

Football Scouting Report Presentation

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Abstract & Method

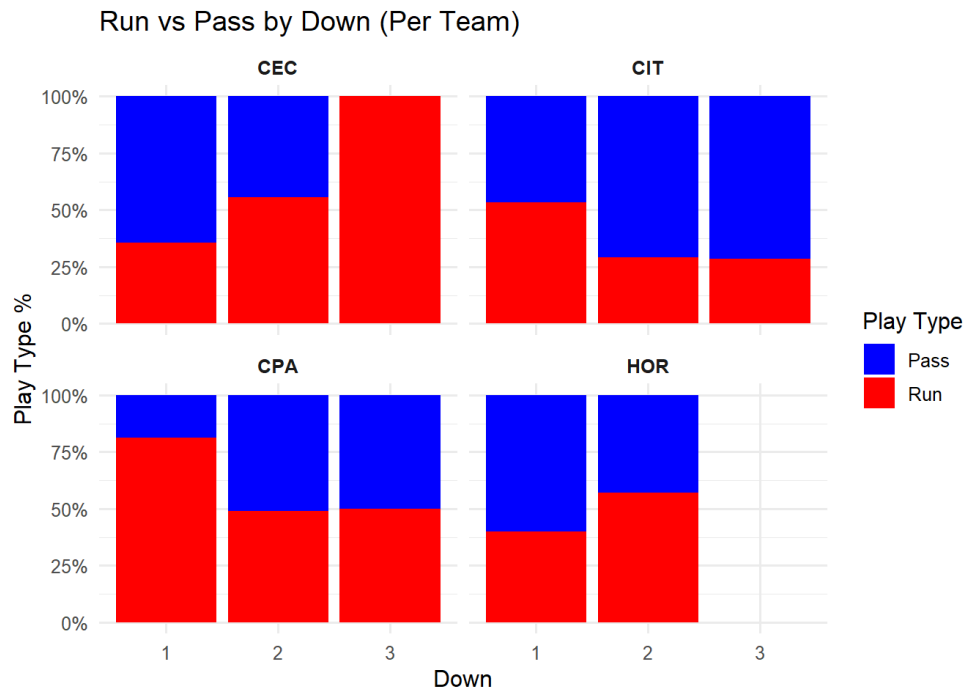
Overview

- Analyzed play-by-play football data
- Focused on formation, down, distance, and play type
- Used clustering and visualization to uncover tendencies

Questions

- How often does a team run or pass based on situation?
- How often is a formation Run or Passed out of?

Team-Level Run vs Pass Tendencies by Down

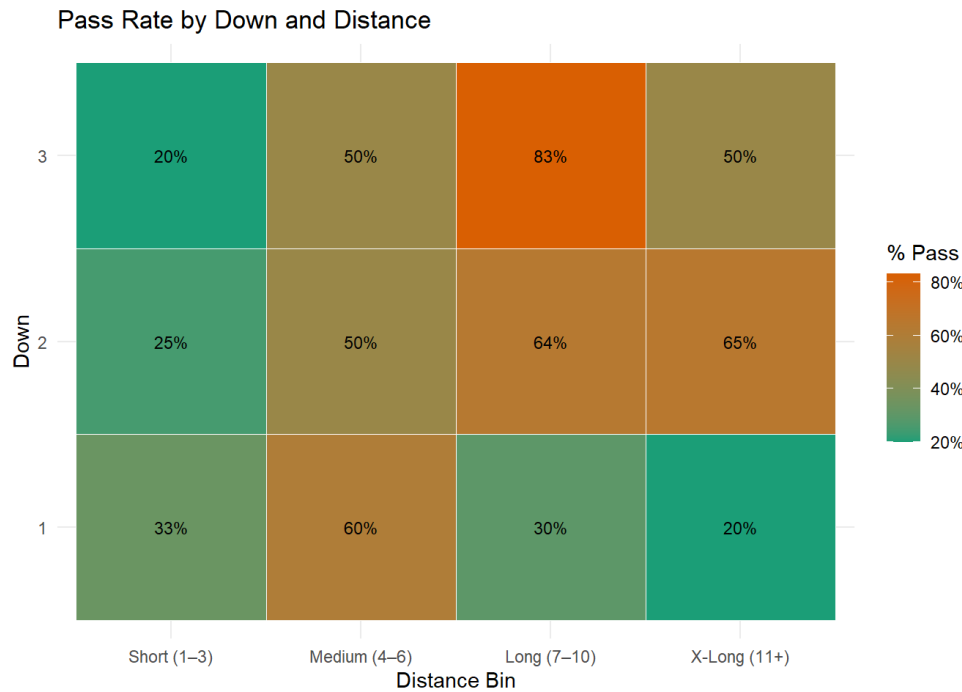


Team Play Calling by Down

- Highlights variation in play calling across teams
- Run-heavy vs pass-heavy tendencies by down

Team Tendencies

Summary: Pass Rate by Down and Distance

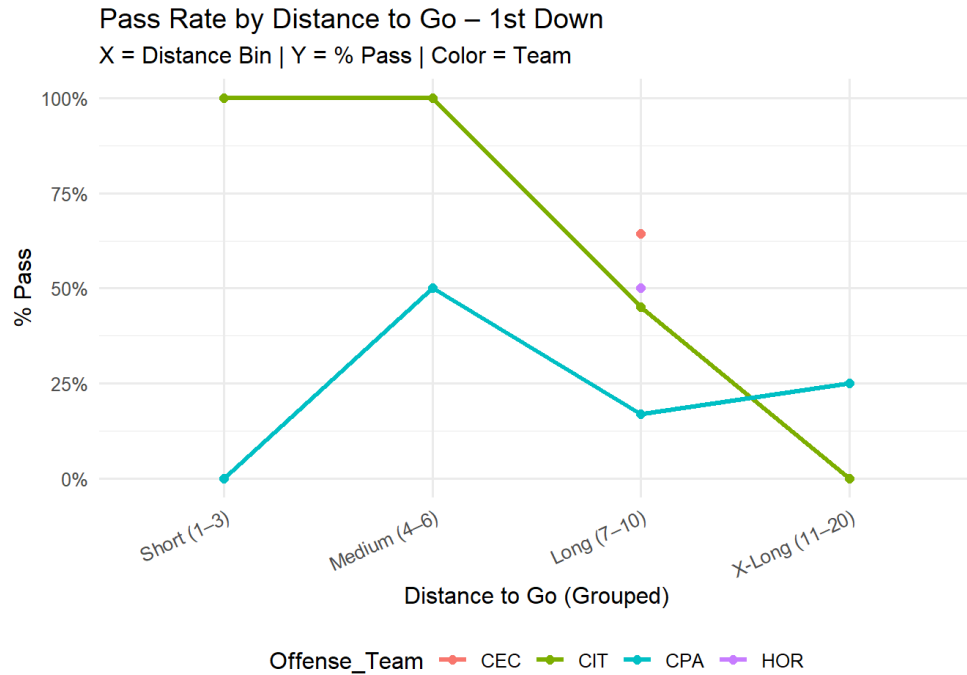


Heatmap Summary

- Higher % pass on 2nd/3rd & long
- Lower % pass on early downs or short yardage

Heatmap

First Down Pass Rates by Distance

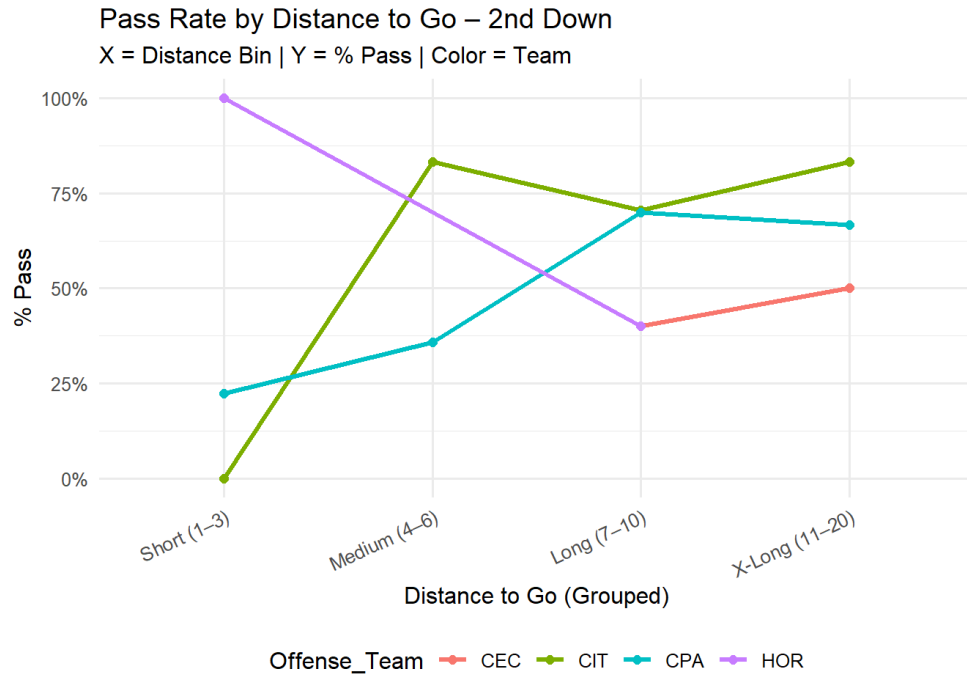


Trends on 1st Down

- Teams tend to run more on short yardage
- CPA has balanced look; CIT very pass-heavy

First Down

Second Down Pass Rates by Distance

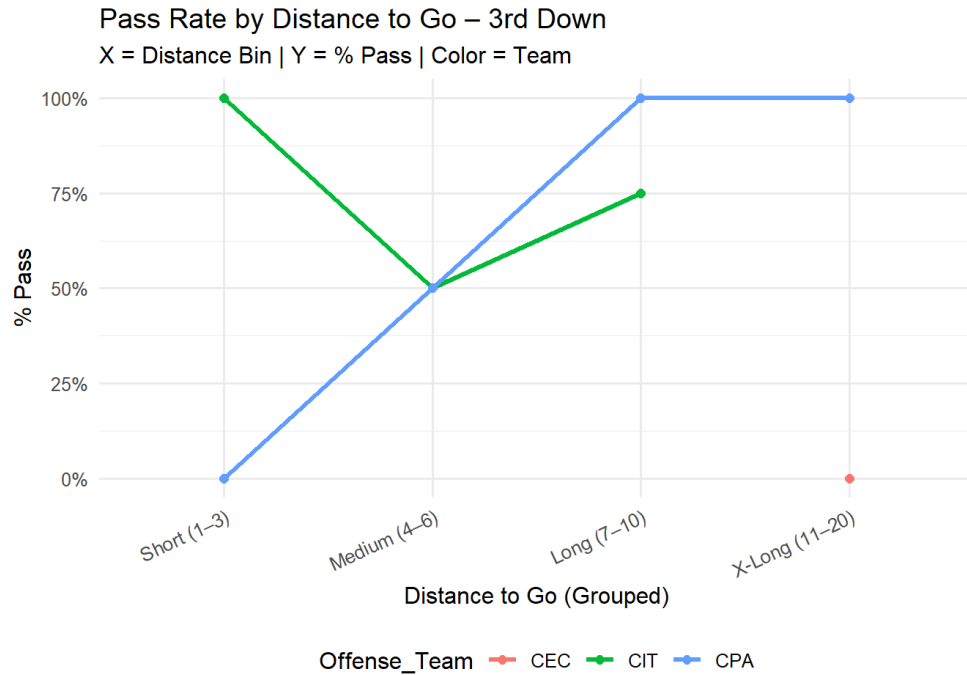


Trends on 2nd Down

- More aggressive play calling emerges
- CIT passes more as distance increases

Second Down

Third Down Pass Rates by Distance

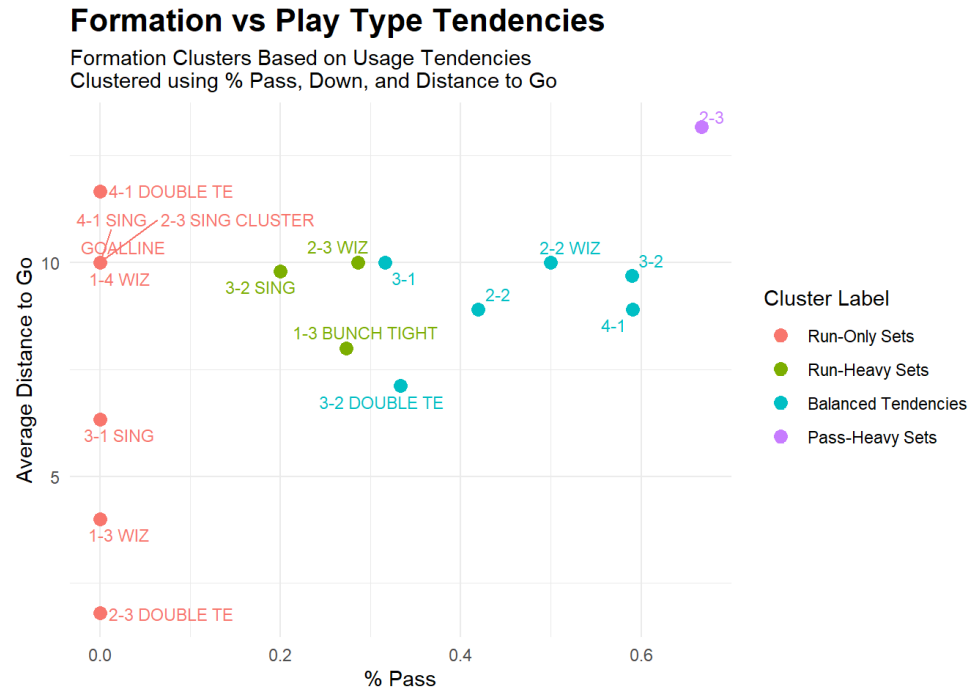


Trends on 3rd Down

- Passing becomes dominant on 3rd & long
- Run attempts mostly vanish except for surprise plays

Third Down

Formation vs Play Type Tendencies

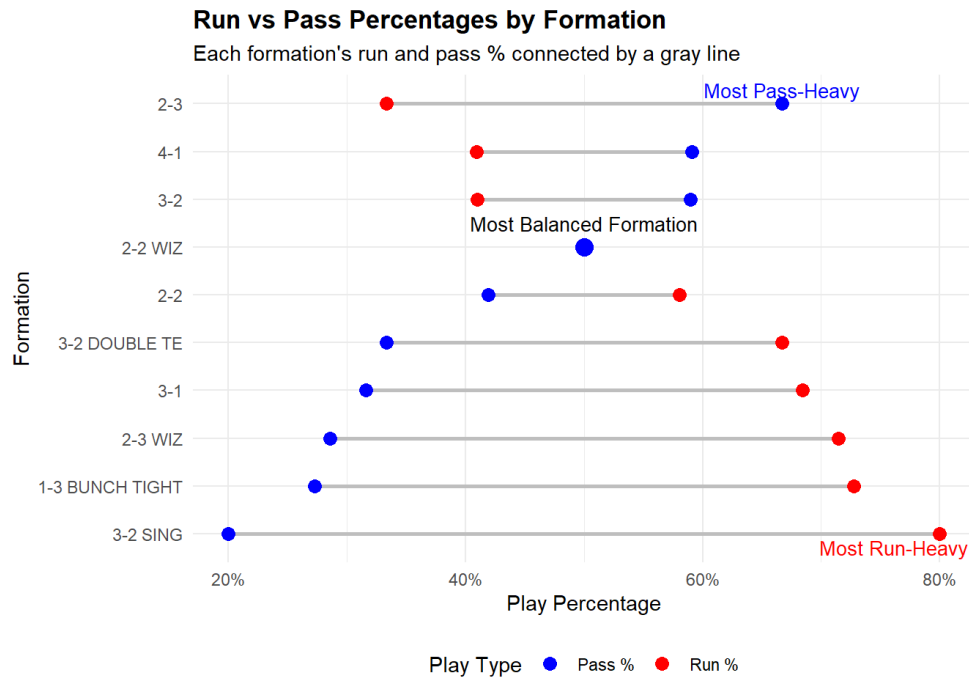


K-Means Clustering

- Clusters formations by % pass, avg down, and distance
- Labels: Run-Only, Run-Heavy, Balanced, Pass-Heavy

KMeans

Run vs Pass Percentages by Formation



Dumbbell Chart

- Spread between run/pass shown per formation
- Flags most extreme & balanced formations

Dumbbell

Conclusion

Key Takeaways

- Strong tendencies exist by team, down, and formation
- Situational awareness is critical (distance + down)
- Formations strongly indicate play type in many cases

Contributions

Liam Cook – Sole contributor to the analysis, report, and presentation.