REPORT

Southern California Association of Governments
April 4, 2024

To: Transportation Committee (TC)

EXECUTIVE DIRECTOR'S APPROVAL

From: Krista Yost, Assistant Regional Planner
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Subject: Transportation Trends Update

Kome Ajise

RECOMMENDED ACTION:
Receive and File

STRATEGIC PLAN:
This item supports the following Strategic Plan Goal 3: Be the foremost data information hub for the region.

EXECUTIVE SUMMARY:
Considering the COVID-19 pandemic's enduring impacts on travel behavior, SCAG staff plan to provide the Transportation Committee with regular updates on transportation trends, including the impacts from remote work. Current analysis shows that transit/rail ridership has improved over the course of the past year. Overall, the region's bus ridership is currently 17 percent below what it was pre-pandemic. For LA Metro, the region's largest transit operator, bus ridership has recovered more than rail ridership (down 11 percent vs. 46 percent, respectively, January 2019 vs. 2024), while Metrolink's rail ridership is currently 52 percent lower than it was pre-pandemic at this time. Vehicular travel has recovered at a more robust rate. For the last several years, vehicle miles traveled (VMT), vehicle hours of delay (VHD), and truck VMT levels on the State Highway System (SHS) in the region have hovered below pre-pandemic baseline levels. However, in February 2024, overall VMT eclipsed the pre-pandemic baseline for the first time since the onset of the pandemic, and truck VMT showed a nearly full recovery towards its pre-pandemic baseline in February 2024. The staff report that follows provides a more detailed breakdown on these transportation trends.

BACKGROUND:
The COVID-19 pandemic has had dramatic impacts on travel behavior across the country and in the SCAG region. Though we are now four years out from the pandemic's start, some transportation system impacts endure.

Data Sources

For transit, SCAG staff gathered and summarized data for the region utilizing the National Transit Database (NTD),[1] administered by the Federal Transit Administration (FTA). NTD is the primary source for information and statistics on transit systems in the United States. The NTD's Complete Monthly Ridership Module was utilized to assess transit ridership trends in the region, specifically for bus and rail modes. However, like Caltrans Performance Measurement System (PeMS),[2] the NTD has known limitations. For instance, there exists a substantial time lag, often spanning several months, between the FTA's data collection and the availability of processed and validated data on the NTD website. Additionally, some data may be missing for the most recent month if a transit agency neglected to report data on time. These delays make it difficult to provide immediate and current insights.

SCAG staff also sourced transit/rail data from the Los Angeles County Metropolitan Transportation Authority's (LA Metro or Metro) Interactive Estimated Ridership Statistics dashboard,[3] which provides monthly ridership statistics, line level trends, and historical information for Metro's bus and rail systems. Staff specifically utilized Metro's monthly all bus (both directly operated and purchased transportation) and rail ridership data. Additionally, staff obtained monthly rail ridership data, delineated by line, from the Southern California Regional Rail Authority (Metrolink) to evaluate trends in commuter rail ridership. Monthly ridership figures for Metrolink were estimated based on ticket sales, utilizing average trip rates.

For vehicular travel, SCAG staff gathered and summarized data for the region utilizing the PeMS. PeMS data is collected by physical roadside measurement devices that are situated along various stretches of the SHS. California currently hosts 46,873 PeMS detectors and tracks data for 41,236 directional mainline miles of SHS roadway. Within the SCAG region, PeMS relies upon 22,157 roadside detectors and tracks vehicle data travel metrics across 7,595 miles directional mainline miles of SHS roadway. PeMS data has known limitations. To start, it only reflects roadway conditions on California's SHS, and does not provide insight into travel on local roads, streets, and arterials. Also, at any given time, as many as 50 percent or more PeMS roadside sensors may be nonfunctional within a given county due to issues like construction or malfunctioning PeMS roadside sensors. Essentially, PeMS provides a high-level accounting of SHS travel trends. One additional limitation for the SCAG region is that PeMS does not have roadside sensors in Imperial County. However, since the intention of this report is to provide the most current information, PeMS remains the most appropriate data source that is available for this analysis, as it offers virtually real-time data on vehicle miles traveled (VMT) and vehicle hours of delay (VHD) for most of the SCAG region.

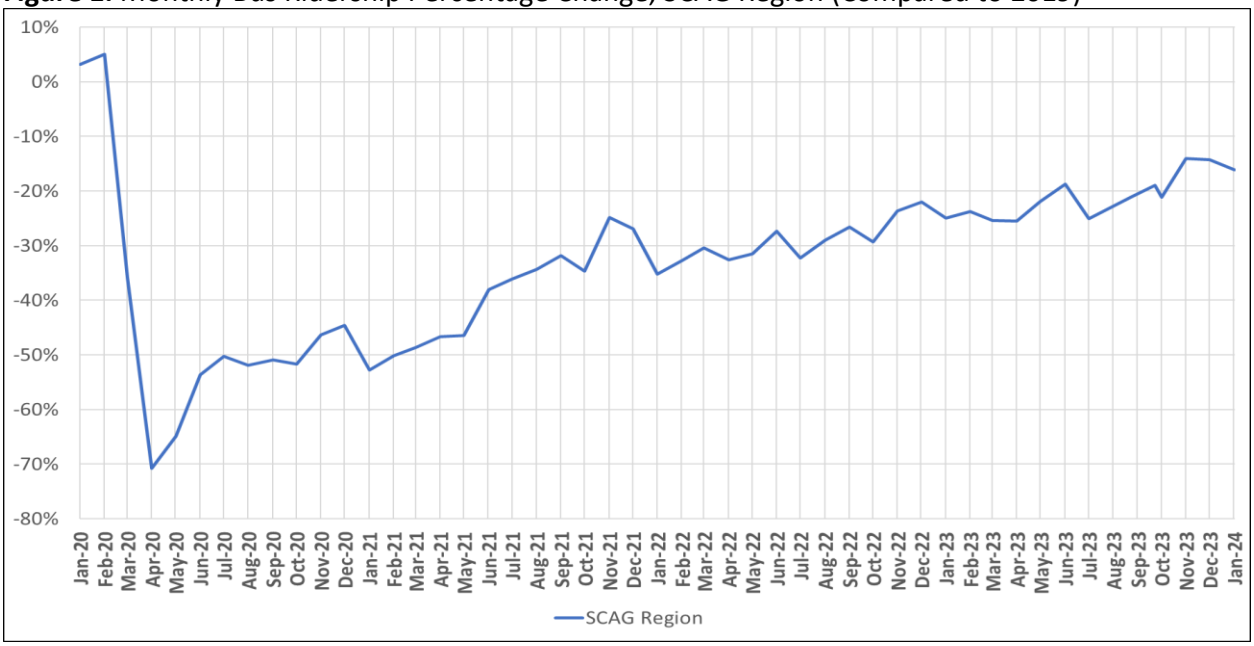
[1] Federal Transit Administration (FTA). National Transit Database (NTD). https://www.transit.dot.gov/ntd
[2] California Performance Measurement System (PeMS). https://pems.dot.ca.gov
[3] Los Angeles County Metropolitan Transportation Authority (Metro). Interactive Estimated Ridership Stats. https://isotp.metro.net/MetroRidership/YearOverYear.aspx

For remote work trends, SCAG staff gathered and summarized data utilizing the Survey of Working Attitudes and Arrangements (SWAA),[4] administered by WFH Research. SWAA data is collected through monthly online surveys from individuals aged 20 to 64 across the nation. SWAA is a relatively new data source with inherent limitations, including potential under-sampling, the absence of data for Imperial County, and a focus on ensuring national representativeness by using reweighting techniques based on age, sex, education, and earnings. Additionally, the SWAA's establishment in May 2020 limits historical data availability, posing challenges in accurately estimating pre-pandemic levels. To address these limitations, SCAG staff will explore methods to potentially reweight the data.

Overall Transit/Rail Trends

Figures 1 and 2 and **Table 1** below reflect NTD information. These graphics demonstrate that bus ridership levels have improved steadily over the course of the past year, though they are still below their pre-pandemic levels.

Figure 1. Monthly Bus Ridership Percentage Change, SCAG Region (Compared to 2019)



Source: National Transit Database, https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release, as of January 2024.

[4] WFH Research. Survey of Working Attitudes and Arrangements (SWAA). www.wfhresearch.com

Table 1. Bus Ridership Change by Operator (Compared to 2019)

Bus Operator	FY23 Qtr3 Jan-Mar	FY23 Qtr4 Apr-Jun	FY24 Qtr1 Jul-Sep	FY24 Qtr2 Oct-Jan*
Anaheim Transportation Network	-10%	-8%	-7%	-0.3%
Antelope Valley Transit Authority	-46%	-43%	-41%	-28%
Beach Cities Transit (City of Redondo Beach)	-29%	-36%	-33%	-29%
City of Commerce Municipal Buslines	11%	14%	23%	26%
City of Glendale	-46%	-46%	-43%	-44%
City of Los Angeles Department of Transportation	-20%	-18%	-16%	-8%
City of Pasadena	-26%	-30%	-26%	-27%
Culver City Municipal Bus Lines	-41%	-40%	-39%	-34%
Foothill Transit	-34%	-30%	-28%	-20%
Gold Coast Transit	-11%	-7%	-7%	-1%
City of Gardena Transportation Department	-30%	-31%	-39%	-31%
Imperial County Transportation Commission	-12%	-14%	2%	25%
Long Beach Transit	-33%	-29%	-13%	-21%
Los Angeles County Metro	-22%	-20%	-21%	-15%
Montebello Bus Lines	-53%	-54%	-49%	-47%
Norwalk Transit System	-26%	-28%	-24%	-23%
Omnitrans	-43%	-41%	-41%	-37%
Orange County Transportation Authority	-15%	-13%	-9%	-7%
Riverside Transit Agency	-38%	-36%	-32%	-36%
Santa Clarita Transit	-14%	-6%	-4%	-23%
Santa Monica's Big Blue Bus	-37%	-36%	-37%	-31%
SunLine Transit Agency	-36%	-36%	-38%	-38%
Torrance Transit System	-50%	-50%	-51%	-50%
Ventura Intercity Service Transit Authority	-44%	-38%	-35%	-38%
Victor Valley Transit Authority	-49%	-53%	-46%	-32%
TOTAL	-25%	-22%	-22%	-17%

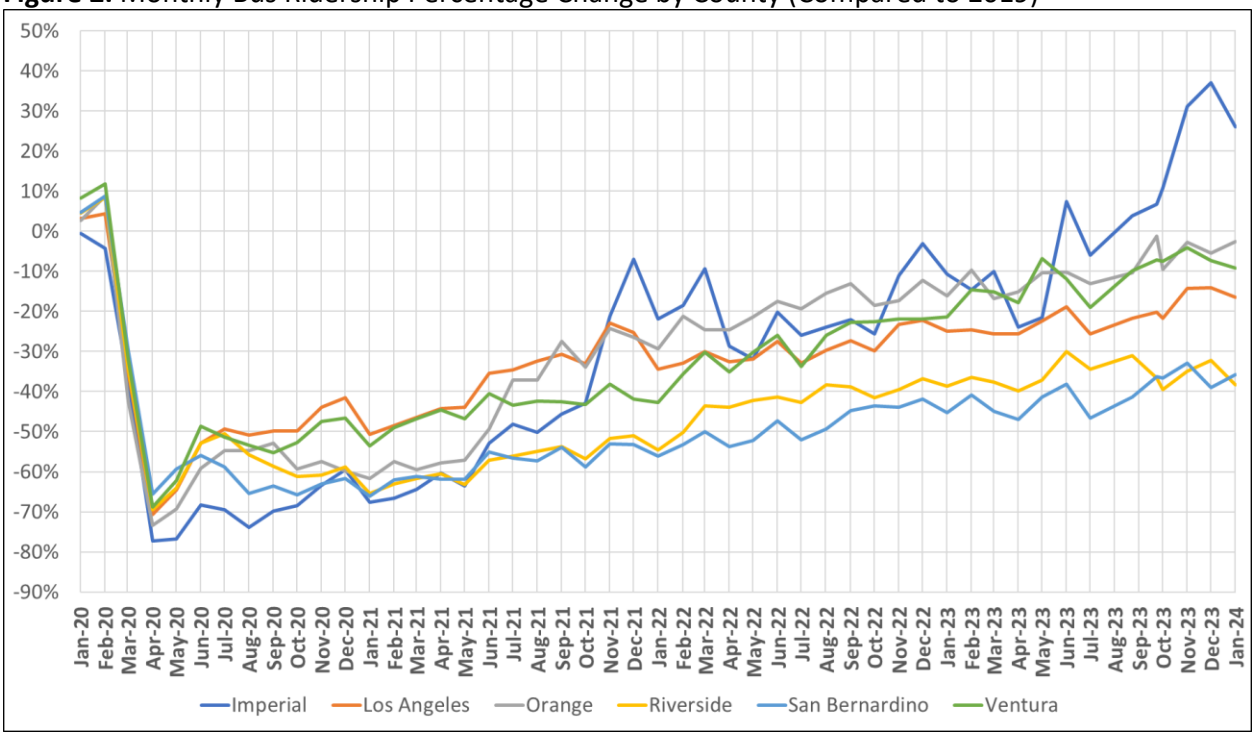
Source: National Transit Database, https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release, as of January 2024. *This data reflects bus ridership change compared to 2019 for specific months rather than fiscal year quarters to allow for the utilization of the most up-to-date data, capturing the latest trends in bus usage.

Most counties in the region have experienced gains in transit ridership over the course of the past year, with Imperial, Ventura, and San Bernardino Counties experiencing the most significant increases. For example, when comparing January 2023 to January 2024, Imperial County shows a 40 percent increase in bus ridership, Ventura County reflects a 25 percent increase, and San

Bernardino reflects a 23 percent increase. Additionally, Orange and Los Angeles Counties show more modest gains of 19 percent and 15 percent, respectively, over the same period. Meanwhile, Riverside County has only experienced a gain of five percent when comparing January 2023 to January 2024. Overall regional bus ridership increased 15 percent during this time period. It is worth noting that the January increases across the board exceed preceding months. For example, bus ridership overall increased 12 percent each when comparing October 2022 to October 2023 and November 2022 to November 2023, and 10 percent when comparing December 2022 to December 2023.

Overall, these trends are better than where the region was in January 2021 when overall transit ridership was down by 53 percent. However, bus ridership remains below pre-pandemic levels for all counties except Imperial County as reflected in **Figure 2** below. In Imperial County, bus ridership is 26 percent above what it was pre-pandemic for the most recent month of data available, January, which is an improvement from preceding months (e.g., Imperial County bus ridership was 11 above pre-pandemic levels in July). As noted earlier, the region's bus ridership levels are currently 17 percent below what they were pre-pandemic.

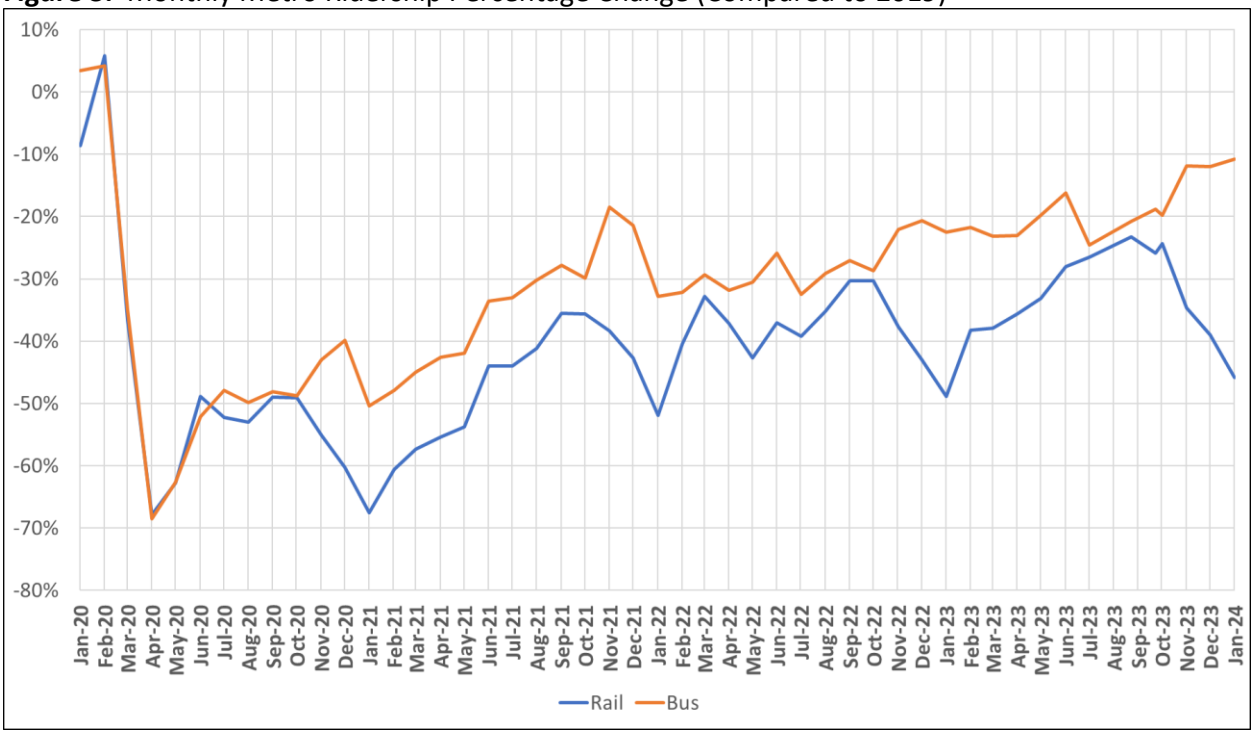
Figure 2. Monthly Bus Ridership Percentage Change by County (Compared to 2019)



Source: National Transit Database, https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release, as of January 2024.

Data reported by Metro for its bus and rail systems through January 2024 is reflected in **Figure 3** below. Metro bus ridership is up by nearly 15 percent in January 2024 compared to January 2023, marking the fourteenth consecutive month of year-over-year bus ridership growth. Metro rail ridership is up by six percent for the same time period. While these trends are better than where the region was in January 2021, they are still below pre-pandemic levels. For example, when comparing January 2019 to January 2024, bus ridership was down 11 percent and rail ridership was down 46 percent.

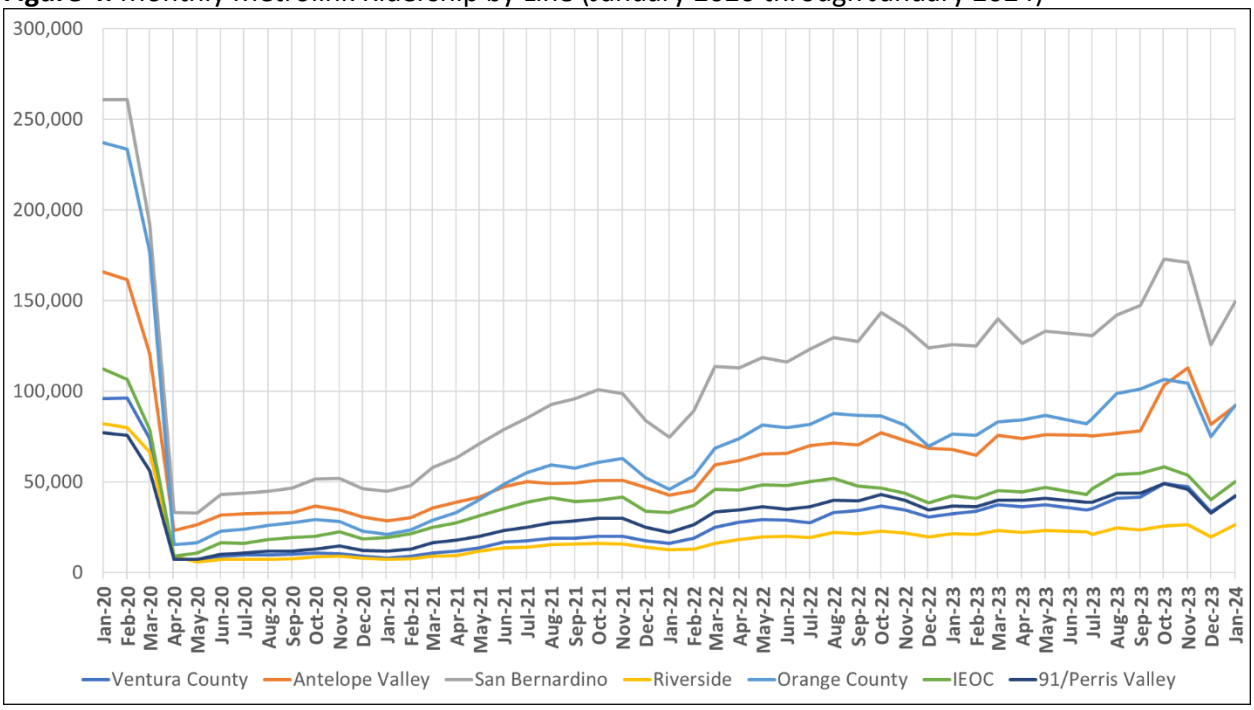
Figure 3. Monthly Metro Ridership Percentage Change (Compared to 2019)



Source: Los Angeles County Metropolitan Transportation Authority, https://isotp.metro.net/MetroRidership/Index.aspx as of January 2024.

Figure 4 below reflects total monthly ridership data reported by Metrolink by line through January 2024. Overall, Metrolink commuter rail ridership is up by approximately 23 percent in January 2024 compared to January 2023, with the Antelope Valley and Ventura County Lines experiencing the most significant increases (36 percent and 31 percent, respectively), and the Riverside (23 percent), Orange County (21 percent), San Bernardino (19 percent), Inland Empire-Orange County (IEOC, 19 percent), and 91/Perris Valley (14 percent) lines reflecting modest to low ridership increases. It is important to note that the January increases for all lines are consistent with the trends observed in preceding months.

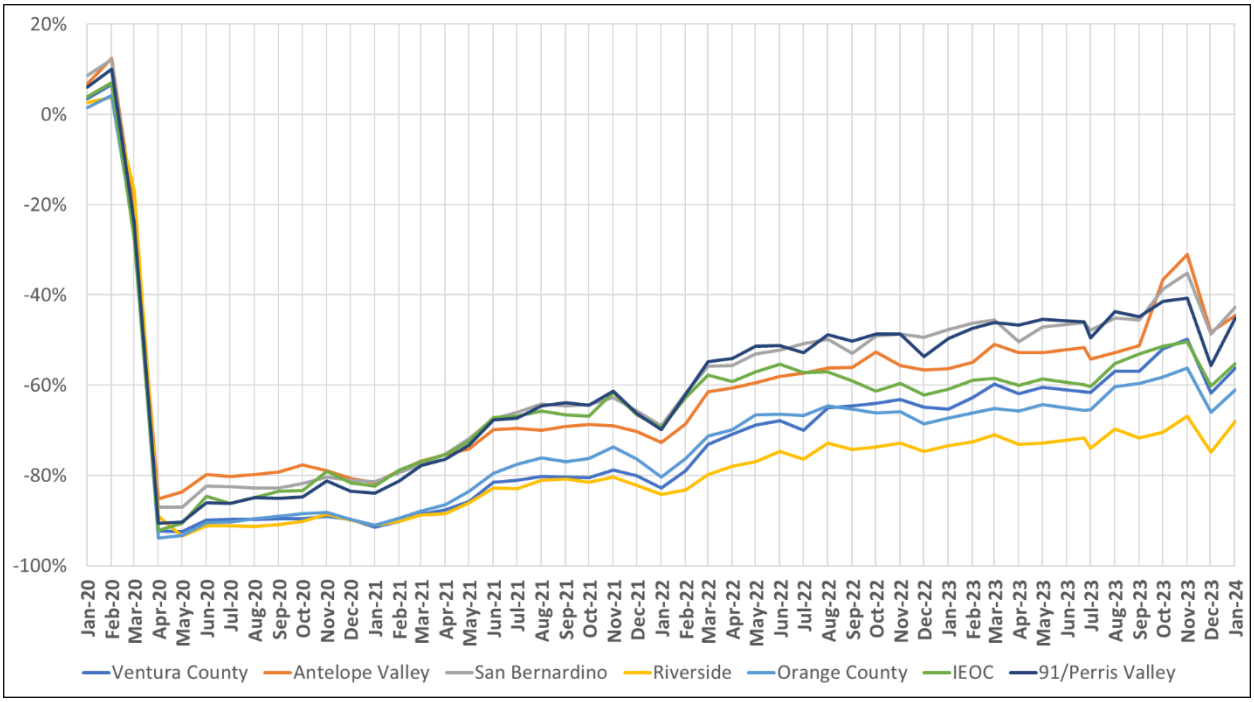
Figure 4. Monthly Metrolink Ridership by Line (January 2020 through January 2024)



Source: Southern California Regional Rail Authority, as of January 2024.

However, total Metrolink ridership is still 52 percent lower than it was pre-pandemic at this time (January 2024 compared to January 2019). Pre-pandemic, 80 percent of Metrolink trips were commute trips. That figure has declined to just over half (52 percent) of total ridership. At the same time, the percentage of non-commute trips has more than doubled, from 20 percent pre-pandemic to currently 48 percent. Metrolink is working to evolve from a primarily commuter-oriented service to one that also serves local travel over much of the day to address pandemic-induced travel behavior changes. **Figure 5**, below, shows trends in monthly Metrolink ridership by line, with findings depicted as percentage changes from line ridership from the same months in 2019.

Figure 5. Monthly Metrolink Ridership Percentage Change by Line (Compared to 2019)

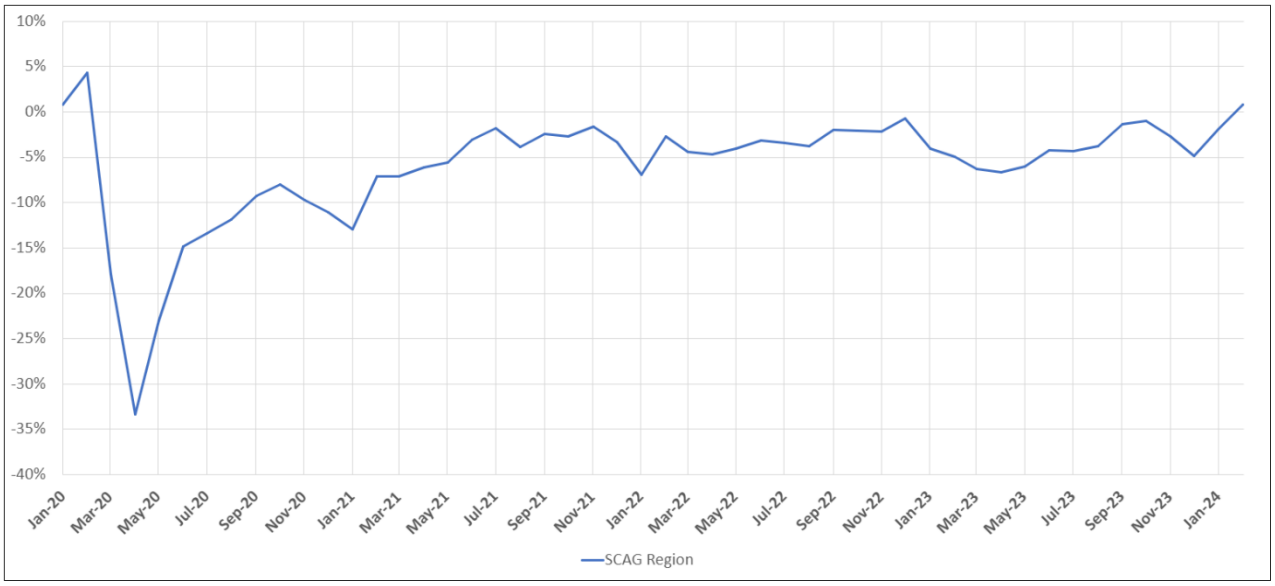


Source: Southern California Regional Rail Authority, as of January 2024.

Overall Vehicular Travel Trends

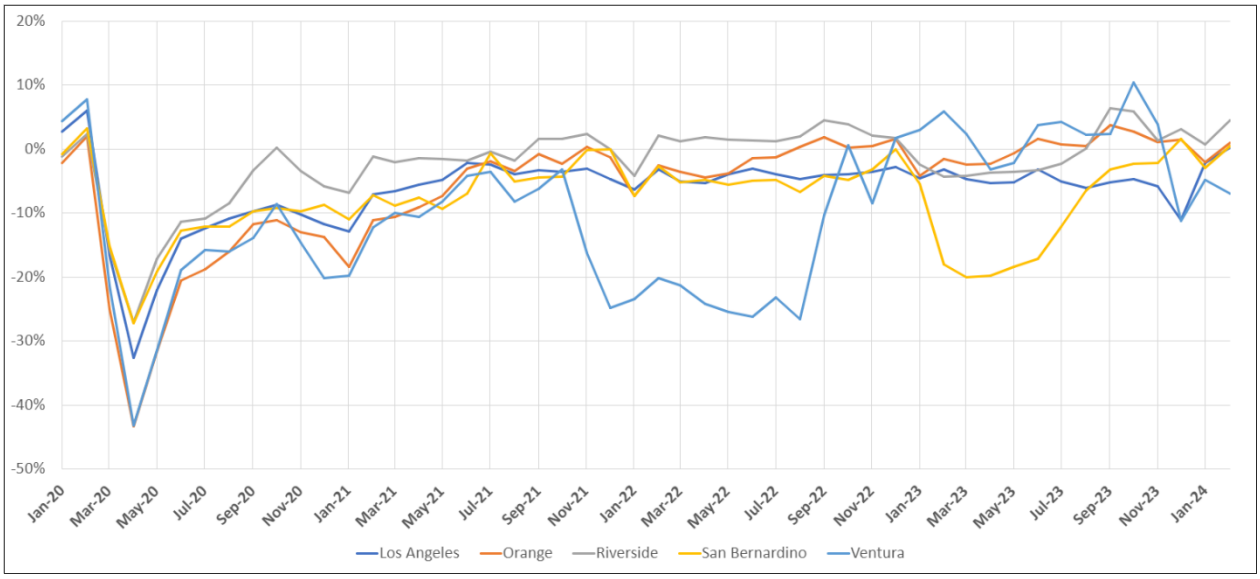
According to data collected and reported through PeMS, VMT levels on the SHS in the SCAG region hovered below pre-pandemic baseline levels since the onset of the COVID-19 pandemic in 2020 through the end of 2023. However, in February 2024, PeMS data indicated that overall regionwide VMT on the SHS eclipsed the pre-pandemic baseline for the first time. **Figures 6** and **7** show monthly VMT totals at the SCAG-region and county-level, respectively, shown as percentage changes from PeMS-reported monthly VMT totals for the same months in 2019.

Figure 6. Monthly VMT Percentage Change, SCAG Region (Compared to 2019)



Source: California Performance Measurement System (PeMS), as of March 2024.

Figure 7. Monthly VMT Percentage Change by County (Compared to 2019)



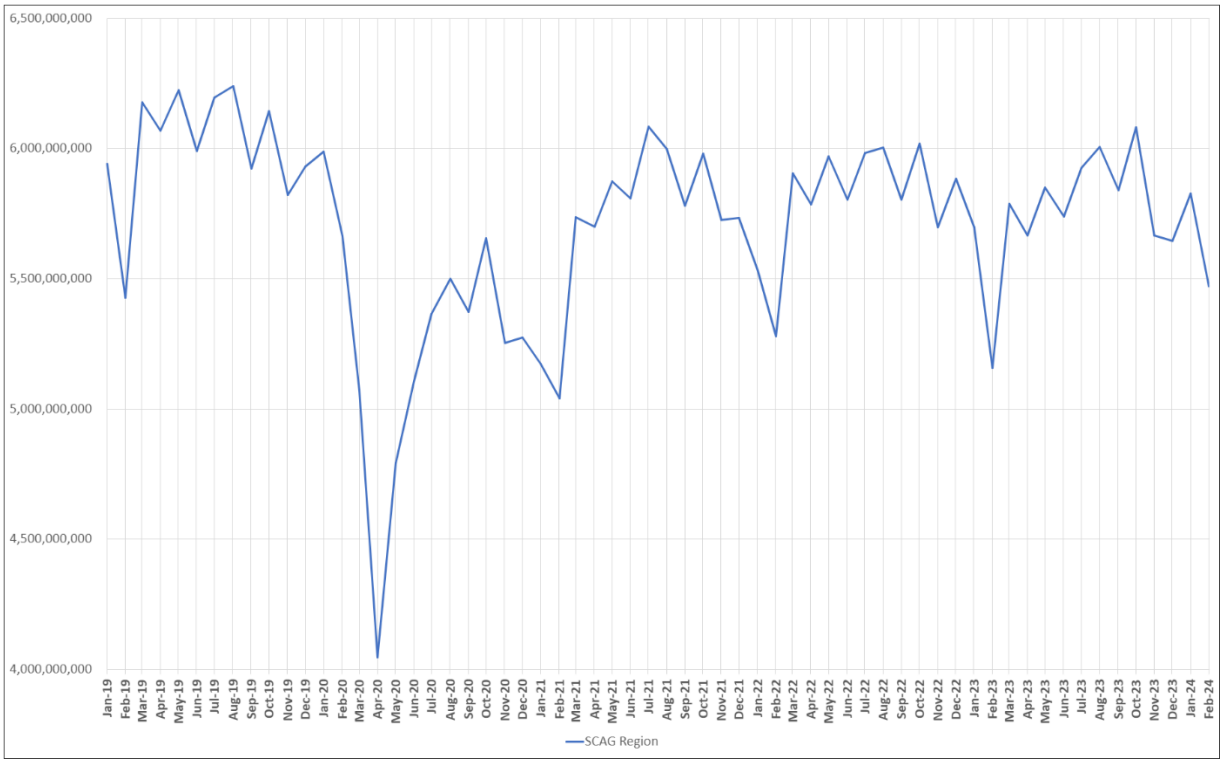
Source: California Performance Measurement System (PeMS), as of March 2024.

As noted in the previous update to the Transportation Committee, county-level VMT trends have varied. Los Angeles, Orange, and Riverside Counties appear roughly consistent with pre-pandemic VMT levels from mid-2021, while Ventura and San Bernardino Counties appear to have experienced

temporary but notable decreases in VMT from pre-pandemic levels between late 2021 and present day. However, as was also noted in prior updates to the Transportation Committee, these temporary deviations from pre-pandemic levels may be the result of roadside construction or malfunctioning PeMS roadside sensors rather than actual VMT declines. Staff are continuing to review county-level data given these apparent anomalies.

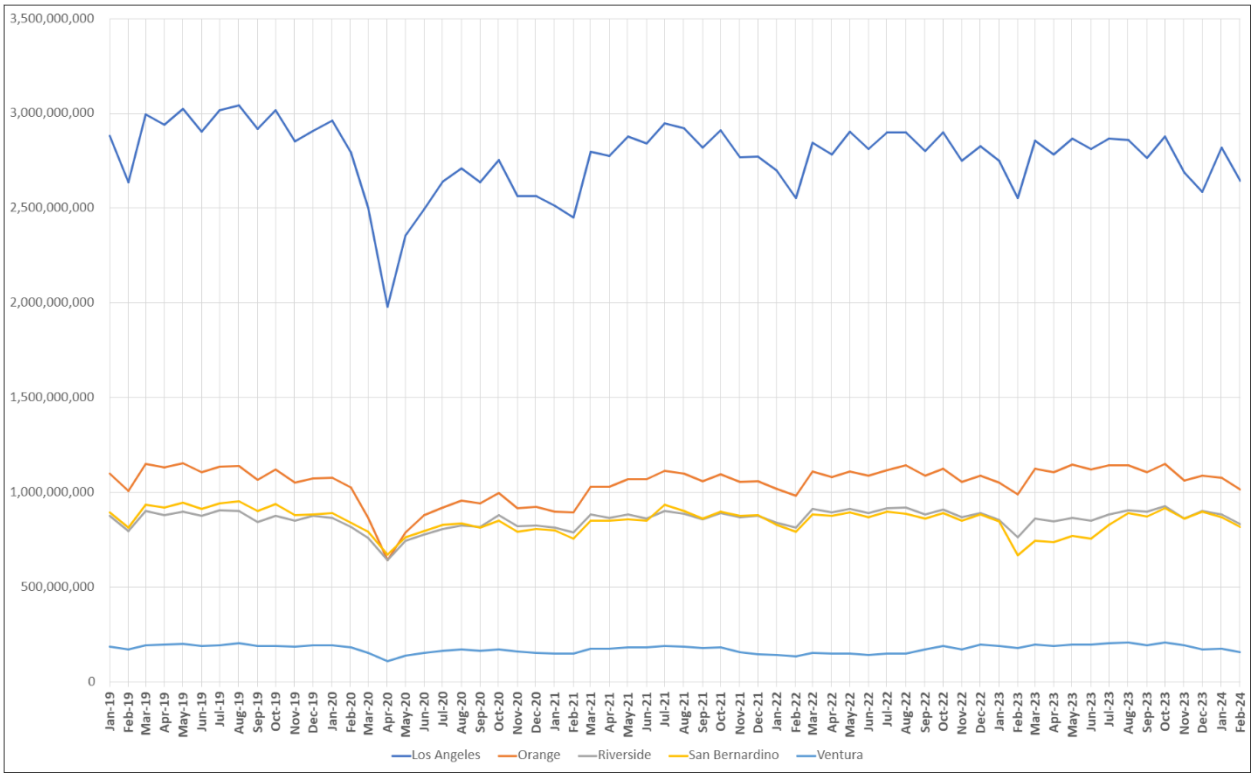
Figures 8 and **9** show monthly VMT totals at the SCAG-region and county-level, respectively, shown as raw monthly VMT totals (in miles).

Figure 8. Monthly VMT, SCAG Region (January 2019 through February 2024)



Source: California Performance Measurement System (PeMS), as of March 2024.

Figure 9. Monthly VMT by County (January 2019 through February 2024)

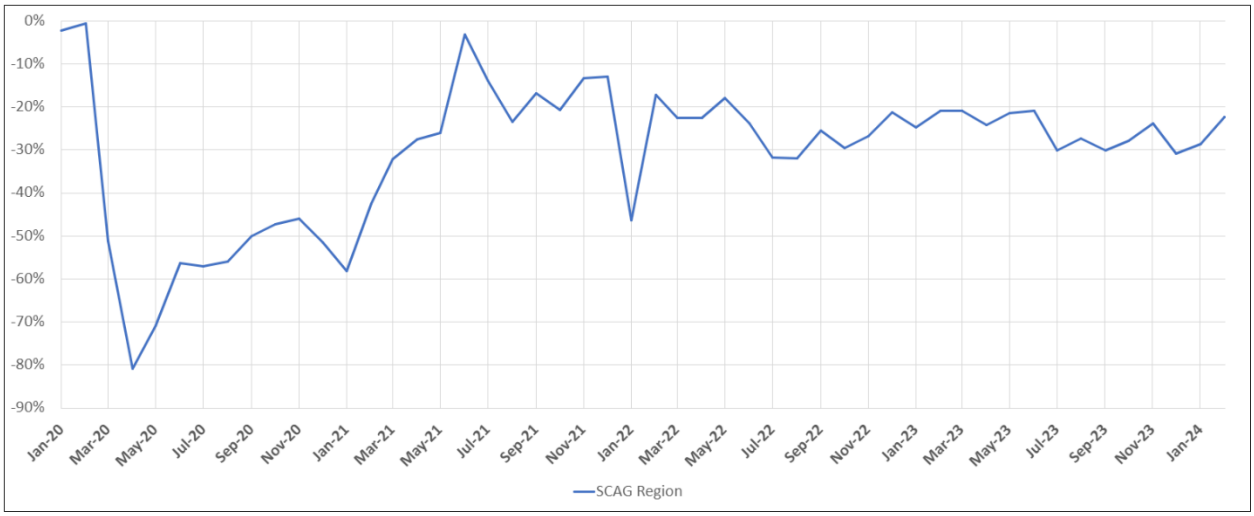


Source: California Performance Measurement System (PeMS), as of March 2024.

According to data collected and reported through PeMS, VHD levels on the SHS in the SCAG region have continued to track well below pre-pandemic baseline levels, but have continued to approach pre-pandemic baseline levels in the three months since the January 2024 update to the Transportation Committee (which reported on PeMS-sourced VMT and vehicle delay data that covered through November 2023) – and particularly so during the month of February 2024, which featured a notable uptick in vehicle delay.

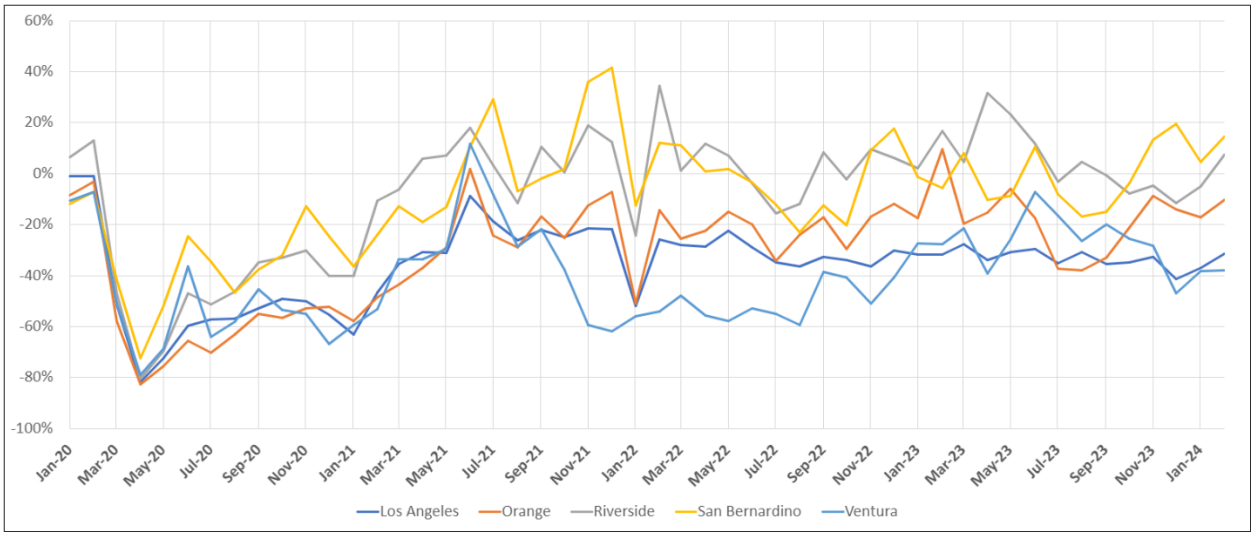
Figures 10 and **11** show monthly VHD totals at the SCAG-region- and county-level, respectively, shown as percentage changes from PeMS-reported monthly VHD totals for the same months in 2019.

Figure 10. Monthly VHD Percentage Change, SCAG Region (Compared to 2019)



Source: California Performance Measurement System (PeMS), as of March 2024.

Figure 11. Monthly VHD Percentage Change by County (Compared to 2019)



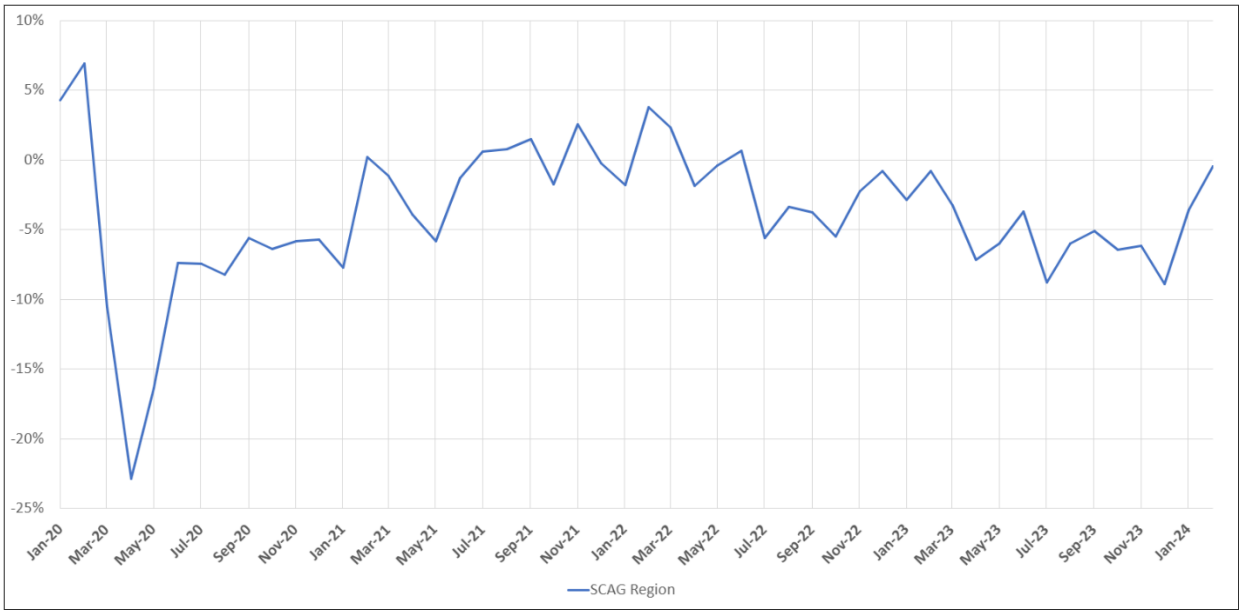
Source: California Performance Measurement System (PeMS), as of March 2024.

As **Figure 11** shows, county-level trends in vehicle delay have varied, with Riverside and San Bernardino Counties eclipsing the pre-pandemic baseline in February 2024. Local roadside sensor outages and roadside construction may also be contributing to county-level variability on display in this set of PeMS data.

Finally, according to data collected and reported through PeMS, truck VMT levels on the SHS in the SCAG region continued to track at about five percent below pre-pandemic baseline levels through the end of 2023, before rapidly approaching the pre-pandemic baseline in February 2024. In general, the regionwide trend in truck VMT since the middle of 2022 seems to be continued regression below the pre-pandemic baseline, with monthly regionwide truck VMT creeping from five percent towards 10 percent below 2019 levels, before achieving near-parity with pre-pandemic levels in February 2024.

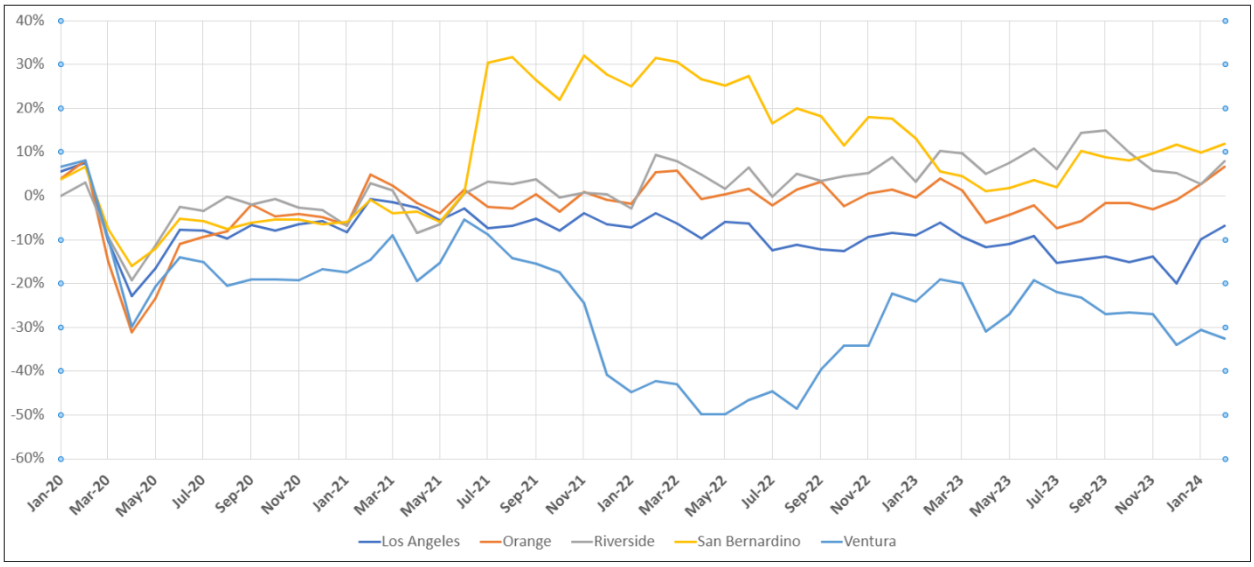
Figures 12 and **13** show monthly truck VMT totals at the region- and county-level, respectively, as percentage changes from PeMS-reported monthly truck VMT totals for the same months in 2019.

Figure 12. Monthly Truck VMT Percentage Change, SCAG Region (Compared to 2019)



Source: California Performance Measurement System (PeMS), as of March 2024.

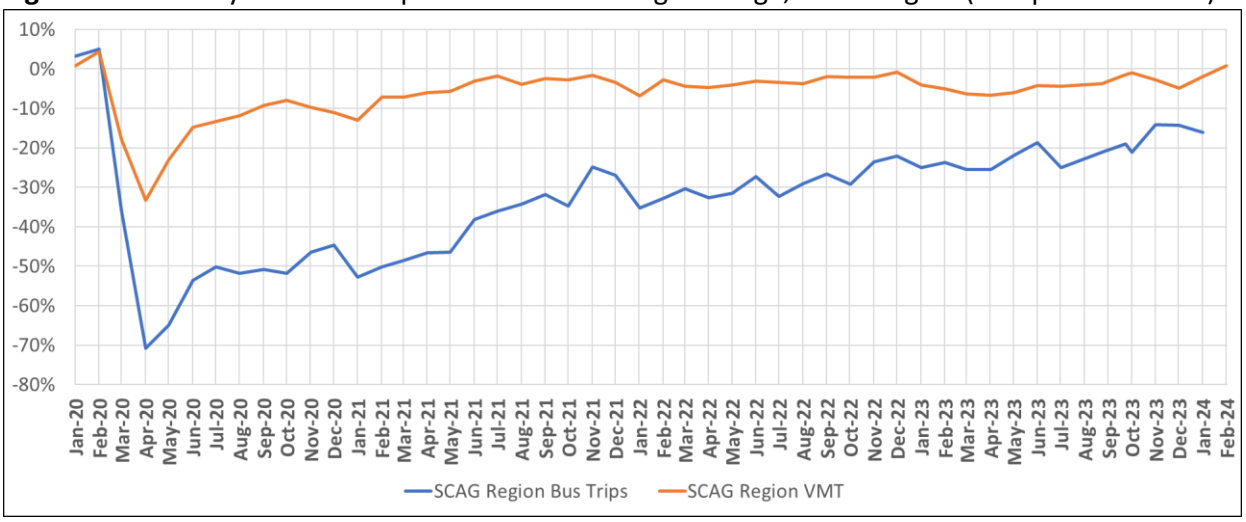
Figure 13. Monthly Truck VMT Percentage Change by County (Compared to 2019)



Source: California Performance Measurement System (PeMS), as of March 2024.

Figure 14, below, shows monthly bus ridership on the same chart as monthly VMT across the SCAG region, expressed as percentage changes from the same month's totals within each metric in 2019. Today, it appears that the deficit in bus ridership, standing at 16 percent below its pre-pandemic baseline level, is greater than the deficit in VMT. Although there has been a steeper decline in bus ridership compared to VMT, both metrics have exhibited similar recovery rates over the course of the pandemic.

Figure 14. Monthly Bus Ridership and VMT Percentage Change, SCAG Region (Compared to 2019)



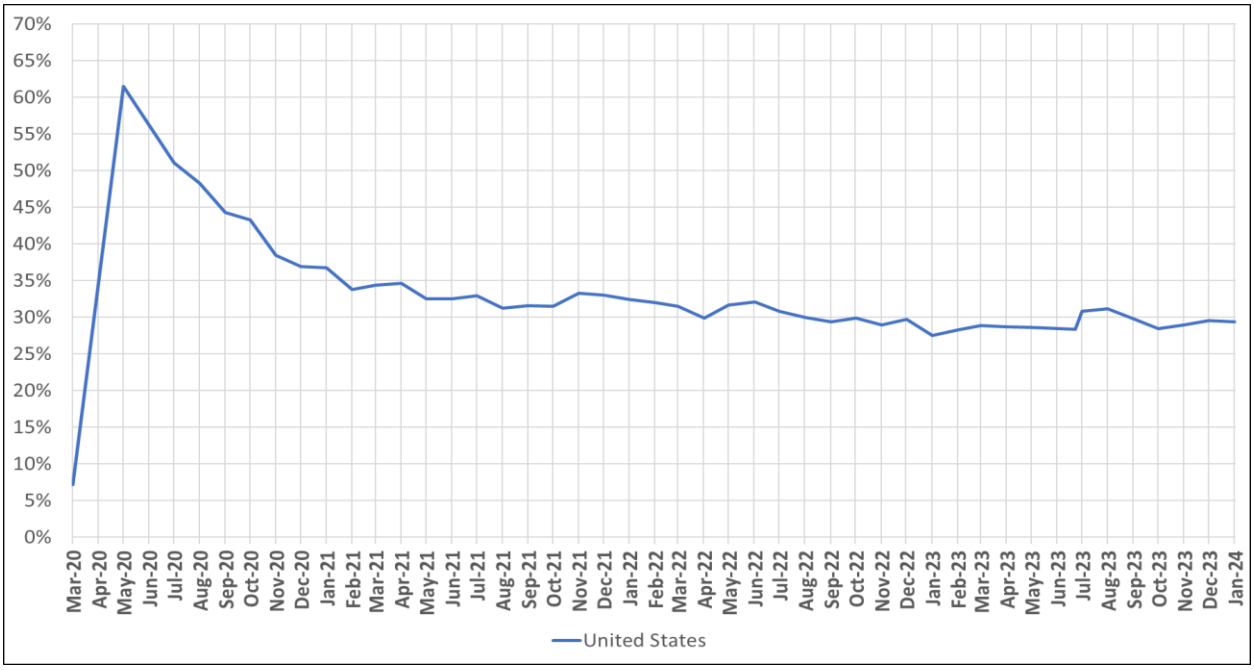
Source: National Transit Database, https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release, as of January 2024, and California Performance Measurement System (PeMS), as of March 2024.

Overall Work from Home Trends

The onset of the COVID-19 pandemic in March 2020 led to a significant increase in the rate of remote work, replacing traditional commutes to fixed work sites. However, recent data indicates a modest decline in the frequency of remote work days, attributed to the adoption of hybrid schedules by many office workers. This trend is illustrated in **Figure 15**, which shows the monthly percentage of full, paid working days spent at home reported by U.S. workers aged 20 to 64 through the SWAA. Work-from-home days in the United States peaked in May 2020 at 61 percent, then declined to 32 percent in May 2021, and have since remained consistent around 30 percent. As of January 2024, the current rate stands at 29 percent. This sustained trend suggests that remote and hybrid work arrangements are likely to endure in the future.

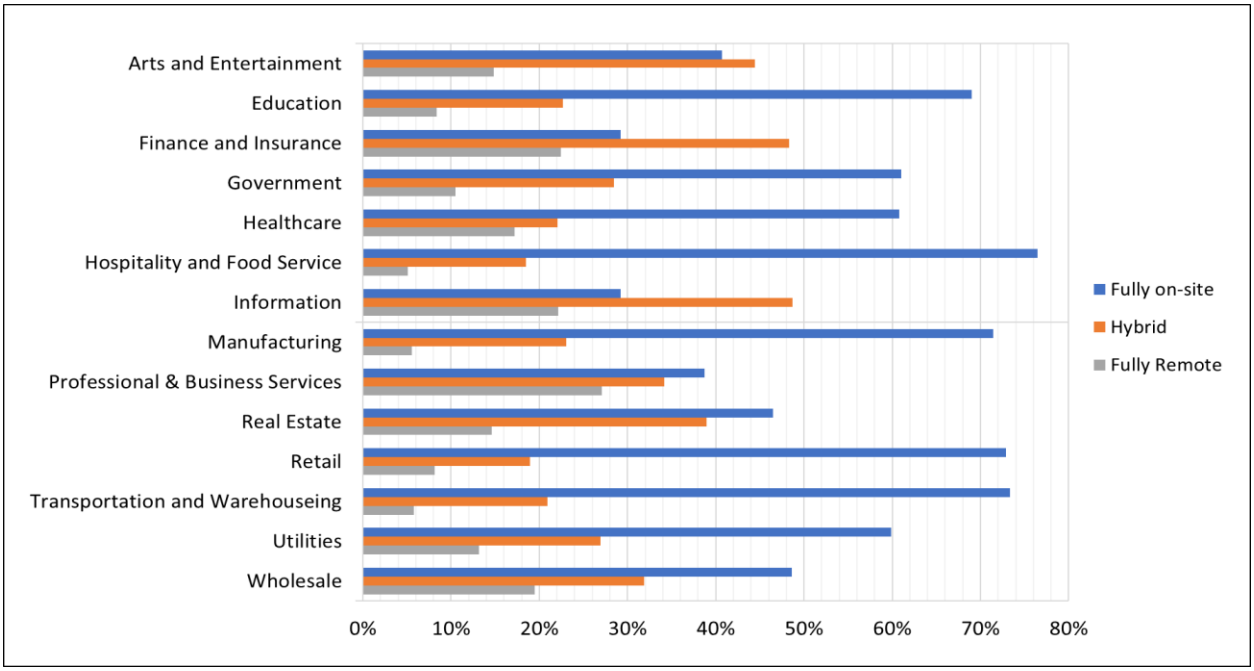
Figure 16, below, depicts the percentage of U.S. full-time workers in various industries engaged in full remote, hybrid, or fully on-site working arrangements for the month of January 2024. Based on the January data, the professional/business services and finance/insurance sectors emerge as the top industries for both remote work and hybrid work. While these work-from-home arrangements can offer significant time savings and lifestyle benefits, they are more prevalent in higher-paying industries and occupations, highlighting equity considerations.

Figure 15. Monthly Percentage of Full, Paid Working Days at Home, United States



Source: Survey of Working Attitudes and Arrangements, www.wfhresearch.com, as of January 2024.

Figure 16. Work Arrangements by Industry, United States (January 2024)



Source: Survey of Working Attitudes and Arrangements, www.wfhresearch.com, as of January 2024.

NEXT STEPS:
Staff will continue to provide quarterly updates to the Transportation Committee on regional transportation and work from home trends using monthly PeMS, NTD, and SWAA data as the data becomes available.

FISCAL IMPACT:
None.