Filter out (for measuring effectiveness & defining decisions. Marked as invalid decisions):

- Possessions starting with < 5 seconds
    - Players are looking to immediately shoot. Given that three free throws is the worst outcome for *any* defensive possession, it is my hunch that we should not foul in these situations unless an obvious non-shooter receives the ball or if they are within the three-point line (both unlikely). Also, defenses often don't get the *chance* to implement their strategy in these situations so it is unfair to put them in a decision bucket
- Chances starting with an offensive rebound
    - These are obviously linked to another chance within the possession. We only want to count one decision within the possession. This is a consequence of the strategic decision to "defend"
- Chances ending in a timeout
    - No *strategic decision* is made here. We keep the next chance and avoid double counting
- Chances ending with a foul to give
    - There will be another chance within the possession
- Chances ending with a defensive deflection out of bounds
    - Offense retains possession. Don't double count
- Chances ending with a kicked ball violation
    - Offense retains possession. Don't double count
- Count each possession one time
    - Most possessions that pass the above filters with multiple chances are related to replay review, shots being blocked out of bounds, or data errors
    - We risk double counting if we count *chances* instead of *possessions.* It did not take long to find video of each possession with multiple chances after applying the other filters. Manually discerning strategic intent was a small price to pay for more accurate data

Outcomes Deemed "DEFENDING" (ordered by frequency)

- Missed Three, Made Three, Made Two, Missed Two, Turnover, Shooting Foul*, End of Period, Jump Ball

Deemed "FOULING"

- Foul in the Bonus, Shooting Foul*

Shooting Foul Exception

- Oftentimes, a team unintentionally fouls a shooter. These are deemed to be not intentionally fouling even though the outcome may be similar to intentionally fouling. I wanted to keep this as a deterministic study. An argument could be made that "defending" and accidentally fouling is *better* than intentionally fouling because more time comes off the clock. Sometimes, a team is intentionally fouling but *unintentionally* fouls a jump shooter. These are reviewed by video and put into the intentionally fouling bucket. This is an inherent risk to intentionally fouling

Outcome Variable

- Eventual winner of the game

Data Process

Apply Filters -> Analyze possessions with >1 chance via video review -> “Valid Decisions Dataset” -> Analyze shooting fouls for intent to intentionally foul -> Add those with the other outcome variables for final set of labeled decisions

Output

- Each possession used a maximum of 1 time
- Group by decision and analyze W/L
- Analyze frequencies
- Analyze point expectancy
- Break down by points conceded
- Figure out which teams employ each strategy