Identifying runs created from 4-seamer alone

This is the eighth of a series of preseason articles about the impact of air density on baseball performance, written for DailyBaseballData.com by Clifton Neeley of www.baseballVMI.com.

When teams travel to Coors Field, they hit the four-seam fastball on the first day at a clip of 12.13% of strikes thrown when their VMI is identified as a high plus rating; by the third game it is down to the 9% range. This rating is due to the larger movement on the four-seam fastball the team has recently experienced prior to arriving at Coors Field.

MLB Average Road Runs Created Against Four-Seam Fastball 2015

Road Games W/Less bite on pitch for hitter to adjust to:	Percentage of hits to strikes when less bite on pitch	Average MLB runs generated per hit	Runs Created per 100 strikes (series)	**Road Games W/More bite on pitch for hitter to adjust to:**	Percentage of hits to strikes w/more bite on pitch	Average MLB runs generated per hit	Runs Created per 100 strikes (series)
Normal baseball between +0.00 to +10.00	9.04%	0.045	4.52	**Normal baseball between -0.00 to -10.00**	8.61%	0.043	4.31
		Per game=	1.49			Per game=	1.42
Easier Hitting between +10.00 to +15.00	11.75%	0.059	5.88	**Tougher Hitting between -0.00 to -15.00**	7.16%	0.036	3.58
		Per game=	1. 94			Per game=	1.18
Visitors to Coors Field between +15.00 to +25.00	12.13%	0.061	6.06	**Teams Leaving Coors Field -15.00 to -25.00**	8.19%	0.041	4.10
		Per game=	2.00			Per game=	1.35

Visual Memory by Clifton Neeley, creator of the Visual Memory Index© and author of the web-site www.baseballvmi.com. Clifton pitched and played baseball and fast-pitch softball in the mountainous southwest Colorado area from 4,000 feet in Grand Junction to 6,000 feet in Durango to 9,000 feet in Telluride prior to his college experience in baseball.

Mechanically, this means that when hitters first identify the pitch as a fastball, they set their arms and balance their body to square up on a pitch that should move similarly to what they've recently experienced. But we know that in heavier air than at Coors Field the ball lifts more. Therefore, their bodily setup is higher on the pitch than it should be for accurate Coors Field hitting. However, it is better to be above the pitch on the setup than below it, because it is a lifting pitch. So the bat, being a weight on the hitter's arms can be more easily dropped than lifted. These facts cause their higher hit percent in Coors Field than on the road, as the pitch is therefore straighter. These facts also cause the high percentage (see below) against the sinker away from Coors Field for the Rockies on the road. This is because the Rockies' bodily setup has become about 3 inches lower on the fastball because of Coors Field repetition, making the sinker and two-seamer less of an adjustment for them.

Rockies Road Data - 2015				
Games	Teams	Strikes Seen	Pitch-Type	Average Strikes per Game
162	1	5676	Four-seam	35
162	1	1995	Slider	12
162	1	1817	Two-seam	11
162	1	1326	Curveball	8
162	1	786	Cutter	5
162	1	157	Splitter	1
162	1	1275	Sinker	8

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Rockies Runs Lost on Road-2015										
Pitch Type	Average Strikes Per Game	Plus VMI COLO Hit Percent	Minus VMI COLO Hit Percent	+VMI MLB Runs per Hit	-VMI MLB Runs per Hit	+VMI COLO Runs per 100 Strikes	-VMI COLO Runs per 100 Strikes	+VMI Runs per Game	-VMI Runs per Game	-VMI Runs Lost per Rockies Game
Four-seam	35	11.54%	6.00%	0.058	0.030	5.77	3.00	2.02	1.05	0.971
Slider	12	15.25%	5.60%	0.076	0.028	7.63	2.80	0.94	0.34	0.594
Two-seam	11	13.87%	9.30%	0.069	0.047	6.94	4.65	0.78	0.52	0.256
Curve ball	8	11.66%	7.58%	0.058	0.038	5.83	3.79	0.48	0.31	0.167
Cutter	5	10.94%	5.00%	0.055	0.025	5.47	2.50	0.27	0.12	0.144
Splitter	1	11.11%	7.69%	0.056	0.038	5.56	3.85	0.05	0.04	0.017
Sinker	8	11.23%	15.18%	0.056	0.076	5.62	7.59	0.44	0.60	-0.155
							Total Runs Lost on Road			**1.99**

The numbers above and the explanation show that it is preferable to prepare for Coors Field games in good movement conditions (even if in a pressurized cage). The opposite preparation yields less than ***3 runs per game***, which is playing (preparing) in easier or straighter pitching, then transitioning to good movement***.*** We have a real world model for this. All teams that visit Coors Field go immediately from experiencing good movement to (relatively) poor movement and they average over 5 runs per game. This is when the visiting team's VMI is a high plus. Not only does the VMI gauge it and the averages prove it, but it also makes logical sense from everything we know about the game of baseball. Furthermore, as the teams play the series, the VMI decreases in severity for games two and three. The VMI tracks the players becoming more familiar with lesser movement. They begin to lower their setup toward that amount of (lesser) movement to which they have become familiar. This is why all teams' production falls to the 9% range as the series extends—the visiting players are conforming to Coors Field norms just as they also conform to the other stadiums' norms as they play through those series.

This is the Rockies' road winning problem in a nutshell. They have conformed their hitting eye to Coors Field before going on a road trip. This puts their hitting eye 3 inches below the center of the fastball. By preparing daily (4 pitches/day) in good movement before leaving on a road trip, in a hyperbaric batting cage, the team ***will create an additional run per game*** at home, and ***will yield a total of 5 runs per game*** on the road. In other words, the advanced preparation for the 4-seamer will add 1 run per game to the road score and another run per game for the balance of the cumulative pitch-types seen on the road. The 2015 Rockies lost 13 road games by 1 run; they also lost 6 games by two runs and/or where the winning team did not score the average runs in MLB. Those 13 one run losses--and at least 3 of the other 6 games--could have been won by the Rockies, had they utilized the hyperbaric cage.

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The preparation in the pressurized batting cage will change the adjustment to "Easier Hitting" at **+10.00 VMI** from the "Tougher Hitting" arena identified above at **-10.00 VMI,** which will then increase the Weighted Runs Created, Plus statistic to a "***normal***" for an MLB team. Good movement is what pitchers desire; hitting good movement is the challenge for hitters, especially as it relates to winning in the home team's stadium.

The Colorado Rockies' ownership, coaching and management mean well and are on the right track in terms of gathering enough talent to win, that is if they had no disadvantage. But they as a team are the abnormality that has brought this disadvantage to light. Yet they have not taken the lead in the fight to win, though fully understanding the problem the statistical data shows. The road disadvantage their team has revealed through statistics is a solvable problem if they realize that it is not going away as long as they do not address it directly. They can no longer sit on their hands and try to find a manager, coach, general manager or player from outside the organization who can show them the direction. They must lead Major League Baseball into the future for the expansion and popularity of the game. The easy way to fix this is for the ownership to move the team to a low altitude and colder summer climate, but that would be very costly in terms of cash. In this case, leadership will be more costly in terms of pride alone, but far less expensive in cold cash while taking the lead for the future of baseball by bringing a hyperbaric batting cage into Coors Field in Colorado. Several other teams will quickly follow suit.

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