NetPoint + GPM
CONFERENCE

May 8, 2020



Executing Multiple Aviation Construction Projects

Jorden Oud
Alberto Martinez
PMA Consultants LLC

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AGENDA

- Introduction
- The Client
- The Projects
- The Solution
- Conclusion





INTRODUCTION

Meet the presenters



MEET THE PRESENTERS

Jorden Oud

Jorden has significant experience in scheduling, cost management, change order management, and project controls in the oil/gas, aviation, and education sectors. His focus on precision combined with agility has benefitted companies and stakeholders alike. He is skilled in the use of NetPoint, Oracle Primavera P6, and Microsoft Office.

MEET THE PRESENTERS

Alberto Martinez

Alberto has experience in project controls and project management in the aviation, civil infrastructure, and commercial sectors. His focus on precision combined with agility has benefitted companies and stakeholders as well. He is skilled in the use of NetPoint, Oracle Primavera P6, and Microsoft Office.





THE CLIENT

Transportation: Aviation



United Airlines



MEET THE CLIENT

Gregory Wheeler

Greg is United's Director of Planning and Development for the Midwest Region. He oversees a team of project managers, who collectively manage a capital improvement portfolio exceeding $500M. In addition to supporting United's strategic facility needs, his team works with airports in the development of their capital programs, including the Chicago Department of Aviation's $8.5B O'Hare 21 Terminal Rehabilitation Program.

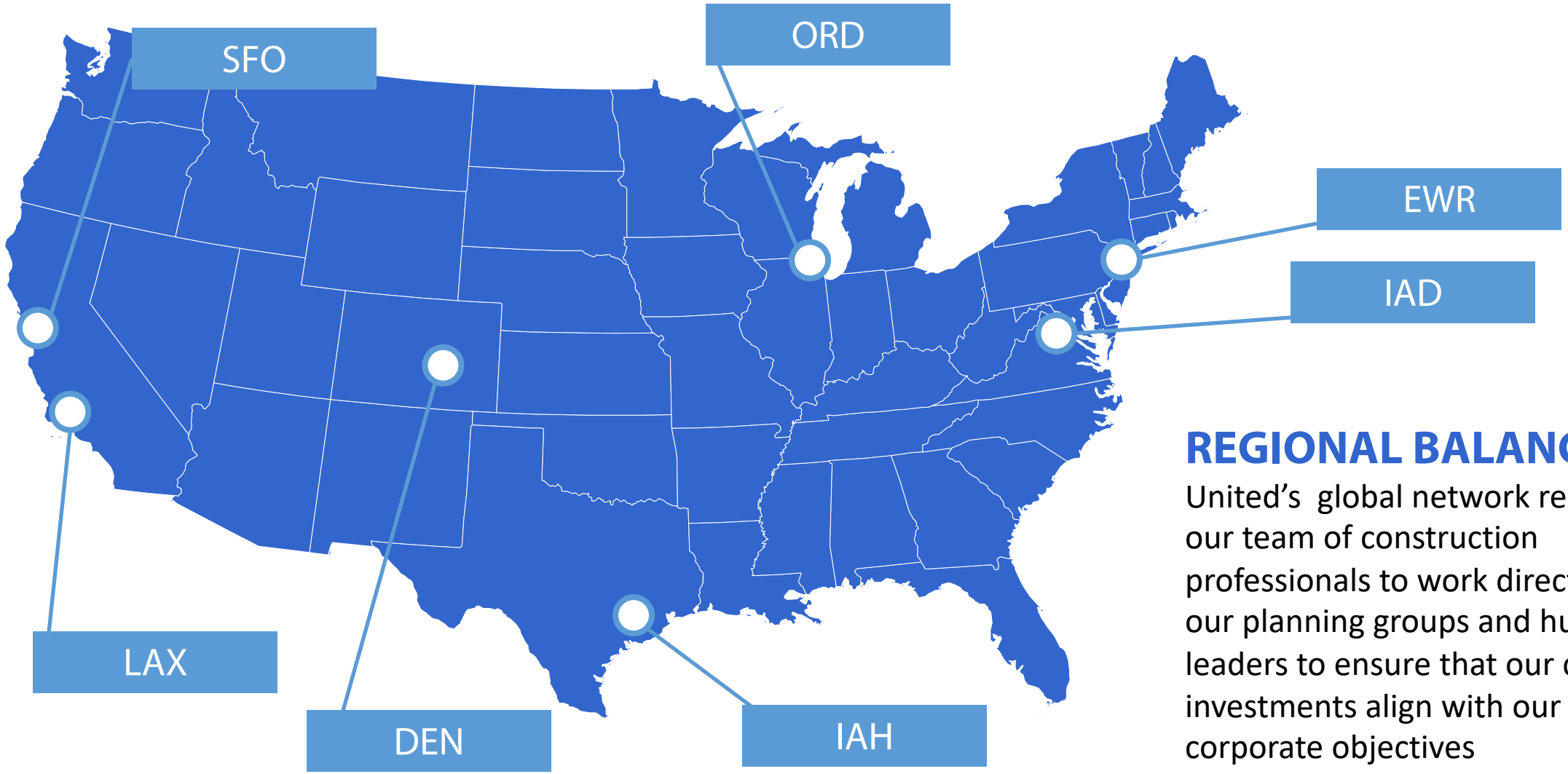
MEET THE CLIENT

Sean Palumbo

Sean is a Sr. Project Manager for United in the Midwest Region. Sean manages a portfolio of projects and programs across the system ranging anywhere from $100K - $6B. Sean is also involved in working with airports and the strategic initiatives and capital planning that they undertake.



UNITED AIRLINES' MAIN LOCATIONS



REGIONAL BALANCE

United's global network requires our team of construction professionals to work directly with our planning groups and hub leaders to ensure that our capital investments align with our corporate objectives

TYPE OF PROJECTS PER HUB

IAD – TRP

ORD – NAP

EWR – Kitchen

IAH – Baggage

DEN – Concourse Expansion

SFO – Maintenance Base

LAX – Terminal Refurbishment



THE PROJECTS

Redevelopment & Improvement

UNITED AIRLINES PROJECTS



Customer Experience Upgrade Project



Terminal Redevelopment Program

PMA’S ROLE

Customer Experience Upgrade

Hired as a staff augmentation for the Project Management Team, role of Project Controls Manager.

TRP

Role of Project Controls Manager, assisting Program Management External Team.

TERMINAL REDEVELOPMENT PROGRAM

Location: United States | **Number of projects:** 10+

Scope

Redesign and modernize the airlines concourse(s)

Overall summaries of P6 schedules?

Challenge(s)

- Multiple stakeholders (internal & external)
- Interdependencies between projects and airport authority
- All projects in different stages and with different complexities
- Non-typical contractual method
- Expands across multiple years

MULTIPLE **SOURCES**



Project schedule sources are being developed in **P6**, **Microsoft Project**, and the company's **PMIS**

MULTIPLE **TRUTHS**



No **visibility** into the overall scheme of the program, nor into the different **connections** in between the projects

- One platform, multiple files
- Difficulty understanding program status
- 100 to 400 activities per schedule
- No simple connection between projects



Dashboards helped with the financial aspect – the scheduling aspect was still lacking

Generated dashboard allowed all financials to be elegantly presented under a simple page for the whole program

Schedule information was still presented as colored bars or tables; solutions prone to human error or not elegant enough

Customer Experience Upgrade

Location: United States | **Total projects**: 6

Scope

Redesign current hold rooms to the new standard

Challenge(s)

- Multiple stakeholders (internal & external)
- Projects will be added on the go (flexibility needed).
- Every project needs to go through gate reviews.
- Speed to market
- Atypical approach




Gate innovation
Welcome to innovation
Our gates have a new look and feel. We hope you enjoy it!
Using the United App, getting help is "plane and simple."
With the United app, you can:
Book a flight
Check flight status
Change or upgrade your seat
Preview in-flight entertainment
B19
Lammdogg Photography


Lammdogg Photography


B21
B22
B23
B24
UNITED
Lammdogg Photography

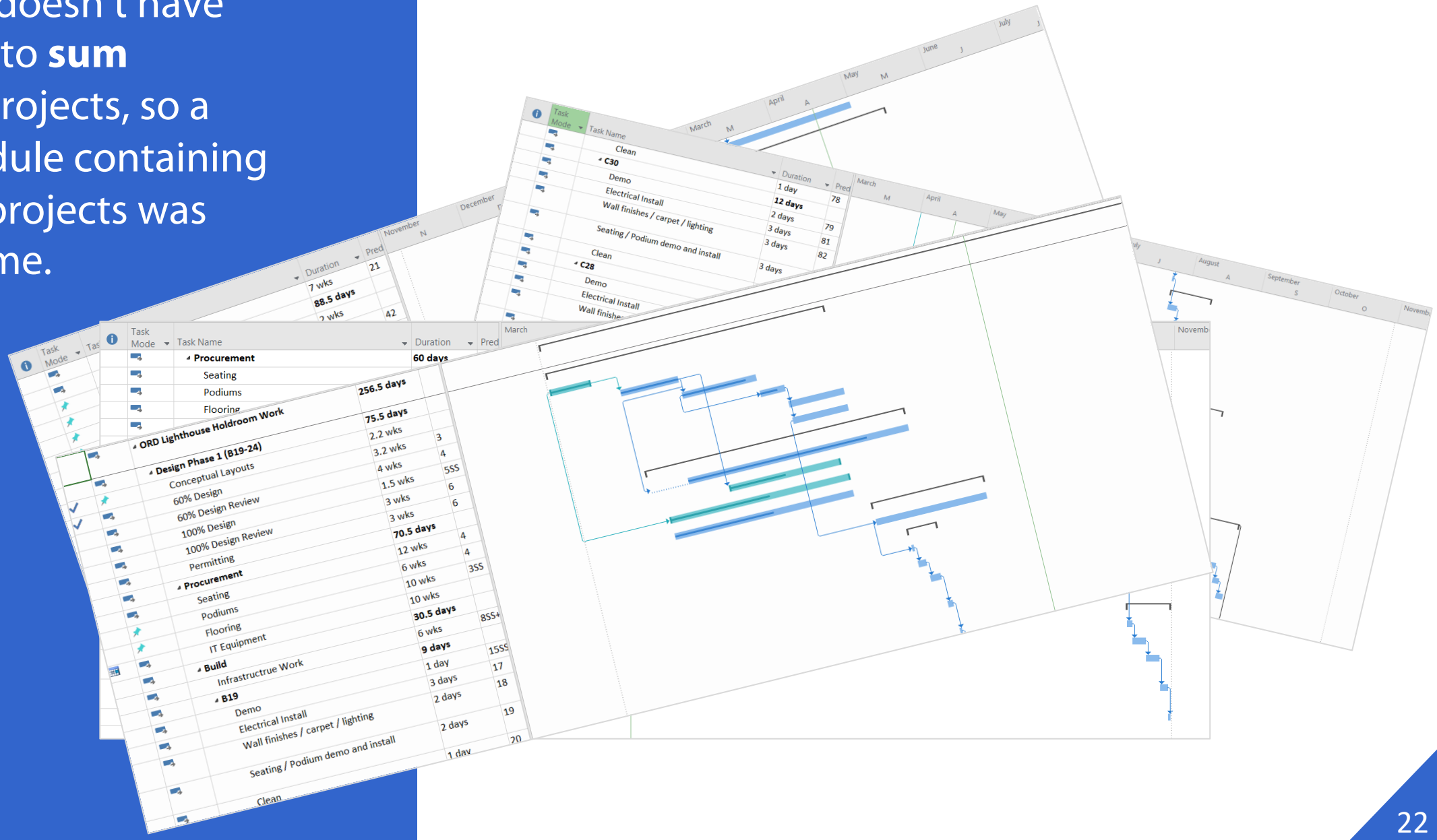


HOW WE GOT INVOLVED

Project was started before PMA came on board

- Project was already started; schedules needed to be prepared for gate reviews.
- Condition was that all schedules needed to be done in the PMIS system. ☹
- Management had made remarks about the schedules.

The **PMIS** doesn't have the ability to **sum** different projects, so a long schedule containing **multiple** projects was the outcome.





Multidisciplinary construction project

+



Grows on the go

+



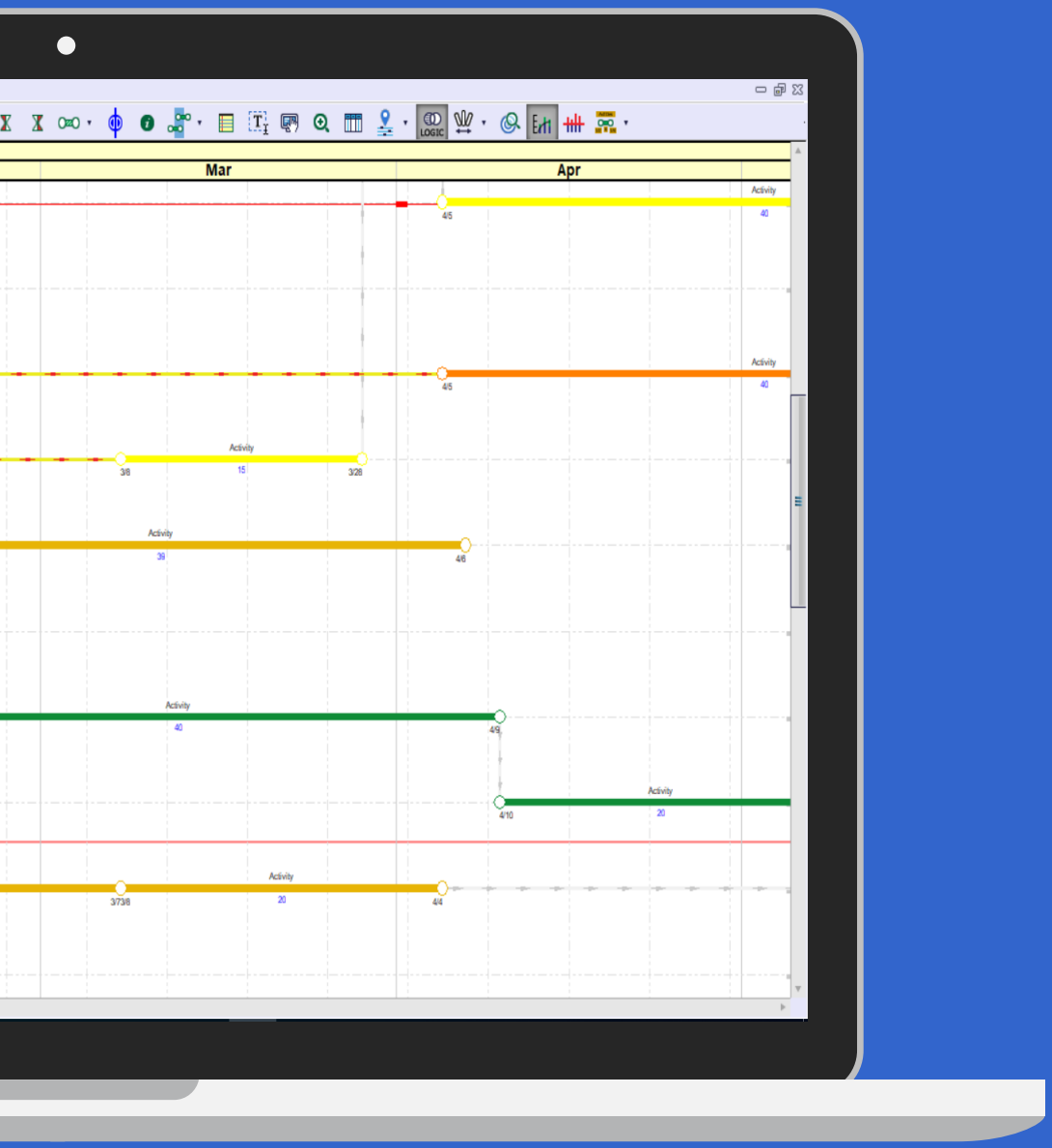
Separate schedules needed for gate reviews

This is a recipe for **total confusion**



THE SOLUTION

using NetPoint



WHY NETPOINT?

Tool readily available to everyone within PMA

Previous experience in using this for similar situations

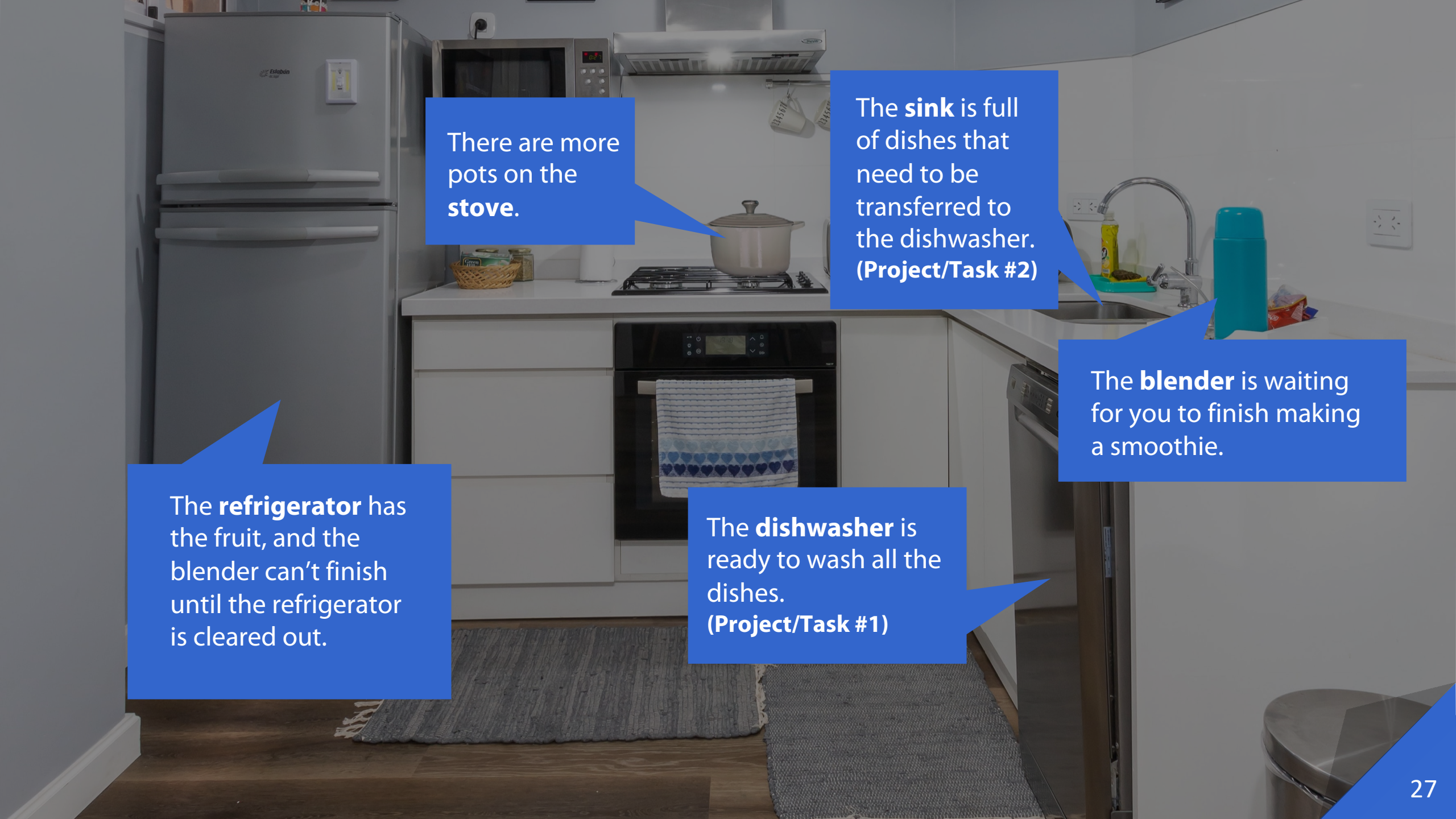
Ability to stream a project in a single line, rather than a waterfall

Real-time modifications on what-if scenarios (funding extends, delays, etc)

Easy and elegant solution

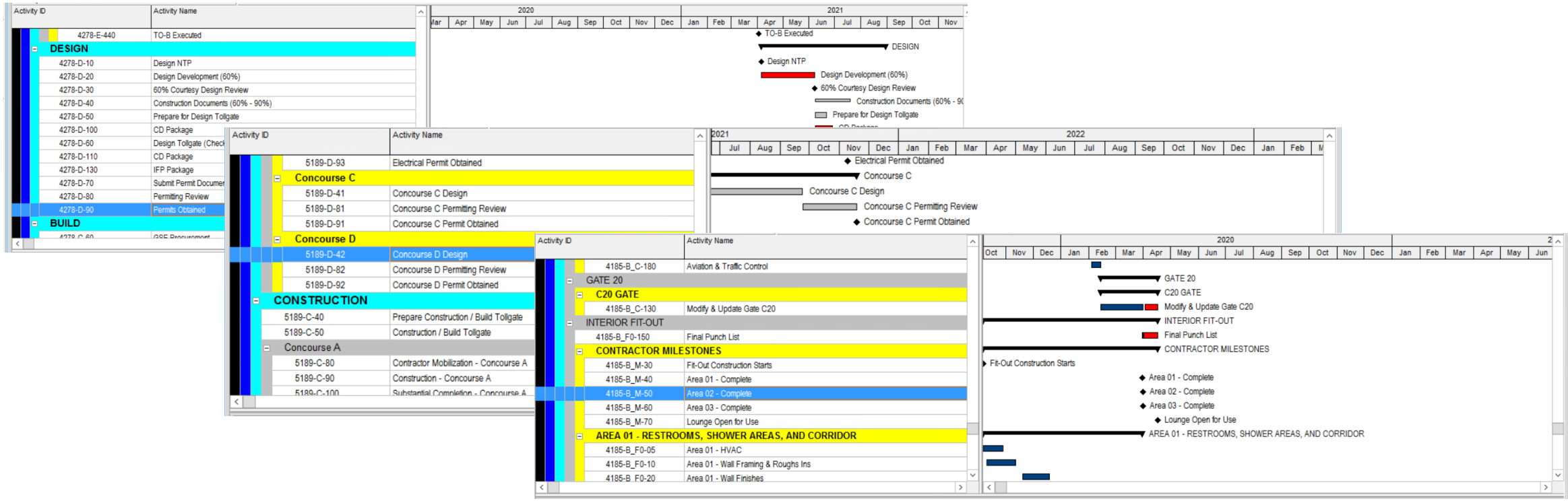


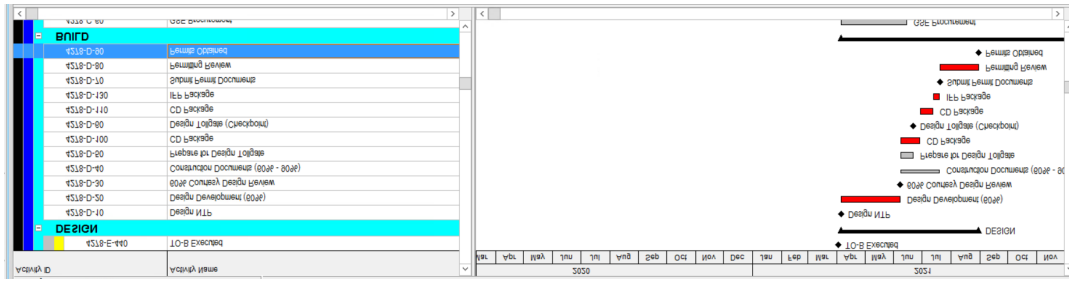
Imagine this scenario...

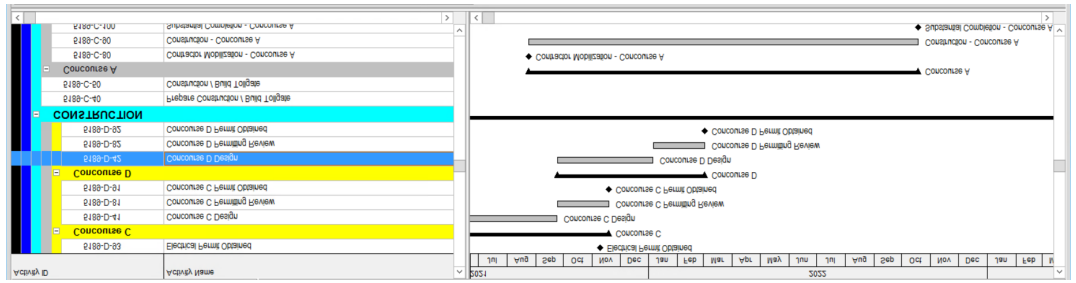

There are more pots on the **stove**.
The **sink** is full of dishes that need to be transferred to the dishwasher. **(Project/Task #2)**
The **blender** is waiting for you to finish making a smoothie.
The **refrigerator** has the fruit, and the blender can't finish until the refrigerator is cleared out.
The **dishwasher** is ready to wash all the dishes. **(Project/Task #1)**

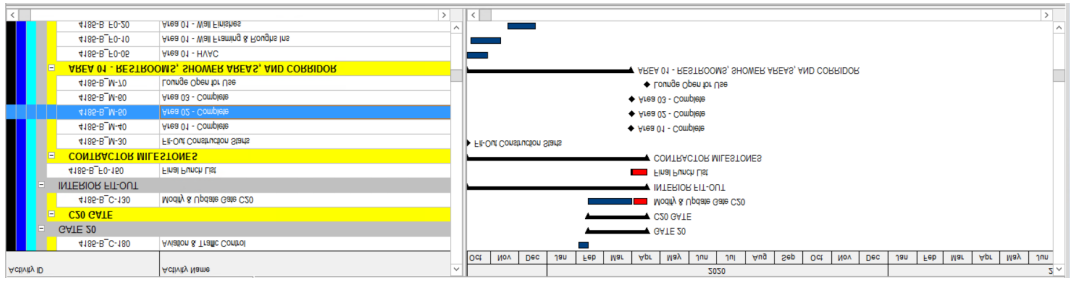

Multiple voices, all talking at the same time, all with their own stories, driving you crazy!

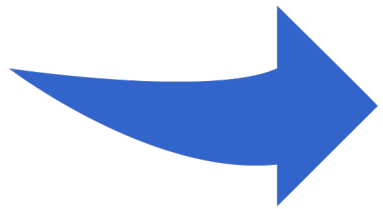
BEFORE


Activity ID
Activity Name
4278-E-440
TO-B Executed
DESIGN
4278-D-10
Design NTP
4278-D-20
Design Development (60%)
4278-D-30
60% Courtesy Design Review
4278-D-40
Construction Documents (60% - 90%)
4278-D-50
Prepare for Design Tollgate
4278-D-100
CD Package
4278-D-60
Design Tollgate (Check
4278-D-110
CD Package
4278-D-130
IFP Package
4278-D-70
Submit Permit Documer
4278-D-80
Permitting Review
4278-D-90
Permits Obtained
BUILD
2020
2021
TO-B Executed
DESIGN
Design NTP
Design Development (60%)
60% Courtesy Design Review
Prepare for Design Tollgate
5189-D-93
Electrical Permit Obtained
Concourse C
5189-D-41
Concourse C Design
5189-D-81
Concourse C Permitting Review
5189-D-91
Concourse C Permit Obtained
Concourse D
5189-D-42
Concourse D Design
5189-D-82
Concourse D Permitting Review
5189-D-92
Concourse D Permit Obtained
CONSTRUCTION
5189-C-40
Prepare Construction / Build Tollgate
5189-C-50
Construction / Build Tollgate
Concourse A
5189-C-80
Contractor Mobilization - Concourse A
5189-C-90
Construction - Concourse A
2021
2022
Electrical Permit Obtained
Concourse C
Concourse C Design
Concourse C Permitting Review
Concourse C Permit Obtained
4185-B_C-180
Aviation & Traffic Control
GATE 20
C20 GATE
4185-B_C-130
Modify & Update Gate C20
INTERIOR FIT-OUT
4185-B_F0-150
Final Punch List
CONTRACTOR MILESTONES
4185-B_M-30
Fit-Out Construction Starts
4185-B_M-40
Area 01 - Complete
4185-B_M-50
Area 02 - Complete
4185-B_M-60
Area 03 - Complete
4185-B_M-70
Lounge Open for Use
AREA 01 - RESTROOMS, SHOWER AREAS, AND CORRIDOR
4185-B_F0-05
Area 01 - HVAC
4185-B_F0-10
Area 01 - Wall Framing & Roughs Ins
4185-B_F0-20
Area 01 - Wall Finishes
2020
GATE 20
C20 GATE
Modify & Update Gate C20
INTERIOR FIT-OUT
Final Punch List
CONTRACTOR MILESTONES
Fit-Out Construction Starts
Area 01 - Complete
Area 02 - Complete
Area 03 - Complete
Lounge Open for Use
AREA 01 - RESTROOMS, SHOWER AREAS, AND CORRIDOR

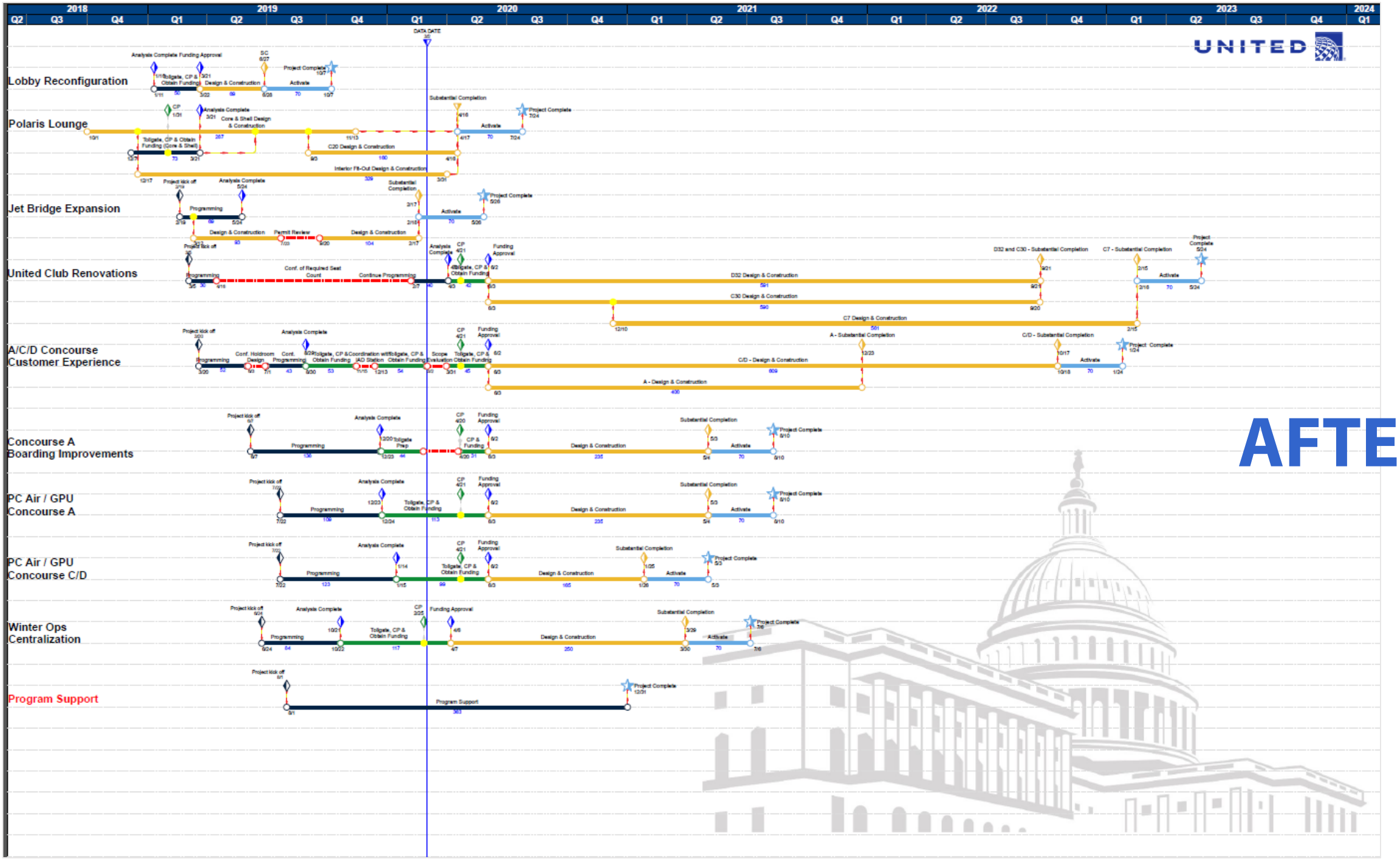








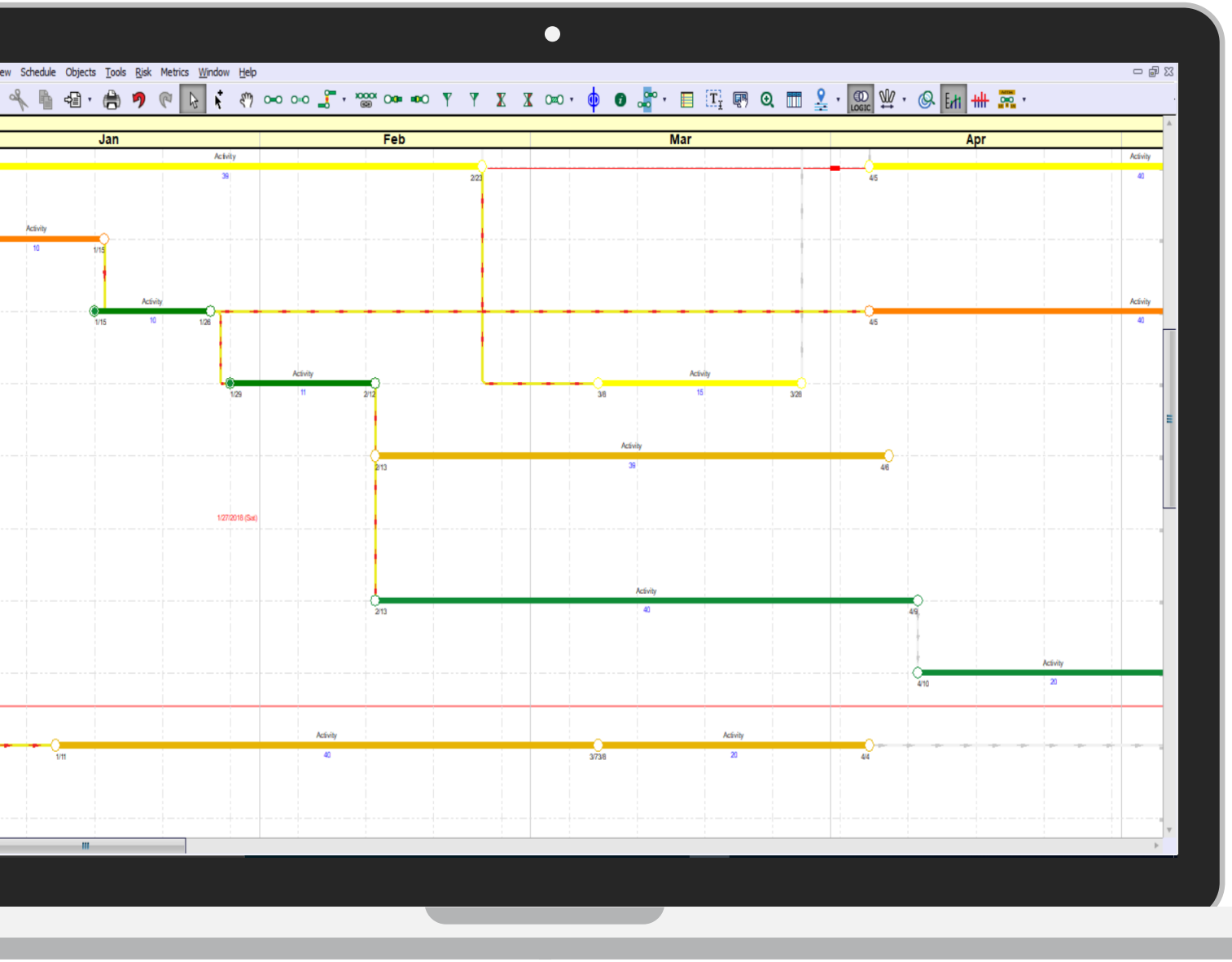



2018
2019
2020
2021
2022
2023
2024
Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1
DATA DATE
Lobby Reconfiguration
Polaris Lounge
Jet Bridge Expansion
United Club Renovations
A/C/D Concourse
Customer Experience
Concourse A
Boarding Improvements
PC Air / GPU
Concourse A
PC Air / GPU
Concourse C/D
Winter Ops
Centralization
Program Support

AFTER

The solution for the Customer Experience Upgrade is **not** so different than for the Terminal Redevelopment Program

(how surprising)…



…but there is a challenge.

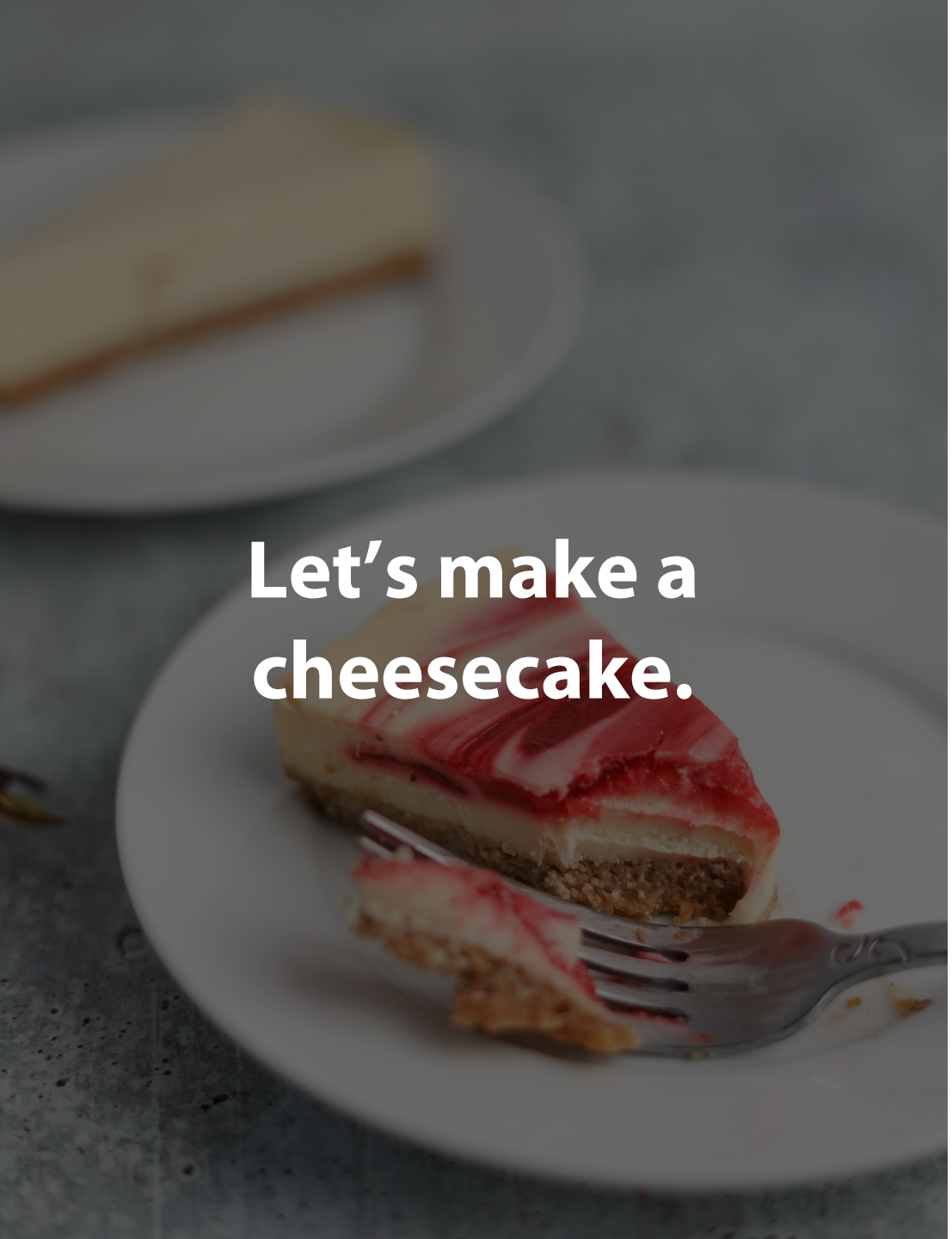
How do you transfer a larger construction schedule into **NetPoint**?

By **importing**? There will still be the same amount of activities.



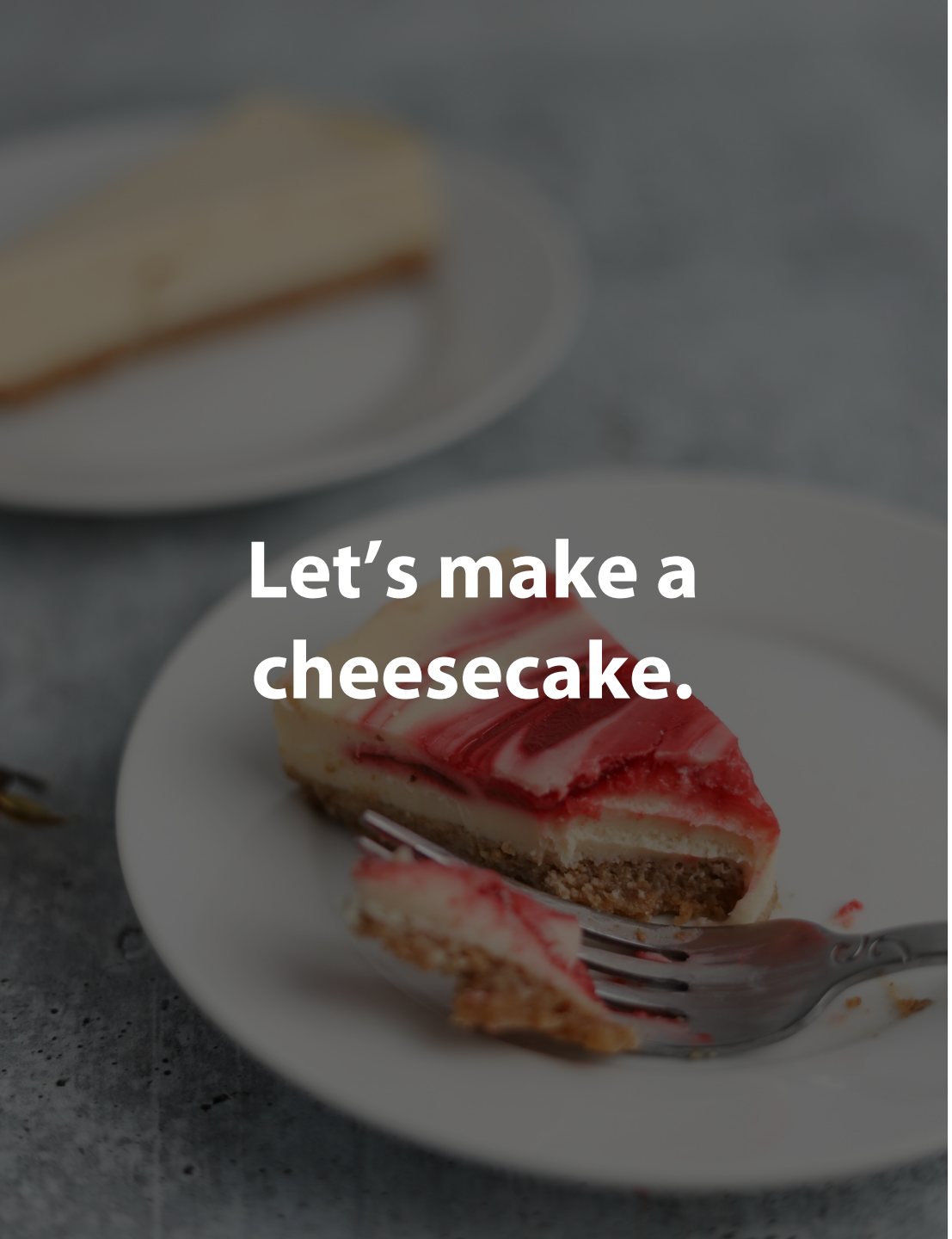
The **answer** is much like cooking or baking.

It's an art.



Let’s make a cheesecake.

1. Walk to the store, get a basket, walk to cool section, get cream cheese and eggs.
2. Walk to sugar/baking goods, get sugar, get white chocolate.
3. Walk back to cool section because I forgot the crème fraiche.
4. Walk to cookie aisle and grab biscuits… walk to register and pay, walk home.
5. At home…turn on oven… grind biscuits, melt butter and sugar, add to biscuits, mix, press into the bake form.
6. Bake for 15 minutes.



Or we can say, get ingredients for a cheesecake, bake the cookie crust.

SUMMARIZING SCHEDULES



01 Identify

02 Condense

03 Simplify

01 **IDENTIFY**

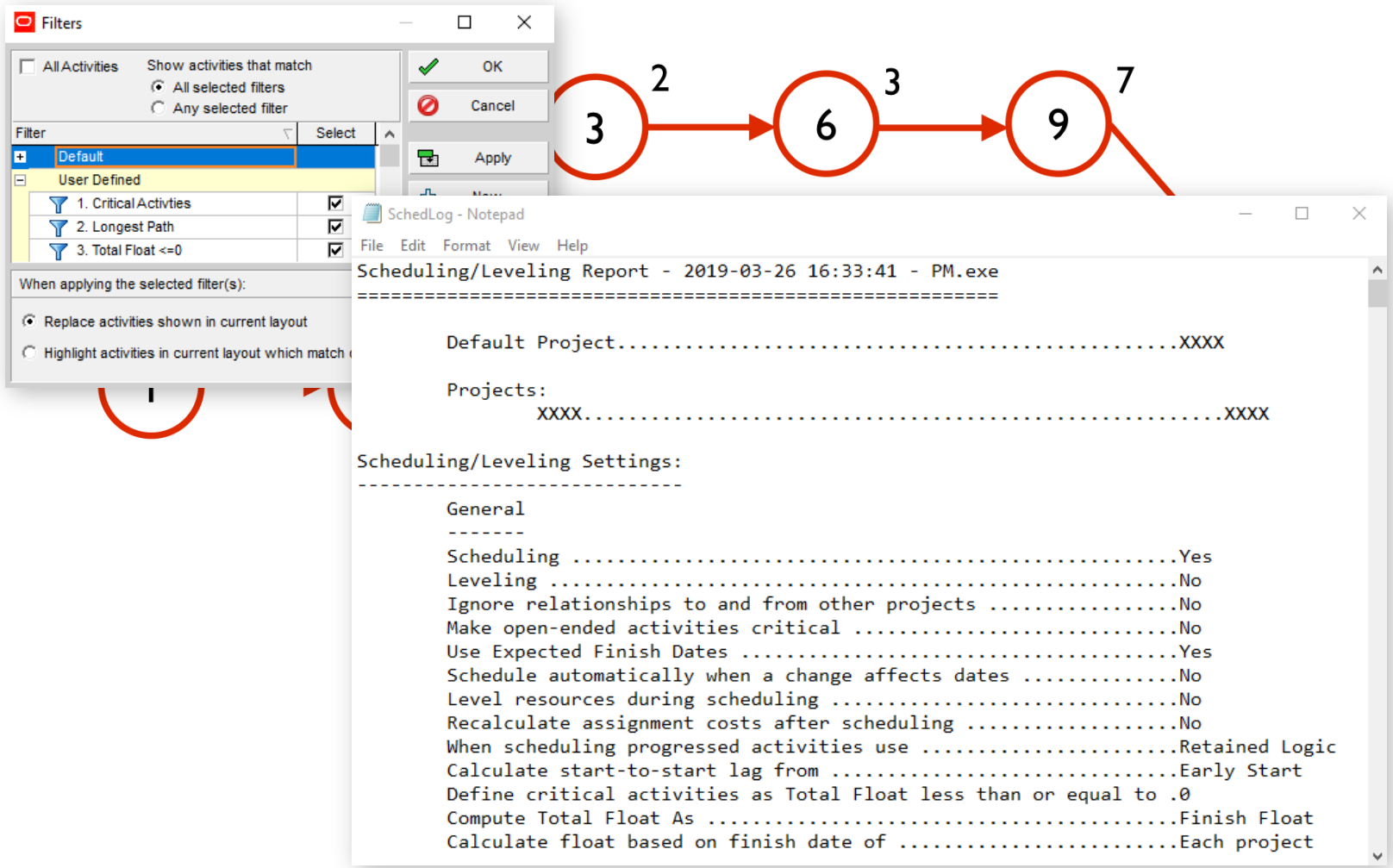
Critical Path

Most Important

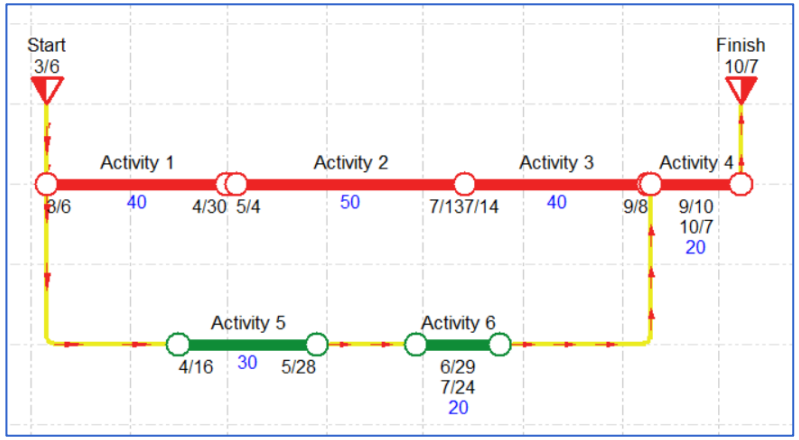
Least float path

Longest path in schedule

Schedule log



01 **IDENTIFY**

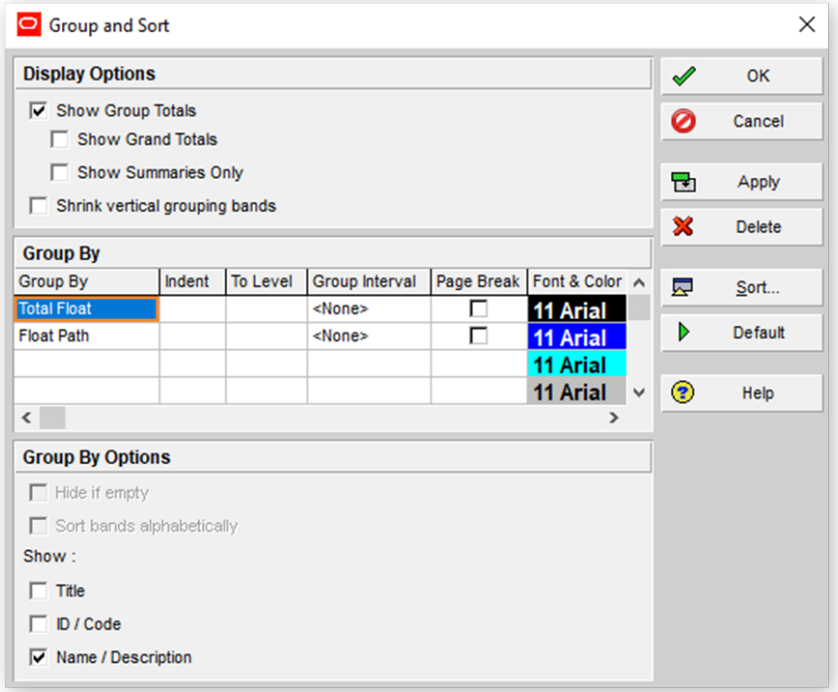


Near-Critical Path

Secondary Importance

Potential to be critical if neglected

Most likely multiple near-critical paths exist



How to get the **near-critical path** in P6?

01 **IDENTIFY**

Key objective:

Gain trust!



Important Activities

Tertiary Importance

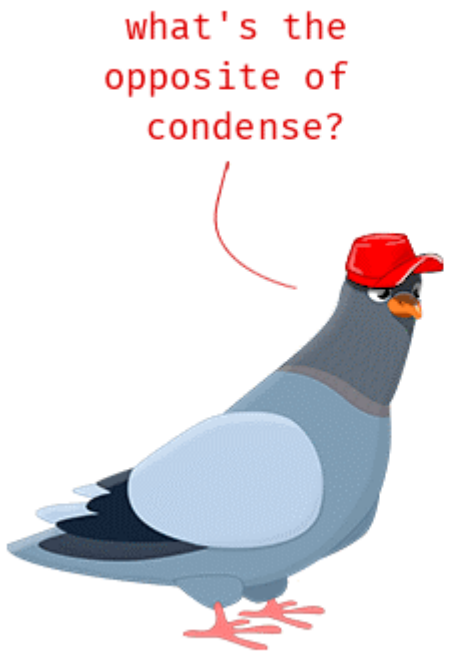
High duration

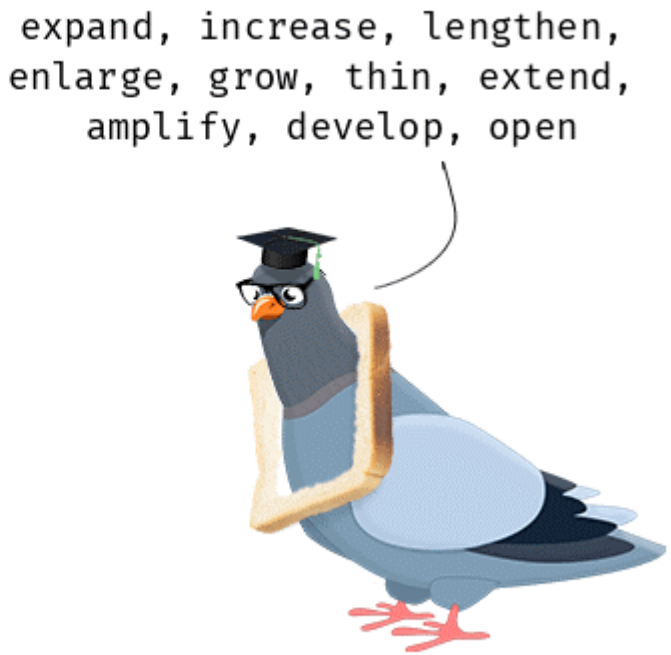
Major milestones

Connects critical and near-critical activities

02 **CONDENSE**

- Focus on the primary objective
- Categorize
- Understand the need of your audience
- Talk to people!



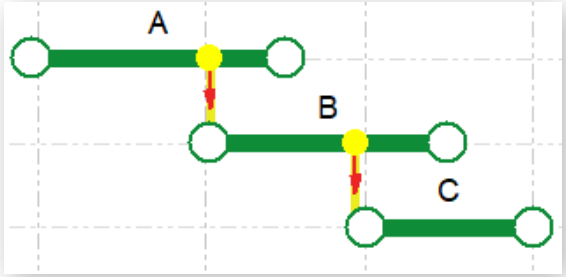
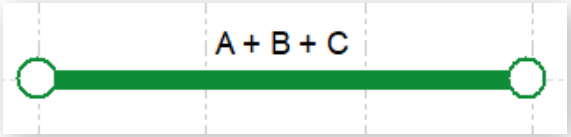
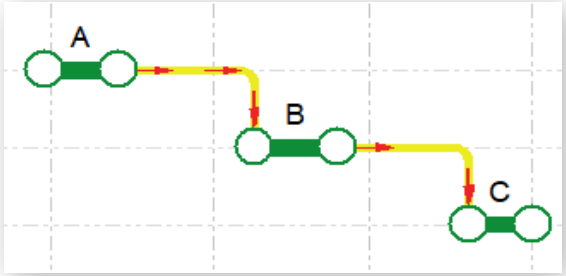




Focus on primary objective

02 CONDENSE

Categorize

	P6	NetPoint
Critical & Non-critical Activities		
Non-critical Activities		

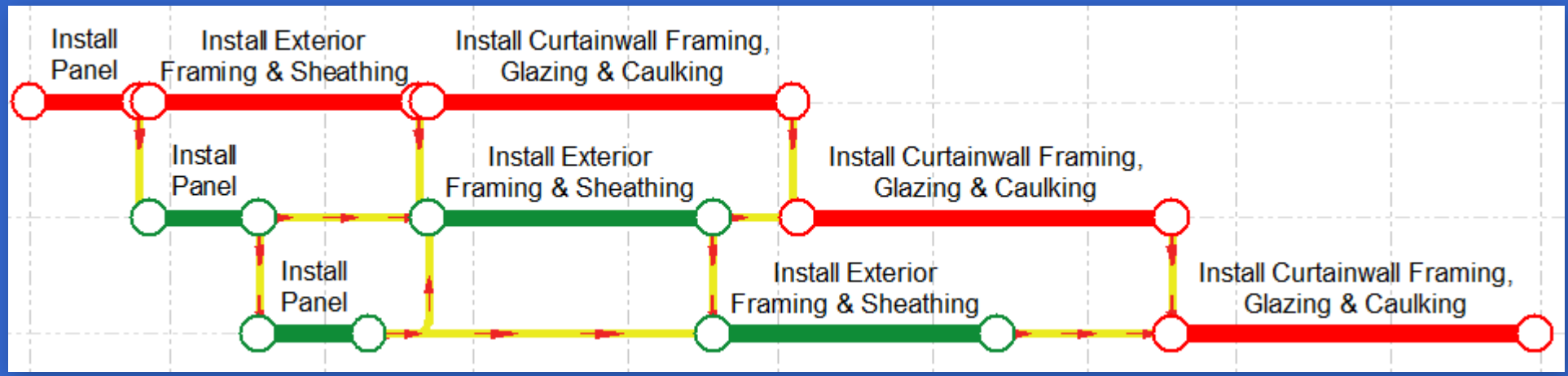
02 **CONDENSE**

Understand the need of your audience

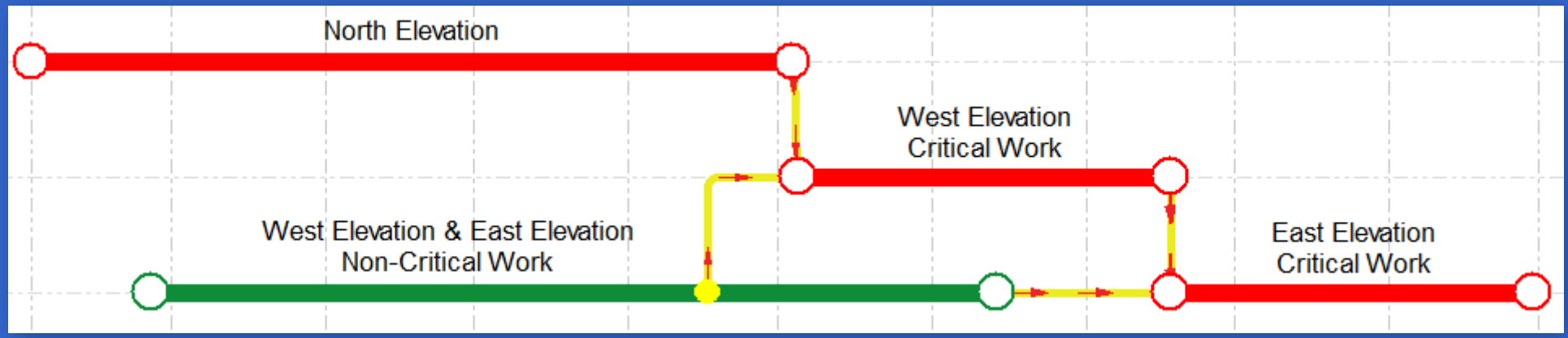
North Elevation

West Elevation

East Elevation

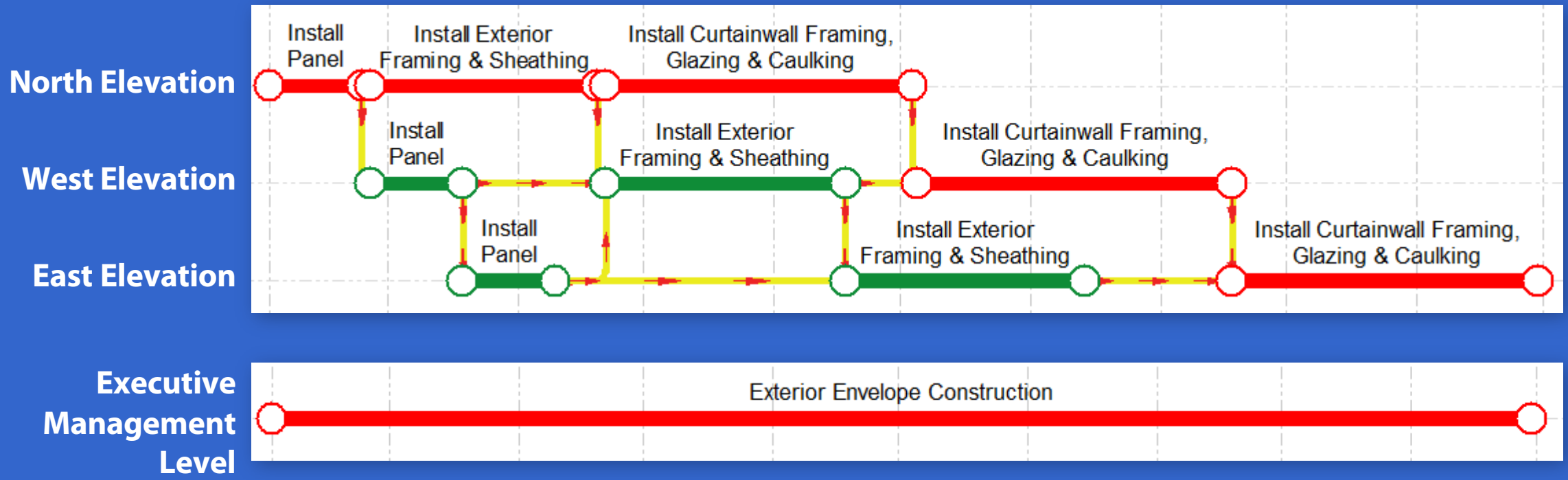


PM & Supt. Level



02 **CONDENSE**

Understand the need of your audience



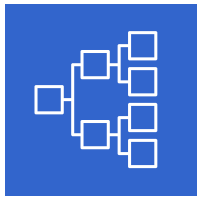
03 **SIMPLIFY**



Quicker to communicate



Ability to follow the logic



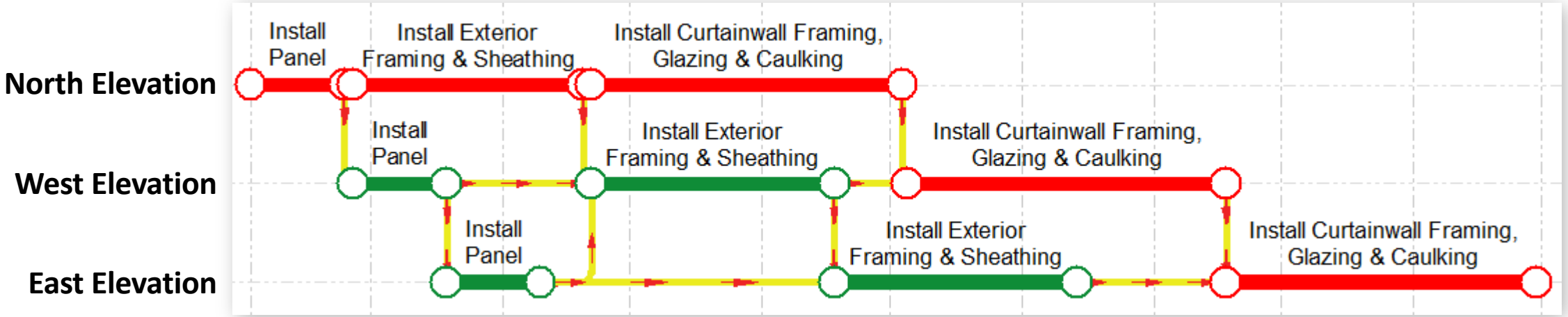
Organizing your data is vital

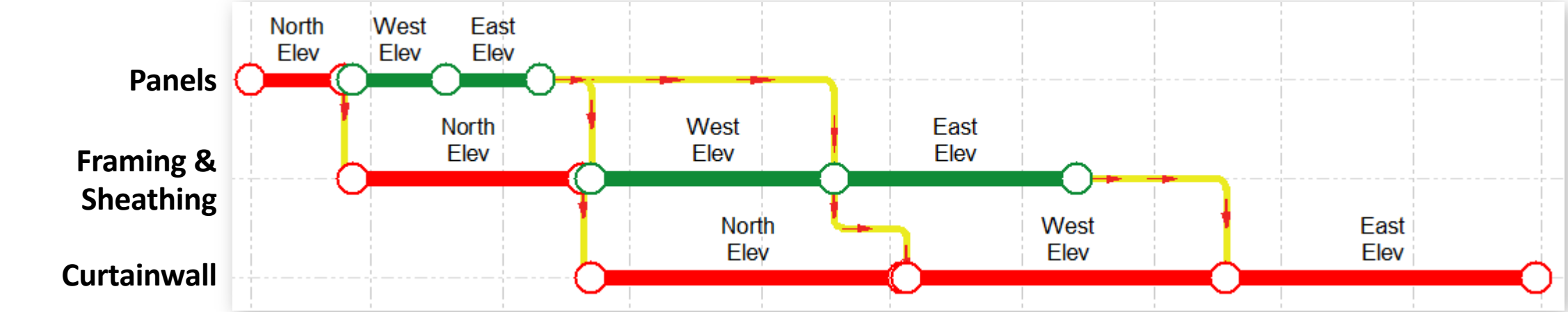


Trial & error methods

03 **SIMPLIFY**

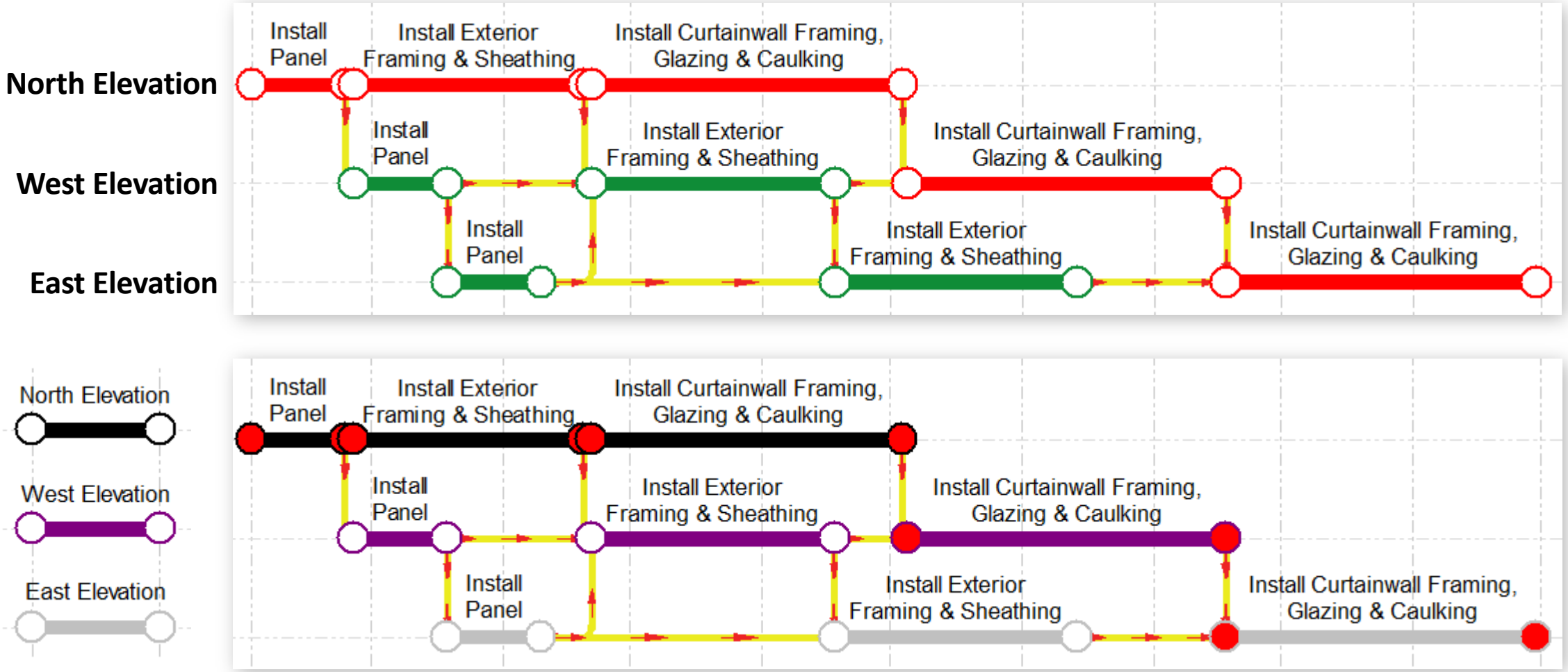
Activity Organization – Different Grouping Approach





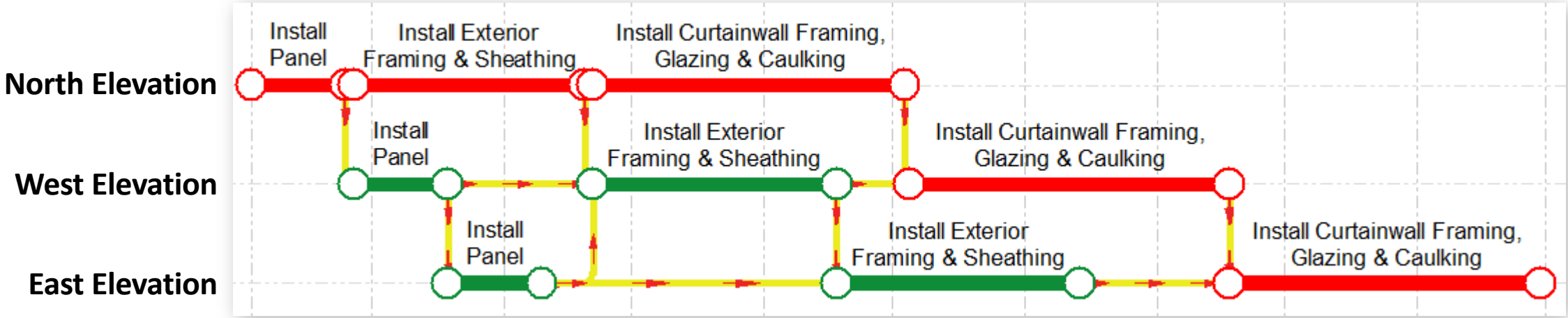
03 **SIMPLIFY**

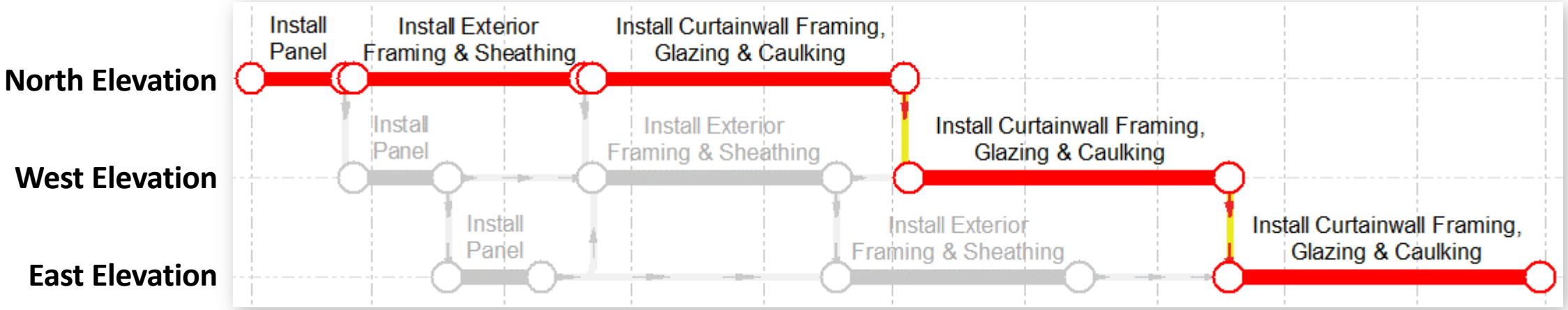
Activity Organization – Color Coding



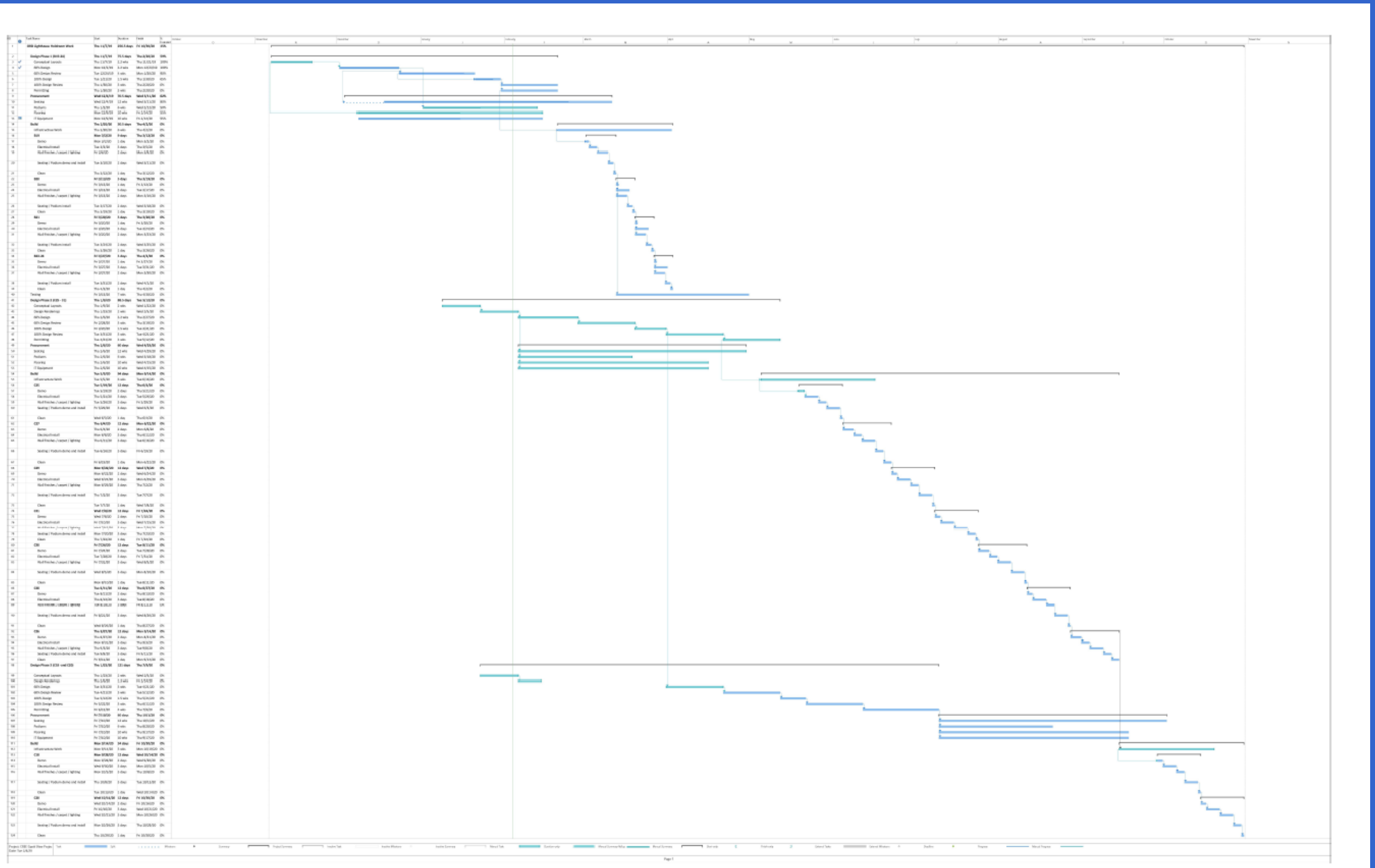
03 **SIMPLIFY**

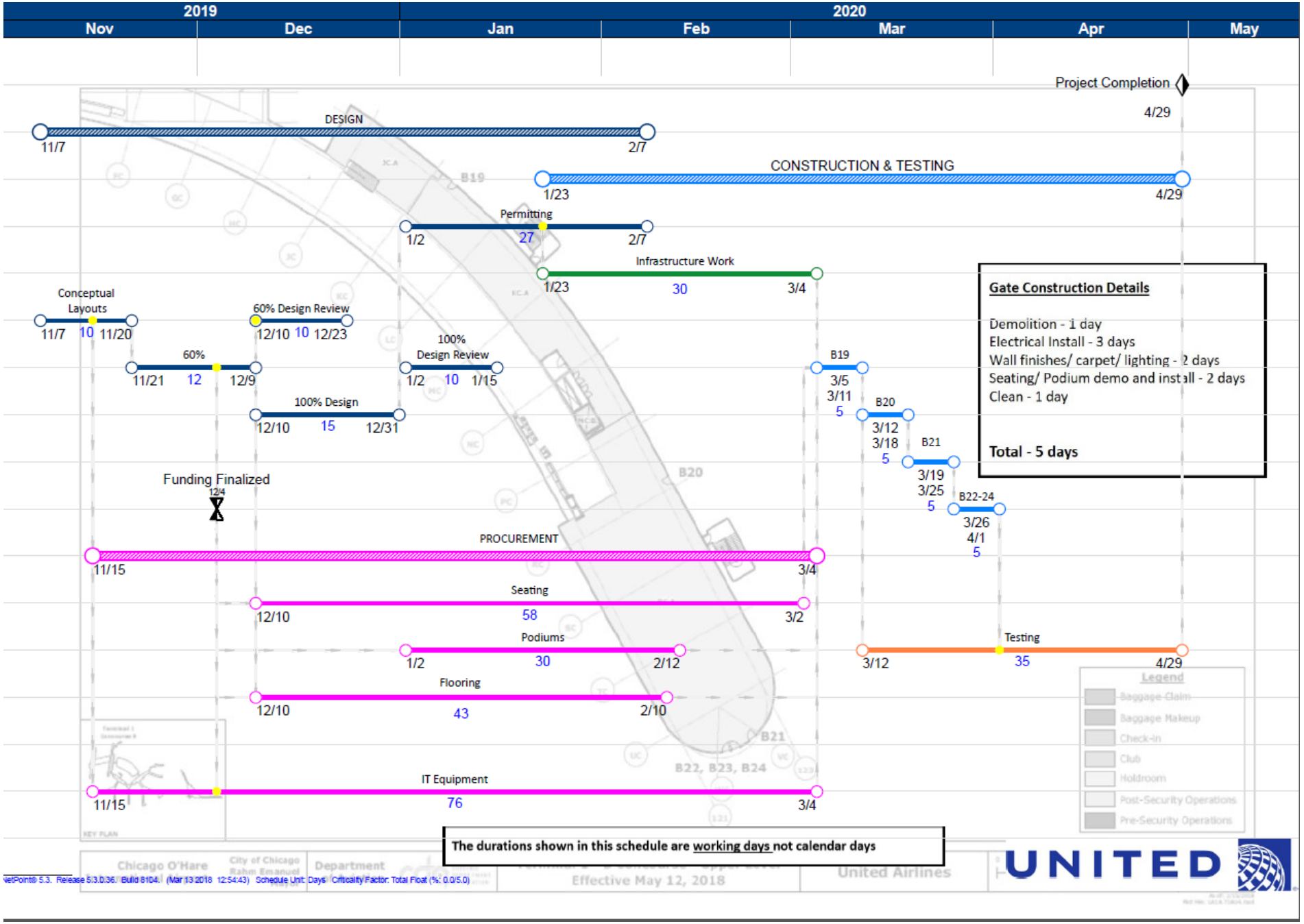
Activity Organization – Fade Non-Critical Activities





OLD




2019
Nov
Dec
2020
Jan
Feb
Mar
Apr
May
Project Completion
4/29
DESIGN
11/7
2/7
CONSTRUCTION & TESTING
1/23
4/29
Permitting
1/2
27
2/7
Infrastructure Work
1/23
30
3/4
Conceptual Layouts
11/7
10
11/20
60% Design Review
12/10
10
12/23
60%
11/21
12
12/9
100% Design Review
1/2
10
1/15
100% Design
12/10
15
12/31
Gate Construction Details
Demolition - 1 day
Electrical Install - 3 days
Wall finishes/ carpet/ lighting - 2 days
Seating/ Podium demo and install - 2 days
Clean - 1 day
Total - 5 days
B19
3/5
3/11
5
B20
3/12
3/18
5
B21
3/19
3/25
5
B22-24
3/26
4/1
5
Funding Finalized
12/4
PROCUREMENT
11/15
3/4
Seating
12/10
58
3/2
Podiums
1/2
30
2/12
Testing
3/12
35
4/29
Flooring
12/10
43
2/10
IT Equipment
11/15
76
3/4
Legend
Baggage Claim
Baggage Makeup
Check-In
Club
Holdroom
Post-Security Operations
Pre-Security Operations
The durations shown in this schedule are working days not calendar days
Chicago O'Hare
Department
Effective May 12, 2018
United Airlines
UNITED

VS NEW



QUESTIONS?

Thank you for joining us