

1.12.26



The Specialist Standard

Defining Metrics That Drive Elite Performance

4DU

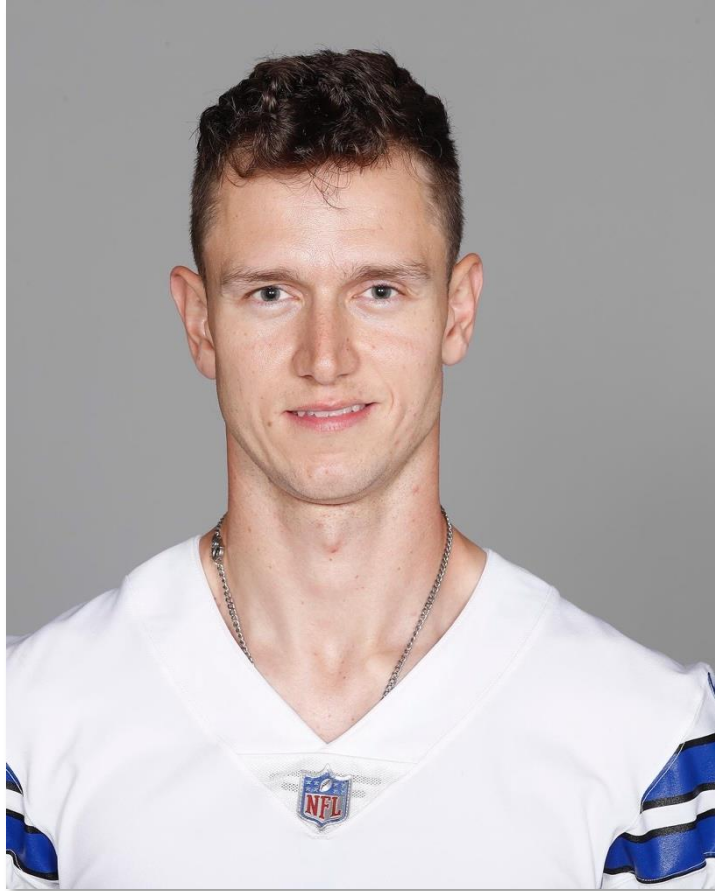
Fourth Down University™

x



TRACKMAN
FOOTBALL

SPEAKERS



- Simon Mathiesen
- Head of Trackman Football
- Northwest Missouri State



- Dan Lundy
- Founder: 4th Down University & The Tour
- University of Miami

Purpose

1

**Introduce
Trackman
Technology**

2

**Showcase
Benefits of
Objective
Data**

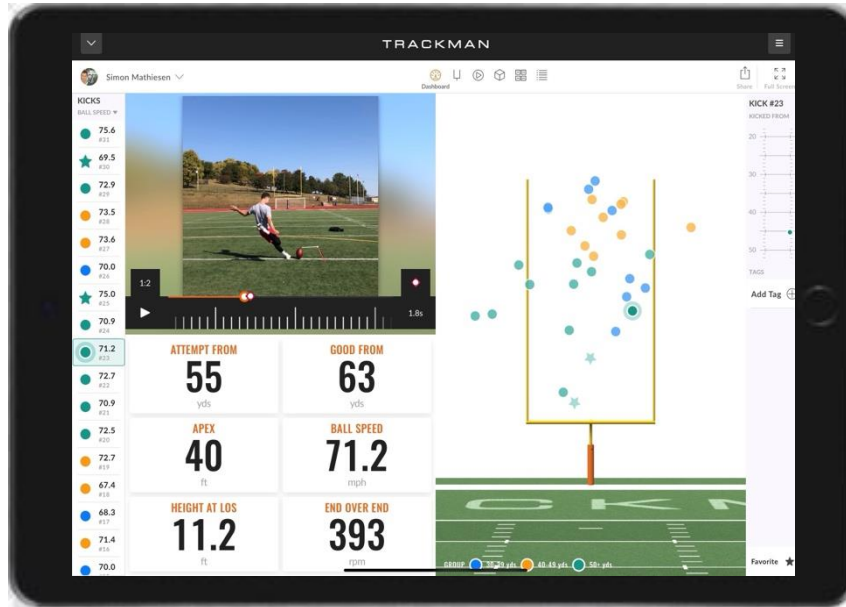
3

**Share
Concrete
Drill Work
Examples**



Agenda		Trackman Insights			4 Th Down University Inspiration		
1	Intro to Trackman	●					
2	Performance - Field Goal	1	2	3	1	2	3
3	Performance - Punting	1	2	3	1	2	3
5	Evaluation	●			●		

TRACKMAN FOOTBALL



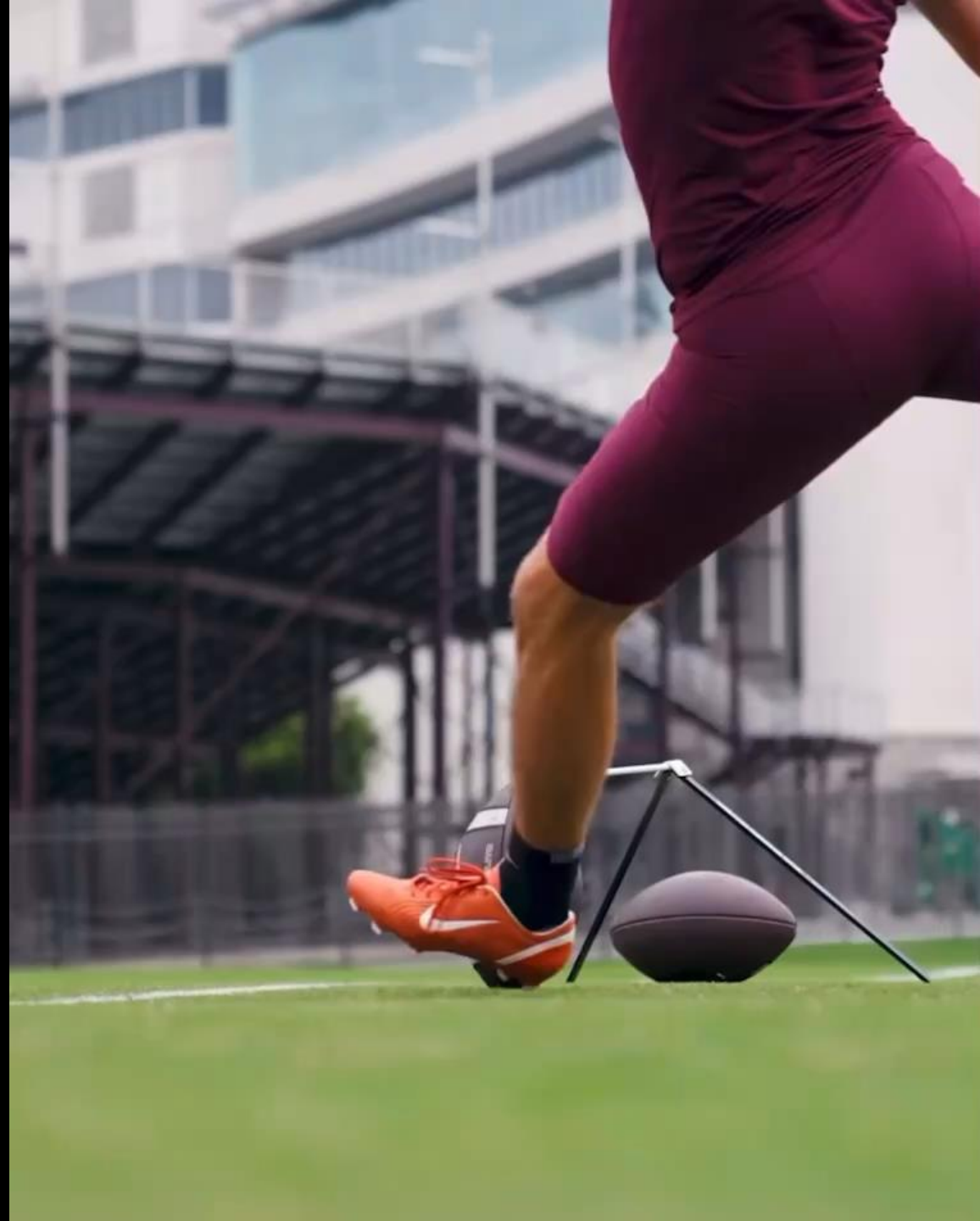
TRACKMAN FOOTBALL

Focus: Field Goal & Punting





TRACKMAN FOOTBALL





FIELD GOAL FOCUS

3 Keys to Success | FG

A.

**Height at Line of
Scrimmage**

B.

**Consistent Ball
Contact & Spin**

C.

**Ball Speed &
Good From**

Field Goal Focus

A. Height at Line of Scrimmage

At Trackman Football, data suggests:

- A. Ideal Height @ LOS is between **11-13 ft**
- B. Below **10 ft** = More blocked kicks
- C. Above **13 ft** = Added weather variables

What we're seeing in the modern game:

- 1. Low trajectory kicks get blocked
- 2. **11%** of NCAA P4 kicks are below 10 ft
- 3. **Only 4%** of NFL kicks are below 10 ft

***NCAA Avg = 11.8 ft @ LOS**



Field Goal Focus | How to

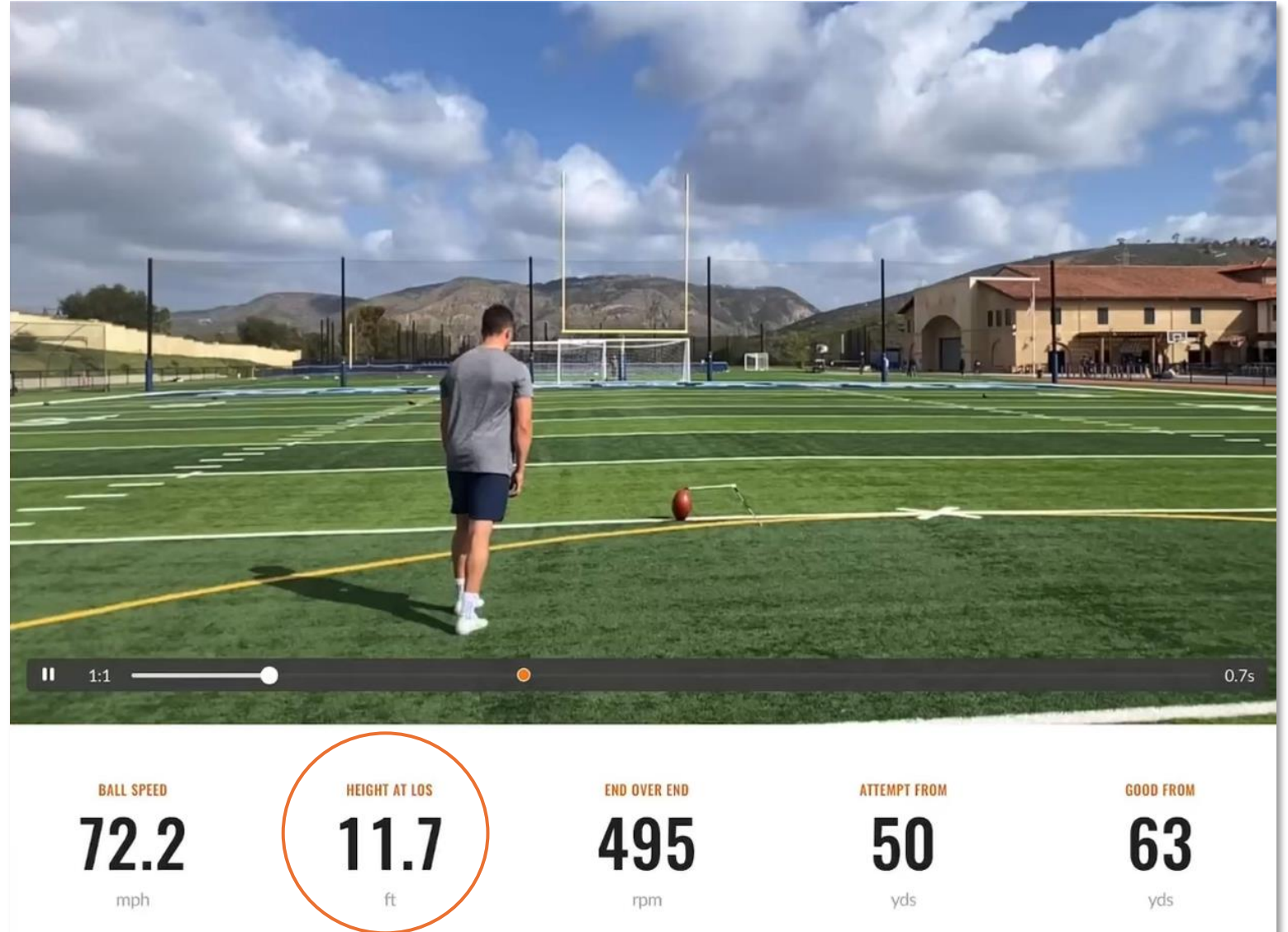
A. Improve Height at LOS



- A. Linear approach
- B. Repeatable plant spot
- C. Foot-to-ball



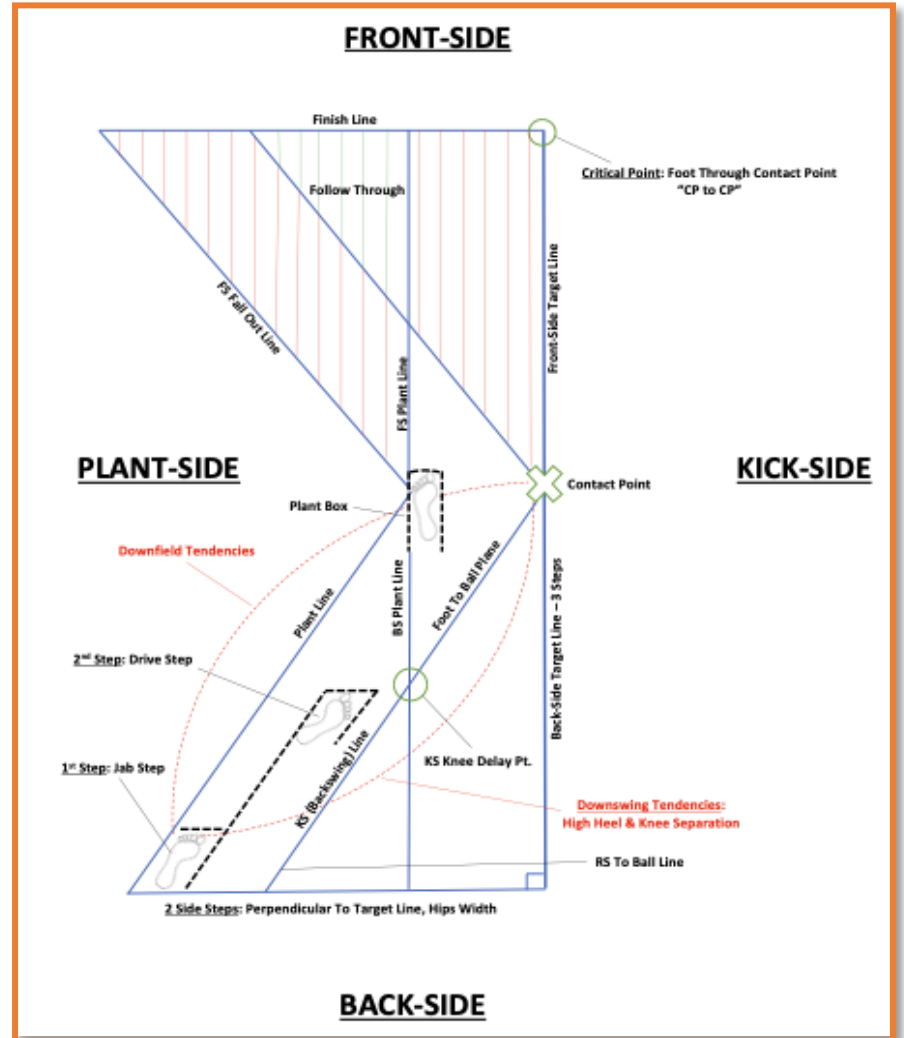
- A. Shoot
- B. Excessive Movements
- C. Change swing





BACKSIDE SPLIT LINE ANGLE

KICKOMETRY



Field Goal Focus

B. Consistent Ball Contact & Spin

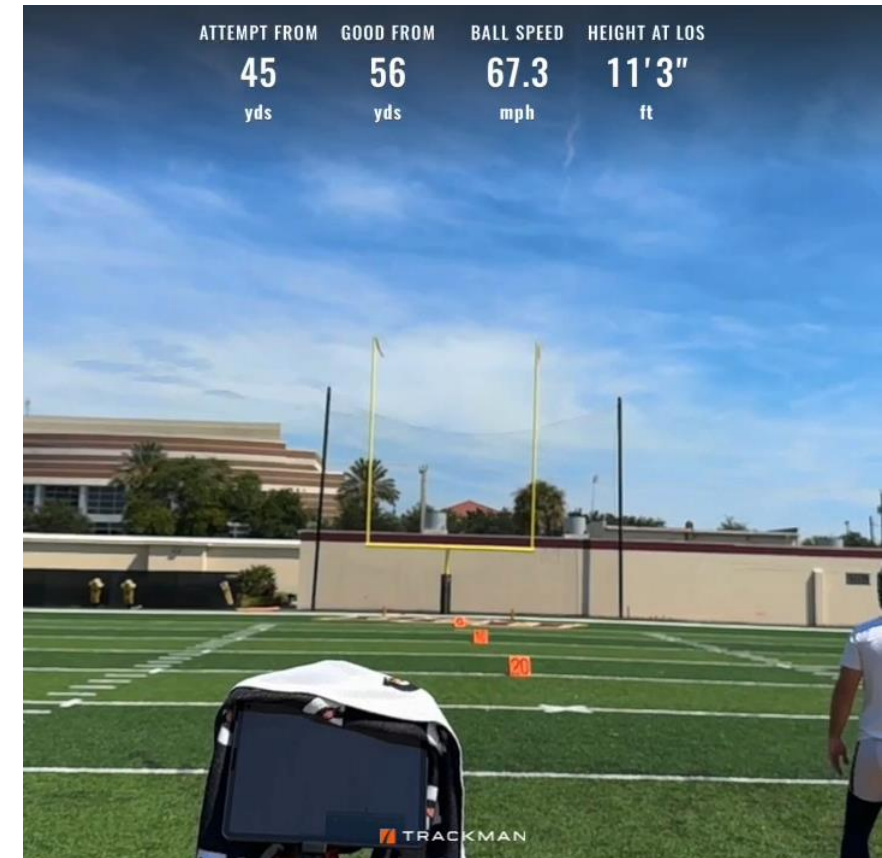
At Trackman Football, data suggests:

- A. Consistent Ball Contact = High FG%
- B. Consistent Spin Rate = consistent ball contact

What we're seeing in the modern game:

- 1. Top NFL kickers = Low SD for spin rate (~ 75)
- 2. NCAA kickers struggle staying below (~100)

Groups	Spin Rate Deviation*	Accuracy Score	FG%
Combine Invites w/ Success in NFL	82	90.0	92%
Combine Invites Not in NFL	131	72.6	67%



Field Goal Focus

C. Ball speed & Good From

At Trackman Football the data suggests:

1. Using *Good From* helps kickers/coaches understand true FG range
2. Avg NCAA ball speed = 67 mph
 1. Strongest kickers avg ~ 72-75 mph
 2. Top speeds at 78-80 mph

What we are seeing in the modern game:

1. NFL records powered by big legs and improved training
2. NFL avg = 70 mph
3. LSU kicker Damian Ramos improved ball speed and good from 7% in 6 months



TM FOOTBALL – SUCCESS STORIES

LSU has improved kicking +7% in 6-month sprint

Performance increase

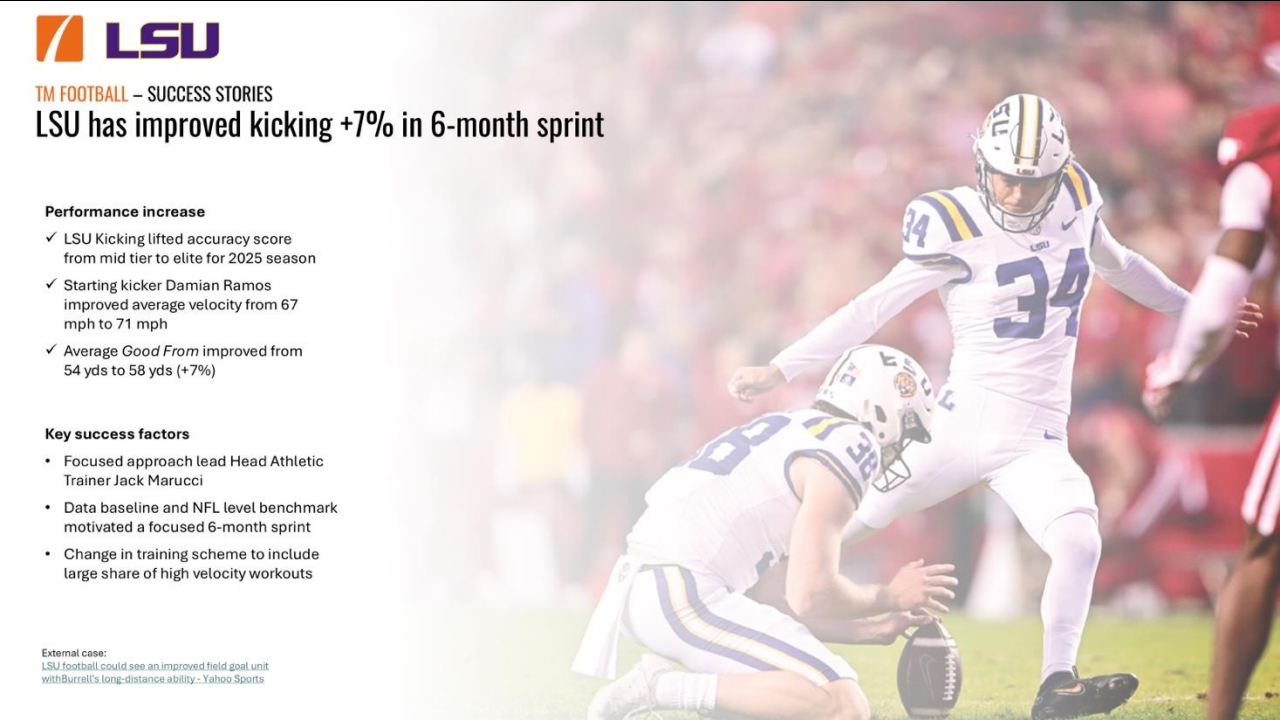
- ✓ LSU Kicking lifted accuracy score from mid tier to elite for 2025 season
- ✓ Starting kicker Damian Ramos improved average velocity from 67 mph to 71 mph
- ✓ Average *Good From* improved from 54 yds to 58 yds (+7%)

Key success factors

- Focused approach lead Head Athletic Trainer Jack Marucci
- Data baseline and NFL level benchmark motivated a focused 6-month sprint
- Change in training scheme to include large share of high velocity workouts

External case:

LSU football could see an improved field goal unit with Burrell's long-distance ability - Yahoo Sports



Field Goal Focus

C. Ball speed & Good From

FG STANDARDS - NCAA

Kicking Metrics	All distances	20-29 yds	30-39 yds	40-49 yds	50-59 yds	60+ yds
1. Ball Speed (mph)	67.0	65.3	65.0	67.0	70.2	74.6
2. Height@LOS (ft)	11.8	12.4	11.7	11.7	11.6	11.6
5. Good From (yds)	52.0	41.4	48.2	52.8	58.8	64.0

Field Goal Focus | How to

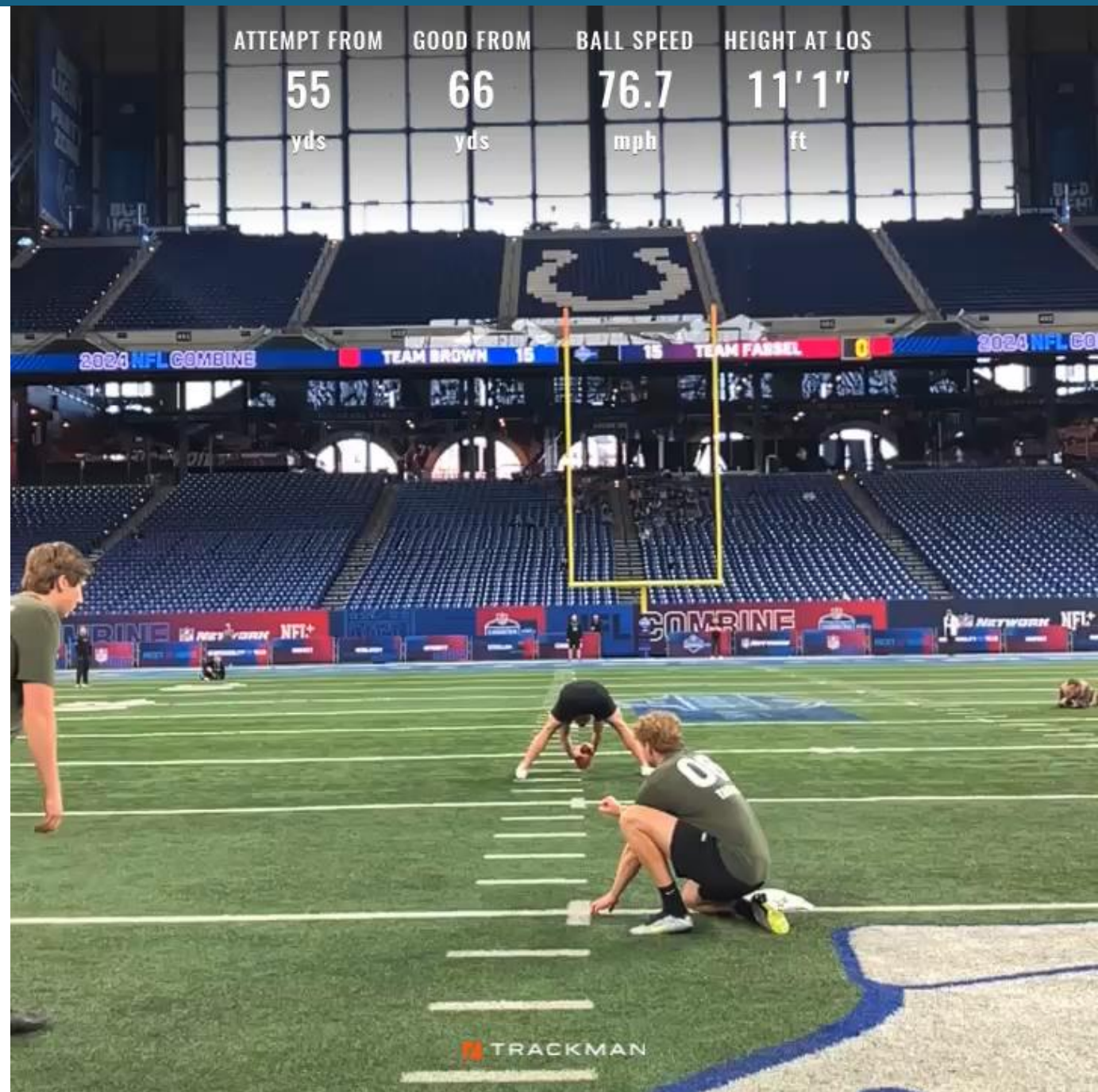
C. Ball Speed & Average Good From



- A. Know your numbers
- B. Consistent set up and steps
- C. Swing your swing



- A. Excessive backswing
- B. Deep plant
- C. Fighting momentum Loss



We are developing an innovative **QB PRODUCT**

TM Quarterback provides actionable data:

- A. Ball velocity
- B. Apex
- C. Air Yards
- D. Release Height
- E. Flight time

The tracking data will support:

- ✓ **Preparation for the week's game plan**
- ✓ **Instant Feedback**
- ✓ **Improve Throwing Accuracy**
- ✓ **Improve Consistency**
- ✓ **Improve Velocity**
- ✓ **Health monitoring**
- ✓ **Benchmark performance**



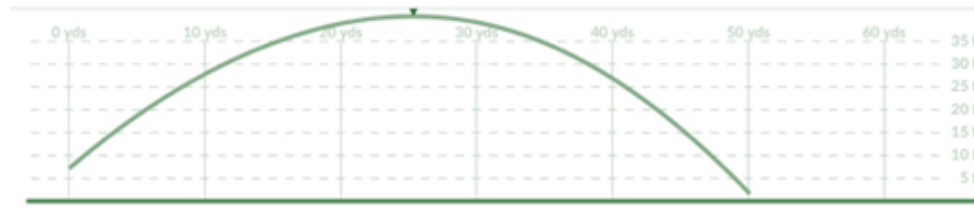
TM FOOTBALL – KEY INSIGHTS PASSING

B. Long ball against 1 on 1 coverage between 50-55 yds call for **Apex over 35 feet and flight time ~ 3+ secs**

NFL Examples

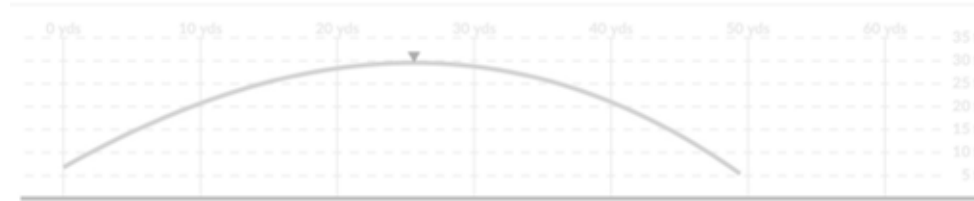
Complete pass

Wilson deep pass to Nabers ~ 60 air yards
High apex/arc,
Flight time 3.30 secs



Incomplete pass

Jackson incomplete ~ 62 air yards
Less apex/arc,
Flight time 3.0 secs



TM Findings

- Even the elite passer has limited feedback into the ideal ball flight to increase distance, accuracy and chances of completions
- The increased Apex against 1on1 coverage gives WR more time to adjust – “Throwing the receiver open”

PUNT FOCUS

3 Key Points To Improve

A.

**Launch Angle/
Apex**

B.

**Hangtime/
Dist. Match**

C.

Placement



Punt

A. Launch Angle / Apex

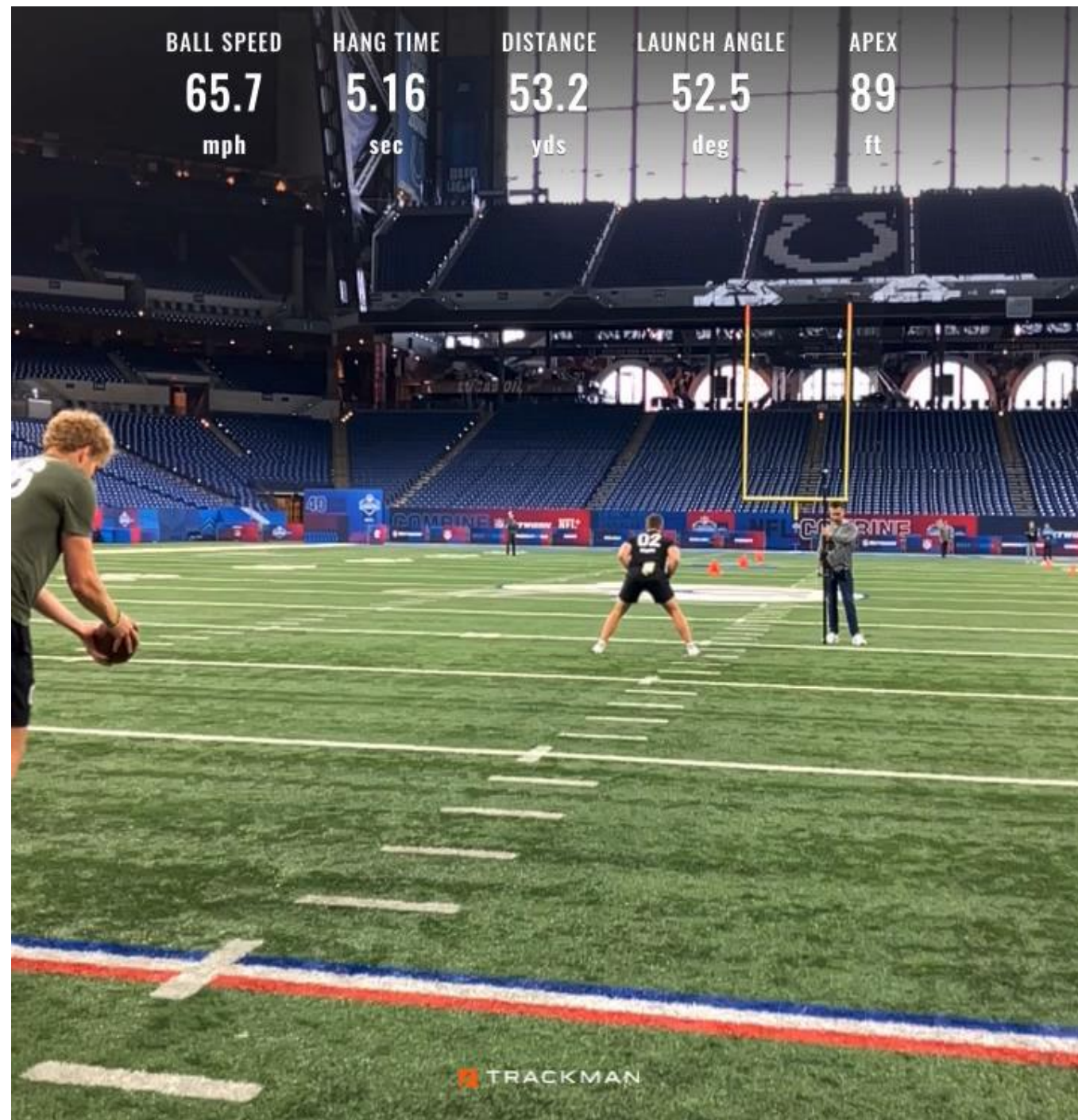
At Trackman Football we believe:

1. Launch Angle dictates hangtime
2. The ideal launch angle = 50-55 deg.

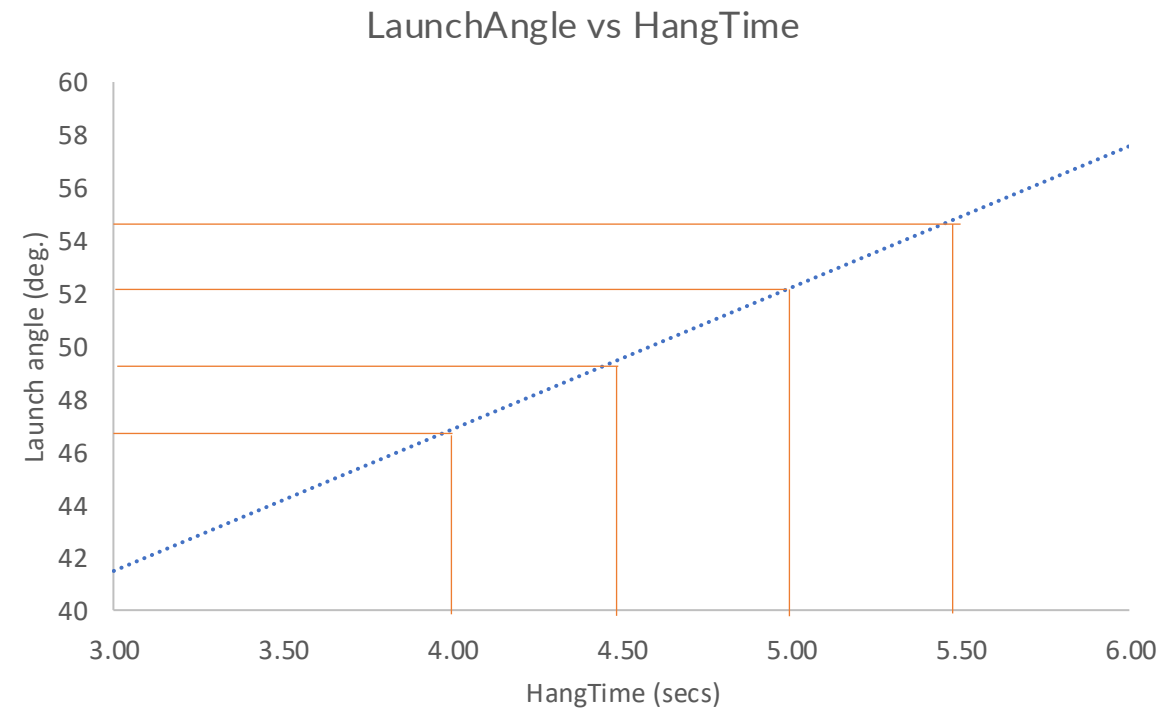
What we're seeing in the modern game:

1. Matching hangtime/distance is a priority
2. Low trajectory punts (Launch angle < 50 deg) results in return yds allowed

NFL Combine 2024 – 4th round pick
Tory Taylor , Iowa



BALL SPEED + LAUNCH ANGLE = DISTANCE & HANGTIME



Punt Focus | How to

A. Launch Angle / Apex



- A. Know your numbers
- B. Quicker plant
- C. Leverage the Basketball Grip



- A. Don't just drop it
- B. Stress Possession



Punt

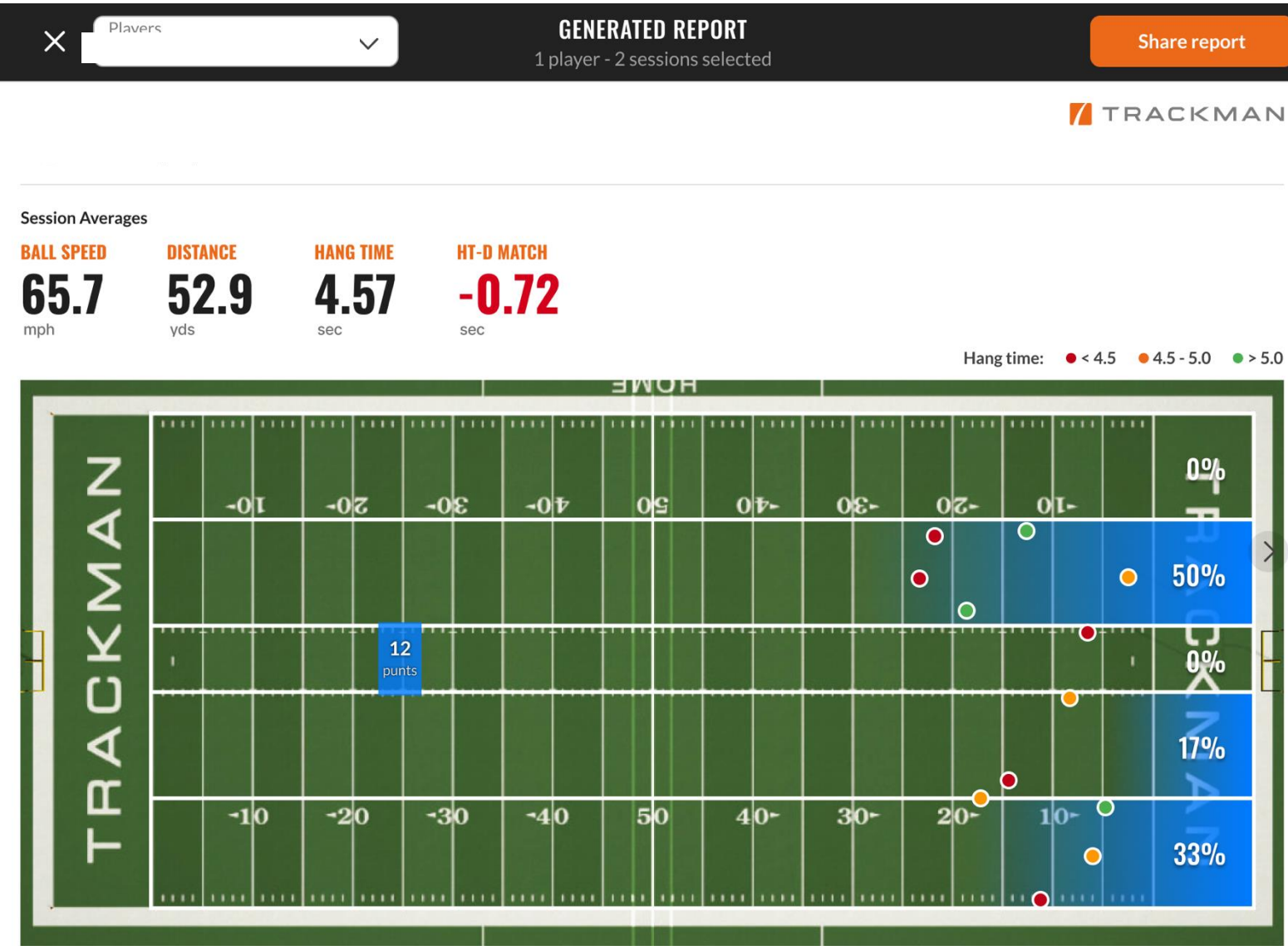
B. Hangtime/Distance Match

At Trackman Football we believe:

- 1. Hangtime and distance needs to match
- 2. You shouldn't outkick coverage

What we're seeing in the modern game:

- 1. Coaches want to avoid returns
- 2. Too much time spent on charting



Punt Focus | How to

B. Hang Time Efficiency



DO's

- A. Get Launch Angle to 50+ degrees
- B. Stick in the right pocket
- C. Stabilizes Punt Table



DON'Ts

- A. Avoid Over-Striding
- B. Avoid Stacking

Plane Drill



Punt C. Placement

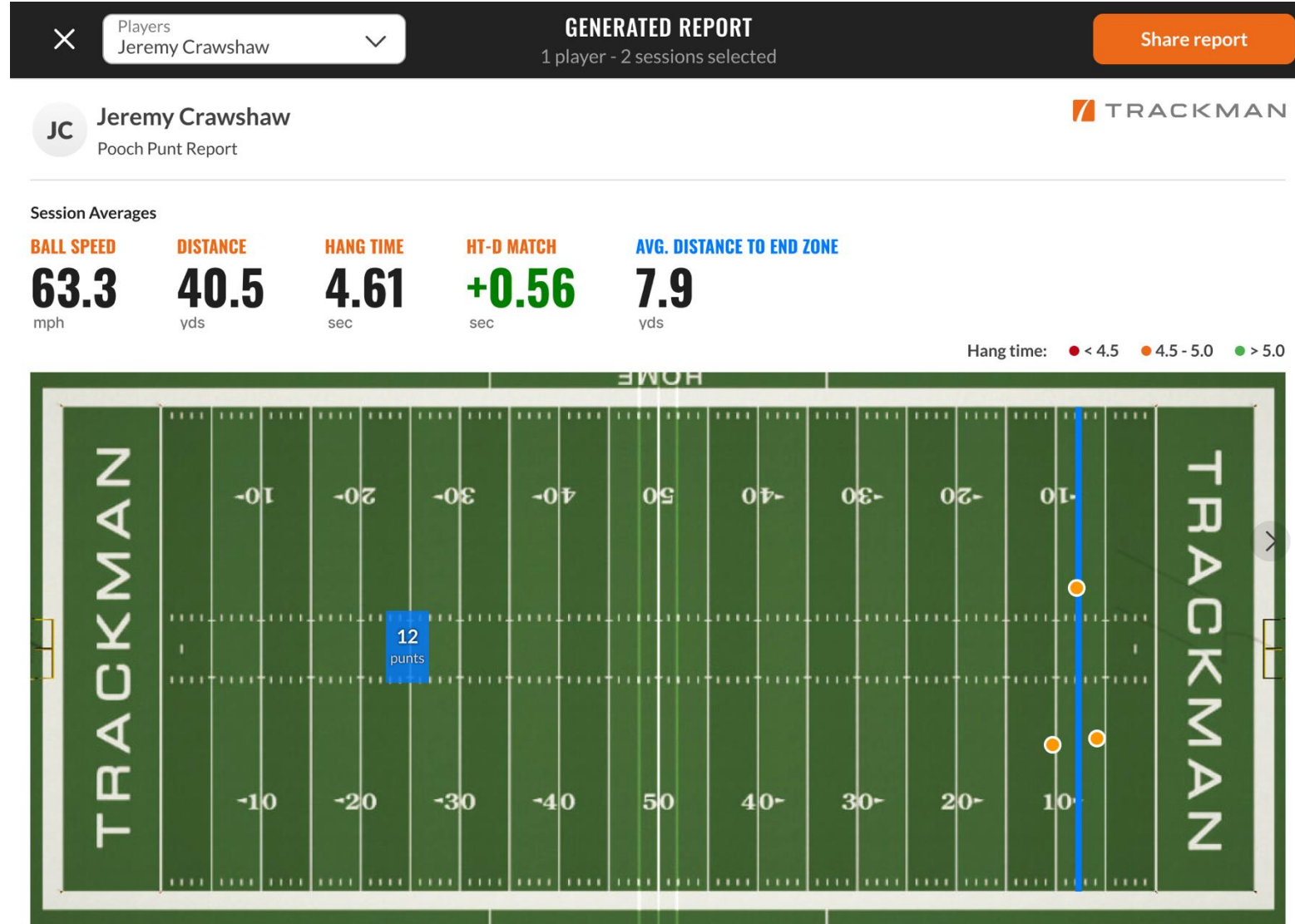
At Trackman Football we believe:

1. Pooch punting is about placement & Hang Time
2. Success dictated by avg. distance to endzone

What we are seeing in the modern game:

1. Best punters allow coverage team to run underneath the ball
2. HT-D match should be positive

NFL Combine 2025 – Pick 216
Jeremy Crawshaw (6-3, 205), Florida



Punt Focus | How to

C. Placement



- A. Think Foot Work First
- B. $0.8 \text{ (Snap)} + 1.3 \text{ (Hand To Foot)} = 2.1 \text{ (Op)}$
- C. Remember all 3 coaching angles (Side, Back & Front)



- A. Don't get lost in what looks good on social
- B. Limit counter movement

TRACKMAN EVALUATION



NFL, NCAA & NFL Combine Averages – FG

Averages: Field Goal	Ball Speed (mph)	Max Ball Speed (mph)	Height At LOS (ft)	Apex: High Pt. (ft)	End Over End (rpm)	Good From (yds)	Max Good From (yds)	Accuracy Score (out of 100)
NFL	70.3	82.5	11.9	43.6	616	57.1	74	85.0
NCAA	67.0	80.6	11.8	39.0	570	52.0	73	78.0
NFL combine attendees	71.7	80.6	12.1	45.6	601	59.3	70	83.8



NFL, NCAA & NFL Combine Averages – Punt

Averages Punt	Ball Speed (mph)	Max Ball Speed (mph)	Launch Angle (deg.)	Apex (ft)	Distance (yds)	Hang Time (sec)
NFL	64.5	76.0	50.0	76.0	45.7	4.58
NCAA	61.2	73.6	48.9	66.6	41.6	4.23
NFL combine attendees	64.3	71.1	50.0	76.5	44.8	4.60

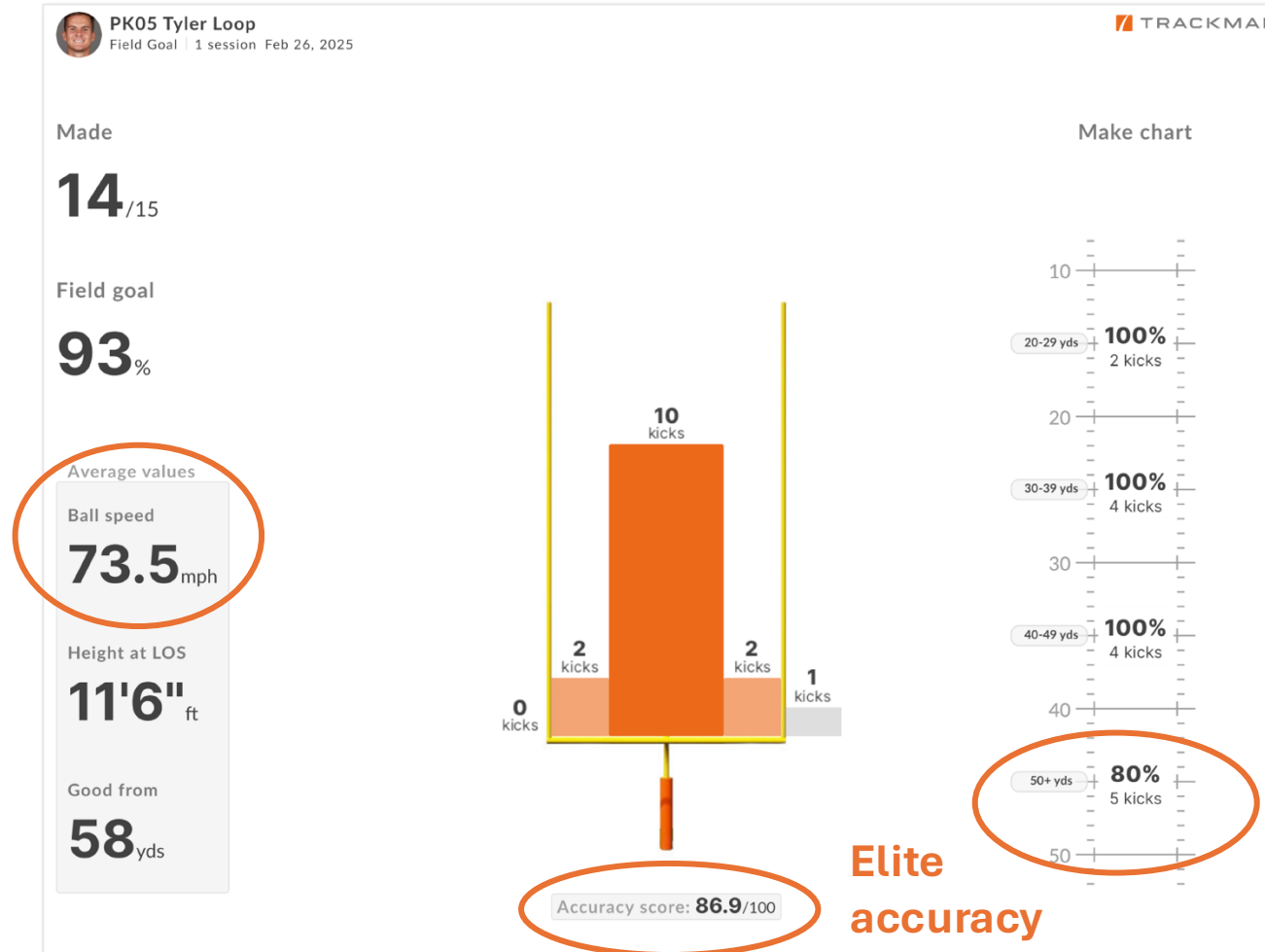


Evaluation

Tyler Loop was the Ravens' 6th round pick in the 2025 NFL Draft

Trackman Player Report

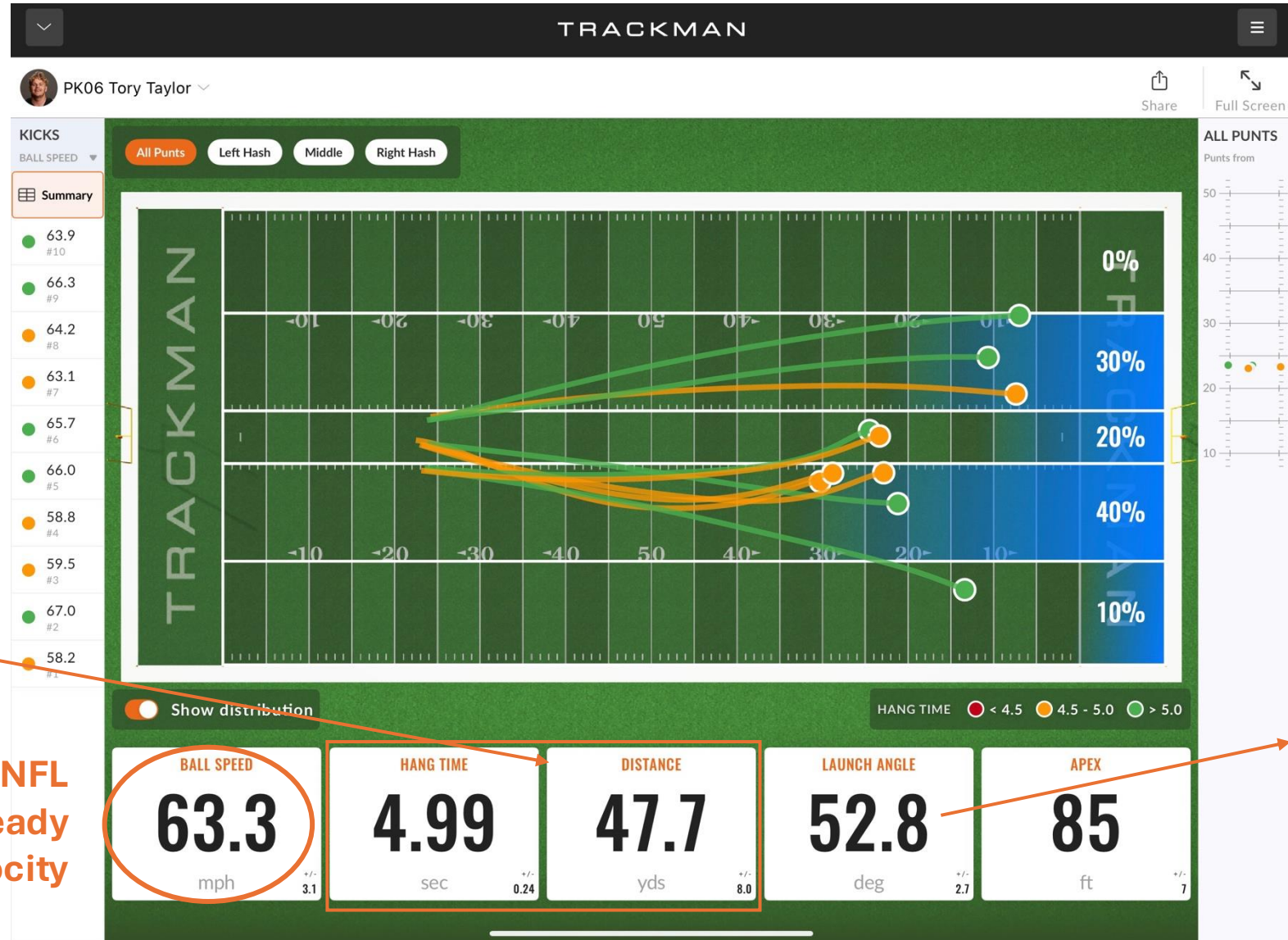
NFL
Ready
Velocity



Only
missed
from 50+

Evaluation

Tory Taylor was the Bears' 4th round pick in the 2024 NFL Draft
Trackman Player Report



Evaluation

We are seeing some steep performance targets on each level

ACC Transfer Kicker



Collin Rogers

1 Year 6'4" 220 lbs

Prior Affiliation: SMU



ATTEMPT FROM 42 yds GOOD FROM 61 yds BALL SPEED 70 mph HEIGHT AT LOS 13.0 ft

0:00 / 0:44

FIELD GOAL From 42 yds Good

Averages | 11 FG attempts Averages | 3 kickoffs

GOOD FROM 60.1 yds	FG % 81.8 %	BALL SPEED 69.5 mph	HEIGHT AT LOS 13.1 ft	APEX HEIGHT 47.3 ft
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Playlist 11 videos

- Field Goal Attempt from: 42 yds Good
- Field Goal Attempt from: 45 yds Good
- Field Goal Attempt from: 47 yds Good
- Field Goal Attempt from: 50 yds Good
- Field Goal Attempt from: 52 yds Good
- Field Goal

Evaluation

We are seeing some steep performance targets on each level

Group of 5 Transfer Punter



Jaxson Dunn

3 Years

6'2"

190 lbs

Prior Affiliation: Arkansas State



DISTANCE

56.7

yds

HANG TIME

5.09

sec

BALL SPEED

65

mph

APEX

87.7

ft



PUNT

Averages | 14 punts

DISTANCE

50.1

yds

HANG TIME

4.41

sec

BALL SPEED

61.7

mph

LAUNCH ANGLE

49.9

°

APEX HEIGHT

70.8

ft

Playlist

14 videos

Punt

5.09s hang | 57 yds

Punt

4.55s hang | 49 yds

Punt

4.29s hang | 55 yds

Punt

4.74s hang | 60 yds

Punt

4.39s hang | 55 yds

Punt

4.53s hang | 39 yds

Punt

PLAYER EVALUATION – FIELD GOAL

Player level	Ball speed (mph)	HeightatLOS (ft)	Apex (ft)	Spin rate consistency (SD of RPM's)	Good From (yds)	Accuracy Score
NFL potential	72	12	45	<75 +/-	60	85+
P4 starter	69	11.8	42	<90 +/-	57	80+
D1 potential	67	11.5	39	<110 +/-	53	75+
D2/D3	65	11	35	<130 +/-	50	70+



PLAYER EVALUATION – PUNT

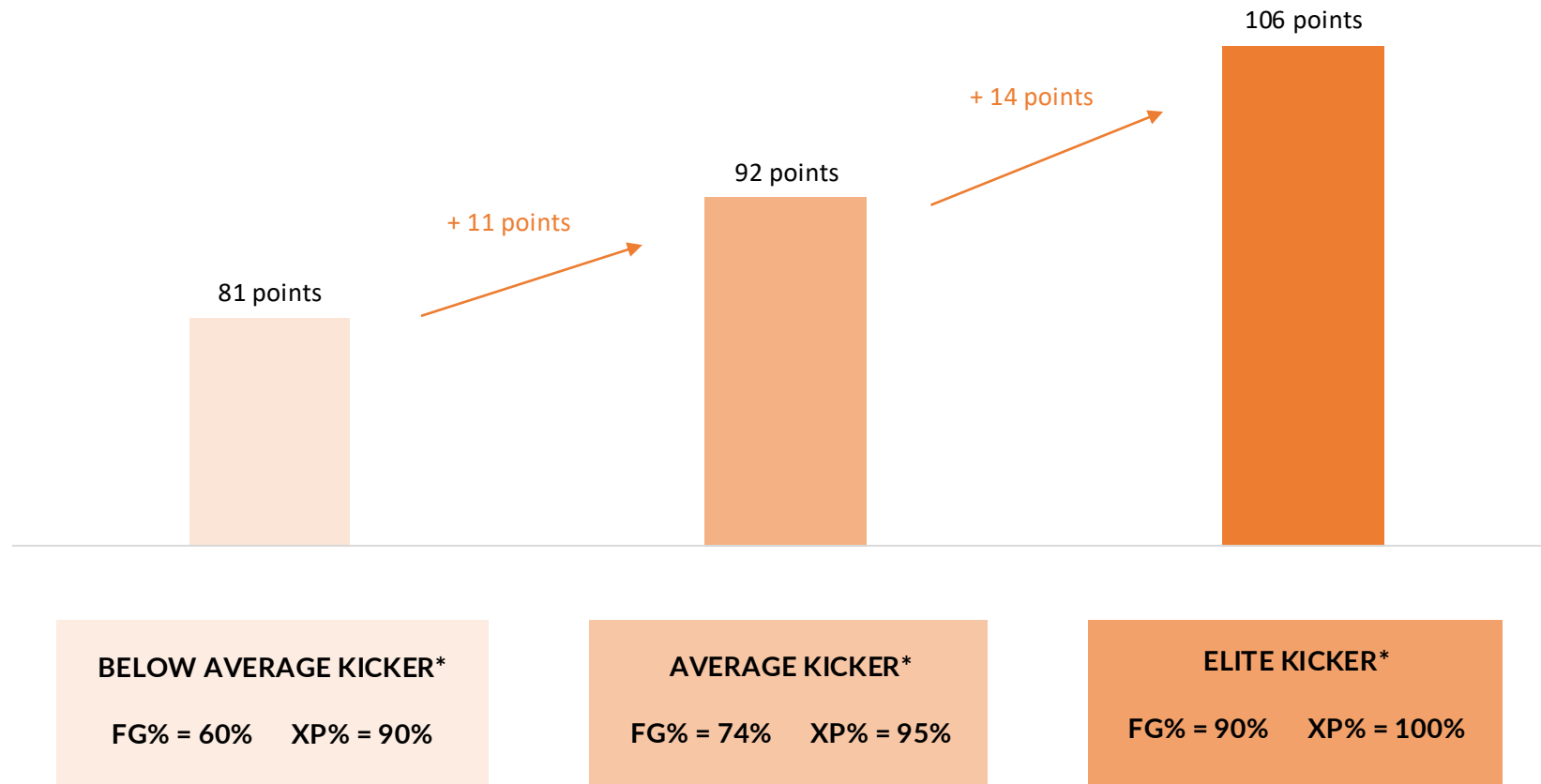
Player level	Ball speed (mph)	Hangtime (secs)	Distance (yds)	LaunchAngle (deg.)	Apex (ft)
NFL potential	65	4.8	48	52	80
P4 starter	63	4.6	46	50	75
D1 potential	61	4.3	42	48	67
D2/D3	58	4.1	39	45	60



ELITE KICKERS = 3+ WINS EACH SEASON



- Kickers = 24% of FBS points
- 15% of FBS margin = <3 points
- Avg. FBS scoring margin = 9 points

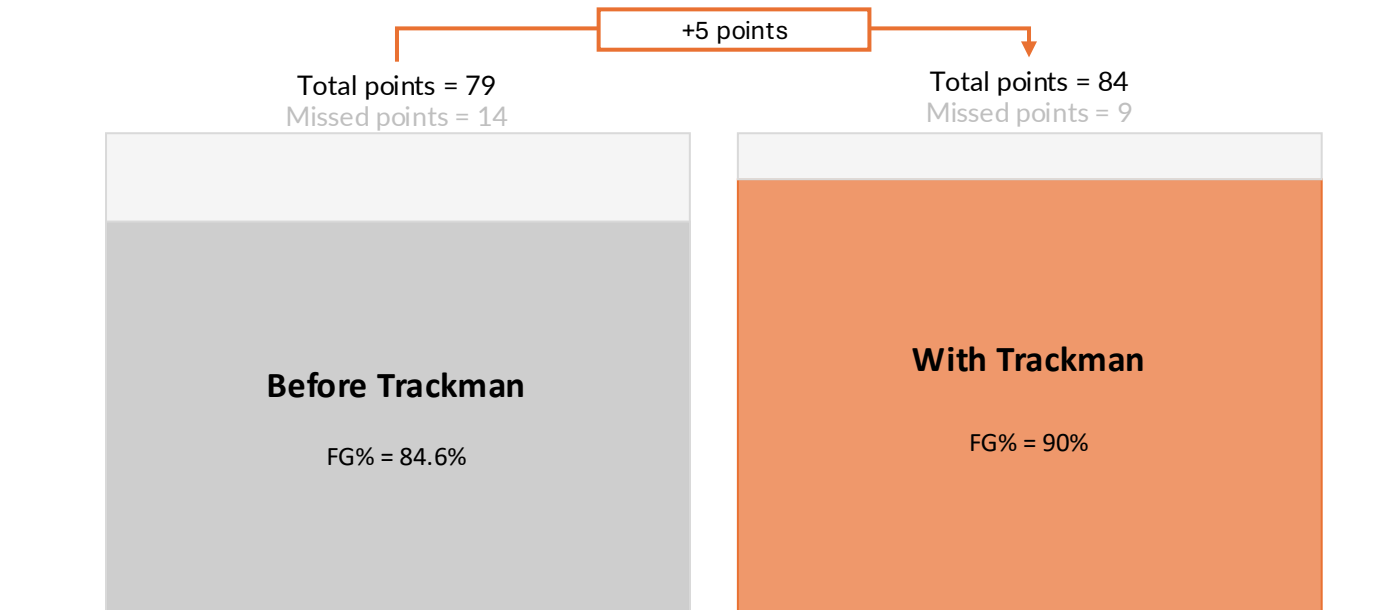


*Assuming an FBS avg of 22 FG's & 46 XP per yr

TRACKMAN FOOTBALL

NFL Kickers with Trackman based training score 5 points more

FG% for Trackman customers (NFL)

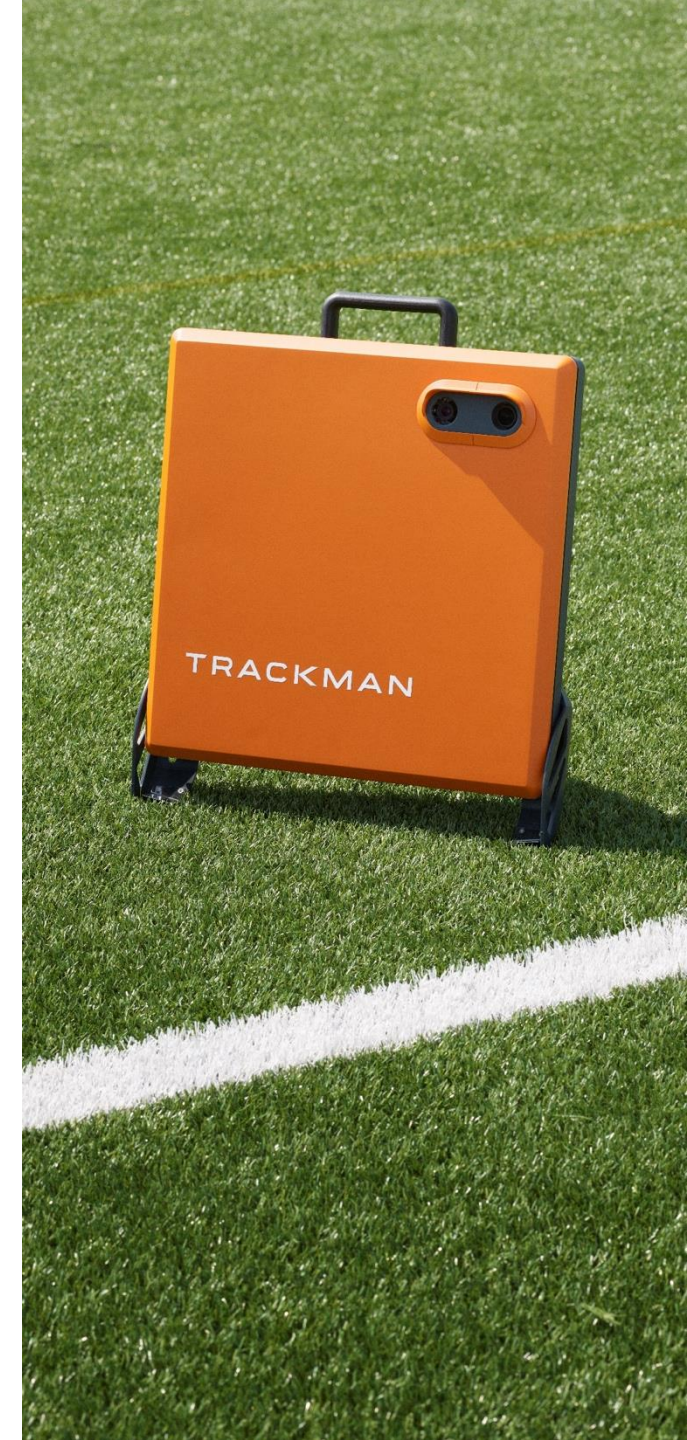


Conclusions

- The kicking game is growing even more important in the NFL and NCAA
- **Field goals account for 23% of all NFL points** in 2024 season, up from 19% in 2020
- Trackman kickers improve field goal percentage by an **average of 5.4% points**
- The improved efficient results in an **average +5 points** (based on average 31 field goal tries per season)*

Notes: The average increased is compared to same kicker performance before Trackman

* Foxsports.com



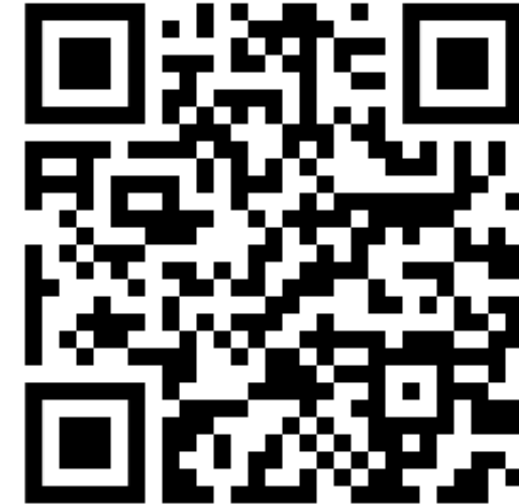
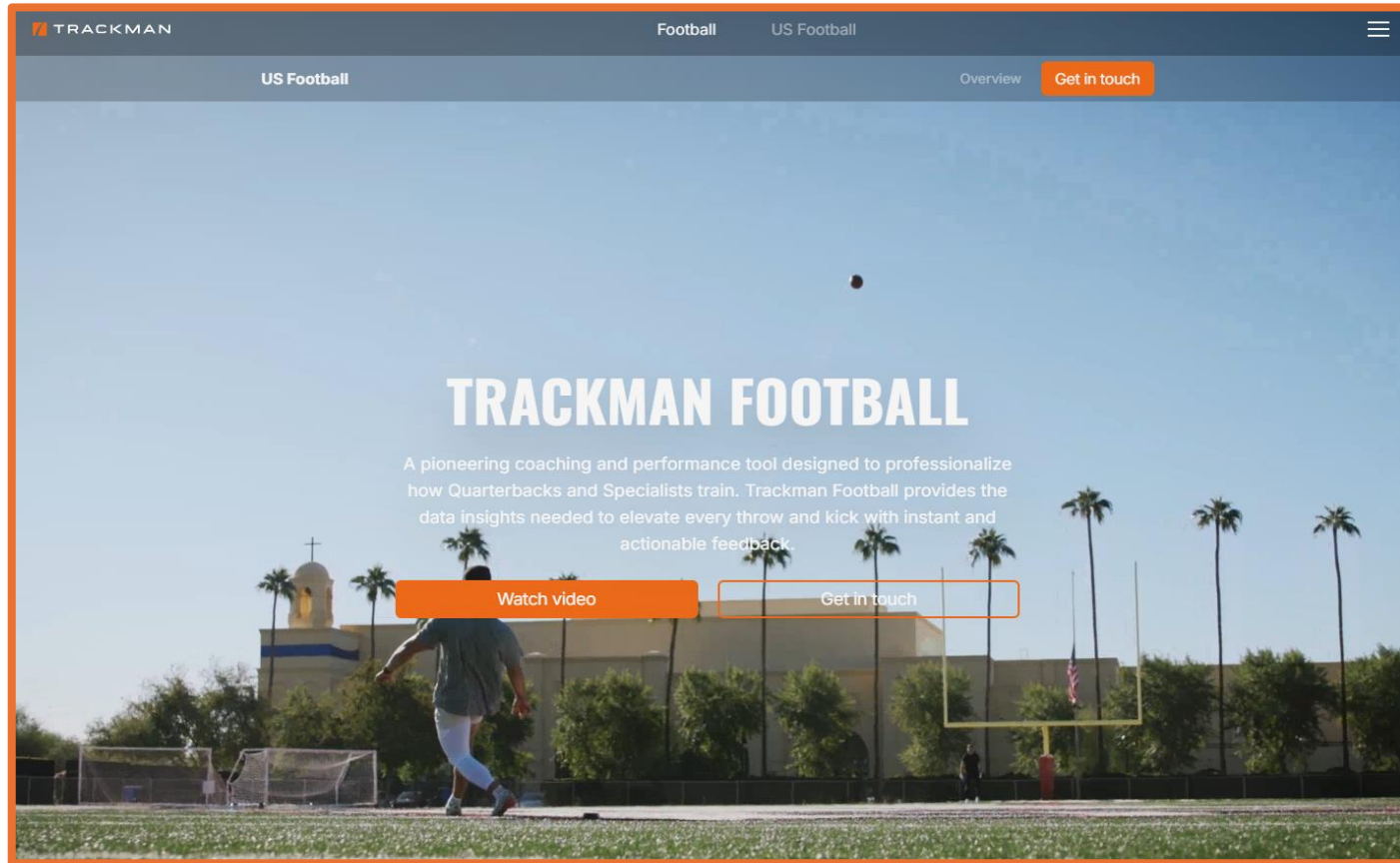
ATTEMPT FROM	GOOD FROM	BALL SPEED	HEIGHT AT LOS
43	58	73.0	12'8"
yds	yds	mph	ft



GET IN CONTACT



TRACKMAN



Email: sma@trackman.com

Website: Trackman.com/US-Football



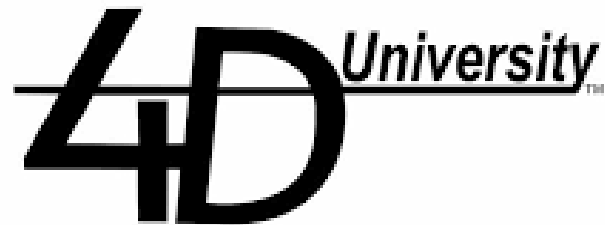
Email: 4thdownu@gmail.com

Website: 4thdownu.com

JOIN US:



SKILLS & DRILLS
FG/KO/P - 2PM



TRACKMAN FOOTBALL

The NFL averages shows 3 district types of throws across 5 key metrics



NFL averages for Deep Passes (40+ yards) (Go, posts, double moves, deep pylon etc.)	Passing Metrics	55+ yds	50-55 yds	45-50 yds	40-45 yds
	1. Avg velocity (mph)	56.6	53.0	51.2	49.3
	2. Avg Apex (ft)	41.2	37.6	34.1	31.7
	3. Avg release height (ft)	7.0	7.2	7.0	7.1
	4. Avg flight time (secs)	3.2	3.0	2.8	2.6
	5. Avg. release angle (deg)	34.4	34.5	33.7	33.0
NFL averages for Layered / intermediate throws (Dagger, dig, high cross, corner, bench etc.)	Passing Metrics	40-45 yds	35-40 yds	30-35 yds	25-30 yds
	1. Avg velocity (mph)	51.3	50.0	50.1	48.4
	2. Avg Apex (ft)	25.2	19.4	15.5	13.7
	3. Avg release height (ft)	7.1	7.0	6.9	6.9
	4. Avg flight time (secs)	2.2	1.9	1.5	1.3
	5. Avg. release angle (deg)	26.2	21.3	17.9	16.2
NFL averages for Short Passes (7-step post, stop, 6-step outs, basic, shallow & quick game etc.)	Passing Metrics	25-30 yds	20-25 yds	15-20 yds	10-15 yds
	1. Avg velocity (mph)	51.1	49.7	47.8	45.7
	2. Avg Apex (ft)	12.5	11.0	9.6	9.0
	3. Avg release height (ft)	6.9	6.9	6.9	6.8
	4. Avg flight time (secs)	1.2	1.0	0.8	0.6
	5. Avg. release angle (deg)	13.8	11.7	10.0	8.8

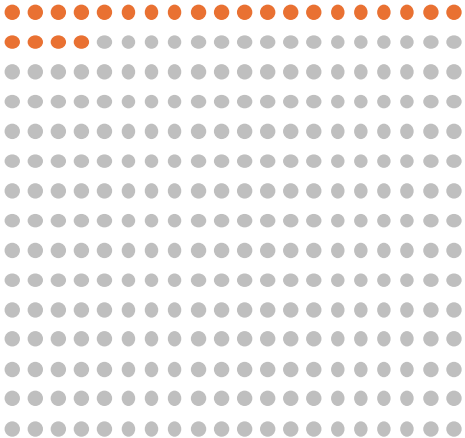
Evaluation

Only 0.3% of football players make it to the NFL, these days a 5-star rating is not enough

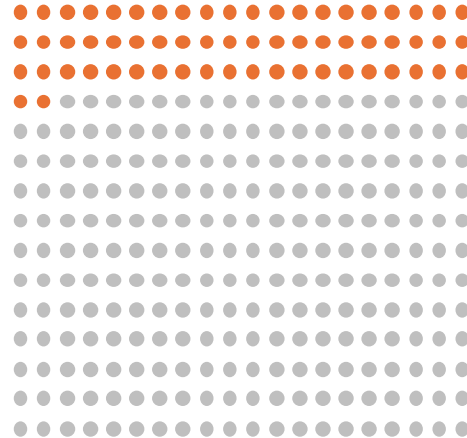


TRACKMAN

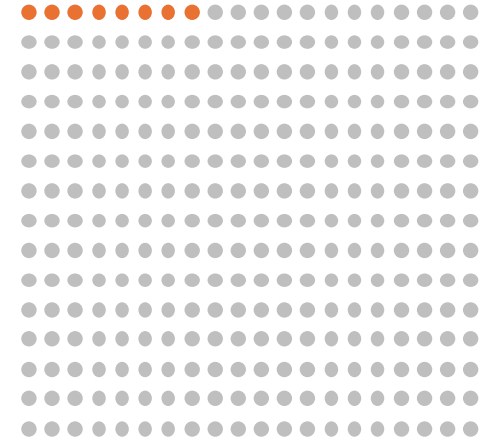
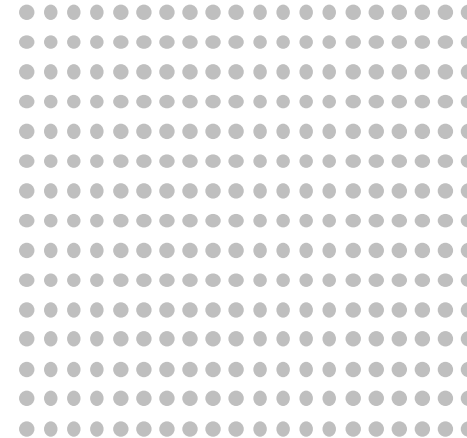
lease
pdate



- App. 8% of high school football players play in college



- Only about 20% get to back at the D1 level



- 1,6% of D1 players make it to the NFL
- 2 punters from the 2025 draft class are in the NFL

Health Monitoring

The most critical ability for kickers is availability

Kickers and ST coaches should have answers to:

1. What is our ideal kick count each week?
2. How do we balance training with and without ball?
3. How do we leverage video analysis for specialists?

Kickers and ST coaches should have answers to:

1. How can we improve stability in movement?
2. What is our ideal ball speed and how consistent are we?
3. ...Lundy's notes

WEEKLY SCRIPT FG/KO

- Structures Week
- Monitors Reps
- Promotes Low Stress Activity
- Minimizes KO Activity
- Addresses All Scenarios

*Film Daily (Review Meticulously)

*See Notes For Drill Explanations

Monday	
Period 1 (5 Minutes)	No Step Drill without ball (5-10 reps)
Period 2 (10 Minutes)	No Step Drill w/ ball (10-15 reps)
Hydrate/Recover (5 Minutes)	
Period 3 (10 Minutes)	One Step Drill without ball (5 reps)
Period 4 (10 Minutes)	One Step Drill w/ ball (10-15 reps)
Hydrate/Recover (5 Minutes)	
Period 5 (10 Minutes)	Full Step FGs without ball, K reacts to holder's hand leaving spot (5 reps)
Period 6 (10 Minutes)	Full Step FGs w/ ball, K reacts to holder's hand leaving spot (5-10 reps)
Hydrate/Stretch (5 Minutes)	
Period 7 (10 Minutes)	1 Step Kickoff Explosion Drill without ball (10 reps)
Period 8 (10 Minutes)	1 Step Kickoff Explosion Drill w/ ball (5 reps)
Hydrate/Recover (5 Minutes)	
Period 9 (10-20 Minutes)	Directional Kicks: Sky & Squib w/ & without ball (10 reps)
Tuesday	
Period 1 (5 Minutes)	No Step Drill without ball (5-10 reps)
Period 2 (10 Minutes)	No Step Drill w/ ball (10-15 reps)
Hydrate/Recover (5 Minutes)	
Period 3 (10 Minutes)	One Step Drill without ball (5 reps)
Period 4 (10 Minutes)	One Step Drill w/ ball (10-15 reps)
Hydrate/Recover (5 Minutes)	
Period 5 (10 Minutes)	Full Step FGs without ball, K reacts to holder's hand leaving spot (5 reps)
Period 6 (10 Minutes)	Full Step FGs w/ ball, K reacts to holder's hand leaving spot (5-10 reps)
Hydrate/Stretch (5 Minutes)	
Period 7 (10 Minutes)	Kickoff Step Review without ball (10 reps)
Period 8 (10 Minutes)	Kickoffs w/ ball (5-10 reps)
Hydrate/Recover (5 Minutes)	
Period 9 (10-20 Minutes)	Onside Kicks w/ Flyers, Emphasis on Timing, Scheme, Execution (5-10 reps)
Wednesday	
Period 1 (5 Minutes)	No Step Drill without ball (5 reps)
Period 2 (10 Minutes)	No Step Drill w/ ball (5-10 reps)
Hydrate/Recover (5 Minutes)	
Period 3 (10 Minutes)	One Step Drill without ball (5 reps)
Period 4 (10 Minutes)	One Step Drill w/ ball (5-10 reps)
Hydrate/Stretch (5 Minutes)	
Period 5 (10 Minutes)	Horseshoe Drill: 25, 30, 35, 40, 45 yard FGs (both hauses)
Period 6 (10 Minutes)	Defensive Drill w/ S & T: Huddle - Hump Up Scenarios (5-10 reps)
Hydrate/Recover (5 Minutes)	
Period 7 (20 Minutes)	Fire Drills (Bad Snaps & Fire Call Situations)
Thursday	
Period 1 (5 Minutes)	No Step Drill without ball (5 reps)
Period 2 (10 Minutes)	No Step Drill w/ ball (5 reps max)
Hydrate/Recover (5 Minutes)	
Period 3 (10 Minutes)	One Step Drill without ball (5 reps)
Period 4 (10 Minutes)	One Step Drill w/ ball (5 reps max)
Hydrate/Recover (5 Minutes)	
Period 5 (10 Minutes)	Kicker & Holder Pre-Snap Routine & Non-Verbal Communication Review
Period 6 (10 Minutes)	Play Clock Drill: 30, 35, 40 yard FGs (both hauses)
Hydrate/Stretch (5 Minutes)	
Period 7 (10 Minutes)	1 Step Kickoff Explosion Drill without ball (5 reps max)
Period 8 (10 Minutes)	Kickoff Steps without ball (5 reps)
Hydrate/Recover (5 Minutes)	
Period 9 (10-20 Minutes)	Onside Kicks w/ Flyers (Emphasis on Timing & Kicking To Scheme's Target)
Friday	
Period 1 (5 Minutes)	No Step Drill without ball (5 reps)
Period 2 (10 Minutes)	No Step Drill w/ ball (5 reps max)
Hydrate/Recover (5 Minutes)	
Period 3 (10 Minutes)	One Step Drill without ball, Focus on footwork for bad snap/holds (5 reps)
Period 4 (10 Minutes)	Full Step FGs without ball, Focus on Balance & Start (5 reps)
Hydrate/Recover (5 Minutes)	
Period 5 (10 Minutes)	Brainfield Review: Critical Snap Situations & Kicker's Spot Placement (Ball Lays)
Saturday	
Game Day - Execute	



TM FOOTBALL - SUCCESS STORIES

Elite NFL kicker prolongs career at 68 mph

Performance increase

- ✓ We see ball speed as a major factor for field goal percentage:

Ball Speed	30-39 YDS	40-49 YDS	50-60 YDS
72+ MPH	94%	91%	79%
68-72 MPH	97%	97%	87%

Key success factors

- Bring ball speed down to a stable and comfortable level for the kicker seem to increase consistency significantly
- The slightly lower speed also reduces physical load and risk of injury
- Having the performance data in real time during practice helps the kicker feel the ideal velocity

