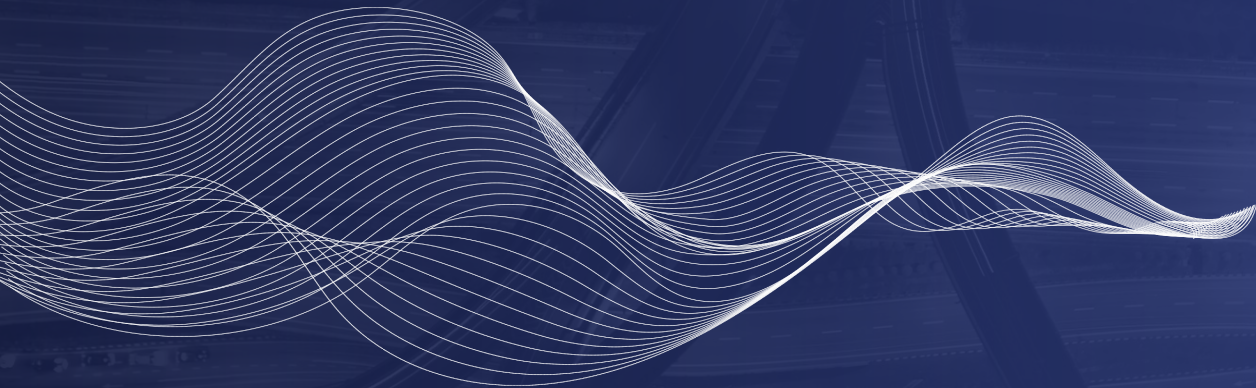


# Mobility Amidst Lockdown: Every Minute on the Road is Riskier

ZENDRIVE COVID-19 REPORT | MAY 2020

This study examines the tectonic shifts in mobility happening on both a national and global level, providing a holistic picture of the rapidly evolving driving patterns amid the ongoing pandemic.





## SHIFTS IN MOBILITY

# The Global Scenario

COVID-19 has had a significant impact on every facet of our lives. It is defining a “new normal” for the way we connect, transact, and move.

In this study, we analyze hundreds of millions of miles of driving data, gathered from 116 countries, to better understand the changes in driving patterns as a result of COVID-19.

To study changes at the global level, we compared the driving data gathered in the last 20 days of March with the data generated in the first 20 days of April.



At the global level, the 25 countries with the largest decline showed a **53.5%** decrease in miles driven on average.

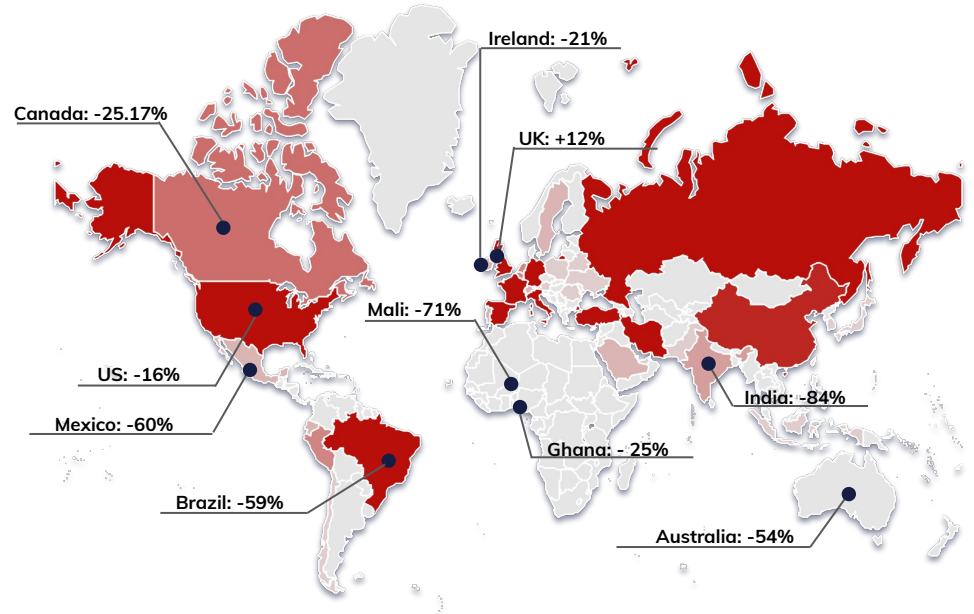


# Key Insights

While there are numerous factors contributing to the growth of COVID-19 cases, a common theme we saw in our global analysis is that the level of increase in COVID-19 cases is inversely proportional to the decrease in driving miles.

- **North America** — In the US, there was a marginal decrease of 16% in miles driven. On the contrary in Mexico, we saw a decrease of 60%. Canada saw a decrease of 25%.
- **South America** — Brazil, the largest country in South America, saw a reduction of 59% in miles driven.
- **The UK** — We saw an increase of 12% in miles driven in the United Kingdom. However, in the neighboring country of Ireland, we saw a decrease of 21%.
- **Africa** — We saw a reduction of 71% in miles driven in Mali, whereas in Ghana, we saw a 25% reduction.
- **Asia** — India, the largest democracy in the world, saw a decrease of 84% in miles driven.
- **Oceania** — Australia, the largest country in Oceania, saw a reduction of 54% in miles driven.

## Heatmap of COVID-19 Cases with Percentage Changes in Miles Driven



## UNDERSTANDING THE 'NEW NORMAL'

# What's Happening on the Home Front



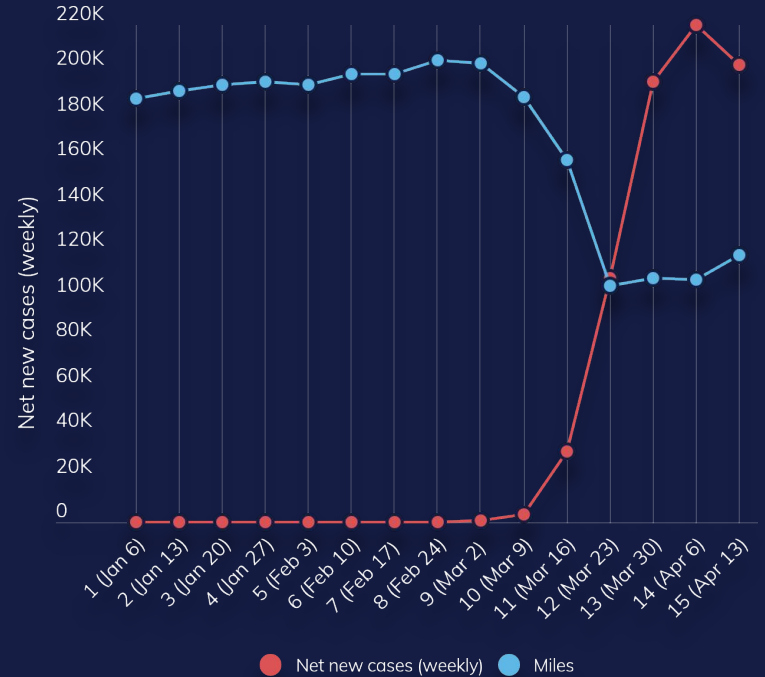
As states reopen, understanding the impact and relationship between mobility and the spread of COVID-19 is more important than ever.

Total miles driven for personal and commercial sectors in the U.S. plateaued in the week of March 23, hinting at the new normal. The weekly decrease in miles driven is consistent with the drop in new COVID-19 cases over the last few weeks.

\*As the number of miles driven on the road decreased, the number of net new cases **plateaued**.\*

A surge in mobility might lead to an increase in net-new cases. As we know, the cases reported today reflect our behavior from the previous two weeks. Given the lag between the initial exposure and the number of reported cases, people might misconstrue the lack of immediate impact as a sign of normalcy.

Net New Weekly Cases vs. Miles Driven in the U.S.



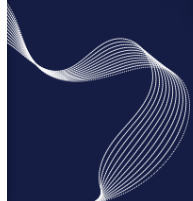
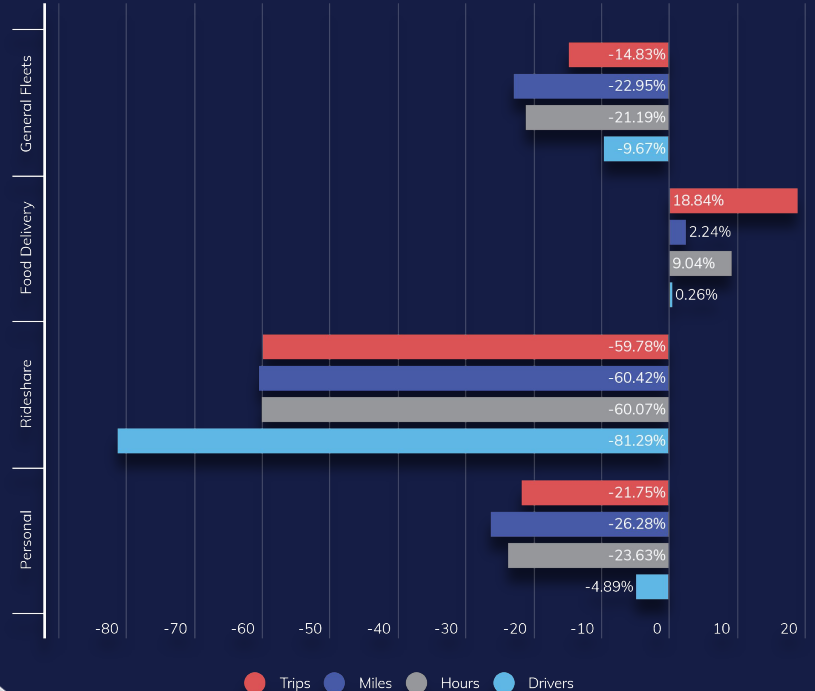
## A CLOSER LOOK

# Comparing Personal and Commercial Driving Patterns

While there has been a decrease in miles driven, the extent of this decrease ultimately depends on **why** people are driving.

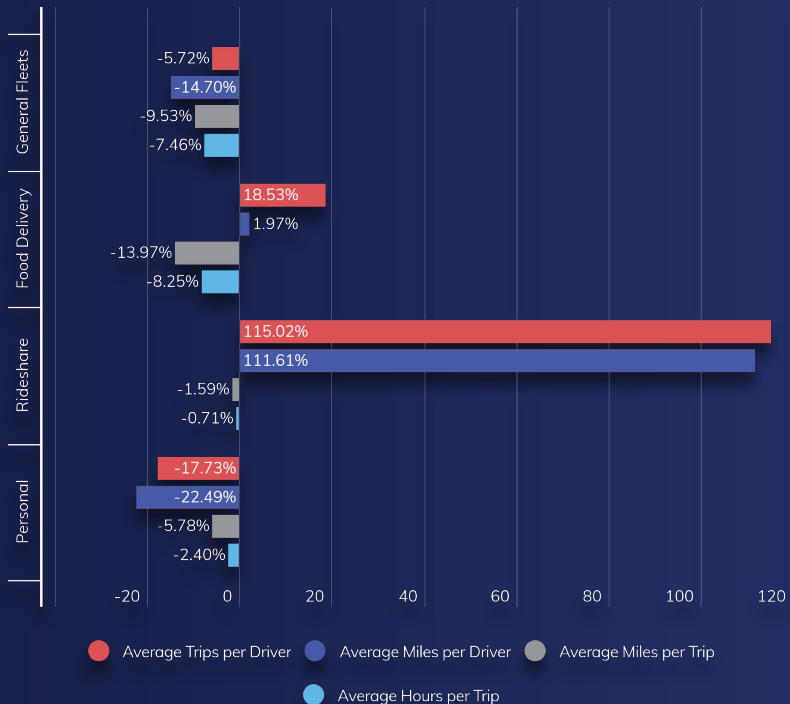
It is clear that ridesharing companies have seen a significant decrease in trips and miles driven. In contrast, food delivery networks have seen an increase in the number of trips and miles driven.

Percentage Change in Driving Miles,  
Between the last 20 days of March vs. the first 20 days of April in the U.S.



# But there is more to that story...

Percentage Change in Driving Averages,  
Between last 20 days of March vs. first 20 days of April  
in the U.S.



There was a very small increase (0.26%) in the number of food delivery drivers on the road – and on average, they took 20% more trips in the past few weeks than before.

However, these trips were relatively shorter. It is possible that because of the increase in demand, drivers were making more trips at shorter distances as people sheltered-in-place and ordered from local restaurants.

On the other side of the demand curve, there has been a 60% reduction in rideshare trips. As a result, more than 81% of drivers stopped driving for ridesharing services altogether. For the 19% of rideshare drivers still on the road, the average number of trips and miles more than doubled in recent weeks to make up for the lack of driver supply.

# Pandemic Driving: Unpacking the Rise of "Worried Lead-Footers"

We analyzed the behavioral data from five weeks prior to the first stay-in-place order (February 6 - March 15) and compared it with the data generated over the course of the next five weeks—a time frame in which most of the lockdowns were announced (March 16 - April 19).

## RESULTS

**27%**  
increase

Speeding



**38%**  
increase

Phone usage



**25%**  
increase

Hard Braking

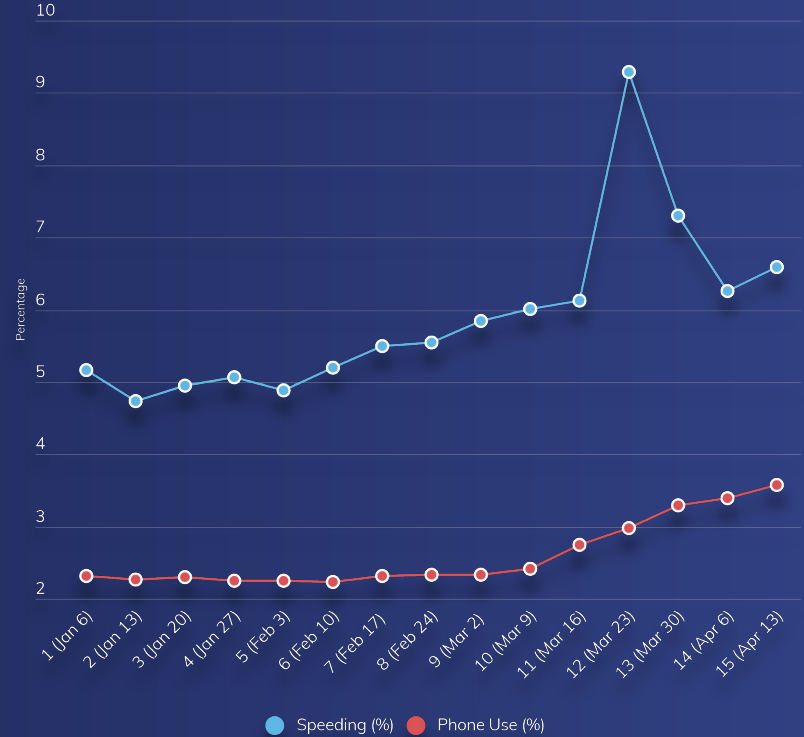


As a result, every minute spent on the road is riskier; every mile driven is riskier.

On March 16th, the federal government released the first national guidelines for social distancing and staying in place. This corresponded to a dramatic increase in vehicular speeding consequent to an immediate rush to prepare and stockpile ahead of the implementation of shelter-in-place policies. While speeding spiked in the week of March 23, phone use and hard braking steadily increased throughout the following weeks.

With the decline in traffic, some drivers saw empty highways as an open invitation to speed while being distracted by their phones. With the increased desire to stay informed about the evolving circumstances and the well-being of loved ones, people are interacting with their phones more than ever. As a result, phone usage while driving has increased dramatically.

Weekly Driving Events in the U.S.  
Between Weeks of Jan 6 and Apr 13





# State Analysis

To understand the true impact of COVID-19 on each state, we drew a comparison between driving data from 15 days prior and 15 days post-lockdown.

## States that saw an increase in driving:

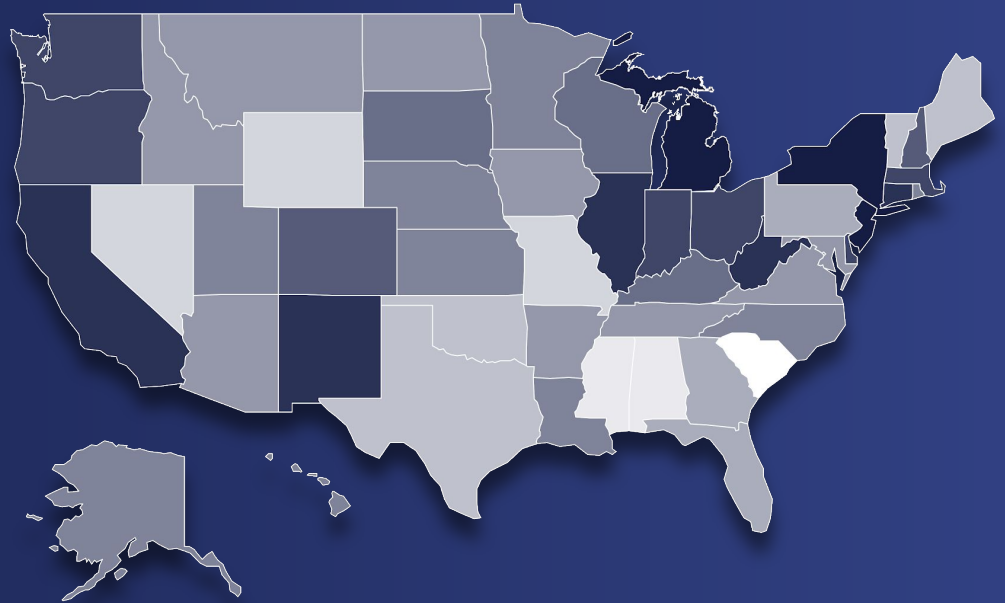
- South Carolina

## States that saw a 0-10% reduction in driven miles:

- Alabama
- Mississippi
- Missouri
- Wyoming
- Nevada

## States that saw the highest reduction were:

- California
- Michigan
- West Virginia
- New York
- New Jersey

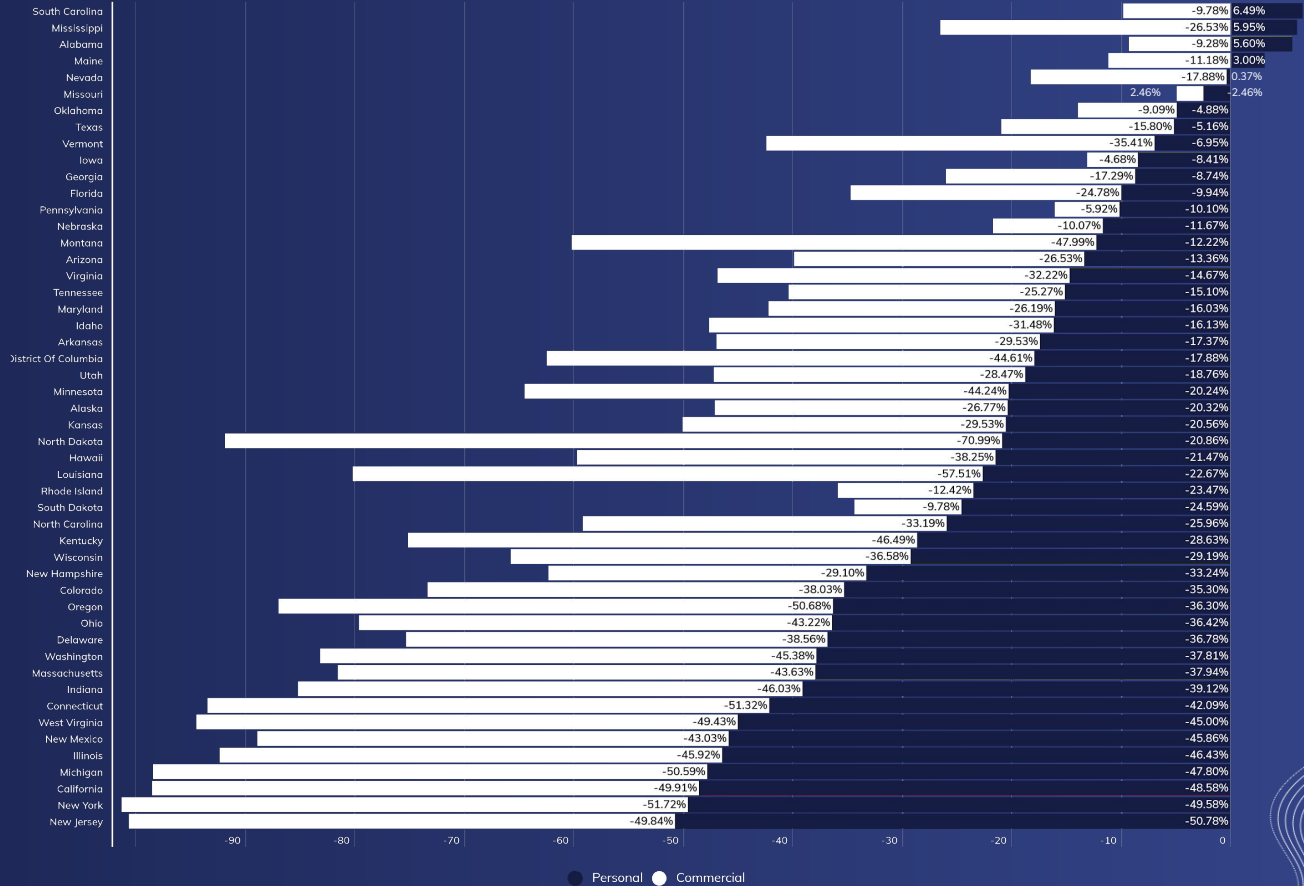


# Personal vs. Commercial Driving Patterns

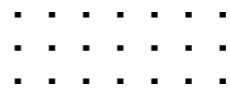
Our analysis shows a significant difference between personal and commercial driving patterns.

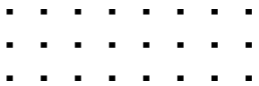
States like South Carolina, Mississippi, Alabama, and Maine showed a marginal decrease in personal driving. However, there was an increase in commercial driving in these states.

Changes in Personal and Commercial Driving across U.S.



Percentage change in miles driven for personal and commercial driving before and after lockdown





### Top 5 Cities (largest reductions)

- San Jose (57%)
- San Diego (57%)
- Indianapolis (60%)
- Los Angeles (71%)
- San Francisco (71%)

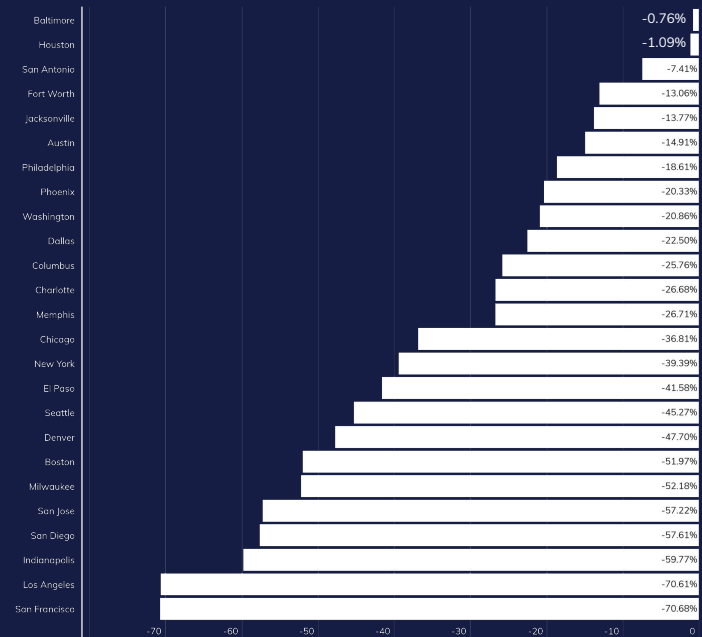
### Top 5 Cities (little to no change)

- Baltimore (0.80%)
- Houston (1%)
- San Antonio (7%)
- Fort Worth (13%)
- Jacksonville (14%)



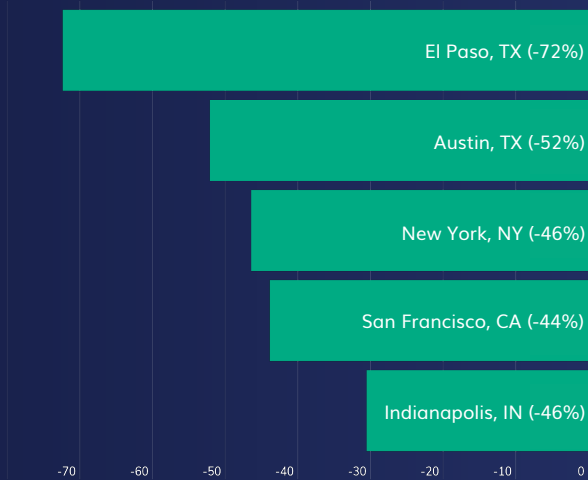
## City Comparisons

(\*Note: Selected as the most populous cities in the U.S)



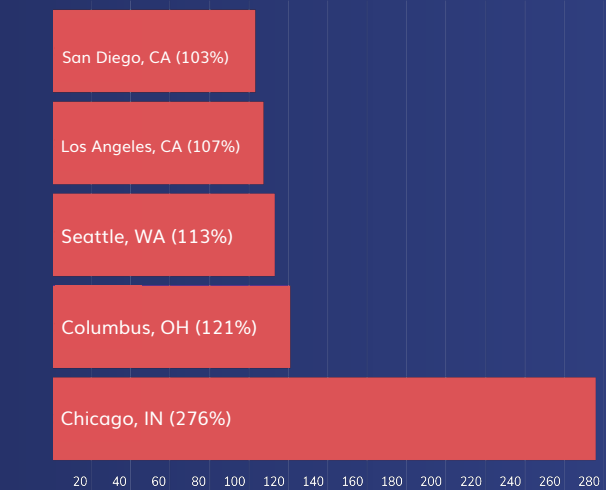
The analysis is based on a comparison between driving data gathered 15 days prior and post-lockdown

# Changes in Speeding Before and After the Lockdown



## Top five with least speeding

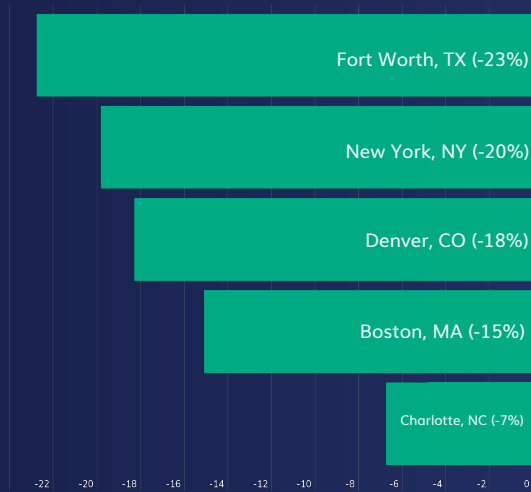
The top five cities with the lowest speeding saw a decrease in overall speeding after the lockdown. El Paso and Austin topped the list with a decrease of more than 50%,



## Top five with most speeding

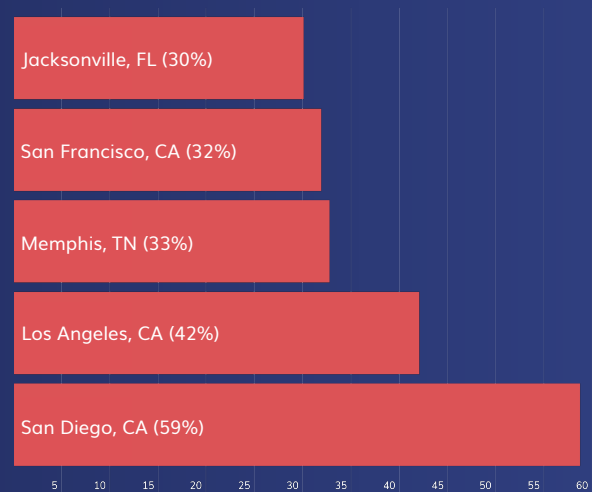
The top five cities with the highest speeding saw an increase in overall speeding after the lockdown. All of the top five cities had an increase of over 100%, meaning that speeding doubled in these major U.S. cities.

# Shifts in Phone Usage Before and After the Lockdown



## ↓ Top five with least phone distraction

The top five cities with the lowest phone distraction saw a decrease in phone usage in the days following the lockdown. Fort Worth, Denver, New York, and Boston recorded a double-digit decrease in distraction.



## ↑ Top five with most phone distraction

The top five cities with the highest phone distraction saw an increase in phone usage in the days following the lockdown. All of the top five cities showed an increase of over 30% in phone distraction.

