

Transitioning Opportunity? Transition Plays in the NHL

By Zach Betron, Will Cooper, and Ben Mandelbaum

What is a “Transition Chance”?



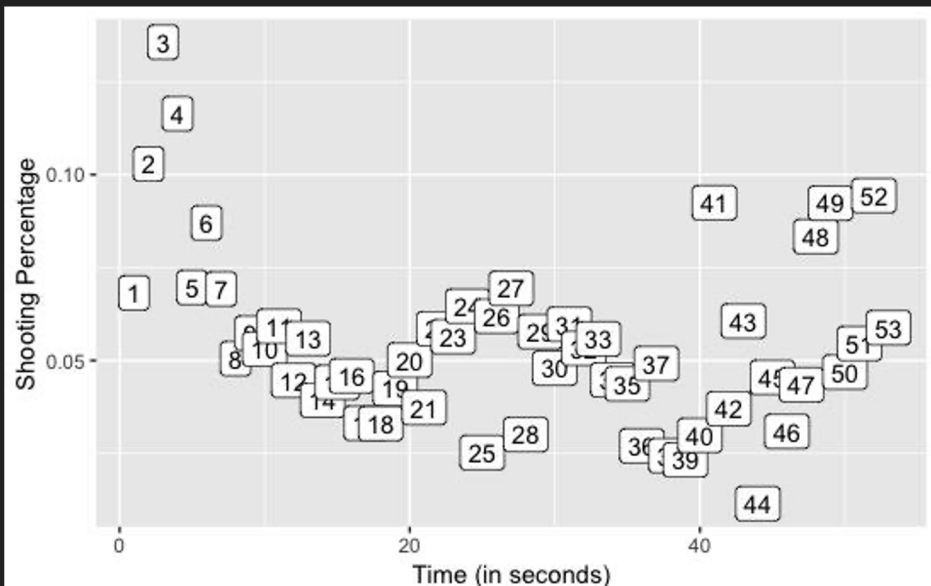
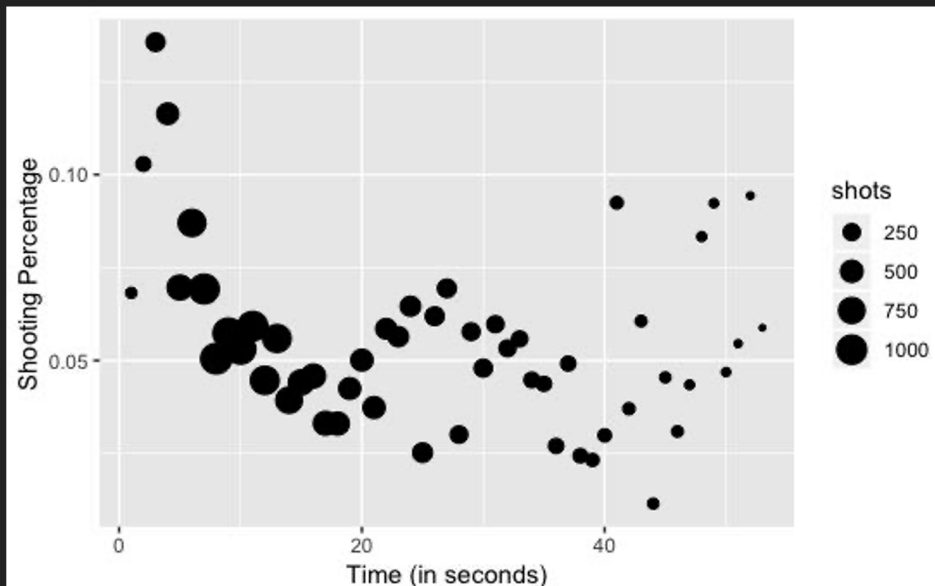
Via: <https://www.youtube.com/watch?v=VM1RglgsT-Y>



Via: <https://www.youtube.com/watch?v=C4padXNNXck>

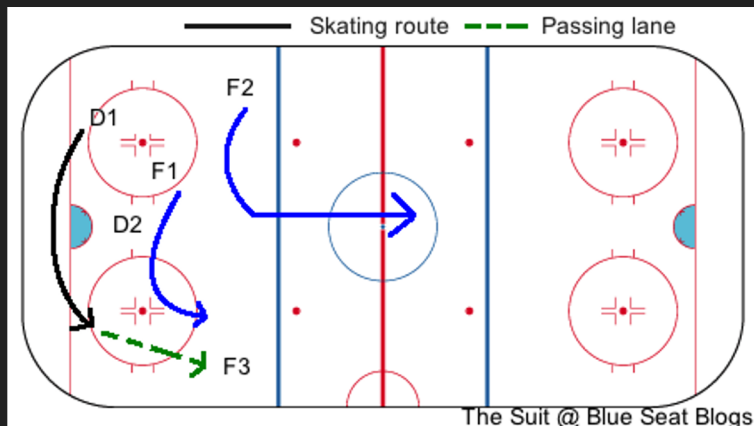
Defining Transition Plays...

- Time gap (≤ 14 seconds)
- Event in defensive zone \rightarrow Shot attempt
- Also may be referred to as an “offensive rush”



Gathering Data to Evaluate Transitions

- Analyzed 2017-2018 (thru April 1) play-by-play data via “Corsica.Hockey”
- Cleaned to only register 5v5 (even strength) chances resulting from zone changes that ended in a shot ≤ 14 seconds after the defensive zone possession change
- Collected 2017-2018 (full regular season) to determine the best transition players and the teams that had the most transition chances
- Analyzed 2016-2017 play-by-play data at the end to see if a player or team is truly a transition group or if the results happen by randomness and the teams and players regress back to the mean



First 70 seconds of the first game of 2017-2018 (TOR vs. WPG)

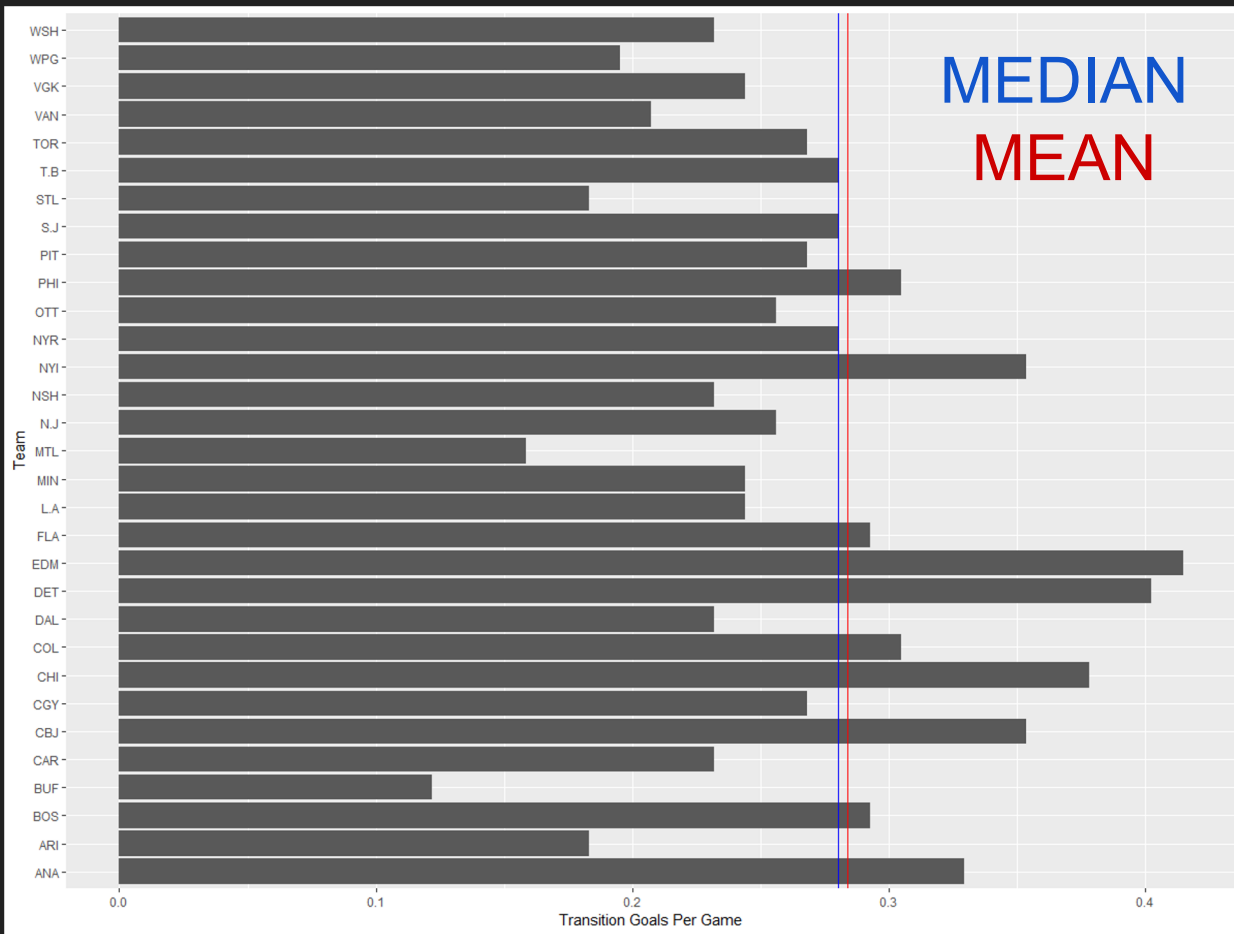
season	game_date	session	game_period	game_seconds	event_type	event_description
20172018	2017-10-04	R	1	0	PSTR	Period Start- Local time: 6:17 CDT
20172018	2017-10-04	R	1	0	PGSTR	
20172018	2017-10-04	R	1	0	ON	NA
20172018	2017-10-04	R	1	0	ON	NA
20172018	2017-10-04	R	1	0	FAC	TOR won Neu. Zone - TOR #43 KADRI vs WPG
20172018	2017-10-04	R	1	12	BLOCK	TOR #43 KADRI BLOCKED BY WPG #39 ENSTROM
20172018	2017-10-04	R	1	28	OFF	NA
20172018	2017-10-04	R	1	28	ON	NA
20172018	2017-10-04	R	1	37	OFF	NA
20172018	2017-10-04	R	1	37	ON	NA
20172018	2017-10-04	R	1	38	SHOT	WPG ONGOAL - #44 MORRISSEY, Wrist, Off. Zo
20172018	2017-10-04	R	1	39	OFF	NA
20172018	2017-10-04	R	1	39	ON	NA
20172018	2017-10-04	R	1	41	HIT	TOR #47 KOMAROV HIT WPG #44 MORRISSEY
20172018	2017-10-04	R	1	49	SHOT	WPG ONGOAL - #16 MATTHIAS, Wrist, Off. Zor
20172018	2017-10-04	R	1	50	STOP	GOALIE STOPPED
20172018	2017-10-04	R	1	50	OFF	NA
20172018	2017-10-04	R	1	50	OFF	NA
20172018	2017-10-04	R	1	50	ON	NA
20172018	2017-10-04	R	1	50	ON	NA
20172018	2017-10-04	R	1	50	FAC	WPG won Off. Zone - TOR #42 BOZAK vs WPG
20172018	2017-10-04	R	1	60	BLOCK	WPG #44 MORRISSEY BLOCKED BY TOR #16 M
20172018	2017-10-04	R	1	63	SHOT	WPG ONGOAL - #18 LITTLE, Backhand, Off. Zo
20172018	2017-10-04	R	1	69	BLOCK	WPG #8 TROUBA BLOCKED BY TOR #25 VAN R
20172018	2017-10-04	R	1	70	STOP	PUCK IN NETTING
20172018	2017-10-04	R	1	70	OFF	NA
20172018	2017-10-04	R	1	70	OFF	NA
20172018	2017-10-04	R	1	70	ON	NA
20172018	2017-10-04	R	1	70	ON	NA



pbp_raw

1151922 obs. of 57 variables

Transition Goals Per Game



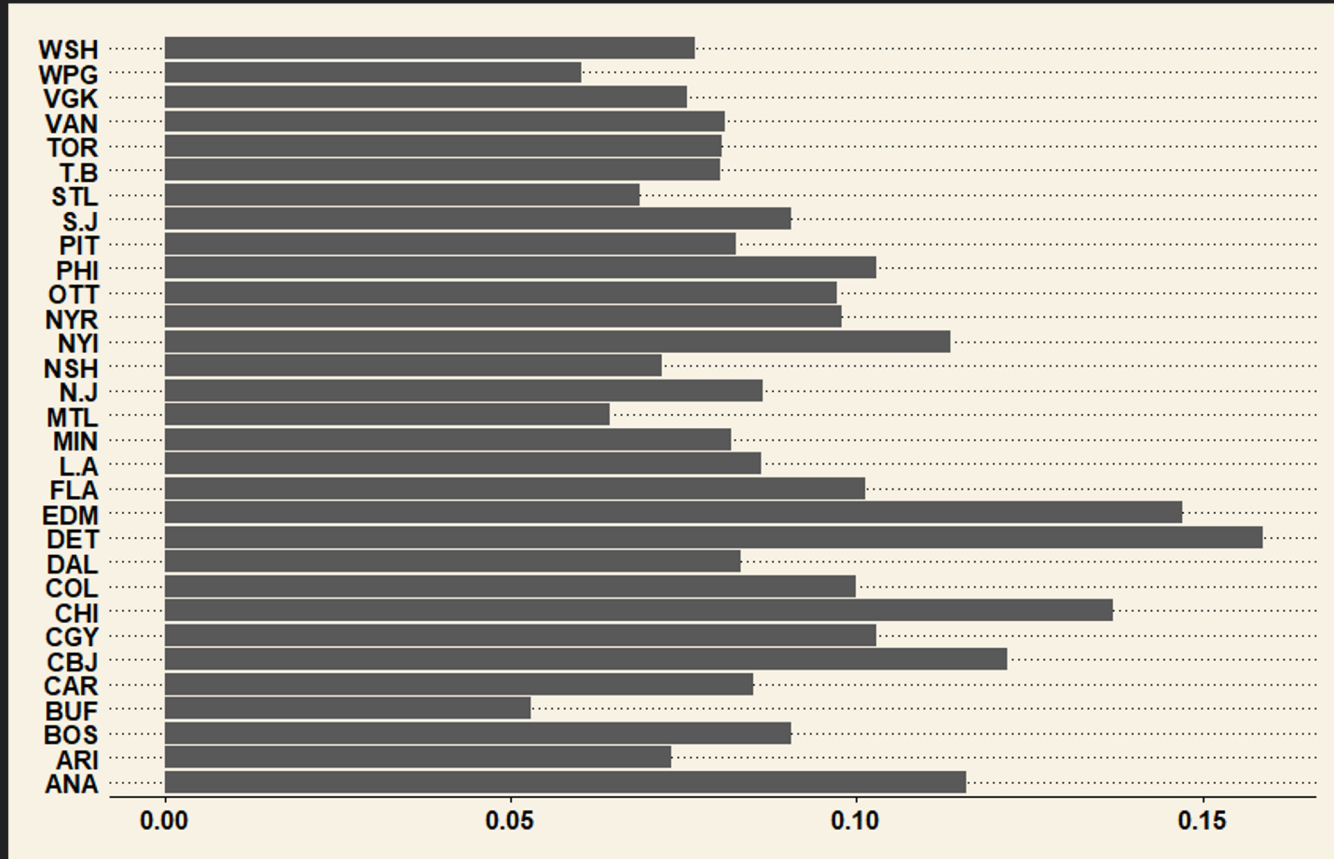
Relationship of Transition Goals Per Game VS Goals Per Game

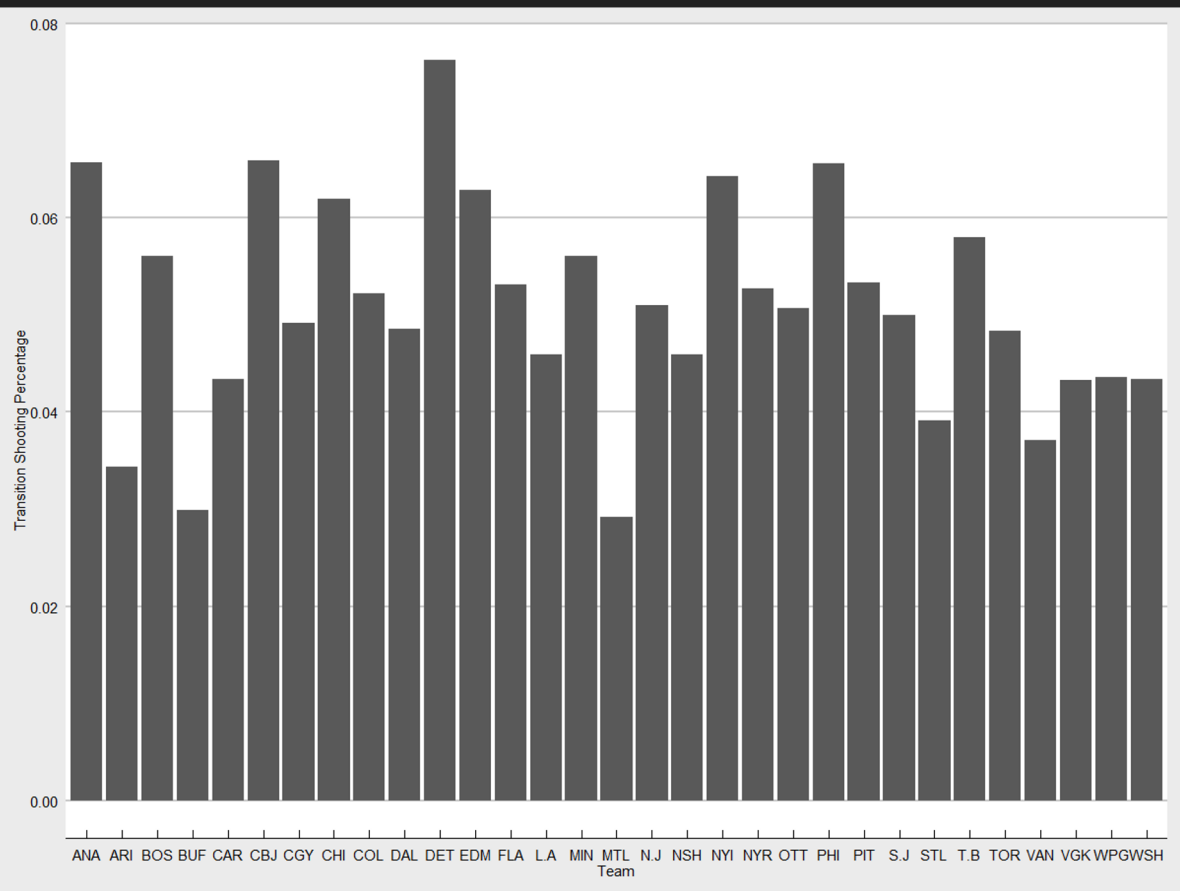


Correlation = .35



Percentage of Goals Scored in Transition

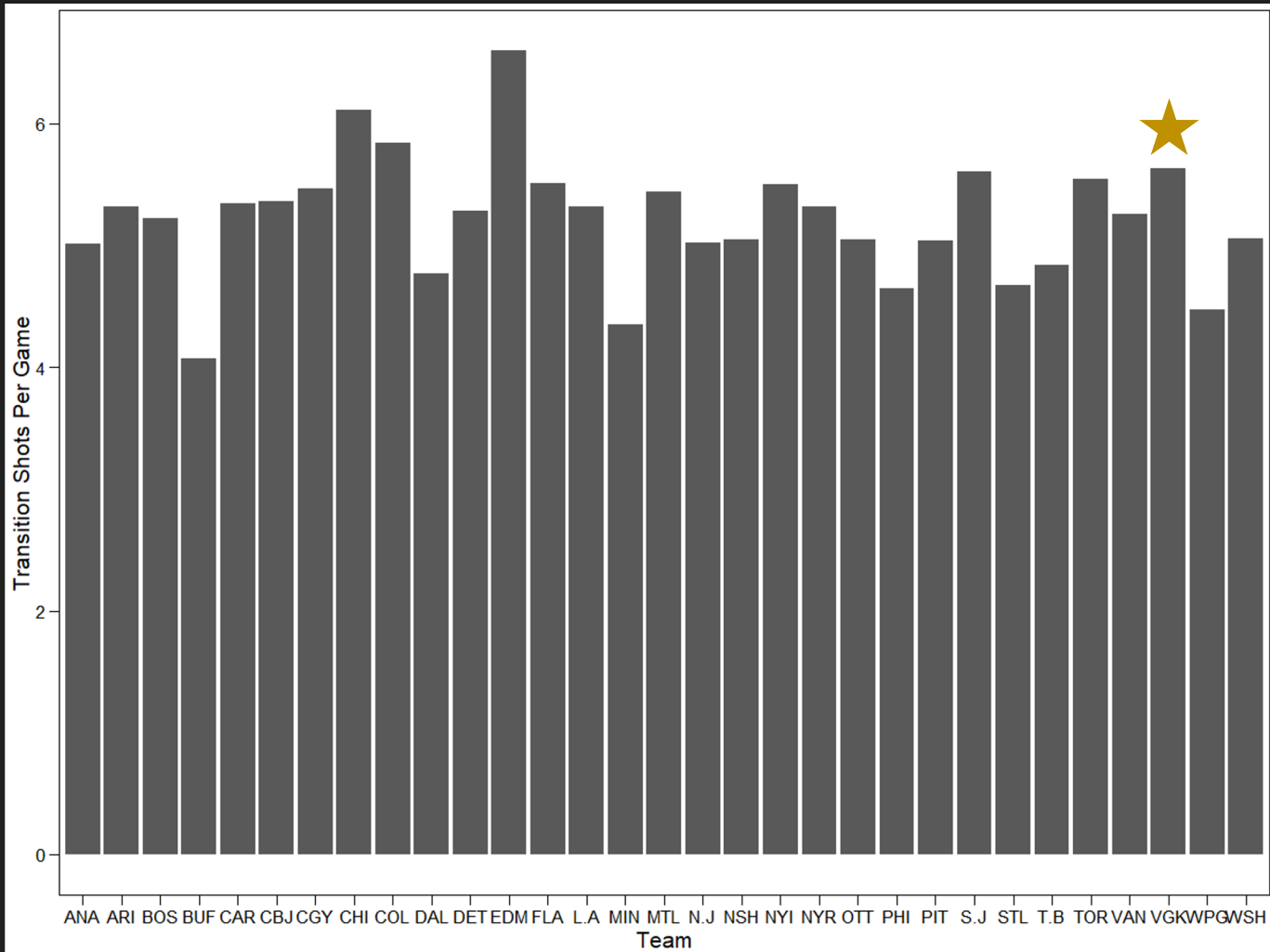




Detroit Red Wings:

Transition Shot Rank: 16th

Shot Percentage: 1st

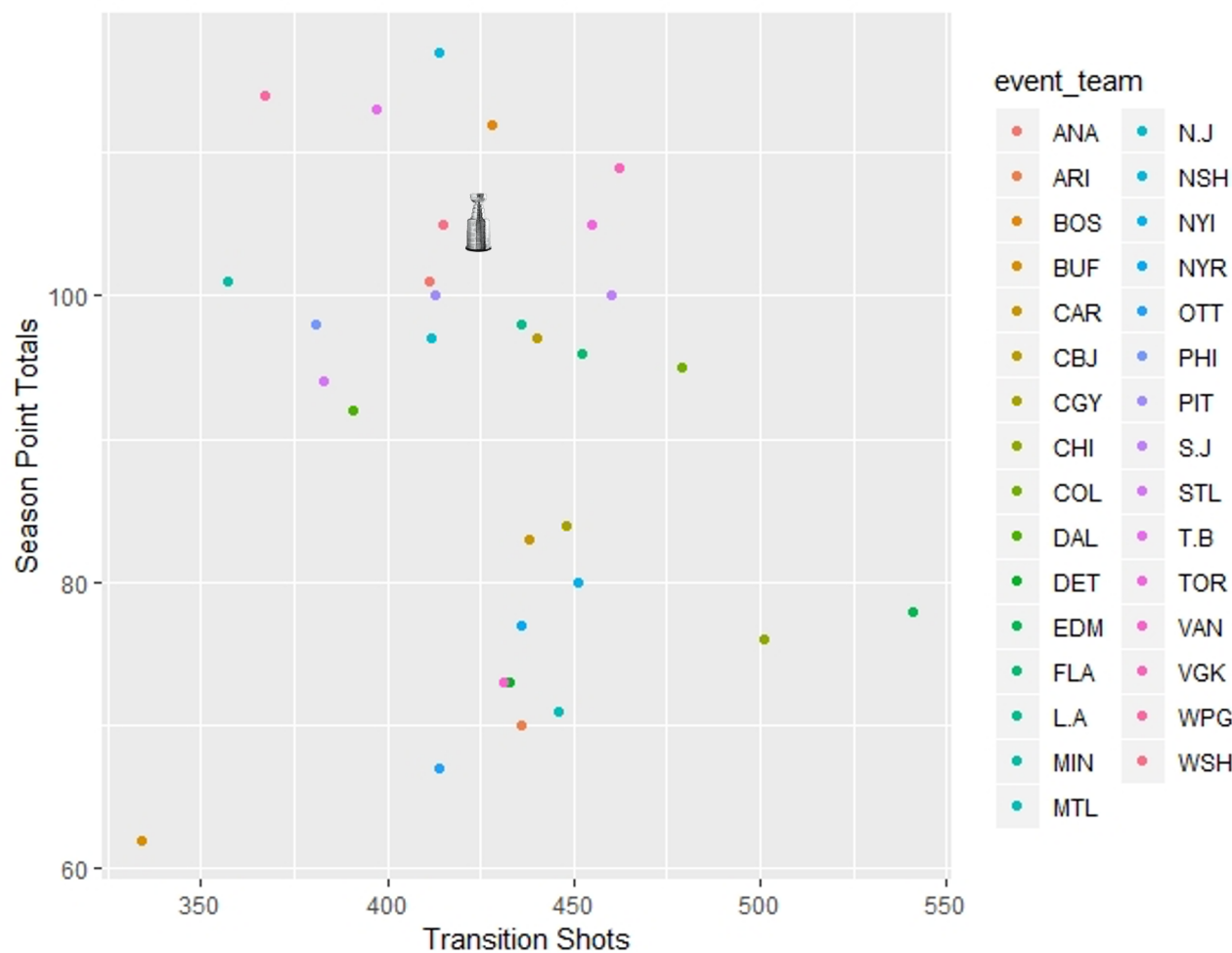


Vegas GM George McPhee:

“It’s not about playing some stripped, sit-back style. Players don’t enjoy that. They want to play a game where they have some freedom in how they can move and how they think. Hockey should never be boring.”

(via The New York Times)





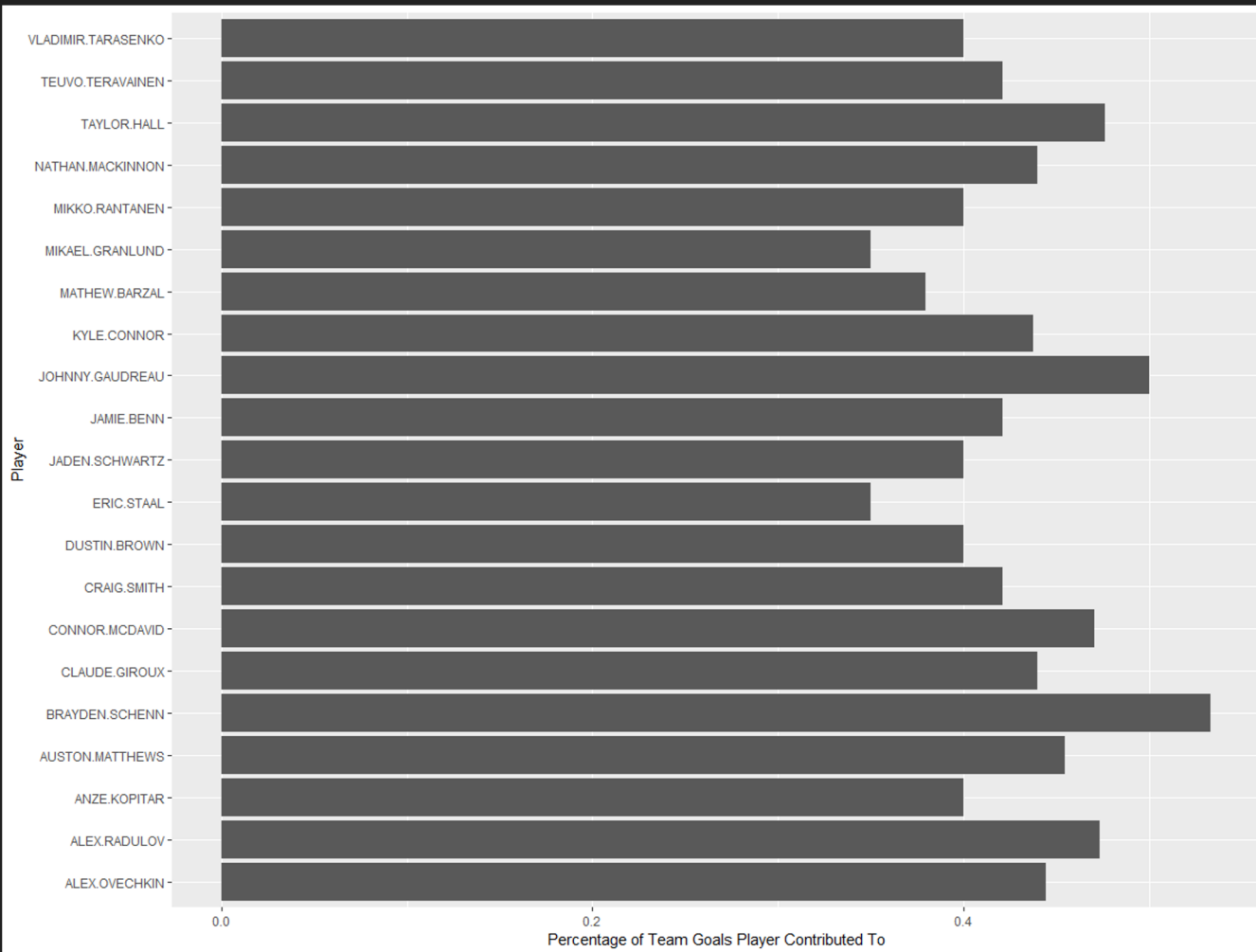
Correlation = $-.17$

Transition Point Leaders

Skater	Goals	Shots	Shot Percentage
McDavid, Connor	9	58	.155
MacKinnon, Nathan	7	71	.099
Matthews, Auston	7	37	.189
Marchand, Brad	6	32	.188
Giroux, Claude	6	31	.194
Kane, Patrick	5	65	.077
Athanasίου, Andreas	5	52	.096
Nash, Rick	5	49	.102
Gaudreau, Johnny	5	45	.111
Nyquist, Gustav	5	42	.119

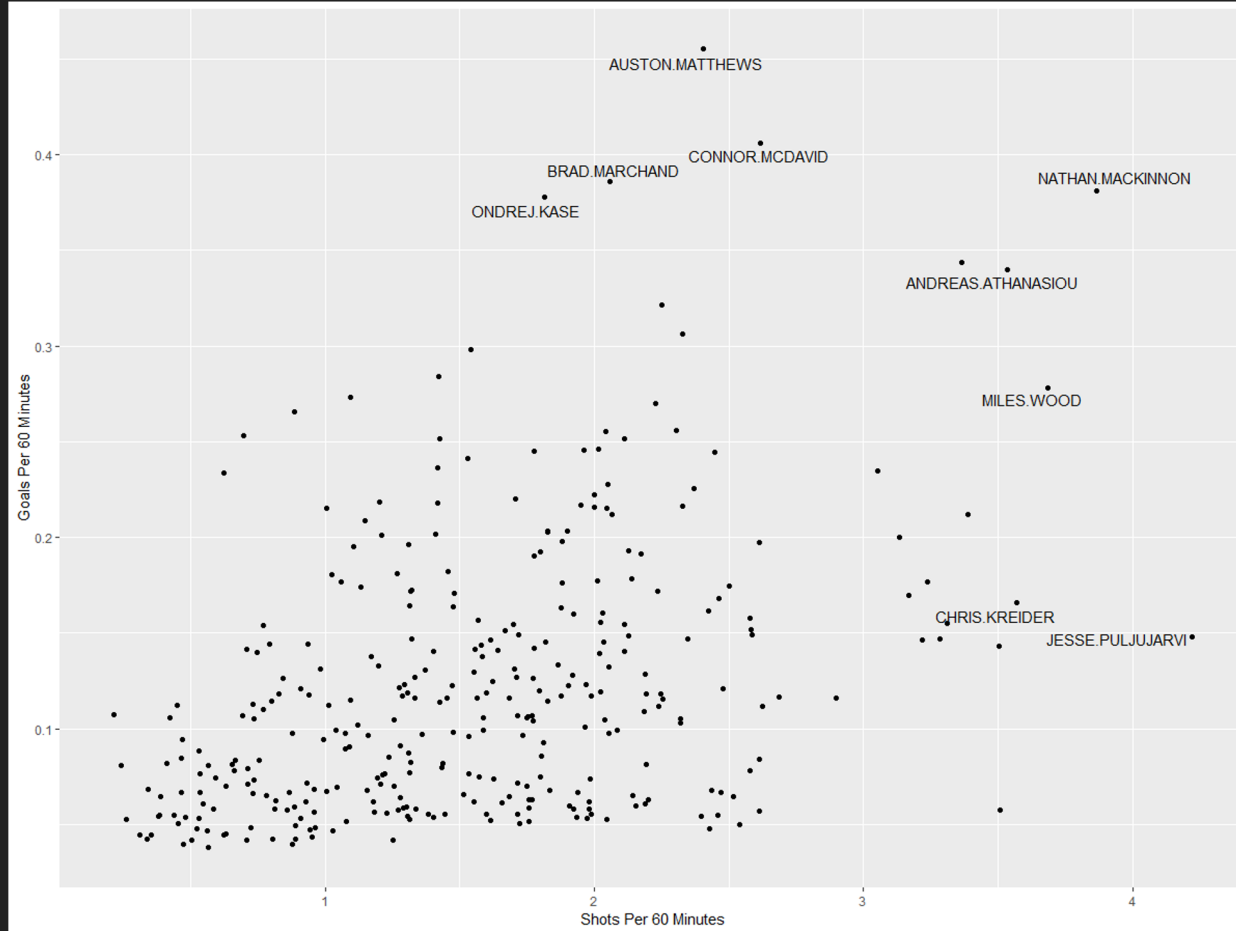
Skater	Primary Assists
Draisaitl, Leon	7
Panarin, Artemi	7
Zetterberg, Henrik	7
Perry, Corey	6
Hall, Taylor	5
Mantha, Anthony	5
Brown, Dustin	5
Stamkos, Steven	5
Pastrnak, David	5
Forsberg, Filip	5

Skater	Secondary Assists
Lucic, Milan	5
McDavid, Connor	4
Ovechkin, Alex	4
Larkin, Dylan	4
Hagelin, Carl	4
Pysyk, Mark	4
Barzal, Matthew	3
Landeskog, Gabriel	3
Rantanen, Mikko	3
Gaudreau, Johnny	3



Player Involvement

Transition (Shots and Goals) per 60 Minutes



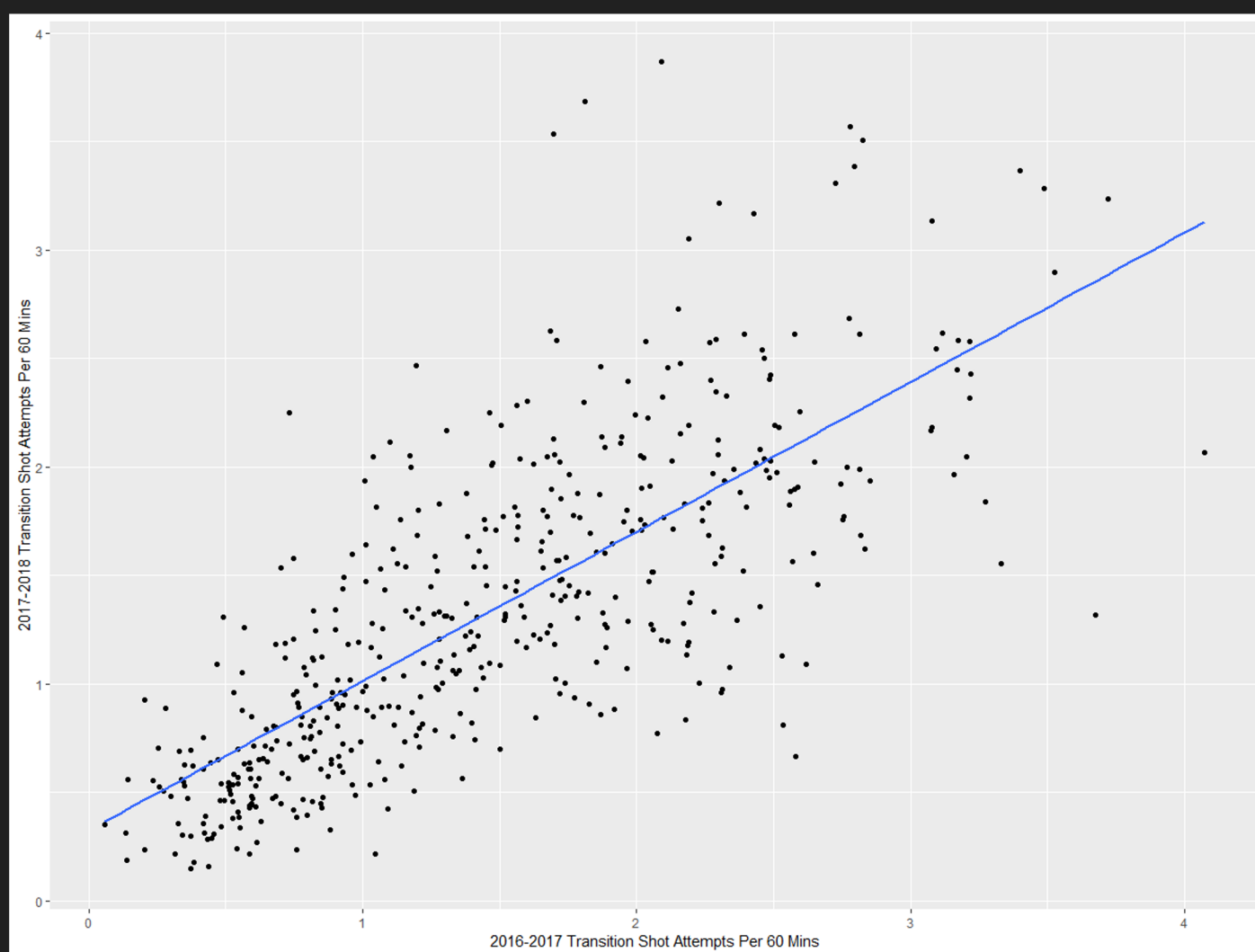
Relying on Transition...

<i>Skater (w/ min. 40 points)</i>	<i>Transition Points</i>	<i>Season Points</i>	<i>Transition Percentage</i>
Mantha, Anthony	9	46	.196
Matthews, Auston	10	57	.175
Eberle, Jordan	10	57	.175
Smith, Craig	8	48	.167
Zetterberg, Henrik	8	51	.157
McDavid, Connor	16	103	.155
Bjugstad, Nick	7	46	.152
Draisaitl, Leon	10	67	.149
Duchene, Matt	8	54	.148
Brown, Dustin	8	56	.143

But is a Player Good, or Just Lucky?



Correlation = .22



Correlation = .75

Confounding Factors

- Game situations (time of play, game state)
- Missing two weeks of data
- Coaching strategy on players
- Quality of competition and teammates
- Points are a flawed statistic (for teams and for players)
- Inclusion of secondary assists in total points
 - Some could argue that secondary assists should not be weighted exactly as goals and primary assists

Conclusion

Does emphasizing transition play translate to a stronger team? What about to successful players?

Based on our results, a transition playing style is not indicative of team success, but on the player level, creating transition opportunities is a measurable skill.