



# Compilation of charts\* illustrating global impact of COVID-19 across a wide range of areas.

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\*produced by multiple sources





# As more people work & school from home, transportation drops.

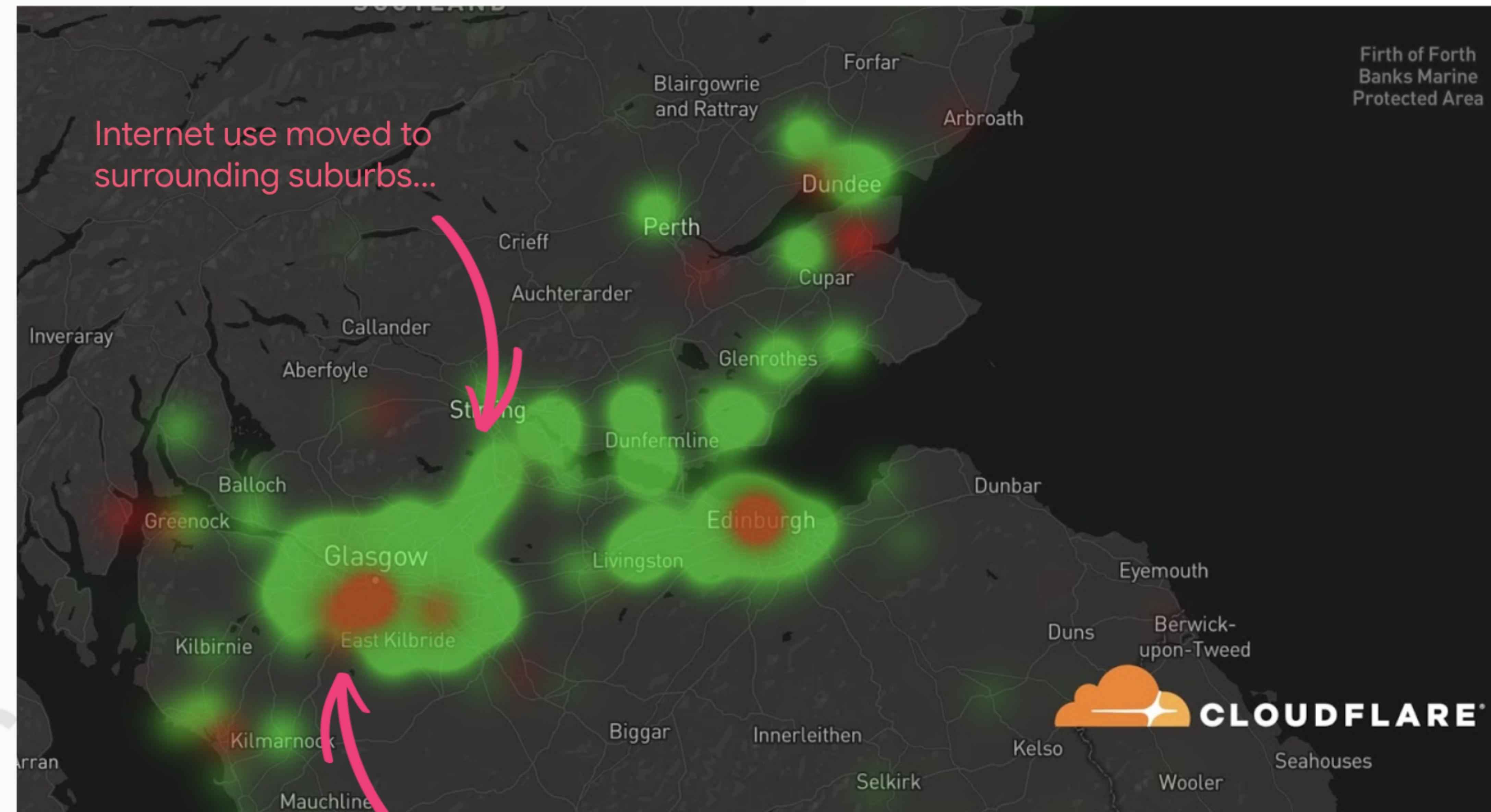
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driven by lockdown/stay at home orders



# Increasing work from home

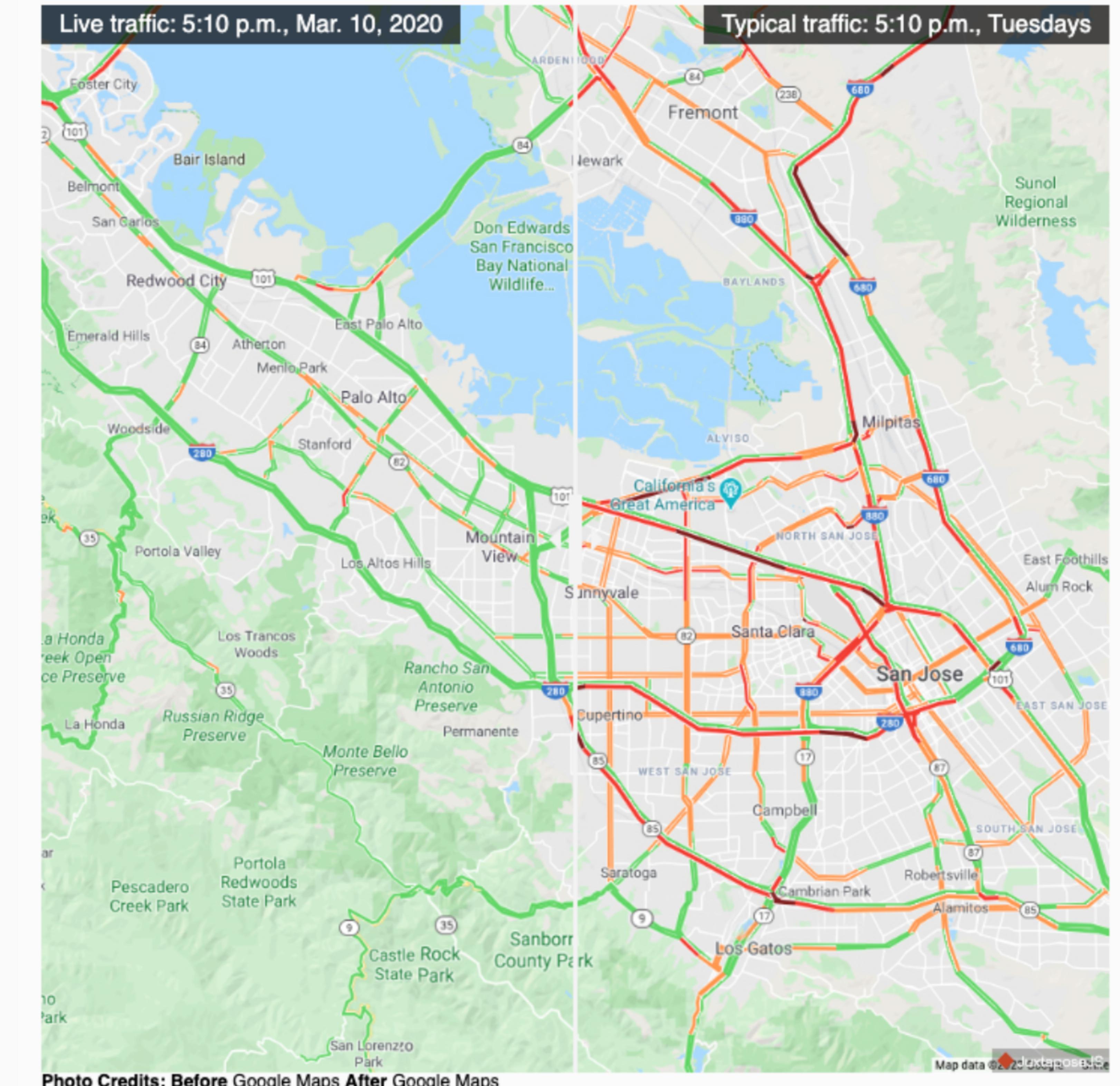
Day time Internet use in Scotland changes from February to March. Green means more, red/orange means less.



...from city centers where it  
was previously clustered

# Commuter traffic decreases

With many people no longer commuting to work, traffic at peak hours drastically decreases.



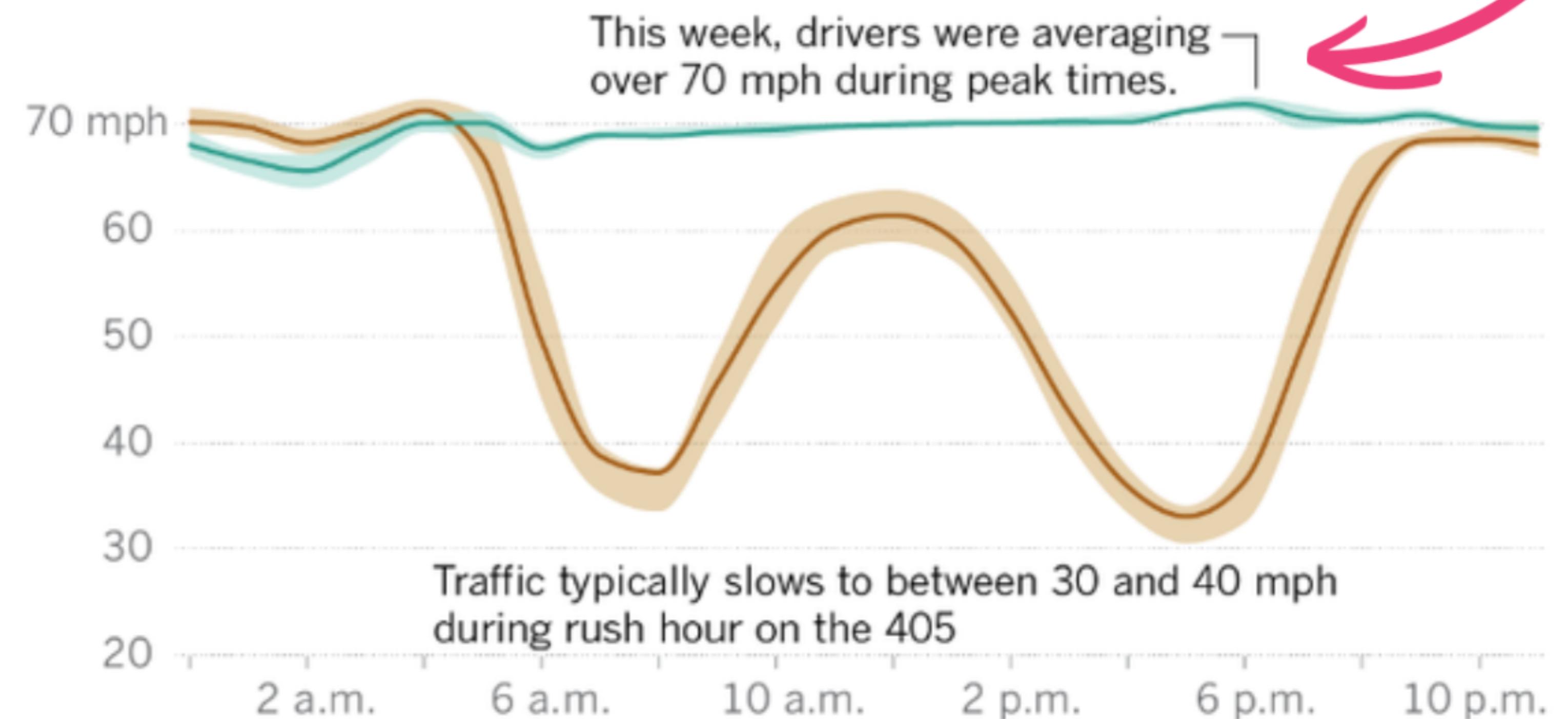
# Driving speeds increase

As less people are on the roads, average speeds across the US have increased.

During Monday morning rush hour: 35% increase in Los Angeles; 30% in Chicago; 24% in Seattle.

- Average speeds on March 23 and 24
- Average speeds on weekdays for January and February

Southbound 405 Freeway in Los Angeles and Orange counties

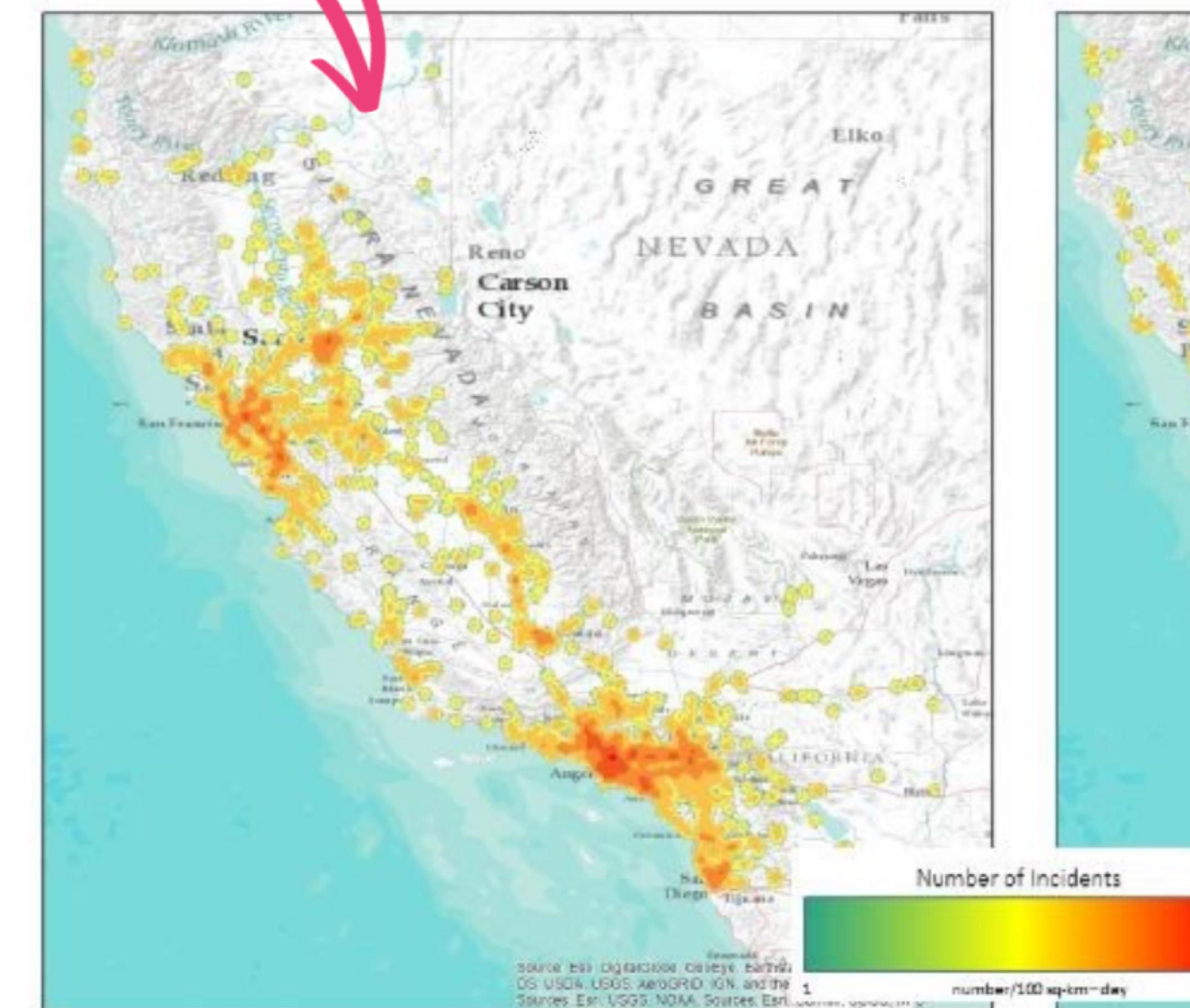


# Reductions in traffic crashes

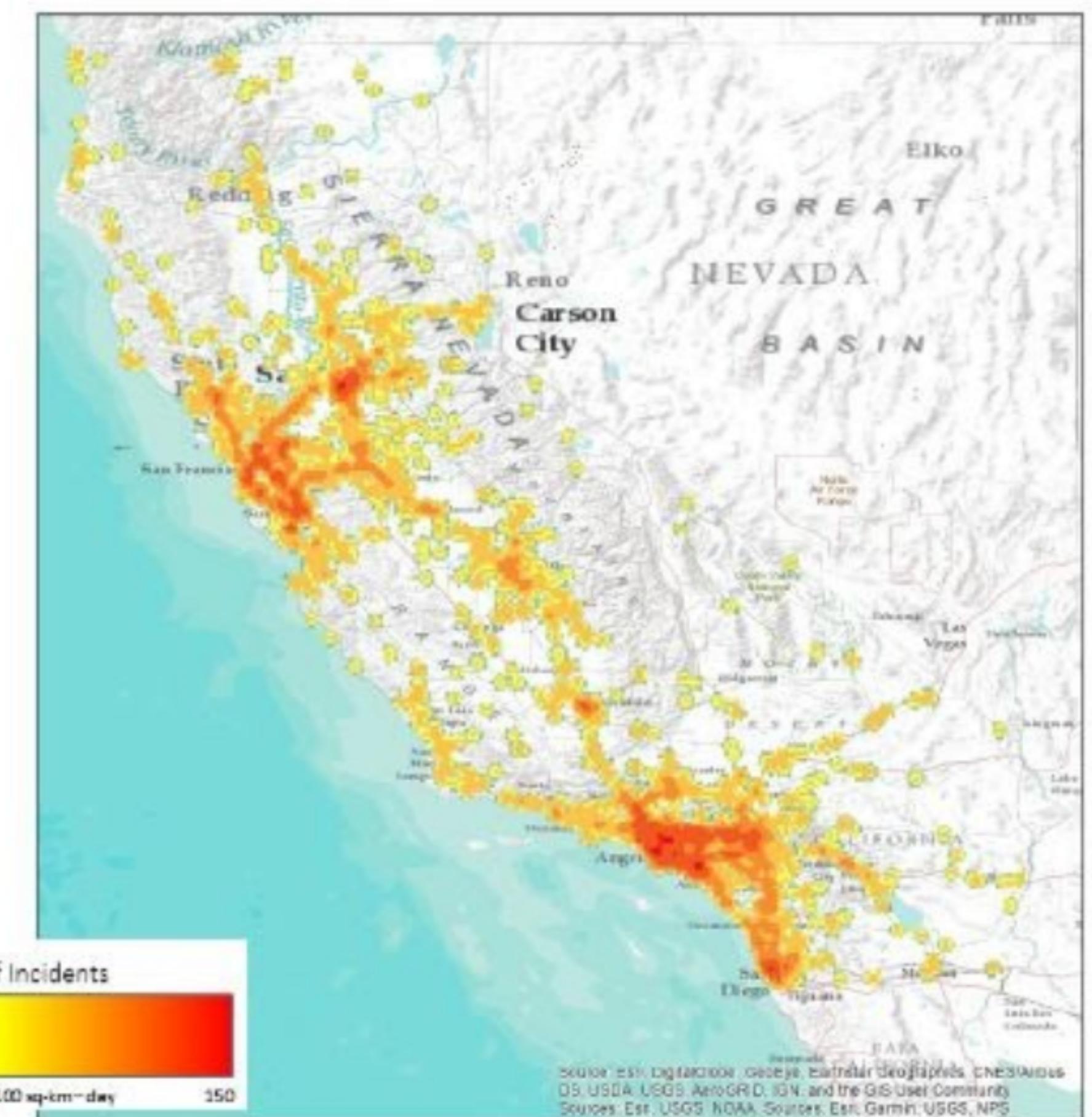
Injury and fatality traffic collisions have been reduced by half in California since the stay-at-home order was issued on March 19.

After stay at home order

A



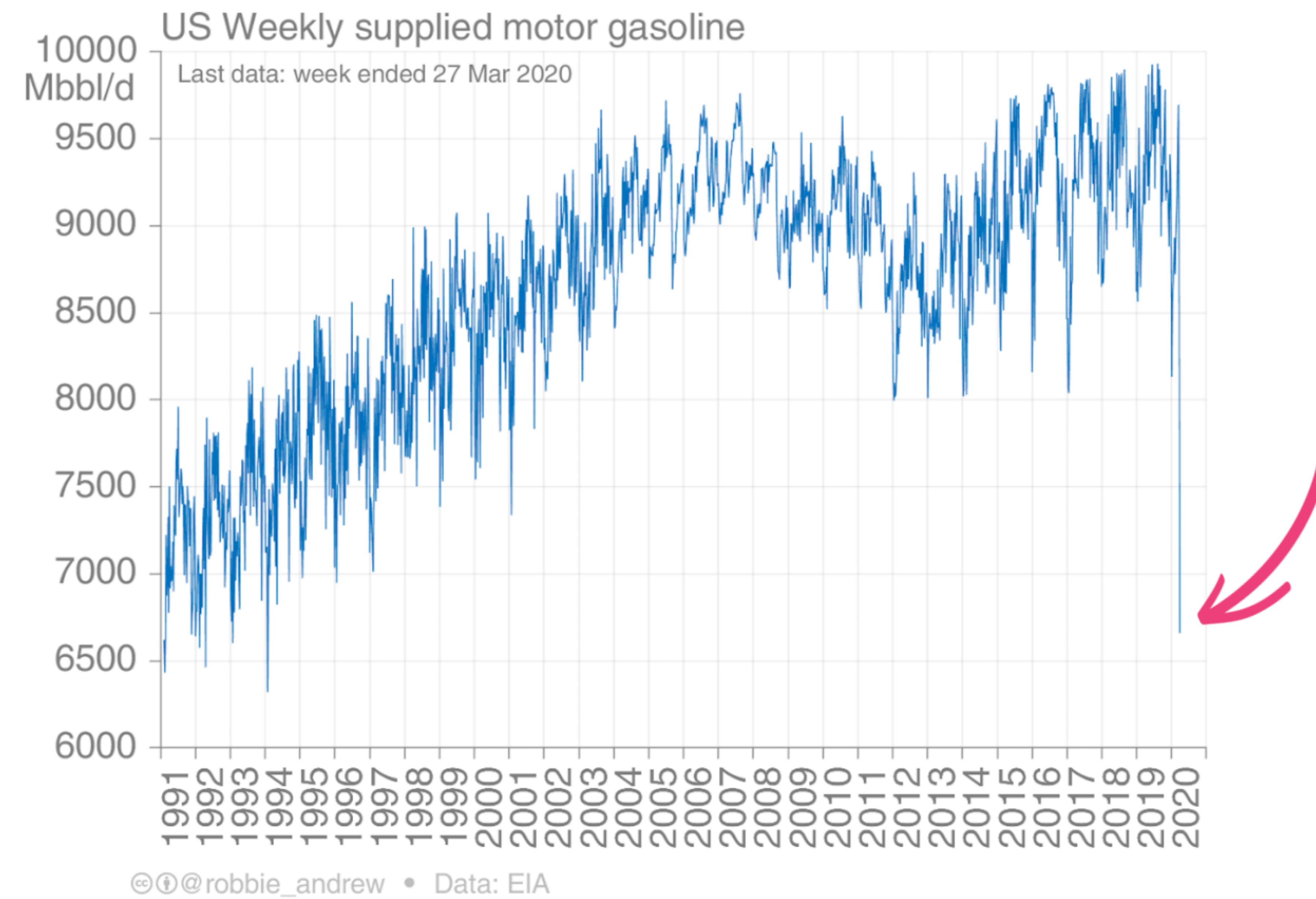
B



**Figure 1.** Density of injury/fatal accidents on state highways and certain major roads (A) between 3/21/2020 and 3/30/2020 and (B) between 3/21/2019 and 3/30/2019.

# Less gasoline needed for cars

US weekly motor gasoline supplies fell to early 1990's levels.



# Less public transportation use

New York subway usage dropped from 35M weekly turnstile entries to 2M.

Stay at home order issued in New York on March 22nd.

Updated through Fri Apr 3, 2020

## Weekly turnstile entries

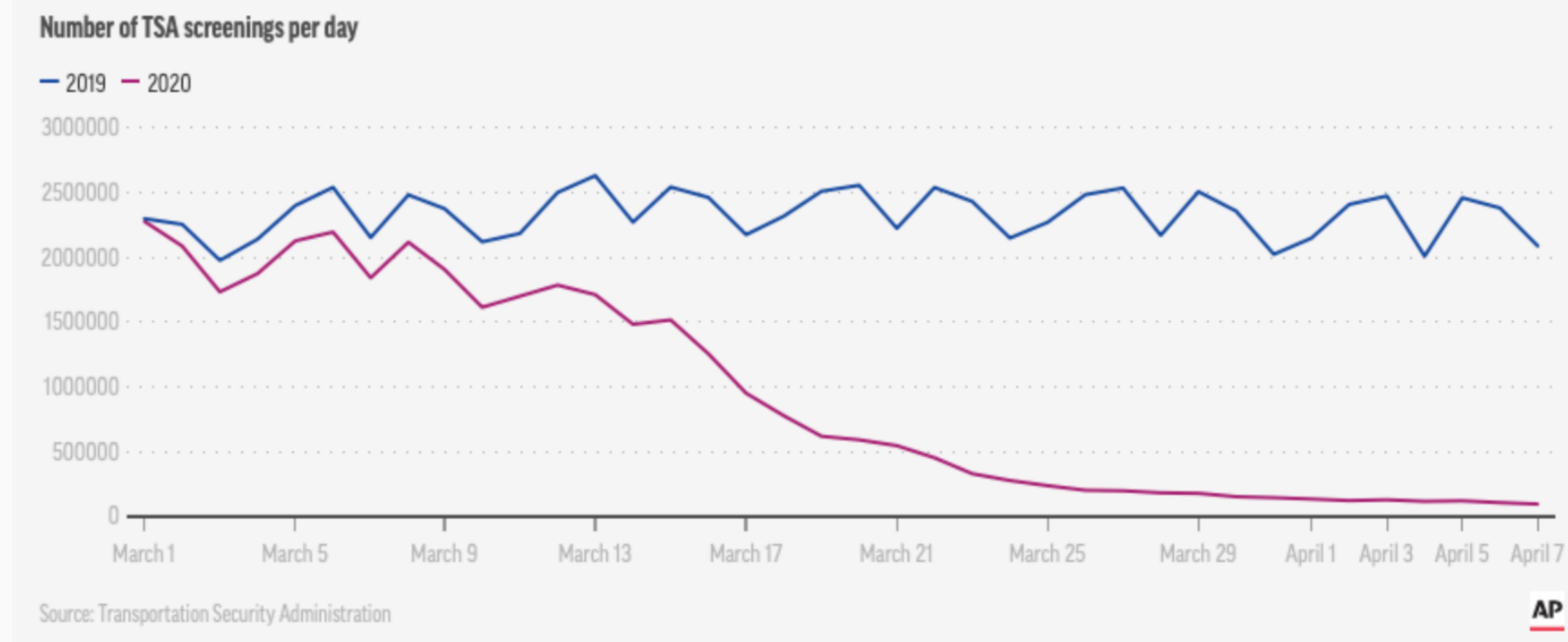


Data via MTA  
toddwschneider.com



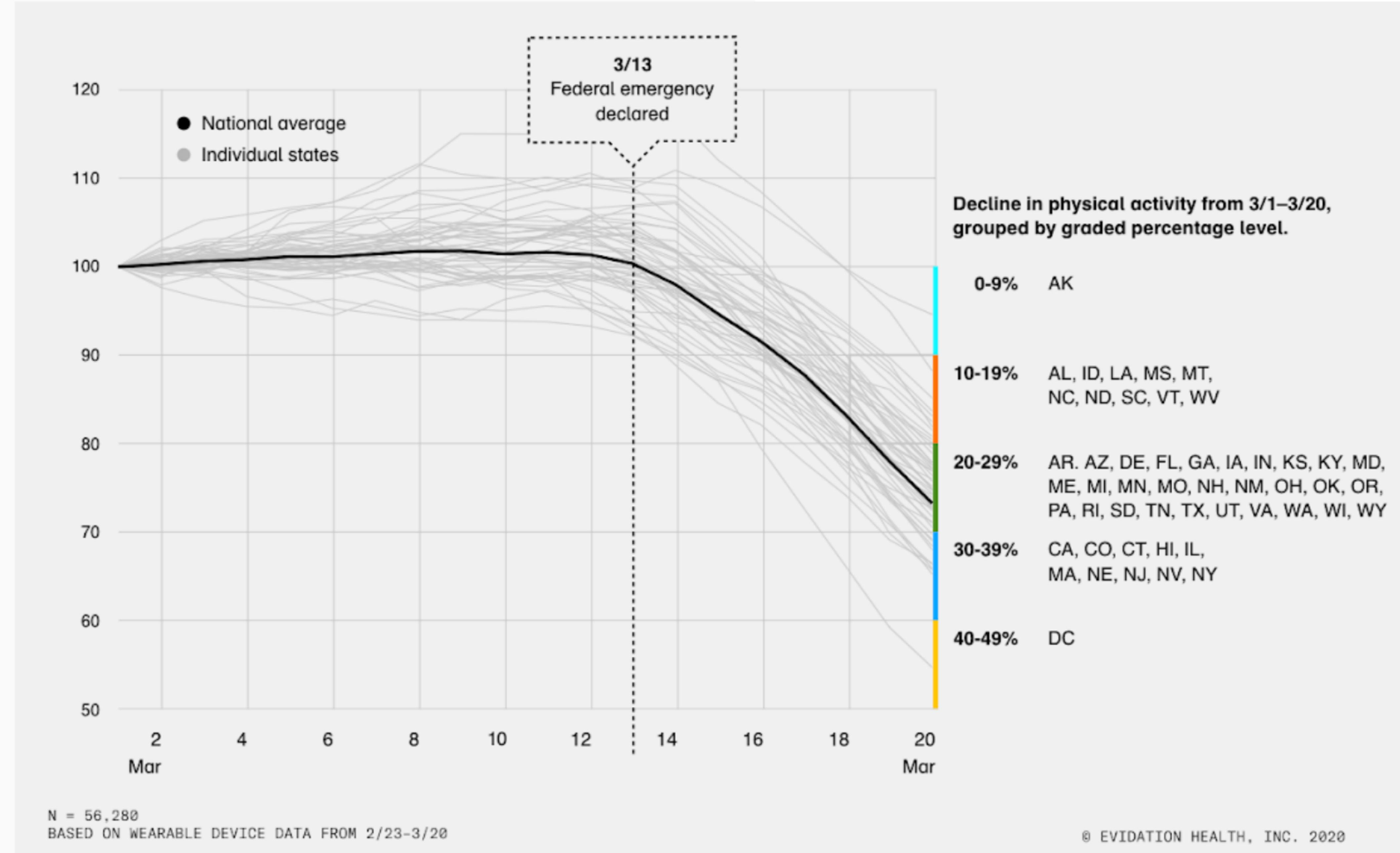
# Significantly less air travel

The Transportation Security Administration screened 94,931 people on April 8th 2020, a drop of **96%** from a year ago.



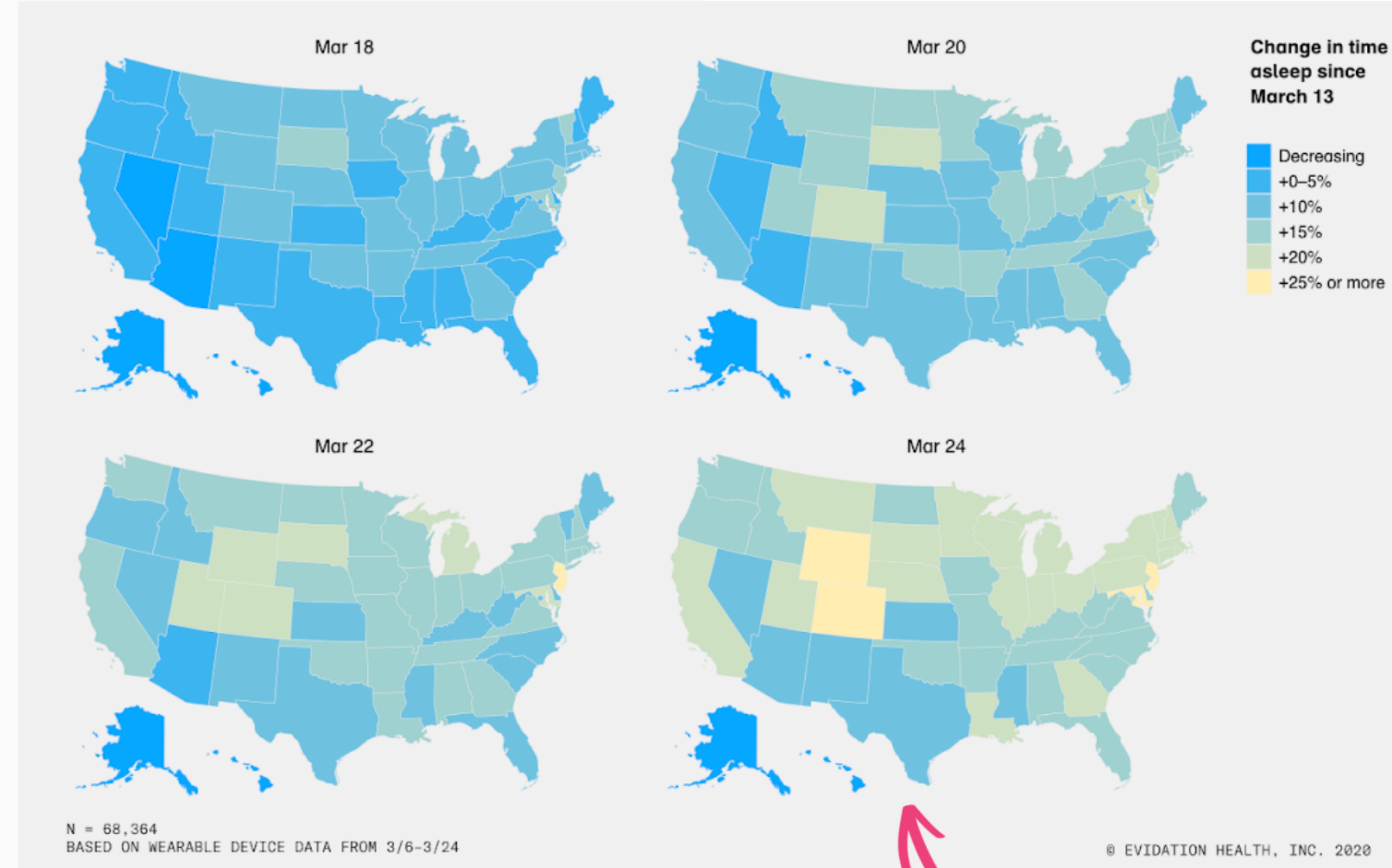
# People are walking less

Physical activity in the US (as measured by steps) is down more than 26% since March 13th 2020.



# But sleeping more at night

Across the country, time asleep is up almost 20% since March 13th 2020 as measured by people's activity trackers.





## With less transportation\*, pollution levels drop.

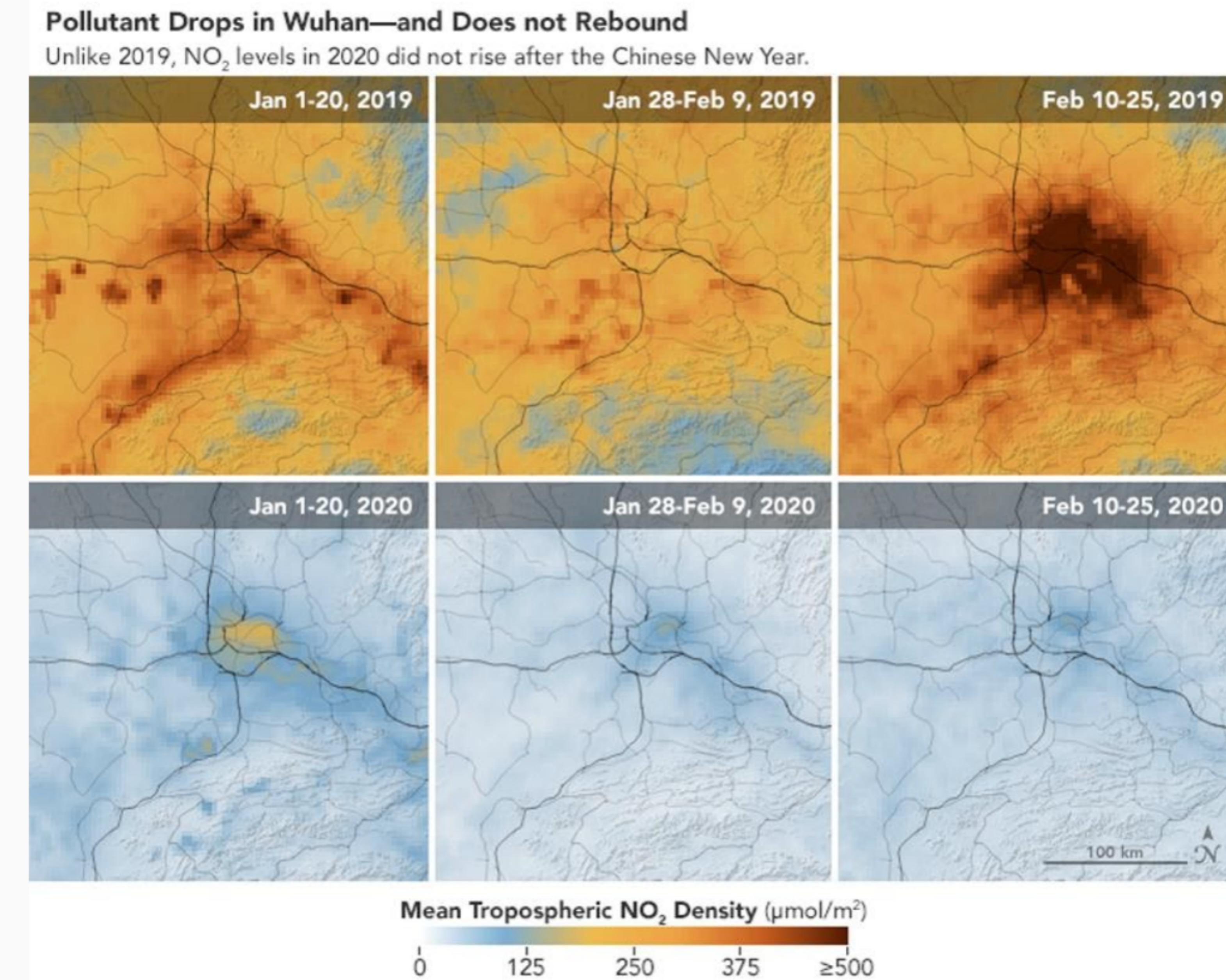
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\*closure of factories & other industry likely also a big factor.



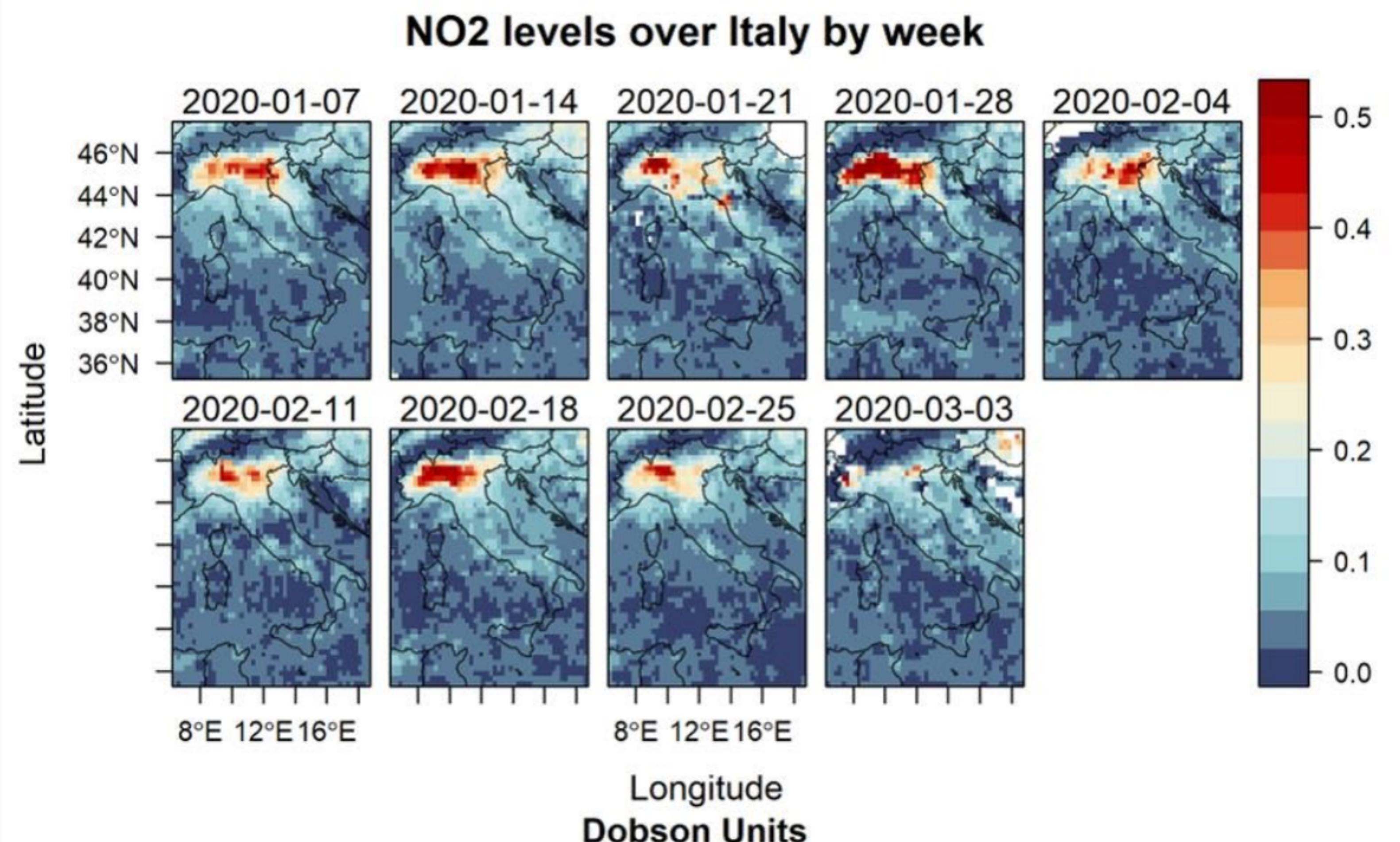
# Pollutant levels drop after lockdown

Comparing 2019 NO<sub>2</sub> levels in Wuhan, China to 2020 shows a marked increase in air quality.



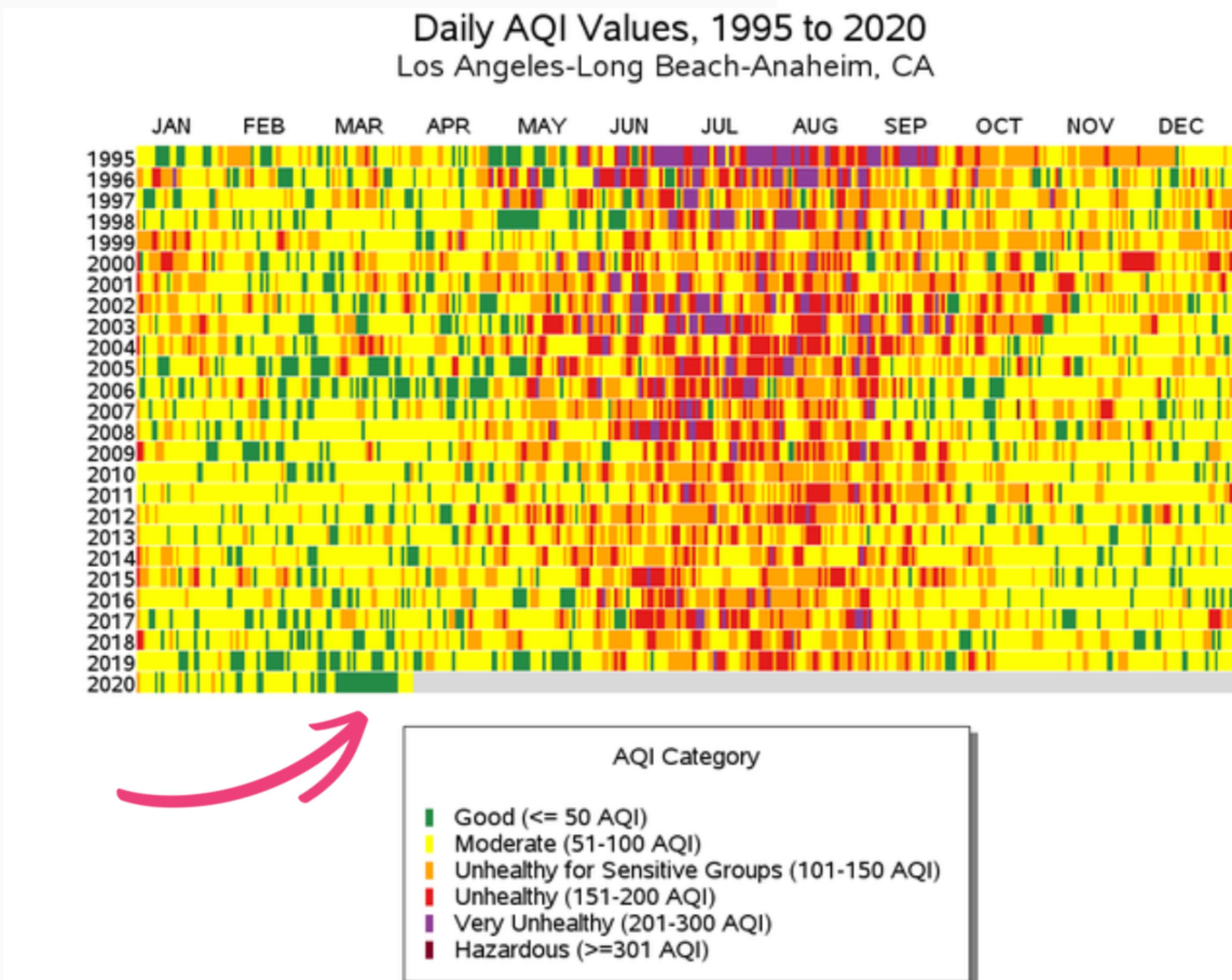
# Air pollution changes quickly

Notable changes in Northern Italy from Feb 2020 to March following lockdown orders.



# In some cases, to record lows

According to the Environmental Protection Agency, in March 2020 L.A. experienced the longest consecutive “good” air days since at least 1980.



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

Generated: April 2, 2020

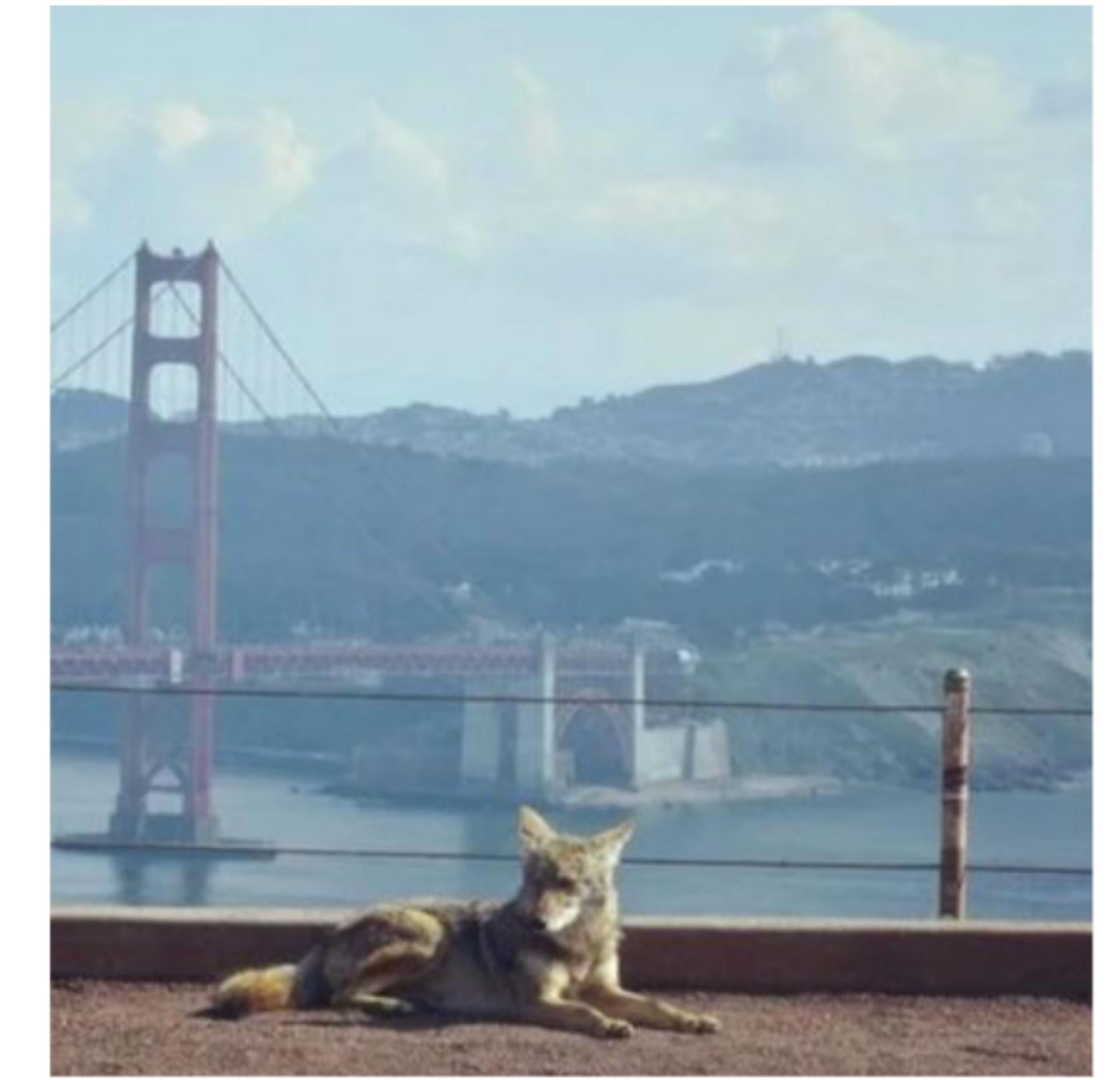
Note: The PM2.5 monitoring network was phased in between 1999 and 2001 in most areas. Earlier years in this plot do not include PM2.5 data.

# As people stay home, animals don't

With less human activity in urban areas, animals are venturing out into towns and streets they usually avoid.



Alligators in Myrtle Beach, SC



Coyotes in San Francisco, CA



Monkeys in Lopburi, Thailand



Kashmiri goats in Llandudno, Wales



# Staying at home shifts shopping behaviors

as people adjust to extended periods of home life



# Spending is down across categories

From apparel to restaurants, consumer spending has dropped significantly.

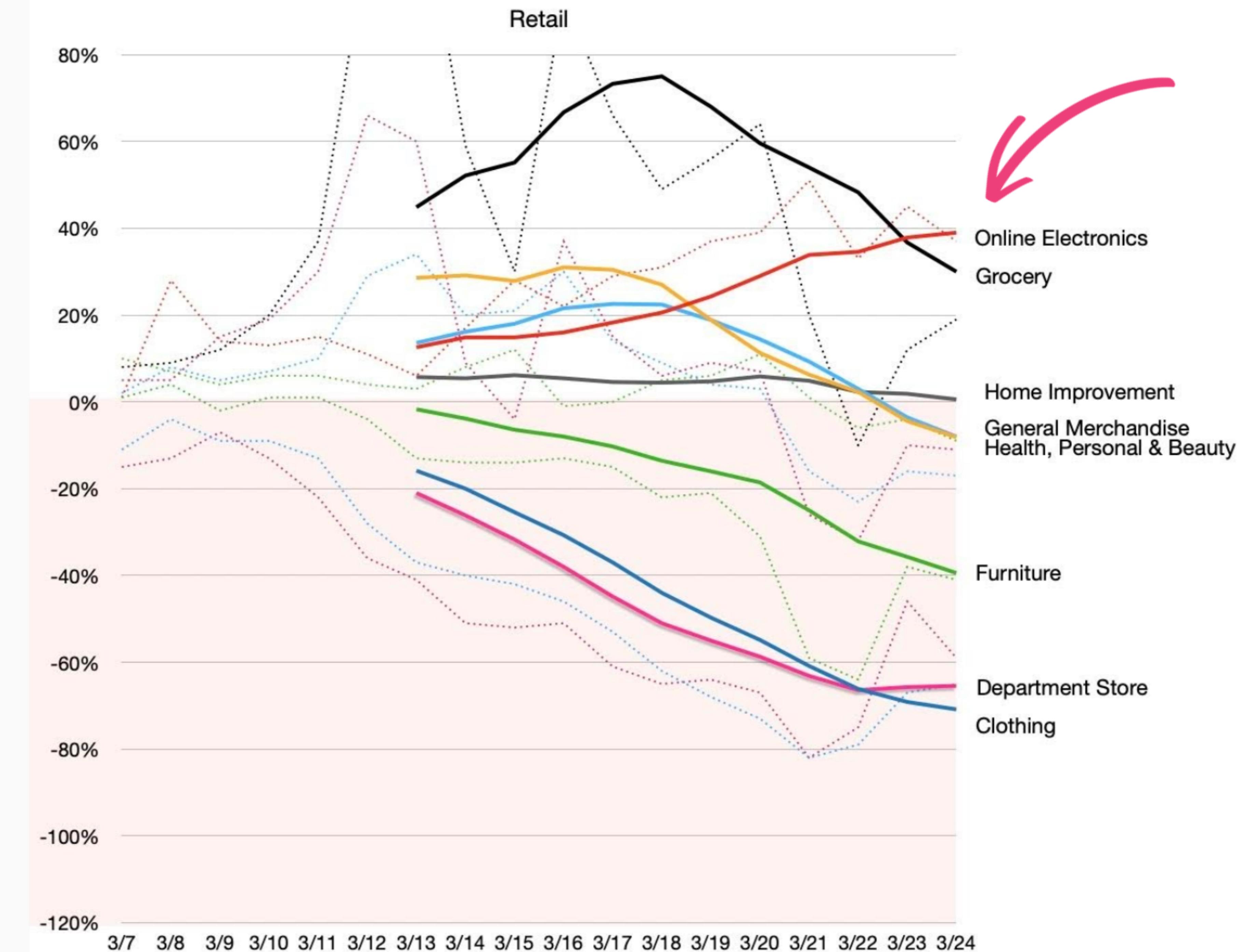
Table 1: Aggregated daily spending by major category (% year-over-year growth)

	3/24	3/23	3/22	3/21	3/20	3/19	3/18	3/17	3/16	3/15	3/14	3/13	3/12	3/11	3/10	3/9	3/8	3/7
Airlines	-102%	-104%	-87%	-96%	-93%	-95%	-91%	-94%	-88%	-59%	-62%	-61%	-51%	-54%	-46%	-50%	-40%	-28%
Lodging	-121%	-109%	-84%	-107%	-106%	-119%	-128%	-123%	-112%	-48%	-70%	-61%	-48%	-37%	-24%	-30%	-8%	-14%
Cruises	-113%	-100%	-91%	-115%	-112%	-109%	-93%	-102%	-82%	-60%	-69%	-85%	-130%	-126%	-98%	-84%	-40%	-68%
Entertainment	-94%	-93%	-92%	-94%	-94%	-97%	-96%	-67%	-95%	-70%	-79%	-72%	-57%	-32%	-32%	-24%	-26%	-22%
Restaurants	-56%	-61%	-70%	-66%	-58%	-55%	-51%	-42%	-32%	-33%	-26%	-18%	-9%	-2%	-2%	2%	3%	0%
Transit	-49%	-68%	-69%	-53%	-54%	-53%	-48%	-38%	-56%	-42%	-43%	-16%	-31%	-4%	2%	-19%	-12%	-7%
Gas	-46%	-44%	-47%	-38%	-28%	-30%	-28%	-21%	-8%	-19%	-14%	-2%	-3%	-5%	-5%	-3%	0%	-5%
Clothing	-65%	-67%	-79%	-82%	-73%	-68%	-62%	-53%	-46%	-42%	-40%	-37%	-28%	-13%	-9%	-9%	-4%	-11%
Furniture	-41%	-38%	-64%	-59%	-31%	-21%	-22%	-15%	-13%	-14%	-14%	-13%	-4%	1%	1%	-2%	4%	1%
Department store	-59%	-46%	-75%	-82%	-67%	-64%	-65%	-61%	-51%	-52%	-51%	-41%	-36%	-22%	-13%	-7%	-13%	-15%
Online electronics	37%	45%	33%	51%	39%	37%	31%	29%	22%	28%	17%	6%	11%	15%	13%	14%	28%	1%
Grocery	19%	12%	-10%	20%	64%	56%	49%	66%	93%	30%	59%	123%	105%	37%	20%	12%	9%	8%
General Merchandise	-11%	-10%	-32%	-26%	7%	9%	6%	15%	37%	-4%	9%	60%	66%	30%	19%	15%	5%	5%
Health, pers & beauty store	-17%	-16%	-23%	-16%	3%	4%	9%	14%	30%	21%	20%	34%	29%	10%	7%	5%	8%	2%
Home improvement	-9%	-4%	-6%	1%	11%	6%	5%	0%	-1%	12%	8%	3%	4%	6%	6%	4%	7%	10%
Retail ex auto	-17%	-18%	-34%	-25%	-2%	-2%	-2%	7%	23%	-2%	7%	31%	31%	12%	6%	6%	6%	3%
Total card spending	-31%	-31%	-37%	-31%	-15%	-18%	-19%	-11%	0%	-5%	-4%	5%	9%	2%	1%	-2%	1%	0%

Source: BAC internal data; Note: > 100% decline reflects refunds. We advise taking a moving average to decipher the underlying trend

# Changing behaviors impact buying

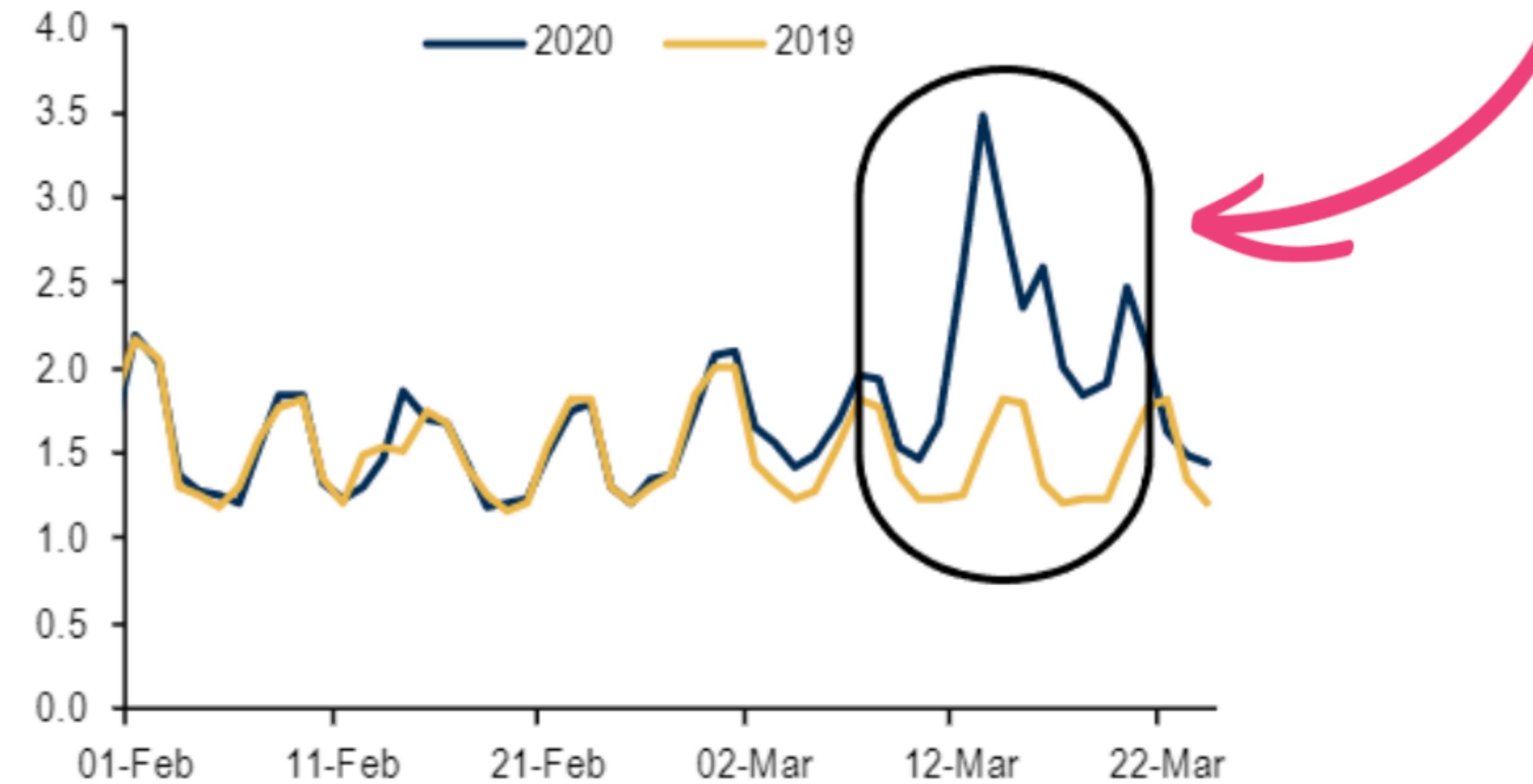
Notable exceptions to the overall spending drop are groceries and online electronics.



# Grocery spending surged

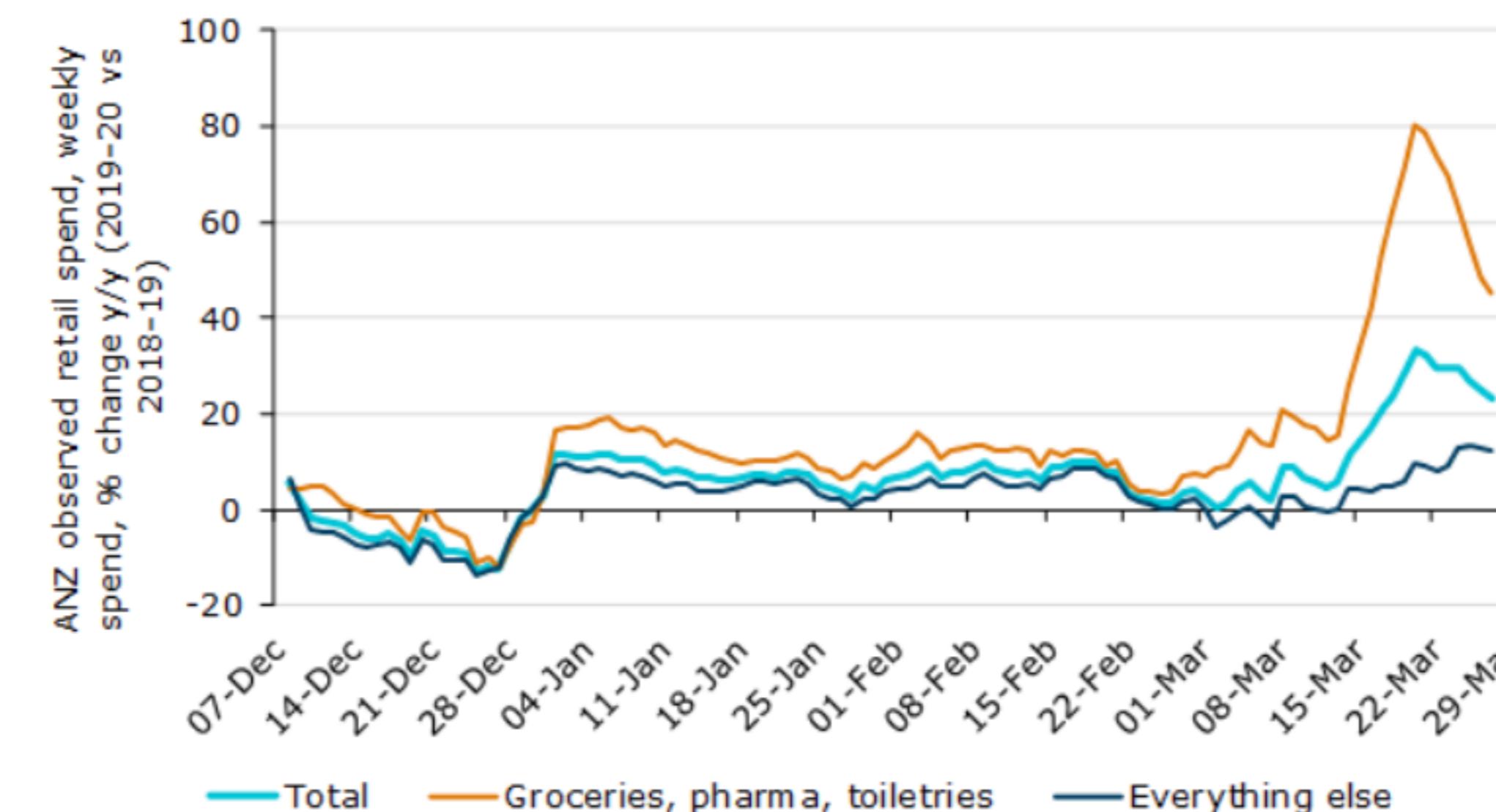
Grocery spending spiked in early March but appears to be settling down to more normal levels.

Chart 17: Daily spending at grocery stores, based on BAC aggregated card data (index, Jan 1<sup>st</sup> 2020 =1)



Source: BAC internal data

Off-the-charts grocery spending is pushing up retail growth

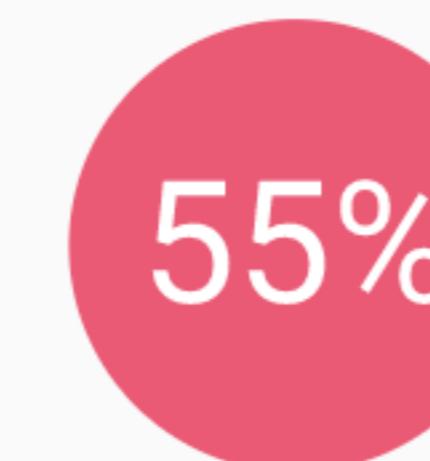


Source: ANZ Research

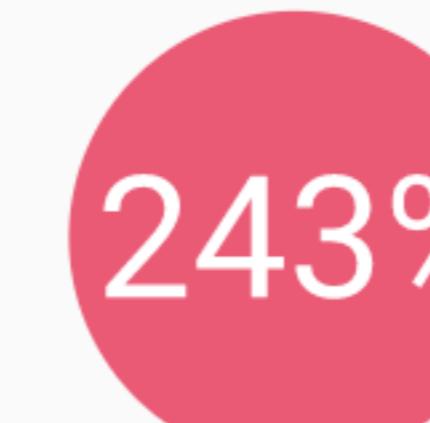
# As did purchases of alcohol

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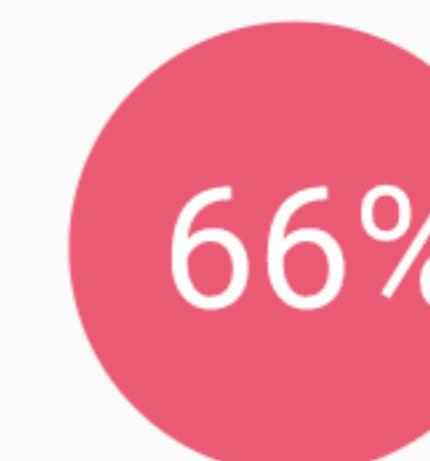
Growth rates of spirits, wine, and beer peaked as people stocked up before stay at home orders went into effect.



Increase in **alcoholic beverage sales** in the third week of March



Increase in **online alcoholic sales** in the third week of March



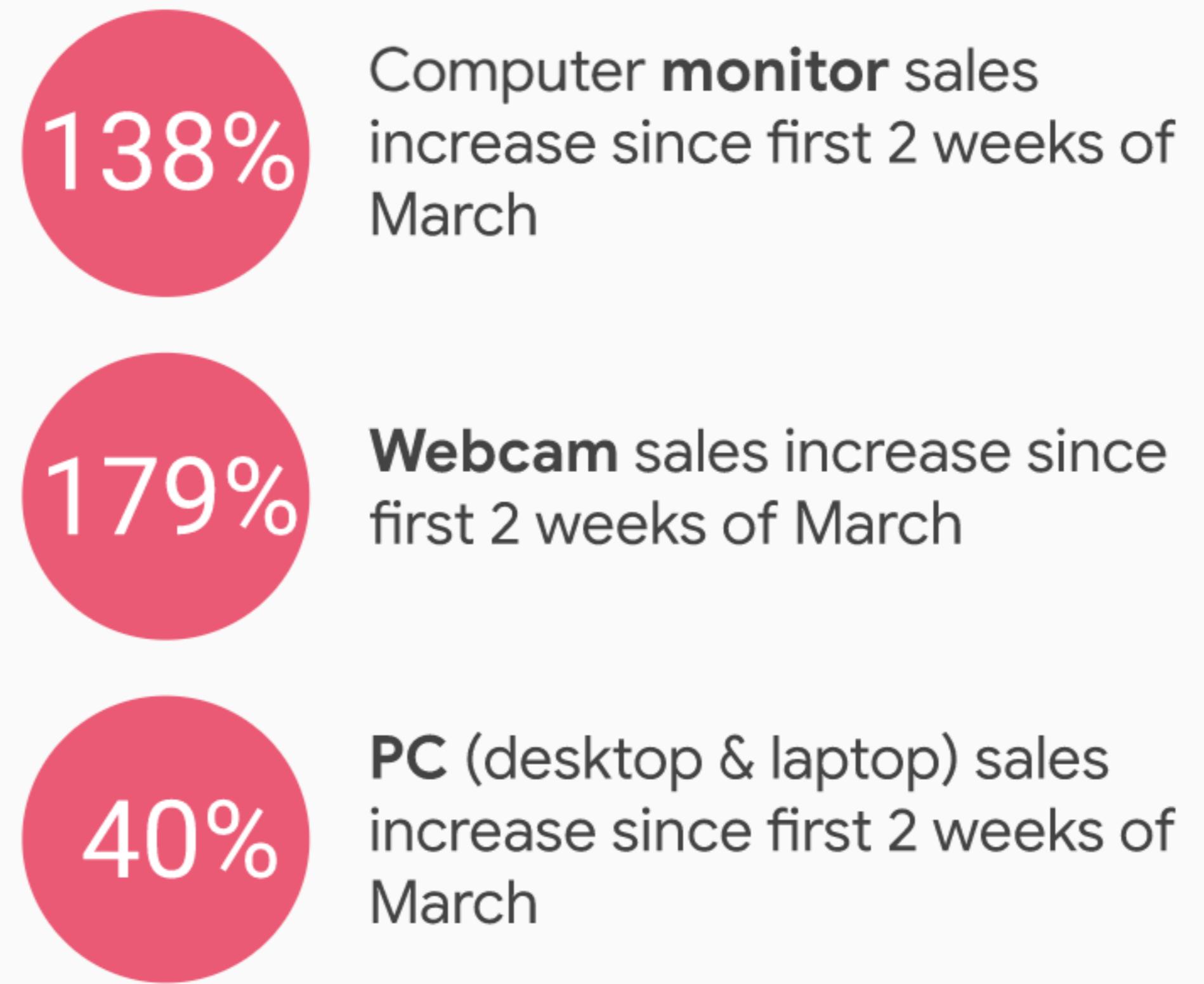
Increase in **wine** sales compared to last year



# Home electronics spending grew

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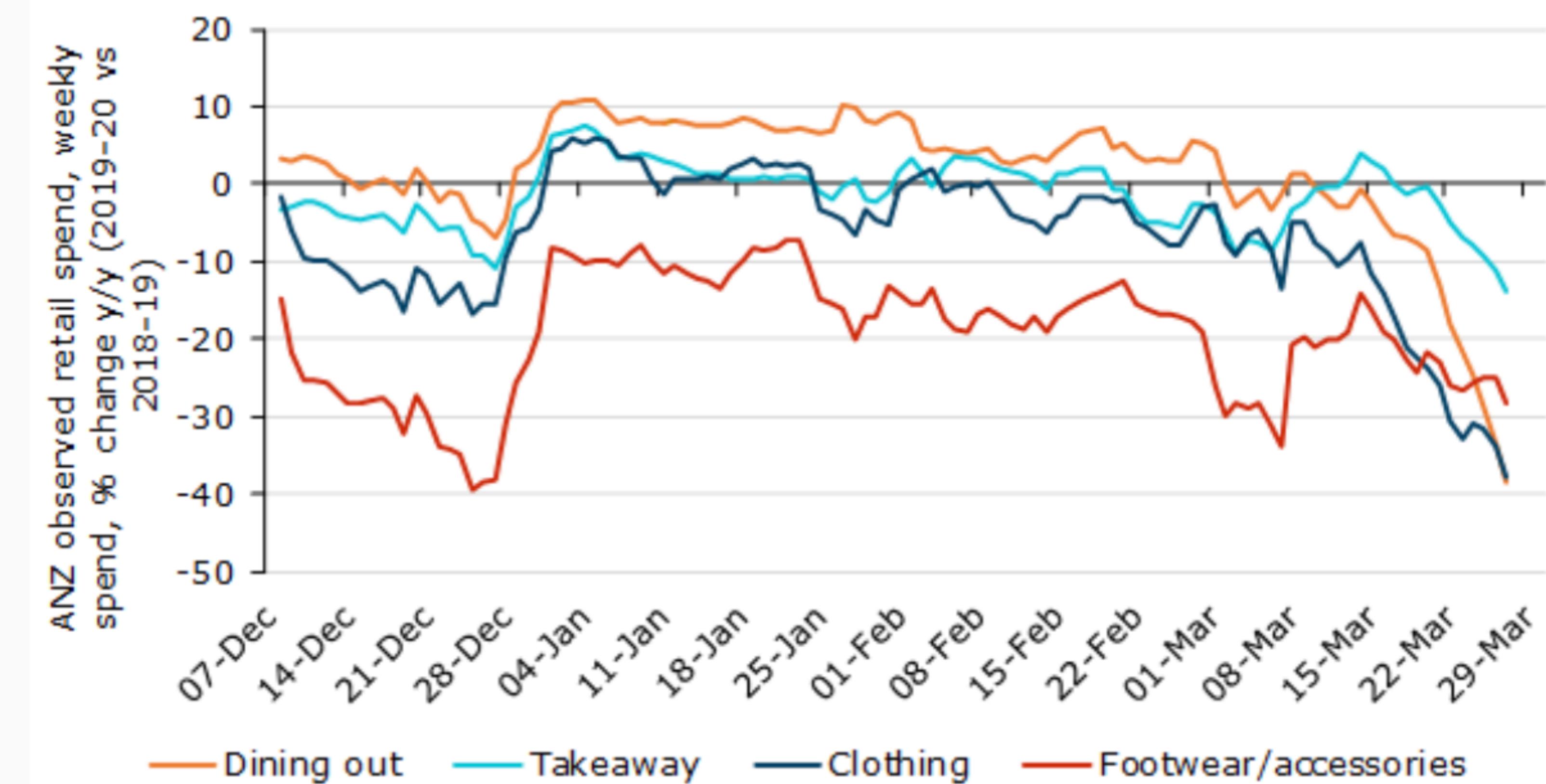
To support work & school from home needs, people increased purchases of desktops, cameras, and monitors.



# Apparel & clothing spending collapsed

In Australia, overall weekly retail spending on clothing fell as much as dining out/restaurants.

Dining out and fashion categories tank

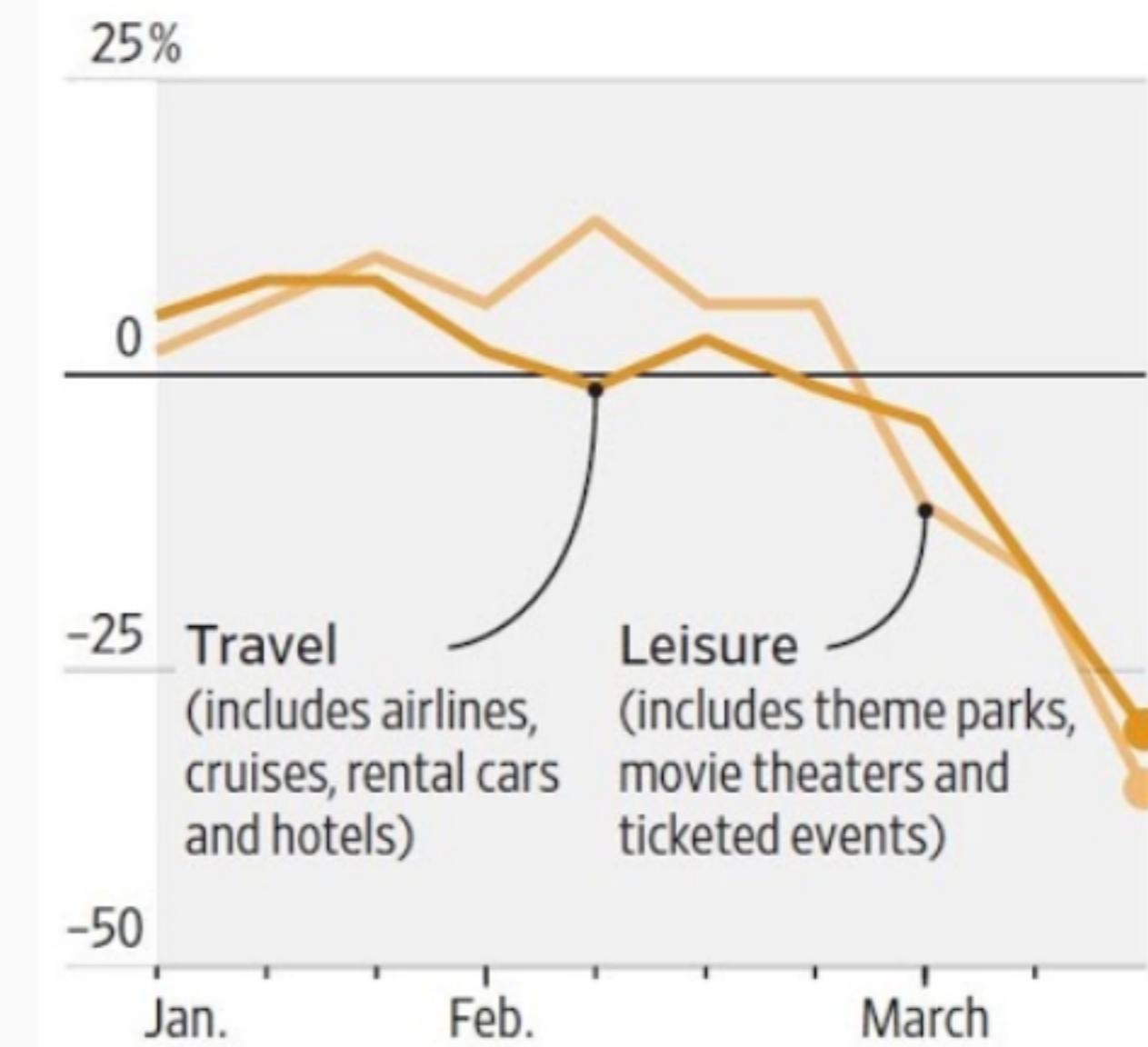


Source: ANZ Research

# As did travel-related spending

Dining out, staying in hotels, flights, car purchases and all aspects of travel spending are way down.

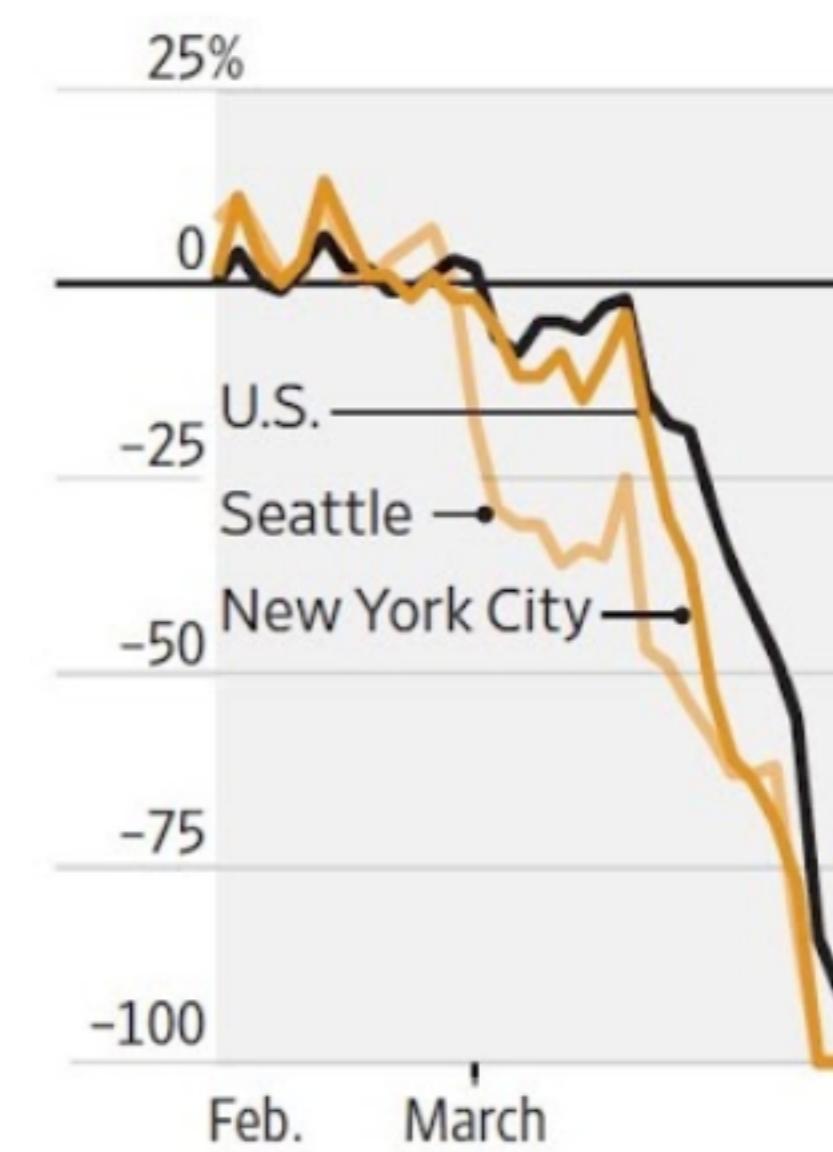
Change in sales from same week a year earlier



Hotel occupancy rates



Change in number of seated restaurant diners



Change in new auto sales from a year earlier



# Highlighted by empty restaurants

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Year-over-year seated diners at restaurants are down 100% according to OpenTable.

Name	4/07	4/06	4/05	4/04	4/03	4/02	4/01	3/31	3/30	3/29	3/28	3/27	3/26	3/25	3/24	3/23	3/22	3/21	3/20	3/19	3/18	3/17	
Global	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-99%	-99%	-98%	-96%	-89%	-83%		
Australia	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-66%	-54%	-52%	-53%	-50%	-43%	
Canada	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-99%	-97%	-94%	
Germany	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-98%	-95%	-90%	
Ireland	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-98%	-99%	-99%	-97%	-86%	
Mexico	-100%	-99%	-100%	-99%	-100%	-100%	-99%	-99%	-98%	-99%	-97%	-97%	-97%	-97%	-96%	-95%	-95%	-91%	-85%	-78%	-73%	-62%	
United Kingdom	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-94%	-91%	-88%	-82%
United States	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-99%	-98%	-91%	-84%



# Staying at home changes crime rates

As robberies drop but domestic violence increases



# Most crimes drop after stay at home orders

Calls for police services in Chicago have declined 30% in March and crime in New York City fell almost 25% in the week ended March 22, compared with the week before.

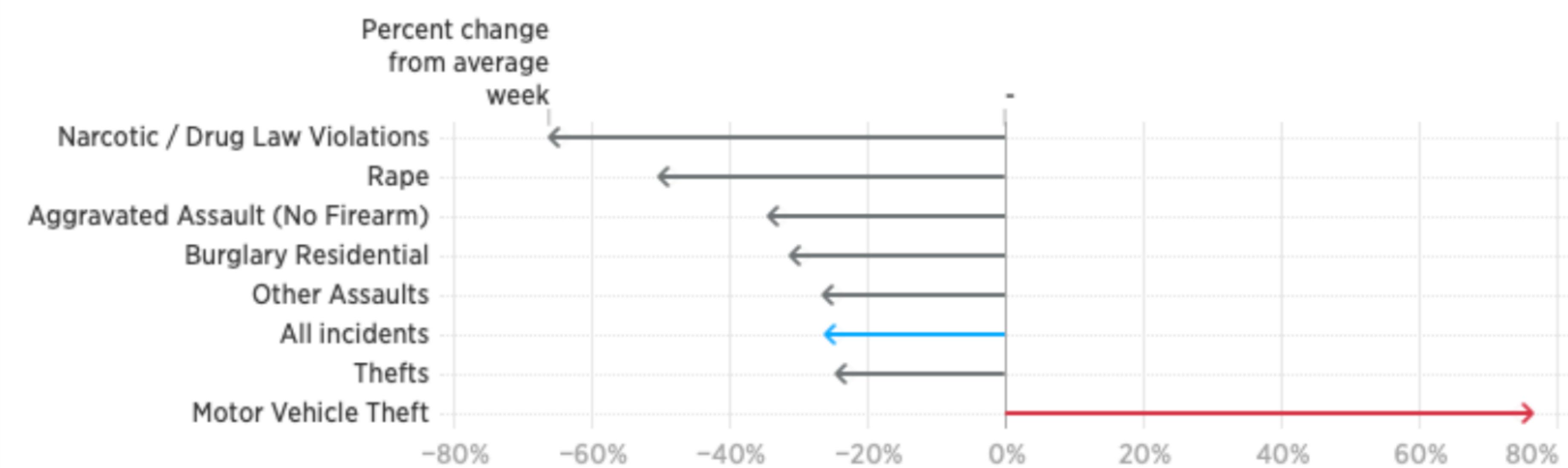
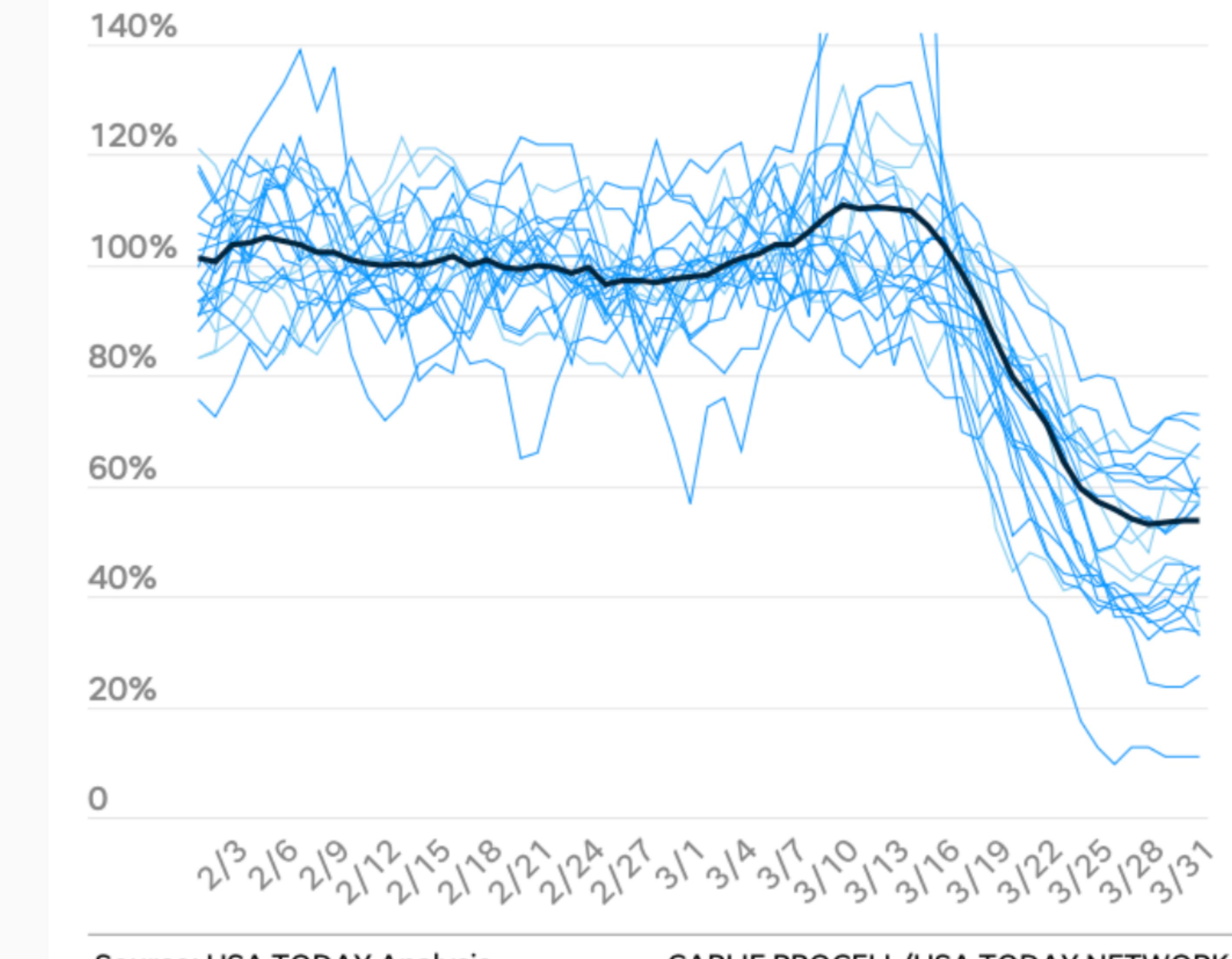


Chart: Nathaniel Lash | Philadelphia Inquirer • Source: [OpenDataPhilly](#)

# Number of arrests fall dramatically

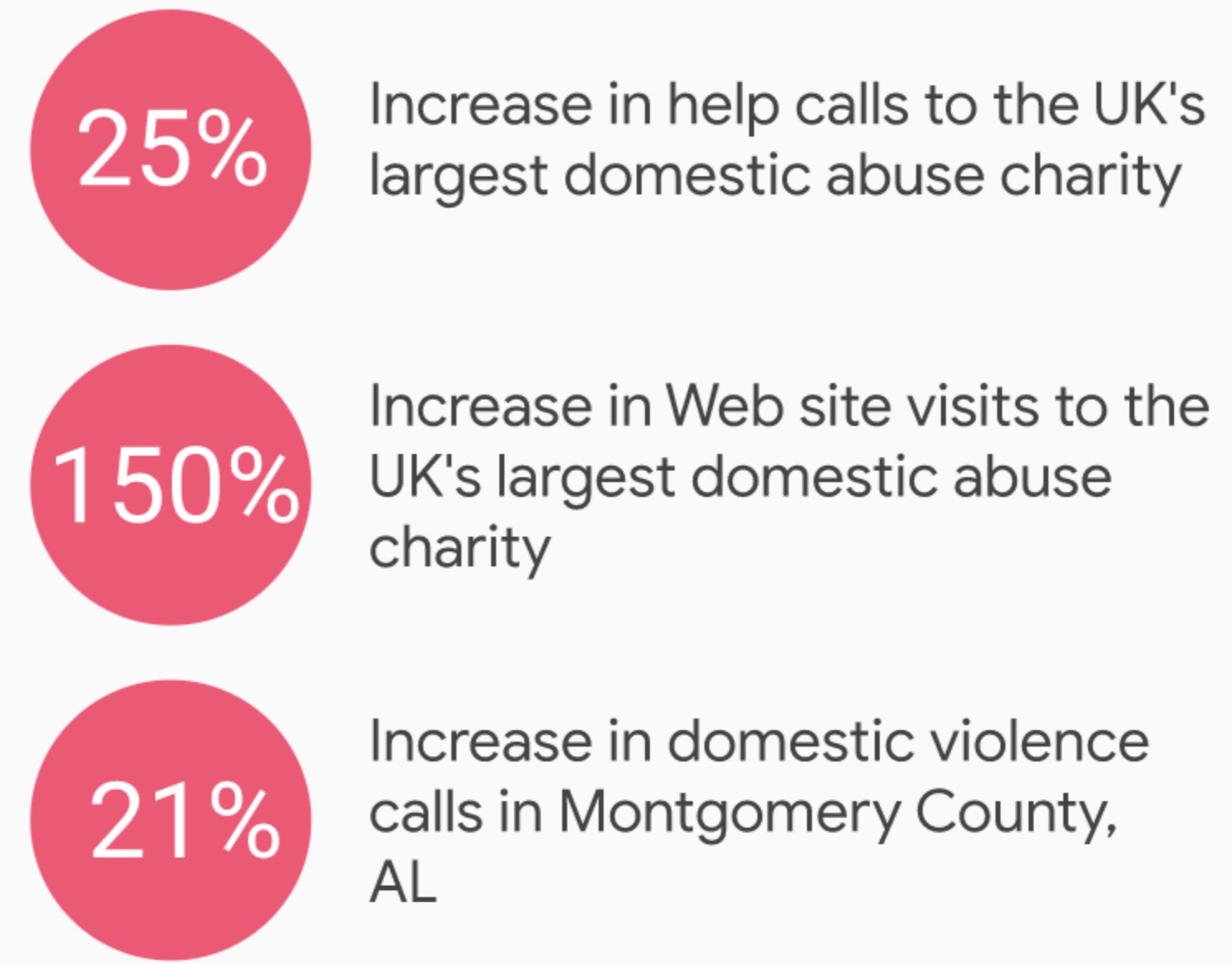
New bookings fell about 47% compared to previous weeks at each of 23 US county jails beginning around March 15.



# Reports of domestic violence are up

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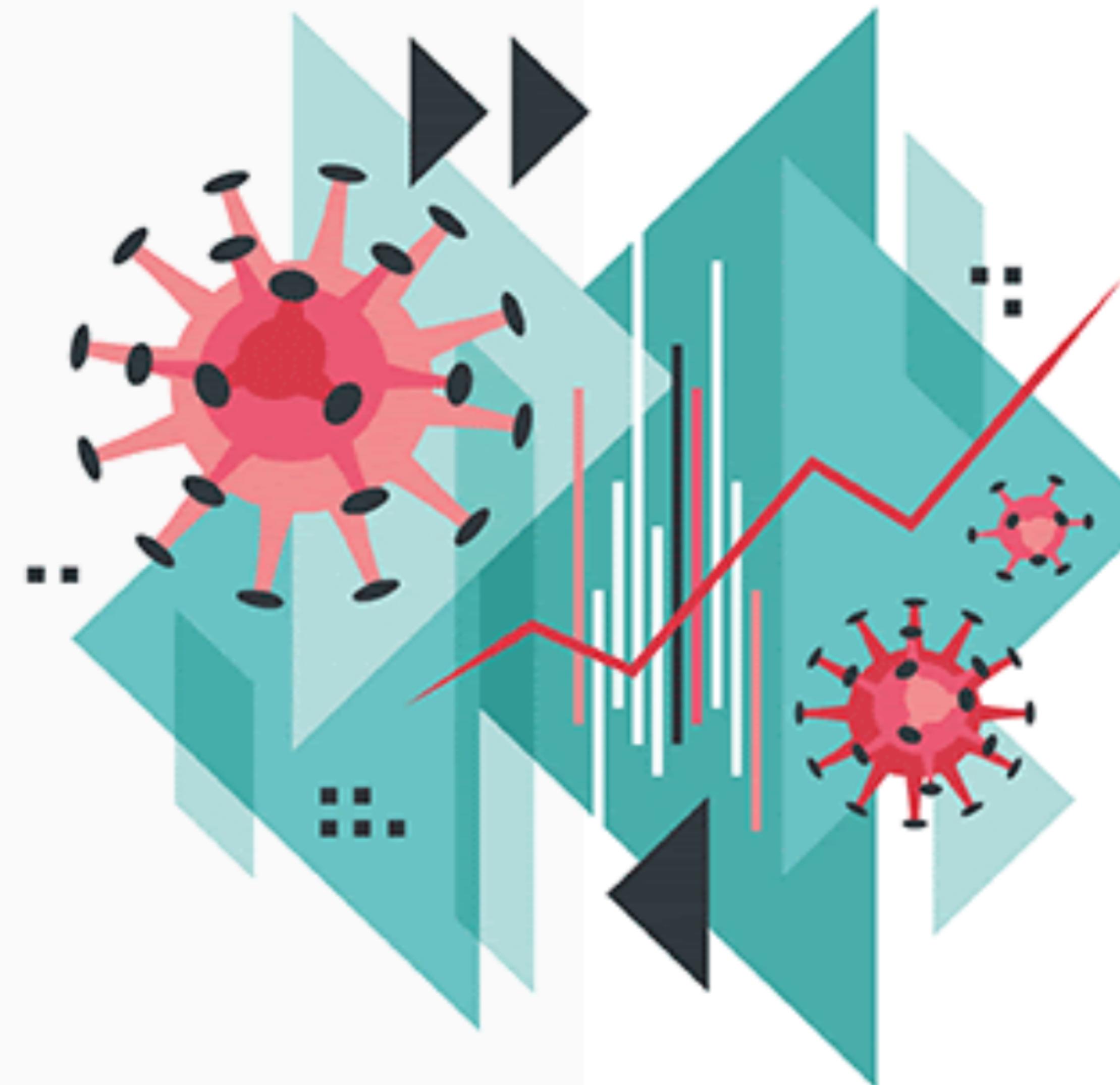
While overall crime is down, stay at home orders appear to have increased reports of domestic abuse.



# Thanks

More to come...

—  
questions? @lukew



# COVID-19

Global Impact Charts

—  
compiled by @lukew

