



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

# COVID, Shelter in Place, and Air Quality

**SPUR: A Good Direction for Poor Air Quality**  
**July 7, 2020**

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# Traffic Down, Total Emissions Reduced (Early Data, Preliminary Estimates)



## Traffic



50 to 85%

*(per traffic counts and  
cell phone tracking data)*



## Total Emissions



CO<sub>2</sub>: 20 to 30%

PM<sub>2.5</sub>: 15 to 25%

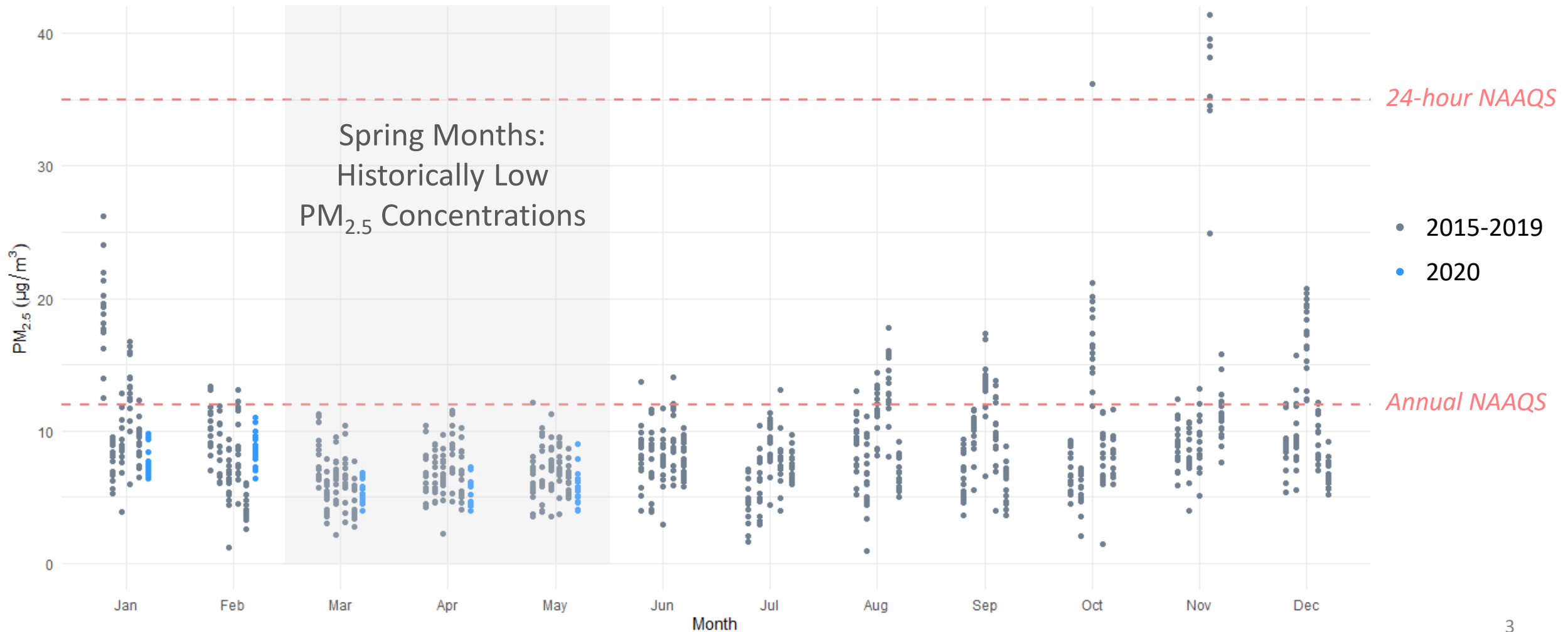
NO<sub>x</sub>: 30 to 45%

*(due to traffic reduction alone)*

*Air quality measurements are consistent, but weather helping too.*

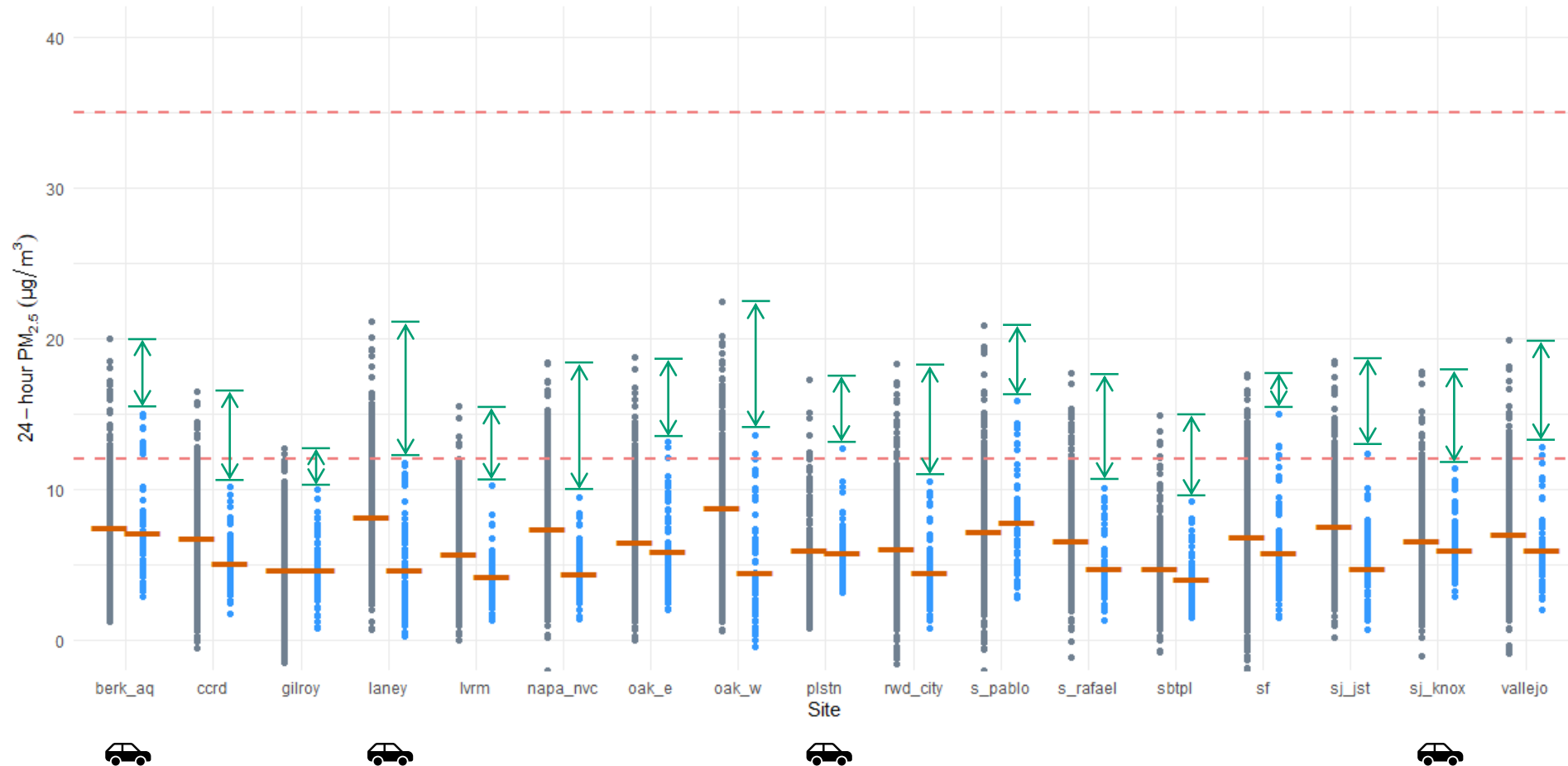
# Monthly Average PM<sub>2.5</sub>: 2020 vs. Previous Years

## Monthly Average PM<sub>2.5</sub> 2015 – 2020



# Historical Comparison to Previous Spring Months (2015-2019)

Bay Area PM<sub>2.5</sub> (March – May) 2015 – 2020



All sites measuring fewer “high” concentrations; changes not uniform across Bay Area

Historical:

- (Mar - May 2015-2019 & Mar 1 – Mar 15, 2020)

Shelter-in-Place:

- (Mar 16 – May 31, 2020)

— Average Concentration

🚗 Near-Road Site

# Harvard Study – Air Pollution and COVID

- NYT 4/7/20: ***New Research Links Air Pollution to Higher Coronavirus Death Rates***
  - Harvard study suggests exposure to high levels of pollution increase fatality rate from COVID
  - Increase of 1 ug/m<sup>3</sup> in PM<sub>2.5</sub> associated with 8% increase in COVID fatality rate
- Study very preliminary, not peer reviewed, various confounding variables
- Much more study needed on possible links between AQ and COVID
- But, we know that higher levels of fine particles have serious health effects, especially in disproportionately impacted communities

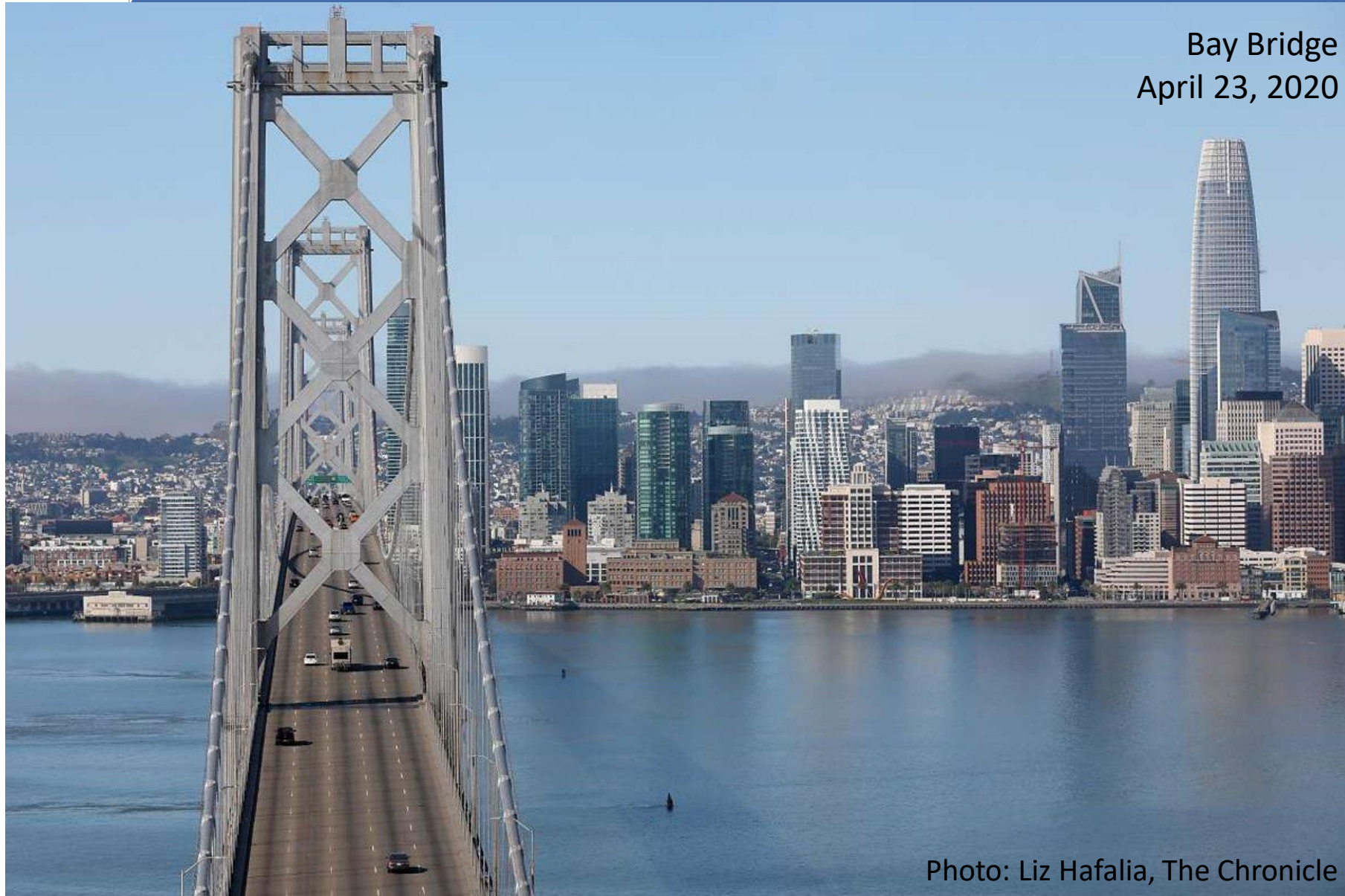
# How Does Shelter in Place Inform AQ Planning?

- Telecommuting has exploded - many firms and agencies are successfully working remotely
- Bicycle sales are booming, cities experimenting with closed streets for bikes/peds
- Transit ridership has plummeted, forecast is daunting
- Carpooling also down, slow rebound expected
- Ongoing COVID concerns suggest long-term effects on transportation behavior
- Equity concerns regarding workers whose jobs don't accommodate telecommuting and transit-dependent households
- Communities most vulnerable to COVID are also most vulnerable to air pollution

## How Does Shelter in Place Inform AQ Planning? (2)

- Air District to provide remote work resources, join campaign to boost remote work long-term
  - Remote work resource clearinghouse: <https://www.baaqmd.gov/plans-and-climate/climate-protection/remote-work-policy-clearinghouse>
  - Spare the Air campaign to emphasize remote work
- Continue to support and expand local bike/ped initiatives
- Need to secure resources for transit districts in extreme financial crisis
- Need to address equity impacts, especially for transit-dependent
- Continue focus on improving AQ and health in disproportionately impacted communities – AB 617 Community Health Protection Program

# Questions?



Bay Bridge  
April 23, 2020

Photo: Liz Hafalia, The Chronicle