THE GREATEST DEFENSES OF ALL TIME-
Evaluating with PF, SEF and DEF

By Raymond Lee

In the 2001 Super Bowl, the Baltimore Ravens defeated the New York Giants 34 to 7. In their playoff march, the Raven's defense was so stifling that it has been called the greatest defense of all time. Several years ago I wrote an article evaluation the great offenses of all time, so I decided to use the same formulas to evaluate the greatest defenses of all time. When I say defenses, I simply mean the GREATEST DEFENSIVE UNIT, not special teams.

It doesn't take a genius to figure out that the job of the defense is to prevent the other team from scoring. You can do this by stopping the other team from getting yardage or by getting turnovers. According to Bob Carroll, John Thorn and Pete Palmer's excellent book *The Hidden Game of Football*, getting a turnover is worth about a positive four points for your team. That's two points for your offense and two points against your opponent's offense. In theory, if a team's defense can get enough turnovers, it can virtually win the game for you, even if your offense is awful.

So how do you evaluate a team's defense? Unlike a sport like baseball, the defense is often dependent on the team's offense to prevent a team from scoring. The way I decided to solve these problems is to look at a team's drive efficiency. There is a correlation between yards gained by a team's offensive unit and points scored. In *The Hidden Game of Football*, the authors, through extensive study have concluded that for every 12 yards a team gains, they should get one point. Therefore if we calculate a team's average yards per drive divided by 12 and minus the fraction of points lost on a team's average number of turnovers per drive, we should get an idea how effective a team is offensively or defensively in our case.

To give an example, let's look at the 1972 Dolphins, whose defense gave up 171 points. There were no interceptions, punt returns or kickoff returns run back for touchdowns so the defense truly gave up 171 points. The Dolphins gave up an average drive of 19.63 yards in 1972. You divide that by 12 and you get a factor of 1.64 points per drive. I'll call this **THE POINTS FACTOR** (PF). This is the average amount of points a team would score per drive against the Dolphins if they had no turnovers.

However, you must take turnovers into account. The 1972 Dolphin defense intercepted 26 passes and recovered 20 fumbles for a total of 46 turnovers for their team. The 46 turnovers in 168 drives works out to an average of .274 turnovers per drive. A turnover for the defense, remember, benefits a team an average of four points, two in preventing the other team from scoring and two for the team's offense. If you take the Dolphin's defense turnovers per drive (.274), multiply by two (the two points the defense prevented the other team from scoring) and subtract that from the Points Factor (1.640-.548=1.092). Call this **THE SCORING EFFICIENCY FACTOR (SEF)**.

If you multiply this factor by 168 drives, you will get 183--satisfactorily close the Dolphin's real number of 171 points.

However, it doesn't just stop here. The final and most important number is **THE DRIVE EFFICIENCY (DEF).** Because turnover costs the offensive team 4 points, not 2, you take the Point Factor of 1.640 minus the turnover per drive number of .274 times 4 and you get 1.096. The Point Factor of 1.64 minus 1.096 is .544. This number times 168 is the true amount of points the defense gave up. This figure can actually be a negative number if a team gets enough turnovers!!

I worked my numbers to many decimals, but in this article I only rounded to several decimals, so your numbers may vary slightly from mine. With the defense, we want the lowest numbers possible. Obviously the idea behind the Drive Efficiency Factor for the defense is that you want the defense to get as many turnovers as possible which also preventing the opposing team from moving.

You might think the defense with the lowest Drive Efficiency Factor is the greatest defensive unit of all time. It's not that simple. With rules changes among other things, defense may be easier in some years and tougher

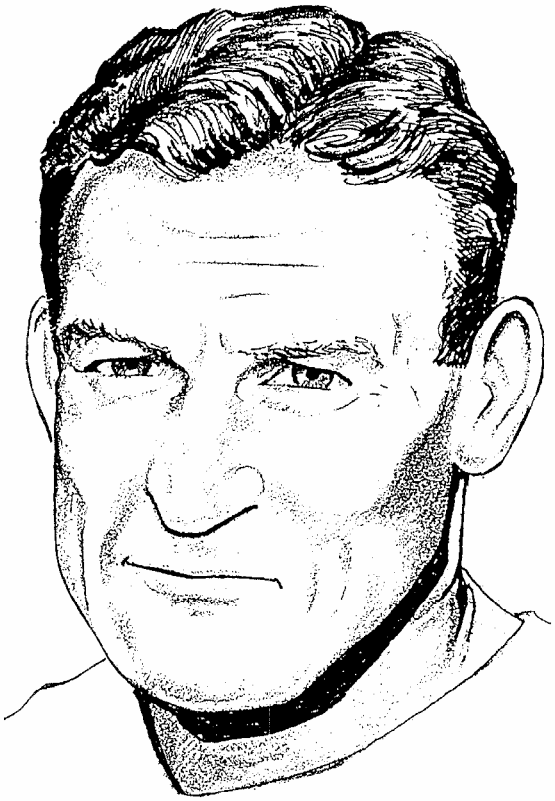
in others. A middling DEF in one year may lead the league in another year.

The best way to do it is to calculate the defense compares percentagewise to league average. Because of this I figured the Points Factor, Scoring Efficiency Factor and Drive Efficiency Factor for the league for every year for each team that I have chosen. This way you can see how the team compares with the league average in those factors for that particular season. This way you can see how much better (or worse) the team was compared to league average. Remember with the defense, the lower the factors, the better it is. The research only goes back to 1941 because statistics were less complete before then.

The Top Teams

Here are the teams I decided to compare defensively to the 2000 Ravens.

(1) **1941 Chicago Bears**--The legendary Monsters of the Midway. Incidentally I did the offensive comparison and they were the best offensive team of all time!! Over 224% over league average offensively. This is over 100% higher than the next highest team, the 1951 Los Angelas Rams.



George McAfee

(2) **1942 Chicago Bears**--Basically the same team as the 1941 Bears, but with much better defensive stats. I really don't think they were a better defensive team than the 1941 Bears but the defensive statistics were so awesome I thought I'd include them for a fun comparison. The competition was much too watered down by the war. They gave up only 84 points in 11 games!

(3) **1946 Cleveland Browns--**Again, as with the 1942 Bears, you can't truly consider them as one of the greatest defensive teams of all time. (Not yet anyway.) The AAFC was too new and not strong enough yet. The Brown's defense probably was not as strong as it would be a few years later. As with the 1942 Bears, I decided to include them because of their incredible defensive showing.

(4) **1949 Philadelphia Eagles**--A truly great defensive team. Heck, all these teams were terrific with the exception of the 1977 Atlanta Falcons. A team largely forgotten now, but one of the great teams of all time.

(5) **1950 Cleveland Browns**--The year the Browns entered the National Football League. People talk about the great offense with Graham and Motley, but the defense may have even been better!

(6) **1952 Detroit Lions**--A great defensive team with a knack for getting turnovers.

(7) **1962 Green Bay Packers**--The legendary Packers in their best year. Only 148 points given up!

(8) **1963 Chicago Bears**--An amazing defensive team that allowed only 144 points all year. With only a competent offense, they defeated the Mighty Packers twice and won the divisional title and the NFL championship over the Giants.

(9) **1969 Kansas City Chiefs**--A team that led its league in virtually every defensive category. Defeated a tremendous Minnesota Viking team in the Super Bowl.

(10) **1969 Minnesota Vikings**--The Purple People Eaters at their best. Gave up only 133 points all year.

(11) **1972 Miami Dolphins**--The unbeaten team. To be unbeaten, you have to be pretty good on defense. The No Name defense.

(12) **1974 Pittsburgh Steelers**--The famed Steel Curtain. The most celebrated defense and perhaps the greatest defense of our time.

(13) **1976 Pittsburgh Steelers**--Only 138 points given up.

(14) **1977 Atlanta Falcons**--What's the Falcons doing here on this list? Well, they did allow the fewest points in a 14 game schedule and they gave up the least yards in the league that year. Un fortunately, the offense was about as bad as the defense was good.

(15) **1985 Chicago Bears**--The most celebrated defense of the last twenty years. Their defensive performance in the 1986 Super Bowl was one of the greatest defensive performances of all time.

(16) **2000 Baltimore Ravens**--Great defensive team. Ask the New York Giants. Fewest points ever over a 16 game schedule. Only 2.7 yards per rush average allowed!!

Without further ado, the winner is ...The 1950 Cleveland Browns!! Statistically, the 1942 Bears and the 1946 Browns were superior to the 1950 Browns relative to the league. The 1942 Bears were so good relative to the league that they were 155.8% below league average in DEF!! That's right, the team did better than 100% below league average. The 1942 Bears caused so many turnovers that they set up their offense to score more points than their defense gave up! And they didn't give up many. Like I said before, the league was too watered down by the war.

The same could be said about the 1946 Cleveland Browns, they were "only" 109.9% below league average in DEF! In effect, a team who never gained any yardage on offense with no turnovers can be a .500 team or better with a defense as effective as the 1942 Bears or the 1946 Browns!

The 1950 Browns had a Drive Efficiency Factor at only 19.7% of league average! Meaning for every 100 points an average NFL team gave up **net** in 1950, the Browns gave up 19.7 points net. The key stat for the Browns, as with many of these great defenses is that they caused 55 turnovers, leading the league. An astonishing defensive performance.

The 1963 Chicago Bears finished second with 23.73% of league average in DEF. To defeat the Packer juggernaut of those years with only a mediocre offense, you need one of the all time great defenses. Not only they allow little yardage, but they caused a huge amount of turnovers with 54.

The 1941 Chicago Bears finished forth, just behind the 1949 Eagles at 24.99% of league average DEF. To say this team was a dominant team is an understatement. I also did the offensive statistics for the 1941 Bears and they finished first all time at 224.18% above league average. The 1951 Rams, the second best offensive team was over 120 percentage points below that. Clearly the most dominant football team in history and perhaps the most dominant team in any sport. How did ever they lose a game? You also wonder what would have happened if the war didn't intervene.

The 1969 Minnesota Vikings finished fifth, just fractionally worse than the 1941 Bears. From 1969 to 1971, they were a truly awesome defensive team. It's a pity that more members of their defense aren't in the Hall of Fame. I suppose people remember how they were dominated in the Super Bowl and it stigmatized them.

The greatest team defense since interleague play started in 1970 is clearly the 1974 Steelers. This was a surprise to me as they rate stronger than the more famous 1976 Steeler defense. The 1974 Steel Curtain had more turnovers per drive and gave up less yardage per drive for the season. The 1974 Steelers gave up a few more points, but this may be due to the fact the offense was not as good as it was in 1976.

THE STREAK

No, I'm not talking about a craze on college campuses in the early 1970's or Joe DiMaggio. I'm talking about the most awesome defensive streak of modern times and perhaps of all time. The nine game season ending defensive streak of the 1976 Pittsburgh Steelers.

When the 1976 season started, the defending champion Steelers lost four out their first five games, giving up 110 points in that span. Then, a remarkable turnaround happened. In the next 9 games, the Steelers scored 234 points and gave up a mere 28! Much has been made recently of the ratio of points scored to points given up, with a 2 to 1 ratio considered superb. Well, the Steeler's ratio during this streak was 8.36 to 1!

Consider these facts during the streak 1) Teams completed only 40.77% of their passes against them and no team completed half their passes. 2) Teams only gained an average of less than 84 yards a game rushing and averaged 2.99 yards per rushing attempt. 3)They had 35 sacks for 272 yards lost. 4) Twenty-eight turnovers, 14 interceptions and 14 fumbles. 5) Teams only were successful 25.5% of the time on 3rd down on 35 out of 137 attempts 6) Teams only averaged 3.17 yards per play! Dan Pastorini had the right idea when he quick kicked them in one game. 7) They had 117 drives against them for an average of 14.09 yards per drive.

The DEF of the Steelers was .217 during the streak. This was 19.08% of league average. My thanks to Ben Manges and the Pittsburgh Steelers for their help in getting this information.

A stunner was the next to last place showing of the Great 1985 Bears. Their DEF was a superb 44.58 of league average but not as good as you would expect for a team rated up there with the Steelers of the seventies for the best defense of modern times. It's probably because we all remember how awesome the defense was during the playoffs in 1985 and early 1986 that we forgot about the 38 points by Miami and 28 by Tampa Bay. Their defensive rush average was high (for this group) at 3.7 yards an attempt.

The 2000 Ravens just finished ahead of the 1972 Dolphins and the 1985 Bears with a DEF of .687 and 44.41% of league average. The 2000 Baltimore Ravens clearly deserve to be mentioned with the great defensive teams in football history but they are not quite on the defensive level of teams like the 1950 Browns, 1963 Bears, 1969 Vikings and the 1974 Steelers yet.

Defensive Units Relative to League

Teams	Scoring Efficiency Factor	Scoring Efficiency % leag.	Drive Efficiency Factor	Drive Efficiency Factor % League
1. 1942 Bears	.243	21.61	-.379	-55.81
2. 1946 Browns	.600	54.78	-.060	-9.90
3. 1950 Browns	.801	61.29	.157	19.76
4. 1963 Bears	.900	56.53	.280	23.73
5. 1949 Eagles	.755	54.85	.214	23.93
6. 1941 Bears	.826	80.12	.140	24.99
7. 1969 Vikings	.743	47.30	.306	25.41
8. 1974 Steelers	.823	53.87	.346	29.91
9. 1952 Lions	.832	72.34	.226	33.56
10. 1969 Chiefs	.874	59.89	.390	36.68
11. 1962 Packers	1.042	64.09	.440	37.48
12. 1977 Falcons	.893	61.98	.401	38.18
13. 1976 Steelers	.968	63.88	.486	42.73
14. 2000 Ravens	1.187	63.71	.687	44.47
15. 1985 Bears	1.143	64.78	.621	44.59
16. 1972 Dolphins	1.088	68.52	.540	44.70

Most of the information you need like yards per drive to calculate all this is in *The Hidden Game of Football.*

Defensive Units Relative to League since Interleague play in 1970

Teams	Scoring Efficiency	Scoring Efficiency % League	Drive Efficiency Factor	Drive Efficiency Factor Factor % League
1. 1974 Steelers	.823	53.87	.346	29.91
2. 1977 Falcons	.893	61.98	.401	38.18
3. 1976 Steelers	.968	63.88	.486	42.73
4. 2000 Ravens	1.187	63.71	.687	44.47
5. 1985 Bears	1.143	64.78	.621	44.59
6. 1972 Dolphins	1.088	68.52	.540	44.70

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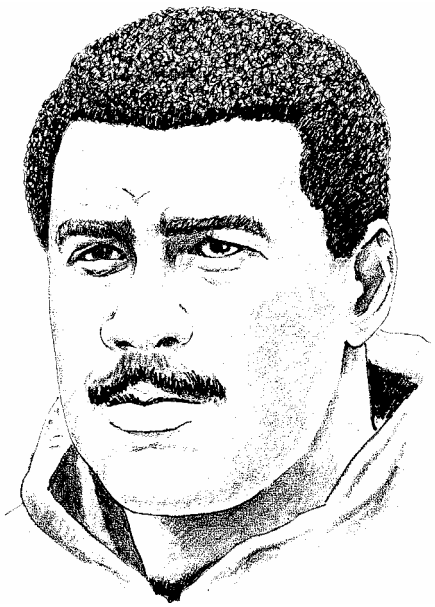

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