

Part 2 - Experiment and metrics design

Solution

1. I would choose the number of bridge crossings as the main metric of success. The intention of this experiment is to determine whether reimbursements will encourage more drivers to commute between the cities through the bridge. If the experiment is successful, then it should lead to an increase in the number of crossings.
2. My experiment will examine whether reimbursements encourage more crossings between the two cities. This experiment would focus on 50 randomly selected drivers who would record their number of crossings before and after the policy. The data will be analyzed using one-sample z-test to determine whether any change in the number of crossings is significant; this type of statistical test was chosen since the sample size is greater than 30 and consists of a single sample group. If the reimbursement leads to a significant increase in crossings, then the policy should be continued since this would lead to increased commerce and interaction between cities. Otherwise, the reimbursement should be discontinued because it would lead to a loss of revenue.