

# COVID-19 IMPACTS IN METROPOLITAN WASHINGTON

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Andrew Meese

TPB Systems Performance Planning Program Director

Systems Performance, Operations, and Technology Subcommittee

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Metropolitan Washington  
Council of Governments

# Overview

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- 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 are collaborating to develop a snapshot summary of observed impacts on the region from a multisectoral perspective.
- Sectors of analysis include Health, Economy, Transportation (Roadways and Public Transportation), and Environment
- Note: today's presentation should be considered a "snapshot"; information may be superseded by presentations at later dates – for future reference, please see information at

<https://www.mwcog.org/about-us/covid-19/>

# Overview

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- 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.
- Presentations to be made in two phases:
  - *Near-term Activities*: readily available data that can be presented to stakeholders starting in December 2020.
  - *Longer-term Activities*: data collection and analysis activities that may take longer to complete.

# Health

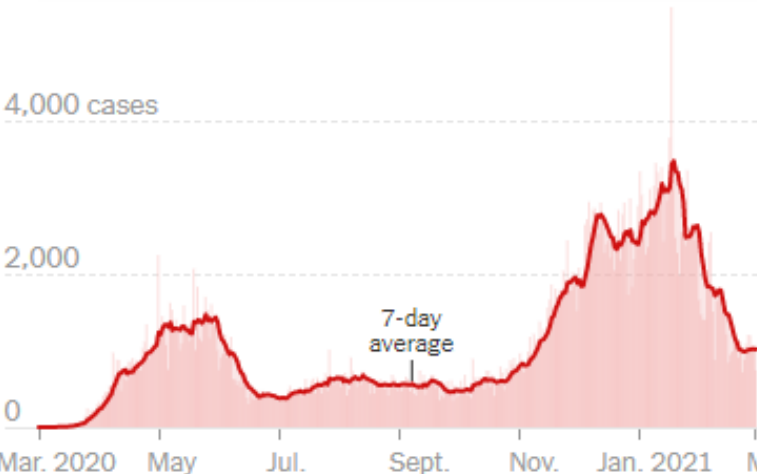


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# COVID Cases & Deaths in Washington, DC Metro Area

	ON MARCH 1	DAILY AVG. IN LAST 7 DAYS	PER 100,000	14-DAY CHANGE	TOTAL REPORTED
Cases	738	1,018	16	-30% ↘	400,540
Deaths	54	50	0.80	+153% ↗	6,685

**New cases**



**Deaths**



New York Times Cases & Deaths Tracker: <https://www.nytimes.com/interactive/2020/us/covid-cases-deaths-tracker.html#USA-MSA47900>. The Times uses reports from state, county and regional health departments.

**March 1 Update:** Over several days, Virginia added many deaths that occurred earlier in 2021.



# Summary – Health

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- COVID-19 cases initially peaked during June 2020. Like the nation, the region saw significant increases over the holiday season peaking in February 2021. Following this peak, both cases and deaths have decreased.

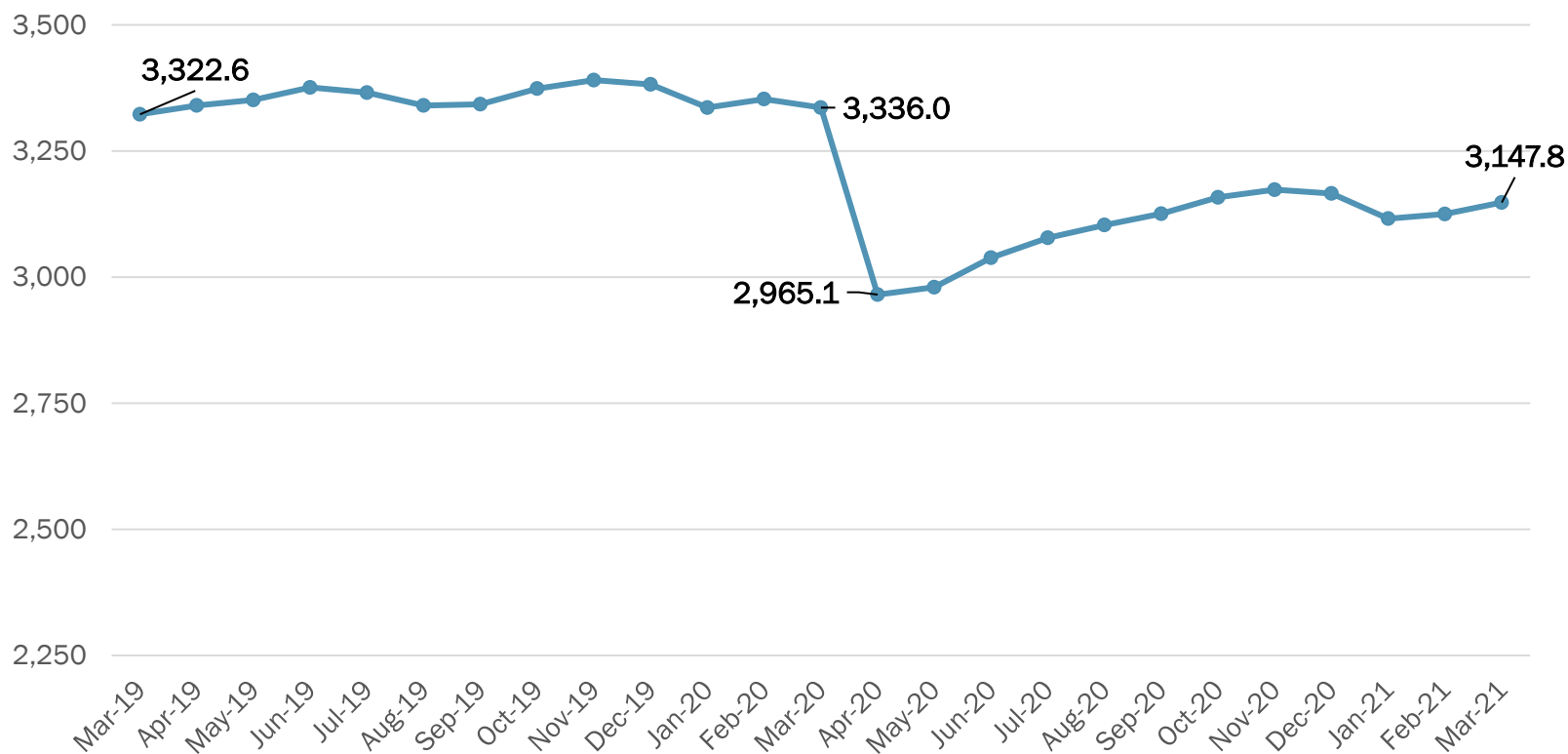
# Economy



# Non-Farm Jobs (000s) - Washington MSA

March 2019 to March 2021

(Bureau of Labor Statistics, Not Seasonally-adjusted, Thousands)

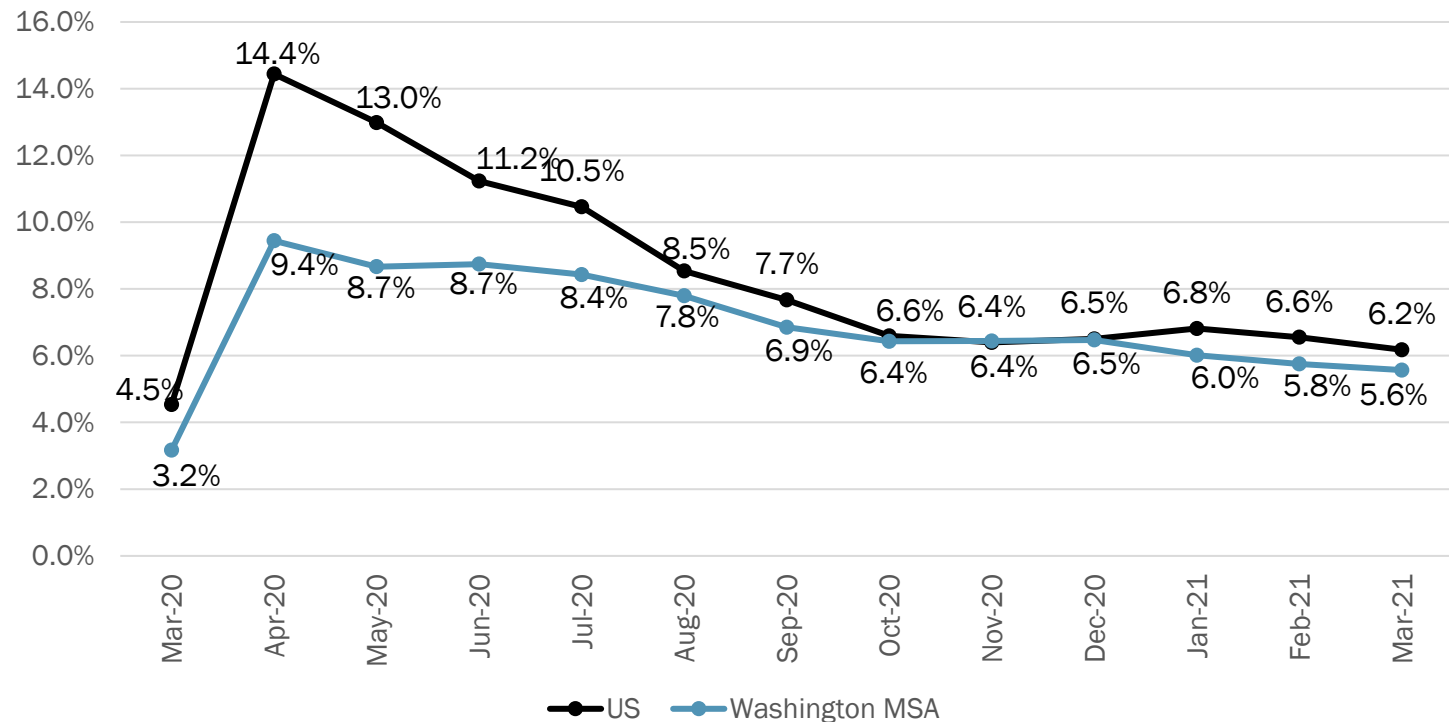


Revised BLS data show the region lost 370,900 jobs between March and April of 2020. As of March 2021, 182,700 jobs have been added during our partial reopening.



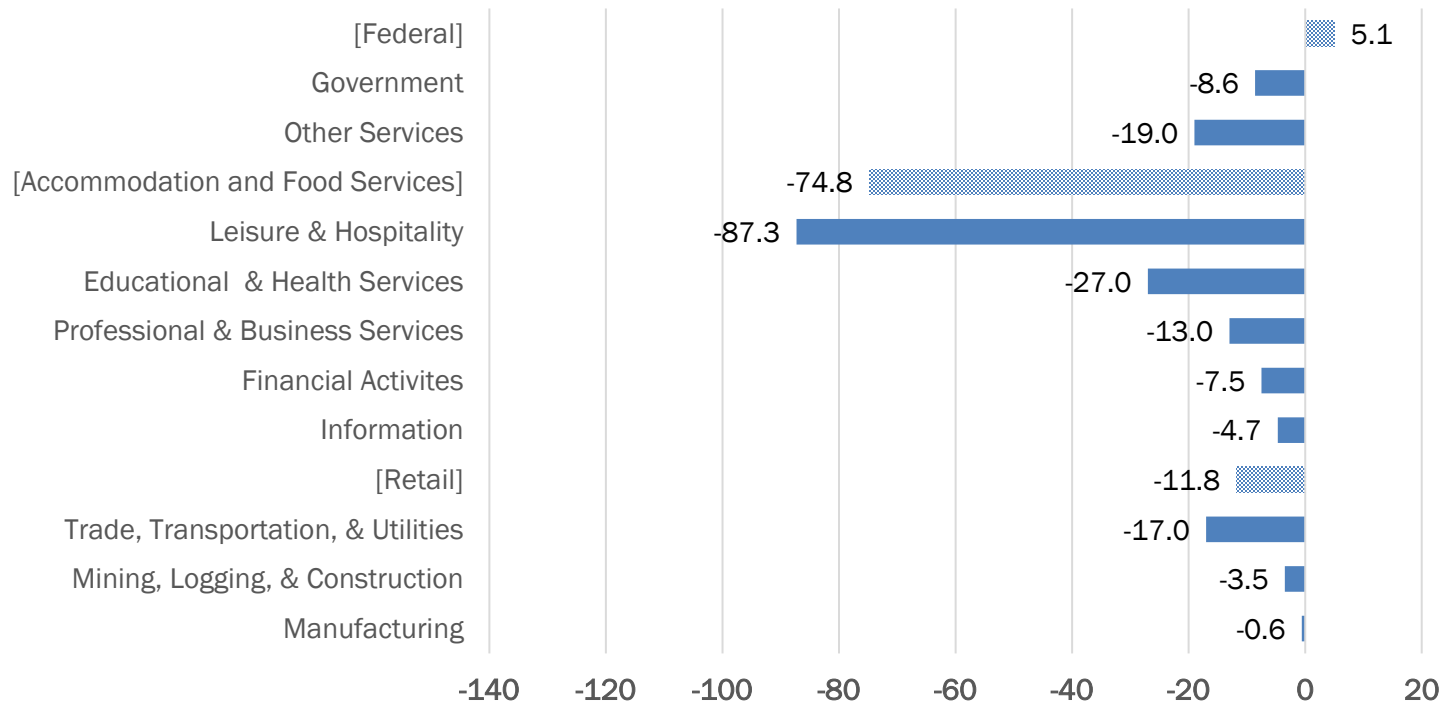


# Unemployment Rate Washington MSA and US



Our unemployment rate nearly tripled with the onset of the pandemic but was still nearly 5 points below the nation. With partial reopening, the national and local rates did converge in late 2020, but the local rate so far in 2021 is again below the national rate.

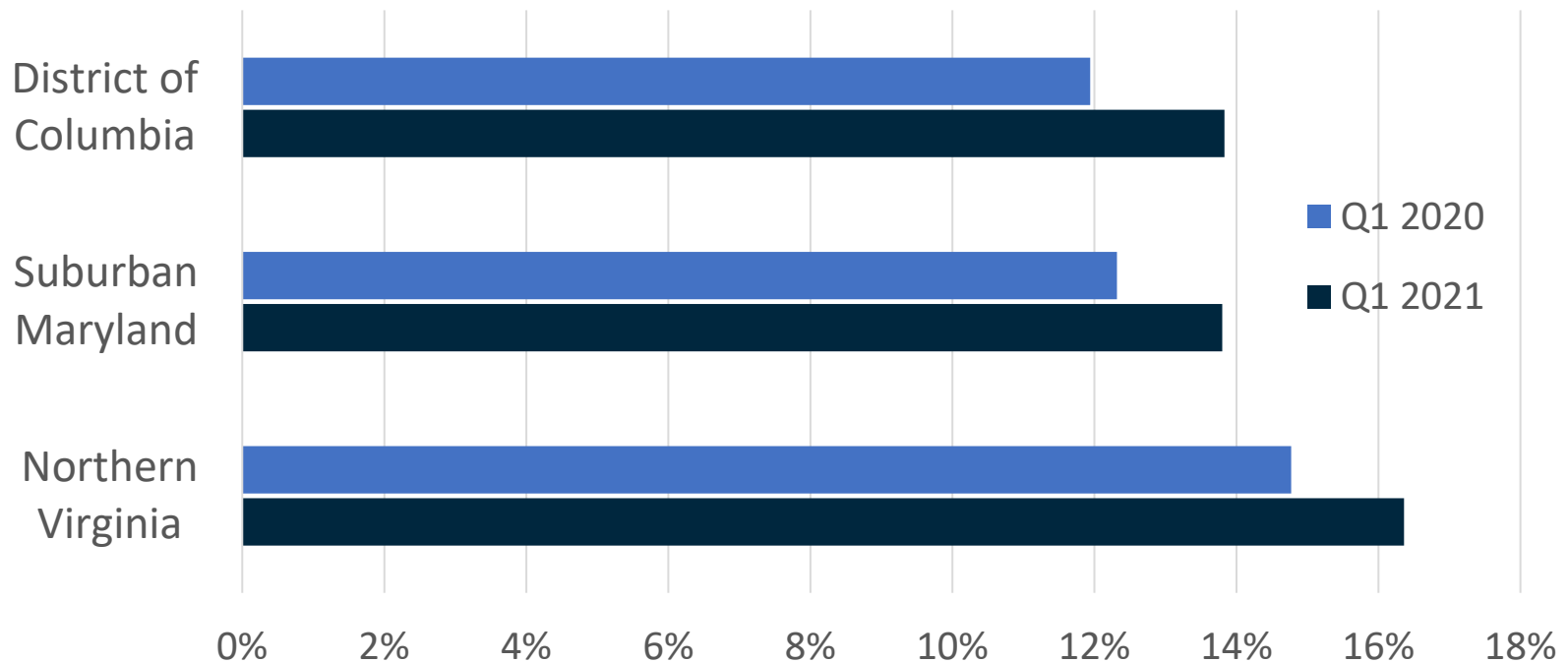
# Over-the-year Job Change By Sector March 2021 vs March 2020 Washington MSA (Thousands)



The most-current employment data shows job losses to be in hospitality, retail, and several service industry sectors.

# Change in Office Vacancy Rates Q1 2020 vs Q1 2021

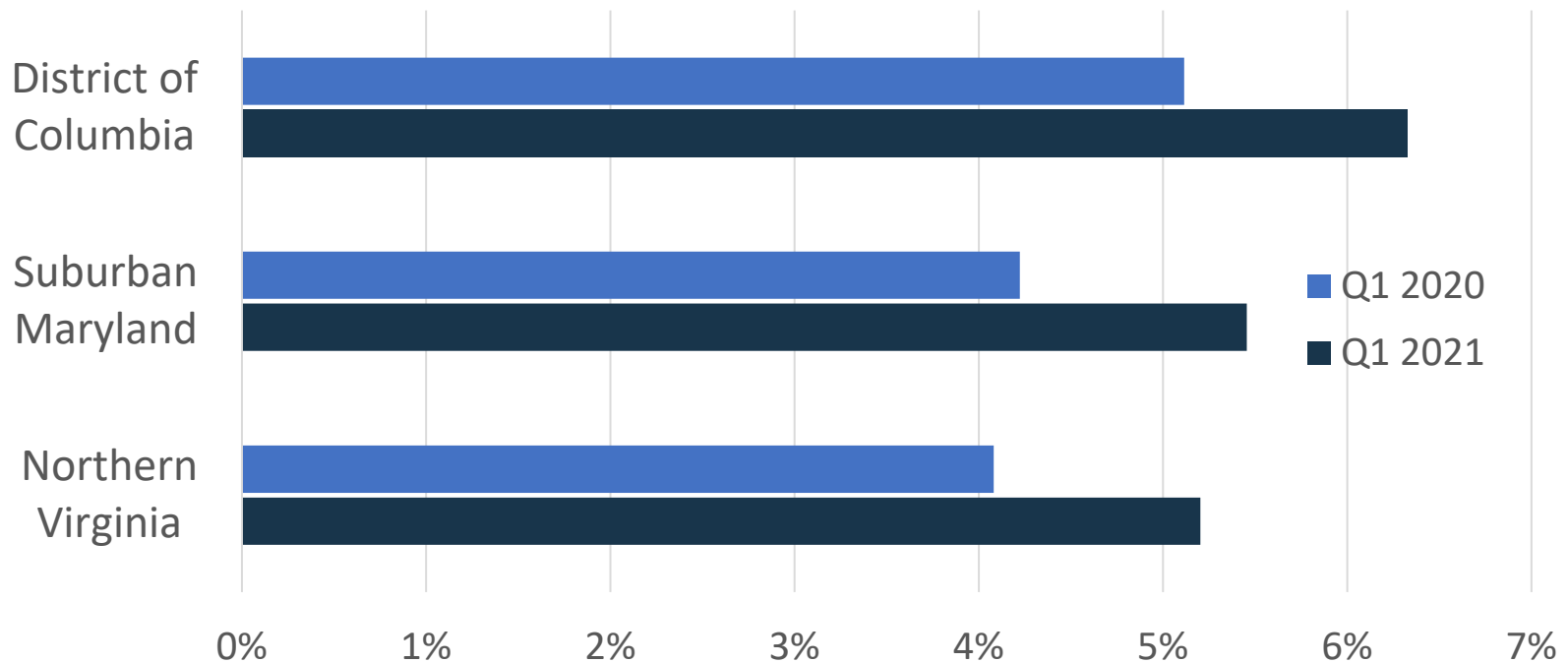
(Source: CoStar)



Office vacancy rates have increased slightly throughout the region. Office leases are for longer-term periods and will be monitored for changes.

# Change in Retail Vacancy Rates Q1 2020 vs Q1 2021

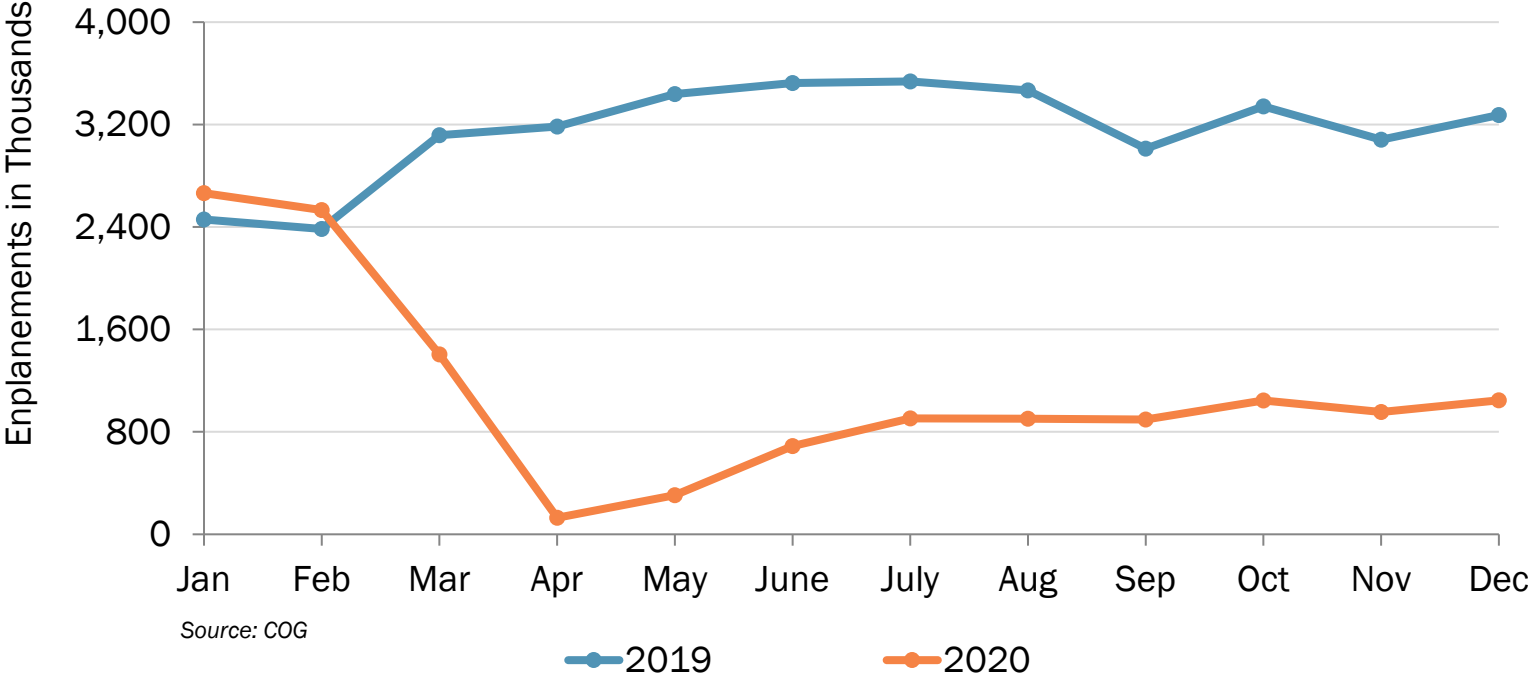
(Source: CoStar)



Retail vacancy rates have also increased slightly throughout the region. Retail space is very susceptible to COVID-related closures and will also be monitored.

# 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 2020 but remains much lower than 2019.

# Summary – Economy

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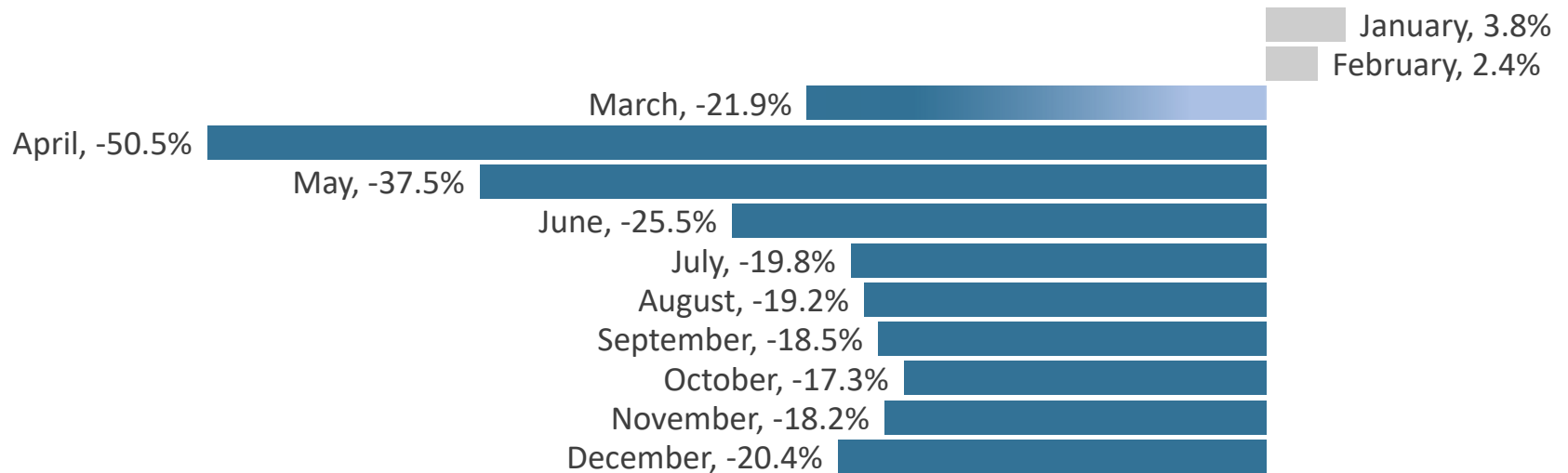
- With the onset of the pandemic, the region lost nearly 370,900 jobs between March and April 2020 – more than were lost locally during the Great Recession. We have fared better than our peer regions and our economy has now regained more than 148,300 jobs.
- The region's unemployment rate nearly tripled but was still nearly 5 points below the nation. National and local unemployment rates have not improved, and local unemployment filings have increased in recent weeks (January).
- Local commercial real estate markets have not yet been affected but should be monitored. New housing permits remain well below the adopted COG targets, as well as the number approved in many other major metropolitan areas.
- Air travel has recovered at the region's three major airports since April but remains much lower than last year.

# Transportation



# Roadway Traffic Volumes: Region

TPB Region - Monthly Average Percent Change from Equivalent 2019 Month



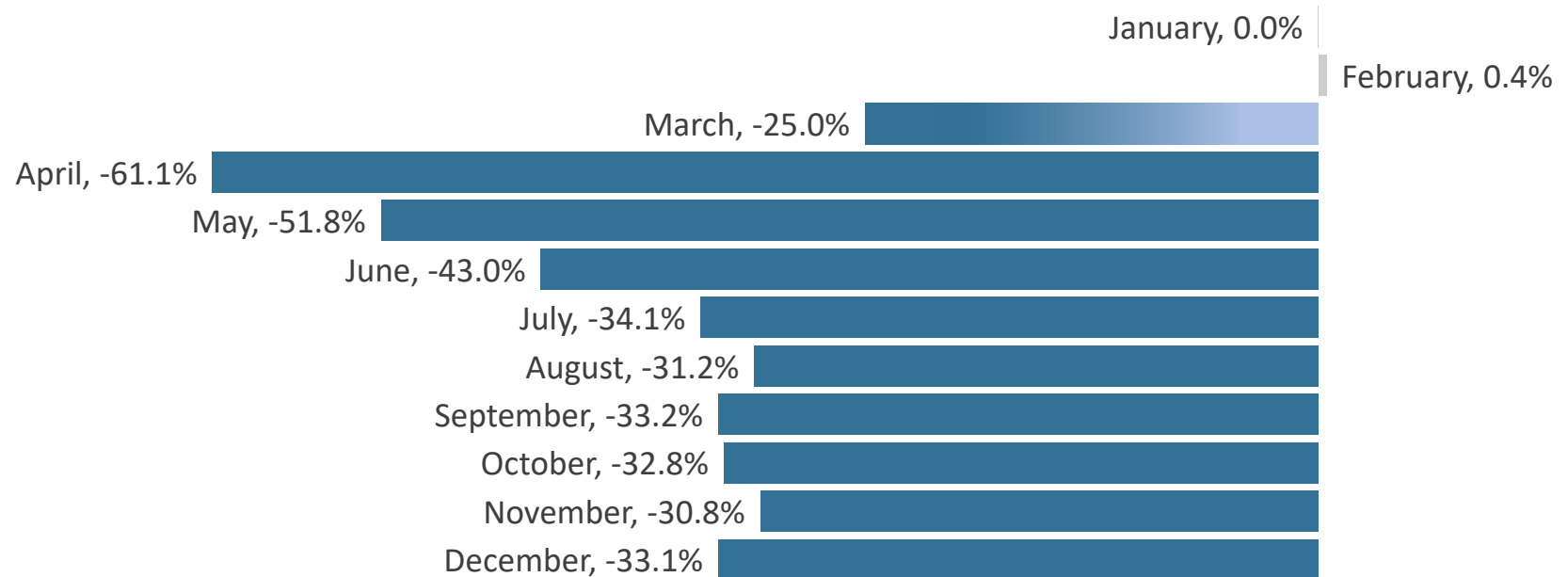
Source: COG/TPB

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.



# Roadway Traffic Volumes: Regional Core

Regional Core - Monthly Average Percent Change from Equivalent 2019 Month

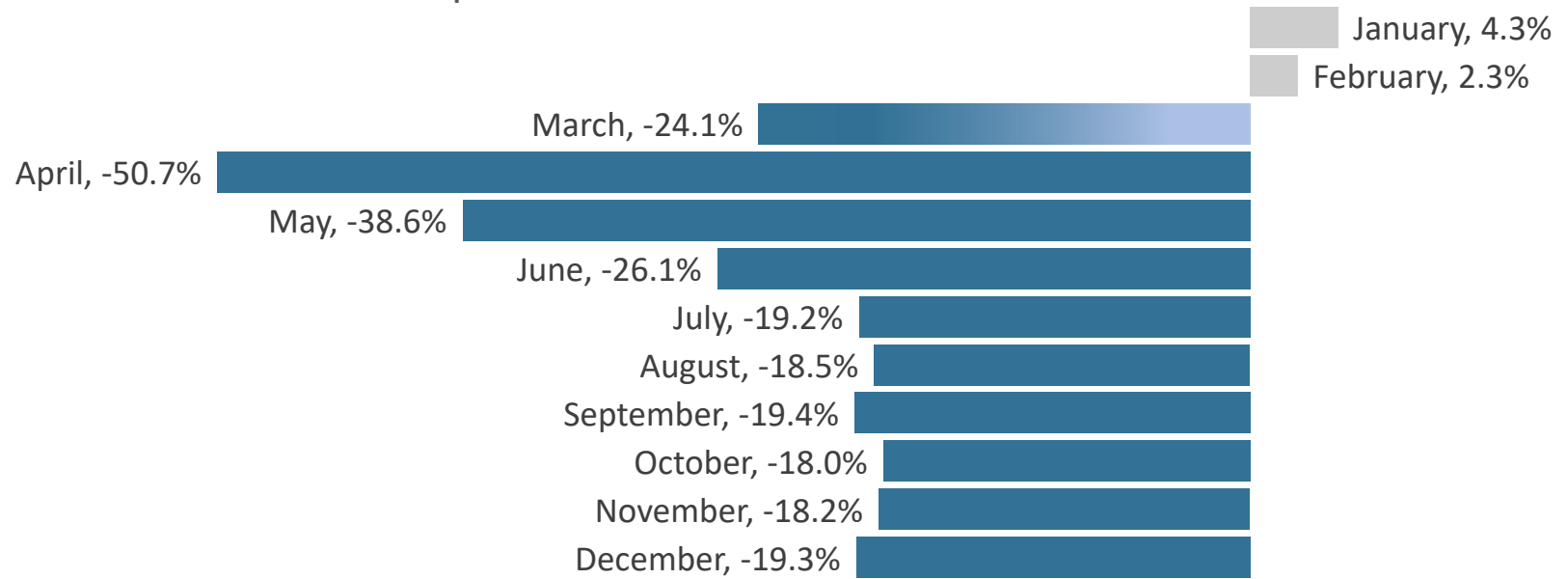


Source: COG/TPB

Traffic Volumes in the Regional Core decreased by more than 60% over the year in April 2020 and have recovered more slowly compared to the region overall.

# Roadway Traffic Volumes: Inner Suburbs

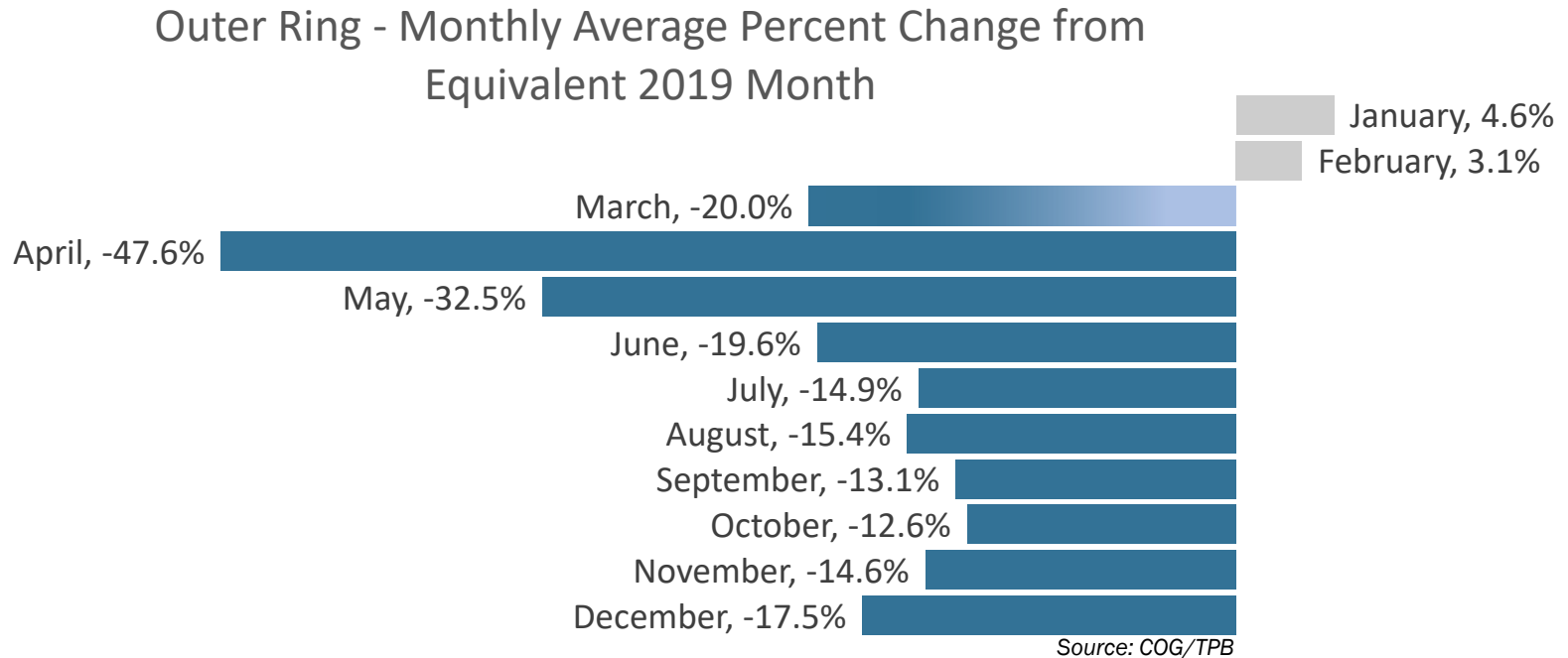
Inner Ring - Monthly Average Percent Change from Equivalent 2019 Month



Source: COG/TPB

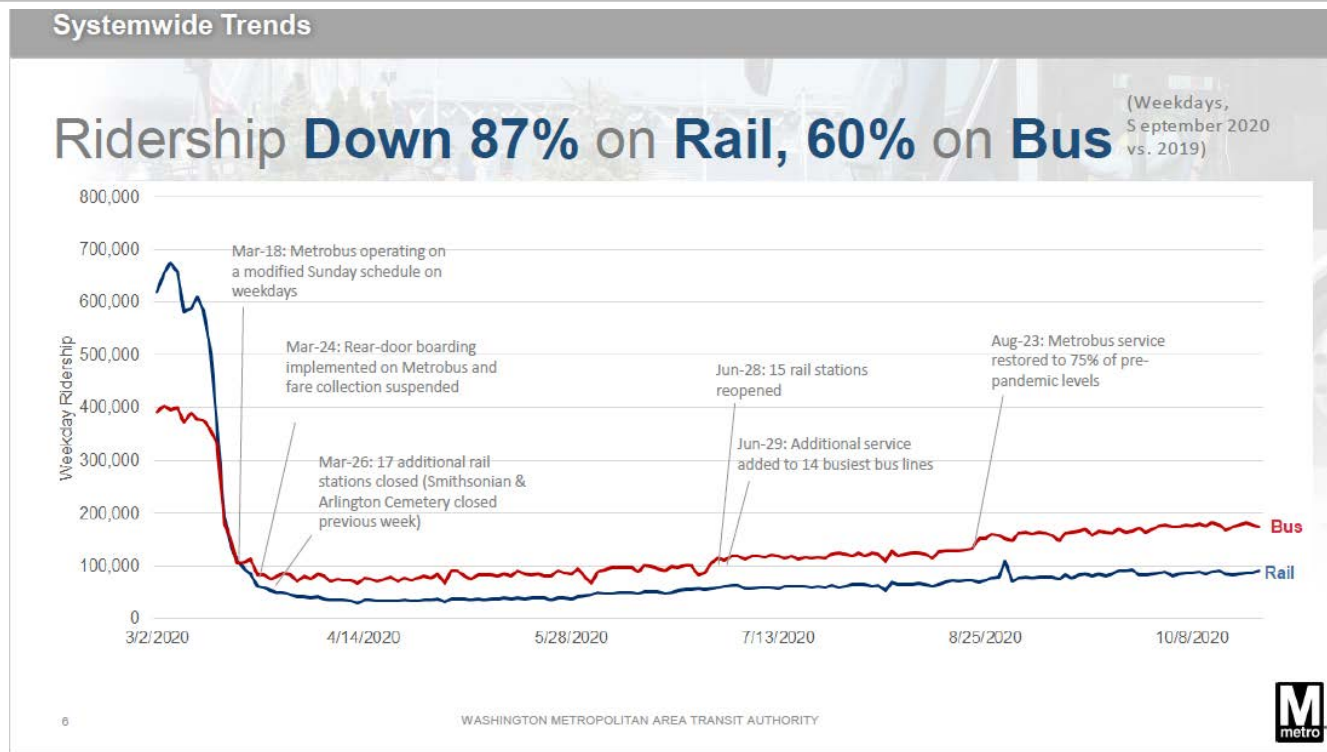
After decreasing by more than 50% in April 2020, traffic volumes in the inner suburbs recovered to nearly 80% of 2019 levels, although fluctuations in recovery are still being observed, including slight decreases in November and December 2020.

# Roadway Traffic Volumes: Outer Ring



In the outer ring within the TPB Modeled Area, traffic volumes sustained the smallest peak decrease in April 2020 of 47.6% and registered notable recovery through October when volumes in the outer ring were down only 12.5% compared to the same time in 2019. However, volumes in the outer suburbs once again decreased in November and again in December 2020.

# Metrorail and Metrobus Ridership

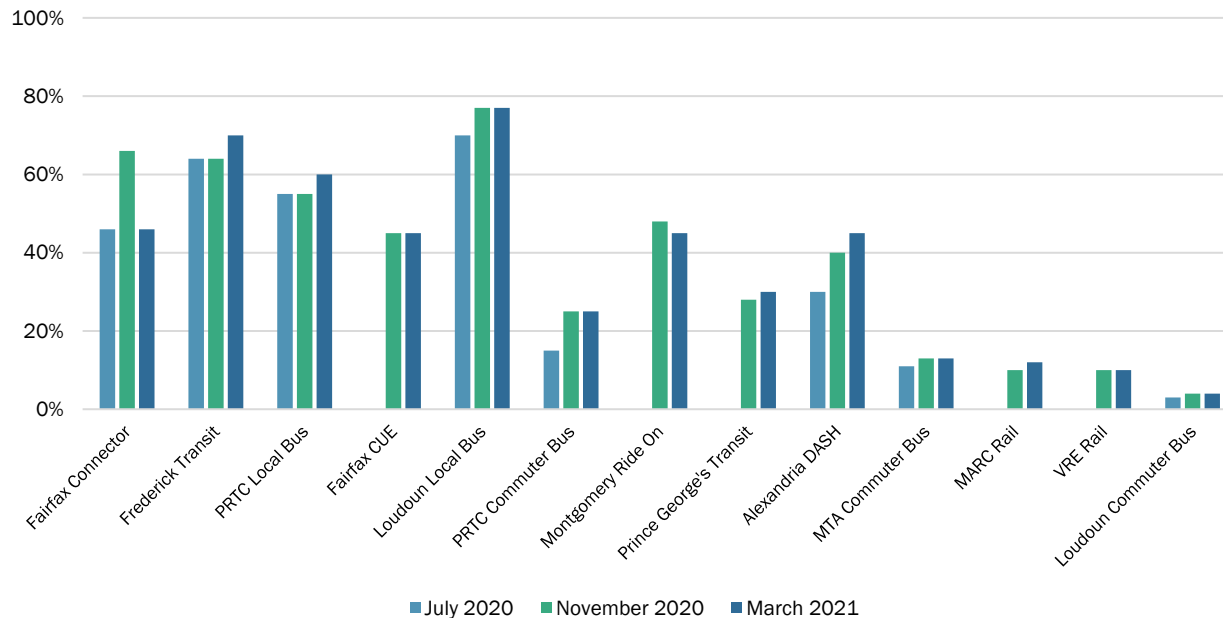


WMATA Regional Bus Ridership Workshop, November 17, 2020. COVID Ridership Trends, Diane Patterson.

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. [Updated slide(s) pending.]

# Local and Commuter Transit

Percentages of Normal Transit Ridership Reported by Selected Transit Providers  
July 2020, November 2020, March 2021

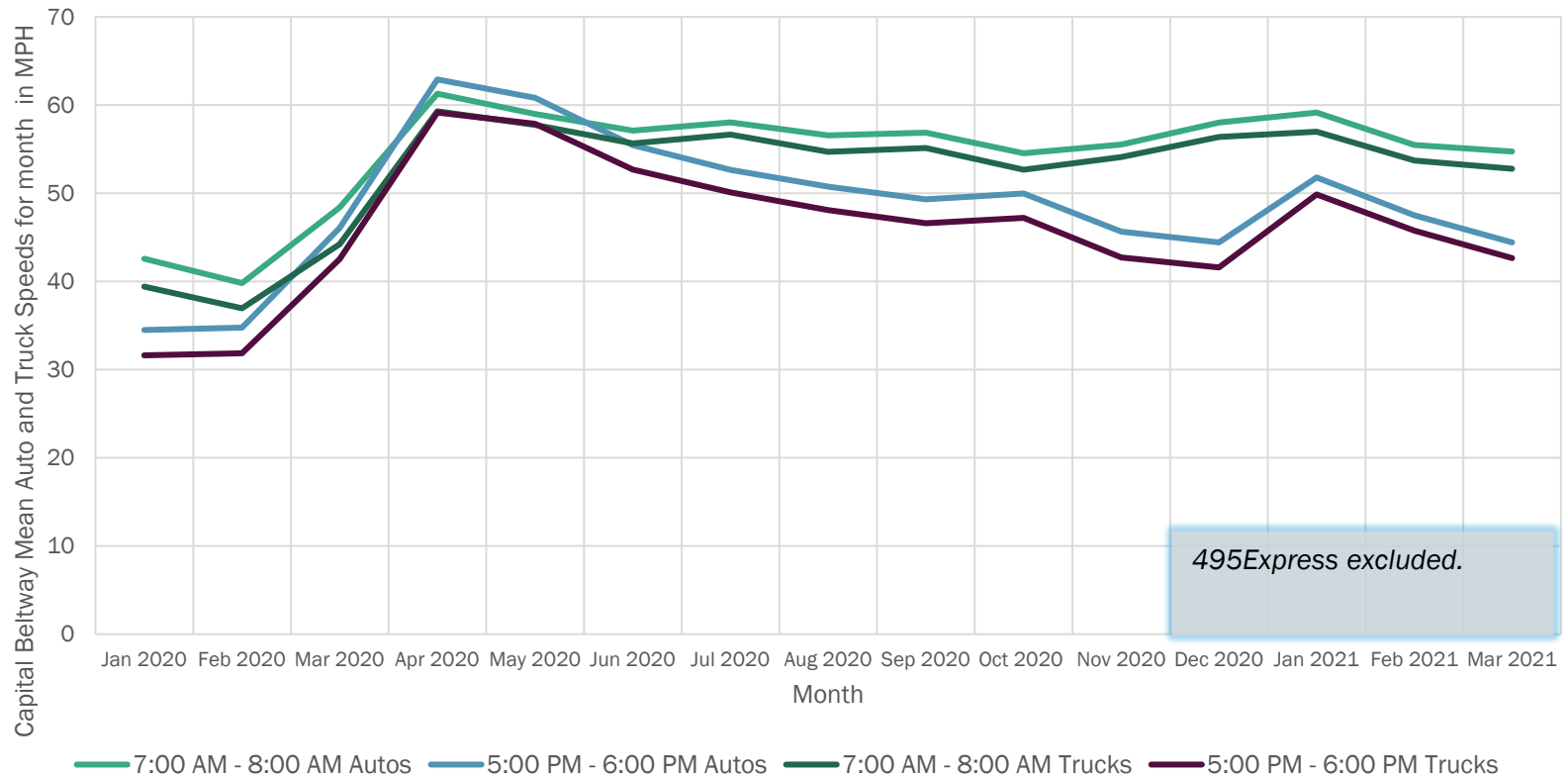


- Impacts varied among long-distance, local, and tourist routes.
- Ridership has generally slightly increased over the period.

Reported approximate percentages of ridership vs. typical levels. Source: COG/TPB questionnaires of local (non-WMATA) transit agencies. Providers not shown did not participate in all installments of the questionnaire.

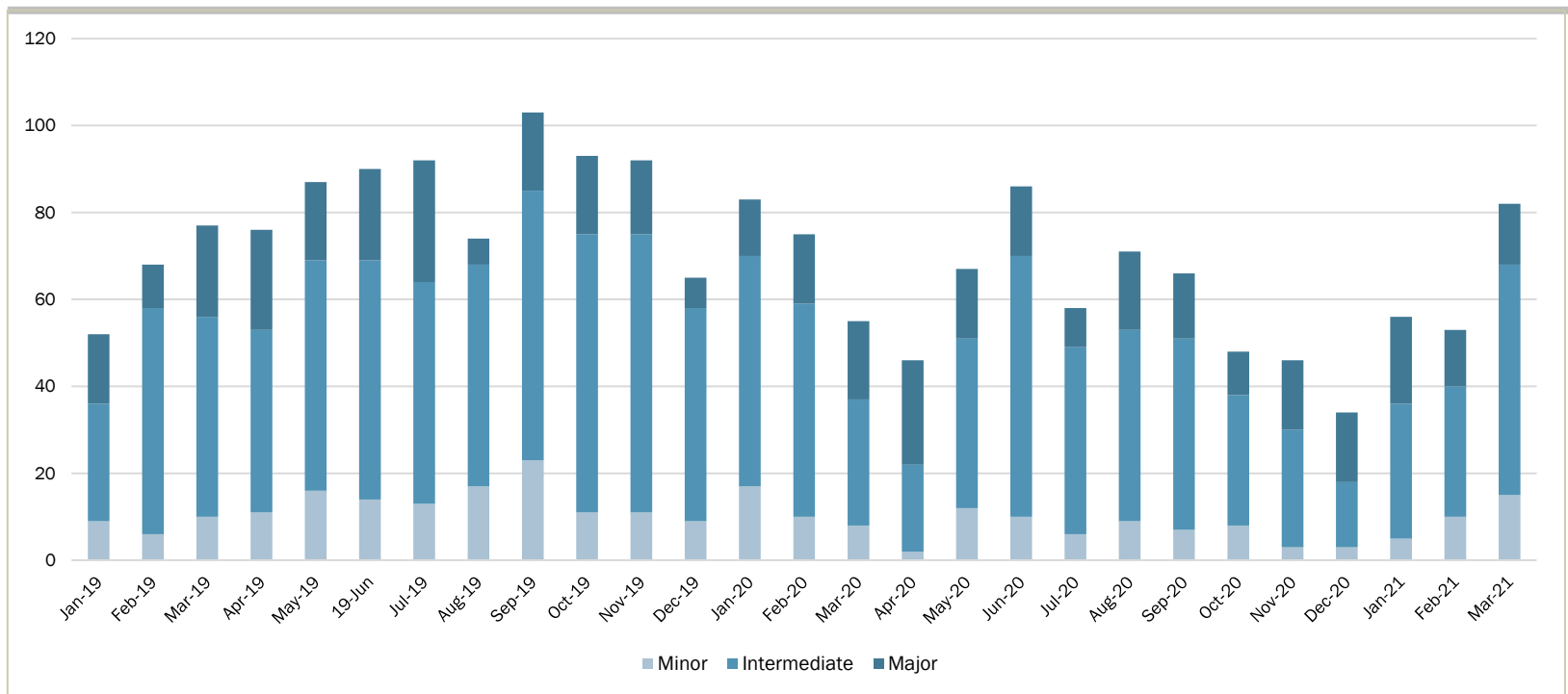
# Roadway Speeds

**NPMRDS Capital Beltway Car and Truck Mean Speeds by Month  
Weekdays Only - Holidays on Weekdays Included  
January 2020 to March 2021 7 AM to 8 AM and 5 PM to 6 PM**



Source: COG/TPB Analysis of the National Performance Management Research Data Set (NPMRDS).  
Certain regional Interstate highway segments excluded due to data availability.

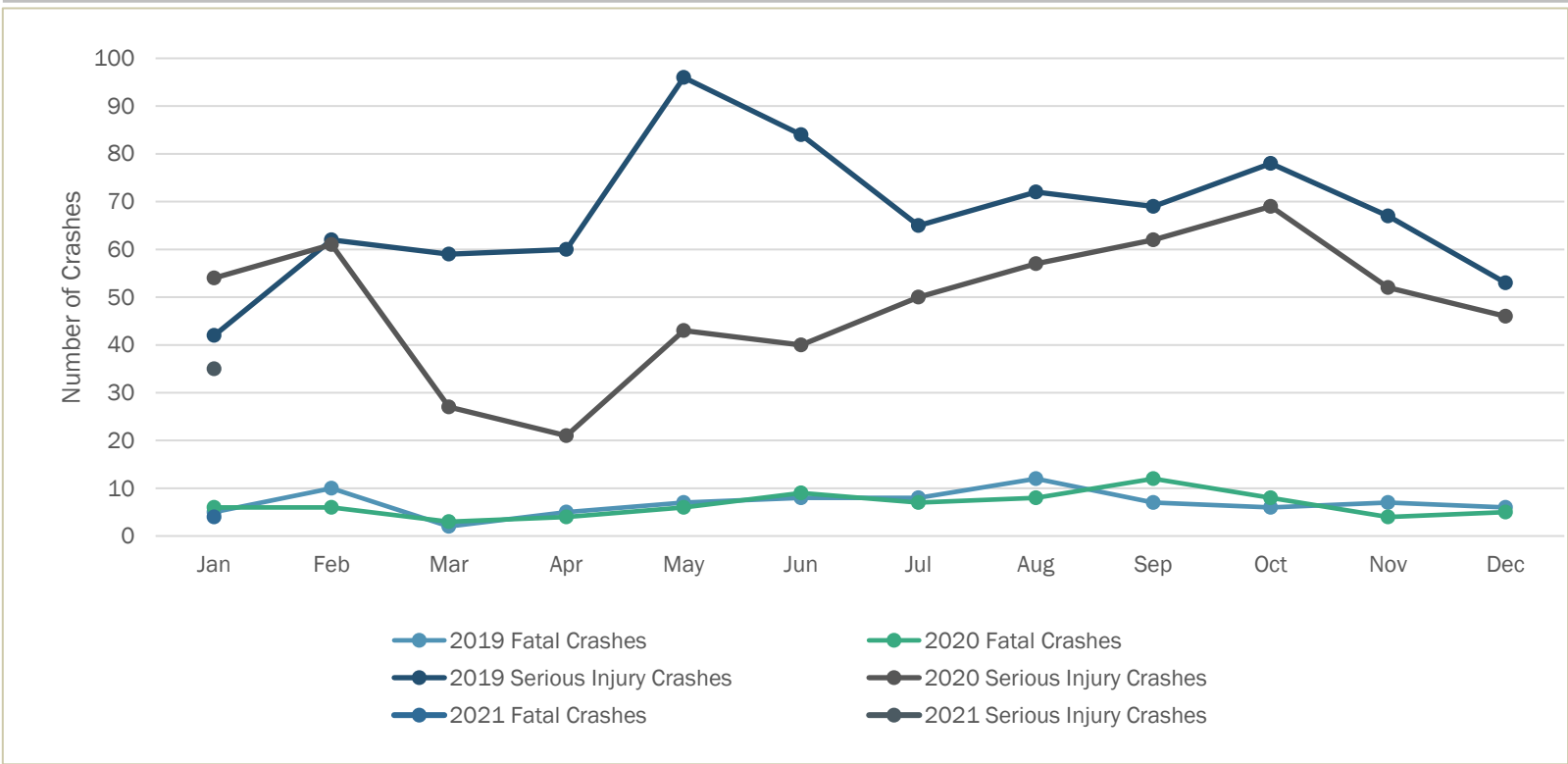
# Safety: MATOC Incidents



Numbers of documented roadway incidents during Metropolitan Area Transportation Operations Coordination (MATOC) Program operating hours (4:30 A.M. to 8:00 P.M. weekdays only). Source: MATOC.

MATOC-tracked incidents trended lower during the pandemic in 2020, with major incidents trending disproportionately high. In 2021, incidents have trended toward pre-pandemic proportions.

# Safety: Crashes (Northern Virginia 2019-21)



Data are preliminary. This chart reflects adjustments to previous data posted by VDOT and supersedes previous versions.  
 Source: VDOT.

Since March 2020, fatal crashes have been at about 2019 levels (even with reduced traffic volumes), with serious injury crashes slightly lower than 2019.



# Summary – Transportation

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- Traffic volumes and vehicle miles of travel dipped most dramatically in April 2020 but have significantly recovered.
- Though the overall number of crashes and incidents went down during the pandemic, major incidents and fatal crashes remained high even during periods of reduced travel demand.
- Transit ridership has varied, with greater declines for longer-distance commuter services, lesser declines for local bus transit services.
  - Ridership changes should be viewed in relation to pandemic-reduced service levels; bus usage has been significant and remains a lifeline for critical workers.

# Environment



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# 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.

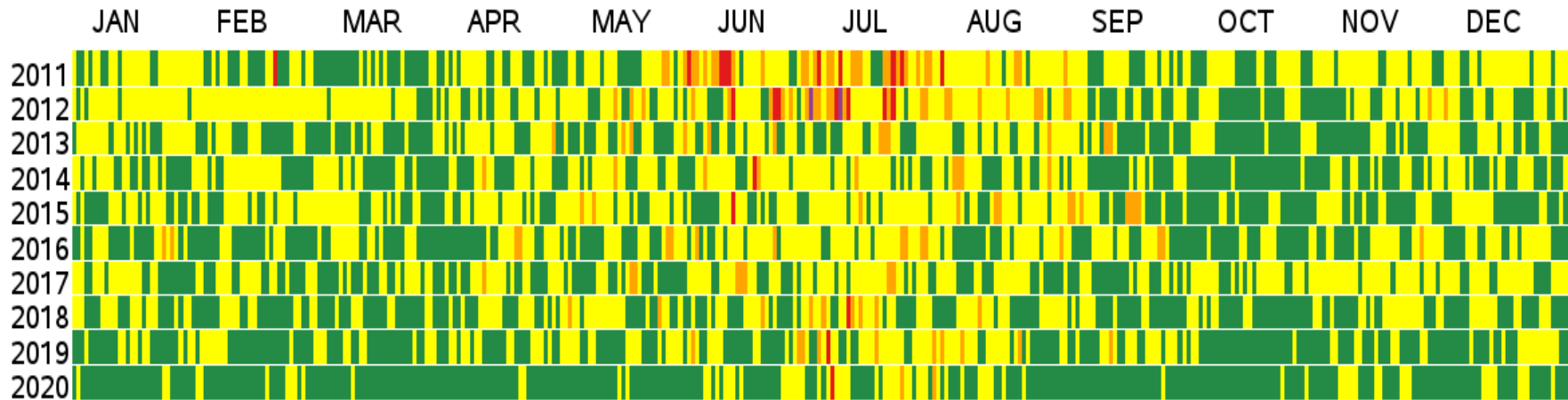
Ozone Air Quality Index Days (March - September)			
Year	Code Green	Code Yellow	Code Orange
2020	180	32	2
2019	123	81	10

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



# 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.

# Impact on Greenhouse Gas Emissions

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- 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.**

# Summary: Air Quality & GHG Emissions

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- 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

# Next Steps

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Staff from COG departments continue collaborating on the multisectoral assessment of COVID-19 impacts on the region.

- Deeper dive into more data
- Future presentations to be made (near term and longer term)
  - COG Board of Directors
  - Transportation Planning Board
  - Climate Energy and Environment Policy Committee
  - Metropolitan Washington Air Quality Committee
  - Chesapeake Bay and Water Resources Policy Committee
  - Human Services Policy Committee
  - Region Forward Coalition
  - Supporting Committees and Subcommittees

## Andrew J. Meese, AICP

TPB Systems Performance Planning Program Director

(202) 962-3789

[ameese@mwkog.org](mailto:ameese@mwkog.org)

[mwkog.org/tpb](http://mwkog.org/tpb)

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Metropolitan Washington Council of Governments

777 North Capitol Street NE, Suite 300

Washington, DC 20002



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