



Referee Dashboard

USER MANUAL

Overview

The College Football Penalty Analysis Dashboard is a comprehensive analytical tool designed to examine penalty patterns across college football teams, play types, and officiating crews. This dashboard provides detailed insights into penalty rates, allowing users to compare team performance, referee tendencies, and NCAA averages across multiple dimensions.

Dashboard Purpose

This dashboard enables users to:

- **Analyze Team Penalty Patterns:** Compare offensive and defensive penalty rates between any two teams
- **Evaluate Officiating Consistency:** Examine penalty calling patterns by specific referees and officiating crews
- **Benchmark Performance:** Compare team and referee statistics against NCAA averages
- **Identify Trends:** Analyze penalty rates across different play types (rushing, passing, kickoffs, punts)
- **Support Decision Making:** Provide data-driven insights for coaching staff, analysts, and football operations

Data Coverage

Seasons: 2020-2024 college football seasons (for general overview) 2023-2024 college football season (for more specific analysis). [Data will be added and updated during season]

Play Types: Scrimmage plays, Pass plays, Rush plays, Kickoffs, and Punts.

Teams: All FBS Teams

Officials: Referee, Umpire, Line Judge, Side Judge, Back Judge, Linesman

Key Features

Multi-Dimensional Analysis: Compare penalty rates across teams (offense/defense), referees, and NCAA averages simultaneously

Dynamic Team Selection: Independent selection of two teams for head-to-head comparison

Comprehensive Official Filtering: Filter by any officiating position or specific official name

Play-Type Specificity: Separate analysis for different types of plays (run, pass, kickoff, punt)

Penalty Category Breakdown: Analysis by specific penalty types (False Start, Offensive Holding, Personal Foul, etc.)

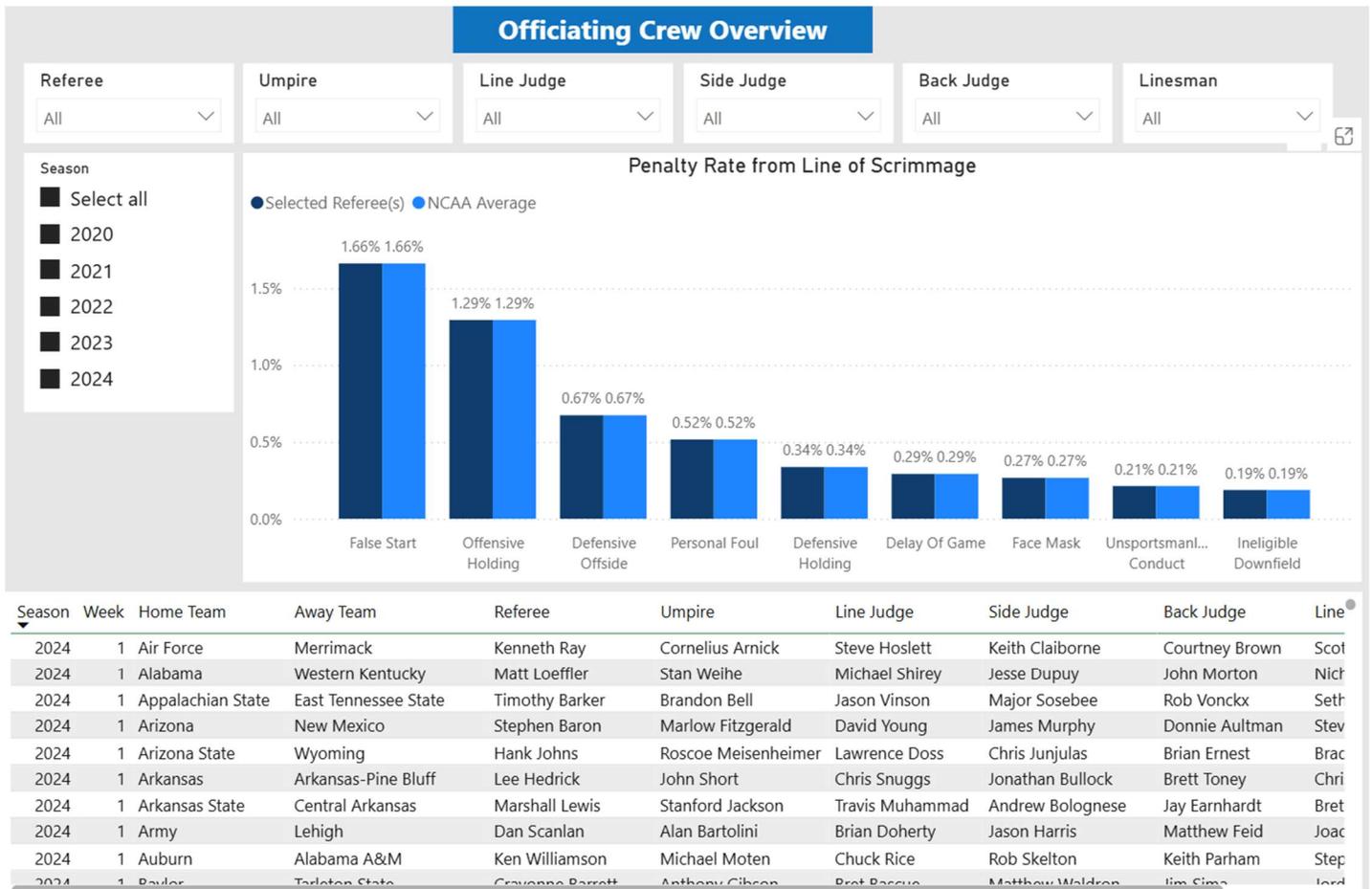
Benchmarking: Built-in NCAA average comparisons for all metrics

Navigation Structure

The dashboard is organized into eight main sections accessible via the left navigation panel:

1. **Officiating Crew Overview** - Main analysis page with comprehensive penalty rate comparisons
2. **Penalty Play Description** - Detailed penalty definitions and explanations
3. **Conference Penalty Analysis** - Conference-level penalty statistics and comparisons
4. **Pass Play Penalty Analysis** - Specialized analysis for passing play penalties
5. **Rush Play Penalty Analysis** - Specialized analysis for rushing play penalties
6. **Kickoff Penalty Analysis** - Kickoff-specific penalty analysis
7. **Punt Penalty Analysis** - Punt-specific penalty analysis
8. **Penalty Summaries** - Penalty summary tables for each official position

PAGE 1: OFFICIATING CREW OVERVIEW



Controls:

Officiating Crew Filters - Six dropdowns to select specific officials by position (Referee, Umpire, Line Judge, Side Judge, Back Judge, Linesman). Default is "All" for each position.

Season Filter - Check boxes to select which seasons (2020-2024) to include in analysis.

Main Visual:

Penalty Rate Chart - Compares penalty calling rates between selected officials (dark blue) and NCAA average (light blue) across nine penalty types. Rates shown as percentages per play (e.g., False Start occurred on 1.66% of scrimmage plays) with values displayed above each bar.

Game Data/ Officiating Crew Table:

Shows individual games with complete officiating crew information. Automatically filters based on your selections above.

How to Use:

1. Select desired seasons and officials using the filters
2. Compare penalty rates in the chart (selected officials vs NCAA average)
3. Reference the game table to see specific games officiated by your selected crew members

PAGE 2: PENALTY PLAY DESCRIPTION

Penalty Play Description									
Play ID	Season	Week	Quarter	Game Clock	Home Team	Away Team	Penalty Type	Play Description	
5611095	2024	1	1	03:39	Georgia Tech	Florida State	Offensive Holding	(3:39) (No Huddle Shotgun) F	
5611117	2024	1	2	14:17	Georgia Tech	Florida State	Face Mask	(14:17) (No Huddle Shotgun) F enforced at FSU 32 - No Play.	
5611506	2024	1	2	00:39	Georgia Tech	Florida State	Defensive Pass Interference	(:39) (No Huddle Shotgun) D. FSU 45 - No Play.	
5611508	2024	1	2	00:32	Georgia Tech	Florida State	Offensive Holding	(:32) (No Huddle Shotgun) D. enforced at GIT 40 - No Play.	
5612189	2024	1	4	04:53	Georgia Tech	Florida State	False Start	(4:53) (No Huddle Shotgun) F	
5614530	2024	1	1	10:06	Nevada	SMU	Unsportsmanlike Conduct	(10:06) (No Huddle Shotgun) Unsportsmanlike Conduct of	
5614534	2024	1	1	09:46	Nevada	SMU	Offensive Holding	(9:46) (No Huddle Shotgun) F Holding 10 yards enforced at	
5614549	2024	1	1	07:15	Nevada	SMU	False Start	(7:15) (No Huddle Shotgun) F	
5614551	2024	1	1	06:53	Nevada	SMU	Personal Foul	(6:53) (No Huddle Shotgun) S NV 27.	
5614597	2024	1	1	00:14	Nevada	SMU	False Start	(:14) (No Huddle Shotgun) PE	
5614608	2024	1	2	13:44	Nevada	SMU	Ineligible Downfield	(13:44) (No Huddle Shotgun) enforced at NV 13 - No Play.	
5614612	2024	1	2	13:39	Nevada	SMU	Face Mask	(13:39) (No Huddle Shotgun) - No Play.	
5614617	2024	1	2	13:15	Nevada	SMU	Unnecessary Roughness	(13:15) (No Huddle Shotgun) at NV 1 - No Play.	
5614646	2024	1	2	12:55	Nevada	SMU	Personal Foul	(12:55) (No Huddle Shotgun) - No Play.	
5614699	2024	1	2	08:38	Nevada	SMU	Illegal Block	M.Killam kicks 65 yards from Waist 10 yards enforced at ST	
5614715	2024	1	2	08:16	Nevada	SMU	Ineligible Downfield	(8:16) (No Huddle Shotgun) F Pass declined.	
5614809	2024	1	2	04:18	Nevada	SMU	Illegal Formation	(4:18) (Field Goal formation) (
5614864	2024	1	2	01:11	Nevada	SMU	Offensive Holding	(1:11) (Shotgun) B.Lewis left e	
5615142	2024	1	3	11:30	Nevada	SMU	Defensive Pass Interference	(11:30) (No Huddle Shotgun) enforced at NV 18 - No Play.	

Controls:

Officiating Crew Filters - Six dropdowns to select specific officials by position (Referee, Umpire, Line Judge, Side Judge, Back Judge, Linesman). Default is "All" for each position.

Season Filter - Check boxes to select which seasons (2020-2024) to include in analysis.

Main Table:

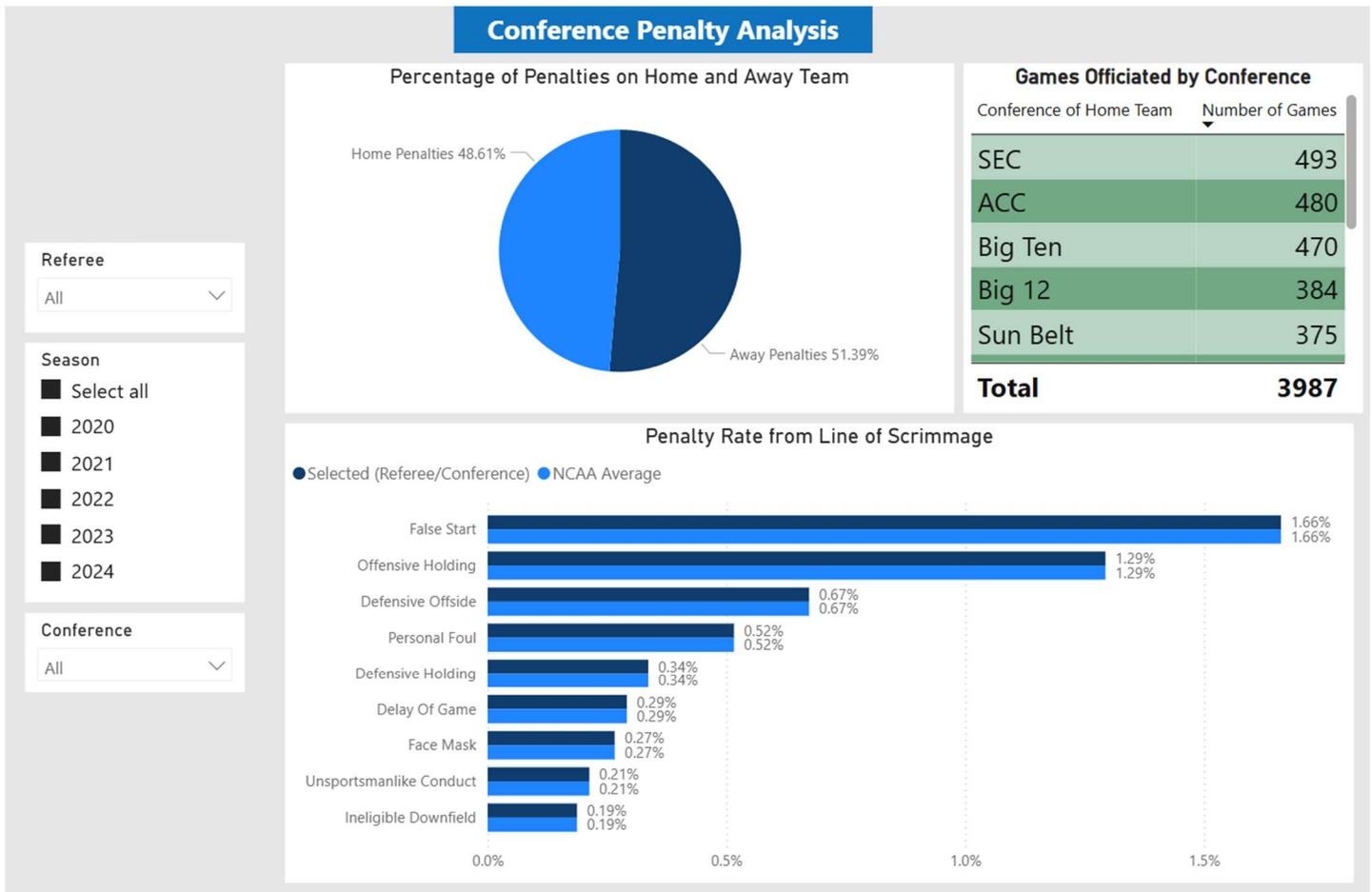
Detailed view of individual penalty plays with the following columns:

- **Play ID** - Unique identifier for each play
- **Season, Week, Quarter** - Game timing information
- **Game Clock** - Time remaining when penalty occurred
- **Home Team / Away Team** - Teams involved in the game
- **Penalty Type** - Specific penalty called (e.g., Offensive Holding, Face Mask, False Start)
- **Play Description** - Detailed description of what happened during the play

How to Use:

1. Use season and official filters to narrow down penalty data
2. Browse individual penalty plays to understand specific situations
3. Use penalty descriptions to analyze context and circumstances of calls

PAGE 3: PENALTY PLAY DESCRIPTION



Controls:

Referee Filter - Dropdown to select specific head referee (defaults to "All").

Season Filter - Check boxes to select which seasons (2020-2024) to include in analysis.

Conference Filter - Dropdown to select specific conference (defaults to "All").

Main Visuals:

Home vs Away Penalty Pie Chart - Shows the split of penalties between home teams and away teams for specific conference/head referee (crew)

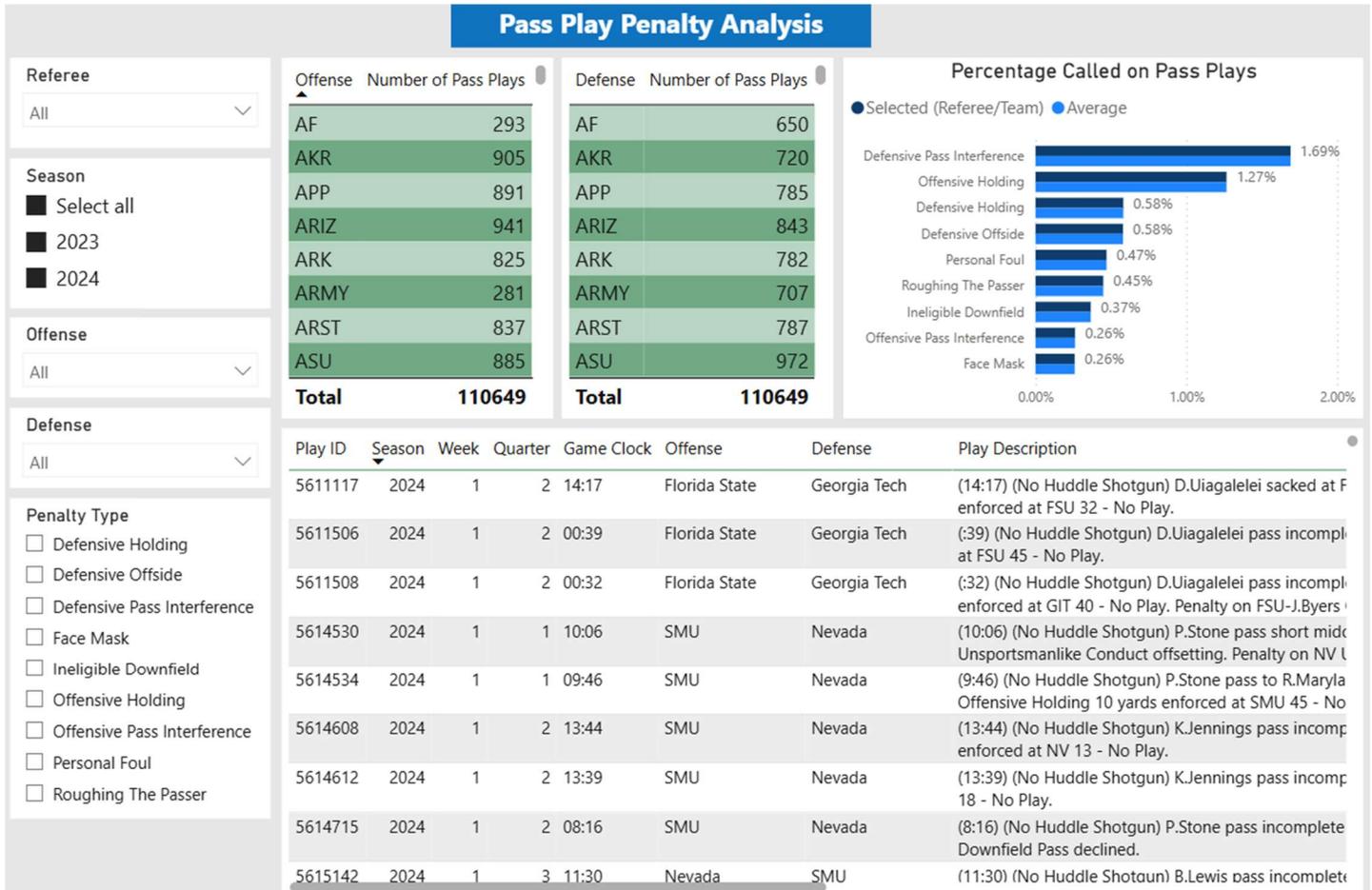
Games by Conference Table - Displays number of games officiated for each conference

Penalty Rate Bar Chart - Compares penalty calling rates per play between selected criteria (dark blue) and NCAA average (light blue) across penalty types.

How to Use:

1. Filter by specific referee, season, or conference to analyze penalty patterns
2. Review home vs away penalty distribution in the pie chart
3. Use the games table to understand sample sizes by conference
4. Compare penalty rates in the bar chart to identify differences from NCAA averages

PAGE 4: PASS PLAY DESCRIPTION



Controls:

Referee Filter - Dropdown to select specific head referee (defaults to "All").

Season Filter - Check boxes to select which seasons (2023-2024) to include in analysis.

Offense/Defense Filter - Dropdowns to filter by specific offensive or defensive teams.

Penalty Type Filter - Check boxes to select specific penalty types that occur on passing plays

Main Visuals:

Team Pass Play Tables - Side-by-side tables showing offensive and defensive pass play counts by team.

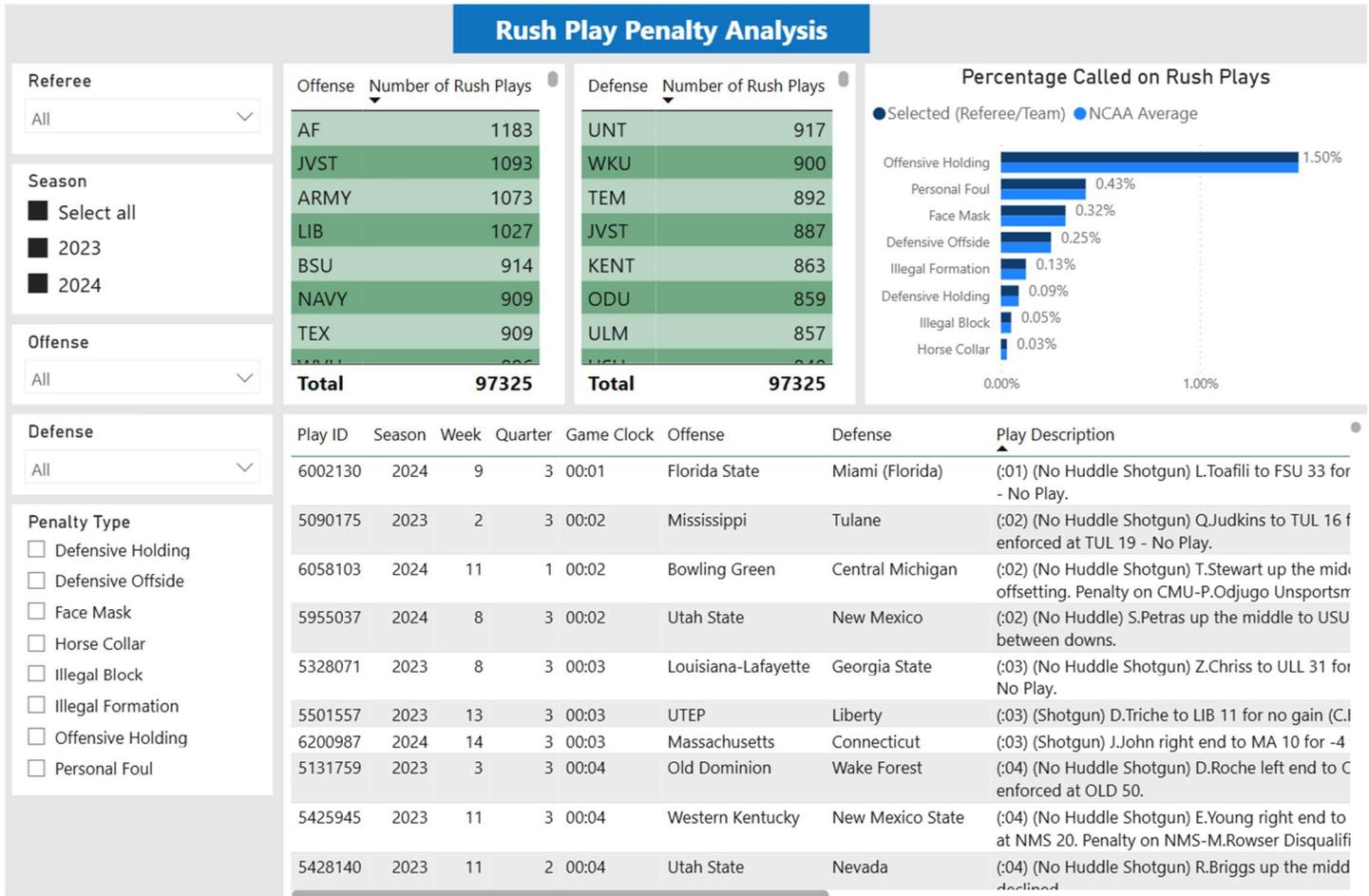
Penalty Rate Bar Chart - Compares penalty calling rates per pass play between selected criteria (dark blue) and NCAA average (light blue)

Detailed Play Table - Individual pass plays with penalties, including game details and full play descriptions.

How to Use:

1. Use filters to focus on specific teams, referees, or penalty types
2. Examine penalty rates, team tables, and play descriptions to identify trends

PAGE 5: RUSH PLAY DESCRIPTION



Controls:

Referee Filter - Dropdown to select specific head referee (defaults to "All").

Season Filter - Check boxes to select which seasons (2023-2024) to include in analysis.

Offense/Defense Filter - Dropdowns to filter by specific offensive or defensive teams.

Penalty Type Filter - Check boxes to select specific penalty types that occur on rushing plays

Main Visuals:

Team Pass Play Tables - Side-by-side tables showing offensive and defensive rush play counts by team.

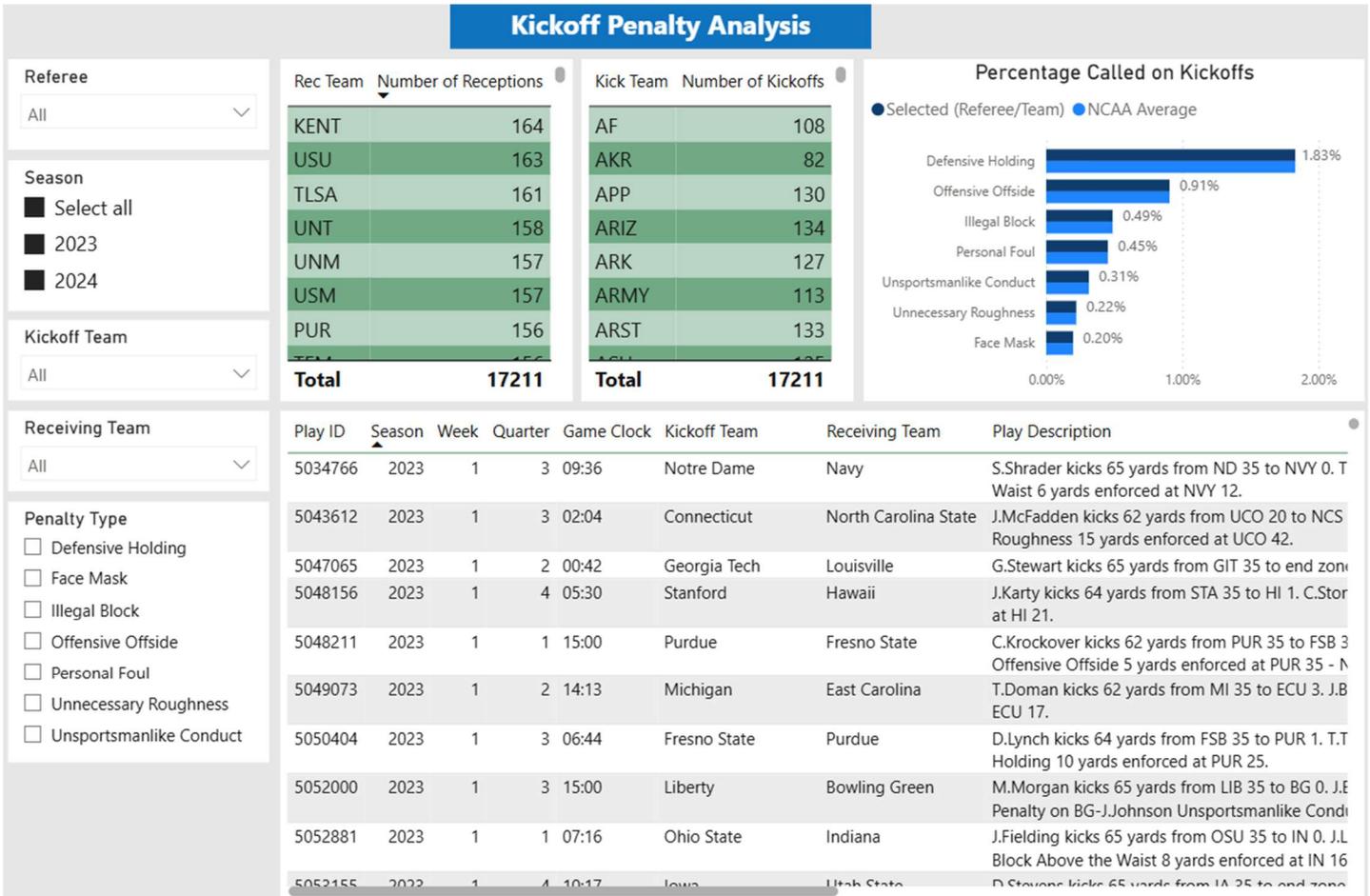
Penalty Rate Bar Chart - Compares penalty calling rates per rush play between selected criteria (dark blue) and NCAA average (light blue)

Detailed Play Table - Individual rush plays with penalties, including game details and full play descriptions.

How to Use:

1. Use filters to focus on specific teams, referees, or penalty types
2. Examine penalty rates, team tables, and play descriptions to identify trends

PAGE 6: KICKOFF PLAY DESCRIPTION



Controls:

- Referee Filter** - Dropdown to select specific head referee (defaults to "All").
- Season Filter** - Check boxes to select which seasons (2023-2024) to include in analysis.
- Offense/Defense Filter** - Dropdowns to filter by specific kickoff or return teams.
- Penalty Type Filter** - Check boxes to select specific penalty types that occur on kickoffs

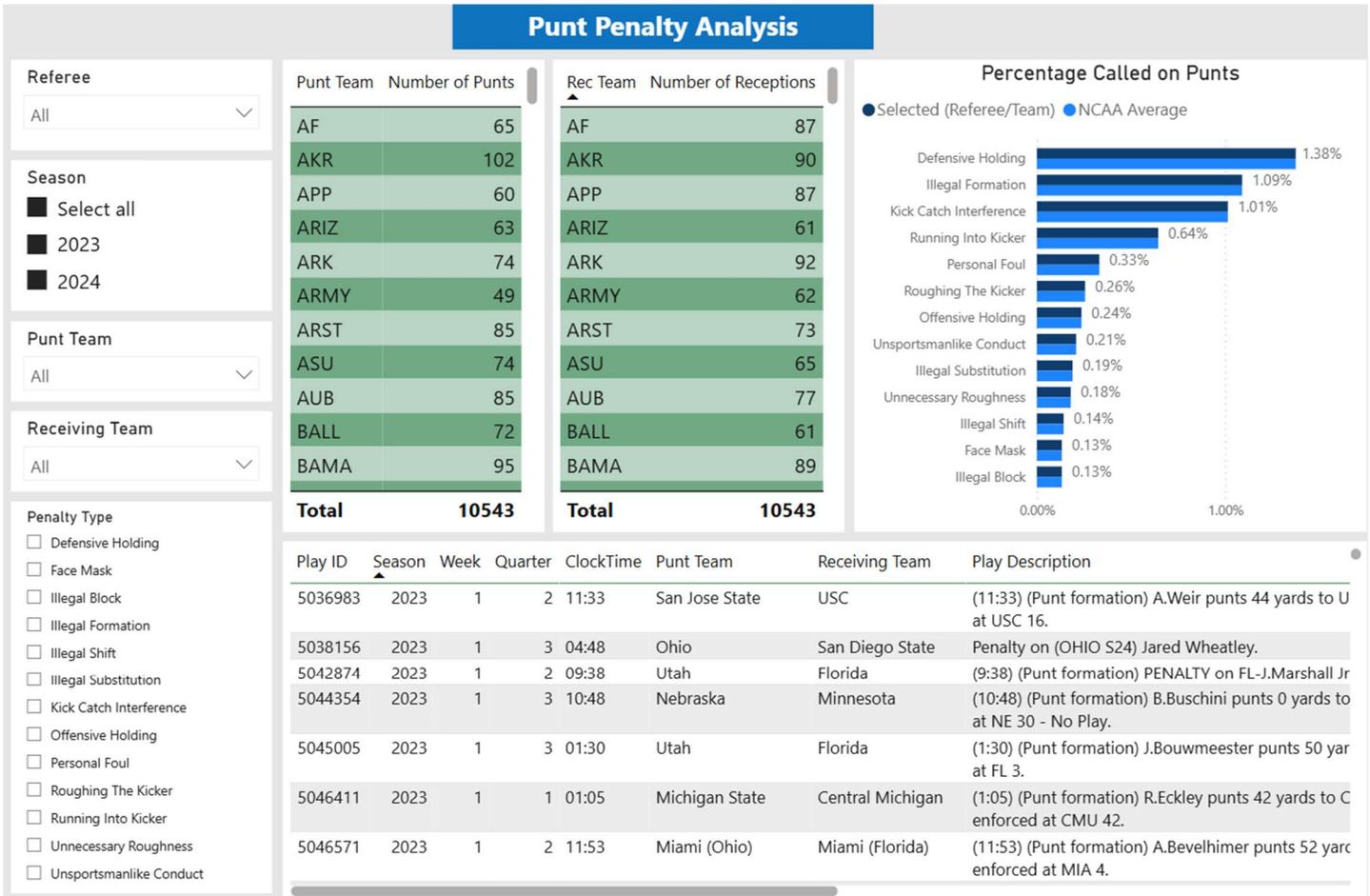
Main Visuals:

- Team Pass Play Tables** - Side-by-side tables showing kickoff and kickoff reception counts by team.
- Penalty Rate Bar Chart** - Compares penalty calling rates per kickoff between selected criteria (dark blue) and NCAA average (light blue)
- Detailed Play Table** - Individual kickoffs with penalties, including game details and full play descriptions.

How to Use:

1. Use filters to focus on specific teams, referees, or penalty types
2. Examine penalty rates, team tables, and play descriptions to identify trends

PAGE 7: PUNT PLAY DESCRIPTION



Controls:

- Referee Filter** - Dropdown to select specific head referee (defaults to "All").
- Season Filter** - Check boxes to select which seasons (2023-2024) to include in analysis.
- Offense/Defense Filter** - Dropdowns to filter by specific punt or return teams.
- Penalty Type Filter** - Check boxes to select specific penalty types that occur on punts

Main Visuals:

- Team Pass Play Tables** - Side-by-side tables showing punt and punt reception counts by team.
- Penalty Rate Bar Chart** - Compares penalty calling rates per punt between selected criteria (dark blue) and NCAA average (light blue)
- Detailed Play Table** - Individual punts with penalties, including game details and full play descriptions.

How to Use:

1. Use filters to focus on specific teams, referees, or penalty types
2. Examine penalty rates, team tables, and play descriptions to identify trends

PAGE 8: PENALTY SUMMARIES (NAVIGATION)



Navigation Tiles:

Six clickable tiles provide quick access to position-specific penalty summaries:

- **Referee Summary** - Head referee penalty matrix
- **Umpire Summary** - Umpire penalty matrix
- **Line Judge Summary** - Line judge penalty matrix
- **Side Judge Summary** - Side judge penalty matrix
- **Back Judge Summary** - Back judge penalty matrix
- **Linesman Summary** - Linesman penalty matrix

PAGE 8: PENALTY SUMMARIES (ANALYSIS)

Referee Summary

Category	NCAA Avg	Trennis Livingston	Baylor Defense	Baylor Offense	Pittsburgh Defense	Pittsburgh Offense
Dead Ball						
Defensive Offside	0.65%	0.44%	0.40%		0.75%	
Delay of Game	0.30%	0.59%	0.09%	0.20%	0.06%	0.23%
False Start	1.58%	1.52%		1.14%		1.89%
Kickoffs						
Defensive Holding	1.87%	1.49%				
Face Mask	0.20%					
Illegal Block	0.50%	1.49%				
Offensive Offside	0.93%	1.12%				
Personal Foul	0.46%					
Unnecessary Roughness	0.22%					
Unsportsmanlike Conduct	0.30%					
Passing						
Defensive Holding	0.58%	0.54%	0.70%		0.62%	
Defensive Pass Interference	1.69%	2.41%	1.51%		2.31%	
Face Mask	0.26%	0.18%	0.41%		0.15%	0.05%
Ineligible Downfield	0.37%	0.12%		0.23%		0.21%
Intentional Grounding	0.23%	0.42%		0.17%		0.16%
Offensive Holding	1.27%	1.32%		0.81%	0.05%	1.30%
Offensive Pass Interference	0.26%	0.24%		0.17%		0.05%
Personal Foul	0.47%	0.48%	0.35%		0.21%	0.21%
Roughing The Passer	0.45%	0.78%	0.52%		0.62%	
Rushing						
Defensive Holding	0.09%	0.07%	0.30%			
Defensive Offside	0.25%	0.20%	0.24%		0.26%	
Face Mask	0.32%	0.34%	0.12%	0.06%	0.19%	0.13%
Horse Collar	0.03%	0.07%			0.06%	
Illegal Block	0.05%					
Illegal Formation	0.13%	0.14%		0.12%		0.20%
Offensive Holding	1.50%	2.39%		0.88%		1.18%
Personal Foul	0.43%	0.34%	0.18%	0.12%	0.45%	0.07%

Season

Referee

Team 1

Team 2

Number of Games Officiated

22

Controls:

Season Filter - Dropdown to select specific season (defaults to "All").

Referee Filter - Dropdown to select specific official.

Team 1 Filter - Dropdown to select first team for comparison.

Team 2 Filter - Dropdown to select second team for comparison.

Main Visuals:

Comprehensive Matrix Table - Detailed comparison table showing penalty rates per play across categories:

Categories: Dead Ball, Kickoffs, Passing, Rushing

Columns: NCAA Avg, Selected Referee, Team Offense/Defense

How to Use:

1. Select season, referee, and teams using the dropdown filters
2. Examine penalty rate comparisons in the comprehensive matrix