

BEST BUDDIES®



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Does SF public transportation underserve those
in low-income communities or without cars?

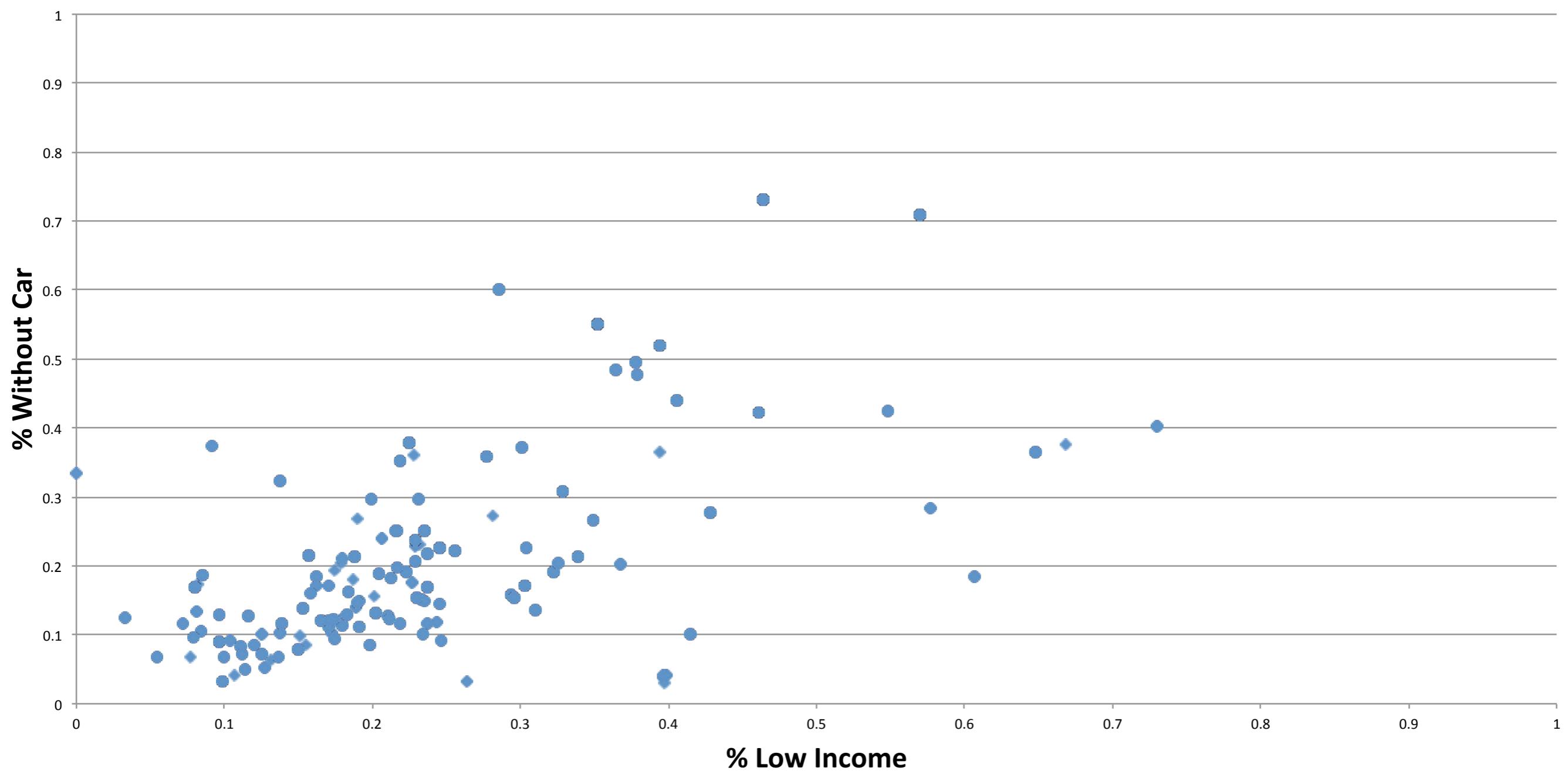
Bus Data from Swissnex Urban Data Challenge

- October 1-7, 2012
- Passengers getting on and off each bus at each stop
- Location of all stops and routes

Methodology:

- Cleaned Bus data in SQL: limited to weekdays and commute hours (7:30-9a, 5-6:30p), calculated average loads, boarding rates, etc.
- Attached census data using Data Science Toolkit
- Correlations in Python
- Visualization in D3.js, Excel

People in low-income neighborhoods own fewer cars... sort of



A bus route's placement in a low-income area was more correlated with bus load than any other metric we looked at

attribute	r
low income	0.37
pop 18-24	0.36
pop 25-64	0.36
no vehicles	0.34
population	0.34
density	0.14

...but still not very correlated

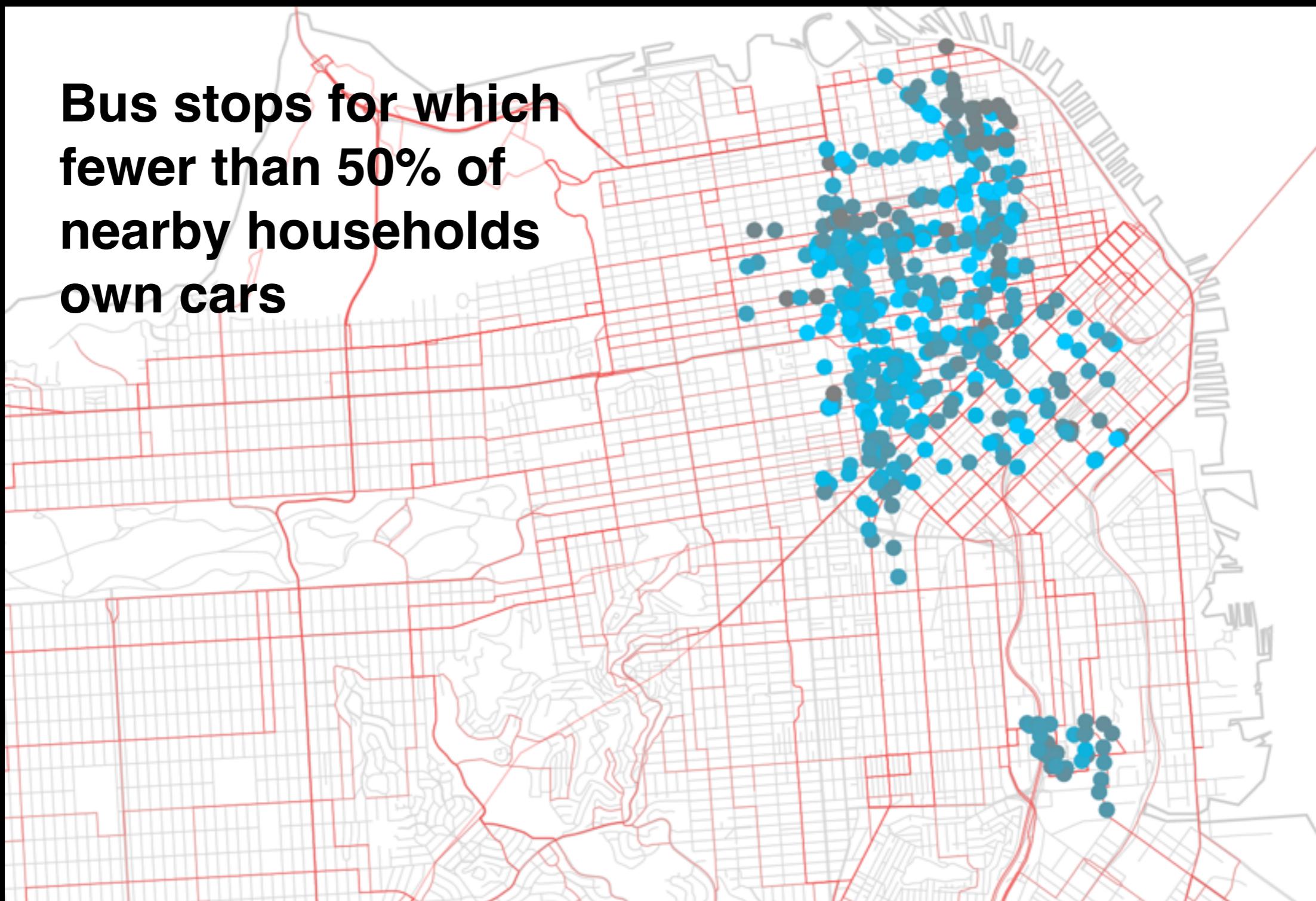
In strong examples of this correlation, it's clear that another factor is not being accounted for



Specific stops that fit this trend best also exhibit attributes that likely affect this correlation



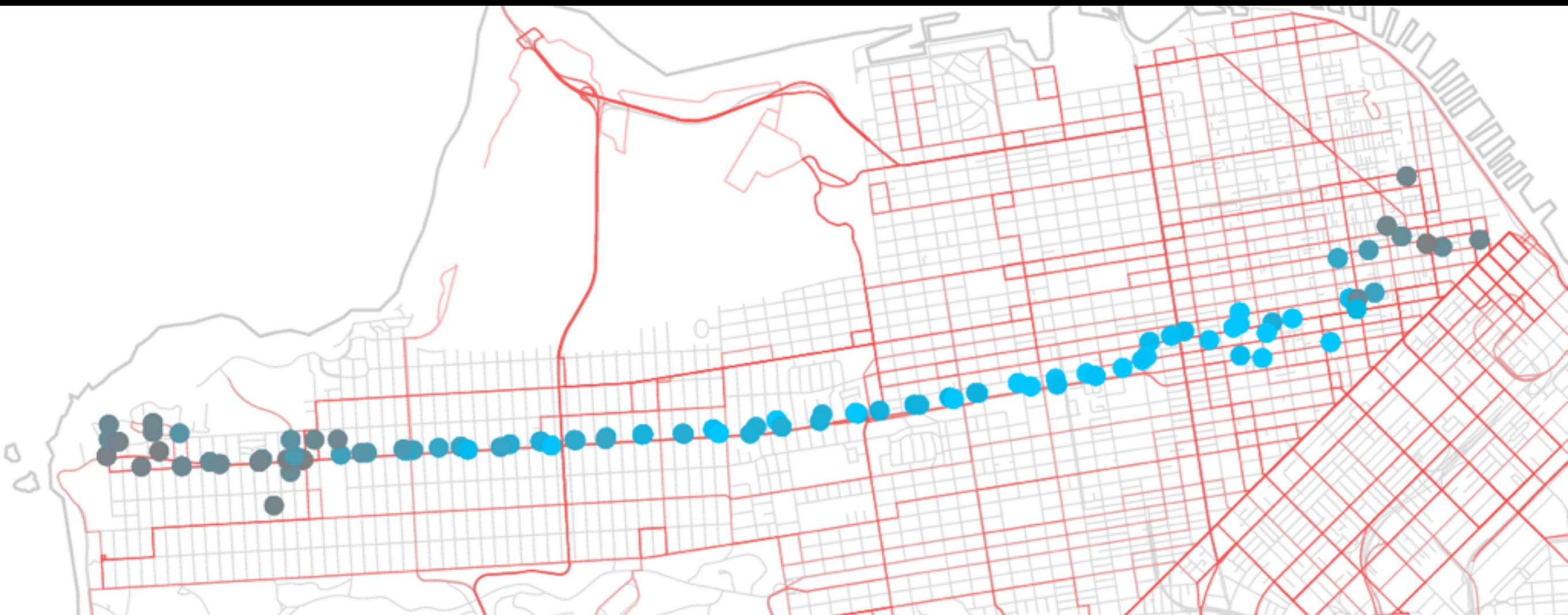
Similarly, areas in which people do not own cars also happen to be on the way into downtown



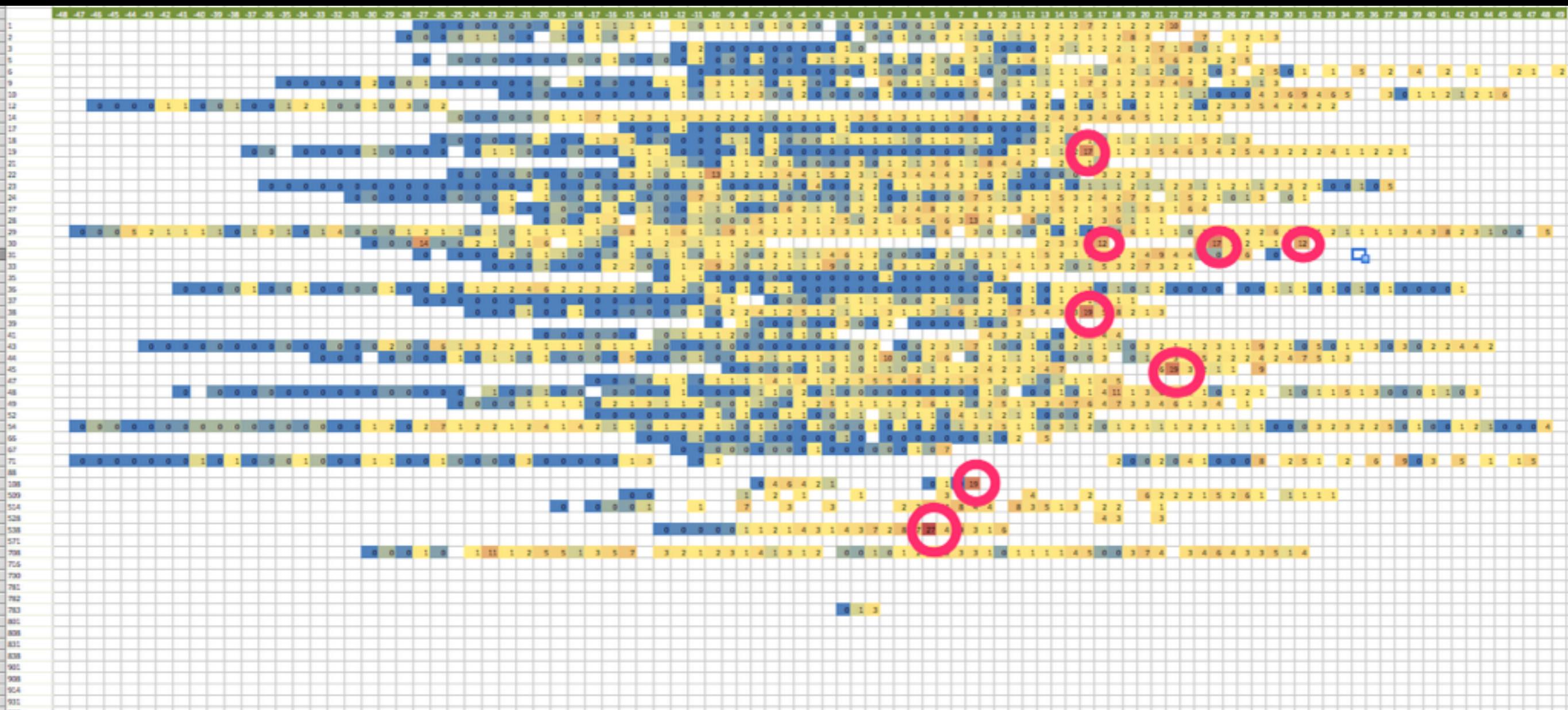
The “gateway to downtown” effect is apparent in the high load in the middle of most lines



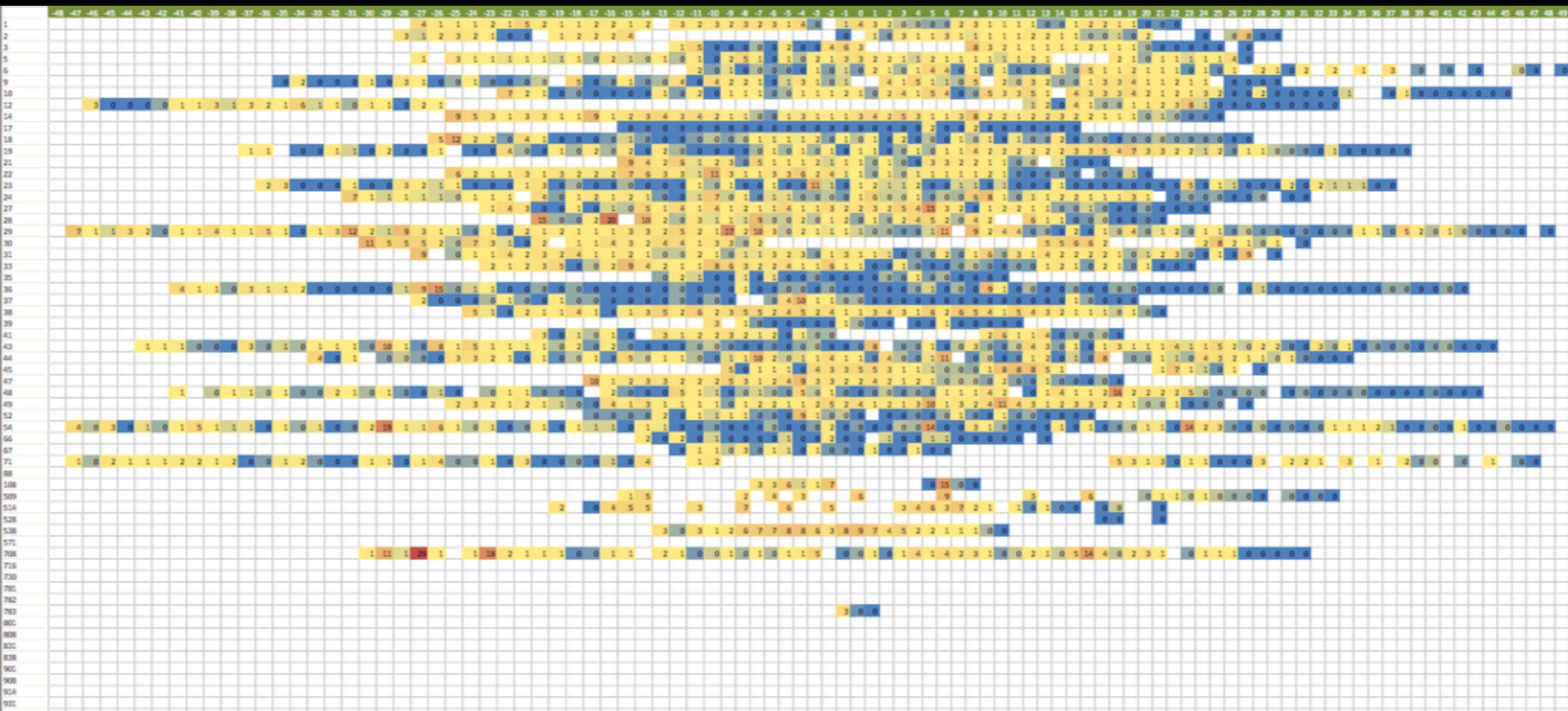
The most impacted lines are the 38 and 38L, which connect downtown to the Richmond



Reverse commute: people get off in clusters



Reverse commute: but they get on everywhere

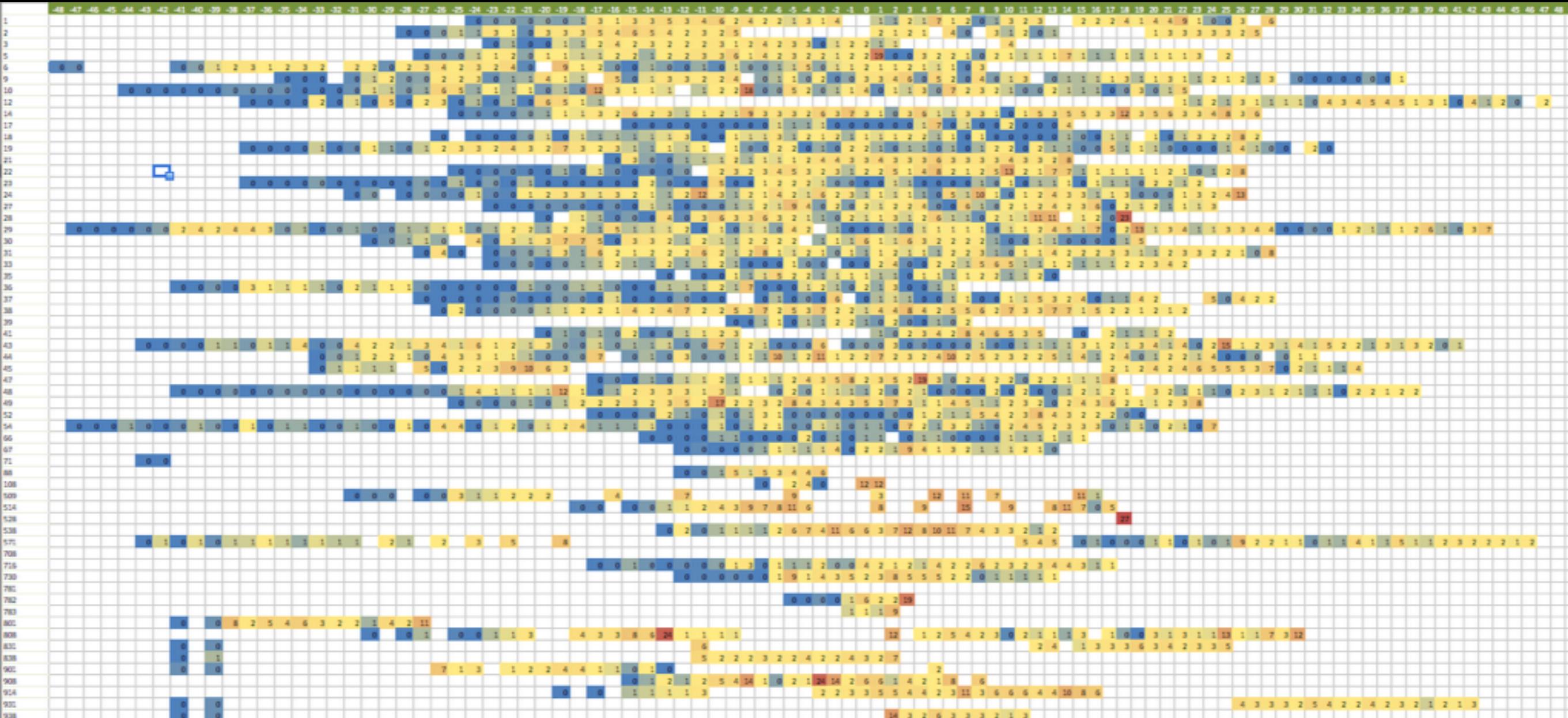


exception: 35, 37, 54, 28 - mass boarding
 17, 54, 56 - nobody uses

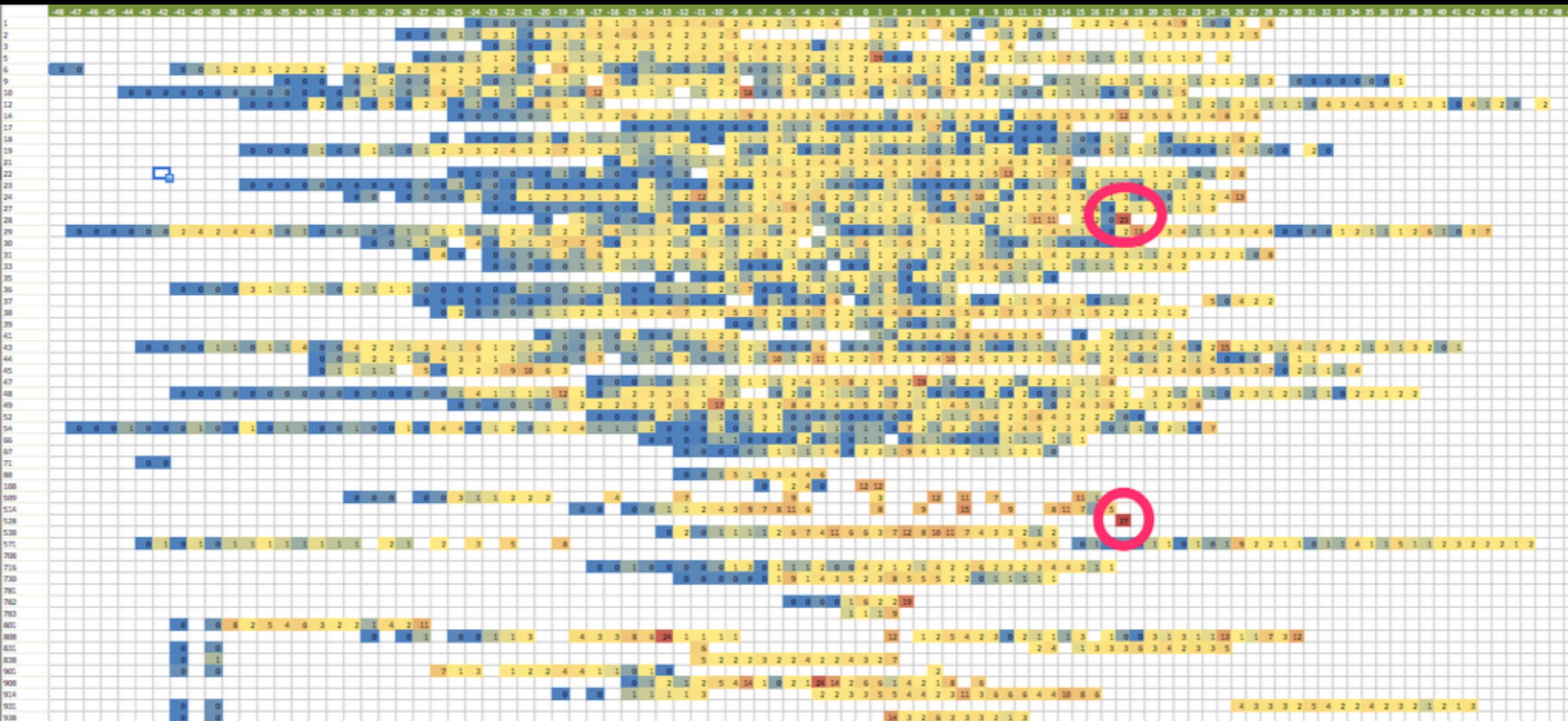
the evening commute: people really get on in clusters early on the line



and they get off in smaller groups throughout the trip

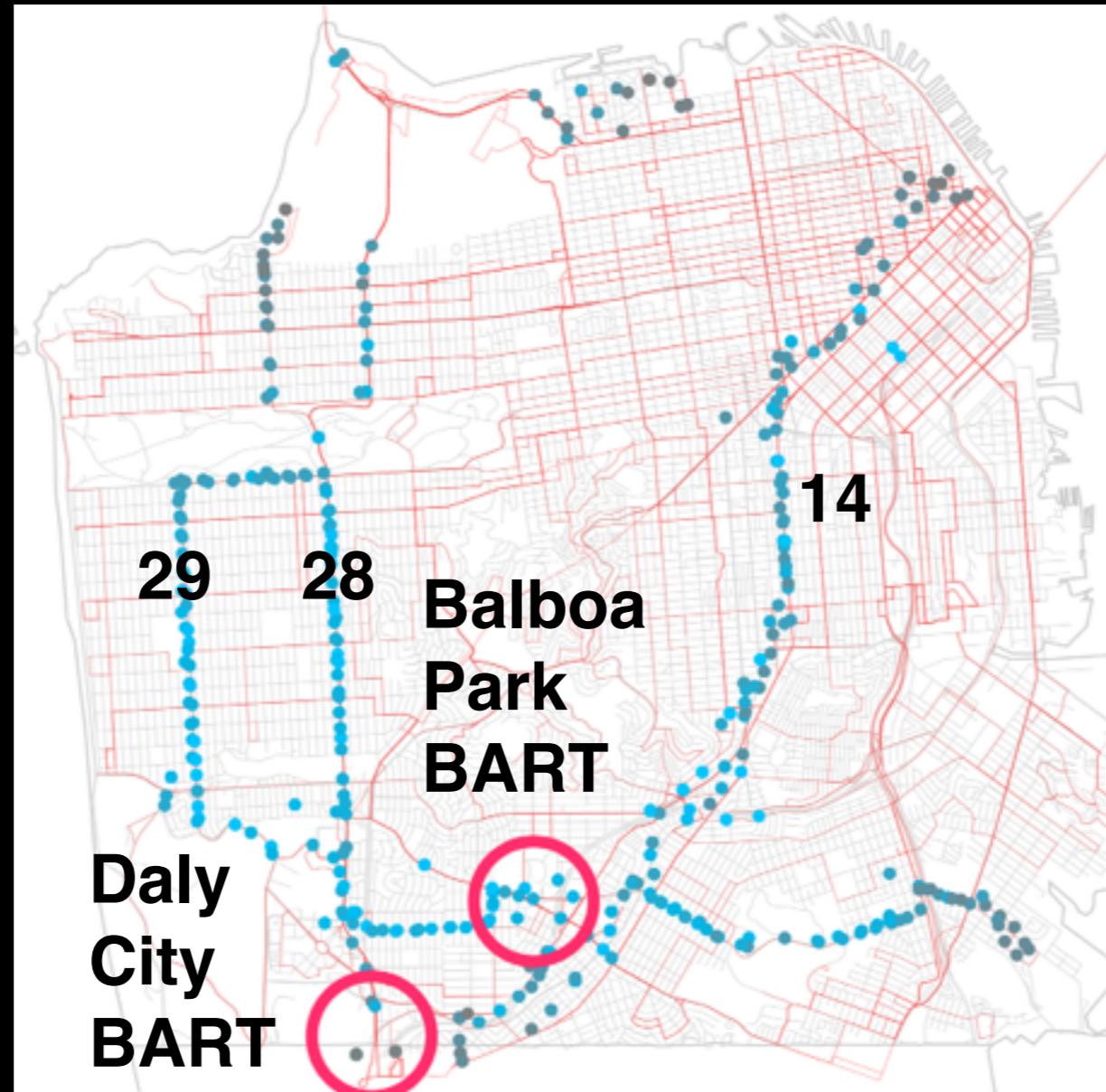


the 28: passengers really care about one stop



that's Daly City Bart

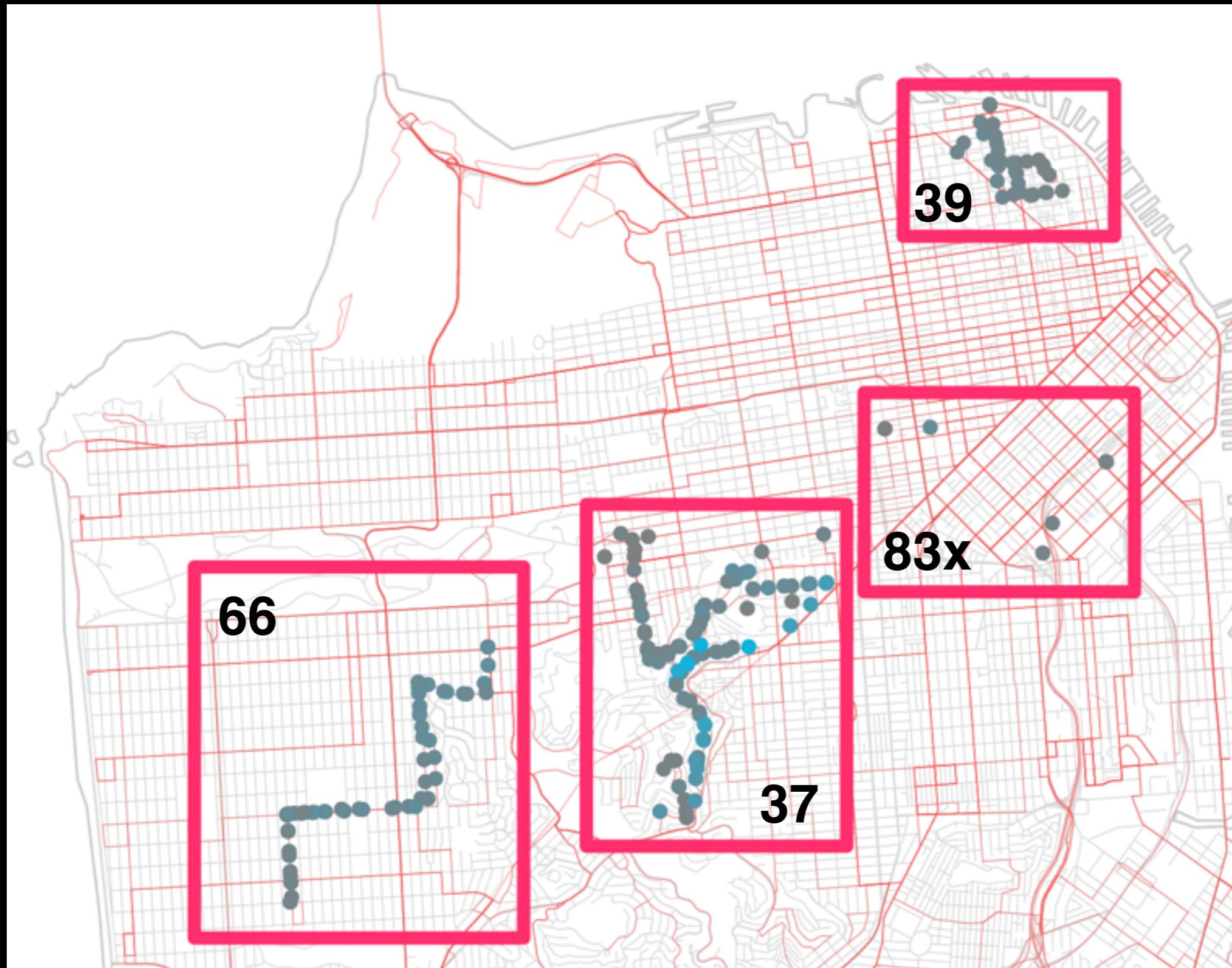
There's a lot of activity on the South end of San Francisco relative to the number of lines



Popular stops are near other public transit

There could be opportunities to improve people's ability to get to other types of public transit

Isolated neighborhood lines don't see much use



Check out the data yourself:

<http://dvncan.com/buses.html>

Future work:

- Data Accuracy
- Understand connections between transit types (BART, Caltrain)
- Look into fewer stops for inbound lines: 30, 28, 19. For 38L, possibly run an AX or BX instead
- Look into scheduling and available buses