

Data-Driven Football

October 2007 Newsletter

Commentary

The 2007 NFL season is well on it's way, and I have been working hard! I am collecting additional play-by-play data elements, enhancing analysis logic, and creating additional analysis formulas. Additionally, I made improvements to the data collection parser allowing game level reconciliation. With improved data collection and analysis I am eagerly awaiting the end of the season so I can design the '07 set. If New England and Indianapolis continue on this pace the set will be a MUST HAVE! To test the design enhancements I hope to release a PREVIEW of the IND vs NE in time for their November 4th, 2007 game. See the 2007 preview section below.

I also want to take this opportunity to thank everyone for their continuing support. The free 2006 Super Bowl team charts download has 800+ downloads to date, and the 2006 set is by far the most popular among the PC owners. Please continue to spread the word in your gaming groups.

Best Regards,
Ron Pisarz, Jr.
Software and Chart Set Designer

Product Announcements

Software

Due to advancements in Microsoft's development platform, the next version, 2.0.0.0, will be incompatible with the current release necessitating the need to re-import your chart sets. The tentative release date is July 2008, and some features slated for the new version are:

- * Holding, LOS scrimmage, and dead ball penalties (see below)
- * Improved No Huddle offense (see below)
- * Improved Wild Card defense – Key and Double Team (see below)
- * Defensive Penalties
- * Direct support for internet play (although NetMeeting/Meeting Space provide a good platform)
- * Enhanced support for online league play
- * Undo last play
- * Save games
- * Automatic software updates

Version 2.0.0.0 will be a fairly significant re-write of the application so don't hold me to the feature list and/or a release date... remember, this is a hobby of mine!

2006 Chart Set

The 2006 set has undergone it's FINAL revision. Included in the revision are changes to 5 defensive charts, most punt return charts, and IND's kickoff return and fumble recovery chart. The modifications are minor with most being not statistically significant, but I can be obsessive when it comes to accuracy. I will send updated files this week to all '06 owners.

2007 Chart Set Design Enhancements

For 2007 I will be adding the following data collection and analysis features ultimately leading to improved or additional charts. Please provide feedback! If you have a better idea on how to implement these features please share it. This year I am collecting the following data elements: 'No Huddle', 'Touchback', 'Dead Ball Penalties', and 'Downed Punts'. These additional data elements allow me to refine analysis and design formulas improving chart accuracy.

** No Huddle Offense*

Generally, I am not a fan of advanced rules that generically modify play results for all teams. The No Huddle offense is no exception. The current rule increases fumbles and decreases penalties skewing statistical results. The NFL's play by play data identifies hurry-up plays. By collecting this data I can calculate a team usage rating that dictates how often a team can use the No Huddle offense - a No Huddle quota. There will be no restrictions when using the No Huddle offense until the quota is extinguished. Once the quota is depleted the existing restrictions will be in force. This improves on the existing rule because no play results are modified (which is what we want since the no huddle results are *already* reflected on the chart), and each team's willingness to use the No Huddle offense will be properly reflected.

* *Wild Card Defense – Key and Double-Team*

The Wild Card defense is another good advanced rule, but the implementation is problematic. One intent of the Wild Card defense is to provide the defense a mechanism to prevent the offense from overusing a play. The feature needs to exist because precise knowledge about a defense's strengths and weaknesses is known making it easy for the offense to exploit a defense. Using the wild card defense, the defense has the option to, rather than selecting a defense, choose the exact play he thinks the offense is going to call. If successful the play result is automatically 0 yards if a rushing play or incomplete if a passing play. The problem is no team specific defensive data is used to derive the result... all defenses become equivalent. If the defense has a weakness against a specific play, he could use the Wild Card defense to "bypass" the charts weakness. A better implementation is to provide team level, play specific wild card defensive charts.

* *Defensive Analysis*

One of the better features of Data-Driven's charts is the defensive chart design. In order to play defense you *will* need to use *every* formation. All 6 defensive formations are equally important in formulating a winning defensive game plan. I am developing analysis to customize defensive charts even more. Using situational data each team will have different strengths and weaknesses. This is true now, but with the additional analysis variations will be accentuated. I will be slightly increasing defensive influence resulting in a broader risk/reward tradeoff.

* *Offensive Holding, LOS, and Dead Ball penalties*

For the 2006, set I created a supplemental chart identifying line of scrimmage penalties. Rather than using a separate chart I am evaluating creating separate penalty codes for Holding, LOS and dead ball penalties and placing the results directly on the chart. For example OFFL might indicate a false start, no play, assess the 5 yard penalty and no time runs off the clock. OFFH might indicate offensive holding, assess at the spot of the foul, etc.

* *Defensive Penalties*

I recently distributed the 2006 Defensive Penalty supplemental chart. This chart impacts the entire set's performance as each team's defense can influence defensive penalties. The net result is the distribution of defensive penalties is *far more accurate* than the original AH implementation. This feature WILL be available in the next version of the software, and until then those of you who play with the board game components can take advantage of the chart now.

* *Downed Punts*

The Special Team's Punt chart can be challenging. The difficulty arises when a team is punting from inside their opponent's 45. Rather than the coffin corner many teams are using the "pooch" punt allowing the cover players to down the ball deep in their opponent's territory. With the '05 & '06 sets I made adjustments to the probability of punts inside the opponent's 45. The NFL's play-by-play data explicitly specifies downed punts. By collecting this information I can identify downed punts, and *treat them as non-returnable punts similar to out-of-bounds punts*.

Online Gaming Section

In March, myself and 3 other players started an online league replaying the entire 2006 season. Collectively we decided to choose teams from the weakest division: the NFC West. As a division, we finished only 1 game better than our actual counterparts, and Seattle won the division with a 9-7 record and was the sole NFC playoff representative (see Great Games section below for key Week 17 games). Here are the final week's box scores and season standings:

<http://www.datadrivenfootball.com/06nfcwestreplay/week17.txt>

The 13-3 San Diego Chargers went on to defeat the 11-5 Chicago Bears in the Super Bowl. If you want information on how to host your own league or participate in replays or tournaments please email me. **For those interested in online play, please join the Yahoo! Paydirt group (see information at end of newsletter) and enter your contact information into the online players database.** Interest continues to grow, and it would be of great benefit if we had a centralized, online address book with everyone's contact information. During the game's design I only thought I would play solitaire, but now I ONLY play online. Give it a try!

Other News

WBC Recap

I was able to attend the WBC Paydirt event this year, and promptly lost both my first round games. Here's my excuse: inferior charts! Unfortunately, the incumbent chart designer's charts were used! In any case I had a great time, and hopefully next year some Data-Driven contingent will make the trip. It's nice to correspond with everyone via email, but it would be nice to meet everyone in person. For more information please visit the BPA's site:

<http://www.boardgamers.org/index.htm>

Great Games

This edition of the newsletter has two games worthy of sharing. Both games are from Week 17 of the four-person 2006 NFC West season replay online league. In week 15, SF (coached by me) and SEA (coached by Roger) were both 8-6, and SF just completed a season sweep of SEA. Then, SF and SEA both lost in Week 16 setting the stage for week 17 matchups. SF would advance to the playoffs with a win OR if both teams lost. SEA makes the playoffs with a win and a SF loss. In week 17 SF plays DEN (coached by Roger) and SEA plays TB (coached by me). Roger and I decided to play the SEA game first. Please submit your great games for publication in the newsletter!

SEA vs TB – A tale of two halves

At halftime SEA had a commanding 28-7 lead powered by an offense that was firing on all cylinders. TB started the second half with a quick scoring drive to pull within 14. TB's defense finally showed up and a quick 3 and out followed by another quick scoring drive cut the lead to 7 entering the 4th quarter. Both teams traded possessions, and early in the 4th Hasselbeck through an INT deep in SEA's own territory. TB took advantage of the turnover converting it into a TD to tie the game. Both teams traded punts twice with SEA gaining possession on their own 31 with 1:50 remaining in the game. SEA managed to move the ball to the TB 18 and kick the winning FG on the last play of the game! With SEA winning SF had to beat DEN to win the division and make the playoffs.

(continued)

2006 SEATTLE SEAHAWKS	31	2006 TAMPA BAY BUCCANEERS	28
Team	1	2	3
2006 SEA	14	14	0
2006 TB	7	0	14
			7
			28

	SEA	TB
Total Net Yds	363	341
Total Plays	65	58
Avg. Gain	5.6	5.9
Net Yards Rushing	109	156
Rushes	23	29
Avg. Gain	4.7	5.4
Long	31	32
TDs	3	2
Net Yards Passing	254	185
Comp-Att-Int	26-41-1	17-29-0
Avg. Gain	6.0	6.4
Long	19	27
TDs	1	2
Sacked-Yards Lost	1-5	0-0
First Downs	28	23
Rushing	6	11
Passing	16	11
Penalty	6	1
Punts-Avg.	4-44.3	5-44.0
Inside 20	0	1
Return Yards	129	74
Punt Rets-Yards	2-33	1-13
Kick Rets-Yards	4-96	2-40
INT Rets - Yards	0-0	1-21
TDs	0	0
Field Goals Made-Att	1-1	0-0
Third Down Eff	6-12	4-10
Fourth Down Eff	1-1	1-1
Penalties-Yards	8-70	11-85
Fumbles-Lost	0-0	0-0
Time of Possession	30:50	29:10

SCORING SUMMARY

----- Quarter 1 -----

05:10 SEA TD 7 - 0
08:30 TB TD 7 - 7
15:00 SEA TD 14 - 7

----- Quarter 2 -----

06:20 SEA TD 21 - 7
13:40 SEA TD 28 - 7

----- Quarter 3 -----

06:10 TB TD 28 - 14
10:00 TB TD 28 - 21

----- Quarter 4 -----

03:00 TB TD 28 - 28
15:00 SEA FG 31 - 28

SF vs DEN – Ohhhhh.... the pain!

SEA's victory over TB forces SF to beat DEN in order to win the division and go to the playoffs. DEN won the toss, but the SF defense held for a quick 3 and out. On SF's first series 3 rushing plays (and a personal foul on DEN) resulted in a quick TD. DEN stormed back in similar fashion with the aid of a 41 yard short pass play tying the game at 7. SF was able to get into field goal range with a 27 yard medium pass play: 10-7 SF. DEN's offense continued to exploit the weak SF defense getting to the SF 3 yard line, first and goal to go. The SF defense tightened up: 1st down loss of 1 on a short pass, 2nd down loss of 3 on a draw play, 3rd down gain 6 to the 1. 4th and 1 on the 1 and the SF defense completes the goal line stand as DEN gains 0 on the end run. Leave it to Alex Smith and the offense to lose the momentum. On first down Smith throws an INT which DEN returns for a TD, 14-10 DEN. The teams trade possessions 3 times then SF obtains possession on their own 20 at the 2 minute warning. Gore rips a 20 yd breakaway along with a couple of other decent runs, a 19 yard medium pass, another defensive personal foul, and a 15 yard TD pass completes the scoring drive, 17- 14 SF at the half. The teams trade possessions and then Gore gains 41 yards on 2 carries mixed in with some short passes, TD 24-14 SF. The teams trade possessions and the 3rd quarter ends. DEN manages a FG, 24-17 SF. The DEN defense manages a 3 and out. On DEN's possession the SF defense holds creating 4th and 4 on the DEN 43. DEN decides to go being down by 7 with 3:40 remaining. DEN goes medium vs. SF D, 57 yard TD (chart result was a 71 yard gain), tie game 24-24. Then, disaster strikes as Gore loses a fumble on the SF 19 on their first play from scrimmage. Two plays later, TD DEN, on a 18 yard breakaway, 31-24 DEN. SF gets the ball back with 2:30 remaining. A 20 yard long pass, followed by a 19 yard medium, a 17 yard screen, and a 10 yard short is enough to tie the game with a 1:10 remaining, 31-31. SF considered the squib kick, but decided too much time remains and kicked it deep. DEN returns the ball 62 yards to the SF 34. 13 yards later the SF seasons ends as the 38 yard FG goes through the uprights.

(continued)

2006 SAN FRANCISCO 49'ERS		31		2006 DENVER BRONCOS		34	
Team	1	2	3	4	F		
2006 SF	10	7	7	7	31		
2006 DEN	7	7	0	20	34		
			SF		DEN		
Total Net Yds			354		425		
Total Plays			58		65		
Avg. Gain			6.1		6.5		
Net Yards Rushing			174		120		
Rushes			28		27		
Avg. Gain			6.2		4.4		
Long			22		18		
TDs			2		2		
Net Yards Passing			180		305		
Comp-Att-Int			19-29-1		21-37-2		
Avg. Gain			6.0		8.0		
Long			27		57		
TDs			2		1		
Sacked-Yards Lost			1-9		1-1		
First Downs			21		20		
Rushing			12		7		
Passing			8		12		
Penalty			1		1		
Punts-Avg.			6-42.8		4-38.8		
Inside 20			3		0		
Return Yards			89		174		
Punt Rets-Yards			1--3		1-18		
Kick Rets-Yards			5-92		6-152		
INT Rets - Yards			2-0		1-4		
TDs			0		1		
Field Goals Made-Att			1-1		2-2		
Third Down Eff			2-9		4-12		
Fourth Down Eff			0-0		0-1		
Penalties-Yards			3-26		3-29		
Fumbles-Lost			2-2		0-0		
Time of Possession			27:10		32:50		

SCORING SUMMARY

----- Quarter 1 -----
03:40 SF TD 7 - 0
07:20 DEN TD 7 - 7
11:00 SF FG 10 - 7

----- Quarter 2 -----
01:00 DEN TD 10 - 14
14:30 SF TD 17 - 14

----- Quarter 3 -----
09:50 SF TD 24 - 14

----- Quarter 4 -----
05:50 DEN FG 24 - 17
11:30 DEN TD 24 - 24
12:20 DEN TD 24 - 31
14:00 SF TD 31 - 31
14:40 DEN FG 31 - 34

2007 Chart Set Preview!

With all the hype surrounding the Patriots and Colts game on November 4th 2007 I *hope to create* the Patriots and Colts charts in time for game! This allows me to test the new analysis and enhancements I've added for 2007. Here's a preview of their offenses:

<http://www.datadrivenfootball.com/downloads/07INDOffPreview.pdf>

<http://www.datadrivenfootball.com/downloads/07NEOffPreview.pdf>

I will re-create both offenses along with the defenses after Week 8's games. **DISCLAIMER:** The current dataset does not have enough observations to be statistically significant. The release version

of these charts will be different than what you see in these previews. If IND and NE continue to perform at this level both IND and NE will require additional charts to NEGATE defensive outcomes for Forced Fumbles, INT's, and QT's (similar to the '84 Dolphins). My design algorithm attempts to have equal influence between offense and defense for these outcomes, and both teams are BELOW the previously used adjustments. It could be the value of the adjustments could shift due to data differences, but that is less likely. Just to reiterate: the final version of these charts will most likely be different than the preview charts.

Software Tip

Obtaining printouts of the chart sets is not the easiest software feature to use. I created documentation on printing your charts and it is available for download here:
<http://www.datadrivenfootball.com/downloads/ChartSetPrintingInstructions.pdf>

If you are using the edit screens:

Def/#	1	2	3	4	5	6	7	8	9
A 1	(3)	-1				-3		(25)	6
A 2		-1	-2	-6					
A 3				(3)	2	(1)	-5		(14)
A 4		(0)	(-2)					(31)	
A 5	F		(0)	F	INT -3	INT 6	INT 18	INT 42	INT 4
B 1					-3			(27)	
B 2	(1)	(0)		(-1)		6			
B 3	(0)	(0)	-2	(1)			(15)	(52)	6
B 4									(9)
B 5	F	F -2		F 2		F 4		(TD)	(8)
C 1		(1)		-2			-5	(26)	-5
C 2	(5)	-1	(-1)	-2				15	
C 3				-2		-3			QT
C 4		(2)	(0)	(3)	QT				INT 4
C 5			F		INT -1		QT	(72)	
D 1	1		2	(4)		-4	-5	8	
D 2	1			-1	-6		-3		
D 3	2								
D 4		(1)	4		QT		QT	(42)	5
D 5			F 12		INT -4	INT 6	INT 19		
E 1	2			(3)		-2			
E 2						-1			
E 3					1		-8	QT	
E 4		2	(4)	-1	4		INT 18	INT 24	QT
E 5	(47)					QT	INT 14	INT 28	INT 6
F 1				(5)	4	1	QT		
F 2	(0)	(0)						QT	
F 3		-1	(0)		13	QT			3
F 4		(-1)	4			7	INT 15	INT 25	QT
F 5		F	F 3	F 8	QT	8	QT	(53)	QT

to view the chart while playing please read the printing instructions. Open the files as described in the instructions, but rather than printing you can use the file to view the chart while playing. The formatting is far superior and is much easier to read than edit screens.

Yahoo Groups!

If you have not joined the Paydirt Yahoo Group please consider doing so. The Group provides a great way of sharing information and meeting Paydirt fans. Join using this link:
<http://games.groups.yahoo.com/subscribe/Paydirt>

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