

Ultimate Data Science Challenge
Part 2
Experiment and Metrics Design

The problem stated that driver partners tend to be exclusive to each city and included the fact that there is a two-way toll between the two cities. The proposed solution is to encourage driver partners to be available in both cities by reimbursing all toll costs. The key measure of success of the experiment would be a comparison between the percentage of driver partners that are not exclusive to a city before and after the start of the experiment.

Additionally, I think it would be imperative to ask more questions so we could improve the understanding of the business use case and possibly improve the metric. Why is it a problem that driver partners tend to be exclusive to each city? What is expected to improve if drivers are no longer exclusive to one city? What other factors may be at play which would keep drivers from being available in both cities? These questions could really create an improved metric that would be more beneficial for the company.

With all that being said, there are a number of other metrics that can provide insight to the success of the program or experiment. The number of reimbursed tolls compared to the number of times driver partners utilized the toll roads would give us an idea of how well the program has been implemented. If drivers aren't actually getting reimbursed when they pay for the tolls then the program may need some adjustments. It would also be interesting to see how frequently a ride was requested across the toll bridge and the driver went further to pickup a different ride. This would show that drivers are actively avoiding the toll bridge in spite of the promise of reimbursements and that there are other factors at play. I would also like to see toll crossing per mile driven for before and after the start of the experiment.

Overall I would think that these metrics would give us a good starting point to guide our analysis of the effectiveness of the program. As stated above, more information could give us a deeper understanding and possibly better results but we could move ahead and perform the analysis with the information that we have available.