

COVID-19 IMPACT ON ENERGY CONSUMPTION AND EMISSIONS - JULY UPDATE

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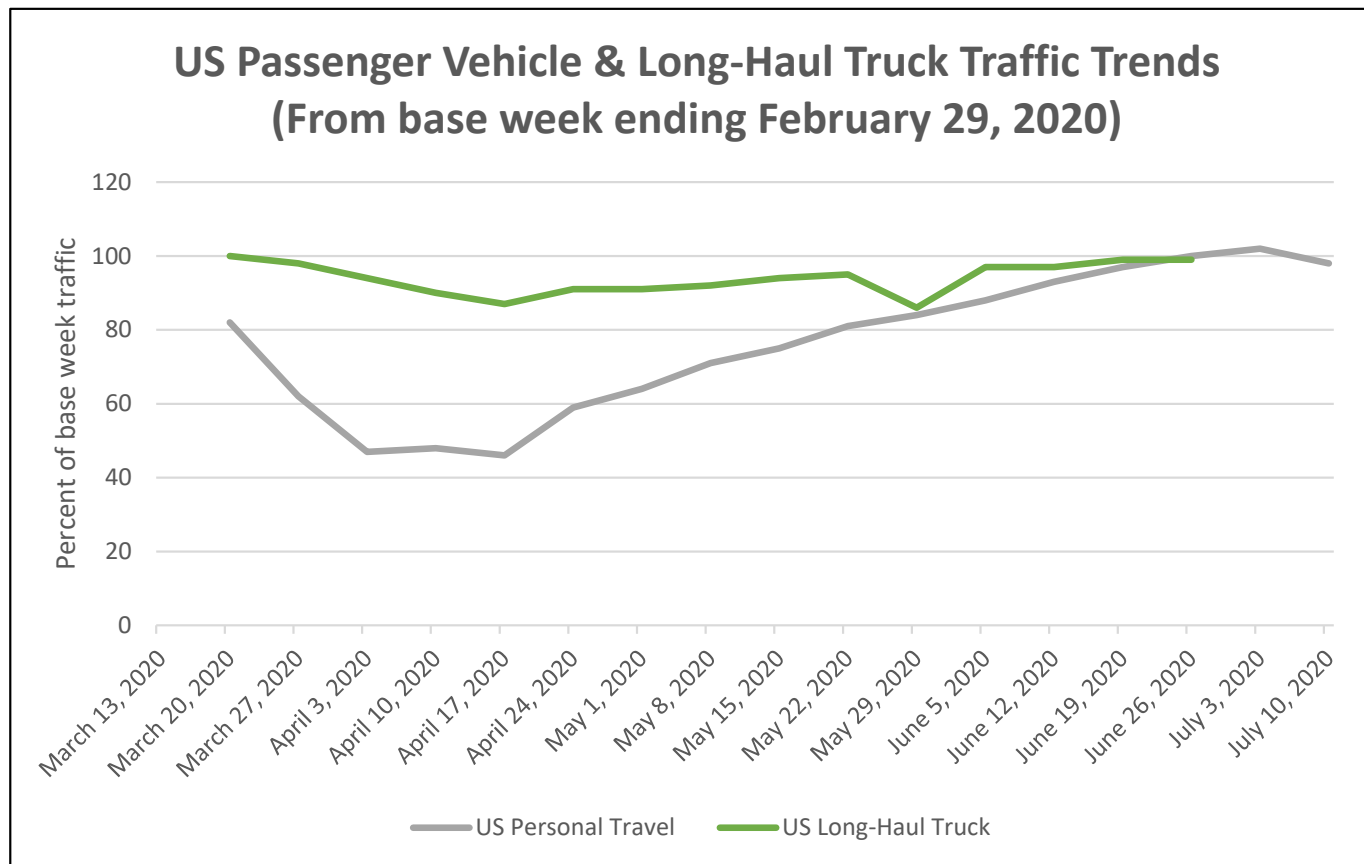
CEEPC
July 22, 2020

COVID-10, ENERGY USE & EMISSIONS

- Update from May 27, CEEPC meeting
- High-level estimate = 5.4% annualized reduction
- Reduced operation of businesses, institutions, and governments since early March
 - Gradual opening at various stages across the metro region
- Schools
 - Not all districts have released plans
 - Most moving toward 100% online to start fall semester
- Traffic – limited regional data since June 26
 - DC region at 18% reduction for June 20-26

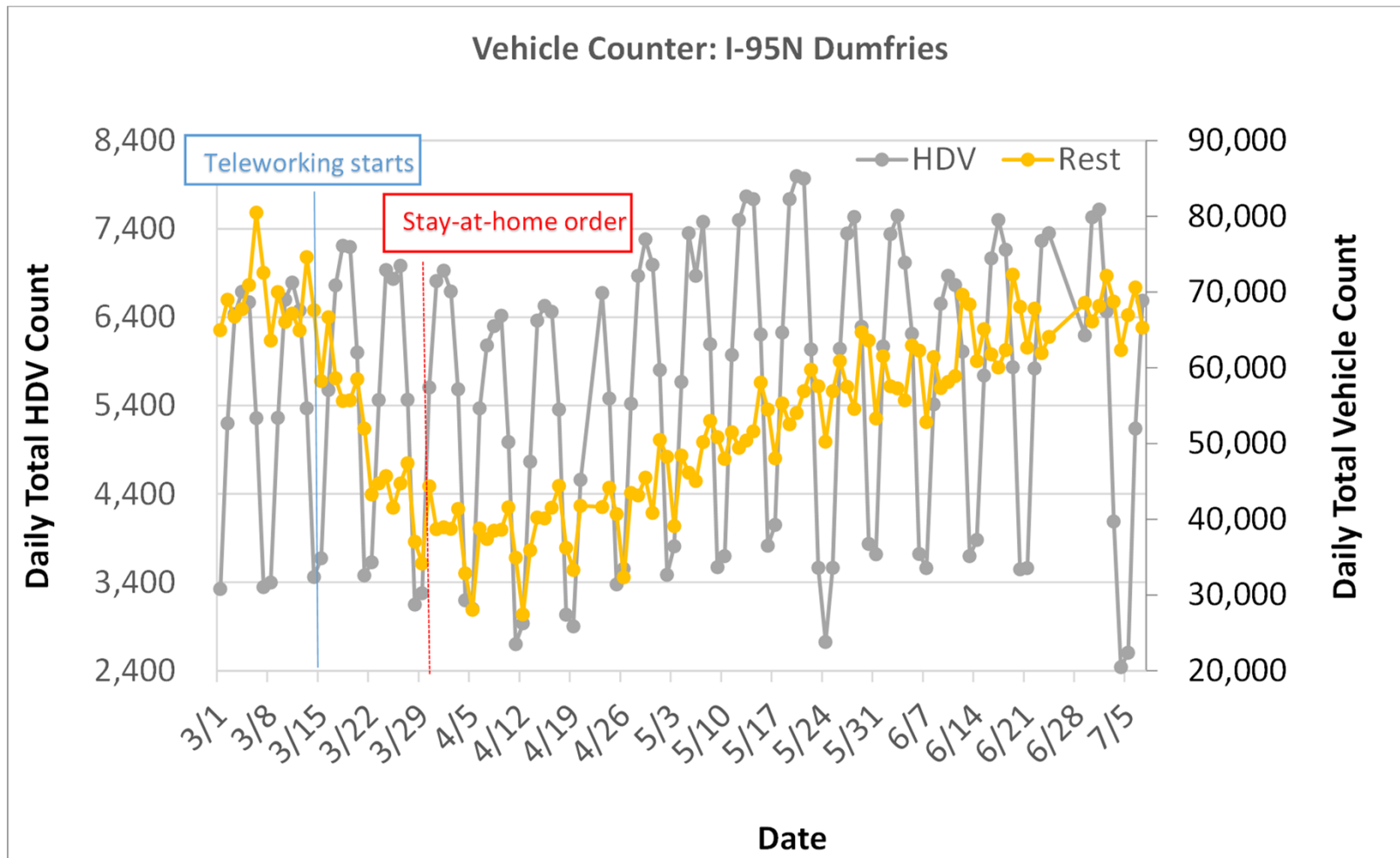
ON-ROAD TRANSPORTATION

- On-Road Sector



Source: Washington metro area chart is based on data extracted from INRIX U.S. National Traffic Volume Synopsis Issues

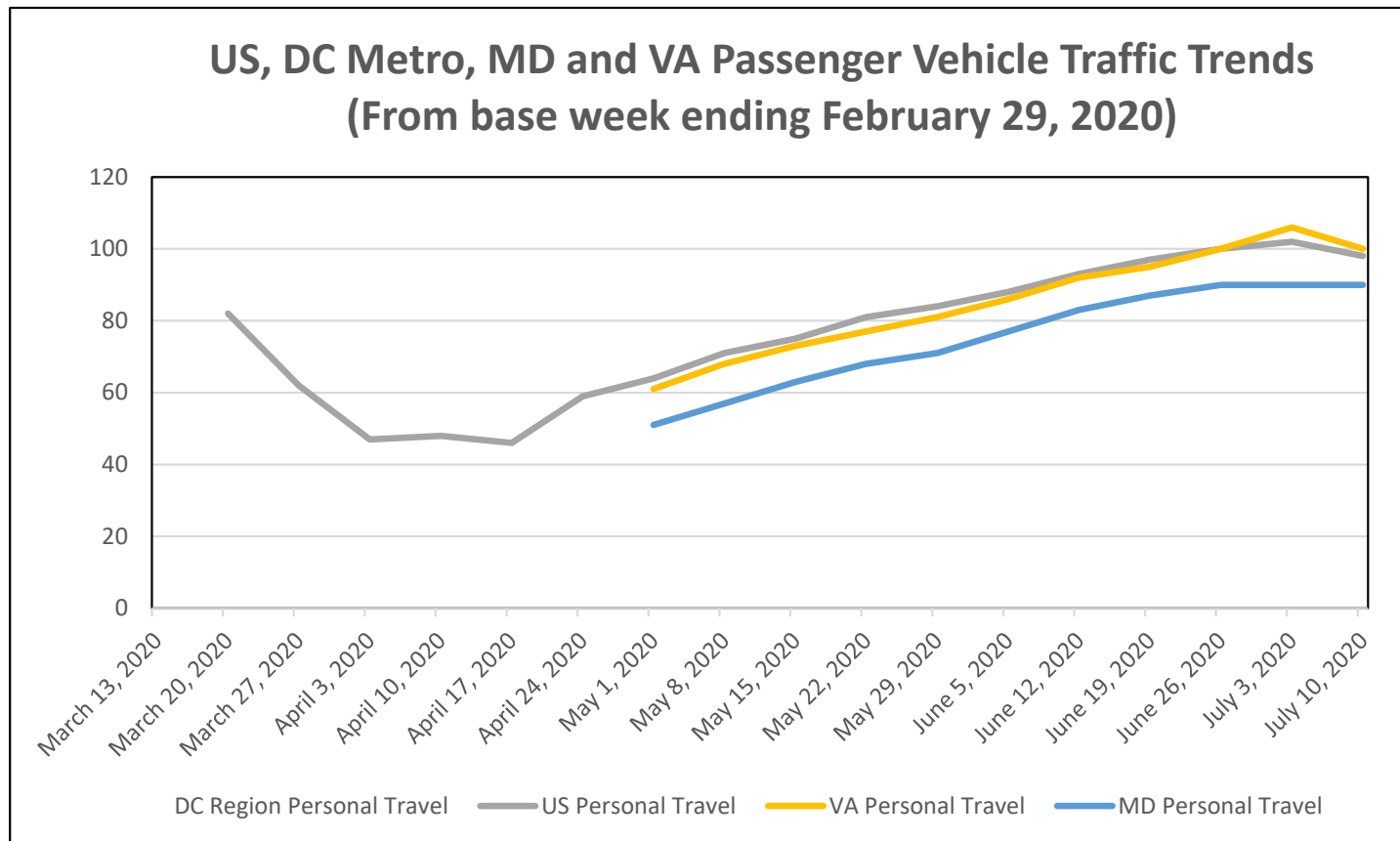
ON-ROAD TRANSPORTATION



- Heavy-duty vehicle traffic became slightly higher than normal after mid-April. Rest of the vehicle traffic continues to increase after a decrease during mid-March to mid April. Source: VDOT

ON-ROAD TRANSPORTATION

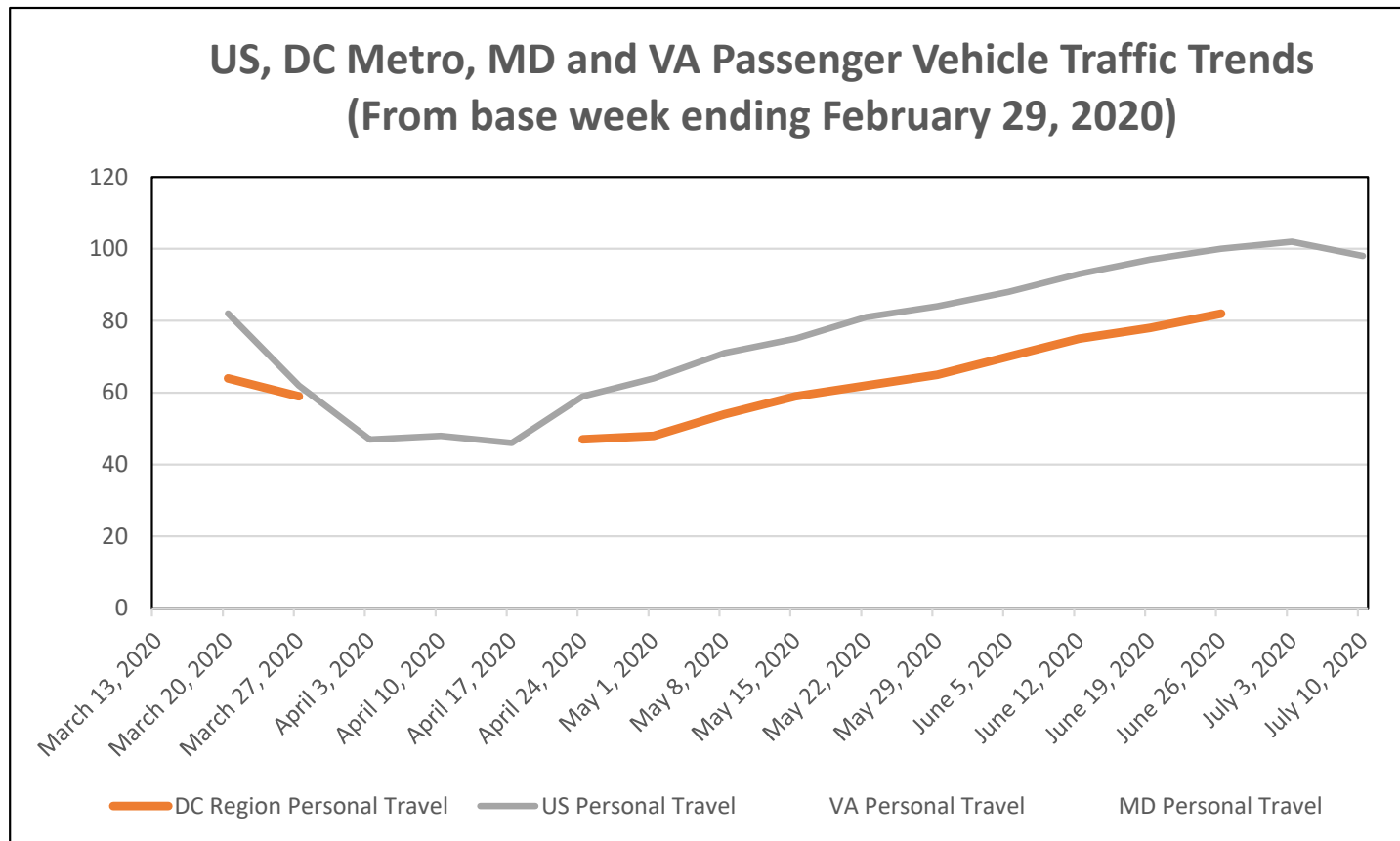
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ON-ROAD TRANSPORTATION

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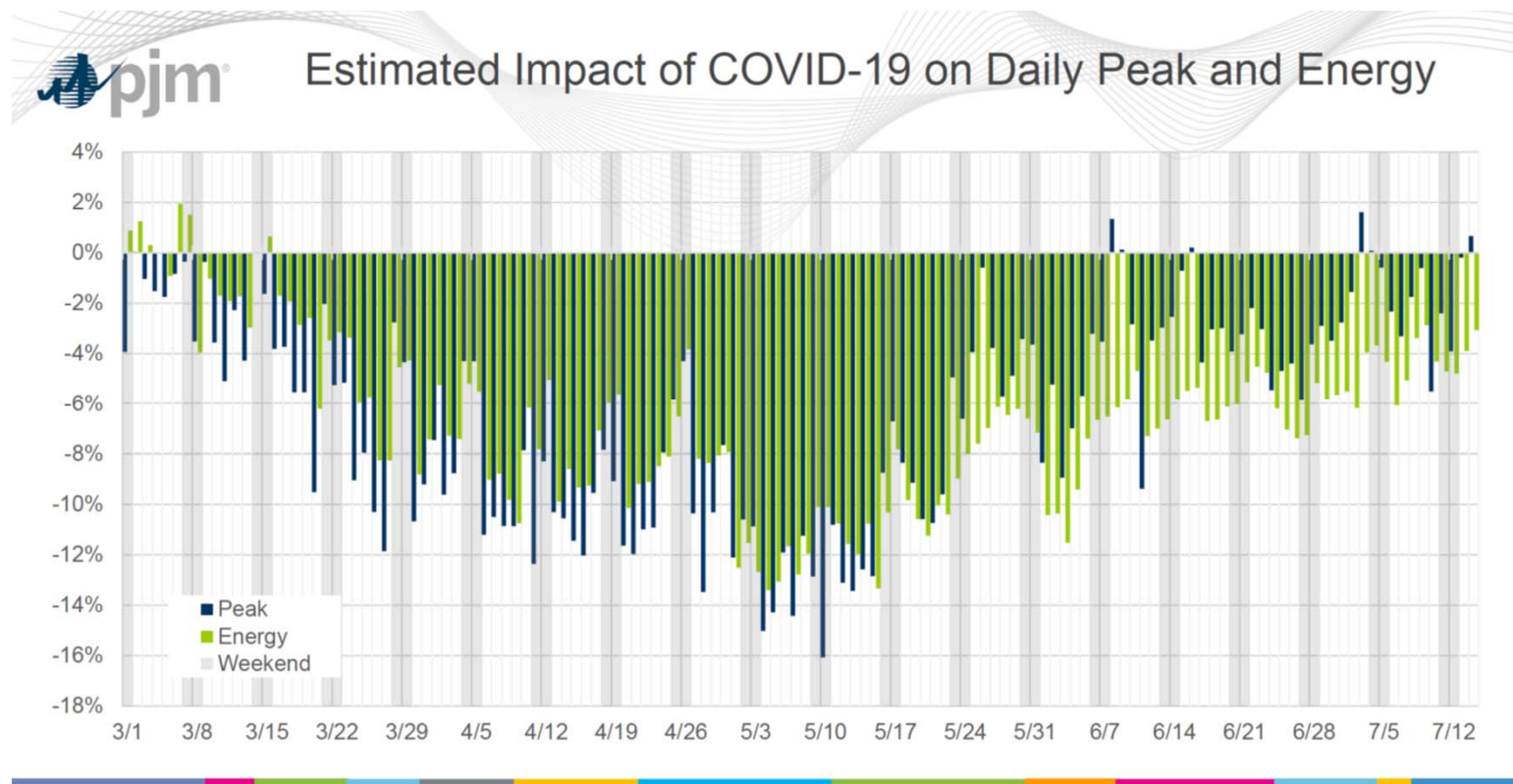
ONROAD TRANSPORTATION

- Assume 40% average weekly reduction in traffic volume in the metropolitan Washington region
- Assume March 20 - June 26 - 29% of the year
- 2020 BAU on-road sector emissions = 20,515,631 MtCO₂e
- Annualized Reduction = 20,515,631 MtCO₂e x 40% x 29%
- Annualized Reduction = 2,379,813 MtCO₂e = 12%

BAU emissions from COG BAU projections revised May 2020

ELECTRICITY

- PJM Electric generation March 24 to July 14
 - Weekday peak about 10% less than anticipated
 - Average energy about 7.9% less than anticipated



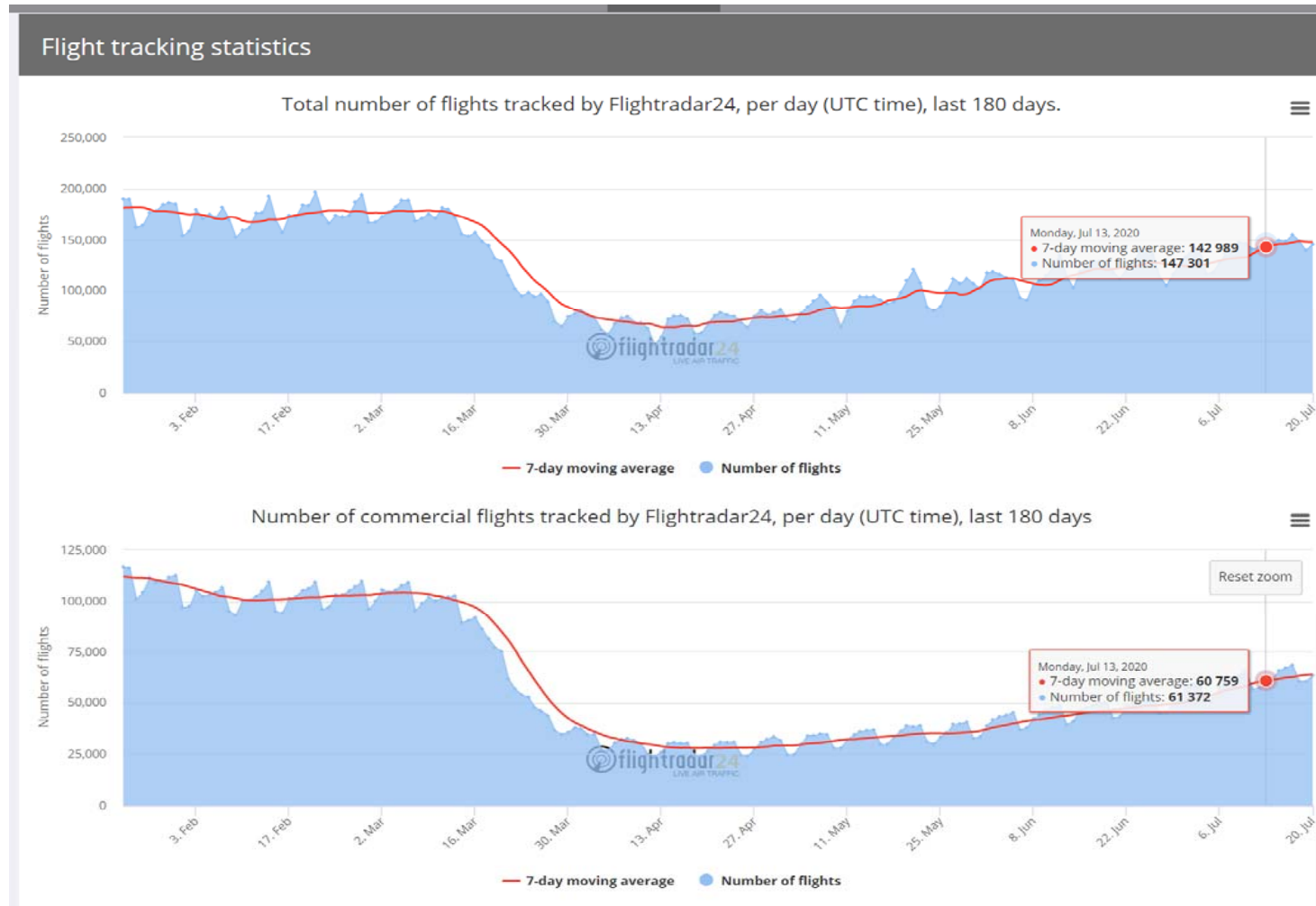
Source: PJM: Estimated Impact of COVID-19 on Daily Peak & Energy. Downloaded 7/21/2020

ELECTRICITY

- Assume 7.9% average daily reduction in electricity use in the PJM
- Assume March 24 – July 14– 30% of the year
- 2020 BAU electric sector emissions = 23,174,811 MtCO₂e
- Annualized Reduction = 23,174,811 MtCO₂e x 7.9% x 30%
- Annualized Reduction = 549,243 MtCO₂e = 2.4%

BAU emissions from COG BAU projections revised May 2020

COMMERCIAL AVIATION



Source: Flightradar24.com, Latest News, JULY 21, 2020

COMMERCIAL AVIATION

- 7-day average number of commercial flights (worldwide)
 - March 7 = 103,987; May 11 = 32,198; July 20 = 63,318
 - Assume percent drop = 65%
- Assume March 20 – July 20 – 33% of the year
- 2020 BAU aircraft sector emissions = 2,193,230 MtCO₂e
- Annualized Reduction = 2,193,230 MtCO₂e x 65% x 33%
- Annualized Reduction = 470,488 MtCO₂e = 21%

BAU emissions from COG BAU projections revised May 2020

OTHER SECTORS

- Assume no change in other sectors
 - Stationary building fuel combustion (data unavailable)
 - Rail transportation (data unavailable)
 - Off-road vehicles (data unavailable)
 - Water and wastewater (small net change)
 - Agriculture (data unavailable)
 - Solid waste (small net change; limited data)
 - Process and fugitive emissions (data unavailable)

IMPACT ON GREENHOUSE GAS EMISSIONS

- Transportation + Electric Generation + Aviation
 - Reduction = 2,379,813 + 549,243 + 470,488 = 3,399,504 MtCO₂e
 - Assume 2020 BAU total emissions = 63,275,113 MtCO₂e
 - **Annualized reductions of BAU GHG emissions = 5.4%**
BAU emissions from COG BAU projections revised May 2020
- Nature Climate Change 5/19/20 – 4% reduction estimate if pre-pandemic conditions return by mid-June
<https://www.nature.com/articles/s41558-020-0797-x>

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