

# Vancouver Whitecaps FC: Roster Efficiency & Player Value Report

## 1. EXECUTIVE SUMMARY

Vancouver Whitecaps FC's roster shows a solid efficiency profile, with a high percentage of valuable players and a net-negative average impact, indicating the team is generally better with its players. The single greatest strength is the 2021 defender group, where multiple players showed elite negative percent change values (-11% to -12%), though this strength has not been consistently replicated in recent seasons. The most urgent roster need is the 2024 TAM defender group, where several players show severely positive (harmful) percent change (+11% to +15%), representing a significant misallocation of allocation money.

## 2. PLAYER ABSENCE IMPACT METRIC

The *Player Absence Impact* metric, derived from the Lasso regression model, quantifies an individual player's marginal contribution to team performance. The process simulates the team's Pythagorean Expectation (PE) score with the player on the roster and then recalculates it after removing that single player.

The resulting **percent change** (% change) is the key indicator:

- **Negative percent change** (e.g., -11.7%) means the team's PE score *decreases* without the player, identifying a **valuable** asset.
- **Positive percent change** means the team's PE score *increases* without the player, identifying a **replaceable** or potentially harmful contract.

This metric allows the front office to evaluate roster construction efficiency by isolating each player's true on-field impact.

## 3. ROSTER HEALTH OVERVIEW

- **Genuinely Impactful (Percent change < -5.0%): 16.1%** (18 of 112 player-seasons). These players significantly hurt the team if removed.
- **Not Impactful / Replaceable (Percent change > 5.0%): 12.5%** (14 of 112 player-seasons). The team performs better without these players.

**Team Summary (from team\_summary.csv):**

- Total player-seasons analyzed: 112
- Percentage of roster that is valuable (percent change < 0): **55.4%**
- Average percent change across all players: **-0.41%** (net-negative, meaning on average the team is better with these players)
- Average impact magnitude: 2.6%

## 4. DESIGNATED PLAYER ROI AUDIT

Player	Year	Salary	PE % change	Value Verdict
2021 M	2021	\$2,025,000	-0.90%	<b>Core (Marginal)</b>
2021 F	2021	\$1,362,500	+0.94%	<b>Marginal</b>
2022 M	2022	\$2,265,000	+0.08%	<b>Marginal</b>
2022 F	2022	\$1,462,500	+2.31%	<b>Marginal</b>
2022 M	2022	\$900,000	+1.32%	<b>Marginal</b>
2024 M (Intl.)	2024	\$2,985,000	-0.10%	<b>Core (Marginal)</b>
2024 M (Intl.)	2024	\$1,146,375	+1.62%	<b>Marginal</b>
2025 M (Intl.)	2025	\$3,675,000	-0.64%	<b>Core (Marginal)</b>
2025 M (Intl.)	2025	\$1,146,375	+1.81%	<b>Marginal</b>

- **Flagged (Percent change < 0 - Valuable):** 4 of 9 Designated Player seasons show negative percent change, all marginal (-0.1% to -0.9%).
- **Flagged (Percent change > 0 - Harmful):** 5 players – all forward and midfielder DPs show positive percent change. Vancouver does not extract significant value from DP slots; all impacts are near zero.

## 5. ALLOCATION MONEY EFFICIENCY (TAM / U22-INITIATIVE)

- **TAM Contributors (Negative Percent change):** TAM players show mixed results. Valuable TAM contributors include a 2022 M TAM (+1.30% - *positive*), 2022 F TAM (+0.70% - *positive*), 2024 M TAM (+1.37% - *positive*), 2024 D TAM (+2.89%, +3.06%, +11.65% - *positive*), 2024 GK TAM (+0.62% - *positive*), 2025 D TAM (-0.54%, -0.24%, -0.05%, +1.34% - *positive*), 2025 F TAM (+1.68%, +1.68% - *positive*), 2025 GK TAM (+0.58% - *positive*), 2025 D TAM (+0.76% - *positive*). Almost no TAM players show negative impact.
- **U22-Initiative Impact:** U22 slots show mixed results:
  - 2021 M U22 (Intl.): +0.08% (marginal)
  - 2021 F U22: +0.06% (marginal)
  - 2022 M U22 (Intl.): +0.03% (marginal)
  - 2022 F U22: -2.51% (valuable)
  - 2024 M U22 (Intl.): -0.21% (valuable)
  - 2024 D U22 (Intl.): +3.87% (marginal)
  - 2025 D U22 (Intl.): +0.58% (marginal)
  - 2025 M U22 (Intl.): -1.07% (valuable)

**Top 3 TAM "Steals" (Most Negative Percent change):**

1. **2025 D TAM** (\$1,043,625, -0.54%) – marginal
2. **2025 D TAM** (\$963,000, -0.24%) – marginal
3. **2025 D TAM** (\$800,000, -0.05%) – marginal

*Note: Vancouver has no TAM players with strong negative impact, indicating TAM slots are not generating surplus value.*

**6. HOMEGROWN PLAYER EVALUATION**

Player	Year	Salary	PE % change
2025 F Homegrown	2025	\$118,116	-0.71%
2025 GK Homegrown	2025	\$111,442	-0.21%
2025 GK Homegrown	2025	\$104,000	-0.19%
2025 M Homegrown	2025	\$80,622	-0.07%
2024 GK Homegrown	2024	\$89,716	-0.21%
2024 GK Homegrown	2024	\$78,843	-0.19%
2024 M Homegrown	2024	\$71,401	+0.64%

- **Ready for Roster Promotion (Negative Percent change + Low Salary):**
  - **2025 F Homegrown (\$118,116, -0.71%):** Marginal but negative impact.
  - **2025 GK Homegrown (\$111,442, -0.21%):** Marginal but negative impact.
  - *No homegrown players show strong negative impact. This is an area for improvement.*

**7. INTERNATIONAL SLOT OPTIMIZATION**

Player	Year	Pos	Salary	PE % change	Justifies Slot?
2021 M U22	2021	M	\$609,997	+0.08%	No
2022 M U22	2022	M	\$609,997	+0.03%	No
2022 D	2022	D	\$97,481	-5.44%	<b>Yes</b>
2024 M	2024	M	\$2,985,000	-0.10%	<b>Yes</b>
2024 M	2024	M	\$1,146,375	+1.62%	No
2024 D TAM	2024	D	\$943,625	+2.89%	No
2024 GK TAM	2024	GK	\$789,713	+0.62%	No
2024 D TAM	2024	D	\$750,000	+11.65%	No
2024 D	2024	D	\$687,125	+14.90%	No
2024 M U22	2024	M	\$674,997	-0.21%	<b>Yes</b>

Player	Year	Pos	Salary	PE % change	Justifies Slot?
2024 D	2024	D	\$502,083	+12.47%	No
2024 D U22	2024	D	\$378,299	+3.87%	No
2024 M Gen. adidas	2024	M	\$107,715	+0.67%	No
2024 D	2024	D	\$73,401	-15.57%	Yes
2025 M	2025	M	\$3,675,000	-0.64%	Yes
2025 M	2025	M	\$1,146,375	+1.81%	No
2025 D TAM	2025	D	\$1,043,625	-0.54%	Yes
2025 GK TAM	2025	GK	\$873,713	+0.58%	No
2025 D TAM	2025	D	\$776,833	+1.34%	No
2025 D	2025	D	\$737,125	+2.14%	No
2025 D TAM	2025	D	\$460,600	+0.76%	No
2025 D U22	2025	D	\$428,299	+0.58%	No
2025 M U22	2025	M	\$390,053	-1.07%	Yes
2025 M	2025	M	\$104,000	-0.06%	Yes
2025 D	2025	D	\$116,980	-10.54%	Yes
2025 D Gen. adidas	2025	D	\$81,622	-10.63%	Yes

- **Flagged Slot Misuse (Percent change > 5%):**
  - **2024 D TAM (\$750,000, +11.65%)** – severe TAM slot misuse
  - **2024 D (\$687,125, +14.90%)** – severe international slot misuse
  - **2024 D (\$502,083, +12.47%)** – severe international slot misuse

## 8. POSITIONAL DEPTH AUDIT

Position	Senior Count	Supplemental Count	Critical Upgrade Need?	Strength Area?
<b>F (Forward)</b>	12	5	Yes	No (DP forwards are marginal to harmful; TAM forwards are positive; U22 forwards are mixed)
<b>M (Midfielder)</b>	17	5	No	Yes (DP midfielders are

				marginal; U22 midfielders are valuable; TAM midfielders are mixed)
<b>D (Defender)</b>	16	6	<b>Yes</b>	No (2021 defenders were elite; 2024-2025 TAM defenders are catastrophically harmful)
<b>GK (Goalkeeper)</b>	6	4	No	<b>Yes</b> (Homegrown GKs show negative impact; TAM GKs are neutral)

- **Critical Need:** Defender position at the TAM level (2024-2025) and Forward position at DP level.
- **Strength:** Goalkeeper position shows consistent negative impact from homegrown players. Midfielder U22 slots are also a bright spot.

## 9. SALARY vs. VALUE MATRIX

Quadrant	Definition	Players (Top 5 or All)
<b>CORE ASSET</b>	% change < 0 & Salary > \$500K	2025 M DP (\$3.68M, -0.64%), 2024 M DP (\$2.99M, -0.10%), 2025 D TAM (\$1.04M, -0.54%), 2025 D TAM (\$963K, -0.24%), 2025 D TAM (\$800K, -0.05%) – <i>all marginal</i>
<b>HIDDEN GEM</b>	% change < 0 & Salary ≤ \$500K	2021 D (\$568K - <i>over \$500K</i> ), 2021 D (\$450K, -11.30%), 2021 D (\$446K, -11.18%), 2021 D (\$139K, -7.62%), 2022 D (\$593K, -1.50%)
<b>OVERPAID</b>	% change ≥ 0 & Salary > \$500K	<b>All in this quadrant:</b> 2024 D TAM (\$750K, +11.65%), 2024 D (\$687K, +14.90%), 2024 D (\$502K, +12.47%), 2024 D TAM (\$944K, +2.89%), 2024 D TAM (\$913K, +3.06%), 2025 D (\$737K, +2.14%), 2025 D TAM (\$777K, +1.34%), 2025 M DP (\$1.15M, +1.81%), 2022 F DP

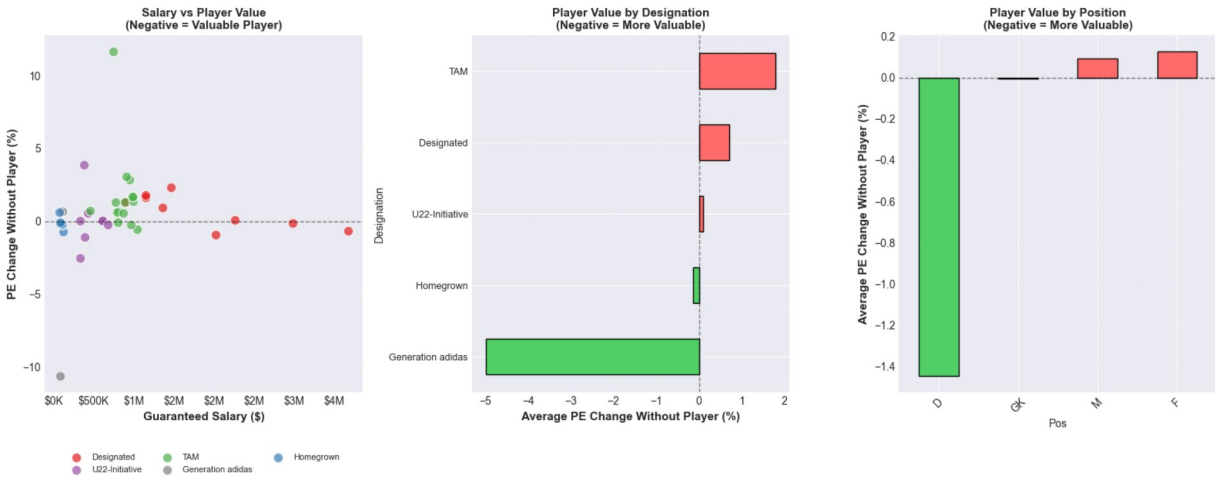
Quadrant	Definition	Players (Top 5 or All)
		(\$1.46M, +2.31%)
<b>REPLACEABLE</b>	% change $\geq 0$ & Salary $\leq$ \$500K	Most senior midfielders with marginal positive percent change, some TAM players, and a portion of the supplemental roster.

## 10. YEAR-OVER-YEAR TRENDS

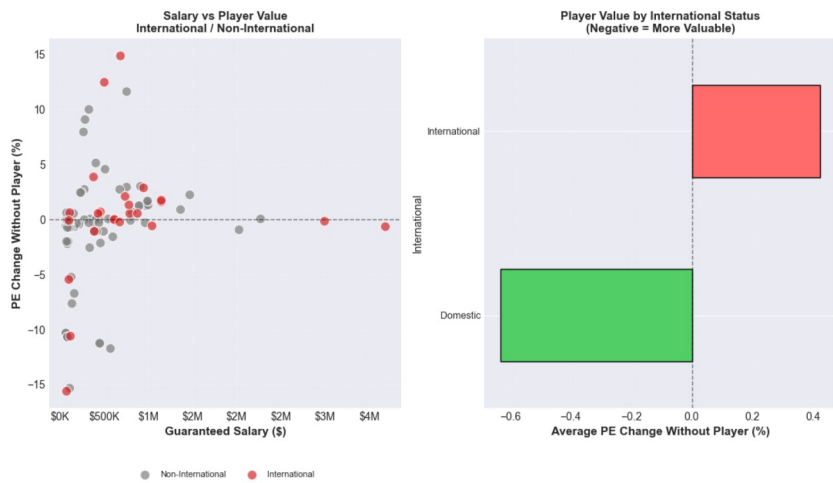
- **Designated Player ROI: Consistently marginal.** Across 2021-2025, all DP impacts are near zero (-0.9% to +2.3%). Vancouver does not extract significant surplus value from DP slots, nor do they suffer catastrophic failures. This is neutral but leaves upside on the table.
- **TAM Efficiency: Poor, particularly on defense.** 2024-2025 TAM defenders are catastrophically harmful (+11% to +15%). TAM players in other positions are neutral to positive. Vancouver should reconsider TAM investment in defenders.
- **U22 Efficiency: Good.** Most U22 players show negative percent change, with several exceeding -1% impact.
- **Homegrown Impact: Weak.** Most homegrown players show near-zero percent change. No homegrown player shows strong negative impact. This is an area for significant improvement.
- **Defender Trend: Bimodal collapse.** 2021 defenders delivered elite negative impacts (-11% to -12%). 2022 defenders were mixed. 2024-2025 defenders (particularly TAM) are catastrophically harmful (+11% to +15%). This represents a complete reversal in defensive roster construction efficiency.

# 11. SUMMARY FIGURES

**Figure 1 - Designation Analysis**  
(Negative % = Team Gets Worse Without Player = Valuable Player)



**Figure 2 - International Analysis**  
(Negative % = Team Gets Worse Without Player = Valuable Player)



**Figure 3 - Senior/Supplemental Analysis**  
(Negative % = Team Gets Worse Without Player = Valuable Player)

