



Northwestern
University

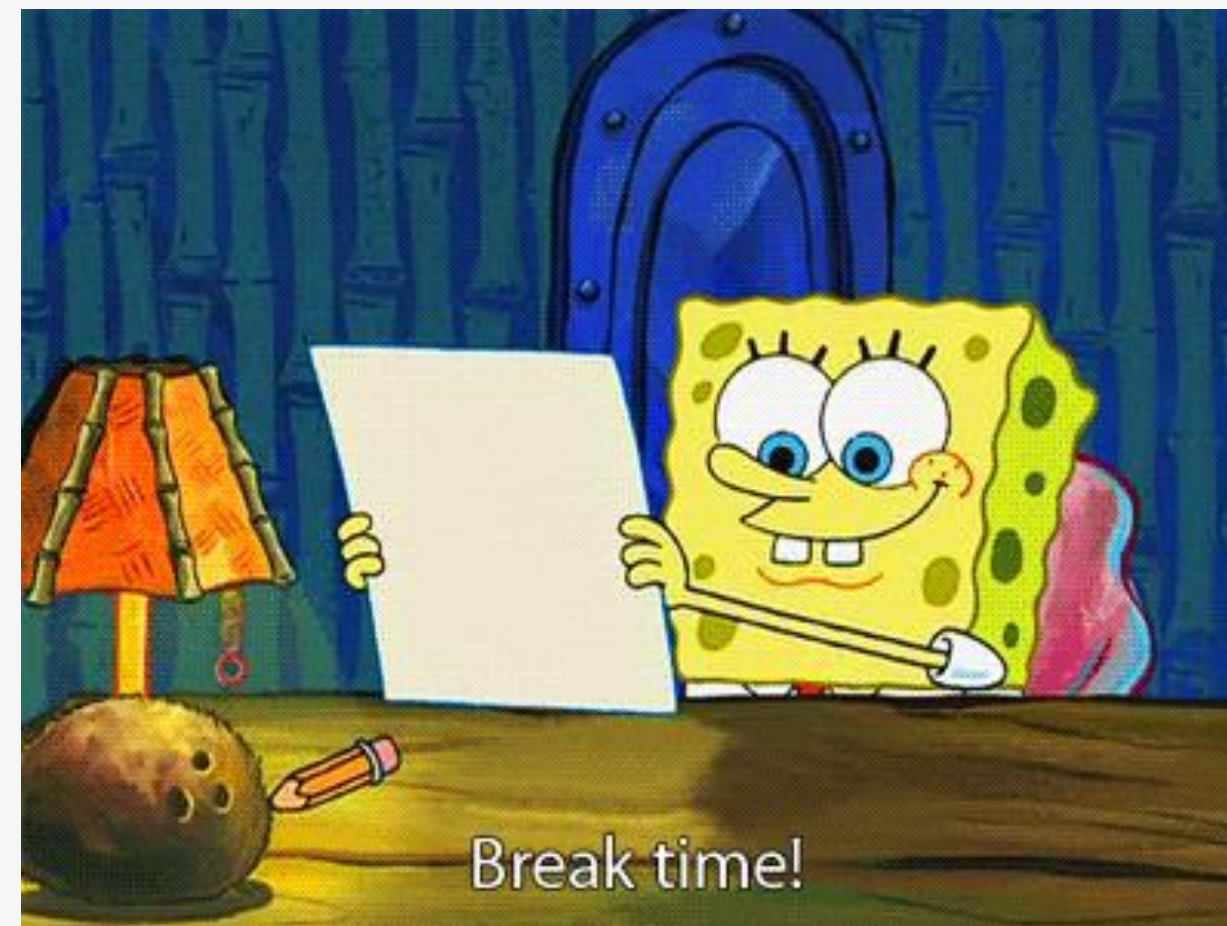
Introduction to Data Visualization & Data Storytelling

Week 6





Break
5 minutes





Recap

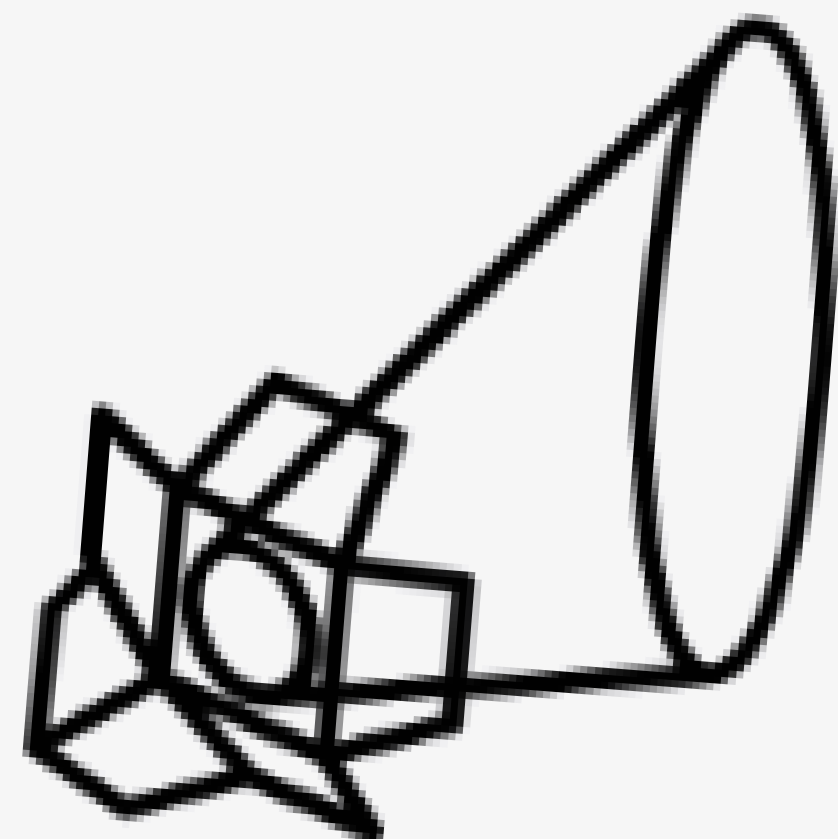


Assignment #4



Final Project Proposal





Assignment 3

Spotlight

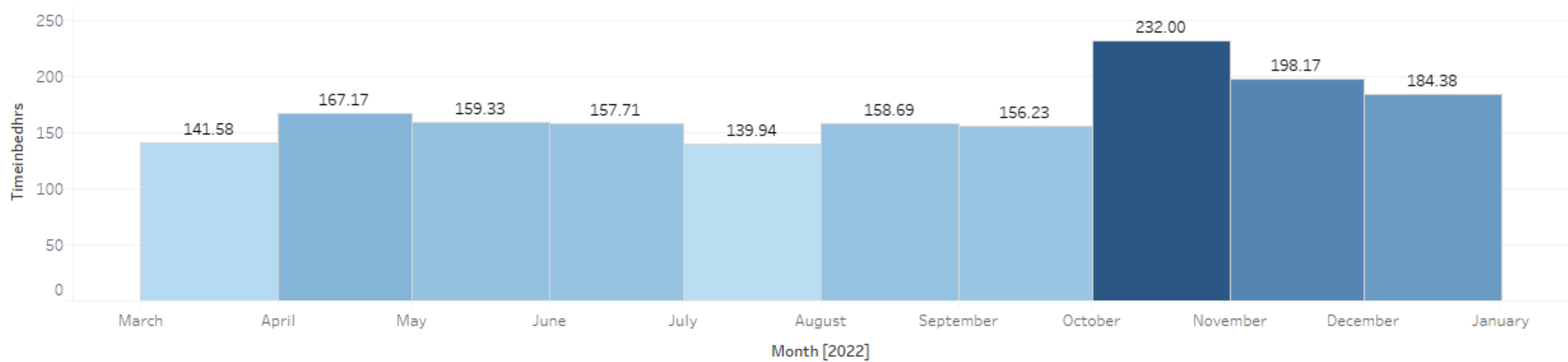


Assignment 3 Feedback

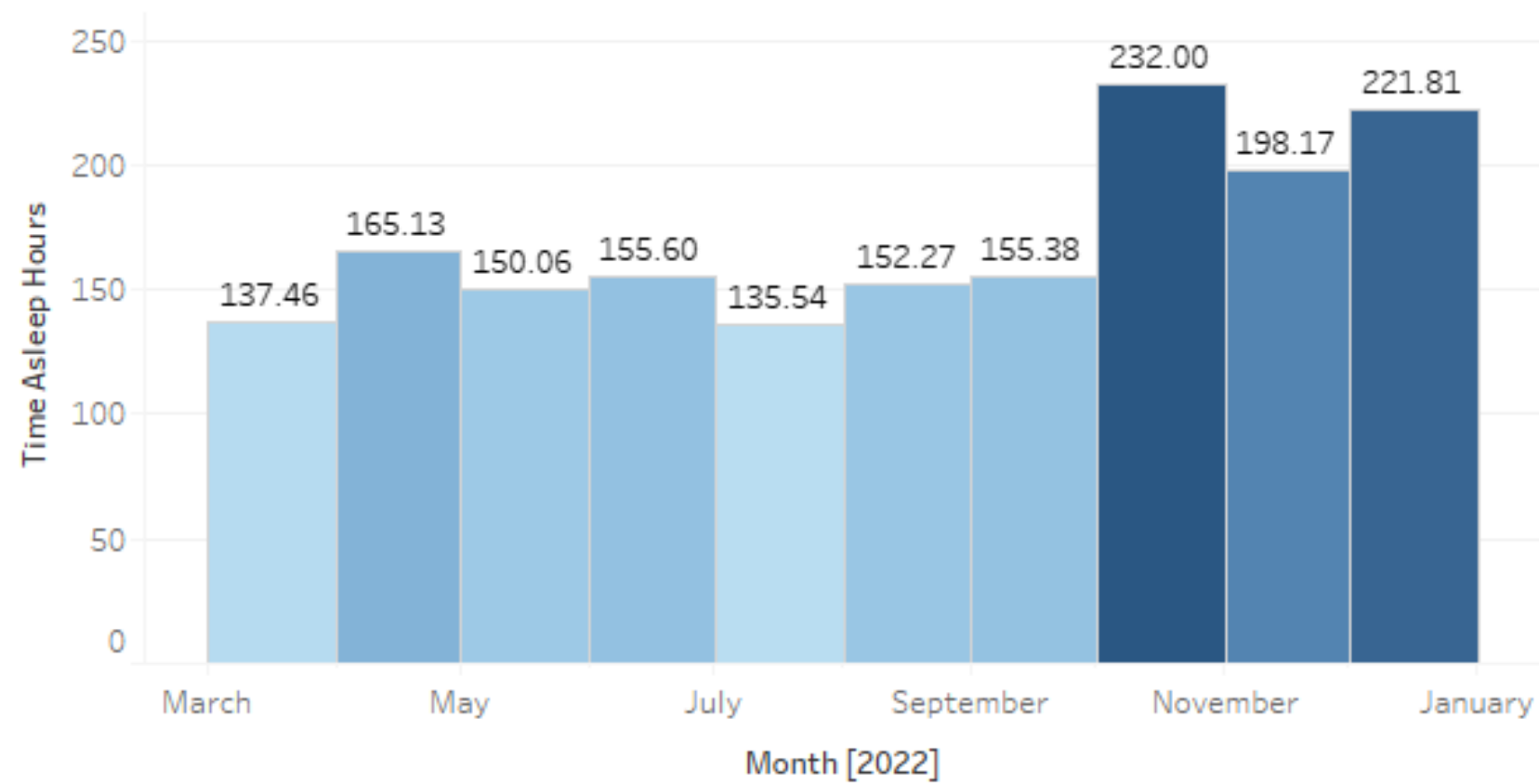




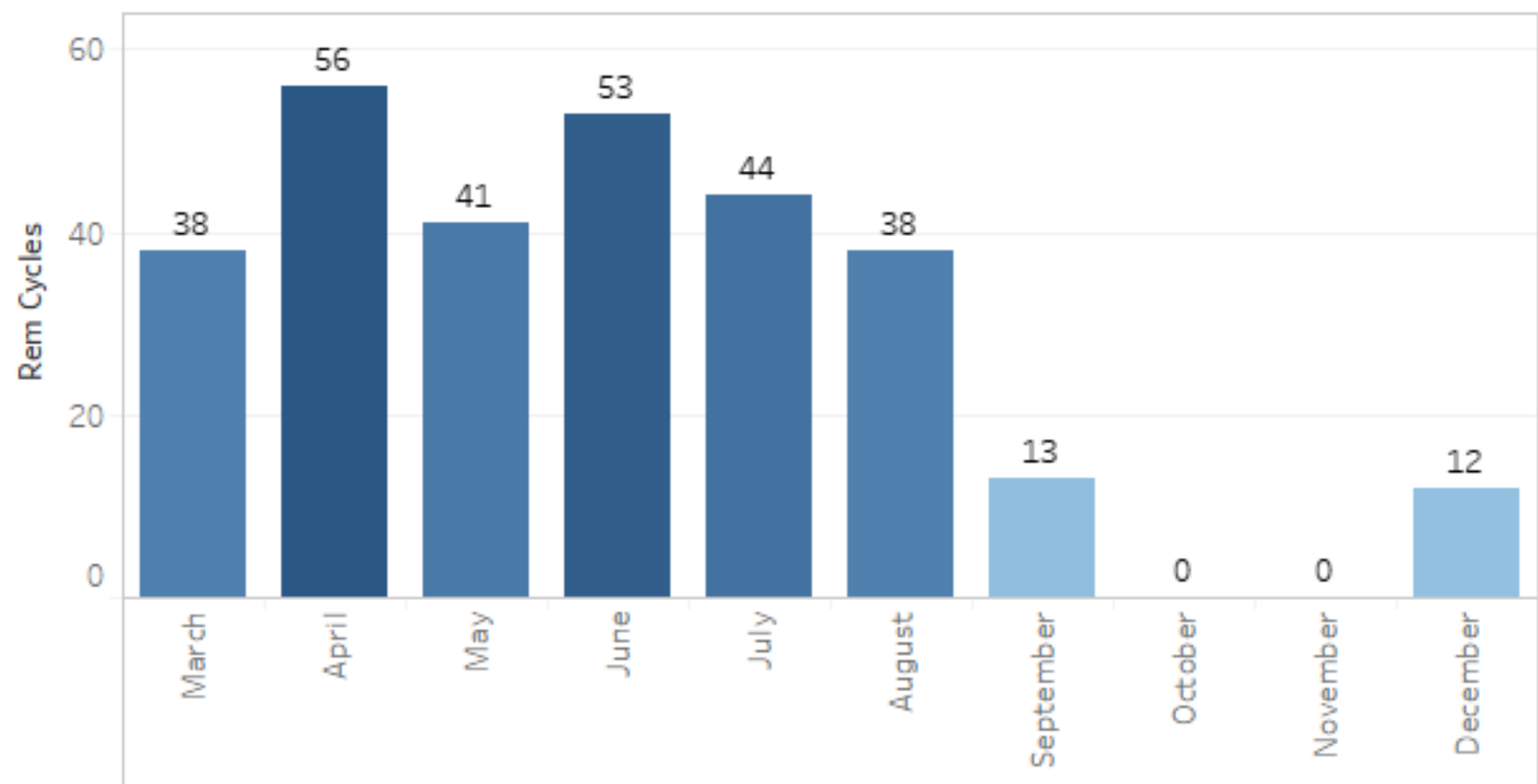
Total Time Asleep (Number of Hours)



Total Time In Bed (Number of Hours)

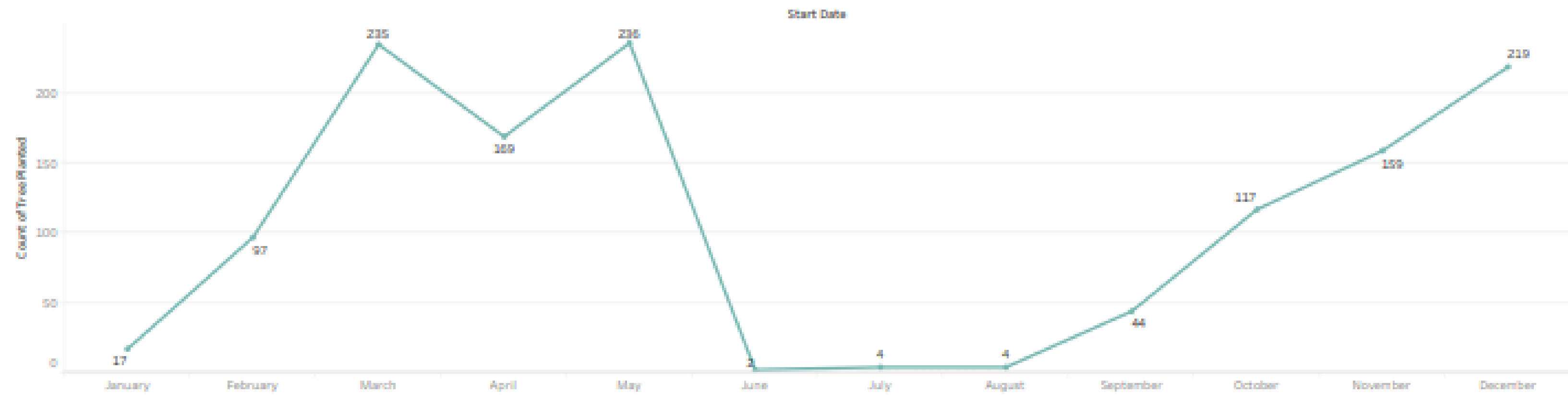


Rem Cycles

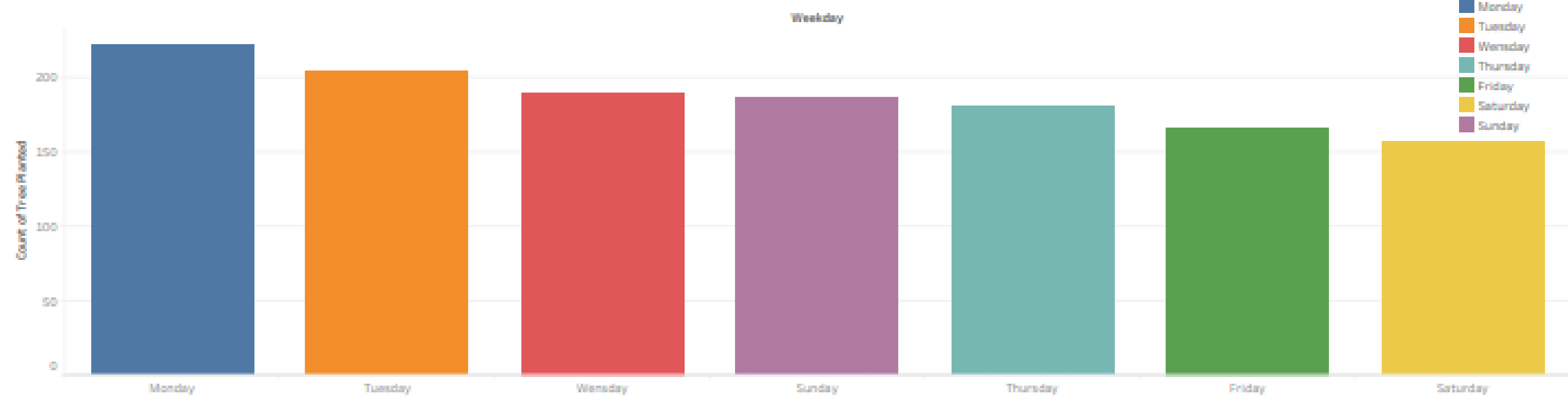




In the past three years, I seldom worked during summer

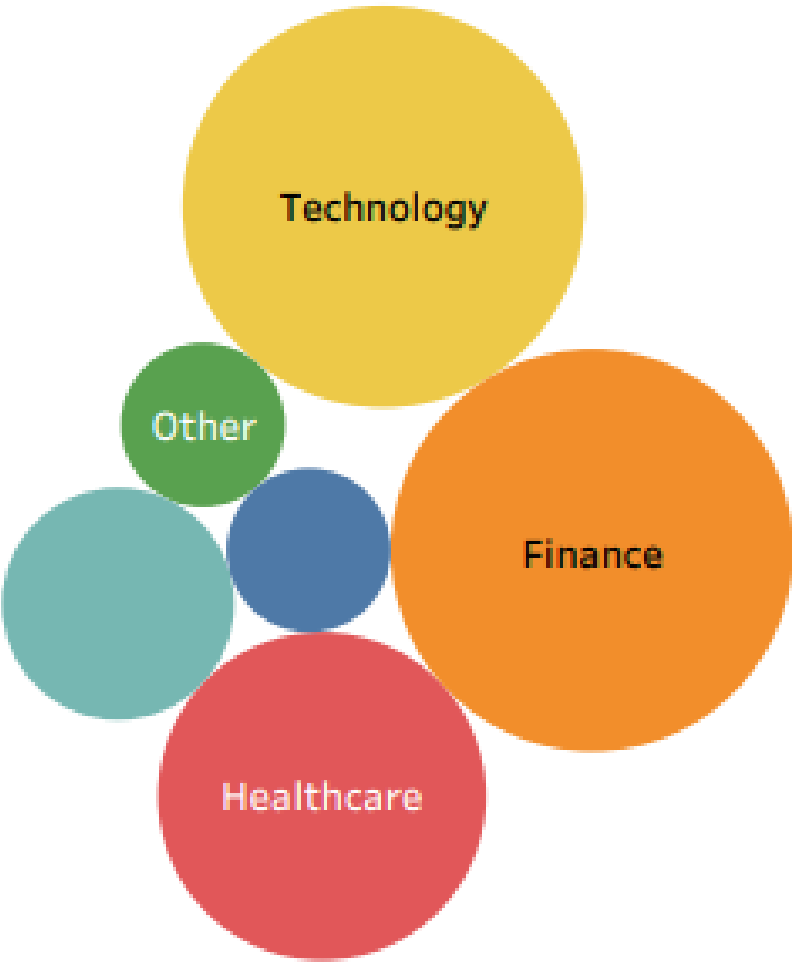


In the past three years, I mainly worked from Monday to Wednesday

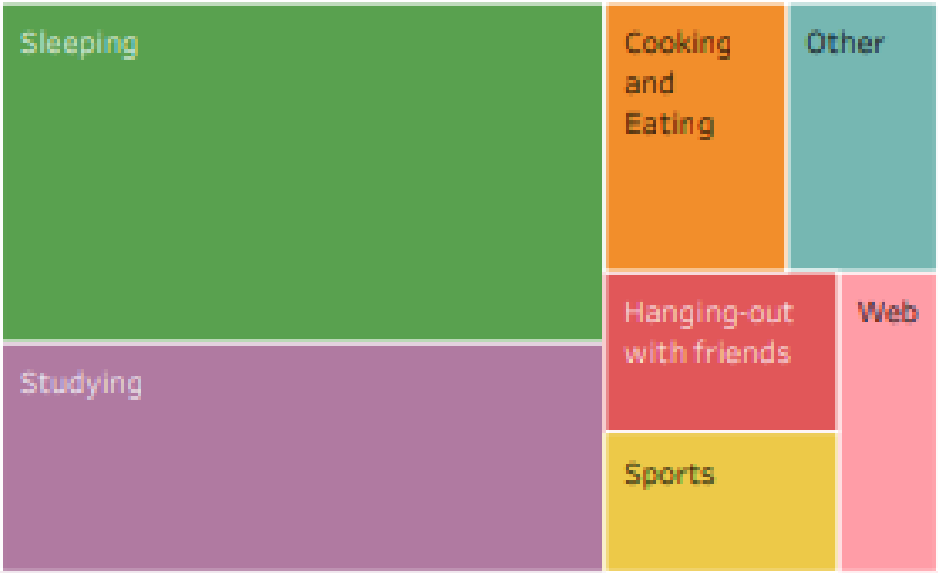




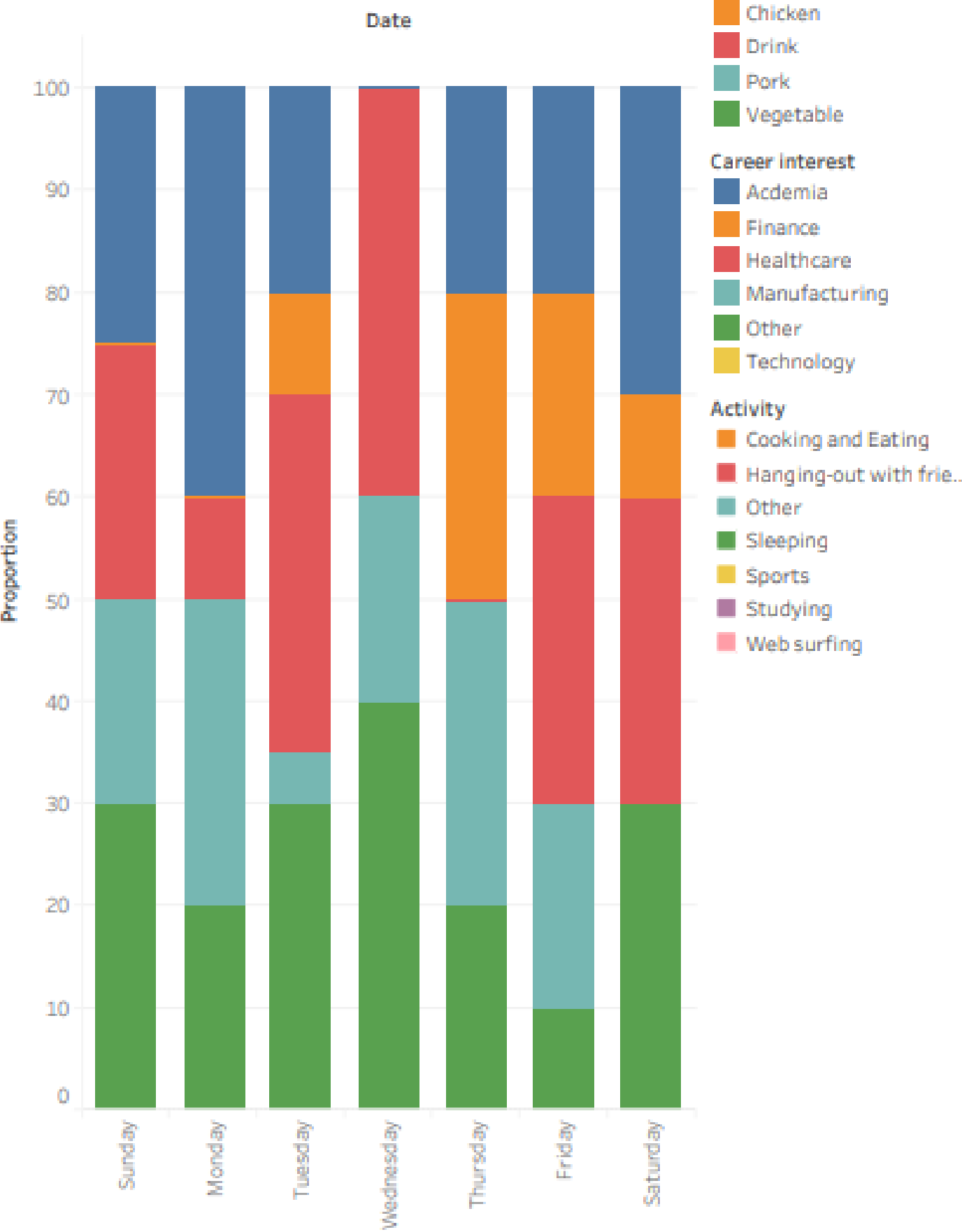
<Career Interest>



<Time Spent in a Day>

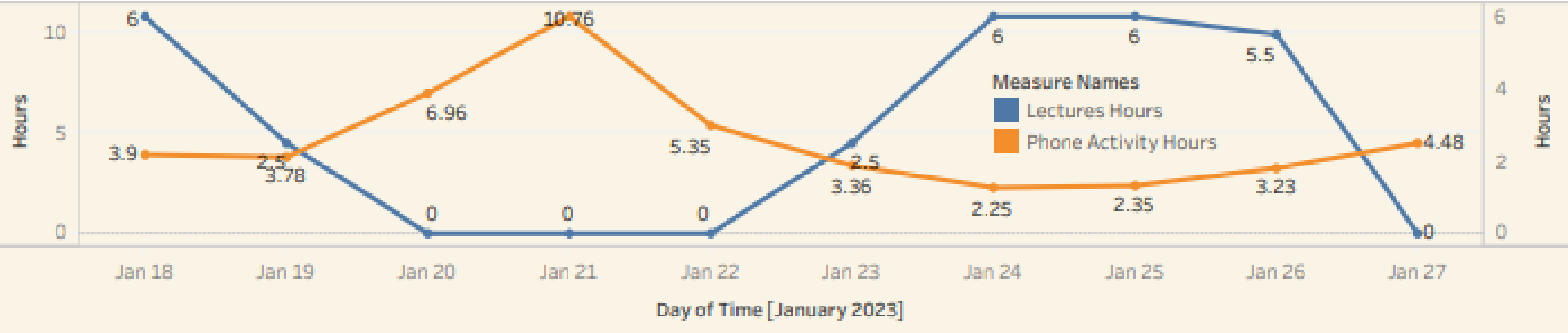


<Proportion of Food Eaten in a Week>

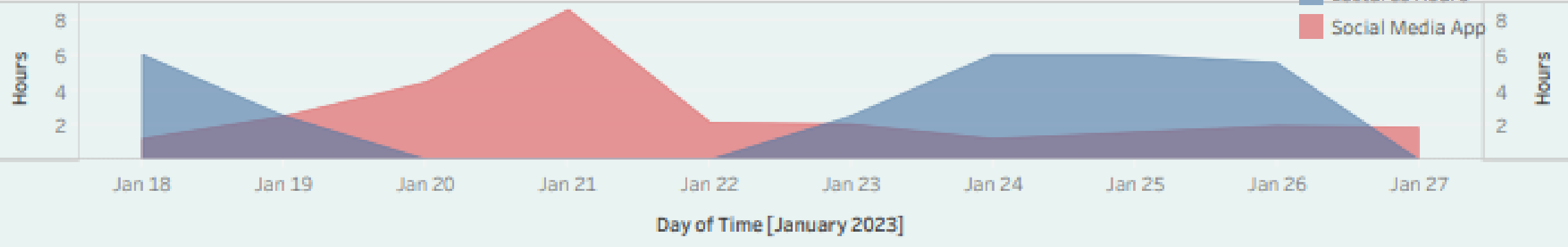




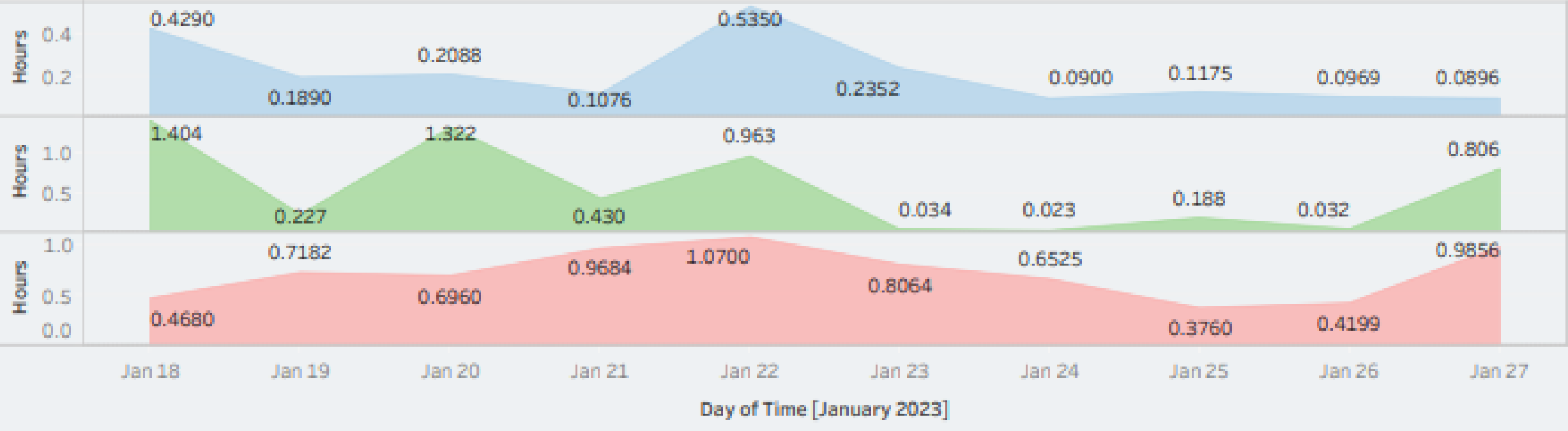
Time Spent on Activities



Social Media App

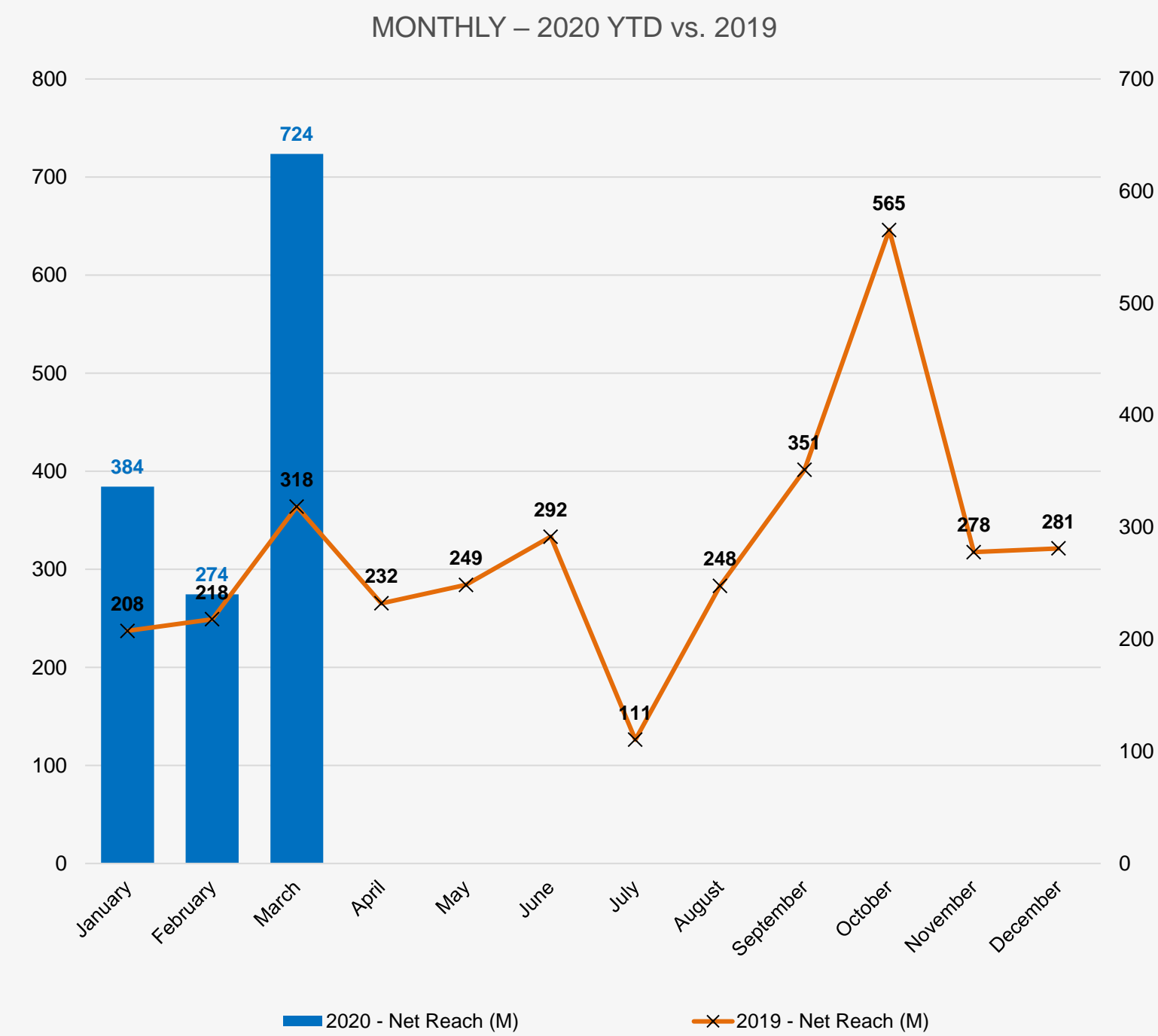


APP Comparison





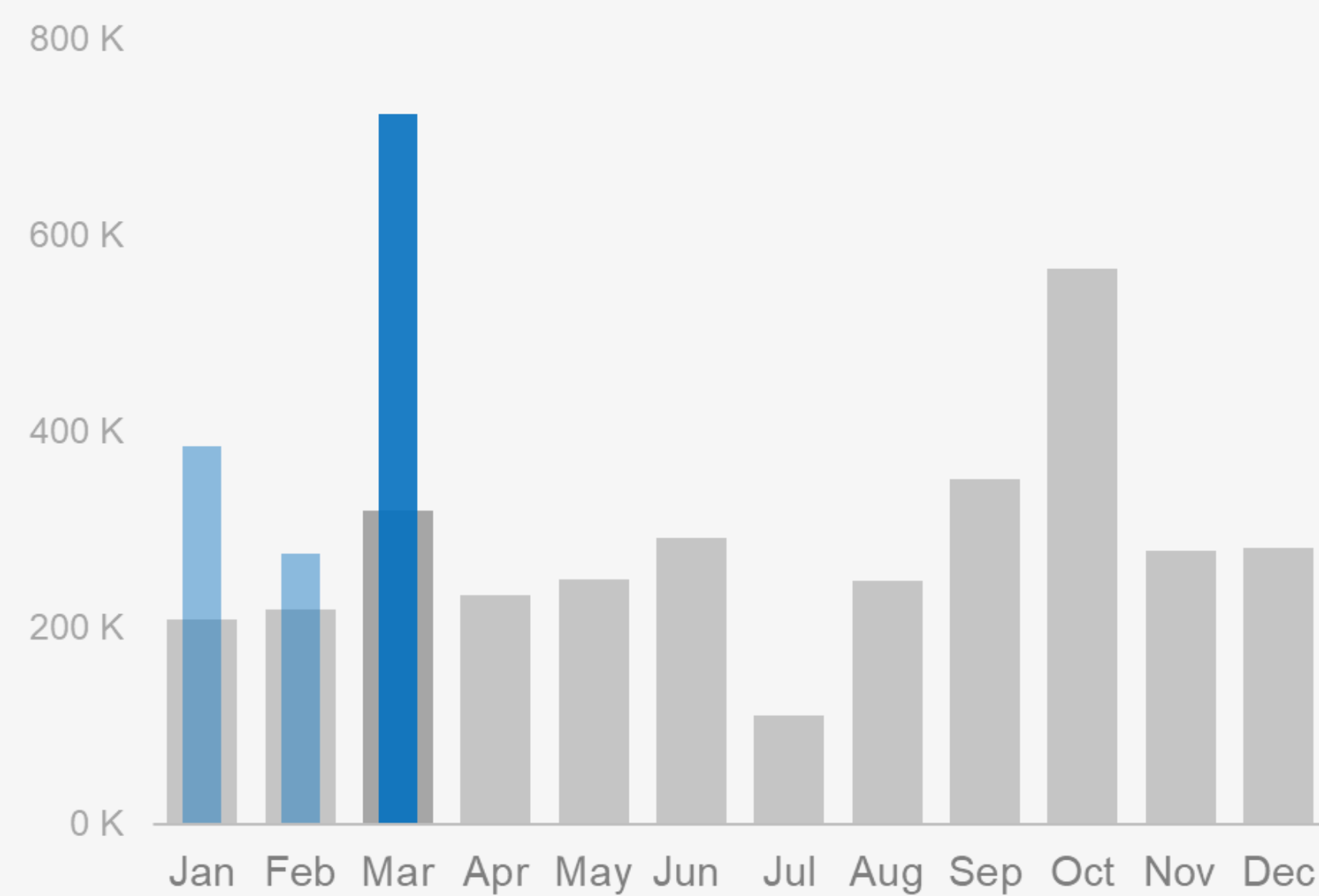
QUALITY OF COVERAGE





Reach spiked in March, surpassing last year's results, likely due to

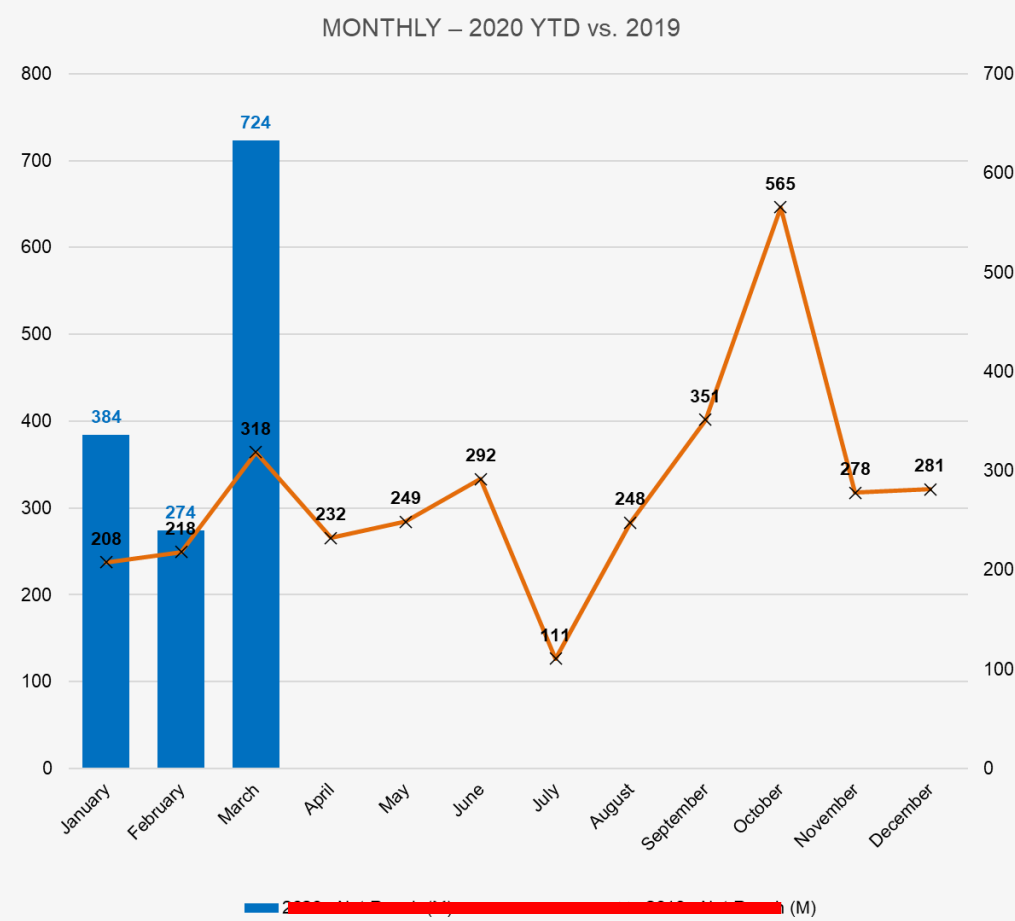
MONTHLY – 2020 YTD vs. 2019





BEFORE

QUALITY OF COVERAGE

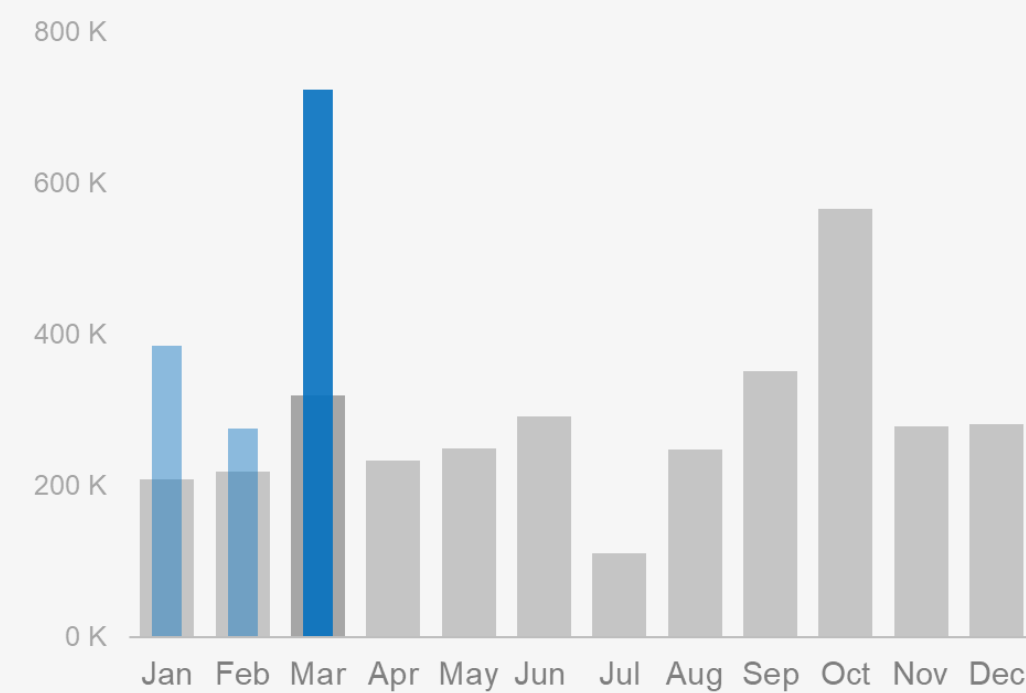


~~LEGEND~~

AFTER

Reach spiked in March, surpassing last year's results, likely due to

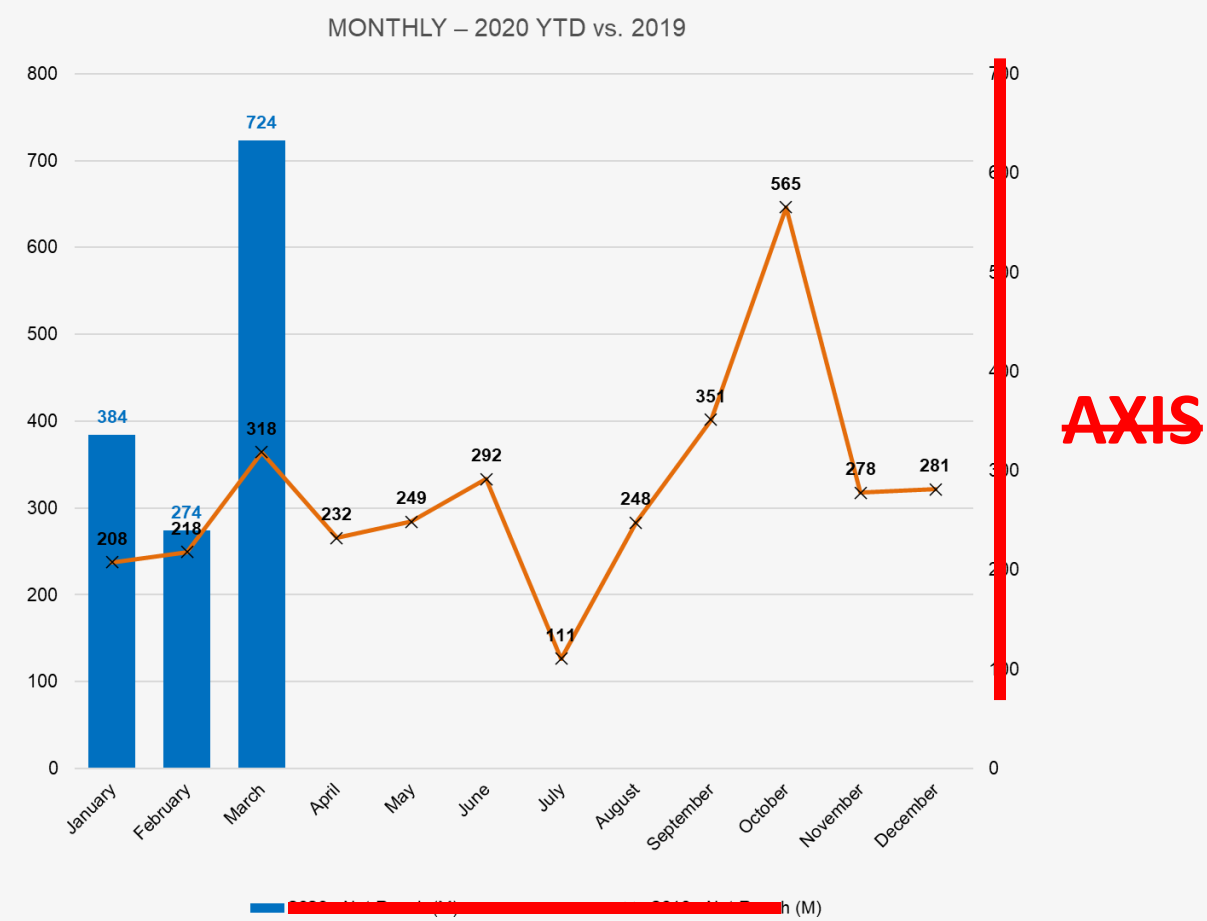
MONTHLY – 2020 YTD vs. 2019





BEFORE

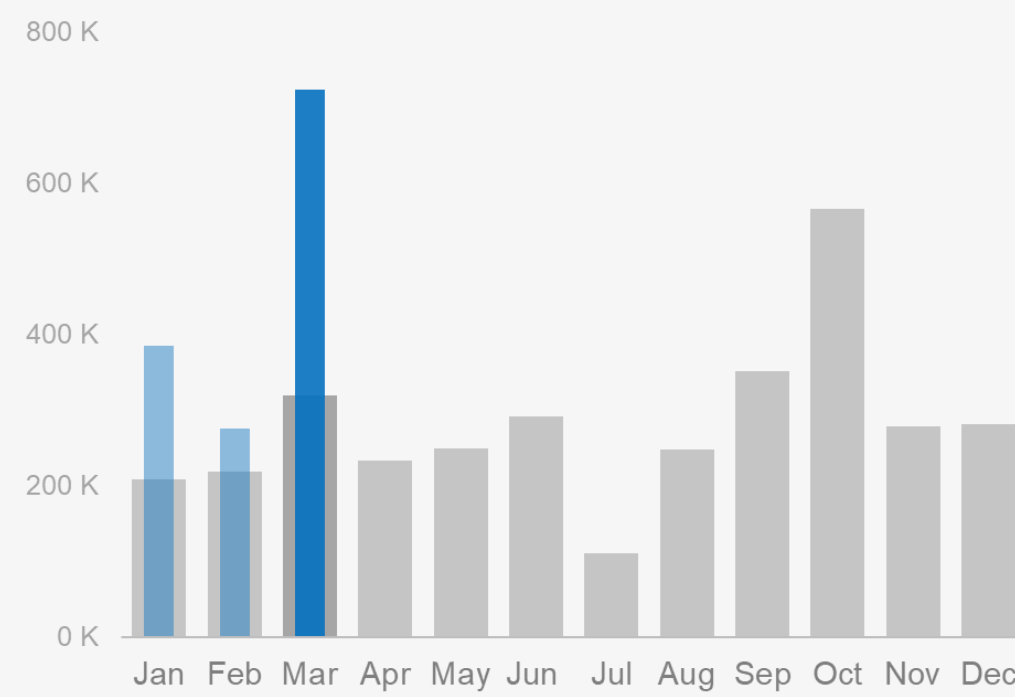
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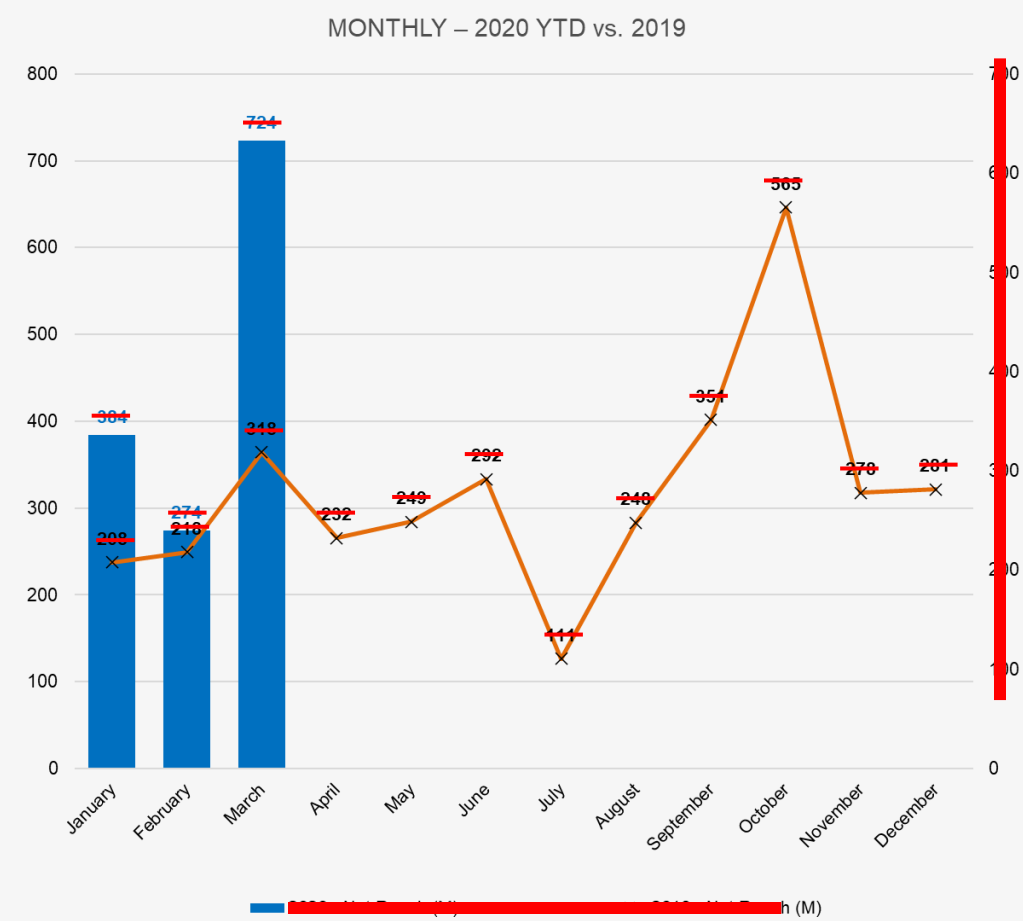
MONTHLY – 2020 YTD vs. 2019





BEFORE

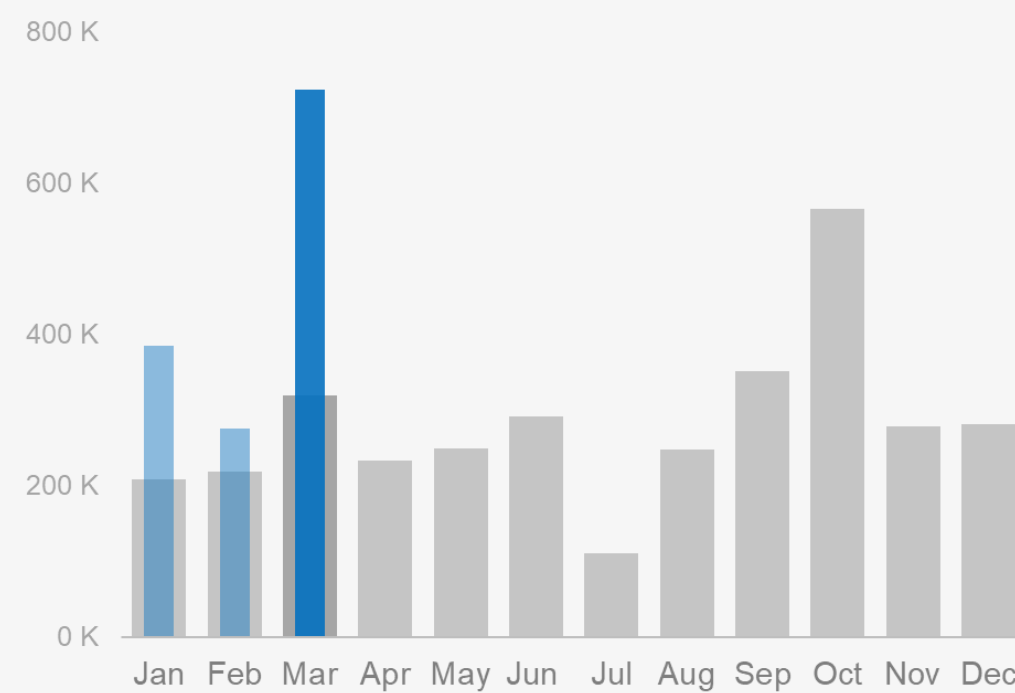
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MONTHLY – 2020 YTD vs. 2019

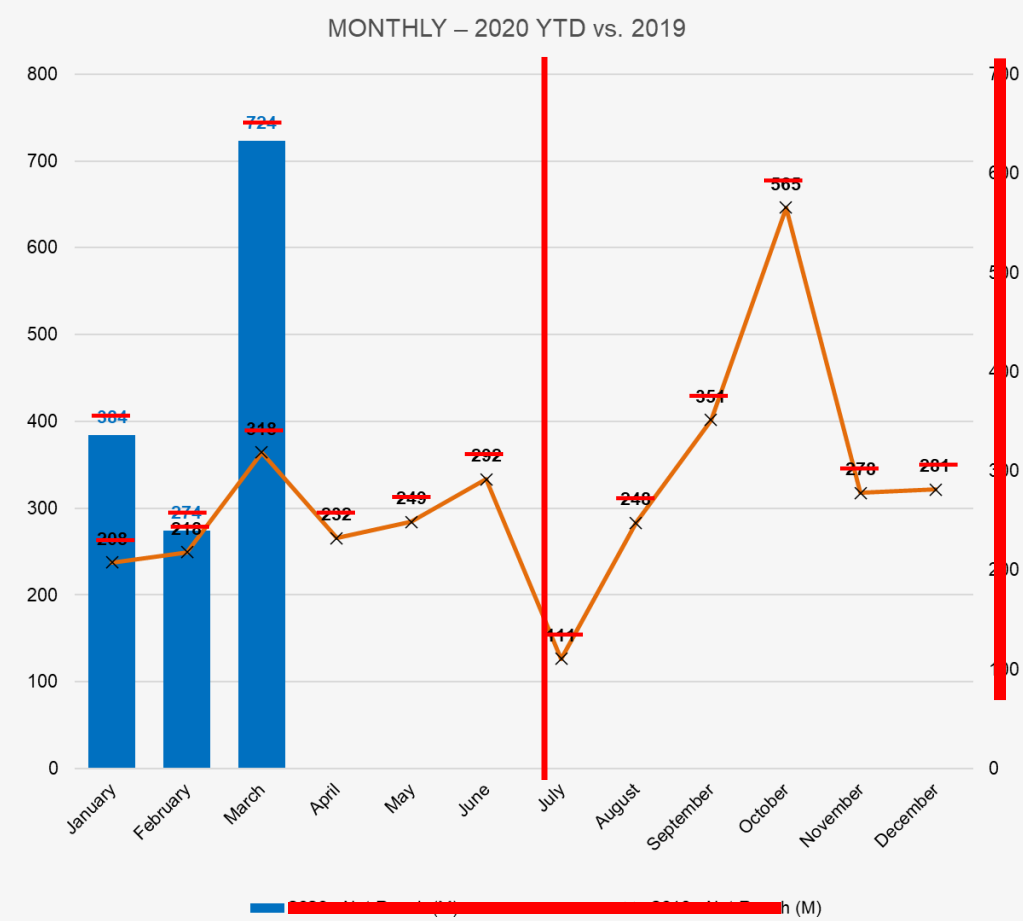




BEFORE

GRIDLINES

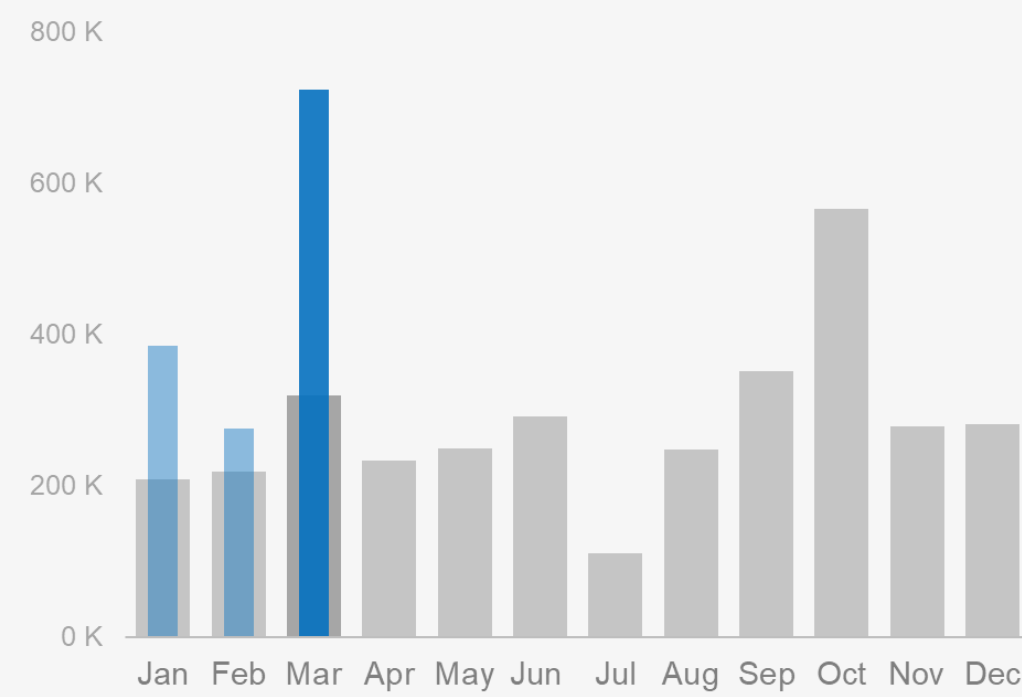
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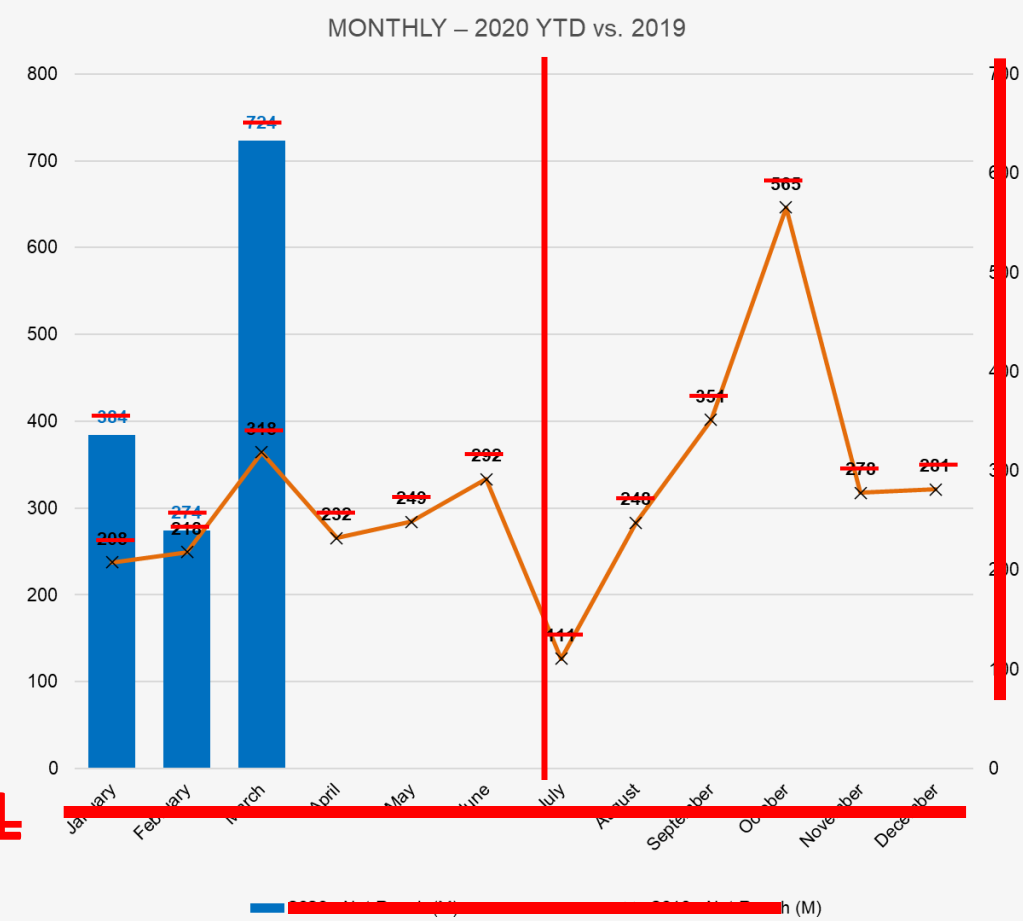
MONTHLY – 2020 YTD vs. 2019





BEFORE

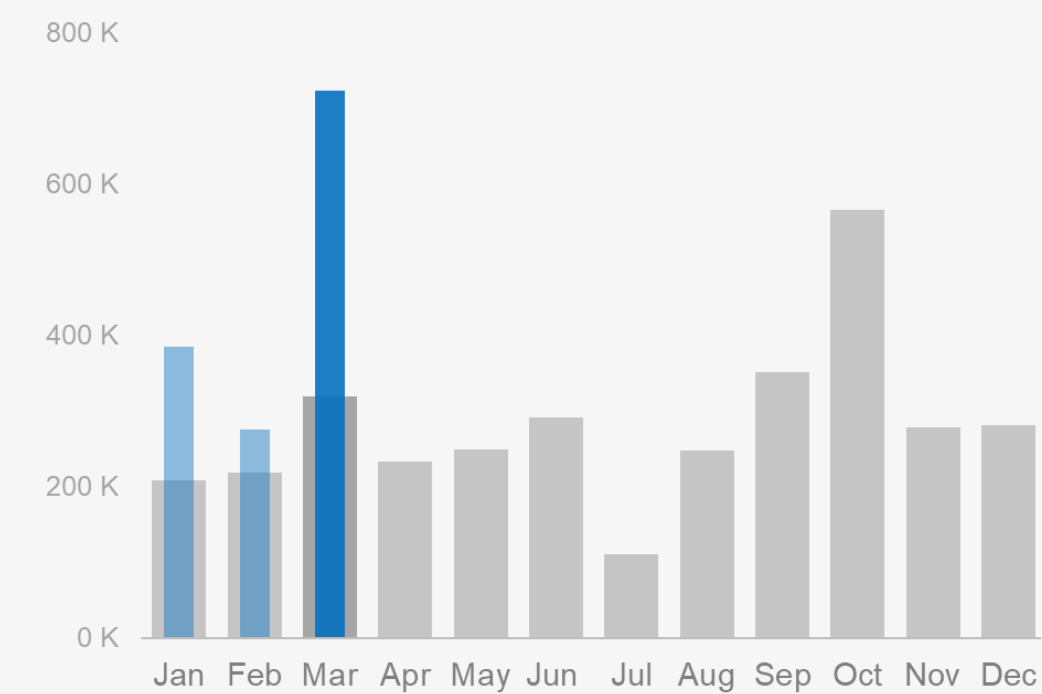
QUALITY OF COVERAGE



AFTER

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MONTHLY – 2020 YTD vs. 2019



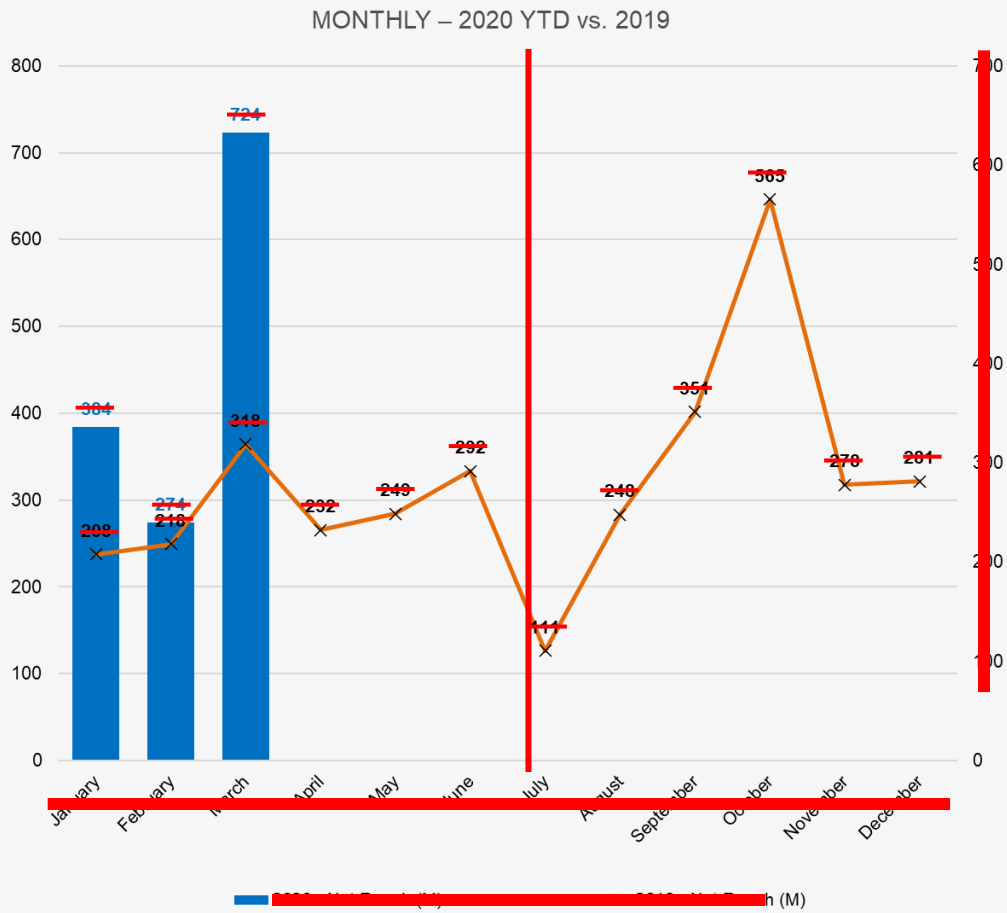
DIAGONAL
LABELS



Added
headline &
sub-headline

BEFORE

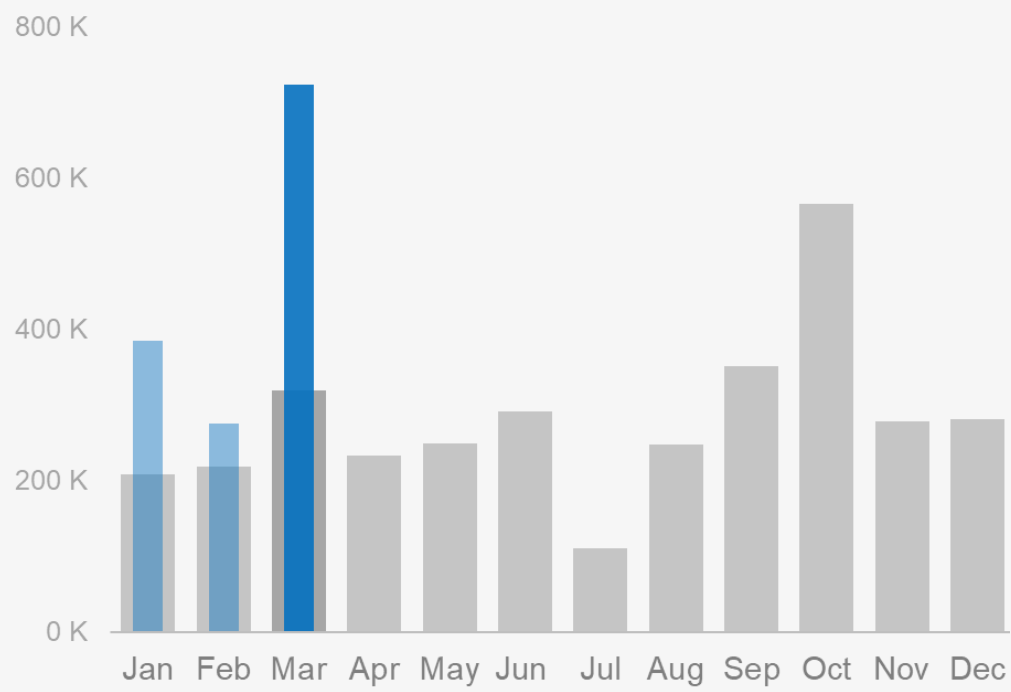
QUALITY OF COVERAGE



AFTER

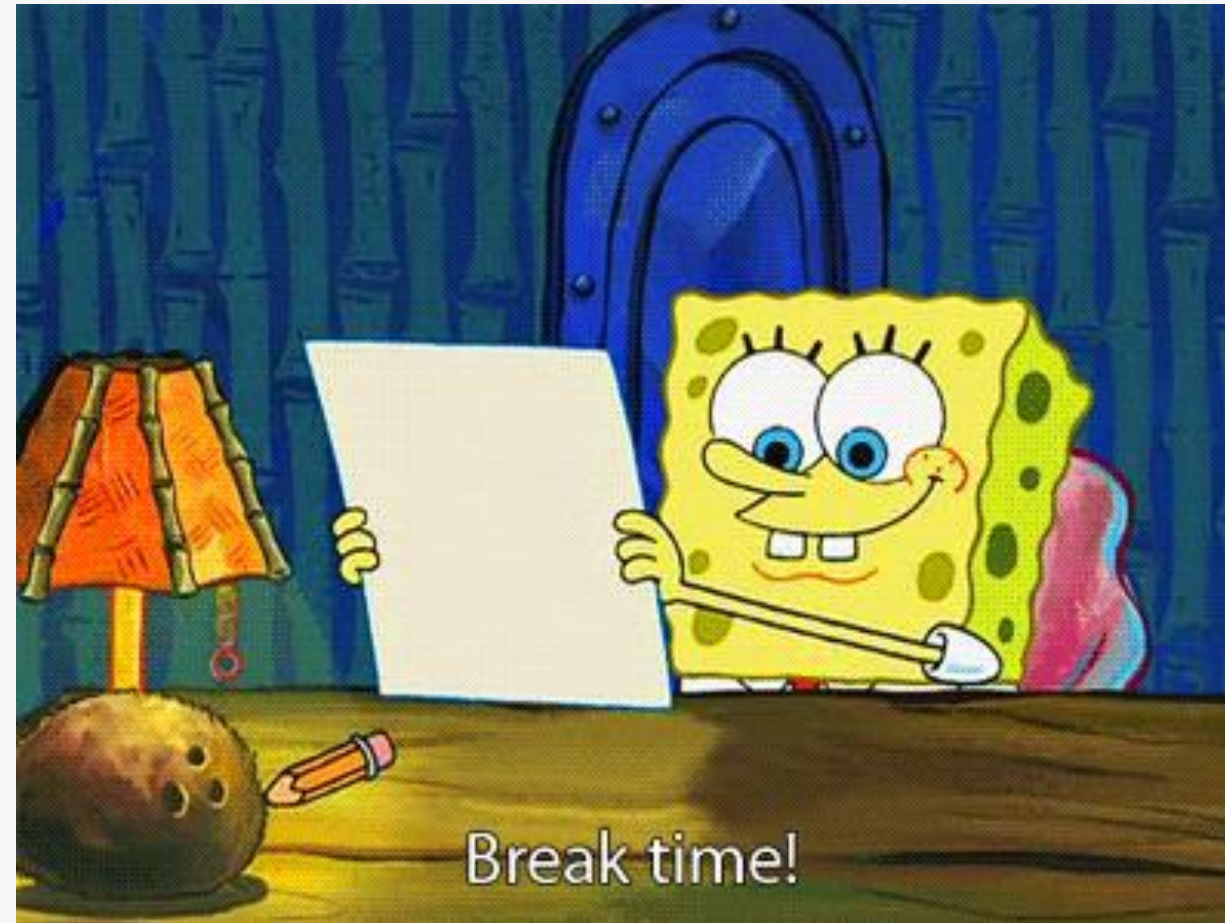
Reach spiked in March, surpassing last year's results, likely due to

MONTHLY – 2020 YTD vs. 2019



Break

10 minutes



Psychology in Data Visualization





KNOW YOUR
AUDIENCE

UNDERSTAND
NEUROSCIENCE



HELP YOUR AUDIENCE
SEE & REMEMBER



Iconic
memory

Working
memory

Long-term
memory



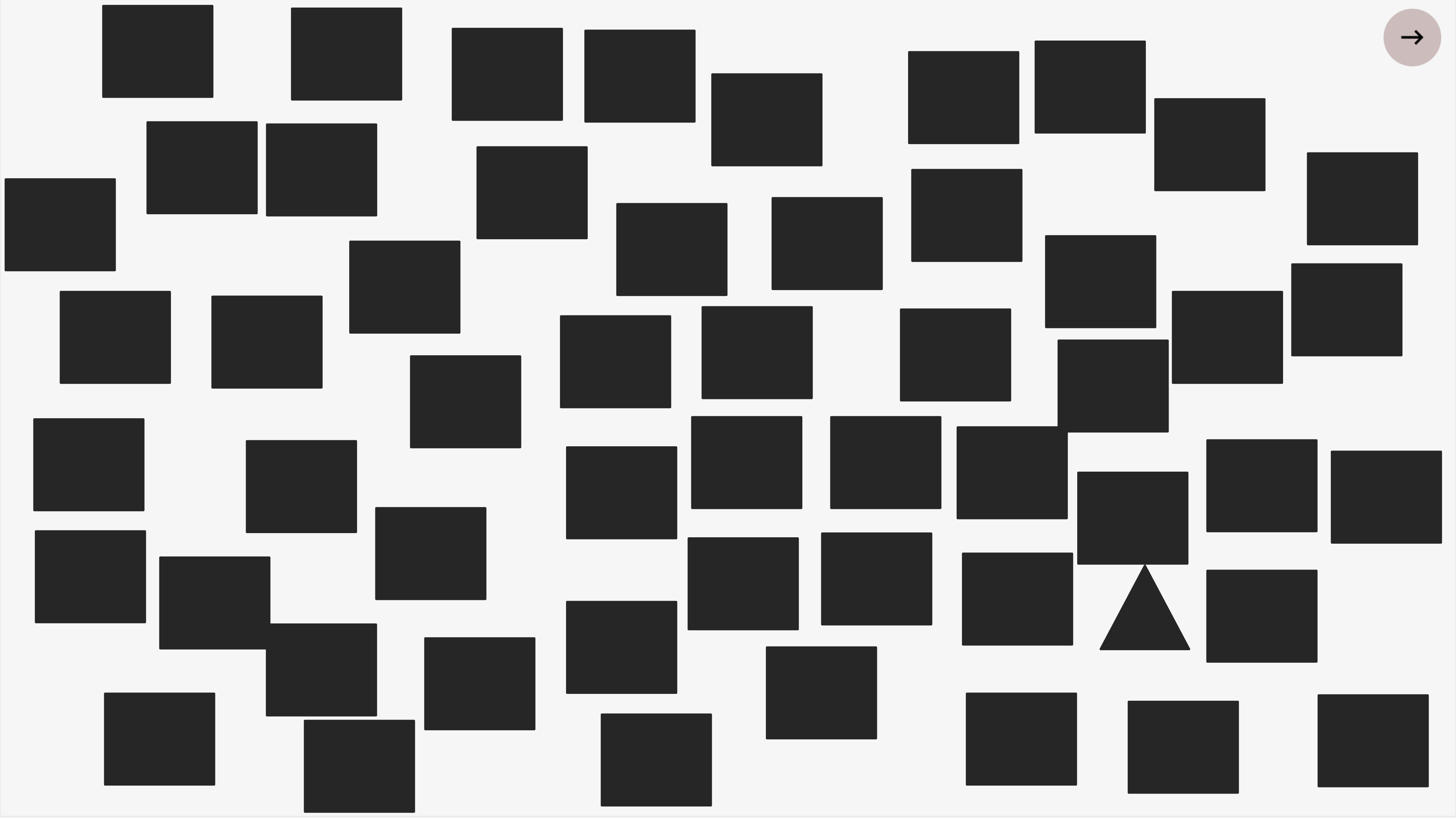
Iconic
memory

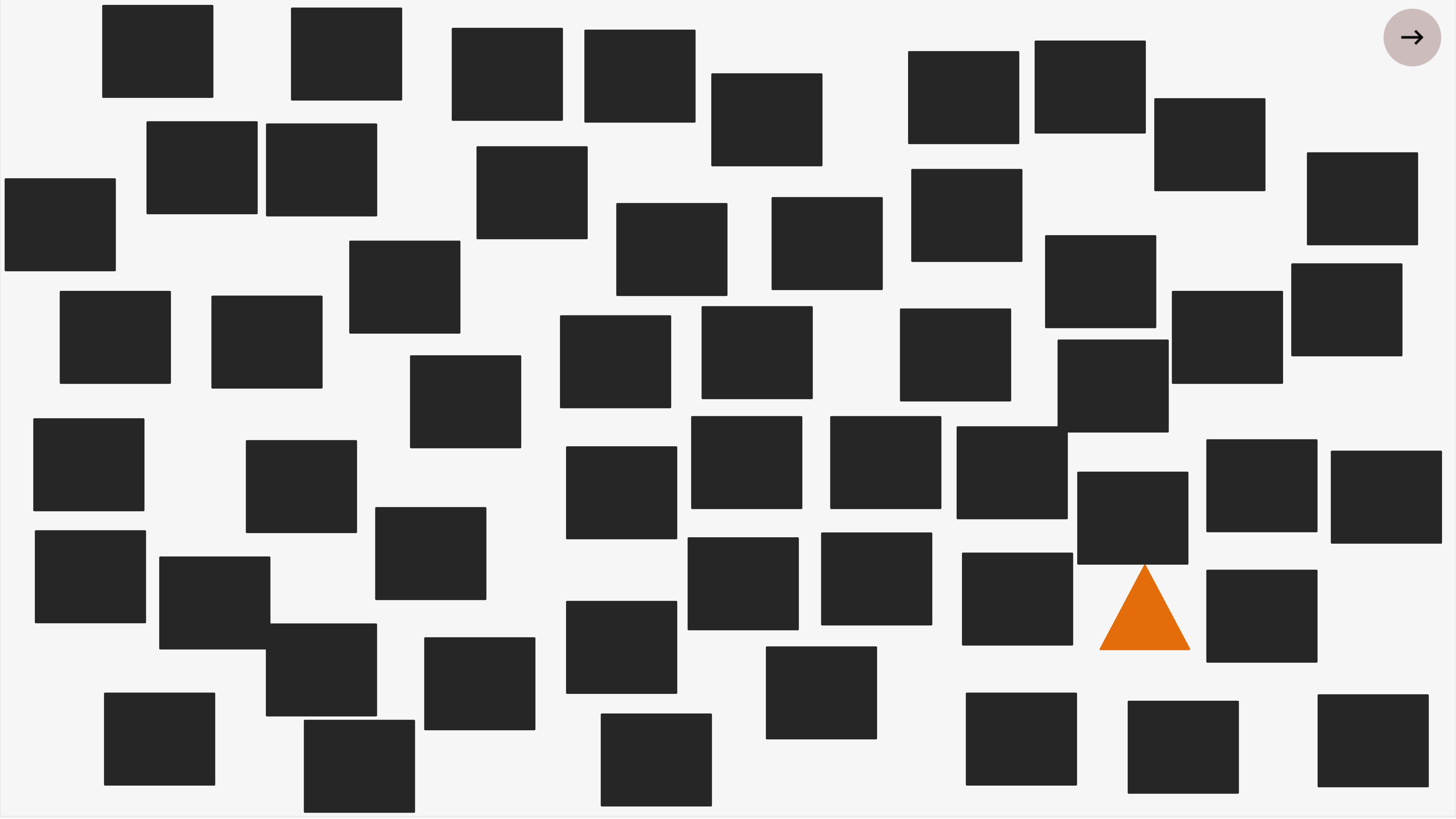
Working
memory

Long-term
memory

PREATTENTIVE PROCESSING

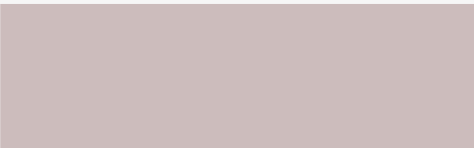
- Very Fast
- Attributes can be used to capture attention







Color





VISUAL THINKING *for* DESIGN

Colin Ware



“Things that do not pop-up require several eye movements to find, with eye movement taking place at a rate of roughly 3 per second. [...]

These may seem like small differences but they represent the difference between visually efficient at-a-glance processing and cognitively effortful search.

– Colin Ware –



Iconic
memory

Working
memory

Long-term
memory

ATTENTIVE
PROCESSING

- Temporary
- Limited capacity (3-4 chunks of info)

CHUNKING



438

vs

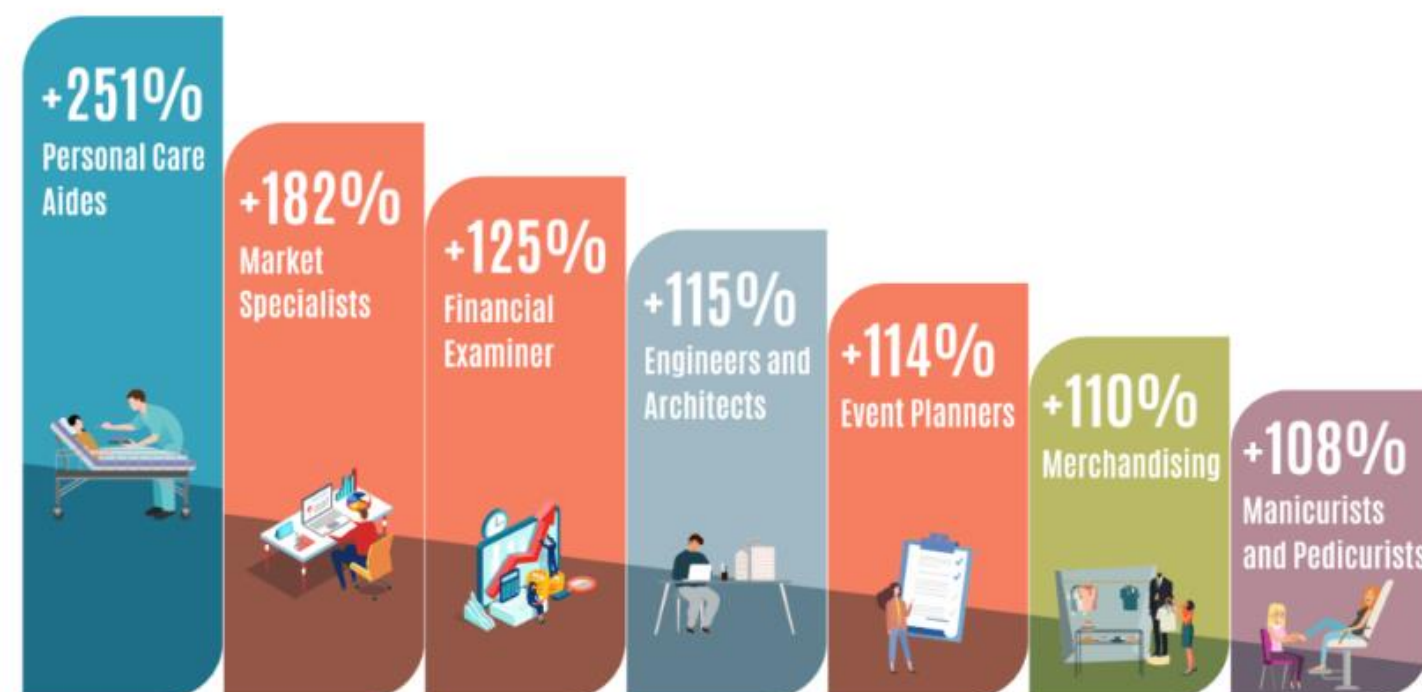
4, 3, 8



Personal Care Aide Jobs Almost Triple in a Decade

The graph below shows the seven jobs that experienced growth of over 100% in the last 10 years.

Fastest Growing Jobs in the US



Brought to you by **COMMERCIALCafé**

Personal Care Aide jobs rose 251% in the last 10 years, reaching over 2.2 million jobs. As the US population ages and the Baby Boomer generation retires, more jobs in healthcare will continue to be needed.

Source: <https://www.commercialcafe.com/blog/fastest-growing-jobs/>



Personal Care Aide Jobs Almost Triple in a Decade

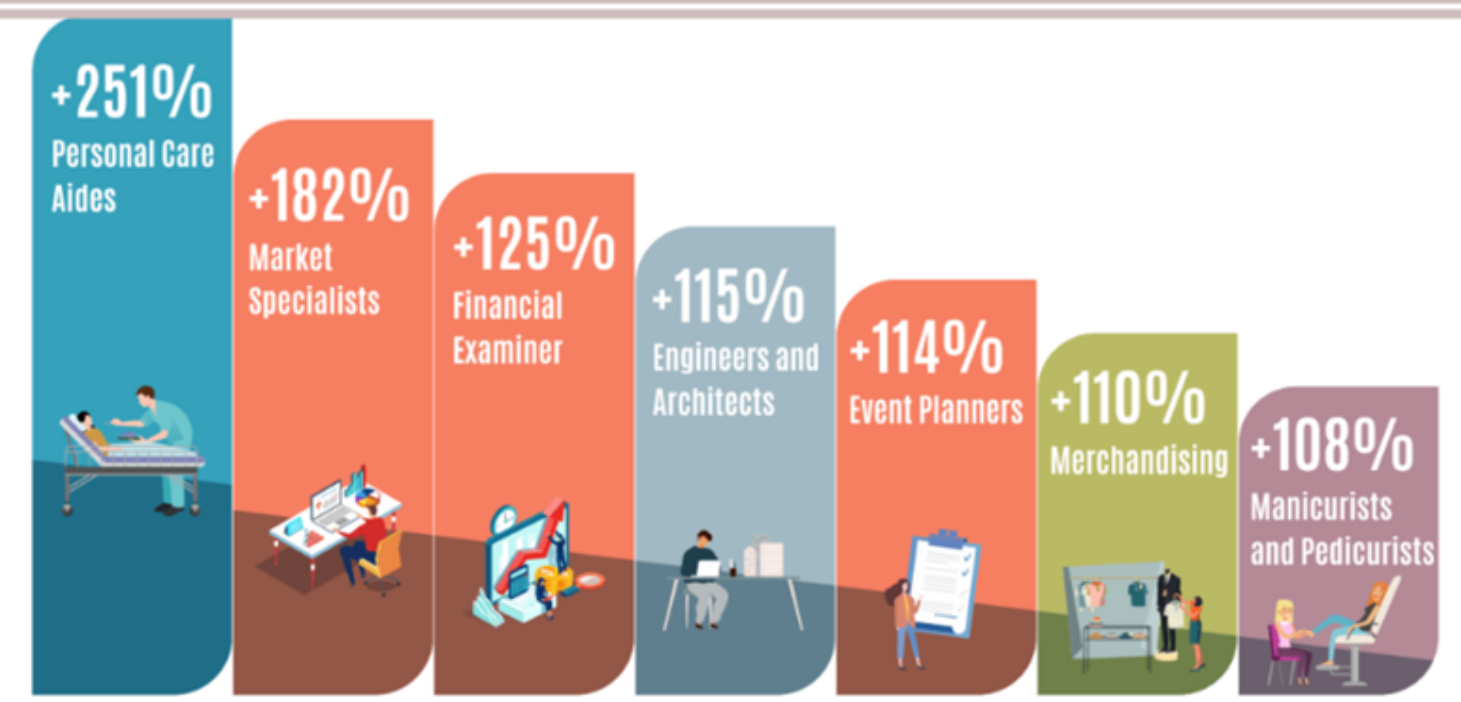
1

The graph below shows the seven jobs that experienced growth of over 100% in the last 10 years.

2

Fastest Growing Jobs in the US

3



4-10

Brought to you by **COMMERCIALCafe**

11

Personal Care Aide jobs rose 251% in the last 10 years, reaching over 2.2 million jobs. As the US population ages and the Baby Boomer generation retires, more jobs in healthcare will continue to be needed.

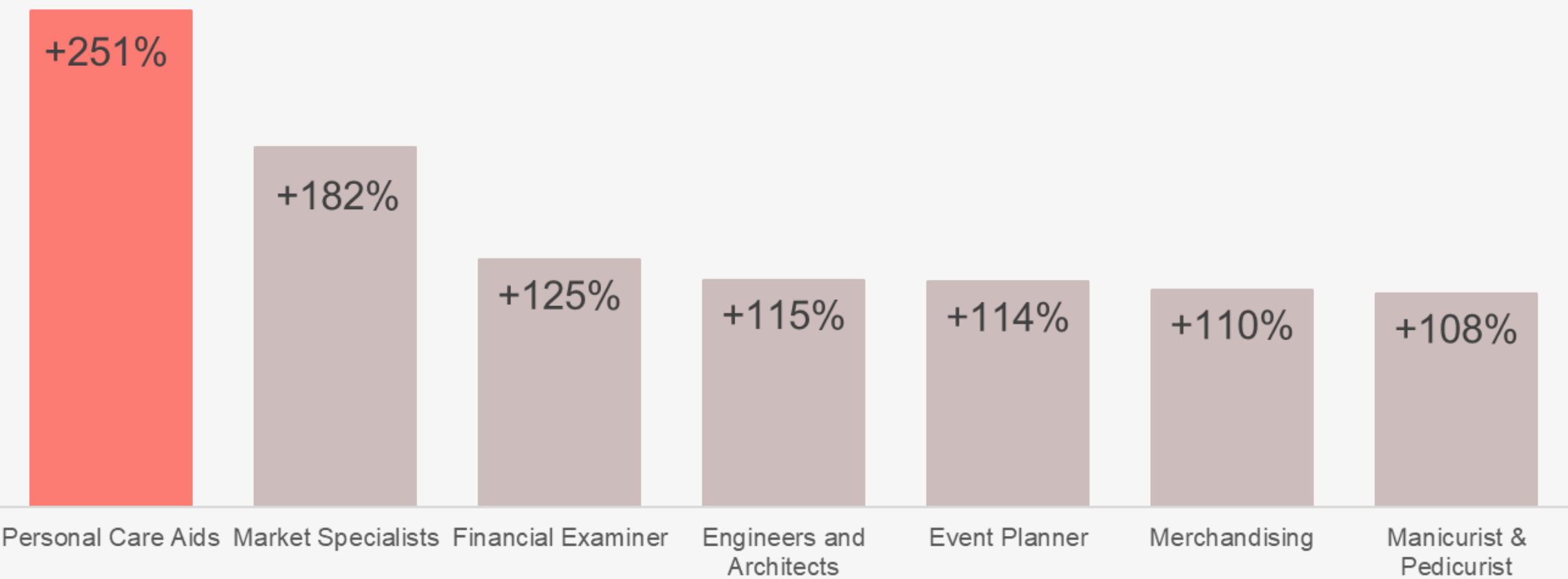
12

Source: <https://www.commercialcafe.com/blog/fastest-growing-jobs/>



Personal Care Aide Jobs Almost Tripled in the Last Decade

Top seven jobs that experiences growth over 100% in the last 10 years



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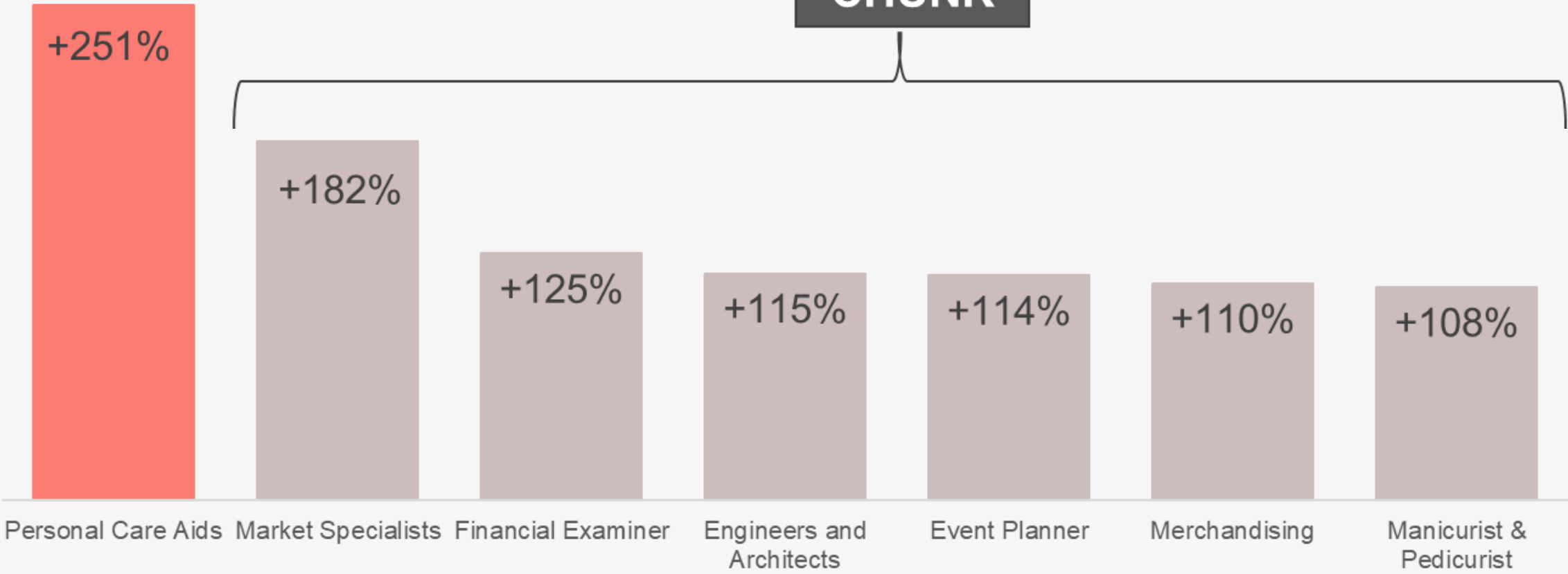


Personal Care Aide Jobs Almost Tripled in the Last Decade

Top seven jobs that experiences growth over 100% in the last 10 years

CHUNK

CHUNK



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BEFORE

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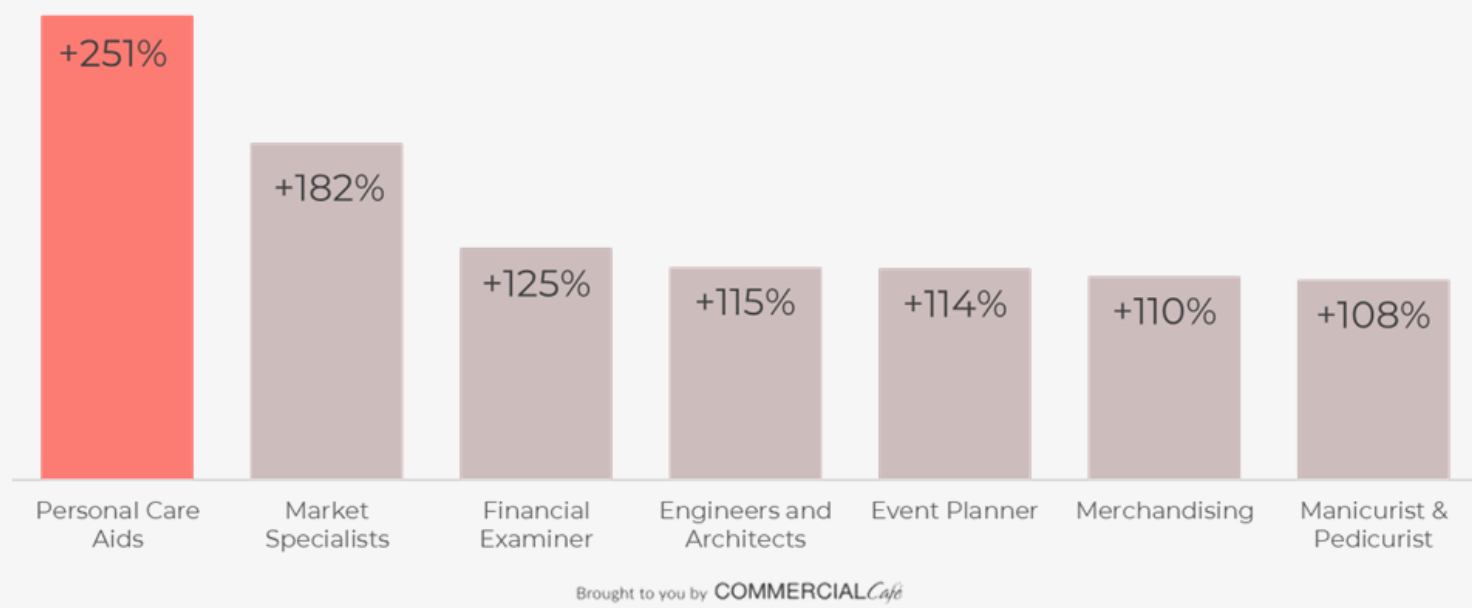


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AFTER

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Top seven jobs that experiences growth over 100% in the last 10 years



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Iconic
memory

Working
memory

Long-term
memory

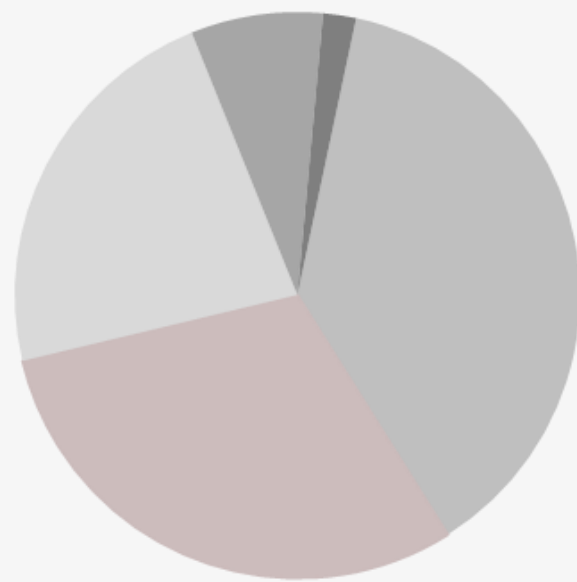
DECISION TO
STORE INFO

REPETITION

LONG-TERM MEMORY



pie chart



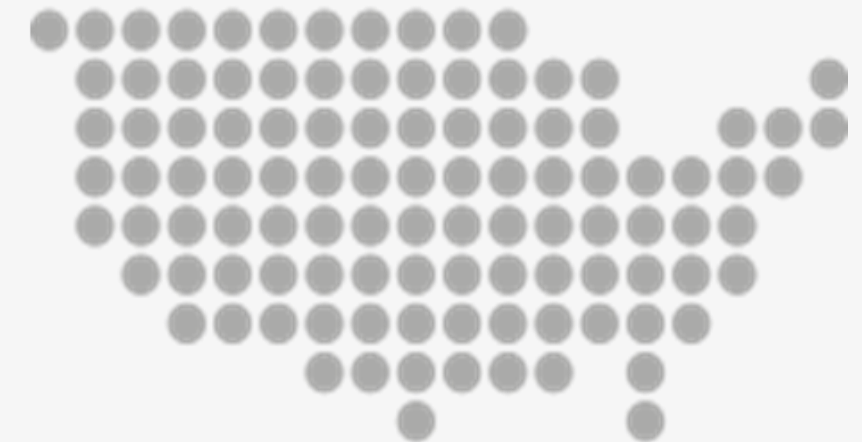
bar chart



line chart



map





METRICS

HANNAH FAIRFIELD

Driving Shifts Into Reverse

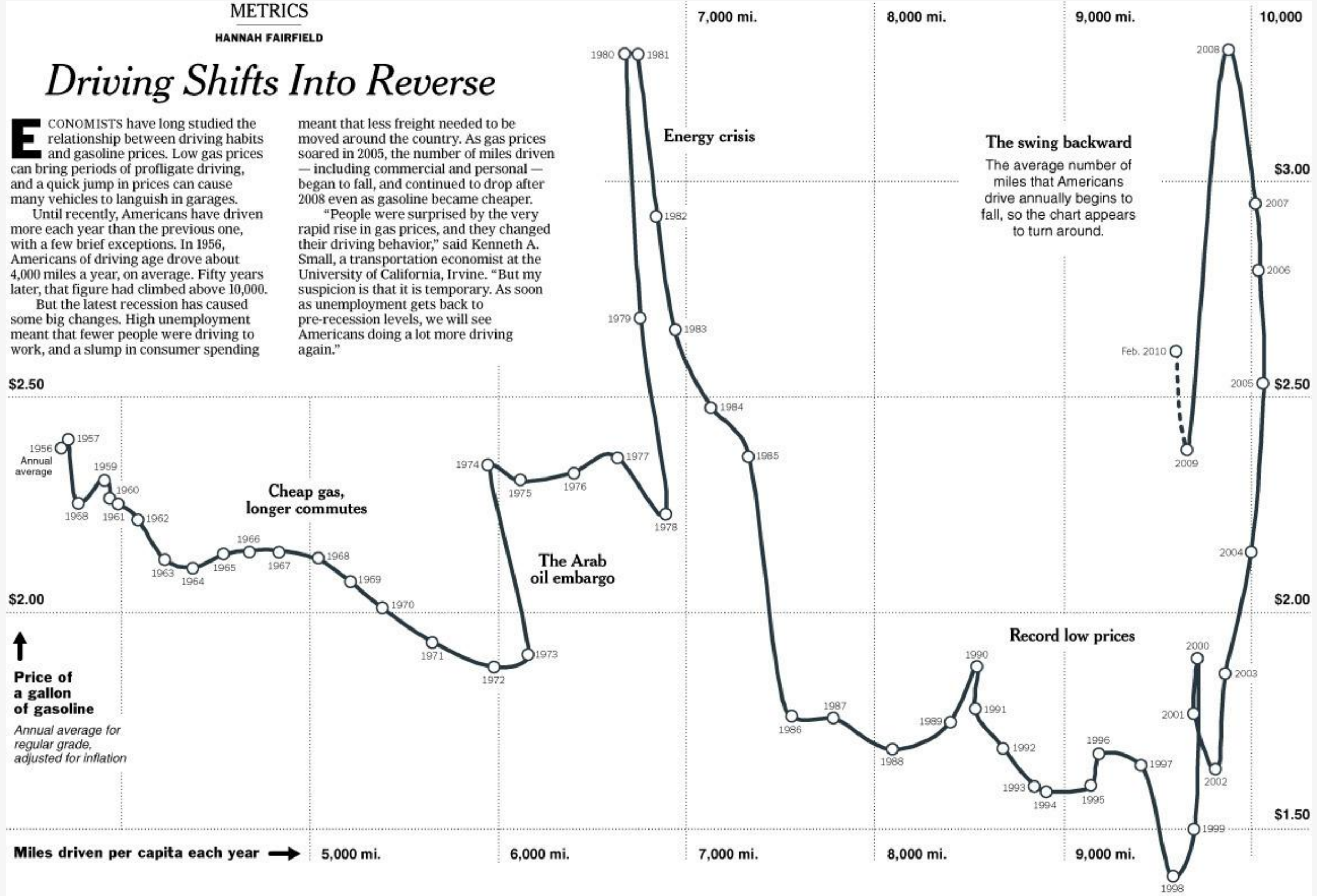
ECONOMISTS have long studied the relationship between driving habits and gasoline prices. Low gas prices can bring periods of profligate driving, and a quick jump in prices can cause many vehicles to languish in garages.

Until recently, Americans have driven more each year than the previous one, with a few brief exceptions. In 1956, Americans of driving age drove about 4,000 miles a year, on average. Fifty years later, that figure had climbed above 10,000.

But the latest recession has caused some big changes. High unemployment meant that fewer people were driving to work, and a slump in consumer spending

meant that less freight needed to be moved around the country. As gas prices soared in 2005, the number of miles driven — including commercial and personal — began to fall, and continued to drop after 2008 even as gasoline became cheaper.

“People were surprised by the very rapid rise in gas prices, and they changed their driving behavior,” said Kenneth A. Small, a transportation economist at the University of California, Irvine. “But my suspicion is that it is temporary. As soon as unemployment gets back to pre-recession levels, we will see Americans doing a lot more driving again.”



Source: <https://www.nytimes.com/2010/05/02/business/02metrics.html>



Exercise





SEPTEMBER 2022 PRICES



Source: InfoSparks as of October 4, 2022. Single-family detached homes. Prices represent median values.



WHAT DID
YOU LEARN?

