



Southern California Association of Governments  
January 4, 2024

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To: Transportation Committee (TC)

EXECUTIVE DIRECTOR'S  
APPROVAL

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

*Kome Ajise*

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**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:**

*SCAG's efforts to monitor transportation trends and system performance pre-date the COVID-19 pandemic. Considering the pandemic's enduring impacts on travel behavior, SCAG staff plan to provide the Transportation Committee (TC) with regular updates on transportation trends. With regard to transit, current analysis shows that ridership has improved over the course of the past year. Overall, the region's bus ridership is currently 21 percent below what it was pre-pandemic. More specifically, for the Metro, the region's largest transit operator, bus ridership has recovered more than rail ridership, while Metrolink's rail ridership is currently 48 percent lower than it was pre-pandemic at this time. Vehicular travel has recovered at a more robust rate. The current analysis indicates that vehicle miles traveled (VMT), vehicle hours of delay (VHD), and truck VMT levels on the State Highway System (SHS) in the region hover slightly below pre-pandemic baseline levels. The staff report that follows provides a more detailed breakdown on these transportation trends.*

**BACKGROUND:**

The COVID-19 pandemic had dramatic impacts on travel behavior across the country and in the SCAG region, particularly in its earliest stages, from March through May 2020. Though we are now more than three years out from the pandemic's start, some transportation system impacts endure.

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### Data Sources

For transit, SCAG staff gathered and summarized data for the region utilizing the National Transit Database (NTD),<sup>1</sup> 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)<sup>2</sup>, 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 (Metro) Interactive Estimated Ridership Statistics dashboard,<sup>3</sup> 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.

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<sup>1</sup> Federal Transit Administration (FTA). National Transit Database (NTD). <https://www.transit.dot.gov/ntd>

<sup>2</sup> California Performance Measurement System (PeMS), <https://pems.dot.ca.gov> (Accessed December 2023)

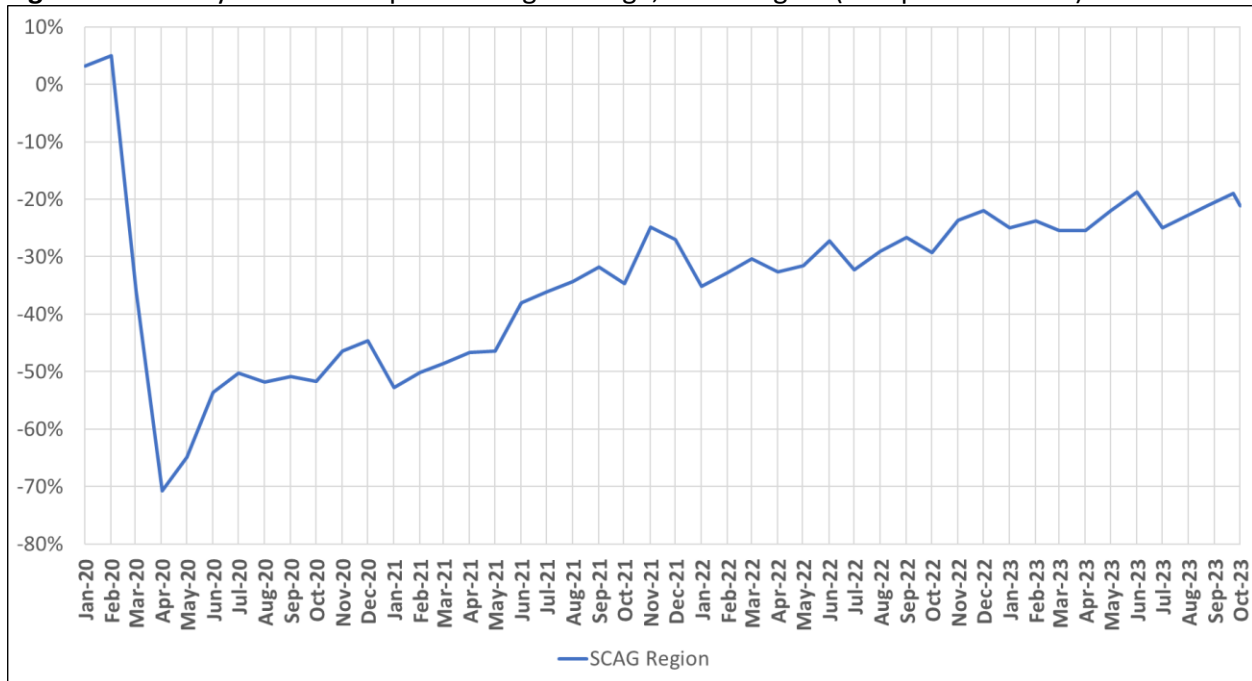
<sup>3</sup> Los Angeles County Metropolitan Transportation Authority (Metro). Interactive Estimated Ridership Stats. <https://isotp.metro.net/MetroRidership/YearOverYear.aspx>

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Overall Transit/Rail Trends

**Figures 1 and 2** and **Table 1** below reflect NTD information reported by urban Full Reporters. These graphics demonstrate that bus ridership levels have improved over the course of the past year, though they are still well 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 October 2023.

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

Bus Operator	FY23 Qtr2 Oct-Dec	FY23 Qtr3 Jan-Mar	FY23 Qtr4 Apr-Jun	FY24 Qtr1 Jul-Oct*
Anaheim Transportation Network	-15%	-10%	-8%	-6%
Antelope Valley Transit Authority	-49%	-46%	-43%	-39%
Beach Cities Transit (City of Redondo Beach)	-24%	-29%	-36%	-33%
City of Commerce Municipal Buslines	-10%	11%	14%	25%
City of Glendale	-51%	-46%	-46%	-45%
City of Los Angeles Department of Transportation	-20%	-20%	-18%	-15%
City of Pasadena	-23%	-26%	-30%	-26%
Culver City Municipal Bus Lines	-42%	-41%	-40%	-39%
Foothill Transit	-38%	-34%	-30%	-27%

Bus Operator	FY23 Qtr2 Oct-Dec	FY23 Qtr3 Jan-Mar	FY23 Qtr4 Apr-Jun	FY24 Qtr1 Jul-Oct*
Gold Coast Transit	-19%	-11%	-7%	-6%
City of Gardena Transportation Department	-31%	-30%	-31%	-42%
Imperial County Transportation Commission	-18%	-12%	-14%	5%
Long Beach Transit	-27%	-33%	-29%	-16%
Los Angeles County Metro	-24%	-22%	-20%	-21%
Montebello Bus Lines	-55%	-53%	-54%	-50%
Norwalk Transit System	-29%	-26%	-28%	-26%
Omnitrans	-44%	-43%	-41%	-40%
Orange County Transportation Authority	-20%	-15%	-13%	-9%
Riverside Transit Agency	-42%	-38%	-36%	-34%
Santa Clarita Transit	0.4%	-14%	-6%	-1%
Santa Monica's Big Blue Bus	-40%	-37%	-36%	-36%
SunLine Transit Agency	-40%	-36%	-36%	-39%
Torrance Transit System	-49%	-50%	-50%	-52%
Ventura Intercity Service Transit Authority	-47%	-44%	-38%	-36%
Victor Valley Transit Authority	-40%	-49%	-53%	-40%
<b>TOTAL</b>	<b>-26%</b>	<b>-25%</b>	<b>-22%</b>	<b>-22%</b>

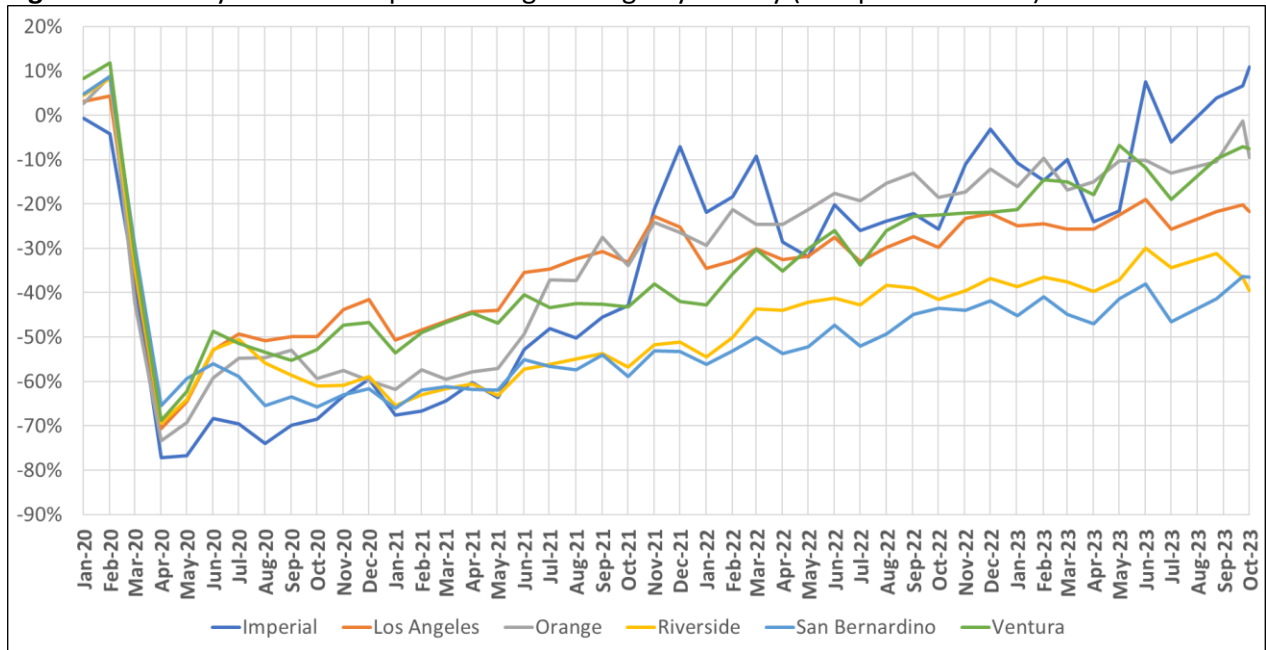
Source: National Transit Database, <https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release>, as of October 2023. \*This data reflects bus ridership change compared to 2019 for specific months rather than fiscal year quarters to allow for the utilization of the most up-to-date 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 and Ventura Counties experiencing the most significant increases. For example, when comparing October 2022 to October 2023, Imperial County is reflecting a 49 percent increase in bus ridership, while Ventura County is reflecting a 19 percent increase in bus ridership during the same period. Additionally, Orange, Los Angeles, and San Bernardino Counties are reflecting modest gains of 11 percent, 12 percent, and 12 percent respectively, comparing October 2022 to October 2023. Meanwhile, Riverside County has only experienced a gain of three percent when comparing October 2022 to October 2023. Regional bus ridership overall increased 12 percent over the same time period. Note that the October increases across the board are similar to preceding months. For example, bus ridership overall increased 11 percent each when comparing July 2022 to July 2023 and August 2022 to August 2023, and 10 percent when comparing September 2022 to September 2023.

Overall, these trends are better than where the region was in October 2020 when overall transit ridership was down by 52 percent. However, bus ridership is still well below what it was pre-pandemic for all counties aside from Imperial County as reflected in **Figure 2** below. In Imperial

County, bus ridership is 11 percent above what it was pre-pandemic for the most recent month of data available, October, which is an improvement from preceding months (e.g., Imperial County bus ridership was 6 percent below pre-pandemic levels in July). As noted earlier, the region’s bus ridership levels are currently 21 percent below what they were pre-pandemic.

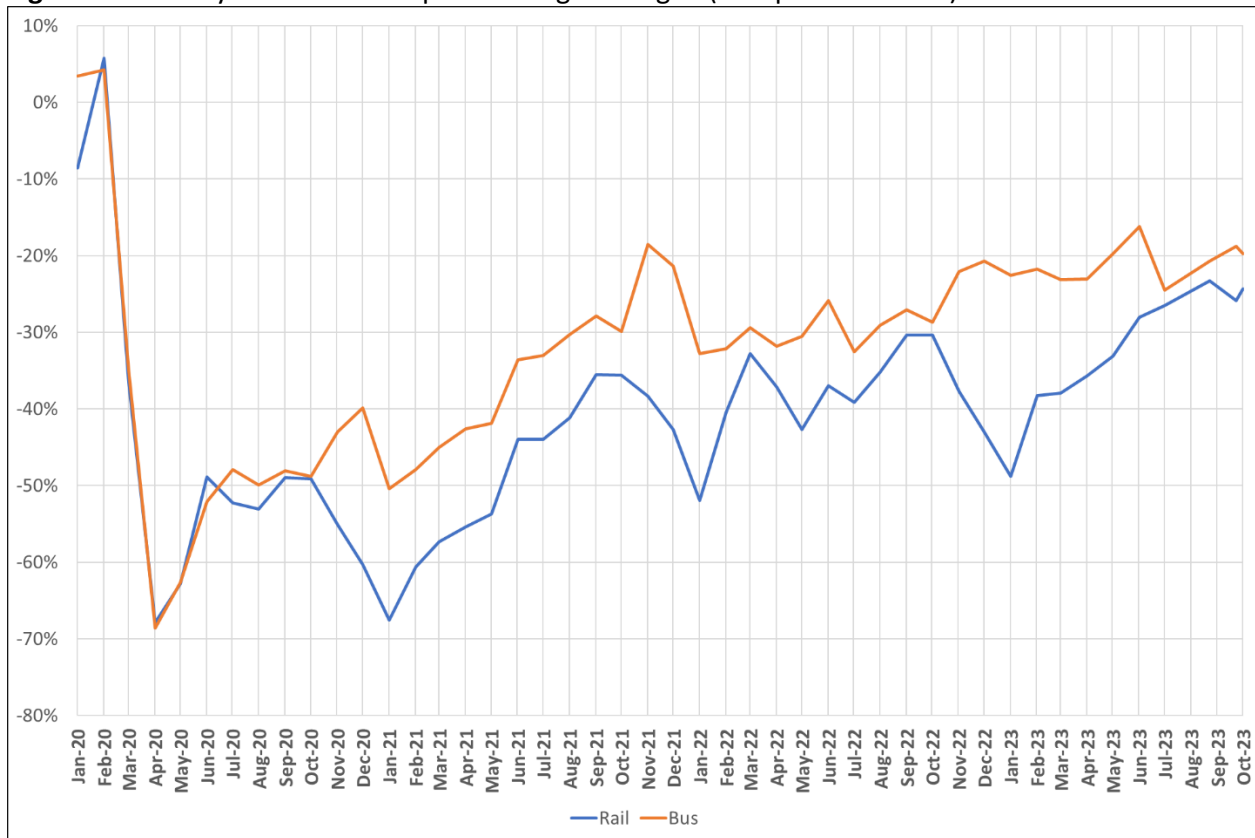
**Figure 2. Monthly Bus Ridership Percentage Change by County (Compared to 2019)**



Source: National Transit Database, <https://www.transit.dot.gov/ntd/data-product/monthly-module-adjusted-data-release>, as of October 2023.

Data reported by Metro for its bus and rail systems through October 2023 is reflected in **Figure 3** below. Metro bus ridership is up by nearly 12 percent in October 2023 compared to October 2022, marking the eleventh consecutive month of year-over-year bus ridership growth. Metro rail ridership is up by nine percent for the same time period. While these trends are better than where the region was in October 2020, they are still below pre-pandemic levels.

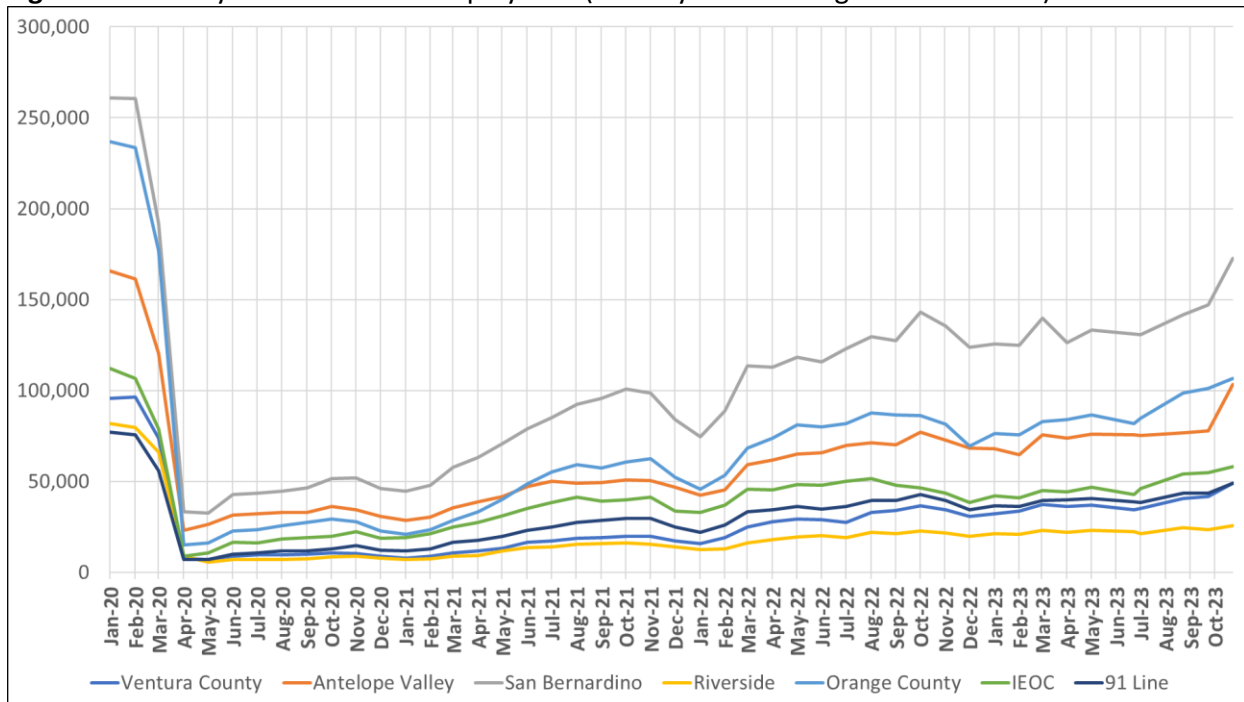
**Figure 3. Monthly Metro Ridership Percentage Change\* (Compared to 2019)**



Source: Los Angeles County Metropolitan Transportation Authority, <https://isotp.metro.net/MetroRidership/Index.aspx> as of October 2023. \*Note: Monthly rail ridership data for the Metro C Line is currently unavailable for the months of August and September 2023. July 2023 ridership was used instead.

**Figure 4** below reflects total monthly ridership data reported by Metrolink by line through October 2023. Overall, Metrolink commuter rail ridership is up by approximately 24 percent in October 2023 compared to October 2022, with the Ventura County and Antelope Valley Lines experiencing the most significant increases (34 percent each), and the Inland Empire-Orange County (IEOC, 26 percent), Orange County (24 percent), San Bernardino (21 percent), 91 Line (14 percent), and Riverside (12 percent) lines reflecting modest to low ridership increases. It is important to note that the October increases for all lines are higher than they were for the preceding months. For example, Metrolink ridership overall increased 12 percent comparing August 2022 to August 2023 and 17 percent comparing September 2022 to September 2023.

**Figure 4. Monthly Metrolink Ridership by Line (January 2020 through October 2023)**



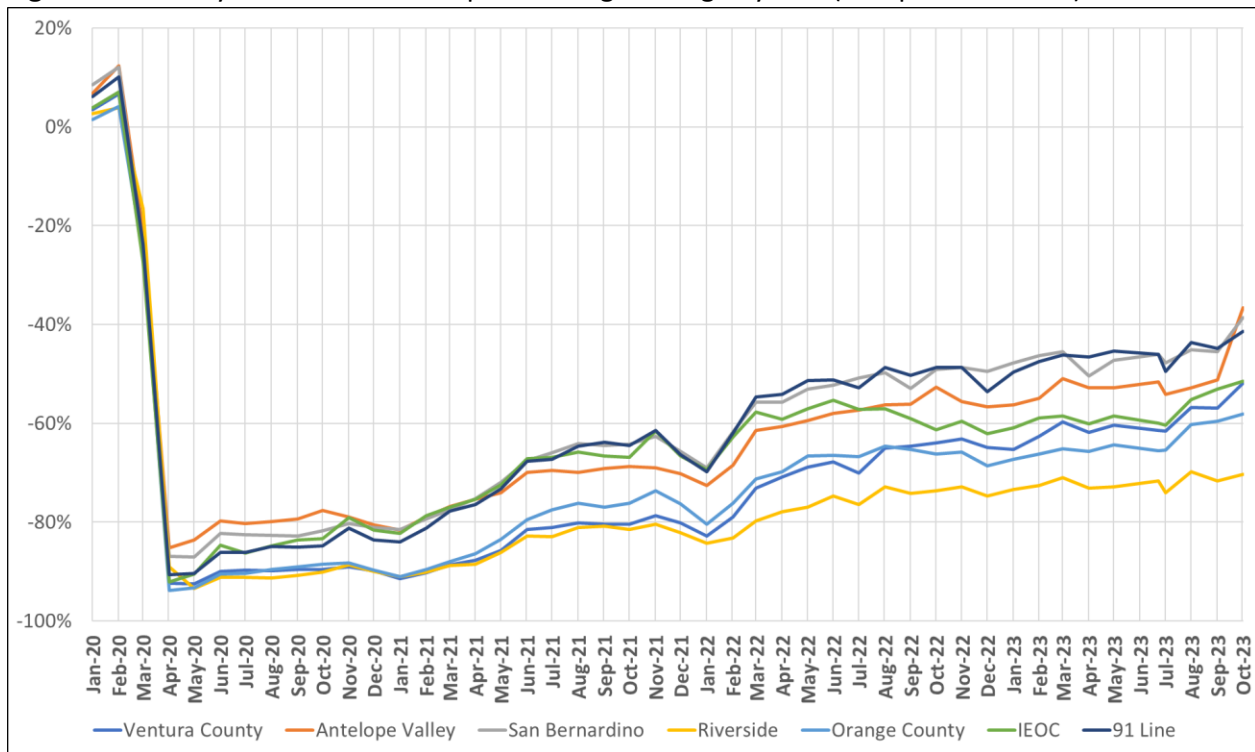
Source: Southern California Regional Rail Authority, as of October 2023.

However, total Metrolink ridership is still 48 percent lower than it was pre-pandemic at this time (October 2023 compared to October 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 has noted that higher gas prices and worsening traffic congestion may help it to continue to attract traditional commuters.<sup>4</sup> **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.

<sup>4</sup> Metrolink 2022 Customer Survey Staff Report:

<https://d2kboa27fdvtw.cloudfront.net/metrolink/97954c01397b5cd4e13a0002dbcc1ef20.pdf>

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



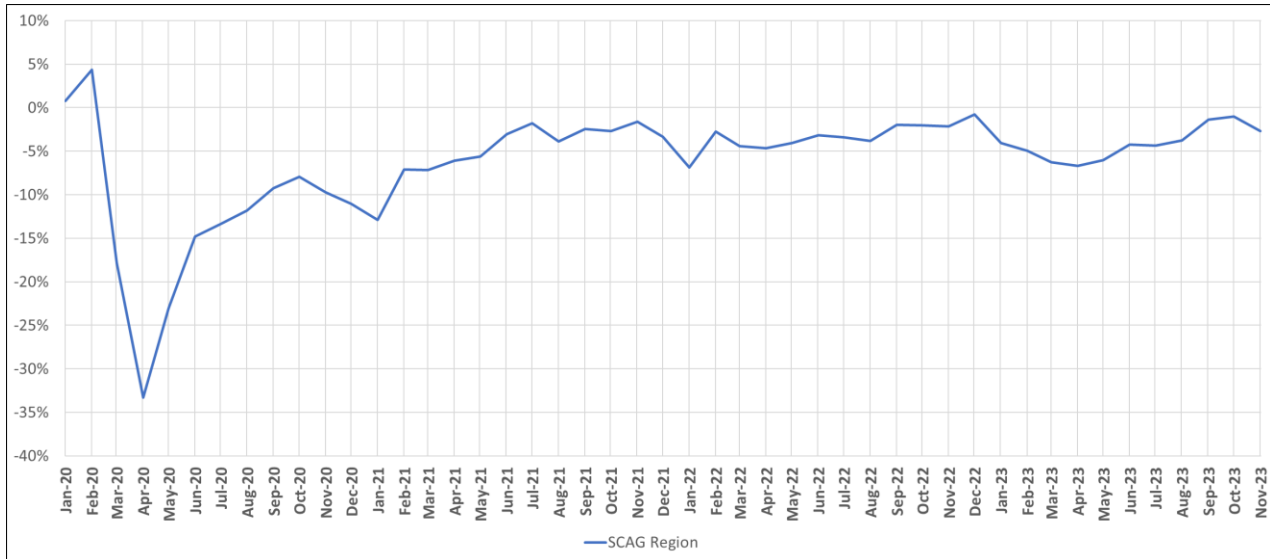
Source: Southern California Regional Rail Authority, as of October 2023.

Overall Vehicular Travel Trends

Vehicular travel has recovered more significantly than transit/rail. VMT levels on the SHS in the SCAG region have continued to hover only slightly below pre-pandemic baseline levels and have continued to approach pre-pandemic baseline levels. **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.

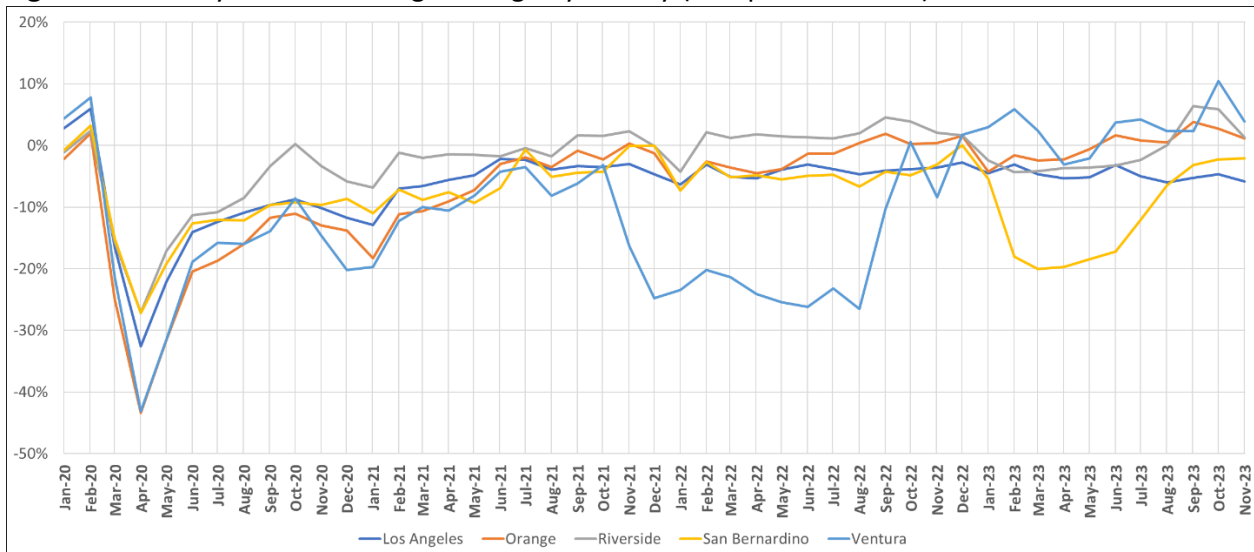


**Figure 6. Monthly VMT Percentage Change, SCAG Region (Compared to 2019)**



Source: California Performance Measurement System (PeMS), as of December 2023.

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



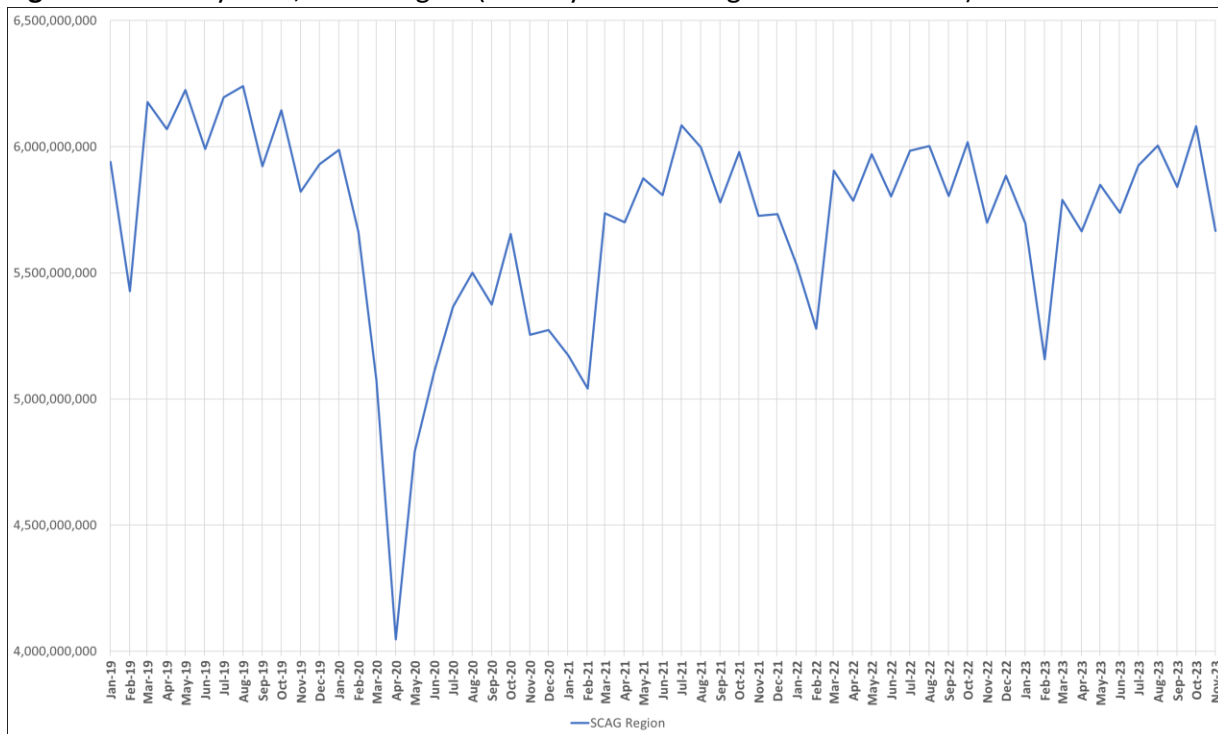
Source: California Performance Measurement System (PeMS), as of December 2023.

As noted in the previous update to TC, county-level VMT trends have varied. Los Angeles, Orange, and Riverside Counties appear roughly consistent with pre-pandemic VMT levels since 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, 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.

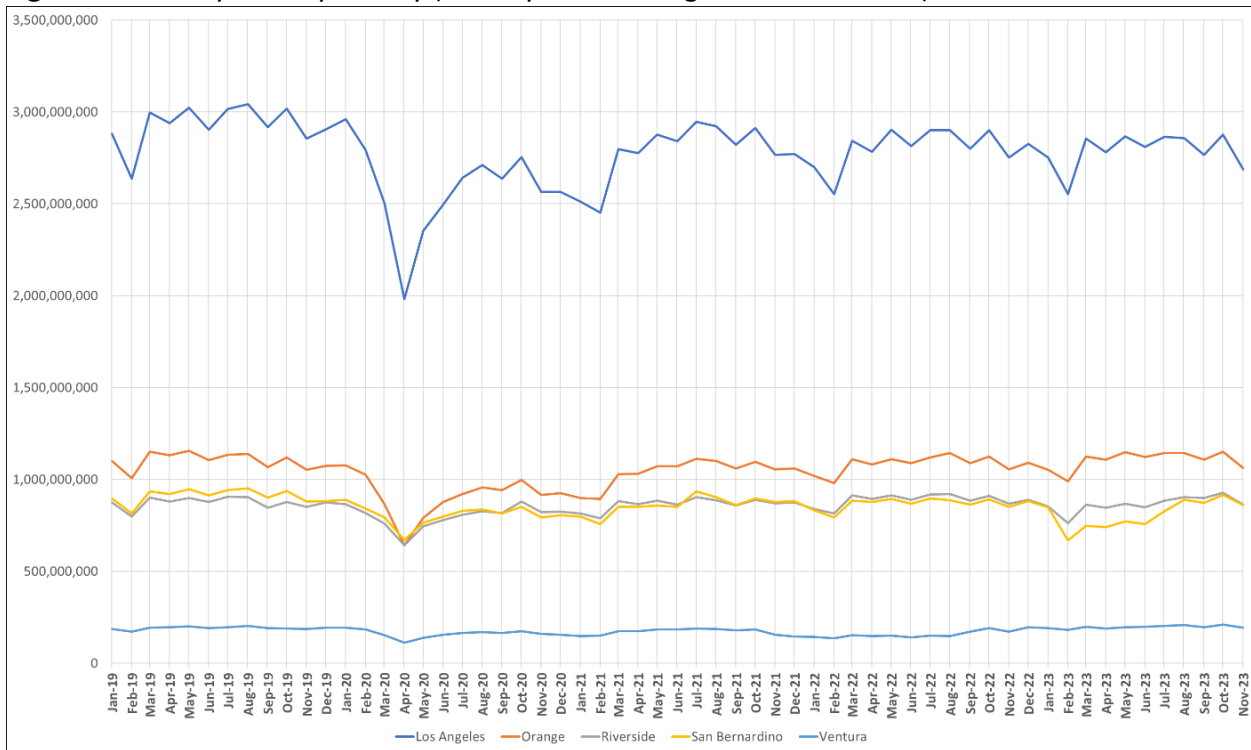
Figures 8 and 9 show monthly VMT at the SCAG-region- and county-levels, respectively, shown as raw monthly VMT totals (in miles).

**Figure 8. Monthly VMT, SCAG Region (January 2019 through November 2023)**



Source: California Performance Measurement System (PeMS), as of December 2023.

**Figure 9. Monthly VMT by County (January 2019 through November 2023)**

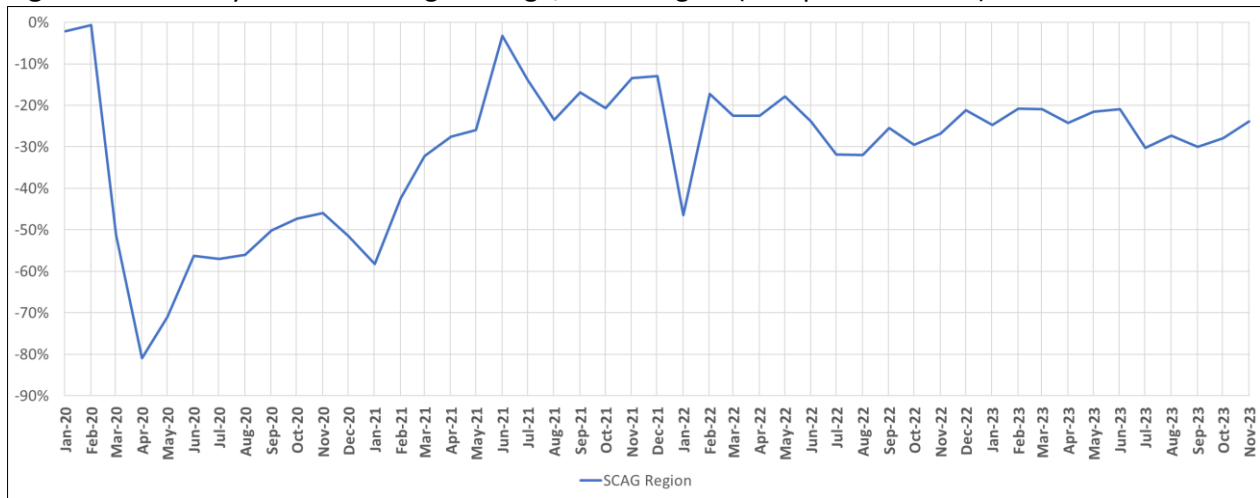


Source: California Performance Measurement System (PeMS), as of December 2023.

According to data collected and reported through the 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 October 2023 update to TC (which reported on PeMS-sourced VMT and vehicle delay data that covered through August 2023) – and particularly so during the month of November 2023, which featured a notable uptick in vehicle delay.

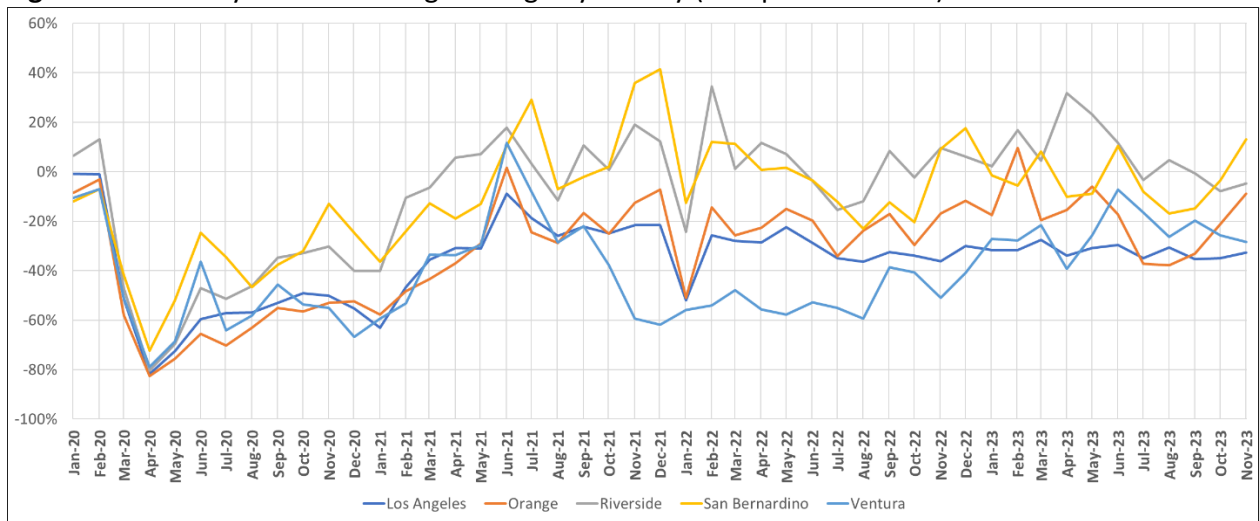
**Figures 10 and 11** show monthly VHD totals at the SCAG-region- and county-level, respectively, shown as percentage changes from PeMS-reported monthly VHD totals for the same months in 2019.

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



Source: California Performance Measurement System (PeMS), as of December 2023.

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



Source: California Performance Measurement System (PeMS), as of December 2023.

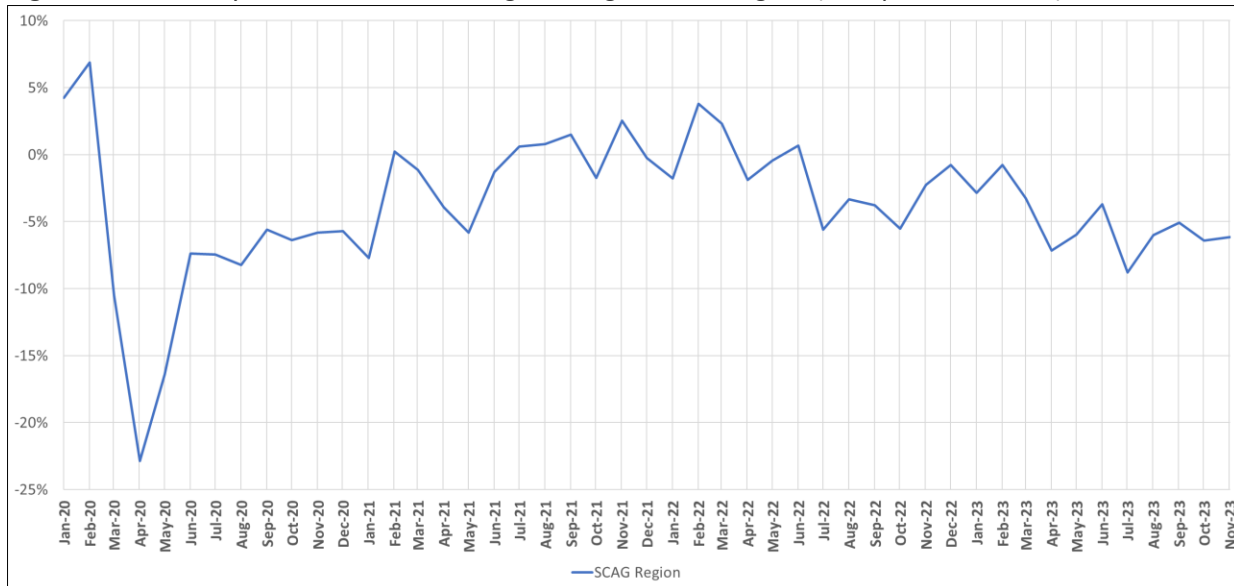
As **Figure 11** shows, county-level trends in vehicle delay have varied, with more recent spikes likely corresponding with Thanksgiving holiday travel. Local roadside sensor outages and roadside construction may also be contributing to county-level variability on display in this set of PeMS data.

Finally, truck VMT levels on the SHS in the SCAG region have continued to be about five percent below pre-pandemic baseline levels, with a holding pattern just below pre-pandemic levels. 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. We can expect a seasonal uptick in this metric corresponding with the December holiday season and gift fulfillment to show up in the next update, covering December 2023.

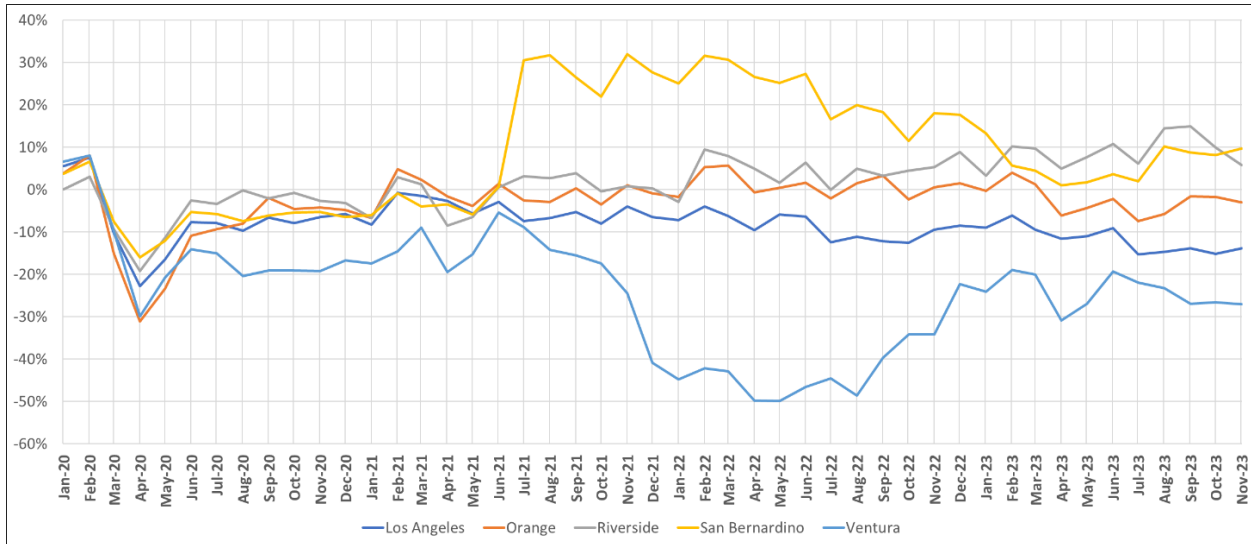
**Figures 12 and 13** show monthly truck VMT totals at the region- and county-level, respectively, as percentage changes from PeMS-reported monthly truck VMT totals for the same months in 2019.

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



Source: California Performance Measurement System (PeMS), as of December 2023.

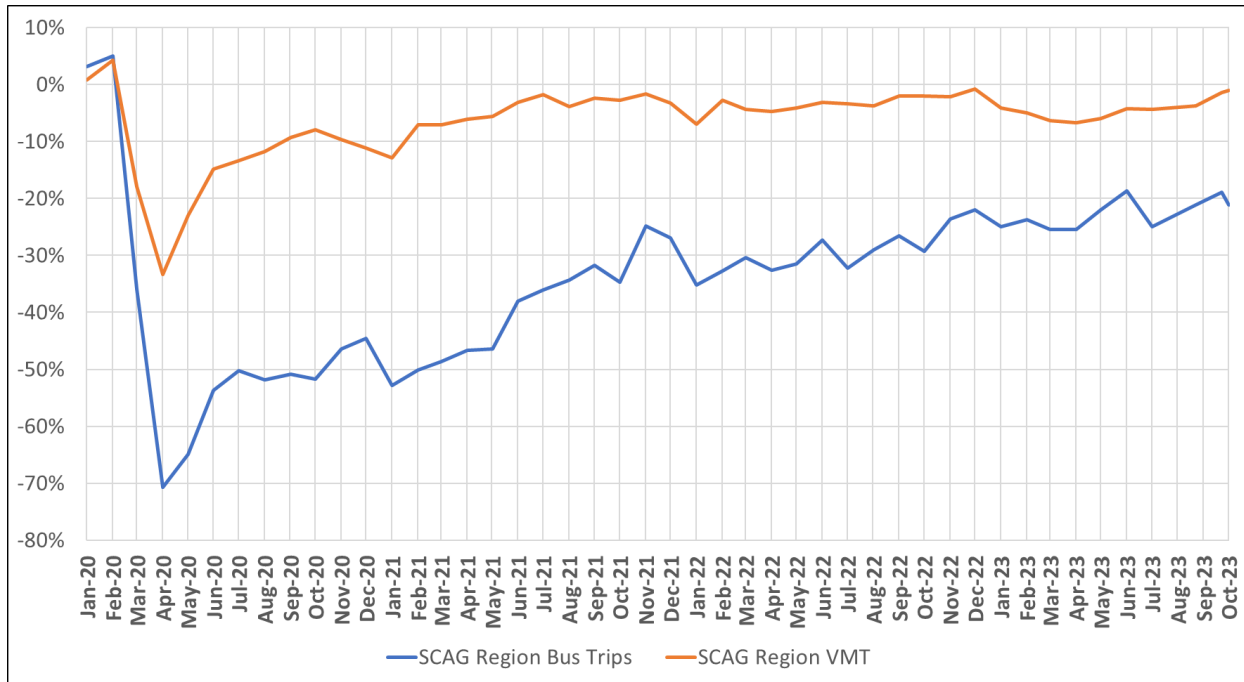
**Figure 13.** Monthly Truck VMT Percentage Change by County (Compared to 2019)



Source: California Performance Measurement System (PeMS), as of December 2023.

**Figure 14** 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 21 percent below its pre-pandemic baseline level, is significantly greater than the deficit in VMT, which is at three percent below its pre-pandemic level. 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 October 2023, and California Performance Measurement System (PeMS), as of December 2023.

**NEXT STEPS:**

Staff will continue to provide quarterly updates to the Transportation Committee on regional transportation trends using monthly PeMS and NTD data as the data becomes available.

**FISCAL IMPACT:**

None.