

## Why Football Teams Should Go For It On Most 4<sup>th</sup> Downs

Most football teams punt or kick a field goal on fourth down. Probability analysis indicates that regularly going for it on fourth down will lead to greater offensive production and a greater win percentage. From a mathematical standpoint, adding an extra down creates 33% more opportunities to gain a first down, maintain possession, and deny the opposition the ball. Given that a first down requires 10 yards and the average gain per play is around 5.5 yards, the additional opportunity will translate to a high rate of first down conversions. A quick internet search of “Going for it on 4<sup>th</sup> Down” will show studies demonstrating the analysis and logic, such as: <http://www.nytimes.com/2014/09/05/upshot/4th-down-when-to-go-for-it-and-why.html? r=0>

Additional positives from utilizing four downs as a part of normal strategy, play, and practice:

- Less predictability on all downs, particularly third down, leading to greater success on those downs.
- Rhythm and momentum for the quarterback, particularly for short passes. A hurry-up, no-huddle offense would complement the strategy well.
- Opposition defenses may get more tired as the game progresses, particularly in the second half.
- An exciting brand of football that will appeal to star athletes who are being recruited.

### Proof of Concept

Kevin Kelley, high school football coach of Pulaski Academy in Arkansas, began implementing such a system in 2008. Results have been outstanding, and Pulaski just won its fourth state championship in a row. While there are talent differences between the high school and college and pro levels, Kelley’s success over a number of years and statistically significant number of plays is a solid proof of concept. He has attracted attention from the NFL. Patriots Coach Bill Belichick, a well-regarded innovator, is intrigued but has declined to implement the strategy. Why? He hasn’t said, but Belichick and other coaches successful under the current status quo have an obvious incentive to maintain that status quo.

<http://fivethirtyeight.com/features/the-high-school-football-coach-who-never-punts/>

<http://www.footballstudyhall.com/2013/11/15/5105958/fourth-down-pulaski-academy-kevin-kelley>

<http://usatodayhss.com/2015/legendary-pulaski-academy-coach-kevin-kelley-may-be-trying-to-incorporate-rugby-laterals-into-every-play-this-season>

### Why NFL and College Teams Don’t Go For It Currently

Job risk is a very real risk for a coach and athletic directors. It is imperative that the coach have the support of the owner, athletic director, and key boosters.

### Why an Underperforming Team like Notre Dame or Cal or the Chargers Should Do It

These programs have underachieved for years. For such a program, this approach can be a fast, enduring, ethical, and inexpensive means of creating success. For an underperforming program, there is an asymmetric risk-reward proposition. Teams that have been early adopters in applying statistical analysis and insightful probabilities (i.e. A’s baseball, Warriors basketball, Oregon football, Bill Walsh’s 49ers) have achieved success and created enormous value. A good analogy is the 3-point shot in basketball. Despite the reluctance of many teams to initially embrace it, the 3-pointer has now become dominant because of the basic math.

### Extra Credit

The inclusion of lateral rugby-style passing (currently being researched by Kevin Kelley) could also create opportunities for large gains and cause defenses to play more conservatively and avoid gang tackling. This would increase a receiver’s yards-after-catch because he only has to break one tackle instead of 2 or 3.