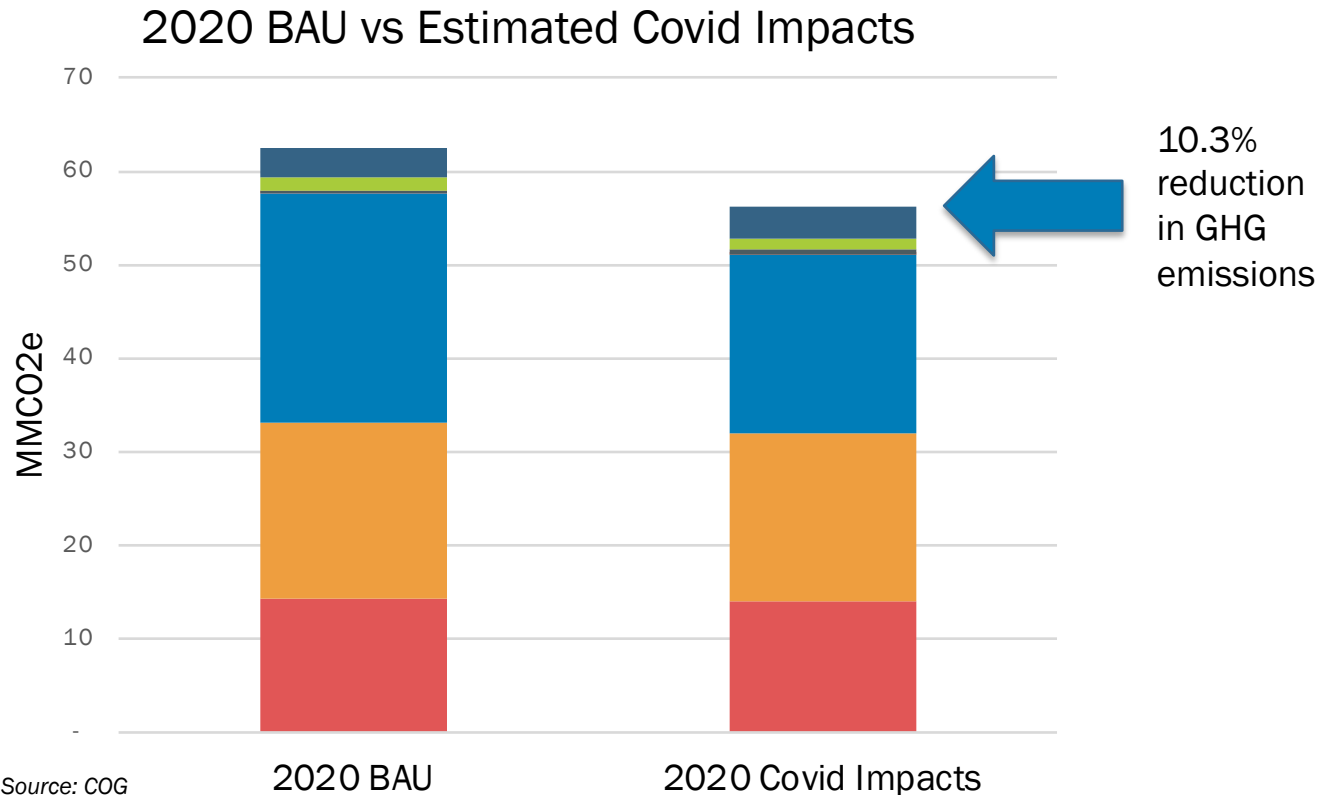
Ozone Air Quality Index Days (March - September)			
Year	Code Green	Code Yellow	Code Orange
2020	180	32	2
2019	123	81	10

Note: Draft data valid as of December 10, 2020.

Impact on Greenhouse Gas Emissions

- Annual Reductions of Business as Usual (BAU) GHG emissions.
 - Traffic volume down 20.2%; resulting in a 6.6% reduction in emissions below the 2020 BAU result.
 - Electricity consumption down 4.3%; resulting in a 1.6% reduction in emissions below the 2020 BAU result.
 - Aviation flights down 61%; resulting in a 2.1% reduction in emissions below the 2020 BAU result.
- **Total GHG emission reductions = 10.3% of 2020 baseline.**

Impact on Greenhouse Gas Emissions



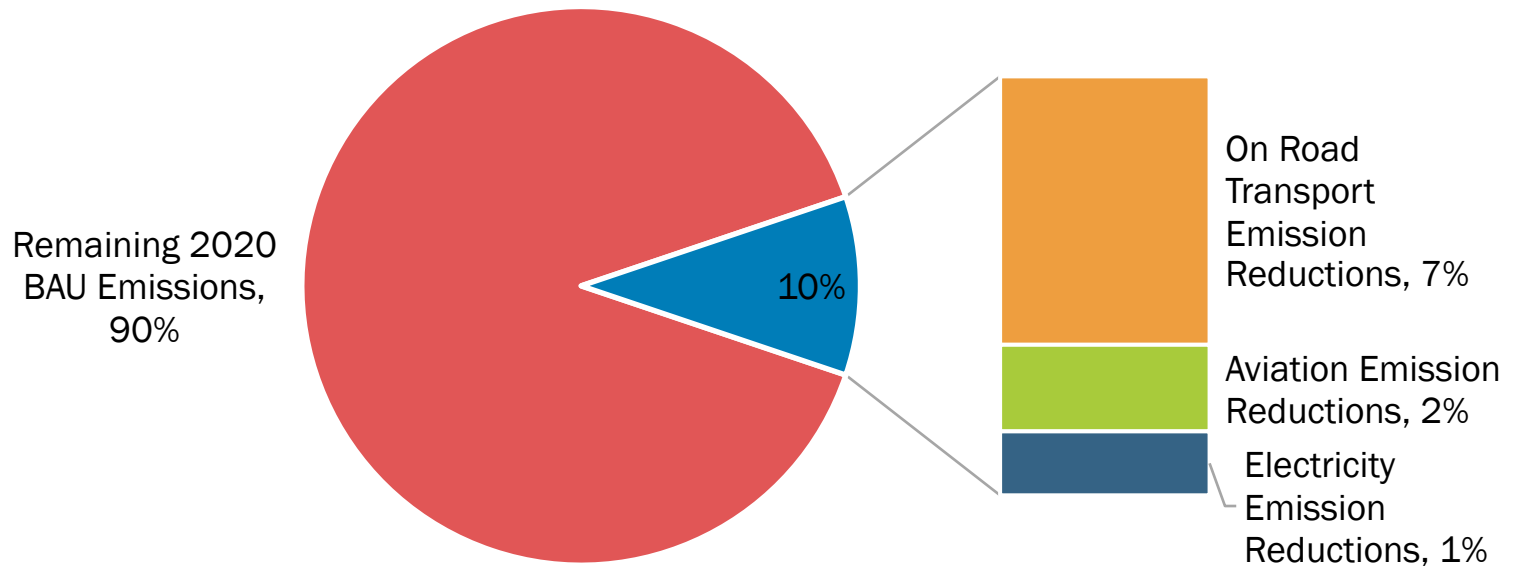
Source: COG

- Process and Fugitive Emissions
- Agriculture
- Transportation and Mobile Emissions
- Residential Energy
- Solid Waste
- Water and Wastewater
- Commercial Energy



Impact on Greenhouse Gas Emissions

2020 BAU Emission Reductions



Source: COG

Summary: Air Quality & GHG Emissions

- Ozone and PM2.5 levels were lower in 2020.
- Air quality has been the cleanest in the past 40 years due to reduction in emissions from reduced traffic and fuel/electricity consumption coupled with weather unfavorable for pollutant formation and build up.
- GHG emissions in general lower by an estimated 10.3%. The bulk of emissions reductions coming from the transportation sector; On Road Transportation & Aviation

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