Metromile

Data Drivers

Two Years Later: What Happened On Our Roads?

March 2022 Edition

In October, we took a look at how rush hour, school shuttling, and mid-day errands had changed as driving bounced back from its early-COVID slump—thanks to Metromile's unique visibility into traffic patterns and driver habits.

Now, a full two years into the pandemic and with another wave come and gone, we're taking a wider view of driving during the entire pandemic to date. How can we quantify the full effects of such a dramatic and sizable trend? What, precisely, has been the impact for consumers and for our communities? Driving less often means saving on gas, of course, but it also means saving on less immediately apparent costs: depreciation, accidents, greenhouse gas emissions, and more.

(And, near and dear to our heart, drivers taking advantage of pay-per-mile insurance saw their insurance bill go down in lockstep with their driving.)

At Metromile, we use telematics data to price car insurance fairly and keep roads safe. That same data offers unique insights into the impact of the pandemic in each of these categories of expense. This report includes findings from six major metros: **Seattle, Portland, San Francisco, Los Angeles, Phoenix, and Chicago.** It compares and contrasts the impact of weather, regulation, local attitudes, and more, and ultimately quantifies the money saved, accidents avoided, and emissions reduced as a result of driving habits during the pandemic.

How We Did It

By examining the rich data provided by nearly 100,000 Metromile customers, we can precisely measure the millions and millions of miles driven by our book of business over the past two years. Our data scientists compared this observed driving behavior to a trendline built from pre-pandemic driving data—a hypothetical that shows what would have been in a world without COVID-19.

Using this insight into Metromile drivers' habits as a starting point, we used population figures to estimate the total drop in mileage when accounting for all drivers in each metro area. After that, we used publicly available information and conventional multipliers to quantify savings across several categories, arriving at final "savings" in five categories:

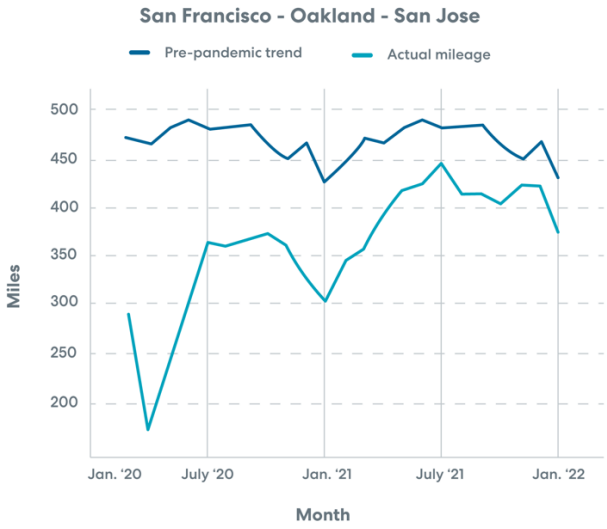
- Gallons of fuel
- Driving expenses including maintenance, depreciation, etc.
- Insurance premiums (if paying per mile)
- Accidents
- Greenhouse gas emissions

The findings surprised us. It wasn't a shock to find a large reduction in driving across the board, of course. But we wouldn't have predicted just how much of... well, everything... a dip in driving impacts. The numbers below have a *lot* of commas. We were also surprised to learn how much the patterns from each metro differed, perhaps as a result of weather, regulations, seasonal patterns, local attitudes, and other factors. And the bottom-line results—the dollars, damage, and emissions saved—are quite large, driving home both the astonishing impact of the pandemic and the sizable amount of resources driving consumes in our day-to-day lives.

San Francisco

Key Takeaways

- Remember those ultra-clear views of the bay in 2020? That's thanks to a reduction of more than 4 million metric tons of greenhouse gasses as San Franciscans put down their car keys.
- San Francisco's more cautious approach overall to the pandemic resulted in far less driving compared to other west coast cities, though driving and traffic patterns rebounded sharply in early 2021.
- Today, the Bay Area is still well short of pre-pandemic mileage, perhaps reflecting permanent moves to remote or hybrid work.



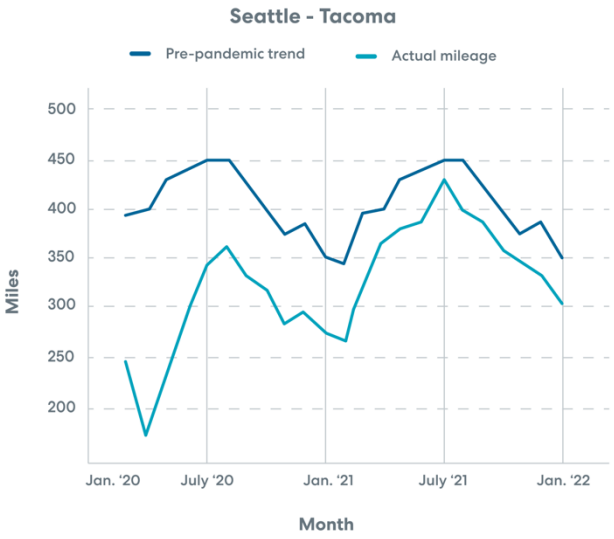
4,767,110	2,430	11,586,126,787
Vehicles in metro area	Miles reduced per vehicle	Total miles saved

Fuel saved (@ 24.2 mpg)	478,765,570 gallons
Driving expenses reduced (depreciation, maintenance, gas, etc. @ $0.56/mile)	$63,688,590
Pay-per-mile premiums reduced (@ $.0701/mile)	$8,151,758
Accidents prevented (@ 461 per 100 million miles)	53,377
Greenhouse gas emissions reduced (@ 20 lbs/gallon)	4,343,333 metric tons

Seattle

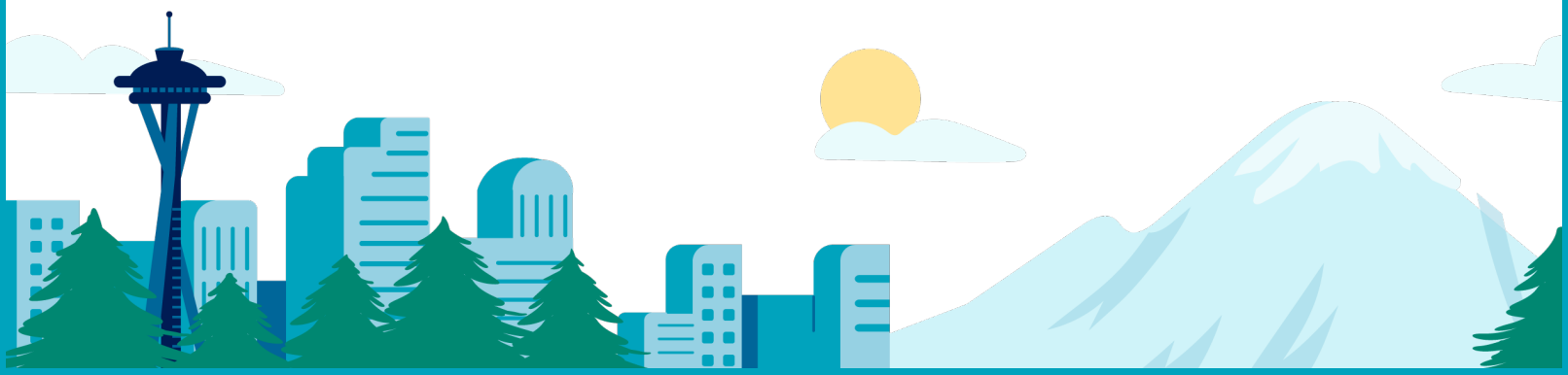
Key Takeaways

- Seattleites were slightly more anxious to get back on the road than drivers in Portland; their current driving has come closer to pre-pandemic baseline.
- 276 million gallons of gas *weren't* burned in Seattle over the past two years, translating not just into significant monetary savings but also 2.5 million tons of greenhouse gases avoided.
- Seasonal trends are strong in Seattle, not deviating much from their expected shape during the pandemic, even while overall driving was lower.



3,477,132	1,927	6,701,401,975
Vehicles in metro area	Miles reduced per vehicle	Total miles saved

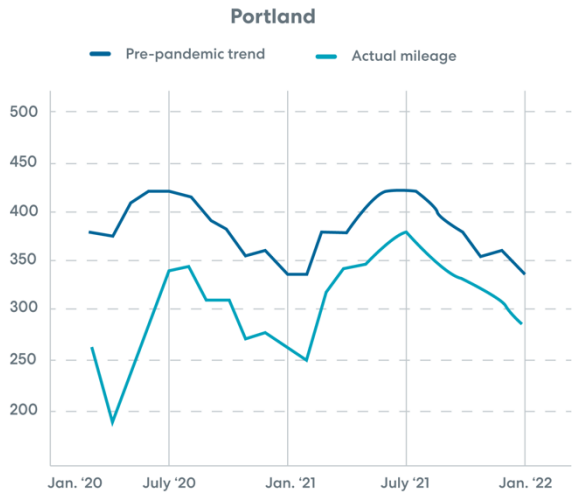
Fuel saved (@ 24.2 mpg)	276,917,437 gallons
Driving expenses reduced (depreciation, maintenance, gas, etc. @ $0.56/mile)	$36,788,057
Pay-per-mile premiums reduced (@ $.0681/mile)	$4,555,043
Accidents prevented (@ 570 per 100 million miles)	38,171
Greenhouse gas emissions reduced (@ 20 lbs/gallon)	2,512,179 metric tons



Portland

Key takeaways:

- Portlanders drove a bit less on average than those in our other five metros.
- Portlanders' post-pandemic habits stuck a little more than their Seattle counterparts, despite having similar trendlines. Throughout the pandemic, and even today, the reduction in driving is more dramatic in Portland.
- Portland drivers' habits paid off; they've collectively saved more than $21 million in driving expenses so far.



2,185,173
Vehicles in metro area

1,785
Miles reduced per vehicle

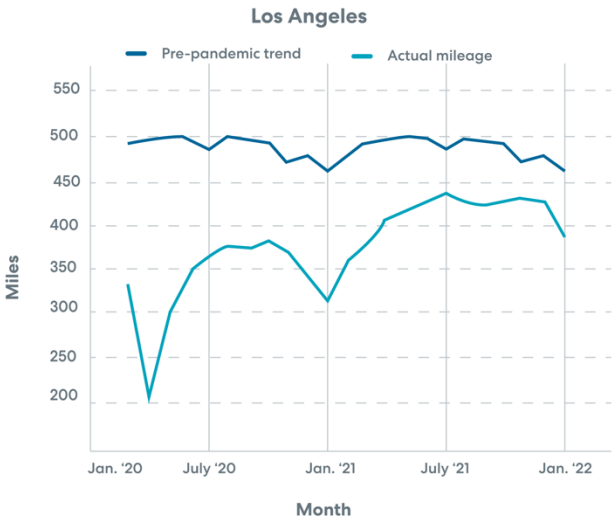
3,901,287,128
Total miles saved

Fuel saved (@ 24.2 mpg)	161,210,212 gallons
Driving expenses reduced (depreciation, maintenance, gas, etc. @ $.056/mile)	$21,480,251
Pay-per-mile premiums reduced (@ $.0762/mile)	$2,971,835
Accidents prevented (@ 544 per 100 million miles)	21,239
Greenhouse gas emissions reduced (@ 20 lbs/gallon)	1,462,489 metric tons

Los Angeles

Key takeaways:

- Despite its reputation, Los Angeles drivers reduced their mileage dramatically, and this reduction continued well into the pandemic.
- Given LA's high number of drivers, this dip had gigantic outcomes: over a billion gallons of gas and 10 million tons of greenhouse gasses.
- Pandemic trends in LA followed seasonal patterns observed in other markets (for example, a pronounced dip around the holidays) even though those trends weren't as apparent in pre-pandemic driving.
- Today, LA driving remains low compared to pre-pandemic trends, perhaps suggesting a more permanent shift to remote work for Angelenos.



10,336,551
Vehicles in metro area

2,595
Miles reduced per vehicle

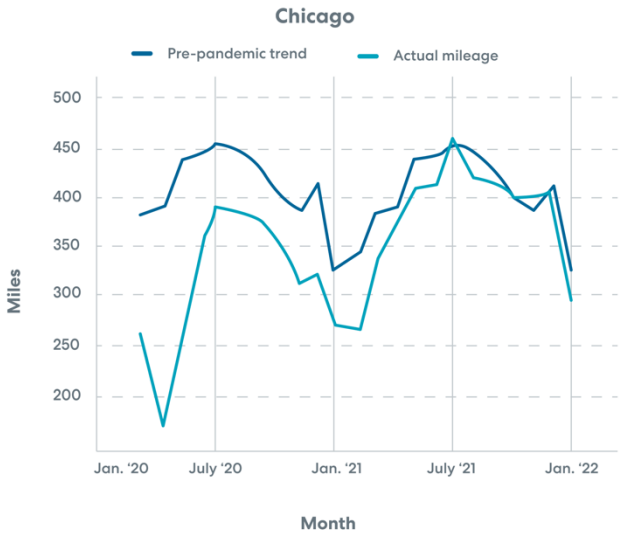
26,821,805,458
Total miles saved

Fuel saved (@ 24.2 mpg)	1,108,339,069 gallons
Driving expenses reduced (depreciation, maintenance, gas, etc. @ $.056/mile)	$147,502,583
Pay-per-mile premiums reduced (@ $.0916/mile)	$24,911,088
Accidents prevented (@ 494 per 100 million miles)	132,366
Greenhouse gas emissions reduced (@ 20 lbs/gallon)	10,054,786 metric tons

Chicago

Key takeaways:

- Chicago drivers were far more anxious to get back to it than other metros. After the initial slump, their gap was smaller, and they hit pre-pandemic levels of driving months earlier than elsewhere.
- Chicago reached their pre-pandemic trend by summer 2021—and then some! Chicago's driving trends have closely matched pre-pandemic trends ever since.
- Chicago driving has higher seasonal variation than our other metros, presumably due to the harsh winter. Pandemic driving followed this same pattern.



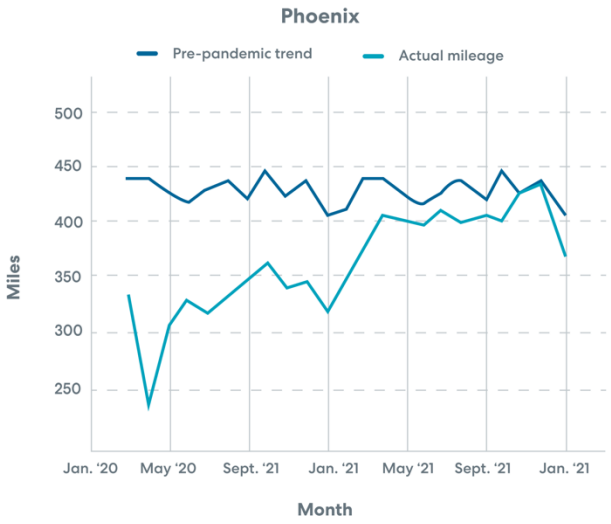
5,382,368	1,297	6,989,365,779
Vehicles in metro area	Miles reduced per vehicle	Total miles saved

Fuel saved (@ 24.2 mpg)	288,444,867 gallons
Driving expenses reduced (depreciation, maintenance, gas, etc. @ $.056/mile)	$38,430,108
Pay-per-mile premiums reduced (@ $.0653/mile)	$4,575,013
Accidents prevented (@ 551 per 100 million miles)	38,462
Greenhouse gas emissions reduced (@ 20 lbs/gallon)	2,616,755 metric tons

Phoenix

Key takeaways:

- The initial reduction in driving persisted much longer in Phoenix before starting to bounce back.
- Phoenix drivers saved a bundle by driving less—nearly a quarter billion gallons of gas and more than $30 million in expenses.
- Phoenix was one of just two markets to return to pre-pandemic levels of driving, doing so just before the Omicron surge. (Though as we've explored previously, traffic patterns have changed quite a bit.)



3,836,119	1,478	5,667,864,917
Vehicles in metro area	Miles reduced per vehicle	Total miles saved

Fuel saved (@ 24.2 mpg)	234,209,294 gallons
Driving expenses reduced (depreciation, maintenance, gas, etc. @ $0.56/mile)	$31,264,370
Pay-per-mile premiums reduced (@ $.0722/mile)	$4,143,009
Accidents prevented (@ 541 per 100 million miles)	30,686
Greenhouse gas emissions reduced (@ 20 lbs/gallon)	2,124,733 metric tons

Sources

1. https://afdc.energy.gov/data/10310
2. https://www.fueleconomy.gov/feg/contentincludes/co2_inc.htm
3. https://www.valuepenguin.com/auto-insurance/car-ownership-statistics
4. https://oaaa.org/Portals/0/Public%20PDFs/OAAA%202021%20NIELSEN%20DMA%20Rankings%20Report.pdf
5. Metromile proprietary data