Caltrain Ridership

Fiscal Year 2024 Annual Report

Prepared by Caltrain Planning
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Table of Contents

1. Executive Summary 5
2. Introduction 5
3. Background 5
4. Methodology and Limitations 6
   4.1. July 2023 – October 2023 6
   4.2. November 2023 – June 2024 6
5. FY2024 Service Changes 7
6. FY2024 Fare Changes 8
7. Ridership Summary 9
   7.1. Total Monthly Ridership and Average Weekday Ridership 9
   7.2. COVID-19 Pandemic Recovery Trends 9
   7.3. Ridership by Day Type 12
   7.4. Ridership by Day of Week 13
   7.5. Ridership Impact of Giants Games 14
   7.6. Additional Ridership Data from Fare Media Model 14
      7.6.1. Ridership by Origin Station 14
      7.6.2. Ridership by Fare Product and Fare Type 16
   7.7. Passengers Needing Assistance Ridership 17
8. Next Steps 17

Glossary of Acronyms

AC Transit	Alameda-Contra Costa Transit District
AMWR	Average Mid-Week Ridership
APC	Automated Passenger Counters
AWR	Average Weekday Ridership
COVID-19	Coronavirus Disease of 2019
EMU	Electric Multiple Unit
FY	Fiscal Year
JPB	Peninsula Corridor Joint Powers Board
Muni	San Francisco Municipal Railway
NTD	National Transit Database
PCEP	Peninsula Corridor Electrification Project
PNA	Passengers needing assistance
SamTrans	San Mateo County Transit District
TVMs	Ticket Vending Machines
VTA	Santa Clara Valley Transportation Authority

List of Tables and Figures

Table 1: Fare Media Sales-Based Ridership Estimation Model Key Assumptions 7
Table 2: FY2024 Weekend Bus Bridges 8
Table 3: Average Monthly Pandemic Recovery Rate by Day Type, FY2024 12
Table 4: Average Ridership by Day Type & Giants Game Location, FY2024 14
Table 5: Average Mid-Week Ridership by Station, FY2024 & 2019 Passenger Count 15
Table 6: Average Mid-Week Ridership by County, FY2024 & 2019 Passenger Count 16
Table 7: Trip Distribution by Fare Distribution Channel and Ticket Type, FY2024 16

Figure 1: Total Monthly and Average Weekday Ridership, FY2024 9
Figure 2: Total Monthly Ridership, FY2019-FY2024 10
Figure 3: Total Monthly Ridership and Pandemic Recovery Rate, FY2024 11
Figure 4: Average Weekday, Saturday, and Sunday Ridership, FY2024 12
Figure 5: Average Ridership by Day of Week, FY2024 13
Figure 6: Total Monthly Passenger Needing Assistance Boardings, FY2024 17

1. Executive Summary

The Fiscal Year 2024 (FY2024) Annual Ridership Report provides a summary of Caltrain ridership over the past year, including comparisons to prior years. This is the first report published since 2019 due to the discontinuation of the Annual Count during the COVID-19 pandemic. Caltrain staff developed a new methodology to track ridership using a fare media-based ridership estimation model that has allowed for a more detailed analysis of ridership trends, which is the subject of this report.

Compared to FY2023, Caltrain's total FY2024 ridership was up 20.6%. While it has yet to fully return to pre-pandemic levels, Caltrain's ridership experienced significant gains over the course of FY2024. In July 2023, ridership was less than 30% of July 2019 ridership. By May 2024, ridership was up to nearly 39% of May 2019 ridership. Ridership was highest on mid-weekdays, with Tuesday, Wednesday, and Thursday making up 57% of total ridership. However, Saturday and Sunday ridership outpaced weekday ridership in terms of their FY2024 pandemic recovery rates, despite the twelve weekends that Caltrain operated partial or full bus bridge service. The other notable finding is that Giants games continued to be a significant driver of Caltrain's ridership in FY2024, leading to increases of 15% to 46%, depending on the day of the week.

Finally, the new ridership estimation model allows staff to track other important data points, such as station-level ridership and ridership by fare product and fare type, that help make data-driven decisions regarding service planning and fare policy. Caltrain's ridership reporting methodology will be even further refined once data from the Automated Passenger Counters (APC) on the new electric train fleet are incorporated in the near future.

2. Introduction

The following report summarizes Caltrain ridership estimates for FY2024. FY2024 includes the calendar months of July 2023 through June 2024. The ridership estimates in this document have been reported monthly to the Board of Directors (Board) of the Peninsula Corridor Joint Powers Board (JPB) through the Executive Director's Report.

The ridership figures in this report are derived from methodologies that are distinct from ridership reports submitted to the National Transit Database (visit https://www.transit.dot.gov/ntd/transit-agency-profiles/peninsula-corridor-joint-powers-board for more information).

3. Background

Without fare gates or systemwide Automated Passenger Counters (APCs) infrastructure, Caltrain is currently unable to monitor the actual number of passengers the system carries daily.

Prior to the COVID-19 pandemic, Caltrain's annual ridership reports were generated from physical counts conducted over several weeks each January/February, known as the Annual Passenger Count. These counts were a census of all passenger and bicycle boardings and alightings for every train, at every station. The Annual Passenger Count provided a detailed look at ridership by train, time of day, and station.

The Annual Passenger Count was paused at the beginning of the COVID-19 pandemic due to the region's shelter-in-place orders. Since then, Caltrain's ridership has experienced a period of rapid and continuous

change. Because the relevance of point-in-time surveys like the Annual Passenger Count is relatively limited during times of transition and growth, the nearly $1M cost of the program no longer justify its benefits. For this reason, the Annual Passenger Count has been discontinued indefinitely.

In addition to annual ridership reports, Caltrain has long estimated monthly ridership from available fare media sales data. Fare media sales include purchases of any ticket type on any of the available platforms, including Clipper Card, Ticket Vending Machines (TVMs), and Caltrain Mobile. Caltrain also offers companies and schools the ability to purchase unlimited Caltrain rides for their employees and students through the GoPass program. Historically, GoPasses were distributed via physical stickers that riders could show conductors as proof-of-payment. By FY2024, the majority of GoPasses had been transitioned to Clipper. Once the next generation of Clipper Card (Clipper 2.0) is launched, the remaining Sticker GoPasses will be transitioned to Clipper.

Prior to the pandemic, Caltrain staff used a model to estimate monthly ridership that was partially based on data from the Annual Passenger Count. When the Annual Passenger Count was first discontinued, Caltrain staff developed a temporary estimation methodology which combined limited conductor counts with data from Clipper validators at Caltrain stations. In November 2023, Caltrain replaced the temporary estimation methodology with a new fare media sales-based ridership model. More details on the monthly ridership estimation methodologies used during FY2024 can be found in **Section 4. Methodology and Limitations**.

While not included in this report, Caltrain collects a limited set of data from APCs at San Francisco Station, which count passengers as they enter and exit the doors to the platforms. This data is not robust enough for official ridership reporting and is only used for internal operational planning purposes.

4. Methodology and Limitations

Two distinct methodologies were used to estimate monthly Caltrain ridership during FY2024.

4.1. July 2023 – October 2023

For the first four months of FY2024, ridership was estimated using a combination of limited physical counts and available Clipper tap data. For a set group of fourteen stations, ridership was manually recorded by conductors. To estimate ridership at the remaining stations, these conductor counts were compared to Clipper tap data from validators at the same fourteen stations. This produced an estimate of the percentage of counted riders who tapped their Clipper cards on a given day. This percentage was then applied to the Clipper tap data at the remaining stations to estimate the ridership that was not counted by conductors.

During this time, ridership estimates were available for specific days, but only at the corridor-wide level. This methodology did not provide station-specific ridership estimates.

4.2. November 2023 – June 2024

Relying on conductor counts provided reasonably accurate data during the pandemic when ridership on each train was extremely low. However, once average daily ridership began to rebound, Caltrain determined that it was too difficult for conductors to complete accurate counts on the more crowded

trains. Therefore, in November 2023, Caltrain replaced the temporary conductor count estimation methodology with the new Fare Media Sales-Based Ridership Estimation Model (Fare Media Model). Rather than using physical counts, this model uses sales data of Caltrain's various ticket/pass products ("fare media") to estimate ridership. Based on the type of ticket or pass, the model uses data-informed assumptions to estimate the number of trips generated by the sale and assigns those trips to specific days and origin stations (see Table 1, below). The model does not estimate the number of trips that are made without the purchase of valid fare.

Table 1: Fare Media Sales-Based Ridership Estimation Model Key Assumptions

Ticket Type	Key Assumptions
One-Way	One trip per ticket sold
Day Pass	Two trips per ticket sold
Monthly Pass	Average of 26 trips per ticket sold (weighted by day of week)
GoPass	On average, Sticker GoPasses generate the same number of monthly trips as Clipper GoPasses

The Fare Media Model provides ridership estimates by specific day, origin station, fare distribution channel (Clipper, Ticket Vending Machine, Mobile App, and GoPass Sticker), pass type (One-Way, Day Pass, Monthly Pass, GoPass), and discount level (Adult fare, Eligible Discount fare).

Previous ridership reports from the Annual Passenger Count provided data on ridership by train, time of day, direction of travel, and bike boardings. Given the estimation methodologies available to Caltrain at the time, these data points were not available for FY2024.

5. FY2024 Service Changes

In FY2024, Caltrain's regular service included 104 trains per day on weekdays and 32 trains per day on weekends.

The system underwent one regular weekday service change starting September 25, 2023. The weekday schedule was adjusted to better align Caltrain/BART transfers at Millbrae with BART's September 11, 2023, schedule change. Additionally, a fourth daily round trip was added to the Southern Santa Clara County service based on feedback received from the South County Survey conducted in June 2023. Train 305 was adjusted to start at Gilroy Station departing at 7:29 a.m. and stop at all stations between Gilroy and San Jose Diridon. Trains 308 and 410 were adjusted to arrive at Gilroy at 5:40 p.m. and 6:17 p.m. respectively and stop at all stations between San Jose Diridon and Gilroy. Train 412 was adjusted to end at San Jose Diridon at 6:27 p.m. Train 310 was adjusted to be the last train of the day serving stops between Capitol and Gilroy. Service to Tamien Station was removed from Trains 107, 108, 112, 113, 116, 117, 120, 121, 125 and 313 to accommodate work on the Guadalupe Bridge Rehabilitation Project. Train 143 was also adjusted to depart San Jose Diridon Station at 10:30 p.m. to improve evening post-event service from the South Bay. Finally, all evening Local trains were adjusted to operate with improved run times.

Caltrain made one other change to its weekday schedule in FY2024, when service was temporarily modified for the weeks of August 7-11, 14-18, & 21-25, 2023 to accommodate testing and construction

efforts for the Peninsula Corridor Electrification Project (PCEP). During these weeks, two limited trains and all Baby Bullet trains were suspended. 31 of the remaining 90 trains were adjusted by two to six minutes from their typical schedules.

In addition to the weekday service changes listed above, Caltrain experienced several temporary modifications to its weekend service over the course of FY2024. On twelve different weekends, Caltrain operated "bus bridges", where train service was removed from a section of the corridor and replaced by substitute bus service. Significant communications campaigns went out ahead of each weekend bus bridge to alert riders of the service impacts and encourage them to seek alternative means of transportation, due to the limited capacity of the bus bridge. During the weekend bus bridges, passengers were not required to purchase tickets for the bus portions of their trips. Therefore, passengers who only travelled within bus bridge sections of the corridor are not reflected in the Caltrain ridership estimates.

The following table summarizes the dates and locations of the FY2024 weekend bus bridges:

Table 2: FY2024 Weekend Bus Bridges

	Date	Bus Bridge Section	Notes
1	7/15/23 - 7/16/23	Palo Alto - Hillsdale	
2	7/22/23 -7/23/23	Palo Alto - Hillsdale	
3	8/12/23 -8/13/23	Millbrae - San Francisco	
4	8/19/23 -8/20/23	Millbrae - San Francisco	
5	8/26/23 -8/27/23	Millbrae - San Francisco	
6	10/07/23 -10/08/23	Millbrae - San Francisco	
7	10/14/23 -10/15/23	Millbrae - San Francisco	
8	10/21/23 -10/22/23	Menlo Park - Millbrae	
9	3/9/24 -3/10/24	Mountain View - San Francisco	AM Bus Bridge Only
10	4/13/24 -4/14/24	Mountain View - San Francisco	AM Bus Bridge Only
11	4/20/24 -4/21/24	Mountain View - San Francisco	AM Bus Bridge Only
12	6/8/24 -6/9/24	San Jose - Millbrae	No train service, full corridor shutdown

6. FY2024 Fare Changes

Beginning September 1, 2023, Caltrain launched the following four promotional fare products. All promotional fare products were available for the remainder of the fiscal year.

- **3-Day Pass** – Allowed pass holder to take unlimited trips for three consecutive days from the date the pass is purchased.
- **$1 Youth Rides** – Fare for one-way rides for all Clipper Youth Card holders was set to $1.
- **Family Day Pass** - Allowed two adults and up to four youth (18 and under) to ride together for the cost of two adults and one youth.
- **Group Day Pass** – Allowed four riders to purchase day passes for the price of three.

In addition to the above fare products, Caltrain offered 50% off parking from September 2023 through February 2024.

The one-way youth rides promotion resulted in a 43% increase in ridership compared to the prior year. Due to this success, Caltrain expanded this youth program to offer $1 one-way fares for youth riders through all payment methods, and a new $2 youth day pass available on ticket vending machines and the Caltrain mobile app beginning in September 2024.

7. Ridership Summary

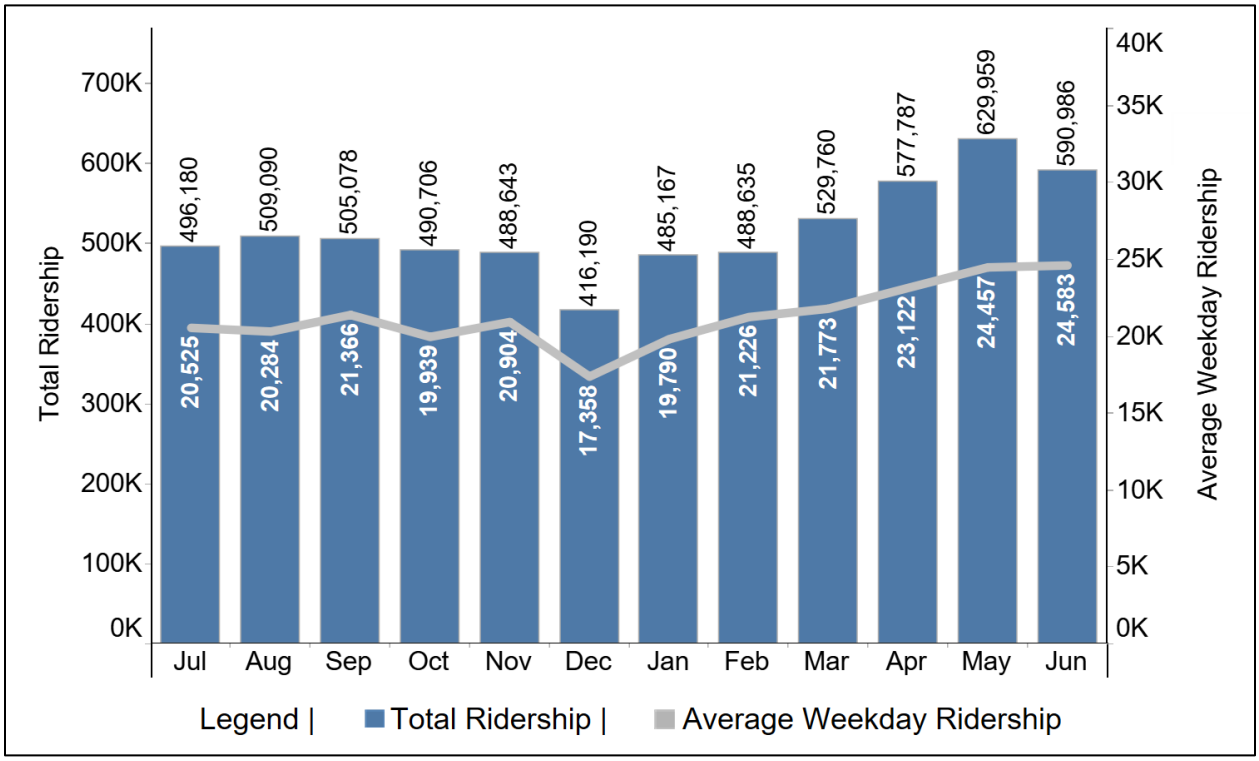
7.1. Total Monthly Ridership and Average Weekday Ridership

Caltrain's average monthly total ridership in FY2024 was 517,349. The average weekday ridership (AWR) for the whole of FY2024 was 21,784. The month with the highest AWR in FY2024 was June, with 24,583.

During winter months, ridership is historically lower due to factors like holidays and cold and rainy weather. As shown in Figure 1, total monthly ridership in December 2023 was 20% lower than the fiscal year's annual average. Conversely, ridership tends to peak in the summer, driven in part by popular events like sports games and festivals.

Total monthly ridership was also impacted by the number of weekdays and/or total days in a given month.

Figure 1: Total Monthly and Average Weekday Ridership, FY2024



7.2. COVID-19 Pandemic Recovery Trends

In response to growing cases of COVID-19 in the region, a shelter-in-place order was instituted in San Francisco, San Mateo, and Santa Clara counties on March 16, 2020. Due to these lockdowns, Caltrain ridership in April 2020 fell to just 2.4% of what it had been in April 2019.

In the two years following the initial pandemic shutdowns, Caltrain service levels were adjusted to match the changing levels of demand from riders. Weekday service was reduced from 92 trains per day to 42 on March 30, 2020, but then increased to 70 on June 15, 2020. On December 14, 2020, total weekday daily trains dropped slightly to 68, but off-peak service was increased to better fit the needs of essential workers. Weekday service returned to 70 trains per day on March 22, 2021. Finally, weekday service was increased to 104 trains per day on August 30, 2021.

As shown in Figure 2, Caltrain ridership has grown each year since the start of the COVID-19 pandemic. Between FY2023 and FY2024, total Caltrain ridership increased by 20.6%. However, lasting impacts of the pandemic, like the widespread transition to remote work, continued to affect Caltrain ridership.

Figure 2: Total Monthly Ridership, FY2019-FY2024

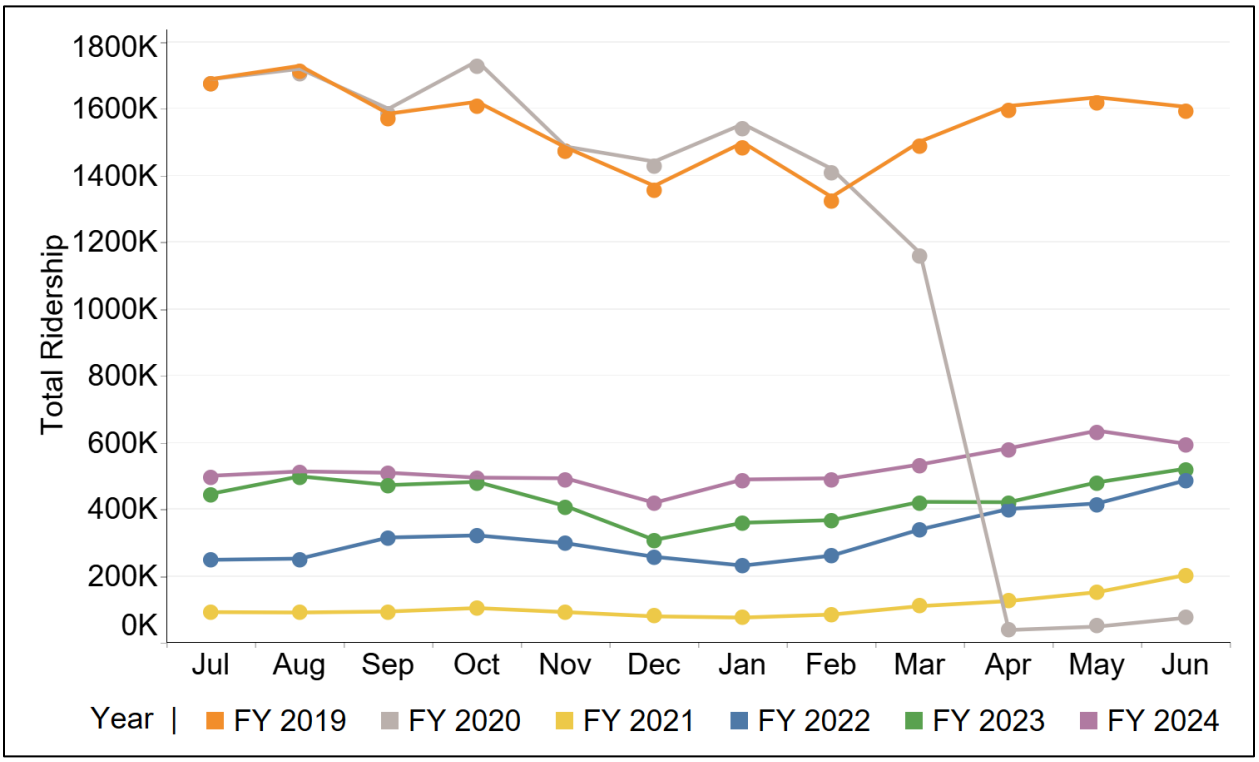


Figure 3: Total Monthly Ridership and Pandemic Recovery Rate, FY2024

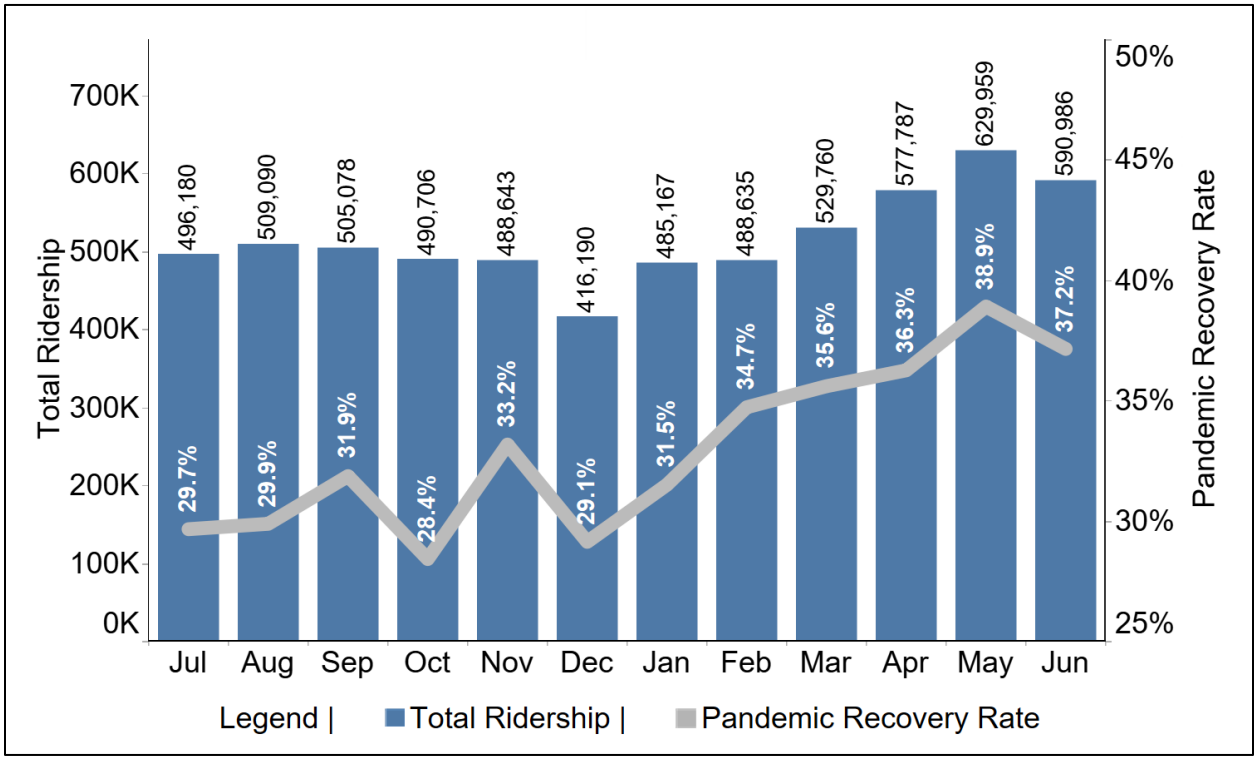
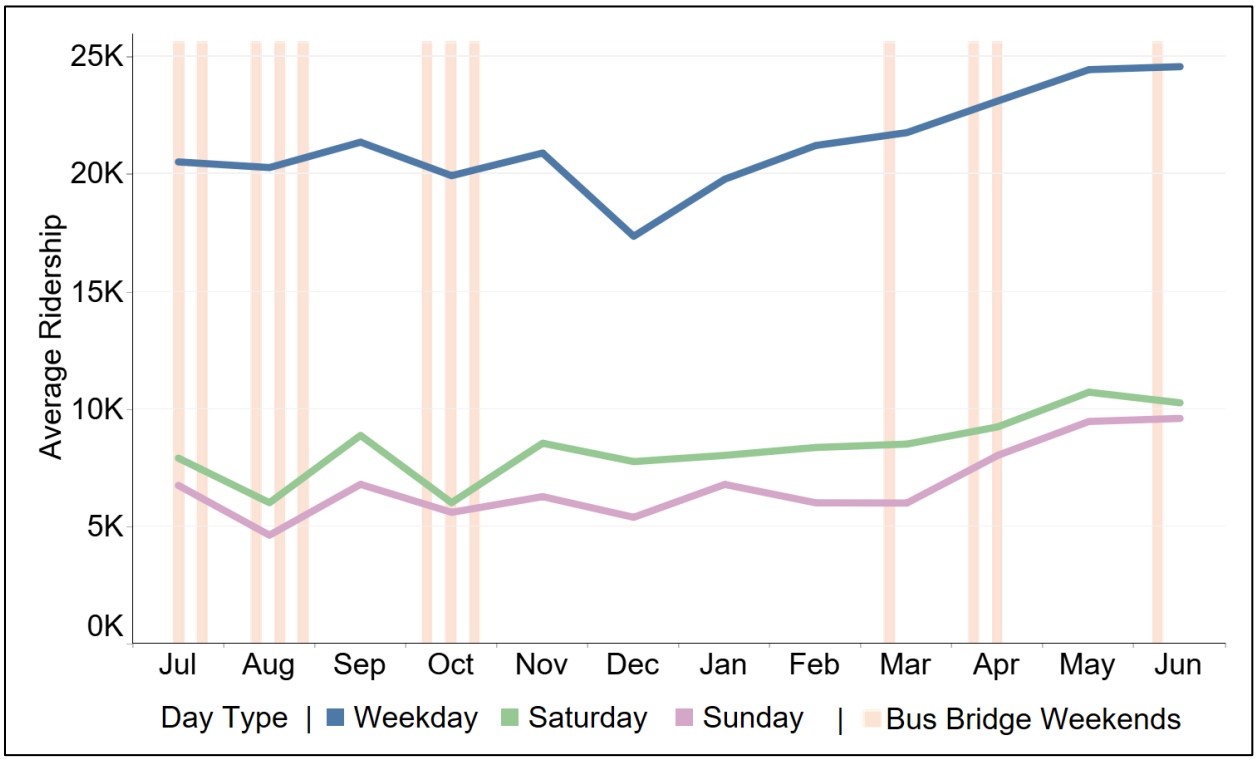


Figure 3 shows Caltrain's pandemic recovery rate for each month of FY2024. The pandemic recovery rate is calculated by comparing the month's total ridership to that of the same pre-pandemic month (March 2019 – February 2020). The pandemic recovery rate increased from less than 30% at the start of FY2024 to a peak of nearly 39% in May 2024.

7.3. Ridership by Day Type

As in previous years, weekday ridership was significantly higher than Saturday and Sunday ridership in FY2024. Figure 4, below, summarizes average ridership by day type for each month in the fiscal year. Bus bridge weekends are highlighted by the orange vertical bands. August and October both had three bus bridge weekends and consequently experienced significant decreases in their average Saturday and Sunday ridership.

Figure 4: Average Weekday, Saturday, and Sunday Ridership, FY2024



Despite the multitude of weekend bus bridges that occurred in FY2024 (see **Section 5. FY2024 Service Changes**), Saturday and Sunday ridership experienced better pandemic recovery rates than weekday ridership.

Table 3: Average Monthly Pandemic Recovery Rate by Day Type, FY2024

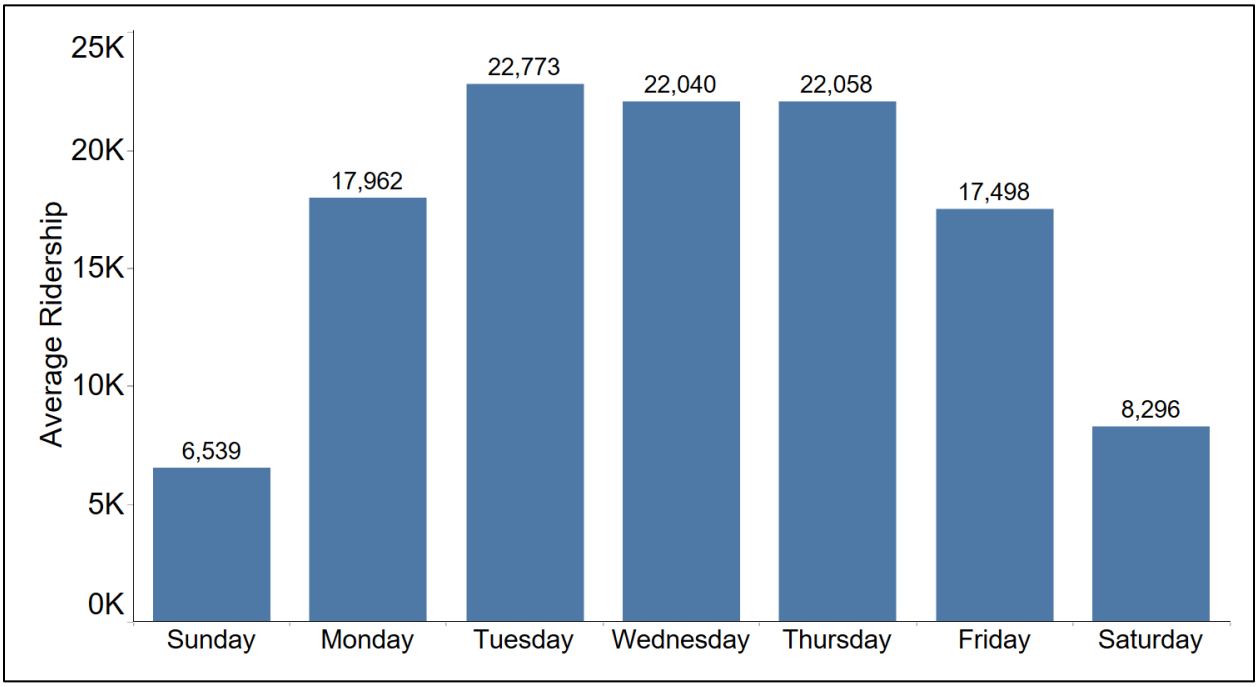
Day Type	Average Monthly Pandemic Recovery Rate
Weekday	31.1%
Saturday	54.1%
Sunday	61.6%

7.4. Ridership by Day of Week

Prior to the pandemic, Caltrain's ridership was slightly higher on mid-weekdays (Tuesday, Wednesday, and Thursday) than Monday or Friday. Data from the 2013-2017 Annual Passenger Counts found that, on average, Monday and Friday ridership was 1% and 9% lower than mid-week ridership, respectively. The 2018 and 2019 Annual Passenger Counts did not record Monday or Friday ridership.

In FY2024, the discrepancy between mid-weekday ridership and Monday/Friday ridership was much higher than pre-pandemic levels. As seen in Figure 5, average mid-week ridership was 27.4% higher than average ridership on Monday and Friday. This trend is likely a reflection of the growing transition toward hybrid remote work schedules. A survey[1] from November 2023 of individuals living within a few miles of the Caltrain corridor found that over 50% of people report working remotely at least one day a week.

Figure 5: Average Ridership by Day of Week, FY2024



[1] EMC Research, "Caltrain Q4 2023 Ridership Recovery Survey"

7.5. Ridership Impact of Giants Games

Because Oracle Park is located less than a quarter mile from San Francisco Station, Caltrain is a popular option for attendees of San Francisco Giants home games. During the Major League Baseball season (typically April-October), Giants game attendees make up a significant portion of Caltrain's ridership. While there are no data on exactly which passengers attend events at Oracle Park, Caltrain ridership is significantly higher on days with Giants games. Table 4 compares average ridership for the entire Caltrain system on days during the Giants season when they play at home and average ridership when they play on the road. In FY2024, the most significant impact to ridership occurred on Sundays, with ridership nearly doubling on days when the Giants played home games.

Table 4: Average Ridership by Day Type & Giants Game Location, FY2024

	Giants Game Location		Difference	
Day Type	**Away**	**Home**	**Absolute**	**Percent**
Weekday	20,546	23,571	+3,025	+14.7%
Saturday	7,666	10,610	+2,944	+38.4%
Sunday	5,960	8,705	+2,745	+46.1%

7.6. Additional Ridership Data from Fare Media Model

This section includes summaries of datapoints that are only available from the Fare Media Model. *Data for FY2024 in this section and tables includes only the months of November 2023 through June 2024*.

7.6.1. Ridership by Origin Station

Prior to the release of the Fare Media Model, the most recent station-specific ridership data Caltrain reported was from the 2019 Annual Passenger Count. Because the 2019 count reported Average Mid-Week Ridership (AMWR), station-specific ridership for FY2024 is also presented as AMWR.

In FY2024, Baby Bullet service stopped at the following stations: San Francisco, 22nd Street, Millbrae, Hillsdale, Redwood City, Palo Alto, Mountain View, and San Jose Diridon. Boardings at these eight stations accounted for 67.8% of overall AMWR in FY2024 (for the months which station-level data was available), down slightly from 70.3% in the 2019 Annual Passenger Count.

Caltrain's Southern Santa Clara County service includes peak-direction service to Capitol, Blossom Hill, Morgan Hill, San Martin, and Gilroy stations. Total estimated AMWR at these stations was 319 in FY2024, down from 752 in 2019. Note that FY2024's station level ridership data was collected in the months after the addition of a fourth daily round trip to the Southern Santa Clara County service.

Table 5, below, summarizes AMWR by station from the 2019 Annual Passenger Count and the available months of FY2024.

Table 5: Average Mid-Week Ridership by Station, FY2024 & 2019 Passenger Count

Origin Station	2019 Count Rank	2019 Count AMWR	FY2024 Rank	FY2024 AMWR	Difference in Rank
San Francisco	1	15,027	1	4,803	0
Palo Alto	2	7,384	2	2,889	0
Mountain View	4	4,560	3	1,703	+1
Redwood City	5	4,220	4	1,624	+1
San Jose Diridon	3	4,795	5	1,547	-2
Millbrae	8	3,194	6	1,222	+2
Hillsdale	6	3,217	7	1,212	-1
Sunnyvale	7	3,208	8	1,140	-1
San Mateo	9	2,324	9	914	0
22nd Street	10	1,872	10	854	0
Menlo Park	11	1,639	11	646	0
Santa Clara	16	1,074	12	595	+4
Lawrence	18	1,004	13	513	+5
Burlingame	15	1,131	14	474	+1
San Carlos	14	1,341	15	471	-1
California Ave	12	1,634	16	458	-4
Belmont	20	718	17	454	+3
South San Francisco	22	453	18	418	+4
San Antonio	17	1,017	19	414	-2
San Bruno	19	751	20	233	-1
Hayward Park	21	506	21	225	0
Tamien	13	1,422	22	211	-9
Morgan Hill	24	251	23	100	+1
Gilroy	25	187	24	95	+1
Bayshore	23	260	25	95	-2
Blossom Hill	26	159	26	57	0
College Park	27	103	27	43	0
Capitol	29	71	28	38	+1
San Martin	28	84	29	29	-1

In addition to the stations listed in the above table, Caltrain operated weekend-only service at Broadway station in the city of Burlingame. Broadway averaged 43 boardings per weekend day in FY2024.

Table 6, below, compares Average Mid-Week Ridership by the three counties Caltrain serves, Santa Clara County, San Mateo County, and San Francisco County. Santa Clara County had the highest share of total AMWR in both 2019 and FY2024. San Mateo County's share of total AMWR from 2019 to FY2024

increased from 30.6% to 32.8%, while San Francisco County's share of total AMWR from 2019 to FY2024 decreased from 27.0% to 24.5%.

Table 6: Average Mid-Week Ridership by County, FY2024 & 2019 Passenger Count

County	2019 Count AMWR	% of Total AMWR	FY2024 AMWR	% of Total AMWR
San Francisco	17,159	27.0%	5,752	24.5%
San Mateo	19,491	30.6%	7,705	32.8%
Santa Clara	26,948	42.4%	10,020	42.7%
TOTAL	**63,597**	**100.0%**	**23,477**	**100.0%**

7.6.2. Ridership by Fare Product and Fare Type

Fare Type refers to the two classifications of fares available to Caltrain riders: Adult (full price) and Eligible Discount. Eligible Discount tickets are available to seniors, persons with disabilities, youth, and Medicare cardholders, at approximately 50 percent of the full-fare price. In FY2024, an estimated 12% of trips were taken using Eligible Discount Tickets and the remaining 88% of trips were taken using Adult fare tickets.

Fare Distribution Channel refers to the platform that Caltrain fare is purchased and/or stored. As shown in Table 7, the most popular Fare Distribution Channel was the Clipper card, which accounted for an estimated 68.3% of trips in FY24. Compared to paper tickets purchased from Ticket Vending Machines (TVM), Clipper one-way tickets are discounted at 55 cents for Adult fare and 15 cents for Eligible Discount fare. Additionally, Clipper cardholders can get free or discounted rides when transferring from Caltrain to a connecting service with AC Transit's Route M, Muni, SamTrans and VTA.

Also shown in Table 7, the One-Way pass was the most popular Ticket Type, at 53%. The next most popular pass type is the GoPass, at 20.4%, which is exclusively available through partnerships with companies, schools, and cities for their employees and/or students.

Table 7: Trip Distribution by Fare Distribution Channel and Ticket Type, FY2024

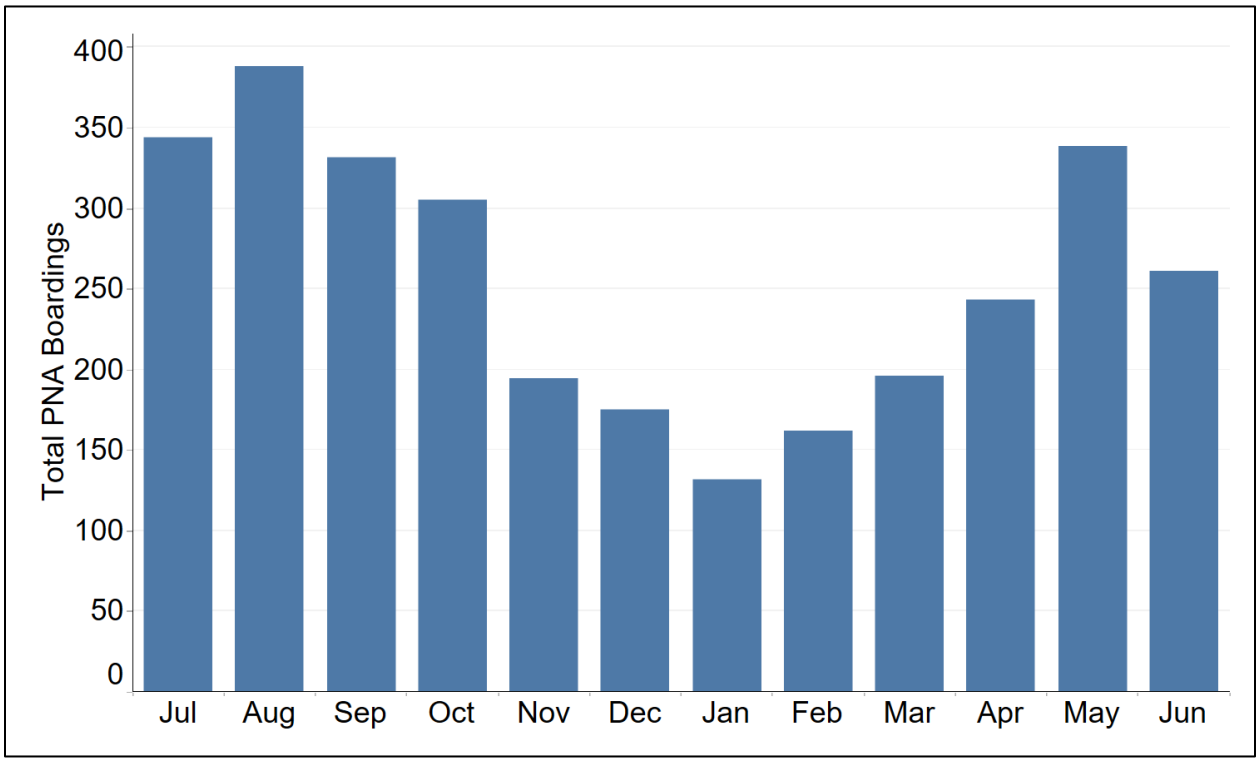
Ticket Type	Fare Distribution Channel				
	Clipper	**Mobile App**	**Sticker**	**Ticket Vending Machine**	***TOTAL****
Day Pass	-	3.9%	-	6.1%	***10.2%***
GoPass	12.8%	-	7.6%	-	***20.4%***
Monthly Pass	16.4%	-	-	-	***16.4%***
One-Way	39.0%	5.7%	-	8.2%	***53.0%***
TOTAL*	***68.3%***	***9.7%***	***7.6%***	***14.3%***	***100.0%***

**Percentages may not sum due to rounding.*

7.7. Passengers Needing Assistance Ridership

Although the implementation of the Fare Media Model removed the need for on-board conductors to collect counts for system-level ridership estimates, they have continued to collect data on PNA boardings. A PNA boarding is determined by use of the mechanical lift (on Gallery cars), bridge plate in conjunction with the mini-high platform (on Bombardier cars), or manual lift which are stored at the stations. The average total monthly PNA boardings in FY2024 was 256.

Figure 6: Total Monthly Passenger Needing Assistance Boardings, FY2024



8. Next Steps

Caltrain will continue to use the Fare Media Model for its monthly ridership reporting in FY2025. However, the railroad is scheduled to begin operation of fully electrified service between San Francisco and San Jose in September 2024. Caltrain's new Electric Multiple Unit (EMU) trains will be equipped with APCs at each door and will provide the agency with detailed station-specific ridership counts. Once the EMU APC system has been thoroughly validated, it will take the place of the Fare Media Model for reporting purposes. The model may still be maintained for internal planning purposes, as it provides valuable ridership estimates by fare distribution channel, fare type, and ticket type.