

# Baserunning

Bill James

Who is the best baserunner in the major leagues? Who is the worst? Who is on the list? Who isn't as good as the public thinks? Who is better than the announcers say?

Last year we began an effort to better document baserunning. We have added some things to the record this year, and I have actual answers to the questions above. . . I'm not just teasing you with the possibility that I could come up with answers if I wanted to.

Our baserunning analysis looks at six factors to evaluate baserunning. These are not *everything* that could be studied, but it's a pretty good start. The factors we look at, and document in the chart that follows, are:

1) **Runners going from first to third on a single.** Mike Cameron was on first base when a single was hit into the outfield 16 times last year and made it to third 11 times, the best percentage for any player with 15 or more opportunities. Frank Thomas was on first base when a single was hit 23 times, and was 0-for-23.

2) **Scoring from second on a single.** Grady Sizemore last year scored from second on a single 25 times in 29 opportunities, the highest percentage of any player with 20 chances (although Ryan Langerhans was 13 for 13, and Corey Patterson and Ricky Weeks were both 18 for 19). Jorge Posada was 6 for 21, Josh Bard 1 for 12, Bengie Molina 0 for 7.

3) **Scoring from first on a double.** J.D. Drew scored from first on a double last year (2006) 8 times in 8 chances; Bengie Molina was 0 for 8.

4) **Bases Taken.** We've added a new category this year, Bases Taken, which could be generally defined as "the offensive side of events which are usually documented only as defensive failures." A player is credited with a Base Taken whenever he moves up a base on

- a) a Wild Pitch,
- b) a Passed Ball,
- c) a Balk,
- d) a Sacrifice Fly, or
- e) Defensive Indifference.

Taken as a group, these events—Bases Taken—are significantly more common than Stolen Bases—and who benefits from them, if you look, bears an obvious relationship to speed. Ichiro led the majors in Bases Taken with 33, although Orlando Cabrera was better per time on base. The least likely players to take a base off the defense were Garrett Atkins, Jason Giambi and Adam Dunn.

5) **Baserunning outs.** We actually have three categories of outs. “Out Adv.” is runners thrown out attempting to go first to third on a single, attempting to score from second on a single or attempting to score from first on a double. “Doubled Off” is runners doubled off base on a ball hit in the air, and “BR Outs” is runners thrown out attempting to advance on a Wild Pitch, a Passed Ball or a Sac Fly. There are so few of these, the Baserunning Outs, that we didn’t print the data separately. And, also, there are other baserunning outs that we may worry about in some future year.

6) **Runs Scored as a Percentage of Times on Base.** You can’t rely too heavily on runs scored as a percentage of times on base (excluding home runs), because the ratio is heavily colored by offensive context. But you can’t ignore it, either, because the purpose of good baserunning is to score runs. We tried to give the category an appropriate weight.

As to how we combine these six factors into a rating. . .let’s do Carlos Beltran. I am on record as saying that Carlos Beltran is probably the best baserunner in the majors, but let’s look at the data. Beltran was on first when a single was hit 20 times in 2006, and made it to third base 9 times. The major league average was 28%, so Beltran was 3.4 bases better than an average runner.

Beltran was on second when a single was hit 22 times, and he scored 13 times, or 59%. The major league average was 60%, so Beltran was a tick below average there. Adding this to the first-to-third data, CB is now +3.2.

Beltran was on first when a double was doubled 6 times, and he scored 3 of the 6. The major league average was 42%, so Beltran is +.48. Adding this to the earlier data, this brings him up to +3.7.

Beltran was on base 226 times last year, not counting home runs, and took 23 bases from the defense. The major league average was .073 bases taken per time on base, so Beltran is +6.5 there. This brings him up to 10.2 bases better than an average baserunner.

Beltran was not thrown out advancing on the bases, and was doubled off only once—a total of one baserunning out. The major league average is essentially one baserunning out per 100 times on base, so Beltran is +1.3 in this category.

This category, however, receives triple points. Making an out on the bases is far more important, on a one-to-one basis, than picking up an extra base. For a runner in scoring position to try to take an extra base is not a breakeven gamble, or anything like a breakeven gamble. It’s not even like a stolen base attempt, which breaks even about 65 to 67%; it’s higher than that. We give triple weight, in evaluating baserunning, to this category, so that one baserunning out negates three bases gained.

Beltran gets 3.8 points for not making outs on the bases, which brings him up to +14. Beltran, on base 226 times, scored 86 runs, not counting his home runs. The major league average is .28 (.280910) runs scored per time on base. Beltran exceeded expectations by 22.5 runs.

That's heavily context-driven, of course. A player who bats in front of Carlos Delgado is going to do better than a player who bats in front of John McDonald. A player who hits doubles and triples is going to do better than a player who draws walks and hits singles. A player who bats leadoff is going to score more runs than a player who bats third or fourth, even with equally good hitters coming up behind him.

Still, you can't ignore stats just because they're context-driven, or you'll wind up ignoring everything. Scoring runs is the name of the game. We give Beltran credit for scoring more runs than expected, but one point for each three runs scored. +22.5 becomes +7.5. Adding to the +14 that Beltran had before, his score is, or rounds off to, +21.

He was not the best baserunner in the major leagues last year. He was ninth on the list, the top ten being:

1. Chone Figgins +28
2. Chase Utley +27
3. Mark Ellis +24
4. Orlando Cabrera +24
5. David DeJesus +24
6. Jose Reyes +22
7. Mark Teahen +22
8. Willy Taveras +21
9. Carlos Beltran +21
10. Hanley Ramirez +21

After that we have Johnny Damon, Grady Sizemore, Juan Pierre, Corey Patterson, Scott Podsednik, Marcus Giles, Jason Michaels, Mark Grudzielanek, Felipe Lopez, Carlos Guillen, Melky Cabrera, Brandon Fahey, Steve Finley and Shane Victorino.

The worst baserunner of 2006 was (drum roll, please. . .pratfall. . .band plays "Baby Elephant Walk"). . .Josh Willingham. Overcoming Frank Thomas' huge advantage in natural slowness augmented by age and Adrian Gonzalez' uncanny propensity for being doubled off, Willingham was 2-for-15 going first-to-third on a single, 1-for-11 scoring from second on a single, 2-for-5 scoring on a double (which is average, actually), was thrown out three times advancing while taking only six bases from the defense, and scored only 62 runs despite hitting 26 homers and being on base over 200 times on other events. The bottom ten are:

1. Willingham -30
2. Yo Adrian Gonzalez -24
3. Mike Piazza -24
4. Frank Thomas -23
5. Jason Giambi -22
6. Ryan Howard -21

7. Pat Burrell	-20
8. Travis Hafner	-20
9. Victor Martinez	-20
10. Juan Rivera	-20

Followed by Joe Crede, Kenji Johjima, Richie Sexson, Javy Lopez, Jorge Posada, Willy Aybar, Jermaine Dye, Bengie Molina, Mike Jacobs, Jacque Jones, Kevin Millar, Mike Lowell, Brian McCann, Paul Konerko and Khalil Greene.

The 25 best baserunners include, by my count, 9 center fielders, 5 shortstops, no catchers, no DHs, no first basemen. The 25 worst baserunners include 7 catchers, 7 first basemen, 2 DHs, one shortstop, no center fielders.

All of that is more or less as you would expect it to be. Maybe it's an upset that Frank Thomas isn't last, but he's close. You would expect Giambi, Hafner, Piazza and Bengie Molina to be prominently featured on a worst-baserunners list, and Figgins, Reyes, Taveras and Beltran to be on a best-baserunners list. You would expect the best baserunners to be mostly center fielders and shortstops; you would expect the worst baserunners to be mostly catchers and first basemen and DHs.

We turn our attention, then, to the issue of who *didn't* grade out the way you would expect him to. The biggest surprise, to me, is Ichiro Suzuki. Suzuki led the majors in Bases Taken, 33, as noted above, and he picks up some points for scoring runs in 34% of his times on base. Apart from that, his baserunning numbers range from ordinary to ugly. In 2005, Ichiro's stats on going first-to-third on a single, scoring from second on a single and scoring from first on a double were all exceptionally good. In 2006 they were all below average. In 2005 Ichiro was thrown out advancing once. In 2006 he was out advancing 3 times, and doubled off base 5 times. His total of 8 baserunning outs was the highest in the major leagues, one more than Adrian Gonzalez. Maybe it was just a fluke year—and maybe, at 32, he isn't what he used to be.

The American League MVP contest for 2006 appears to be Derek Jeter against David Ortiz. This book will be in the stores before the winner is announced, but I am assuming that it will be Derek Jeter.

Derek Jeter has a halo effect that would crush concrete. His teams win a lot of games, and he's likeable and polite and the media loves him, so any area of performance that is poorly documented or poorly understood—defense, baserunning, clutch hitting, leadership—the media will use as a rag to polish Derek Jeter's trophies. He gets lots of credit for being a great baserunner. The highlight of the Red Sox season, for me, was a moment when the network announcers were going on at some length about what a perfect baserunner Derek Jeter is, how he never gets thrown out on the bases and is always alert to picking up an extra base. Toward the end of this paean, Kevin Youkilis gunned the ball to second base on a 5-3 groundout, and nailed Jeter off second. Kevin, I could have kissed ya'.

But this is not partisan debate; this is ice-cold sabermetrics. Jeter scored 118 runs in his presumptive MVP season, and scored runs in 34% of his on-base

opportunities. We credit him with scoring 17 runs more than expected given his times on base, and give him +5.6 points for that. Setting aside this frankly suspect advantage, Jeter's baserunning numbers are generally poor—as in, worse than the league average, and worse than David Ortiz. Jeter was 9-for-36 going from first to third on a single, 10-for-23 scoring from second on a single, and 2-for-7 scoring from second on a double. All of these numbers are below average. His basepath outs were above average.

At the same time, David Ortiz' baserunning numbers are surprisingly good. Ortiz was 8-for-17 scoring from second on a single—which incidentally is harder to do in Fenway than it is in Yankee Stadium—and he was 2-for-5 scoring from first on a double. He was not doubled off base, and he was not thrown out advancing. He was able to advance fairly often without being thrown out.

Having watched almost every Red Sox game for several years, I can say without hesitation that David Ortiz is a much better baserunner than most people think he is. He is slow, but he is alert, he reads the ball well off the bat, he hustles, and he knows what he can do. Do I really believe that he is a better baserunner than Derek Jeter? No, of course not; that's not what our chart shows, and it's not what I believe. What I believe is that the difference between them as baserunners is a fourth of what the media generally assumes it is.

Another surprise is Khalil Greene. . .he actually doesn't have ANY good baserunning numbers. Joey Gathright, one of the fastest players in baseball, we have rated as a below-average baserunner. I did not expect the high ranking to Chase Utley, although people tell me he does everything well. The high rating for Albert Pujols is not a surprise to me, although it will be to some people.

Note: Chart includes all players who have been on base 50 or more times during the 2006 season.