

## Findings for CP4

- Question 1: Are there officers that are frequently working with (on the same shift/beat as) officers that are receiving complaints? By using graph analytics I can connect nodes (officers) that work together and identify when there are complaints against one but not the other. This can help us to potentially identify “enabler”, a term that I will use to refer to officers that are not showing up on allegations but are working with officers that do.
- Question 1 Analysis: I ran graph analytics on a network of relationships in which one partner on a beat had an allegation filed against him/her and the other did not. By measuring the number of “inDegrees” I was able to determine which officers had the most occurrences of not receiving an allegation when their partner(s) did. Moreover, I calculated the average number of “inDegrees” across the entire graph, which came out to be about 1.76. However, we observed two officers with “inDegrees” of 9 and a total of 46 officers with more than 5 “inDegrees”. In my opinion, these officers warrant additional investigation as they are often involved in behavior resulting in allegations being filed, but somehow continue to avoid being included on the allegations. It is possible that they honestly are not participating in the behavior that leads to these allegations, but they also aren’t helping to stop said behavior.
- Question 2: As recommended in the last feedback; using triangle counting to create graphs of co-accusals (inter-unit and intra-unit) and determine which one is more clustered.
- For this question, I created two different graphs; one for coaccusals within the same police unit, and one for coaccusals across different units (intra- and inter- unit coaccusals). Next, I calculated the triangle counts of each node in each of the graphs in order to measure the level of interconnectedness between each of the nodes in each graph. The intra-unit graph had an average triangle count of only 1.85, while the inter-unit graph had an average triangle count of 20.19. Although not conclusive, this shows that the inter-unit connectivity of coaccusals is much higher than that of the intra-unit coaccusals, which may show that the role of the unit is not as significant as I originally predicted

Although the unit does not appear to be as significant as I predicted, we still gain valuable insight into potential “enablers” of poor behavior. By further investigating officers that don’t explicitly get named on allegations but were working with officers that were named, we may be able to determine individuals that previously went undetected that are engaging, encouraging, or at least, not mitigating, poor officer behavior.