Risky Business Week 13

Laying the trap

The clever combatant **sacrifices** something that the enemy may snatch at it — **Sun Tzu**.

In week 7 (*insert week 7 RB link here*) we addressed an unusual situation where the Detroit Lions defense intentionally allowed the Atlanta Falcons' Todd Gurley to score near the goal line late in the game. Gurley was aware of the ploy but couldn't hit the brakes quickly enough. Moments later the Lions capitalized with a game-winning drive. This is a very specialized tactic that doesn't arise often and is typically used as a desperate measure.

One of those instances occurred yesterday in Houston as the Texans were threatening to take the lead from the Colts late in the game. While the ending will be remembered for the Deshaun Watson fumble, there were some fascinating decisions that preceded that conclusion. Before we go deep on whether the Colts should have considered letting the Texans score prior to the fumble, let's look at what transpired in the 4th quarter.

Anthony ("AJ") Jones of EdjSports prepares an NFL analysis and lesson each week for high school coaches that subscribe to the EdjVarsity analytics tool (*EdjVarsity link here*). Here is his breakdown of an exciting 4th quarter between the Colts and the Texans.

IND 4th down Decision

With 11:07 remaining in the 4th quarter and leading by 4 points (both teams had all their timeouts), IND faced a 1st and 10 from the IND 32-yard line. And, after a ten-play drive that covered 63 yards, IND faced a 4th and 1 from the HST 5-yard line.

If you were Coach Reich, would you attempt the FG (in hopes of going up by 7 points) or would you go for it (in hopes of extending the drive, scoring a TD, and making it a two-score game)? And, how big of a decision is this?

Coach Reich made the correct decision by going for it, increasing the Colts (pre-snap) win probability by +4.0%. Based on how these teams match up and the game state, the Colts decision to go for it comes with an expectation to go on to win the game 89.7% of the time, while a decision to attempt the FG comes with and expectation to go on to win the game 85.7% of the time.

Our model has the ability to evaluate all possible outcomes associated with FG attempts as well as going for it - which includes taking into consideration the opponent's resulting field possession in each case. And, all recommendations are based on what gives a team the best chance to go on to win the game!

The Colts went for it and failed to convert on this 4th and 1, but left the Texans backed up deep in their own territory. And, on 3rd and 11 from the HST 4-yard line, Texans QB Deshaun Watson was sacked in the endzone, for a safety. While the game announcers (and probably most viewers) were highly critical of the Coach Reich's decision (based on the outcome), few people will consider how it indirectly contributed to the Texans safety.

Obviously, Coach Reich wasn't expecting his defense to come up with a safety if his offense failed to convert, but rest assured he understands that analytics take that (unlikely) possibility into consideration, so he doesn't have to...

Run or Pass ?

After receiving the post-safety kick, the Colts put together a drive that ran just over 3 minutes off the clock and forced the Texans to burn all three of their timeouts, in an effort to preserve time. Ultimately, on 4th and 12 from IND 49-yard line, the Colts punt resulted in a touchback. The Texans took possession at the HST 20-yard line but quickly drove the length of the field. With 1:28 remaining in regulation and trailing by 6 points, the Texans faced a 2nd and goal from the IND 2-yard line.

If you were calling plays for the Texans offense would you call a run or pass play in this situation, and does it make a difference?

Based on how these teams match up and the game state, on this play the best decision is to call a run play. If the Texans call a run play they are expected to win the game 53.2% of the time and if they call a pass play they are expected to win the game 46.2% of the time. The 7.0% difference between these two options can largely be attributed to the value of time. On this play, if the Texans score the go-ahead TD, the Colts comeback efforts will be pressed for time. If the Texans don't score on this play (barring a turnover), a run play keeps the clock running and further reduces the Colts chances to mount a comeback, if the Texans are able to score.

Let them Score?

On the flip side, if you were calling plays for the Colts defense would you let the Texans score on this play, in hopes of giving your offense as much time as possible - if the Texans score a TD, the Colts can regain the lead with a FG (or TD).

Based on how these teams match up and the game state, it's a close call but the best decision is to let the Texans score the TD. Let's assume the Texans score (running 8 seconds off the clock), convert the PAT, and their kickoff results in a touchback. Taking possession with 1:20 remaining, no timeouts, and trailing by 1 point, the Colts would be expected to win the game 47.8% of the time. Conversely, the Colts will have a 46.8% GWC if they play defense on 2nd down. So, allowing the Texans to score would actually increase the Colts win probability by +1.0%.

As AJ describes, the final moments of this contest were a case study in game theory.

- Should the Texans run or pass?
- Should the Colts accept the high probability that the Texans score a touchdown and immediately let them score to preserve clock for a final drive and game-winning field goal attempt?
- If the Colts let the Texans score should they accept the offer or take a knee just before the goal line, run the clock down further, and ensure they have enough time for two attempts at the endzone without giving the Colts any time to respond if they do score?

Here are some final game states, as determined by the EdjSports simulation model, that need to be considered:

How often do the Texans score a touchdown?

Assuming they have three opportunities, this is basically the equivalent of a two-point conversion attempt. Based upon this matchup we estimate the Texans have a 45.5% chance of converting from the 2 yard line. Therefore, their chance of scoring on the final possession is approximately 1-(.545**3) = 83.8%. With many iterations in the simulation considered, the Texans are expected to win the game 53.2% of the time.

What are the Colts' chances if trailing by 27-26 with no timeouts, 1:20 remaining, after a touchback?

As indicated above, the simulation asseses there is enough time for Phillip Rivers to execute a game-winning drive 47.8% of the time.

What is the Texans' GWC if the Colts try to let them score but they stop short of the goal line, run the clock down to 40 seconds and have two attempts at a touchdown inside the 1 yard line?

Because of the better field position and the reduction in game clock, the Texans' GWC would jump to nearly 60%.

Conclusion: It appears the Colts would have slightly improved their GWC by allowing the Texans to score right away BUT ONLY IF the Texans take the bait. If the Texans can manage to exploit the ploy by stopping just short then they will actually improve their winning chances considerably, and the strategy would backfire on Frank Reich. It is hard to say how the Texans would have responded but we know from what happened to Todd Gurley against the Lions in week 7 that it is not very easy to execute this type of restraint near the goal line.