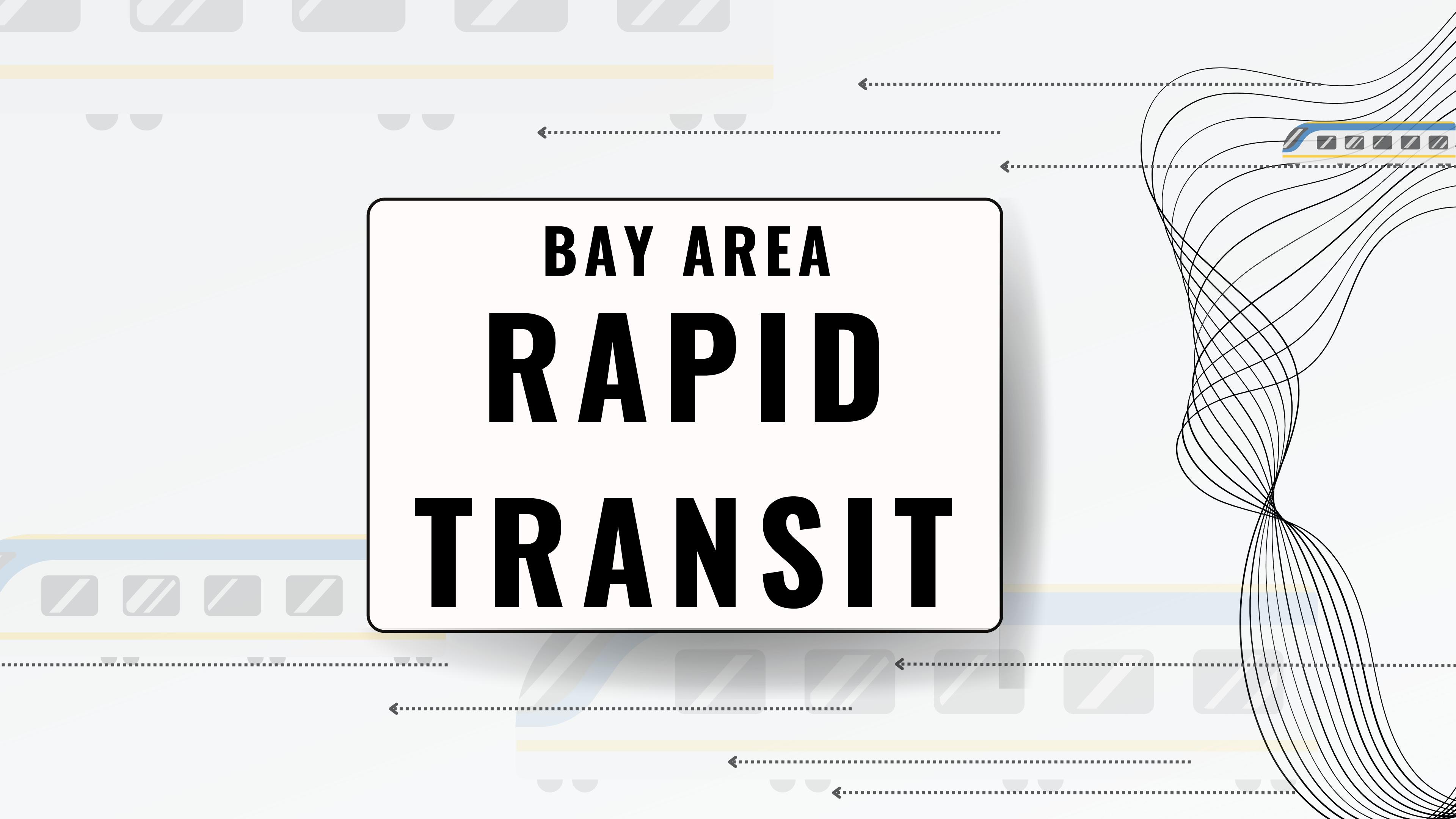


BAY AREA RAPID TRANSIT



GOALS AND OBJECTIVES

Historical Ridership

Examine historical ridership trends from 2011-2024, from the rise of rideshare to Covid.

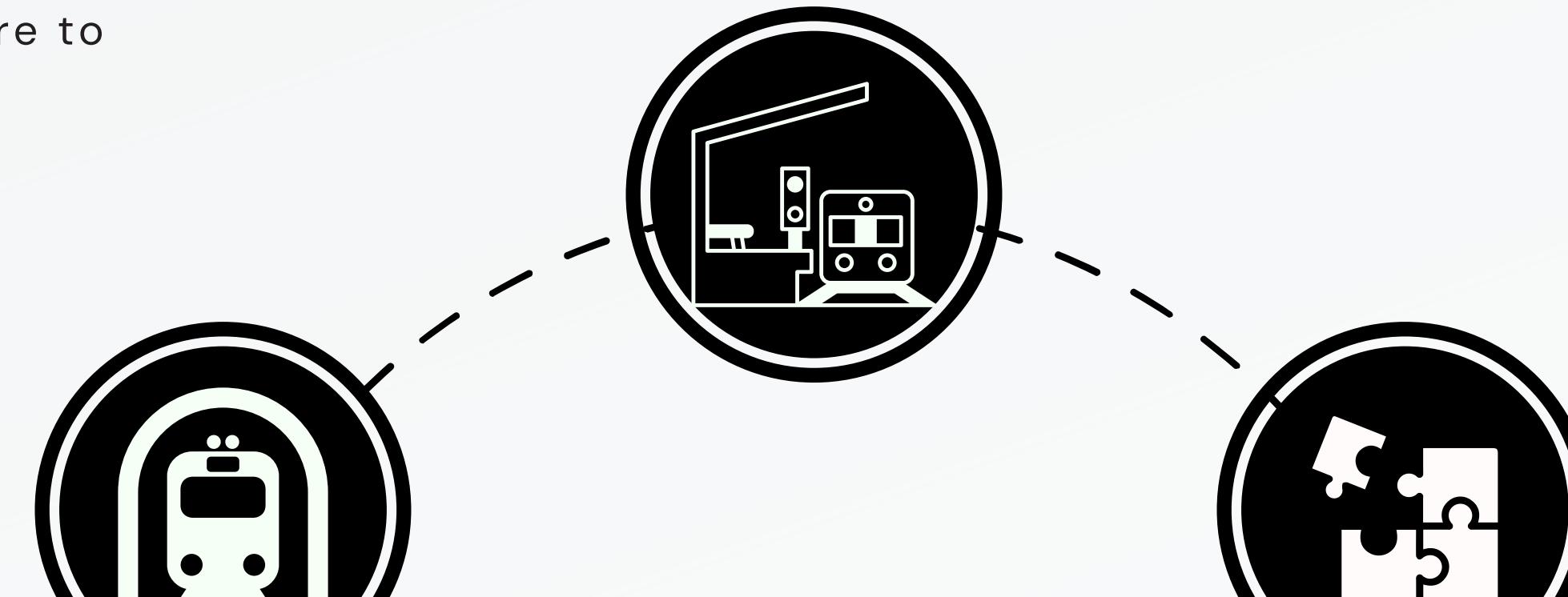
Examine station trip volume, SF Downtown

Examine station ridership to identify higher and lower performing stations, post Covid. Outline major stations and examine their volume by hour and day.

Uncover key influencers of ridership volume

Identify key drivers of ridership in post pandemic era. Develop a perspective on ridership outlook in the coming years.

Provide recommendations.

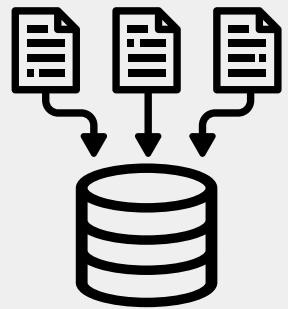


DATA CARD



The data is procured from Kaggle and from Bart.gov.
Provenance is BART.gov.

	Date	Hour	Origin Station	Destination Station	Trip Count
0	2011-01-01	0	12TH	12TH	1
1	2011-01-01	0	12TH	16TH	1



Data comes into two different types:

- 2011 – 2023, Trip Count by unique combination Origin and Destination by day by hour.
- 2023-2024, Trip Count by by unique combination Origin and Destination by month.

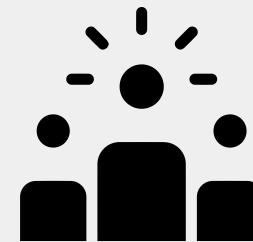
BART



San Francisco Bay Area. Connects 5 counties, 50 stations, 2 airports, 5 lines. 130 miles of track.



Funded by BART's \$1.6 billion in federal emergency funds (runs out 2025). Relies on state and regional funds to cover operational costs.



67% identify as non-white
• 44% do not have a vehicle
• 31% report having annual household incomes under \$50K.

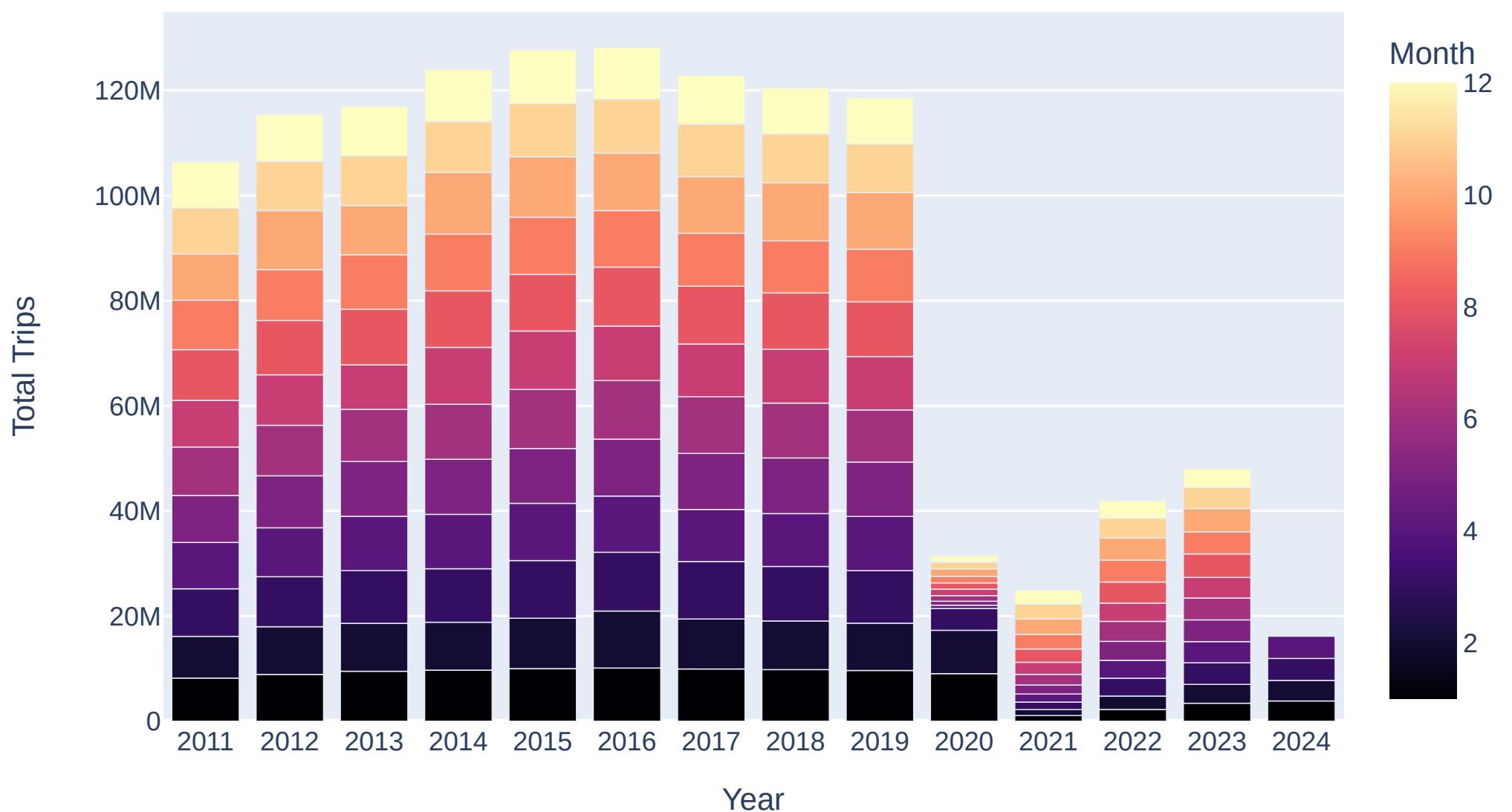
source: [Bart](#)



2011-2024 RIDERSHIP

- From 2011 to 2019, BART averaged 120 millions rides a year, peaking in 2016 at 128 million, steadily decreasing by 7.4% in 2019.
- Uber and Lyft launched in 2010 and 2012 in SF, gaining traction around 2016.
- Severe drop off in March 2020, which correlates to Covid shelter in place..

BART Ridership Over The Years



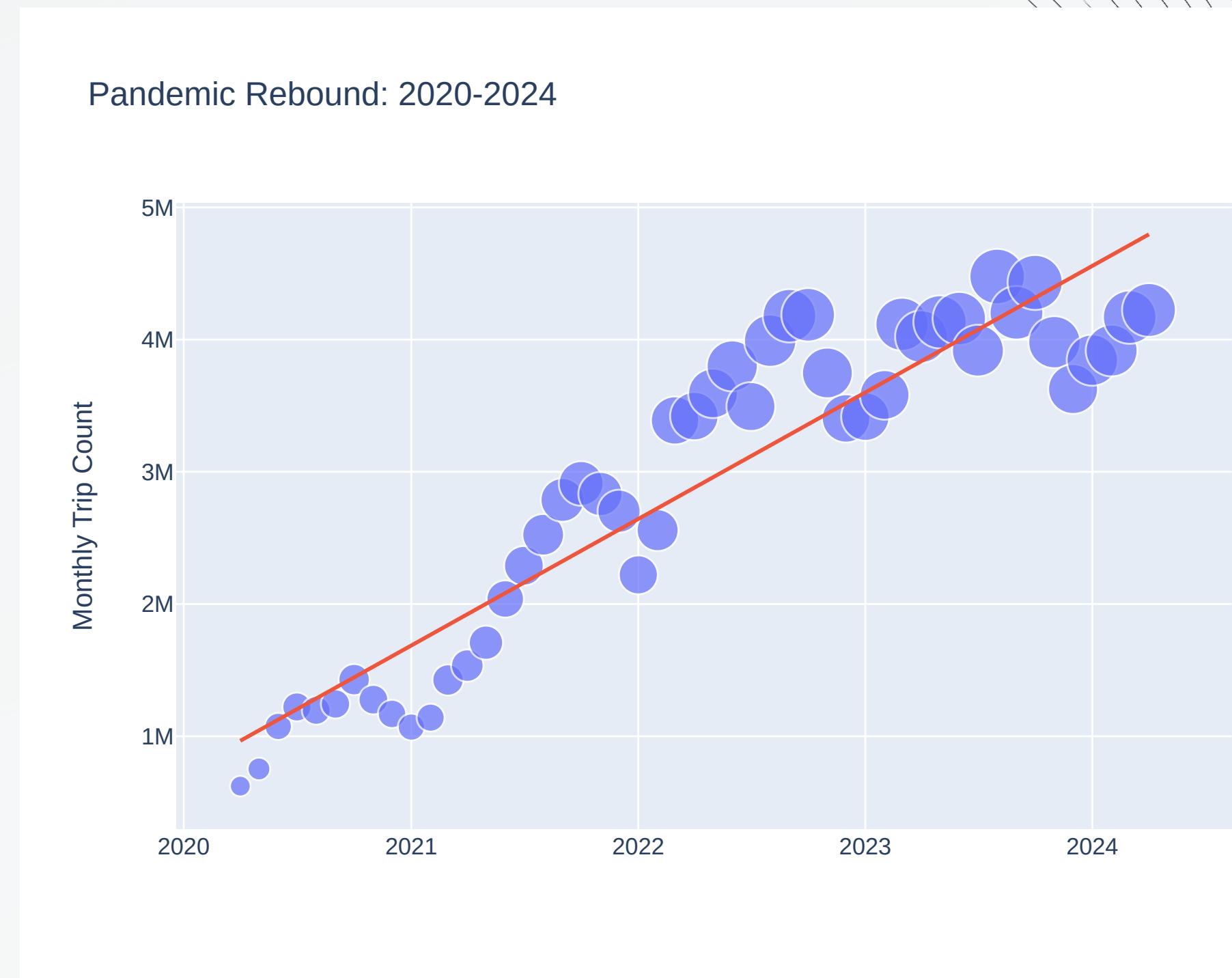
2011-2019 CHANGE IN MONTHLY RIDERS

- T - Test for each year, based on Total Trips per Month
- Significant increase in 2013 - 2014.
- Peak in 2016. Significant decrease in 2016 - 2017.
- Significant drop in 2019 to 2020.
- Significant growth coming out of pandemic.

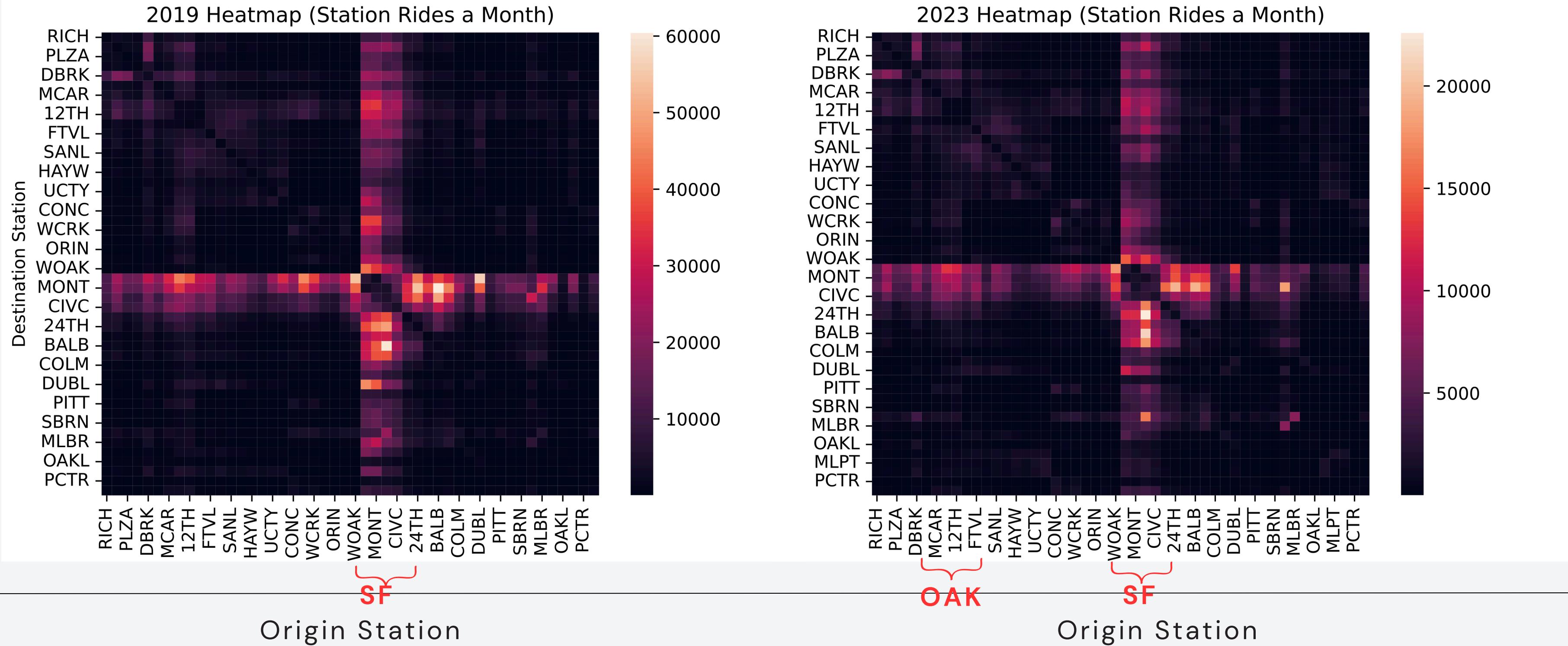
p_value	Year_1	Year_2	Month Avg
0.00	2011	2012	9620455.0
0.63	2012	2013	9747386.0
0.04	2013	2014	10337743.0
0.24	2014	2015	10646746.0
0.86	2015	2016	10684026.0
0.04	2016	2017	10239922.0
0.45	2017	2018	10043220.0
0.55	2018	2019	9884134.0
0.00	2019	2020	2618857.0
0.55	2020	2021	2080367.0
0.00	2021	2022	3498896.0
0.02	2022	2023	4005418.0
0.85	2023	2024	4038839.0

2020-2024 MONTHLY GROWTH

- Starting April 2020, avg monthly riders has growth by 929,018 per year.
- Should ridership continue to increase linearly, ridership would return by Jul 2027.
- Will ridership return to pre-pandemic volume?
- At what trip count will it plateau? When?
- What are key factors in growth?



BART ROUTES



SF DOWNTOWN 4 STATIONS

Out of 50 total stations, SF Downtown Stations are either an Origin or Destination Station for 30% of all trips in 2023/2024.

Down from 33.6% in 2019.

30%



TRIPS



EMBARCADERO

Mix of waterfront tourism, retail, and financial district activity.

Nearby: Google, Ferry Terminal, restaurants, recreation.

MONTGOMERY

Mostly corporate offices with some takeout lunch restaurants.

Nearby: Wework, Bank of America, Chinatown.

POWELL

Epicenter of tourism with hotels and shopping. Historic Cable Car terminal.

Nearby: Cable Car, Westfield Mall, Union Square, Hotels. Flagship stores and movie theaters.

CIVIC CENTER

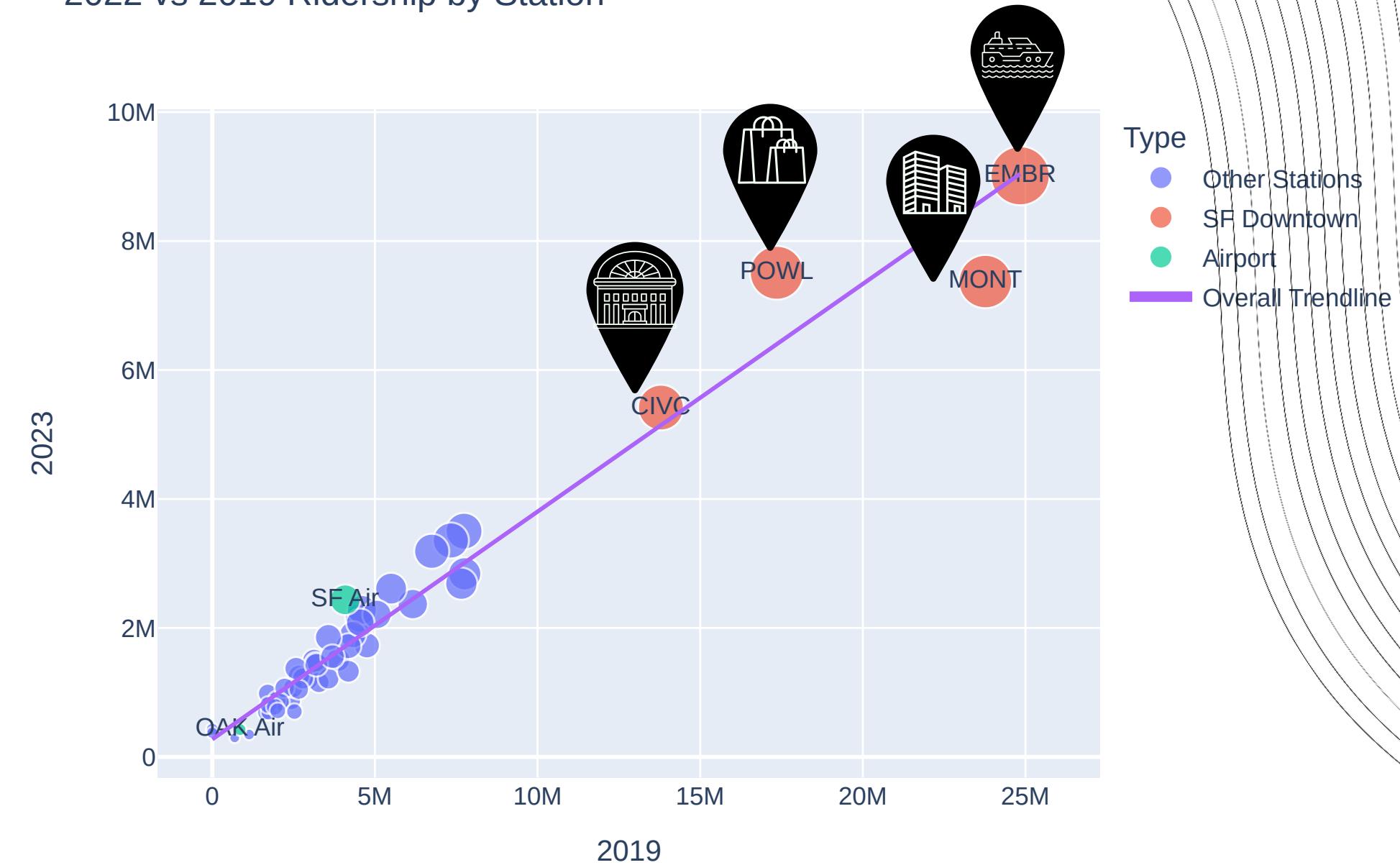
Epicenter of city organizations and city services

Nearby: City Hall, Planning, Building, Transpotation Departments. City Services.

BOUNCEBACK BY STATION

- Average 2022 of 2019 % ridership per stations is 35%.
- Top four stations in gross ridership are SF Downtown Stations. POWL Station is leading other stations in bounce back at 43.2%, while MONT is lagging at 31.01%.

2022 vs 2019 Ridership by Station

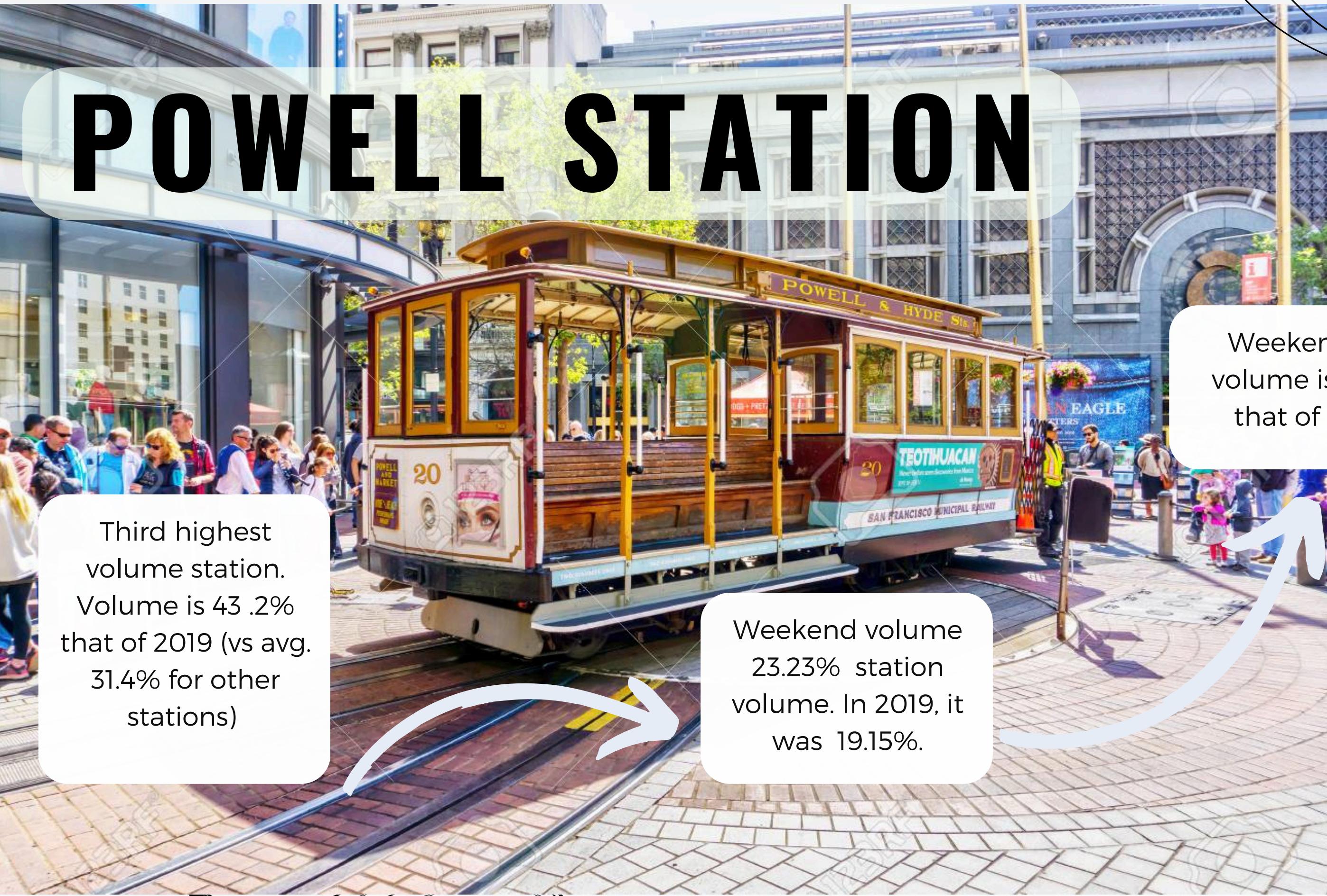


2019 V 2022 RIDERSHIP

- Weekday commute 2019 is uniform across days; 2022 commute differs in volume per type of day. Hybrid remote work introduced. EMBR and MONT impacted.
- Weekend Trips account for a larger percentage of trips per station. On average, weekend trips represent 5% more of the Trip Volume in 2022 than in 2019.



POWELL STATION



Third highest volume station. Volume is 43.2% that of 2019 (vs avg. 31.4% for other stations)

Weekend volume 23.23% station volume. In 2019, it was 19.15%.

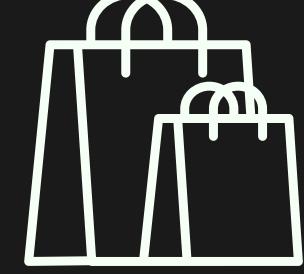
Weekend trip volume is 50.7% that of 2019.

IMPACT ON TRIP VOLUME



Corporate offices offering hybrid remote or optional in person attendance are the main drivers of decreased ridership. Most popular work commute days are Tuesday, Wednesday and Thursday.

REMOTE WORK



Shopping, recreation, and tourism are giving reasons for the public to travel and gather.

Retail hubs and vibrant storefronts play an important role in increasing ridership.

RETAIL & TOURISM



Uniformity in weekday commute suggests that civic jobs are all subject to the same work policy, resulting in more uniform attendance.

CIVIC JOBS

RIDERSHIP OUTLOOK

It is unlikely that ridership will return to its pre-pandemic volume as significant changes have been made to the way we gather.

Large tech offices continue to vacate SF Downtown: Google vacate 300k square feet, Salesforce vacates Salesforce tower, decreases their footprint by 45%.

As tech companies continue downsizing, they are increasingly embracing a remote work model.



Large retailers are following suite and vacating their leases. Westfield Mall defaults on their loan, Macy's selling their two buildings, Uniqlo and Forever 21 also closing.

Vacant storefronts will negatively impact this retail hub.



Without anchors, such as corporate offices or flagship retail to draw riders to SF Downtown, BART ridership will not return to its full capacity, putting its operational costs at risk.

More concerning, SF Downtown is at risk of losing its vibrancy and commercial hub.

RECOMMENDATIONS

Populate Storefronts

Ensure that empty storefronts are filled, even temporarily, with installations or short term leases that engage foot traffic to maintain downtown interest.

Incentives landlords to fill their vacant spaces. Connect them with organizations like SF New Deal and their 'Vacant to Vibrant'.

Create an immersive in person experience

Create pedestrian only commercial streets that are (closed to vehicles) and promote a more immersive retail and leisure experience.

Host events in open air spaces to draw people in. Event days are recommended for Fridays 5pm-7pm (to encourage weekday commuters to come in Friday), and Saturday and Sunday from 12pm-6pm.

Nightlife Destination

Re-position downtown as a destination for restaurants and nightlife to encourage Friday commuters to end their work day with an evening of fun.

Work with restaurants to offer weekday value added menus.



Final reflections and future steps

In investigating BART ridership from 2011 to 2024, we charted the historical and current state of ridership through the launch of ride share and through the pandemic.

Perhaps, more importantly, we have unearthed the indelible changes of the pandemic, and how San Francisco and its neighboring 5 counties are choosing to gather. As in person work and commutes change, San Francisco may have to plan for a vibrant Downtown by changing its existing use and purpose.

Future research should be completed to corroborate these findings. SF Muni, Uber, and Lyft Data should investigate overall commute patterns.





THANK'S FOR
WATCHING