

YPC Analysis for Formation and Personnel Packages

By Formation:

I-Form: Highest YPC "*traditional*" formation (empty has a high ypc but this likely is caused by qb scrambles being logged as runs)... within the formation, **12 & 21 personnel reigns supreme above 22**, showing that **maintaining a semblance of a passing threat opens up the field more** for runs

Jumbo: As if I need to tell you, **save it only for super short yardage packages** (1 to go or less), you're **better off running out of i form from 2+ yards out** as it presents a passing threat to an extent as mentioned above.

Pistol: ignore the 20 personnel, the high number again probably results from qb scrambles, however this does lend to the idea that that might be the best personnel set to implement lateral runs in the form of jet sweeps/pop passes. **As far as traditional runs, full house and 01 personnel (spread/trips formation) stand out.**

Shotgun: **if you're going to qb run, just send the heavy package out.** Normal runs wise, looks as if personnel package doesn't affect things much, so just send out your best guys.

Singleback: 21 personnel performs significantly better than 11 personnel, still 4 ypc even with 11 personnel however.

Wildcat: Personnel performance is a mess here, seems having **multiple running backs or none at all is better than just one** as the defense likely keys in on the running back on the field when there's only one.

By Personnel Package:

01: ignoring empty set, **pistol stands out above shotgun**, likely due to wide receiver blocks not holding for very long, so having the handoff slightly closer to the line of scrimmage allows the back to get in (and hopefully past) the first level before the receiver blocks break and the running back gets momentum going during the handoff. **Quick hitters needed, including your desired cutback and counter plays**, for success out of 01.

02: The opposite of 01, shotgun and wildcat stand out above pistol with 2 running backs. This could probably be attributed to easier lines of sight during option reads from further behind the line, as well as the opportunity for confusion via window dressing and fake handoffs to one of the backs being more visible to the defense. **If you're going to run multi running back option plays, shotgun seems to be the way to go.**

11: Running out of shotgun stands above pistol and singleback, this time with the tight end blocking, showing the threat of a pass with 11 personnel in shotgun leads to a higher ypc but ultimately not a huge difference between the main formations with this personnel set, lending to **dealer's choice** so to speak.

12: I-form. Simply put, unlike 11 personnel, I form is infinitely better but it is **interesting to note that all base formations with 12 personnel stand out with higher ypc than 11 personnel**. (I would hope so otherwise the second running back isn't doing his job blocking/decoying)

21: Singleback and I-form stand out heavily as once you bring in the second tight end, you're better off running from under center as the defense will likely key in on this being a running personnel package.

22: Last but not least, 22 personnel has all formations out from under center performing above i form. Namely shotgun and wildcat, you will likely need to **get creative if you want to run out of this personnel package**.

In summary, the analysis reveals that formation and personnel package choices significantly impact run game efficiency.

For traditional runs, **I-Form with 12 or 21 personnel** offers the best balance, while **Shotgun** is most effective for **QB runs** when paired with heavier packages.

The **Wildcat** is inconsistent, but multi-back or empty sets provide a useful option to confuse defenses.

Pistol works best with **Full House** or **01 personnel**, particularly for lateral runs like jet sweeps.

Jumbo should be reserved for short-yardage situations.

Recommendations include prioritizing **I-Form** for downhill runs and using **Shotgun** to maximize spacing and option plays, with a creative approach needed for **22 personnel**.