



# The Home Depot Scan Cadence Tableau Report

## Background

The Home Depot's Rapid Distribution Center (RDC) leaders are struggling to monitor associate compliance with engineering standards due to manual data pulls and inconsistent visual formats. My new executive view Tableau report provides a clear, user-friendly visualizations of compliance data, improving operational efficiency, supporting data-driven decision making, and ensuring consistent application of engineering standards across the network

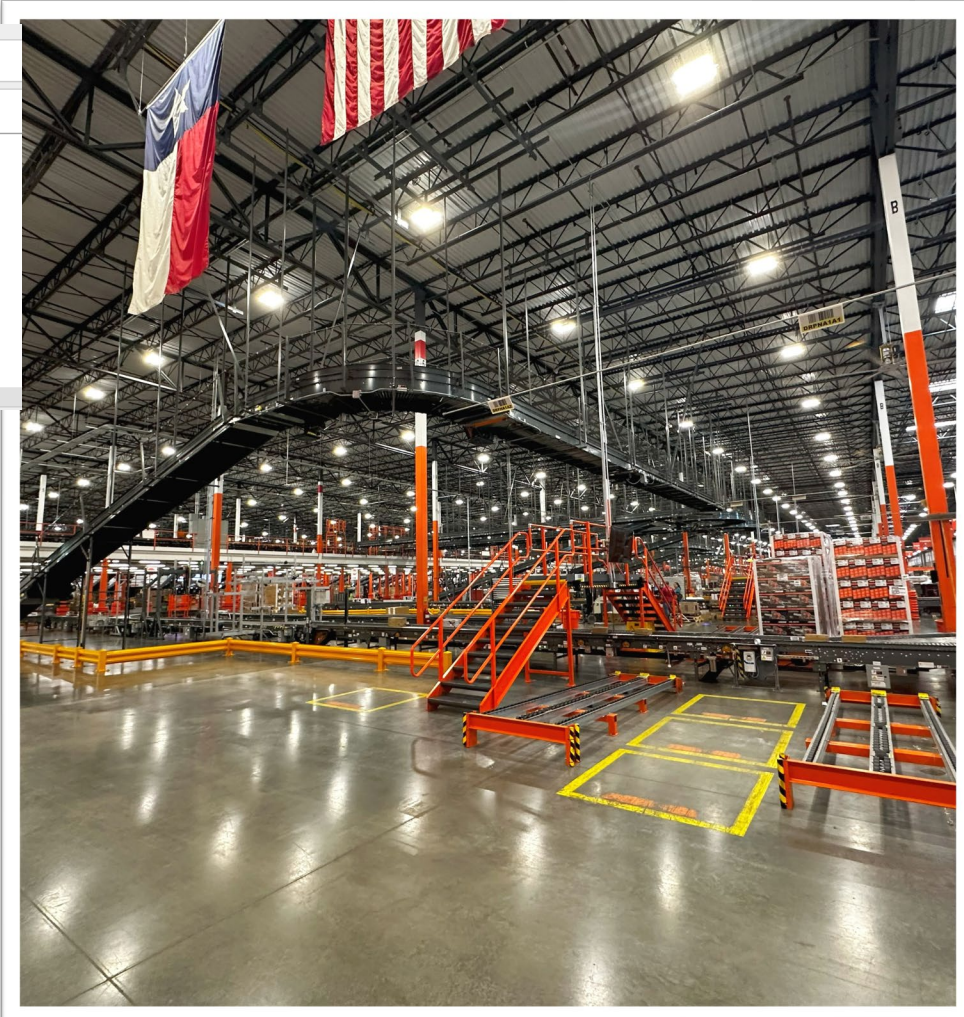
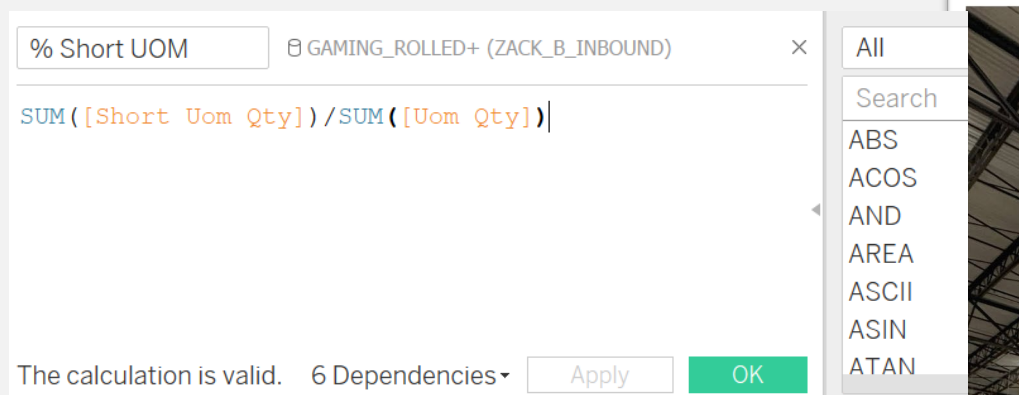
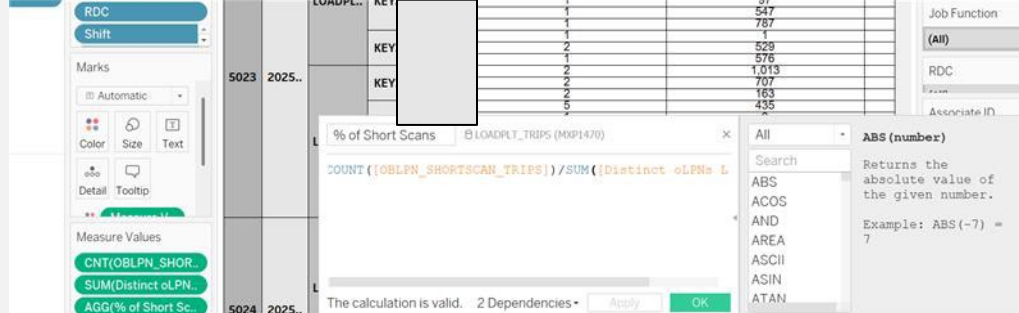
**Rapid Deployment Center (RDC):** The RDC's receive product directly from vendors or other DC platforms. Its main function is to ship product directly to stores. It is the most automated and largest platform in The Home Depot DC network.

\*DC: Distribution Center

## Problem Statement

The Home Depot's FDC leadership lacks an executive, standardized, and efficient way to monitor associates adhering to engineering standards. This fragmented approach is time-consuming, prone to data inconsistencies, and hinders the identification of trends, where a process is falling short, or specific training needs. The main deliverable is a Tableau report prototype that provides data of inbound and outbound, calculates data that then displays the short scans, provides user-friendly visualizations, and has separate views for inbound and outbound leadership. This will enable visibility and data-driven improvements to the RDC offloading and loading processes.

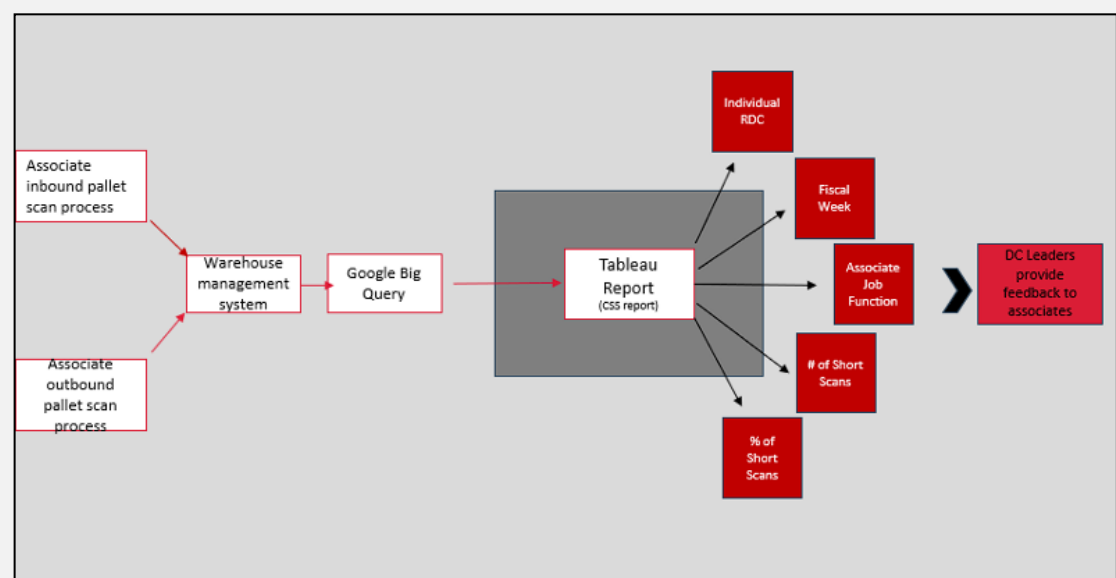
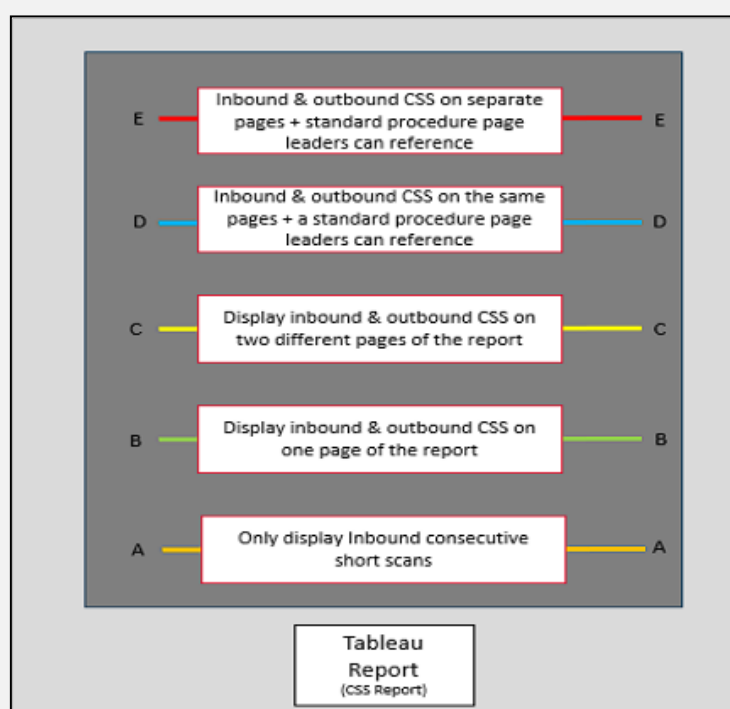
Examples of code calculation used in Tableau:



Houston RDC:

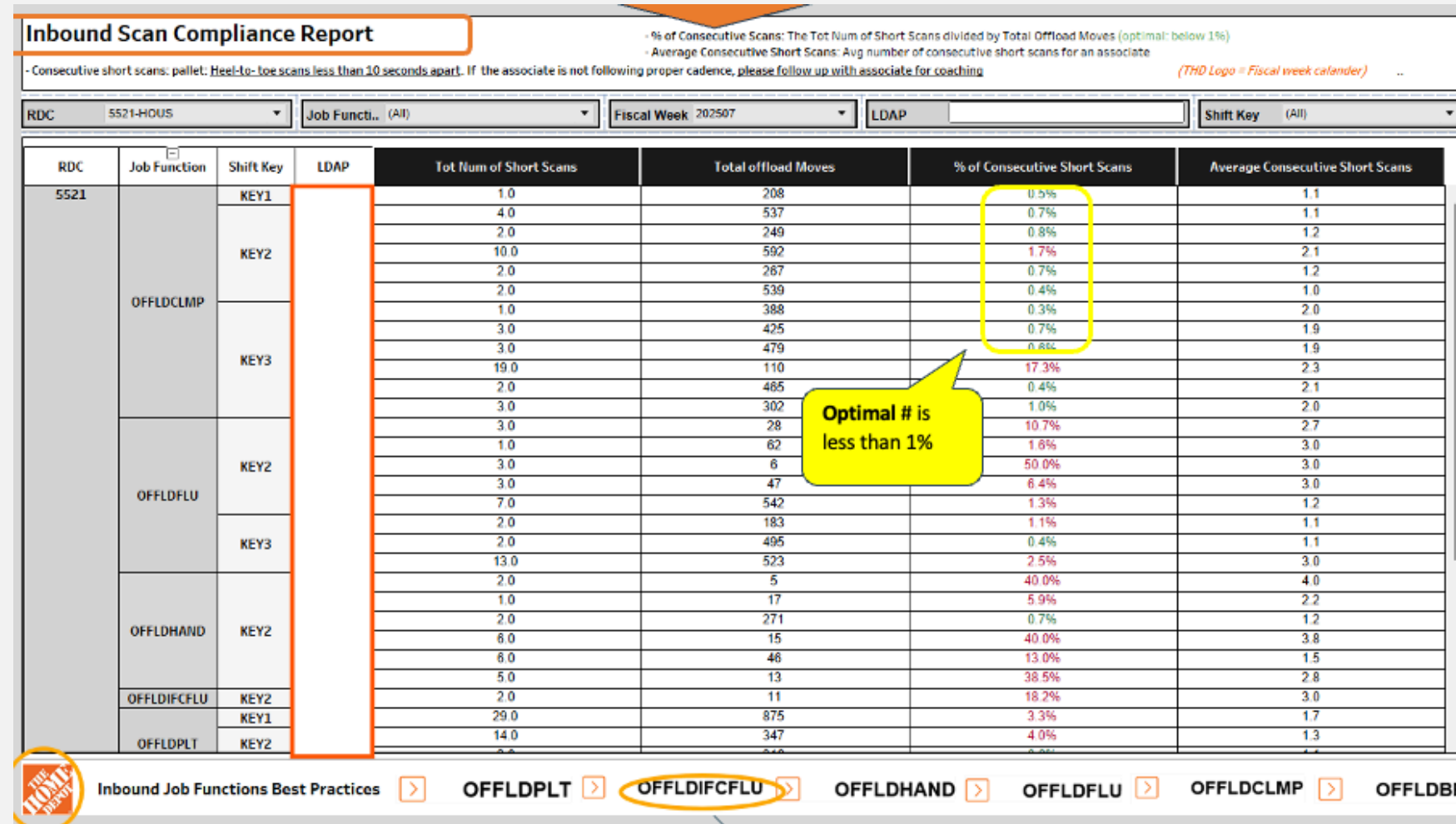
## Design Alternatives & System Diagram

I chose five options for displaying data in the warehouse, ranging from inbound to outbound. Option A focused on inbound data, while option B displayed consecutive scans. Option C separated data into separate pages on a Tableau report. Option D added a separate sheet for job function procedures and loading times, useful for DC leaders and associates (I chose optionnD). The diagram illustrates the Rapid Deployment Center (RDC) process, utilizing inputs like associate scans, warehouse management, and Google Big Query, and outputs like short scans. The goal is to prevent consecutive scans through training and mentorship.

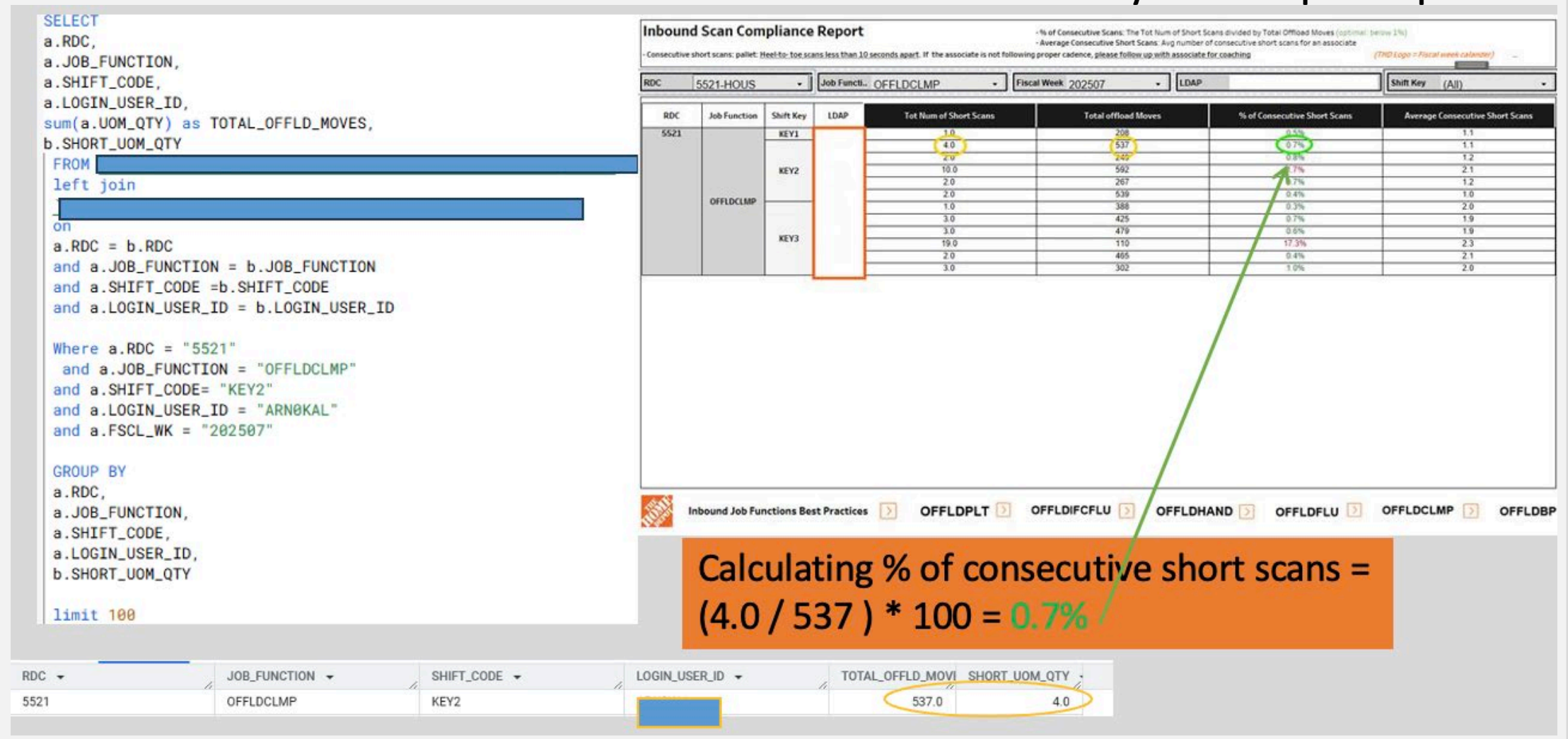


## Results & Impact

The Tableau software was used to create a performance review component, integrating data from three queries and incorporating individual associate data for RDC leaders. The report was then streamlined by adding filters and interactivity for a faster and more efficient process. The dashboard layout was designed to add a personal touch without introducing a learning curve for the leaders. A white background was used to highlight the data, and data was color coded in green for good compliance and red for non-compliance. The integration of these components resulted in a modern and simplistic Tableau report that can be used by future/current RDC leaders. The dashboard layout aimed to be user-friendly and easy to navigate. The DC leaders will only have to reference one Tableau report instead of three, and the use of this Tableau report can result in a potential savings of \$155,000.

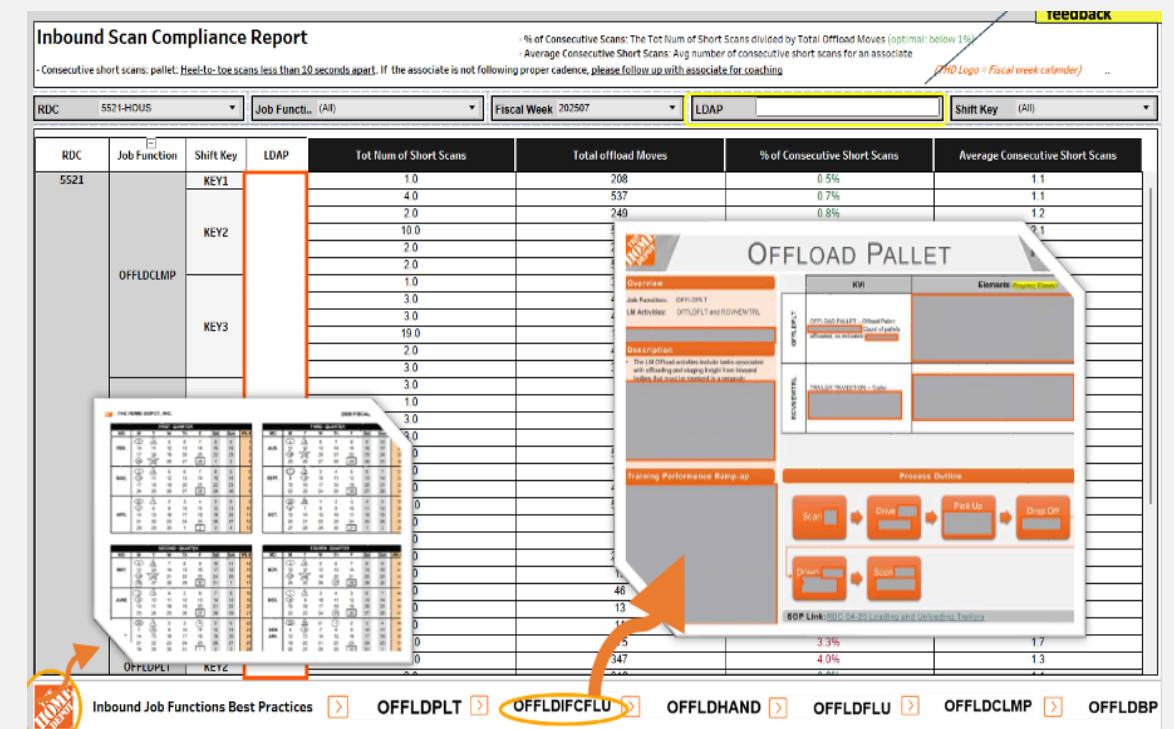


Used to verify Tableau report output:



## Conclusion

This project taught me valuable life lessons and skills, including self-discipline, flexibility, problem-solving, and technical skills in SQL, data analysis, and dashboard design. It also taught me the value of adapting to unexpected challenges and breaking down complex problems into manageable steps. I also learned to appreciate feedback, stay organized, and find a balance between quality and efficiency. These experiences not only strengthened my engineering background but also prepared me for future projects with confidence. Lastly, I want to give thanks to The Home Depot Engineers who mentored me along the way, and to the Lamar University Industrial Engineering Department.



### Students & Faculty Advisors

Alberto Escobar  
Dr. Alberto Marquez

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The Home Depot