

Statistics 222 Research Proposal

NFL - Punt or Go For It?

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The Data:

Data sets have been collected from three sources. Depending upon the development of further research questions more data may need to be collected. The three sources are the following:

1.

NFL play-by-play data for the 2002 season through the 2012 season is taken from <http://www.advancednflstats.com/2010/04/play-by-play-data.html>. This data contains descriptions and scoring information of each play of each game for each season.

2.

NFL offensive and defensive rankings data is taken from <http://www.nfl.com/stats/>. This data gives game statistics for each team per season (2002 - 2012) and team rankings, which are based on these statistics.

3.

NFL game information, such as location, weather, duration, etc. are taken from http://aragorn.org/data/sports/NFL/seasons/metadata_since_1980/uncleaned_nfl_game_metadata_since_1980.csv.

The Proposal:

The following are the research questions for this project although more questions may arise in moving forward, in which case they will be addressed:

Should an NFL team, in the 4th quarter of their possession, go for a first down or punt the ball to the opposing team? Which action will give them better odds of scoring? Which action will give them better odds of winning the game? Is there a trend of a certain philosophy for a given team? Does this trend correlate with who is coaching? Does weather conditions or game location correlate with one philosophy over the other?

Inspiration for these research questions has come due to recent questioning of the traditional philosophy to punt on the fourth down rather than going for a first down. If there is a higher likelihood of scoring by going for the first down, then in using this philosophy could dramatically change football strategy.

Figures and Table Titles:

1.

2.

3.