



DATA ANALYTICS CASE STUDY

Construction Delays
By Mark B

DATA OVERVIEW

- **Dataset Available?** *No (Ongoing live project, names and location need to remain private)*
- **Project Tools:**
 - **Excel** – *Data cleaning, filling blank fields and removing unneeded columns.*
 - **Power Query** – *Creating and Combining columns.*
 - **Power BI** – *Construct interactive visualizations and charts*
 - **PowerPoint** – *Presenting data findings to stakeholders*

INTRODUCTION

- Construction schedule delay claims are a leading cause of disputes in the construction industry. Defending against or pursuing such claims often involve complex analysis of the contractual obligations, the causes of the delay, and the types of damages available.
- **“ Remember that time is money. ” – Benjamin Franklin, 1748**

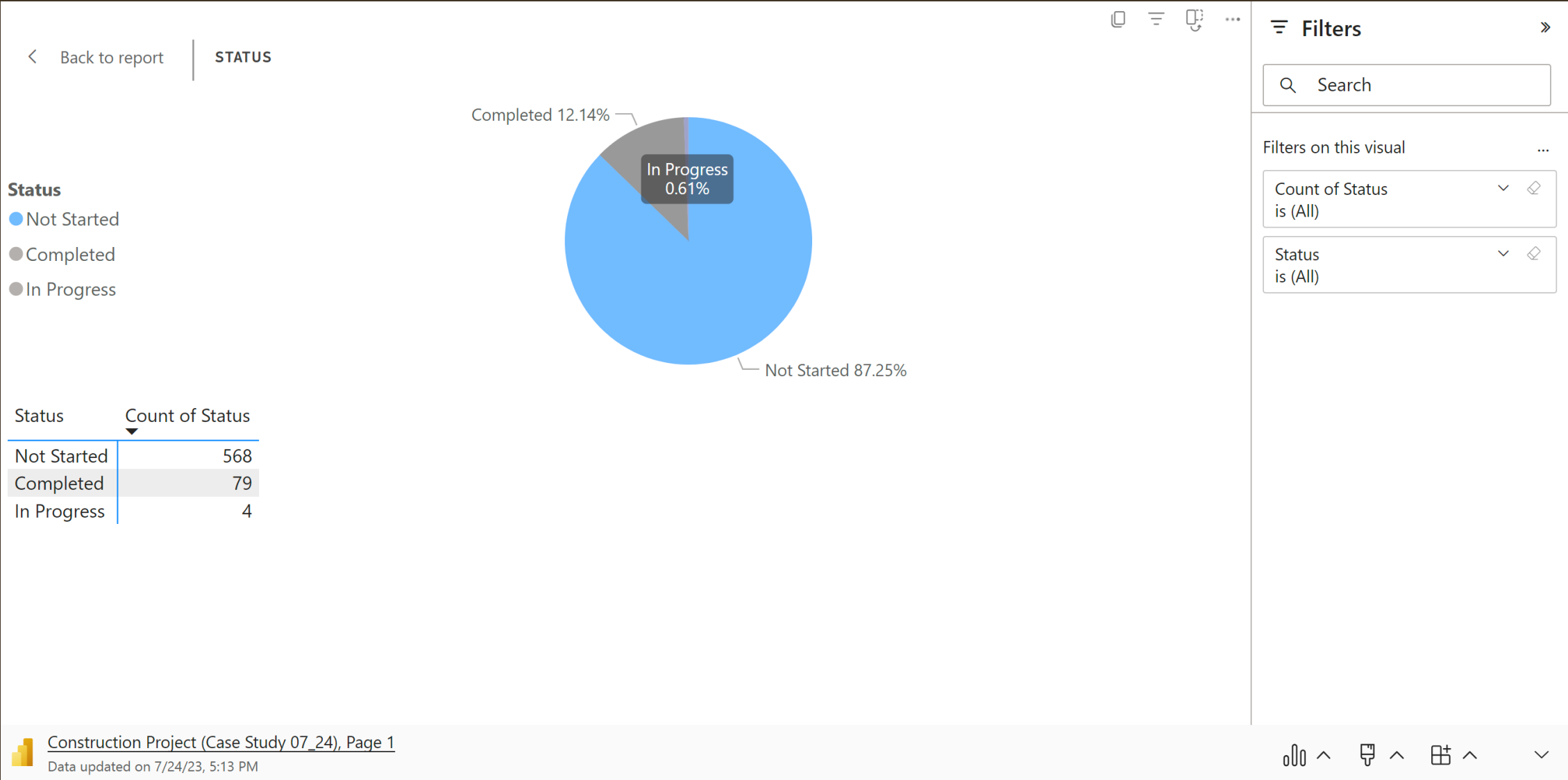
SUMMARY

- **Industry Focus:** Construction & Logistics
- **Problem Statement:** *To identify where delays are occurring with subcontractors and all projects.*
- **Deliverables:** *Show clear data that highlights which subcontractors and project types experience positive delays. Provide project managers with details about these delays and share date differences with my analysis and their CPM scheduling.*

PROBLEMS

- Given the current data, using the provided CPM scheduling dates and actual dates to determine what projects and subcontractors show a positive delay.
- Positive delays are defined as the project taking any longer than the originally agreed-upon timeframe.

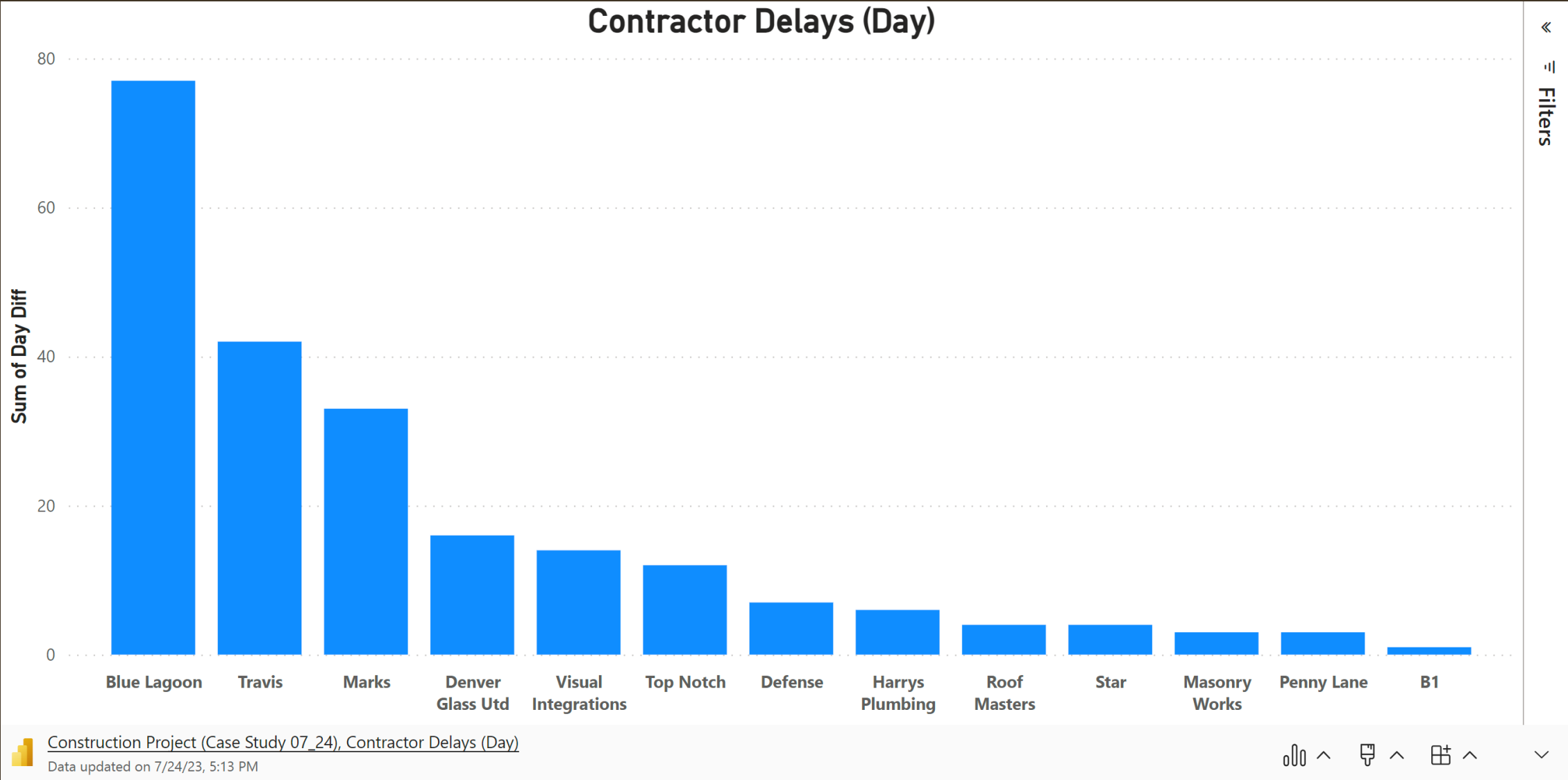
JOB ACTIVITY (PERCENTAGE)



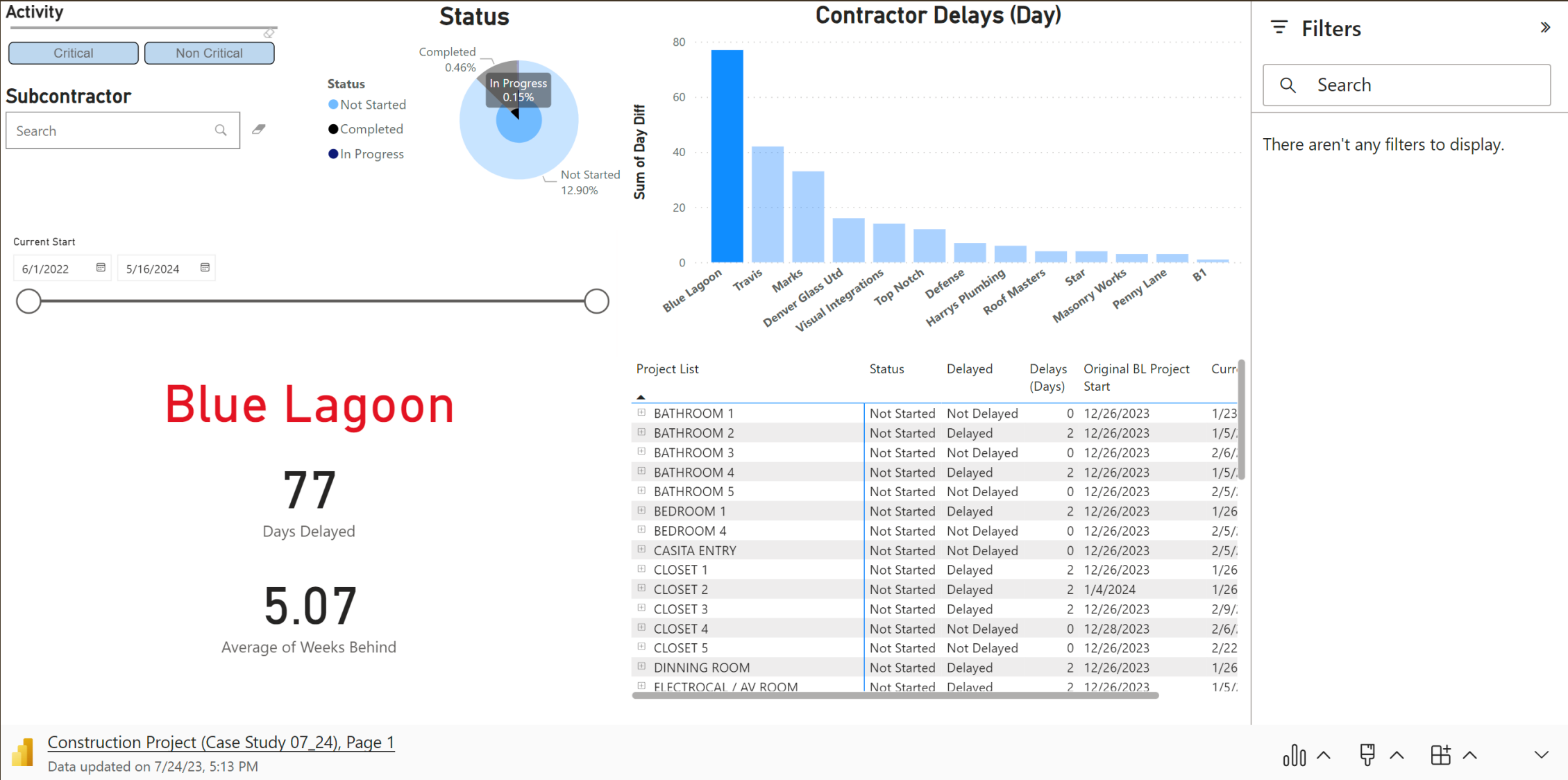
DETAILED OVERVIEW OF PROJECTS

Project List	Status	Delayed	Delays (Days)	Original BL Project Start	Current Start
⊕ CIVIL DRIVEWAY	Completed	Not Delayed	0	1/11/2023	1/11/2023
⊕ COLUMN FOOTINGS	Completed	Not Delayed	0	2/21/2023	2/21/2023
⊕ DESIGN & ENGINEERING	Completed	Not Delayed	0	6/1/2022	6/1/2022
⊕ ELEVATION MAIN HOUSE	Completed	Delayed	106	6/22/2023	6/20/2023
⊕ HIGH LEVEL OVERVIEW	Completed	Delayed	48	6/1/2022	6/1/2022
⊕ LEVEL 1 FOOTINGS	Completed	Not Delayed	0	1/27/2023	1/27/2023
⊕ LEVEL 1 FRAMING	Completed	Delayed	0	5/17/2023	5/17/2023
⊕ LEVEL 1 SITE WALLS BACK YARD	Completed	Not Delayed	0	1/10/2023	1/10/2023
⊕ LEVEL 1 SLAB ON GRADE	Completed	Not Delayed	0	3/8/2023	3/8/2023
⊕ LEVEL 1 STEEL COLUMNS	Completed	Not Delayed	0	5/8/2023	5/8/2023
⊕ MOBILIZATION	Completed	Not Delayed	0	9/2/2022	9/2/2022
⊕ PERMITTING	Completed	Not Delayed	0	12/5/2022	12/5/2022
⊕ POOL	Completed	Delayed	-3	5/17/2023	5/23/2023
⊕ SPREAD FOOTINGS	Completed	Not Delayed	0	4/13/2023	4/13/2023
⊕ UTILITIES UNDERGROUND	Completed	Delayed	-73	1/5/2023	1/5/2023
⊕ FABRICATION & DELIVERY	In Progress	Not Delayed	0		6/6/2023
⊕ BATHROOM 1	Not Started	Delayed	1	10/19/2023	12/15/2023
⊕ BATHROOM 2	Not Started	Delayed	4	11/6/2023	12/26/2023
⊕ BATHROOM 3	Not Started	Delayed	3	10/26/2023	12/18/2023
⊕ BATHROOM 4	Not Started	Delayed	-1	11/8/2023	12/27/2023
⊕ BATHROOM 5	Not Started	Delayed	3	11/13/2023	12/22/2023
⊕ BEDROOM 1	Not Started	Delayed	2	12/21/2023	1/10/2024
⊕ BEDROOM 4	Not Started	Not Delayed	0	12/21/2023	1/26/2024
⊕ CASITA ENTRY	Not Started	Delayed	1	11/16/2023	12/15/2023

QUESTION 1 - IDENTIFY CONTRACTORS WITH POSITIVE DELAYS



QUESTION 2 – IDENTIFY PROJECTS WITH DELAYS



Blue Lagoon

77

Days Delayed

5.07

Average of Weeks Behind

Project List

	Status	Delayed	Delays (Days)	Original BL Project Start	Curr
BATHROOM 1	Not Started	Not Delayed	0	12/26/2023	1/23
BATHROOM 2	Not Started	Delayed	2	12/26/2023	1/5/
BATHROOM 3	Not Started	Not Delayed	0	12/26/2023	2/6/
BATHROOM 4	Not Started	Delayed	2	12/26/2023	1/5/
BATHROOM 5	Not Started	Not Delayed	0	12/26/2023	2/5/
BEDROOM 1	Not Started	Delayed	2	12/26/2023	1/26
BEDROOM 4	Not Started	Not Delayed	0	12/26/2023	2/5/
CASITA ENTRY	Not Started	Not Delayed	0	12/26/2023	2/5/
CLOSET 1	Not Started	Delayed	2	12/26/2023	1/26
CLOSET 2	Not Started	Delayed	2	1/4/2024	1/26
CLOSET 3	Not Started	Delayed	2	12/26/2023	2/9/
CLOSET 4	Not Started	Not Delayed	0	12/28/2023	2/6/
CLOSET 5	Not Started	Not Delayed	0	12/26/2023	2/22
DINNING ROOM	Not Started	Delayed	2	12/26/2023	1/26
ELECTROCAL / AV ROOM	Not Started	Delayed	2	12/26/2023	1/5/

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Data updated on 7/24/23, 5:13 PM

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SOLUTIONS

- **By integrating data analysis into the scheduling process, project managers can make more informed decisions, anticipate potential delays, and improve overall project performance in the construction industry.**

