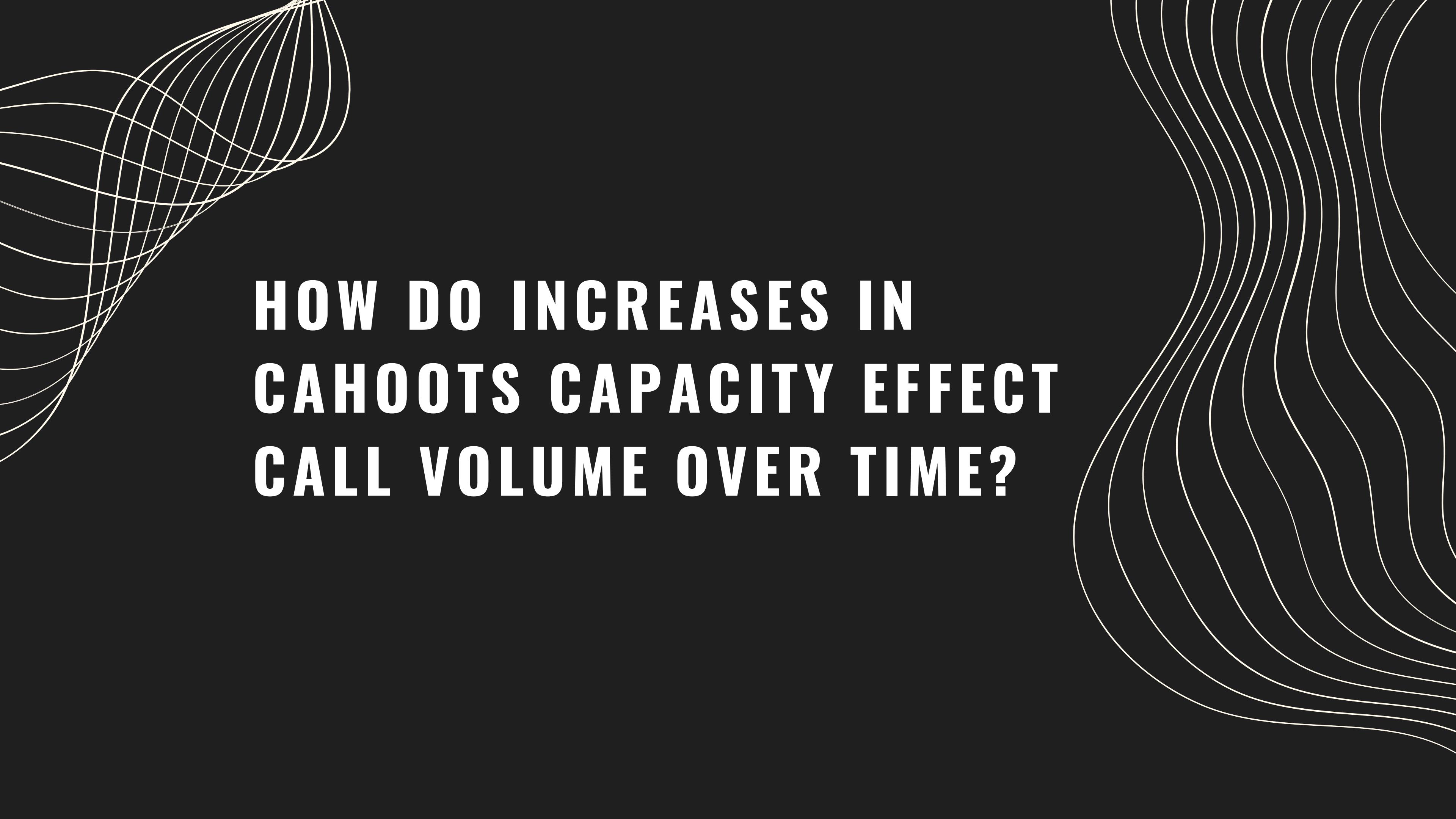


ANALYZING TRENDS IN CAHOOTS CALL VOLUME OVER TIME: IMPACT OF CAPACITY ADDITIONS

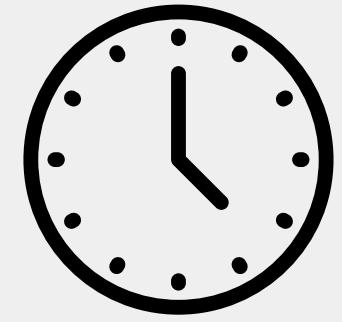
BY: ELIJAH ANDRAE





**HOW DO INCREASES IN
CAHOOTS CAPACITY EFFECT
CALL VOLUME OVER TIME?**

BACKGROUND



- Most recent analysis of Cahoots call volumes happened in 2018.



- There is no reason to add capacity if calls don't increase.
- Elsewise capacity increases can benefit our entire community.



CAHOOTS VAN. PHOTO: TODD COOPER/EUGENE WEEKLY

DATA

| Data Used* | | | | | |
|------------------------|---------------------|------------------|------------------|---|---------------|
| Call Time | Reason for Dispatch | Call Sign | 2 Call Sign | Disposition | |
| Missing Count | Missing Count | Missing Count | Missing Count | Missing Count | Missing Count |
| 22 Unique values | 20 Unique values | 27 Unique values | 26 Unique values | ASSISTED 16.7% REPORT TAKEN 16.7% Other 66.7% | |
| 0 2016-01-01 00:12:00 | ILLEGAL PARKING | 2X21 | 6E31 | PATROL CHECK | |
| 1 2016-01-01 00:15:00 | TRAFFIC STOP | 1J77 | 2E52 | ASSISTED | |
| 2 2016-01-01 00:21:00 | PATROL CHECK | 6E31 | nan | UNFOUNDED | |
| 3 2016-01-01 00:00:00 | DISPUTE | 5E48 | 4E42 | CAMPING COMPLAINT CLOSE... | |
| 4 2016-01-01 00:03:00 | CHECK WELFARE | 3F66 | 1F67 | REPORT TAKEN | |
| 5 2016-01-01 00:27:00 | BEAT INFORMATION | 4E34 | 4E56 | WELFARE CHECK DONE | |
| 6 2016-01-01 00:03:00 | DISPUTE | 4E42 | 2W76 | REPORT TAKEN | |
| 7 2016-01-01 00:07:00 | TRANSPORT | 4T88 | 1W78 | RESOLVED | |
| 8 2016-01-01 00:09:00 | CRIMINAL MISCHIEF | 2W91 | EP696 | ASSISTED | |
| 9 2016-01-01 00:19:00 | DISPUTE | 1E25 | nan | ADVISED | |
| 10 2016-01-01 00:21:00 | ILLEGAL CAMPING | 2W75 | 5E51 | CITED IN LIEU OF CUSTODY | |

*Randomly generated example data

- Cad Data
- “Call Time”, “Call Sign”, “Incident Description” and “Disposition”
- Included non-police Cahoots Reason for Dispatch categories
- Monthly periods
- Only call signs “3J78”, “1J77”, “4J79”

Focused on 3 time periods:

1 Shift:

- Jan 1, 2016 – Jan 1, 2017
- Only analyzing call sign 3J78

2 Shifts:

- Jan 1, 2017 – Oct 10, 2018
- Added new daily operation hours from 0500 to 1200
- New call sign 1J77

3 Shifts:

- Oct 10, 2018 – April 1, 2022
- New Van
- New call sign 4J79

METHODS

Percent Calls

- Identified the first instance of each call sign manually.
- Graphed the monthly percentage of Cahoots calls over time.



Correlation Plot

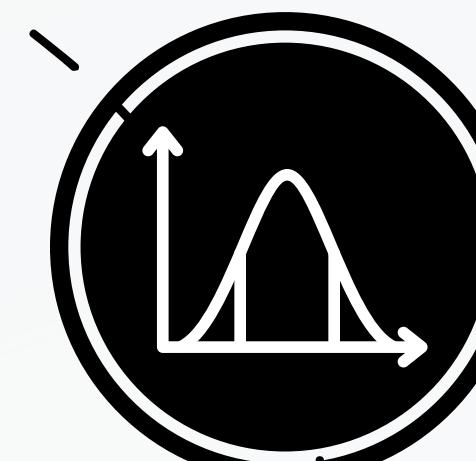
- Illustrated the percentage of individual shift call signs concerning total calls to examine correlation.



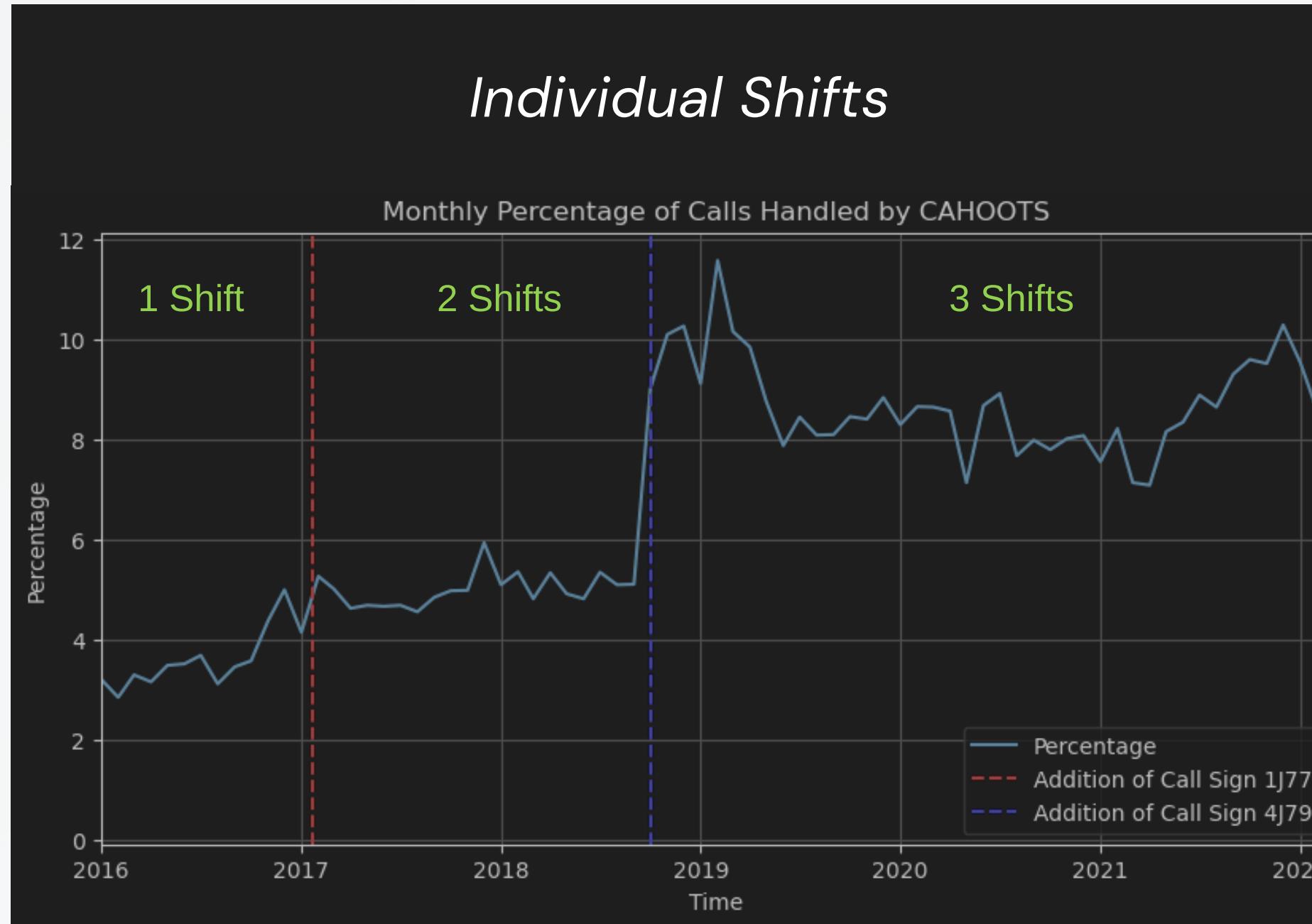
The "calculate_counts" function tallies monthly calls for call signs '3J78', '1J77', or '4J79'. Then calculates the percentage of calls handled and total CAD calls.

Distribution Testing

- Utilized random sampling from the dataset to establish distributions for average Cahoots call volume over a specific period.

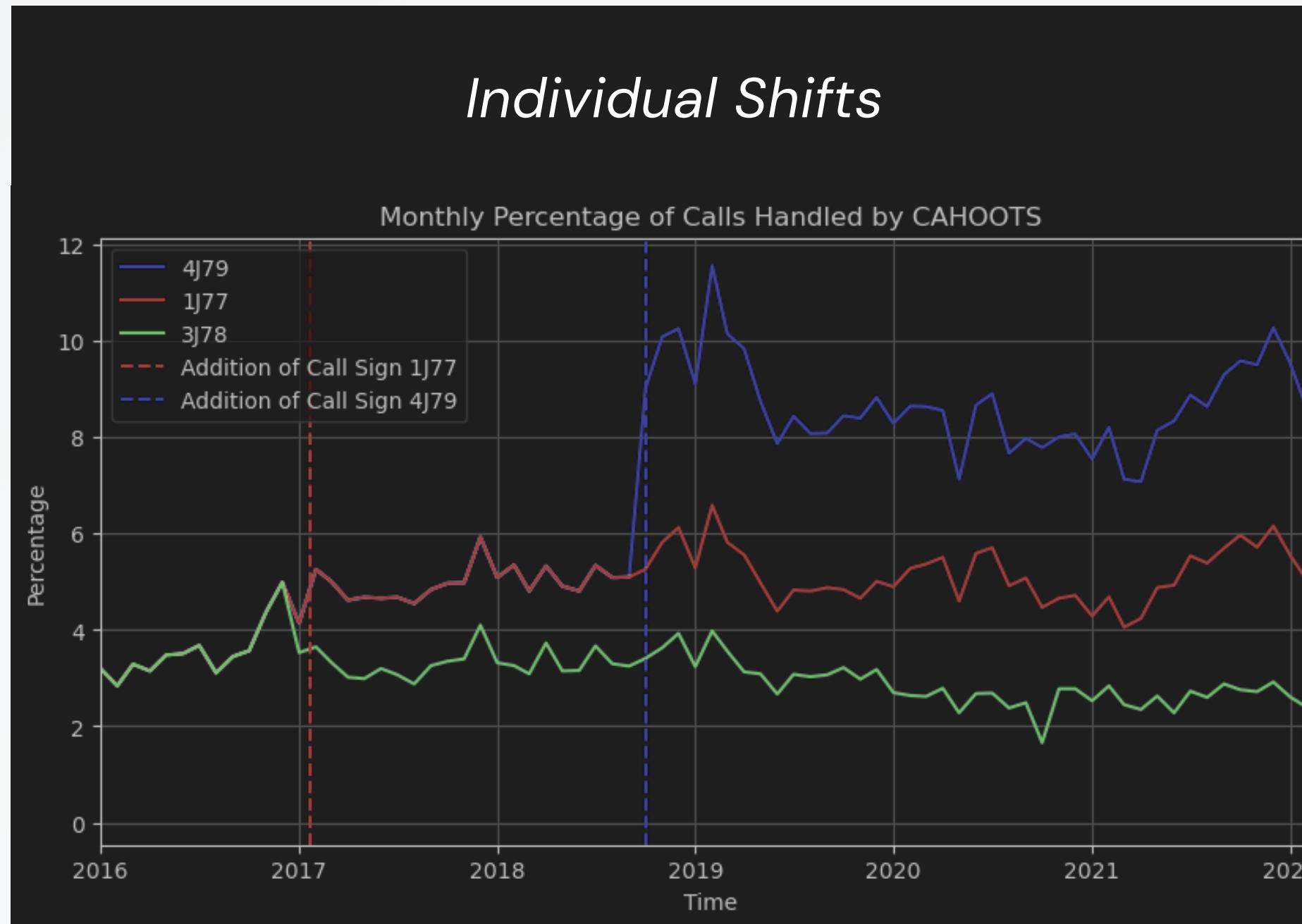


ADDITION OF SHIFTS



- Boost in 3J78 before 1J77, back to normal shortly after.
- 4J79 majorly increases Cahoot call volumes
- Drop in call volume at the beginning of 2019. What happened?
- Numbers don't return till post-pandemic.

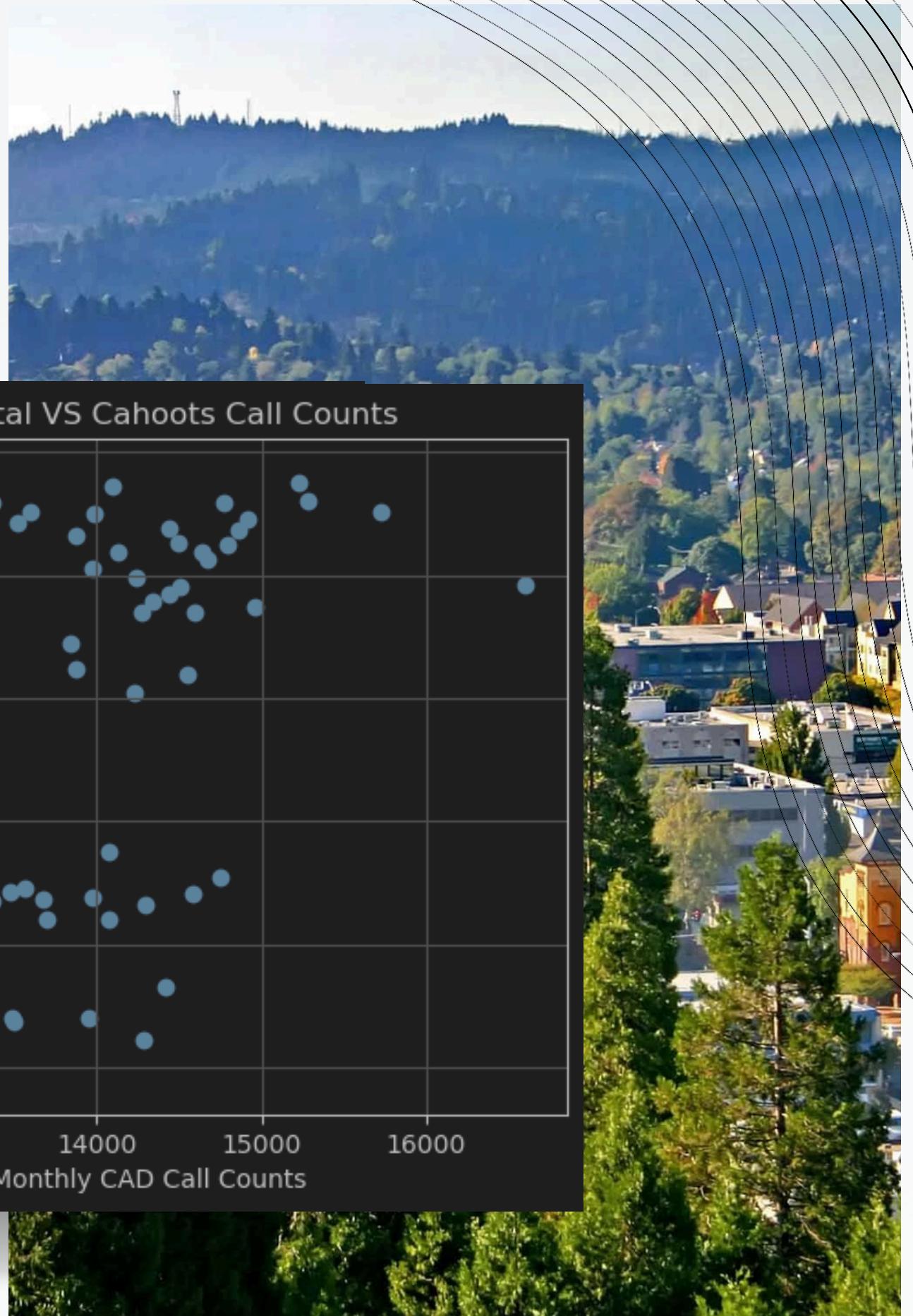
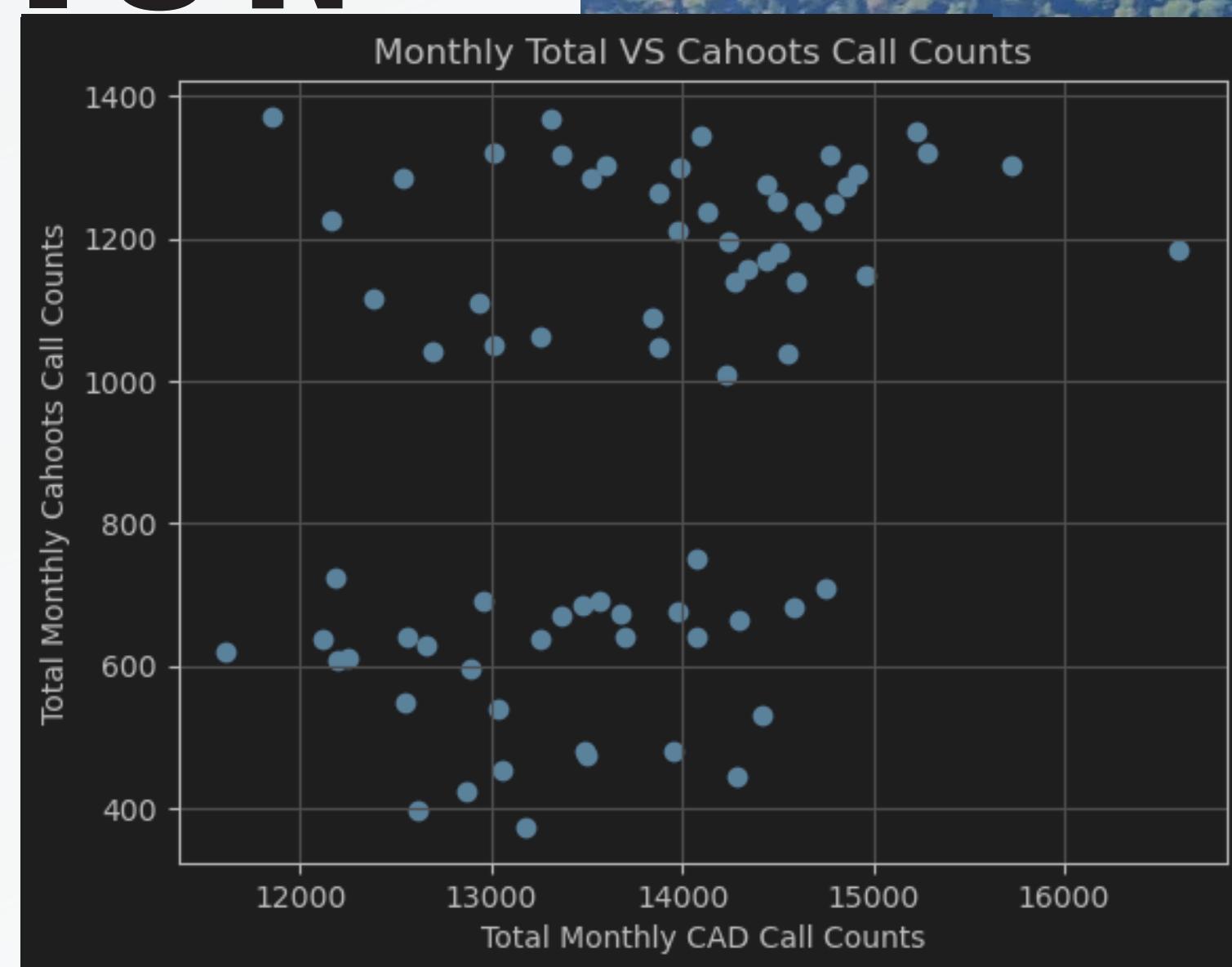
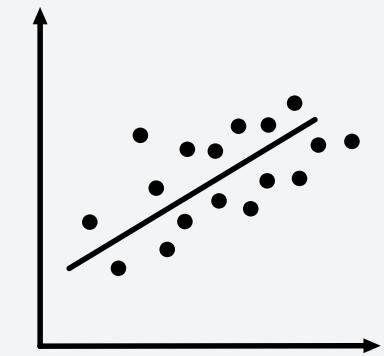
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CALL CORRELATION

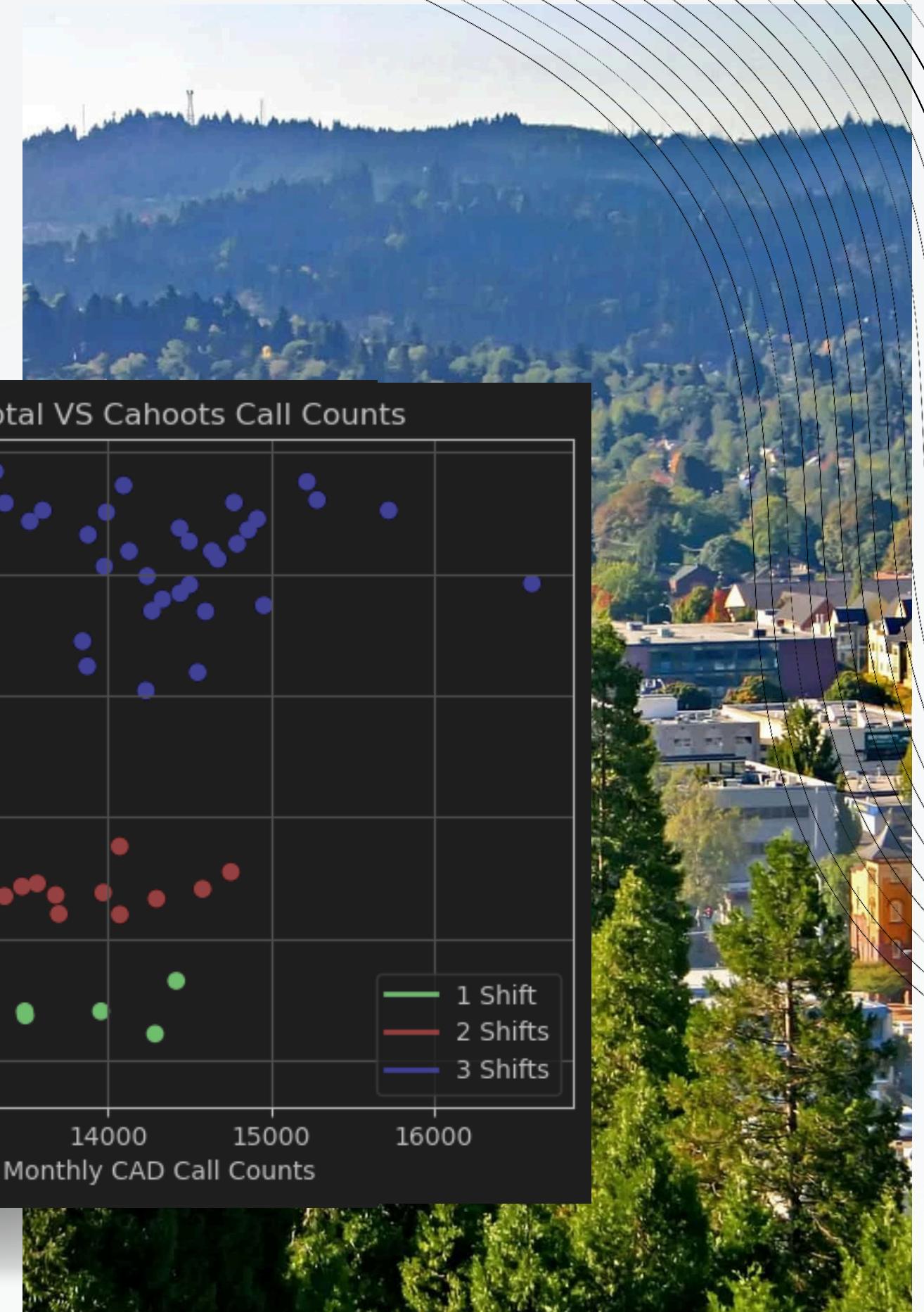
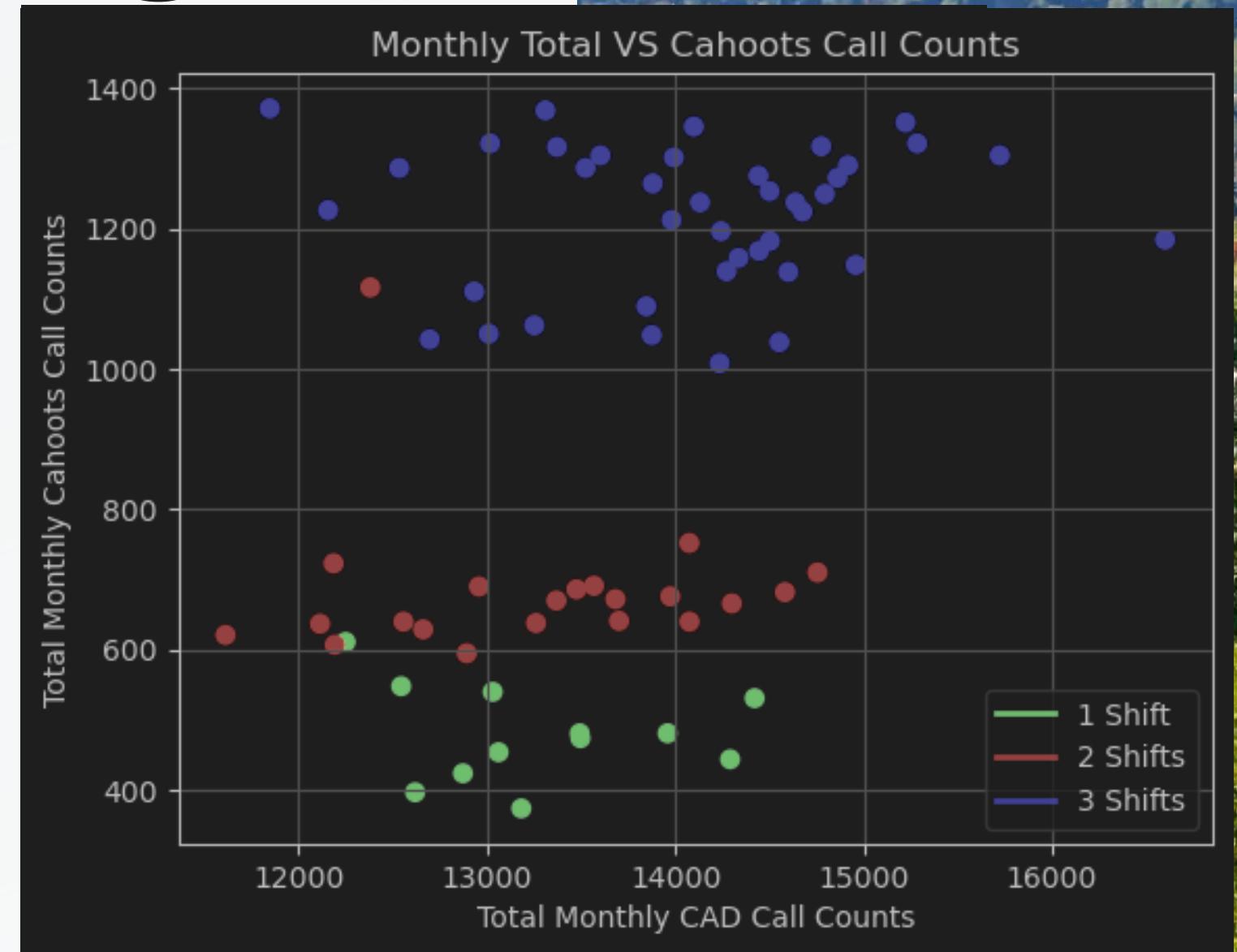
- Comparing call volumes over our three time
- 3 distinct groupings of call counts based on period.
- No correlation between Cahoots calls and CAD Calls



A TOWN OF PARKS, TREES, AND WATERWAYS.
PHOTO: ALAMY - EUGENE, OR.

CALL CORRELATION

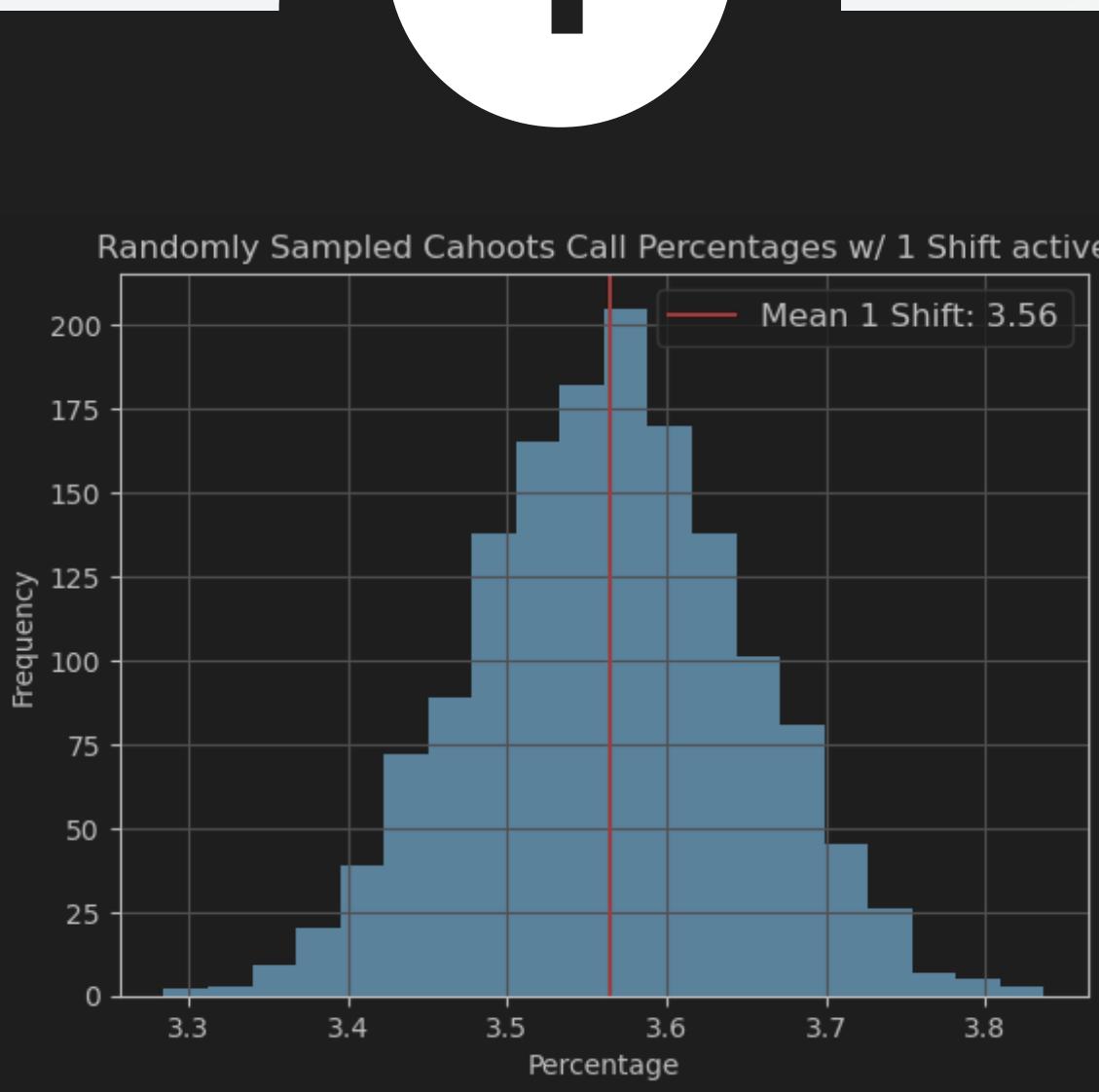
- Comparing call volumes over our three time
- 3 distinct groupings of call counts based on period.
- No correlation between Cahoots calls and CAD Calls
- Number of Cahoots calls dependent on capacity.



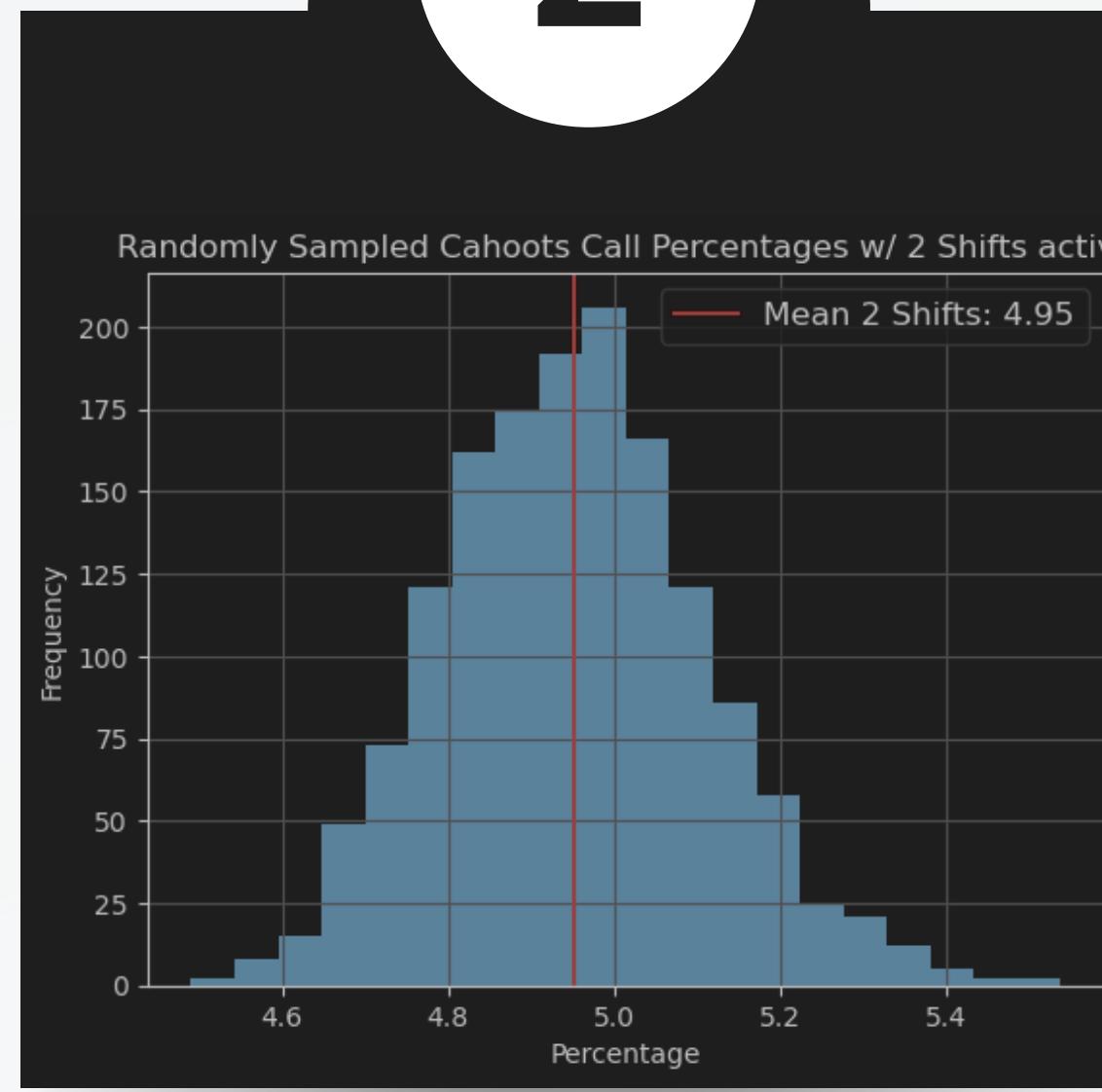
A TOWN OF PARKS, TREES, AND WATERWAYS.
PHOTO: ALAMY - EUGENE, OR.

VALIDATING RESULTS

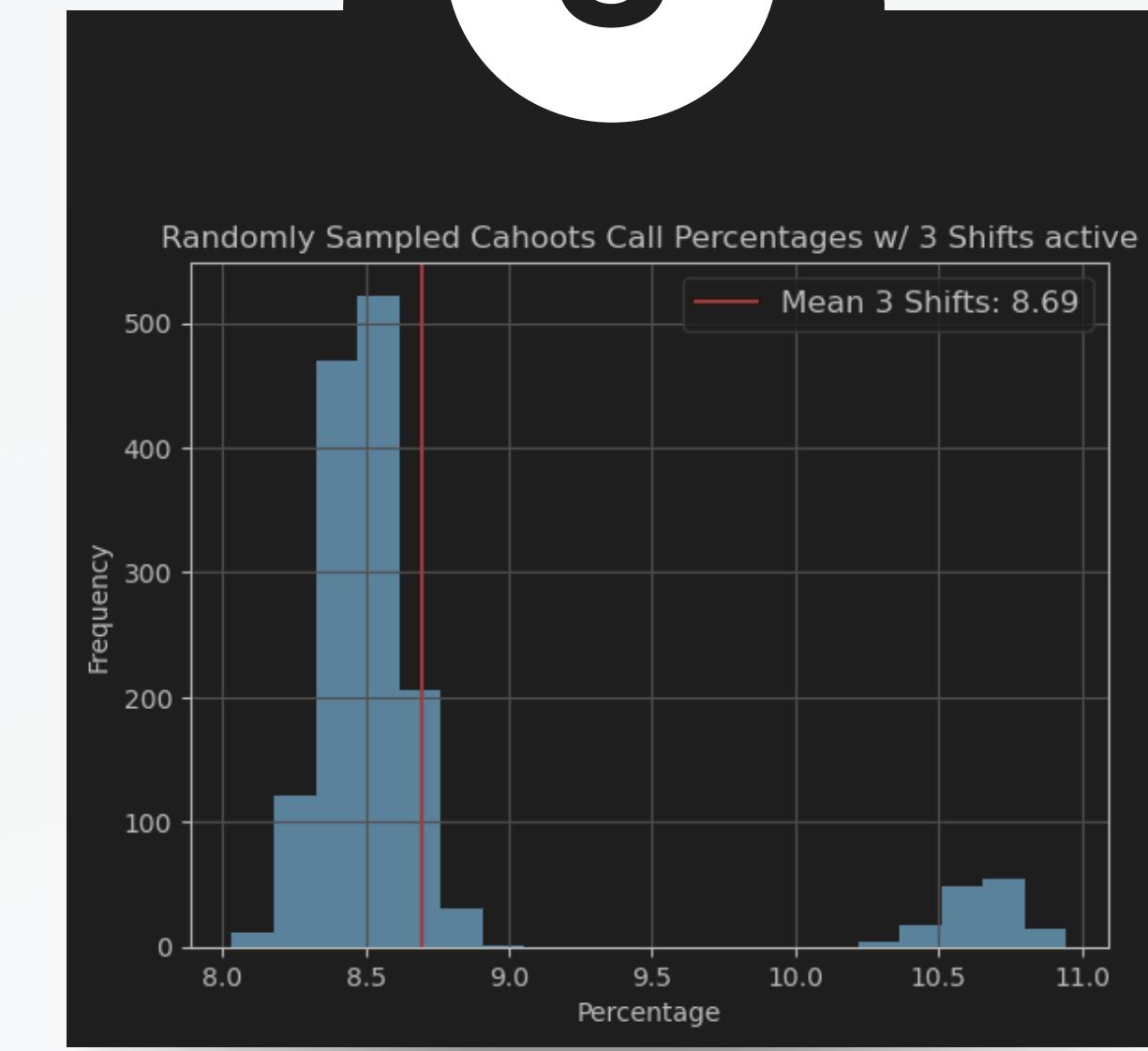
1



2



3



Randomly sampled calls from 3 datasets filtered to distinct time periods.
Calculated the percentage of Cahoots calls that contained one of the three call signs.

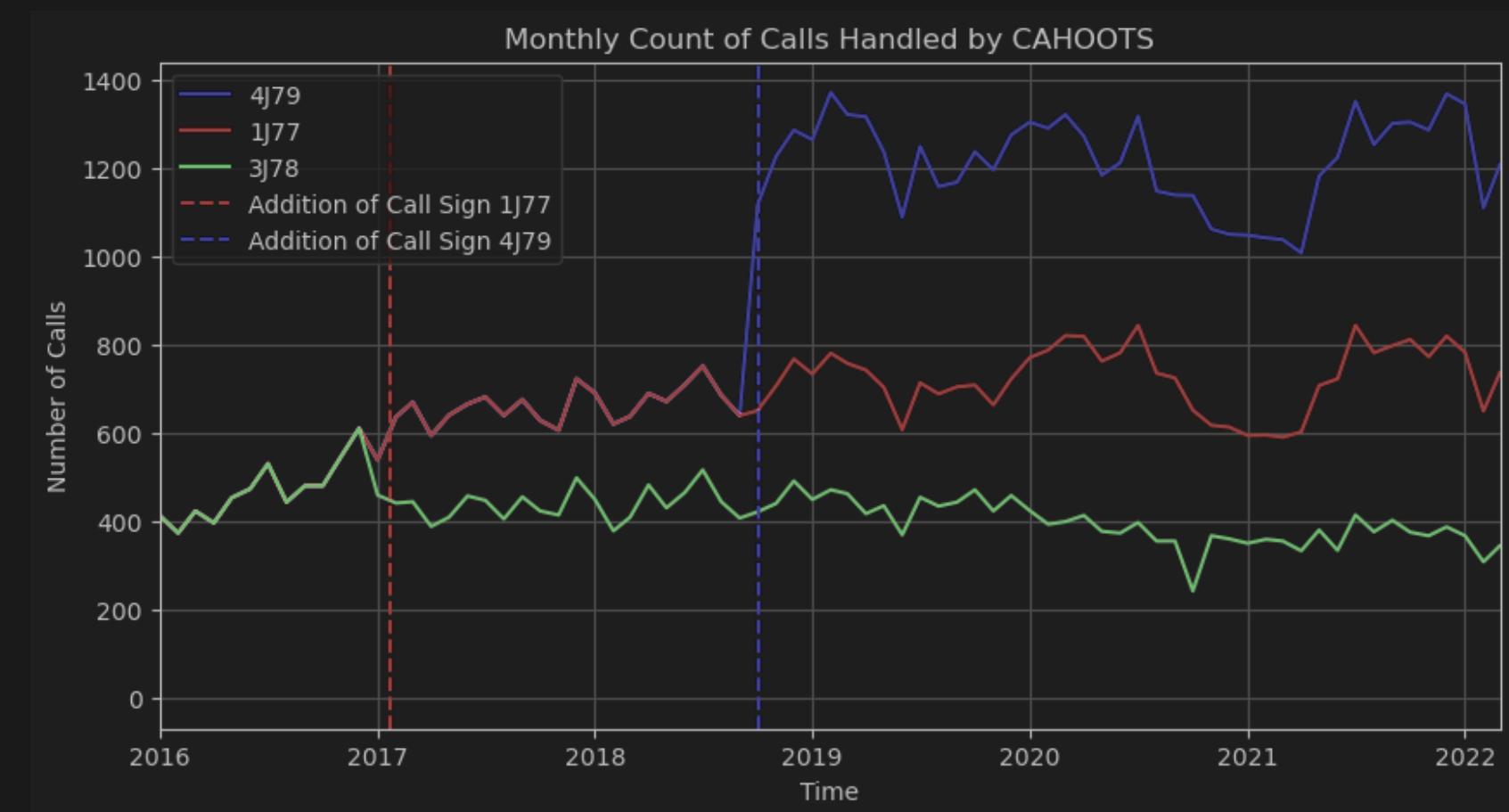
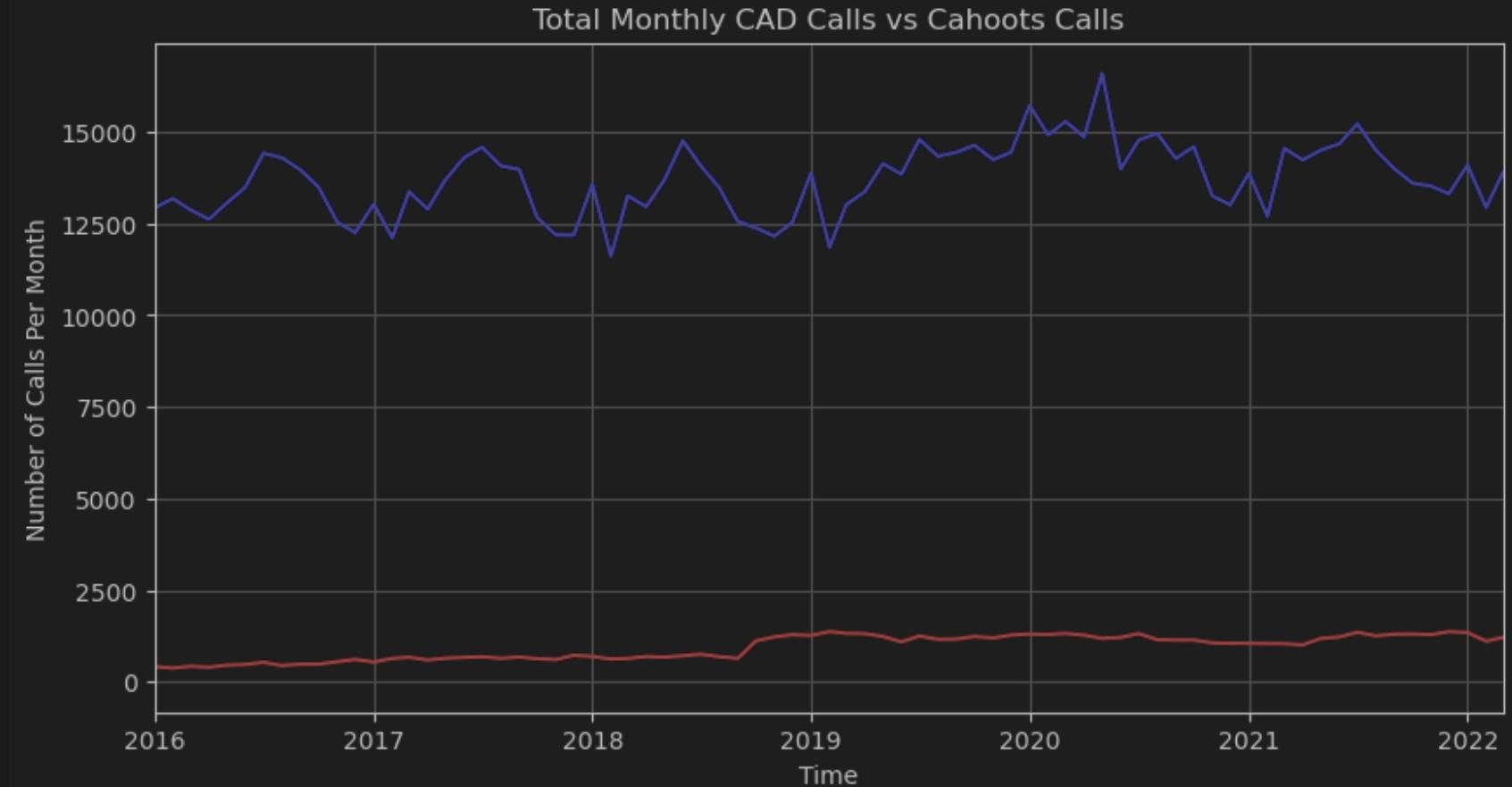
DISCUSSION

My Answer:

- Increasing Cahoots Capacity results in a direct increase in call percentage.

Additional Findings:

- Adding a new call sign temporarily boosts overall capacity. Any ideas why?
- 4J79 can manage a higher call volume compared to 3J78.
- The decrease in percentage in 2019 does not correspond with call counts.



THANK'S FOR WATCHING

And thank you to:

- *Rori*
- *Cahoots*
- *All my classmates*

