

COVID TRENDS EBOOK

Measuring a Year  
of Pandemic Travel  
**WHERE NEXT?**



STREETLIGHT

# Where Next?

Our original [COVID Transportation Trends](#) analysis shared several national insights, including a marked drop in morning peak travel, “peak spreading” for afternoon rush hour, and the rise of bicycling. Now with a full year’s worth of pandemic travel data available on StreetLight InSight®, we can mine the data for additional takeaways and develop a fuller picture of how the pandemic impacted travel.

Agencies can’t deploy sensors and surveys quickly enough to keep up with fluctuations in post-COVID travel, but location-based data can monitor more immediate shifts. It also allows us to go back in time to study transportation at various points during the pandemic. Our updated analysis captures the trends that are holding, and where travel behaviour is still in flux.

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## I. NATIONWIDE VMT BOUNCES BACK

As we pointed out in our earlier COVID travel analysis, U.S. vehicle miles traveled (VMT) rises or falls only about 1 to 2% in any given year. In April 2020, however, VMT dropped an unprecedented 40.2% compared to 2019.

April marked the largest travel drop of 2020. VMT continued to fluctuate throughout the pandemic, with additional drops in December 2020 and February 2021 correlating with fears of new virus variants and subsequent waves of infection.

Although states varied their reopening policies and timelines, the one-year mark denoted a clear “return to normal” for the U.S. overall. March’s rebound is shown by comparing March 2021 to February 2020 (the last month of pre-pandemic travel in the U.S.), in Figure 1.

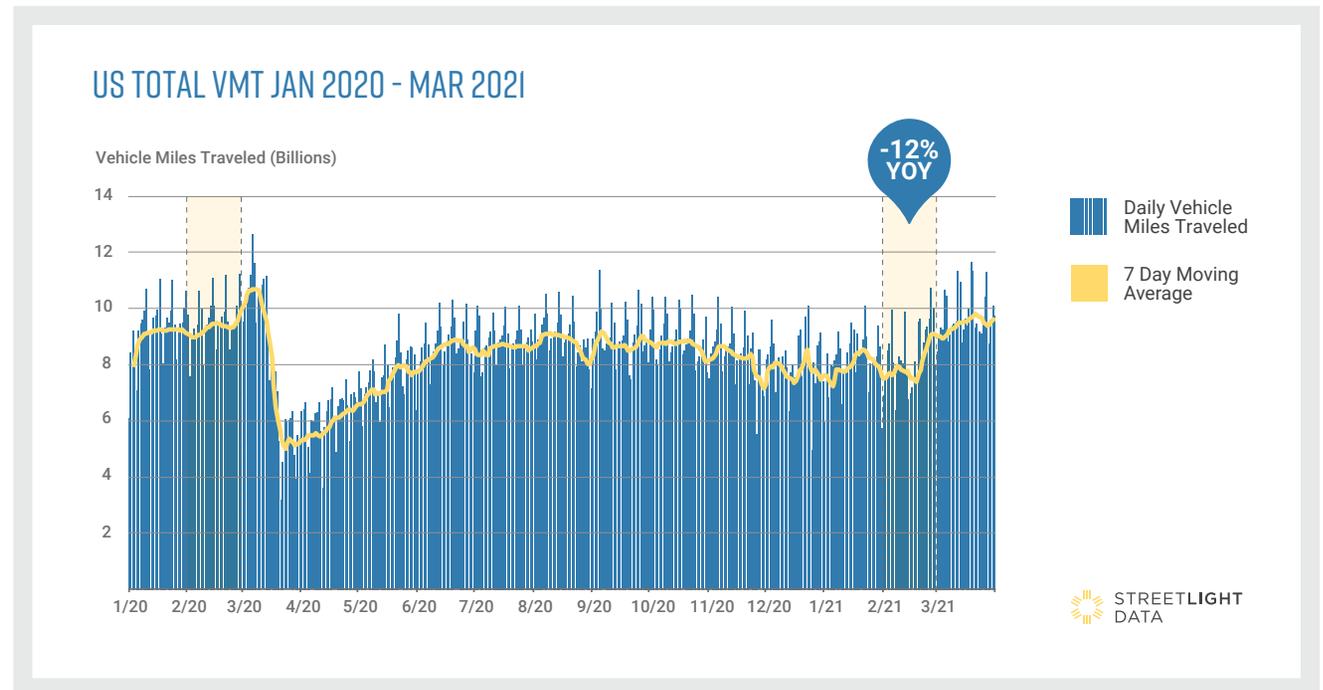


Figure 1: U.S. average daily VMT in March 2021 was 12% lower than in February 2020, the last pre-pandemic month not impacted by COVID-19 shelter-in-place.

While VMT in February 2021 was still 12% below the previous February, increasing vaccinations and business reopenings quickly drove March 2021 VMT to nearly 2% above the February 2020 pre-pandemic baseline, and 20% higher than March 2020 (when many states initiated travel restrictions).

We compared daily average VMT in February and March in order to correct for March having more days. We chose February 2020 as our baseline as it is the last “clean” month of pre-pandemic travel data, and March 2021 as the first month of widespread vaccine availability.

At the beginning of the pandemic, some transportation experts predicted a VMT “rebound” in the later part of 2020 making up the difference for the year as a whole. In our initial COVID transportation analysis we didn’t see indications of that level of recovery, and that held true. Total VMT for 2020 was down 15% compared to 2019.

## II. STATE BY STATE RECOVERY

The VMT recovery ranged widely across state lines. Travel in California, Nevada, and Washington, D.C. remained somewhat suppressed in March 2021 as compared to February 2020.

But by March, far more states saw an aggressive increase in travel. Vermont, Arkansas, and Kentucky VMT rose by 19%, 18% and 15% respectively as compared to February 2020. Florida was the median state, with 0% change in VMT over the same period. Overall, more states rebounded than not – 37 states showed an increase in March 2021 VMT compared to February 2020, while only 12 states were still below the February average daily VMT.

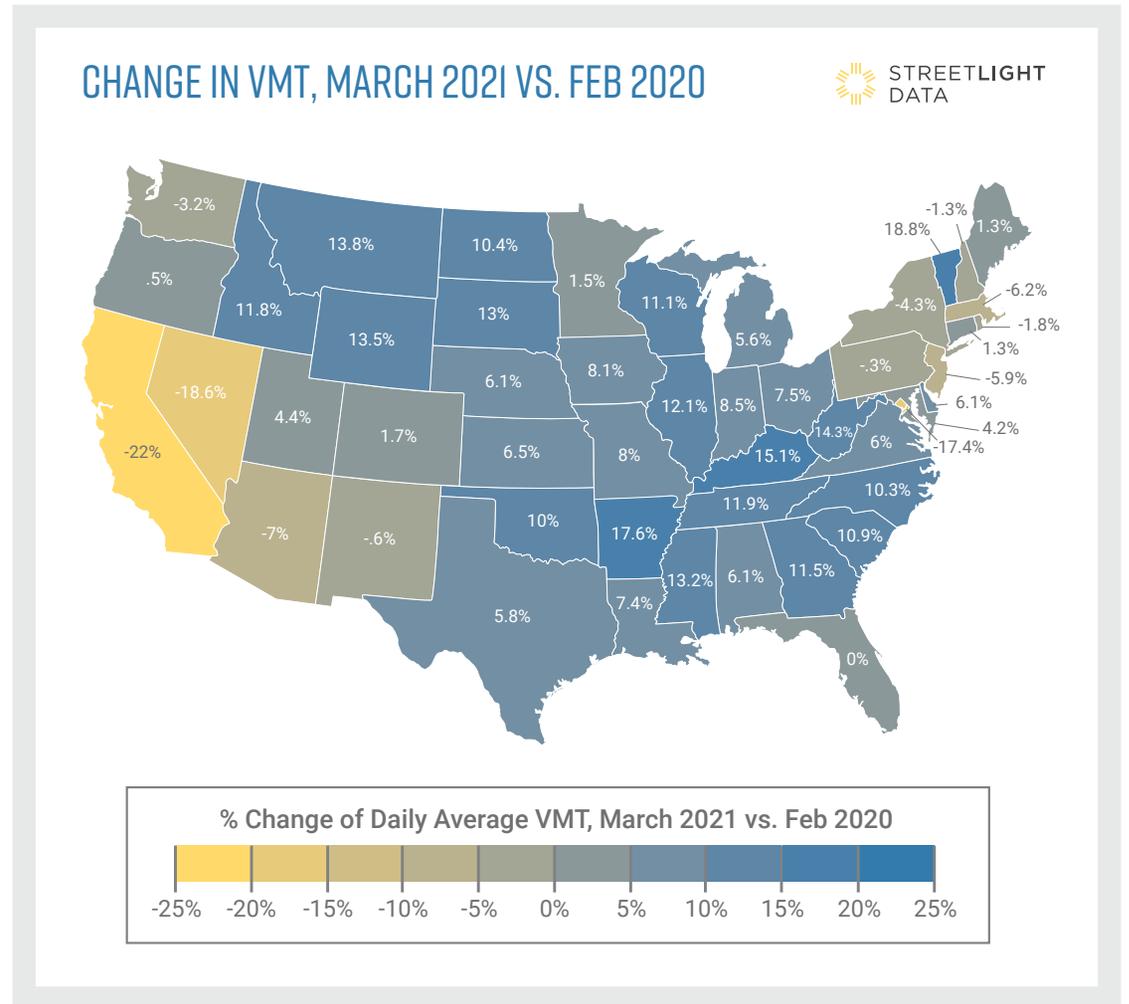


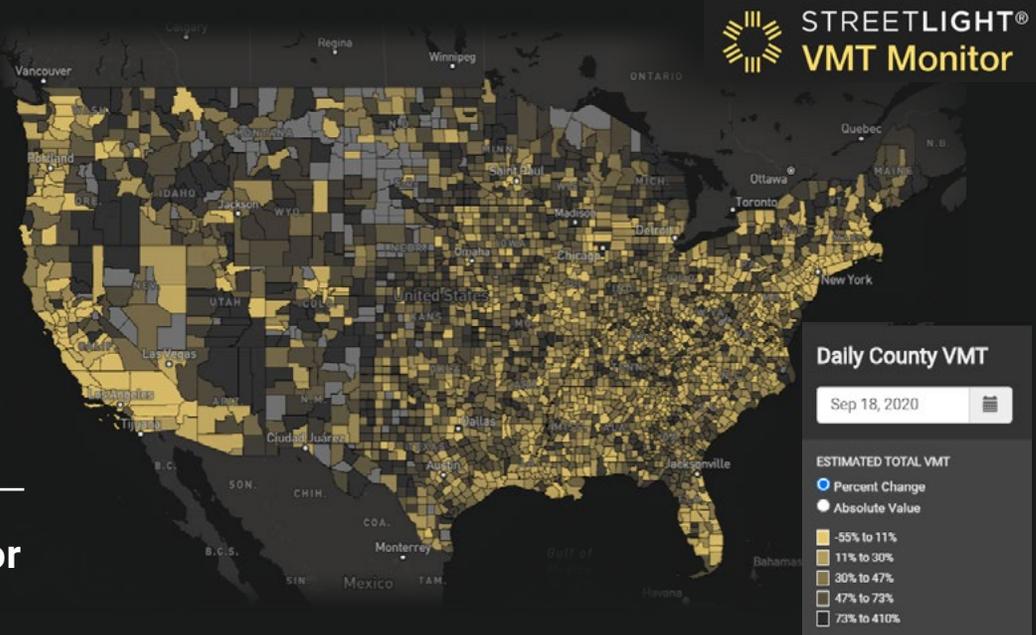
Figure 2: The country's highest sustained drop in VMT was concentrated more in coastal states, with most of the heartland rebounding more quickly.

# Get latest VMT data for your county

View daily metrics for 3,100+ counties to monitor the return of vehicle activity or analyze the impact of VMT on gas tax or emissions.



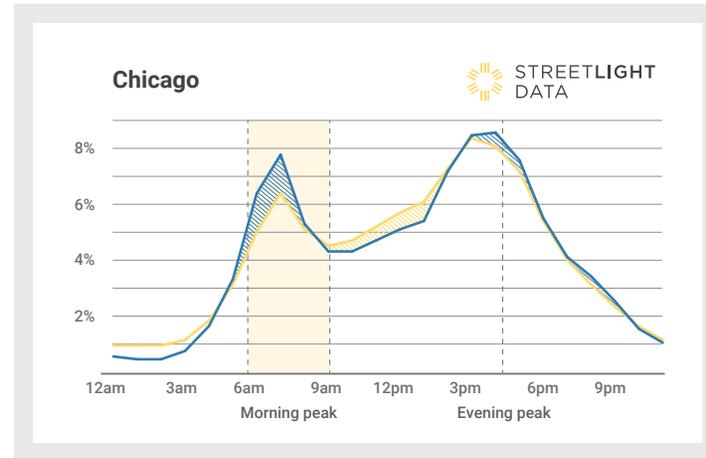
[streetlightdata.com/VMT-monitor](https://streetlightdata.com/VMT-monitor)



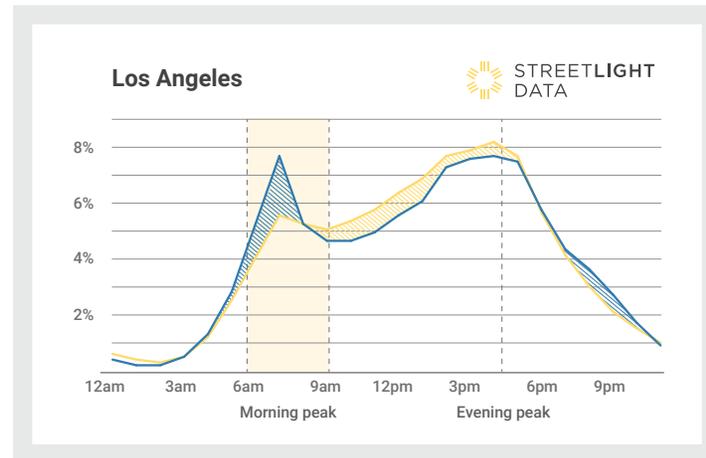
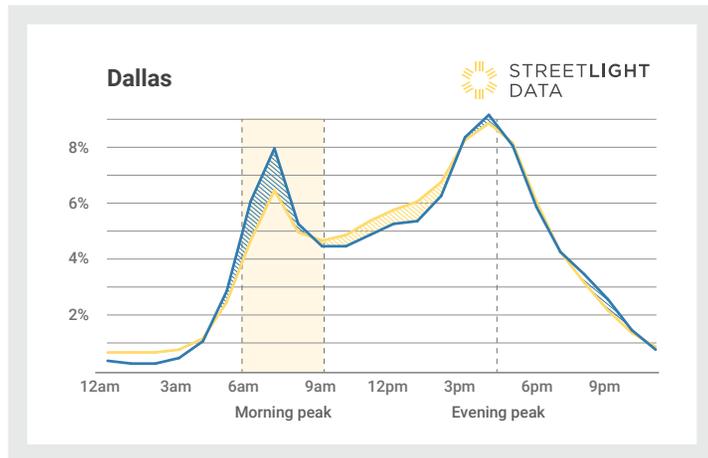
### III. COMMUTING TRENDS CONTINUE TO EVOLVE

Our previous analysis of hourly travel in five major U.S. metro areas revealed the death of morning rush hour. Instead of the typical sharp morning peak travel, followed by a drop and then an afternoon peak, we saw weekday traffic building gradually toward a more sustained afternoon high.

This remained true for the original metros we studied, which still showed a decrease in morning traffic and a “peak-spreading” tendency in the afternoons. This new “Rush Afternoon” persisted in many states during the pandemic.



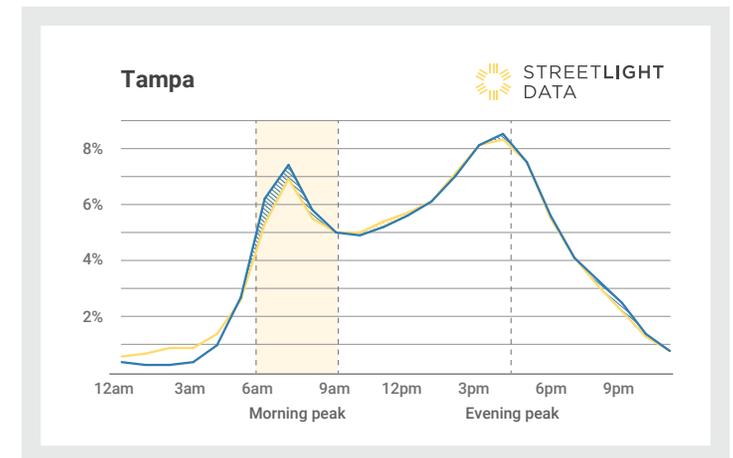
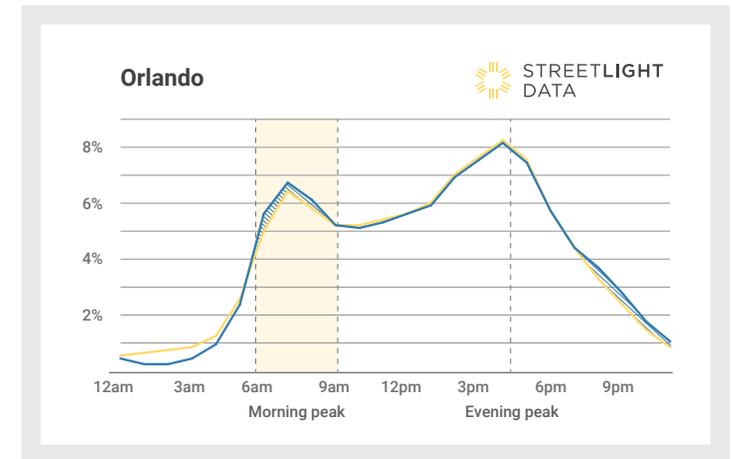
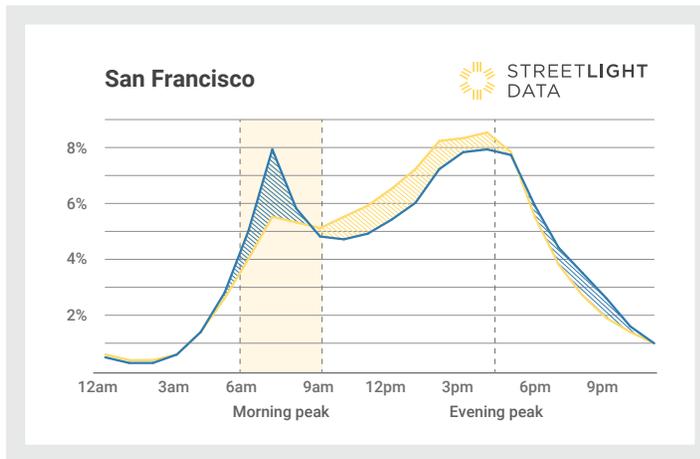
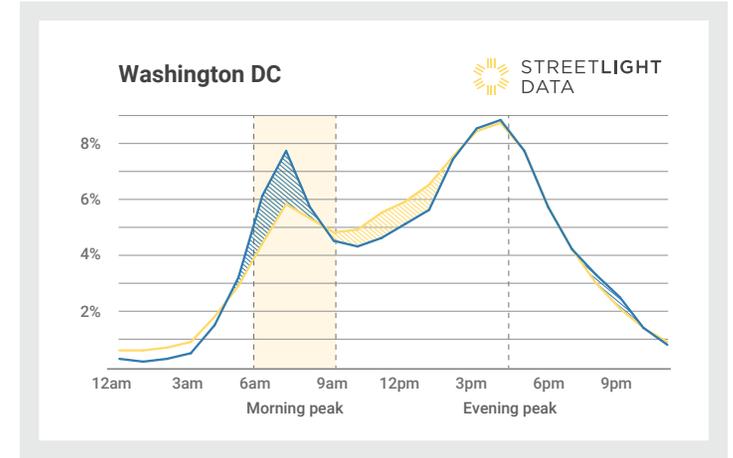
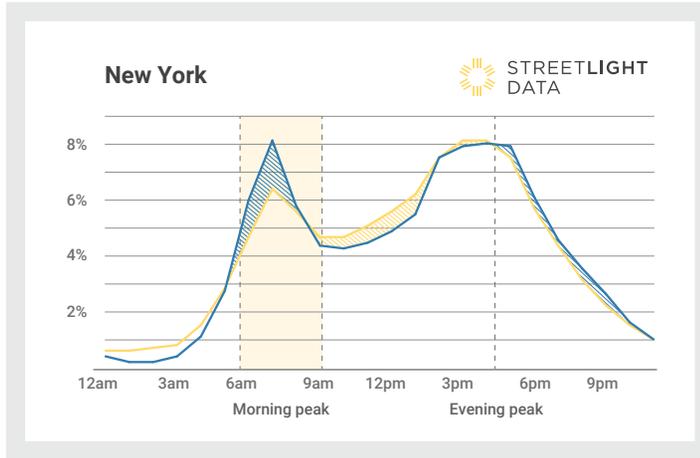
■ February 2020  
■ February 2021



Additional U.S. metro areas on the next page >>

February 2020

February 2021



We see an exception for two Florida cities that have rebounded much more than others analyzed. In our analysis, Tampa and Orlando were already returning to a more traditional daily traffic pattern by February this year. This is a warning sign that other cities may soon follow suit, as remote work gradually gives way to office commutes.

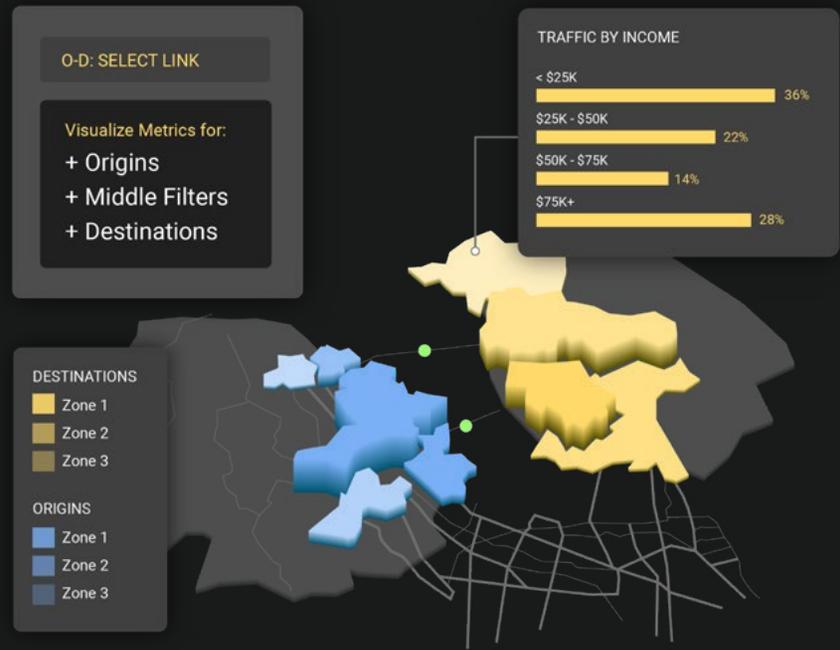
Many transportation planners hoped to preserve the pandemic's low VMT as the economy recovers. But these Florida cities indicate that this isn't likely without concerted efforts by local policy makers and businesses.

# Get comprehensive data to measure transportation equity

Get demographic metrics for Origin-Destination analyses, including race and income, to measure impact across populations and neighborhoods.



[streetlightdata.com/social-equity](https://streetlightdata.com/social-equity)



## IV: SPOTLIGHT ON SOCIAL EQUITY

In the last COVID Transportation Trends eBook, we focused on using mobility data overlaid with demographics to understand street activity levels in New York City -- focusing on neighborhoods that disproportionately represented essential workers. This time, we traveled to Los Angeles to examine how the pandemic impacted local businesses in L.A.'s neighborhoods.

Scientists at the UCLA Center for Neighborhood Knowledge led by Research Professor Paul Ong used location data to analyze foot traffic to restaurants and retail corridors in several neighborhoods across Los Angeles County. The report compares behavior in ethnic areas vs. other *comparison* neighborhoods,<sup>1</sup> from February through September 2020.

Figure 4 illustrates the impact on daily vehicle traffic counts of successive shelter-in-place driven closures (indicated by solid lines) and partial re-openings (dotted lines) across L.A. County.

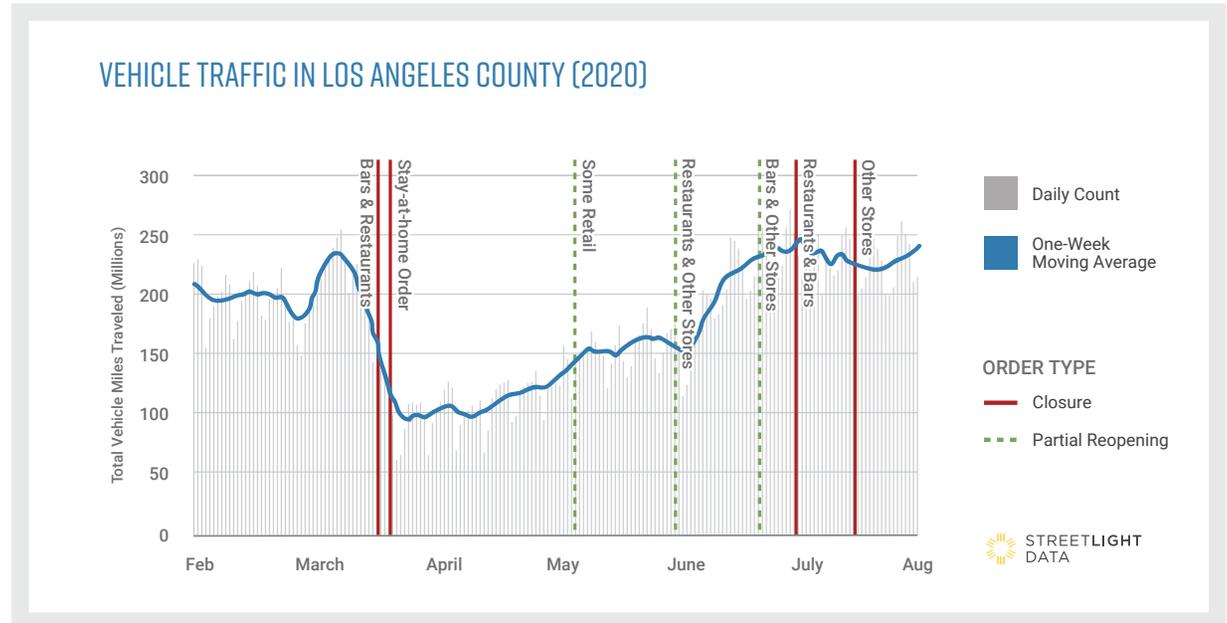


Figure 4: L.A. County daily vehicle traffic counts (blue line) rise and fall in response to stay-at-home orders and business closures (red bars) and partial re-openings (green dotted lines).

<sup>1</sup> UCLA Center for Neighborhood Knowledge, COVID-19 Impacts on Minority Businesses and Systemic Inequality Report

It is followed by Figure 5, showing the change in non-chain restaurant foot traffic, differentiated by ethnic corridors (in Chinatown, Leimert Park and Boyle Heights) vs. comparison neighborhood corridors.

The detailed analysis, available on the UCLA Luskin School website, reveals that ethnic corridors performed worse than their counterparts, with Chinatown showing the steepest decline in commercial activity.

The study includes data-driven insights that could impact equitable pandemic assistance and recovery programs, otherwise unable to provide sufficient assistance if conducted broadly on a location-independent basis.

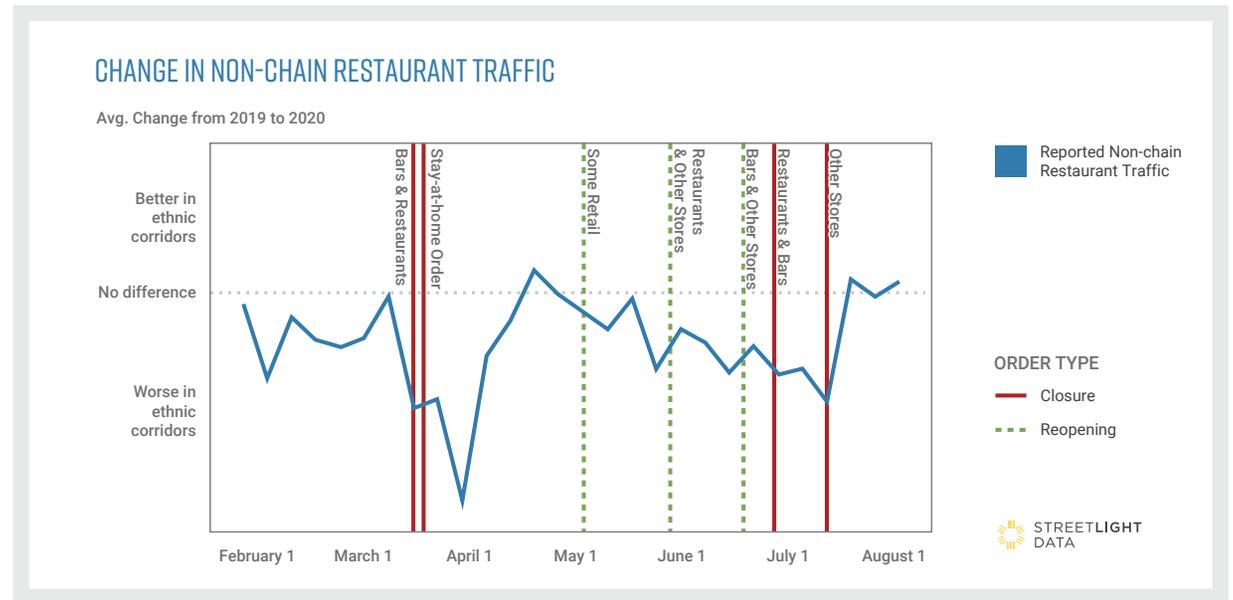


Figure 5: Change in non-chain restaurant traffic in ethnic vs. comparison corridors

## CONCLUSION

The trends covered in this report wouldn't have been identifiable without the location-based services (LBS) data we used to uncover them. LBS data is a powerful tool that can replace last year's models and last month's outdated sensor-data snapshots.

Creating comprehensive, geographically granular reports within minutes using StreetLight InSight® allows transportation agencies to form and test hypotheses quickly, freeing resources to solve problems instead of figuring out what the problems are. We invite you to visit [streetlightdata.com/agencies](https://streetlightdata.com/agencies) for COVID pandemic examples of agencies doing just that.

Post-pandemic transportation is still shifting quickly, and we have the data to help you stay effective.



We invite you to peruse these multimode “essentials for everyday” traffic analyses further on our website at

[streetlightdata.com/  
transportation-metrics](https://streetlightdata.com/transportation-metrics)

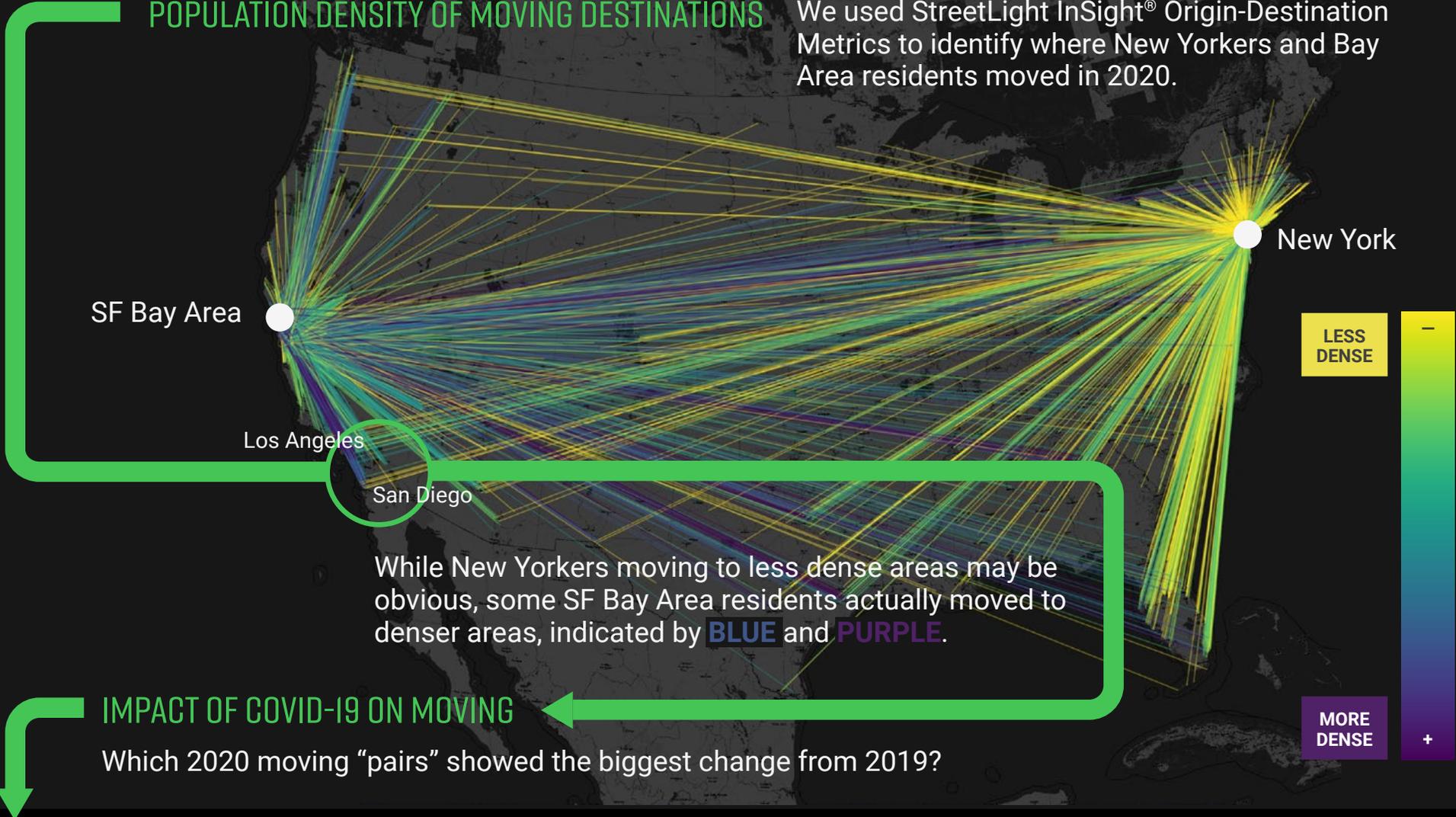
# Americans Are Seeking Space:

## Where Did U.S. City Dwellers Move in 2020?



### POPULATION DENSITY OF MOVING DESTINATIONS

We used StreetLight InSight® Origin-Destination Metrics to identify where New Yorkers and Bay Area residents moved in 2020.



SF Bay Area

Los Angeles

San Diego

New York

LESS DENSE -

MORE DENSE +

While New Yorkers moving to less dense areas may be obvious, some SF Bay Area residents actually moved to denser areas, indicated by **BLUE** and **PURPLE**.

### IMPACT OF COVID-19 ON MOVING

Which 2020 moving "pairs" showed the biggest change from 2019?

## What about the U.S. Top 25?

[READ THE BLOG](#)

[streetlightdata.com/moving-2020](https://streetlightdata.com/moving-2020)



# STREETLIGHT

Big Data for Mobility

StreetLight Data pioneered the use of Big Data analytics to help transportation professionals solve their biggest problems. Applying proprietary machine-learning algorithms to over four trillion spatial data points over time, StreetLight measures diverse travel patterns and makes them available on-demand via the world's first SaaS platform for mobility, StreetLight InSight®. From identifying sources of congestion to optimizing new infrastructure to planning for autonomous vehicles, StreetLight powers more than 6,000 global projects every month. For more information please visit:

[streetlightdata.com](https://streetlightdata.com)