

Playbook for Information Management for an AWP Implementation

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Co-Chair COAA AWP Committee**



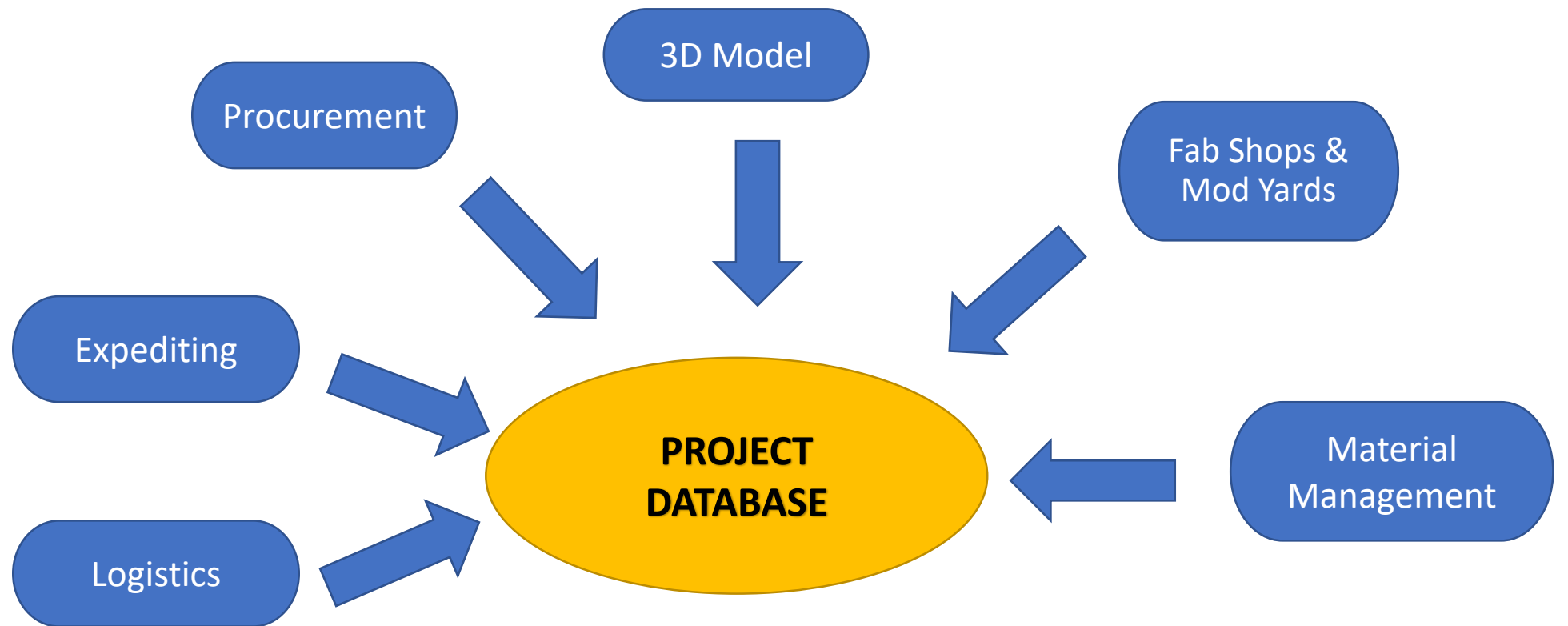
What is this supposed to solve?

- At present – the construction partner(s) are having difficulty to accurately plan the CWP execution because they can't accurately determine the availability of all of the tagged equipment, fabrication, modules, and material relative to the scheduled execution of the CWP (and associated IWPs).
- COAA is proposing this outline (guideline) for a Best Practice to manage project information (data) based on surveys and discussions with appropriate project stakeholders.

KEY – AWP is a DATA DEPENDENT process – so Information Management is Critical



What information (data) is to be tracked?



What is a Playbook?

- Provides instructions or guidance to explain:
 - What needs to be done?,
 - Why does it need to be done?,
 - Who needs to do it?,
 - How is expected to be done?,
 - When does it need to be done?, and
 - Where is it expected to be done?



Playbook for AWP

- Could be divided into Front End and Execution Playbooks that covers:
 - Overview
 - Business Case
 - Path Of Construction
 - Contracting Strategy including RFQ process
 - Information Management
 - Team Selection and Onboarding
 - Roles and Responsibilities
 - Scalable AWP
 - Procurement and Material Management Strategy
 - Maturity Assessment
 - Etc.



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Information Management

- Is just one portion of AWP Playbook – but a very important one.

What questions does introducing a Playbook bring up from your Project Team

Does this add a lot of new “work” now for me to do?

What Data Attributes are we going to track?

How are we going to track it?

Who is going to be responsible for input?

Where are we going to track it?

What formats/content are we using for each attribute?

How do we use this information?

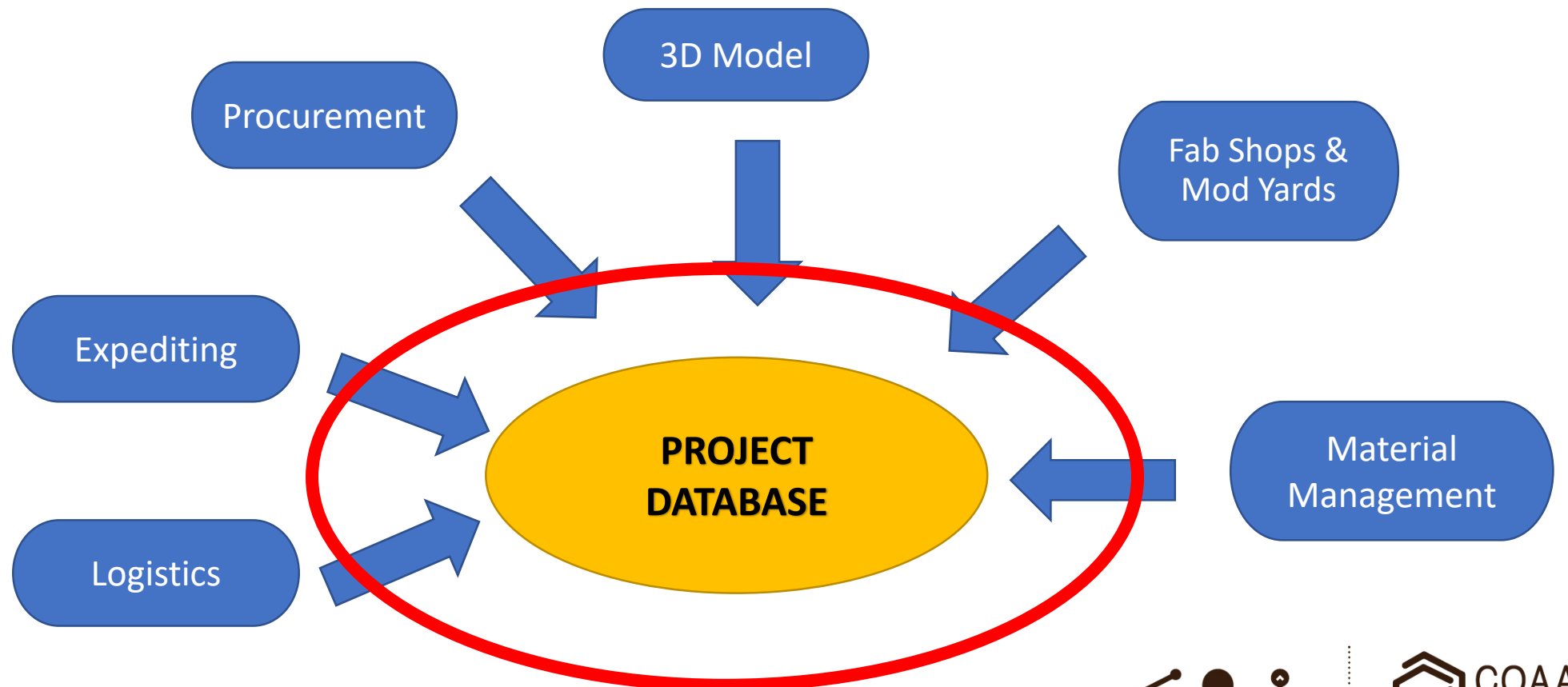


Playbook Information Management

- Playbook Table of Contents that is proposed:
 - Purpose
 - Scope
 - Intended Audience or Users
 - Impacts to Existing Practices
 - Implementation of this Playbook
 - Assumptions for Successful Implementation of this Playbook
 - Expected Outcomes
 - Appendix A – Attributes Recommended to be Tracked



What information (data) is to be tracked?



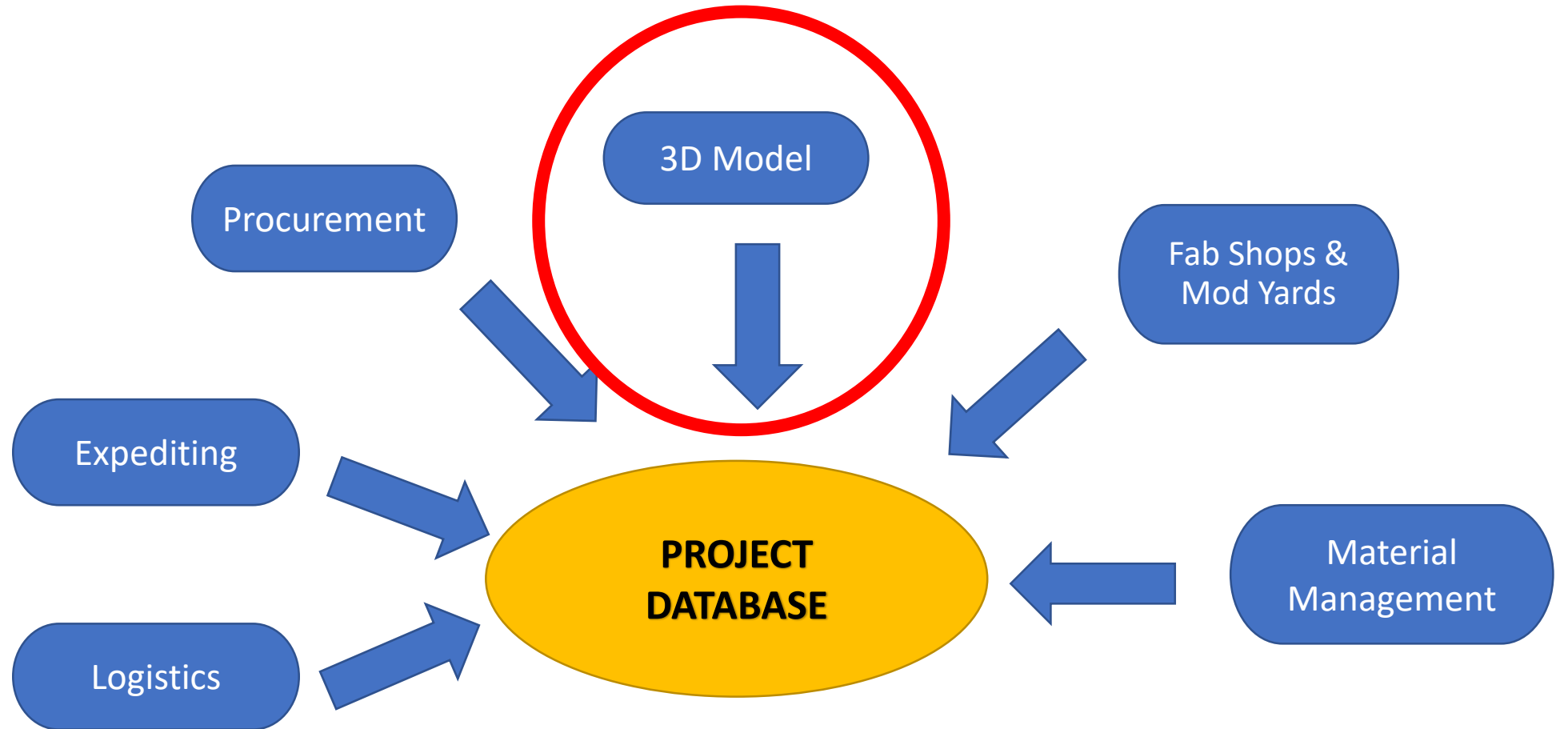
Project Database

Assumptions for Success

- Preferably One AWP Database for the Project
- Preferably Cloud Based for ease of input from anywhere/anytime
- Attributes determined at commencement of project
 - Format
 - Content
- Stakeholders are assigned to input each specific attribute
- Timing cycle of each attribute is set



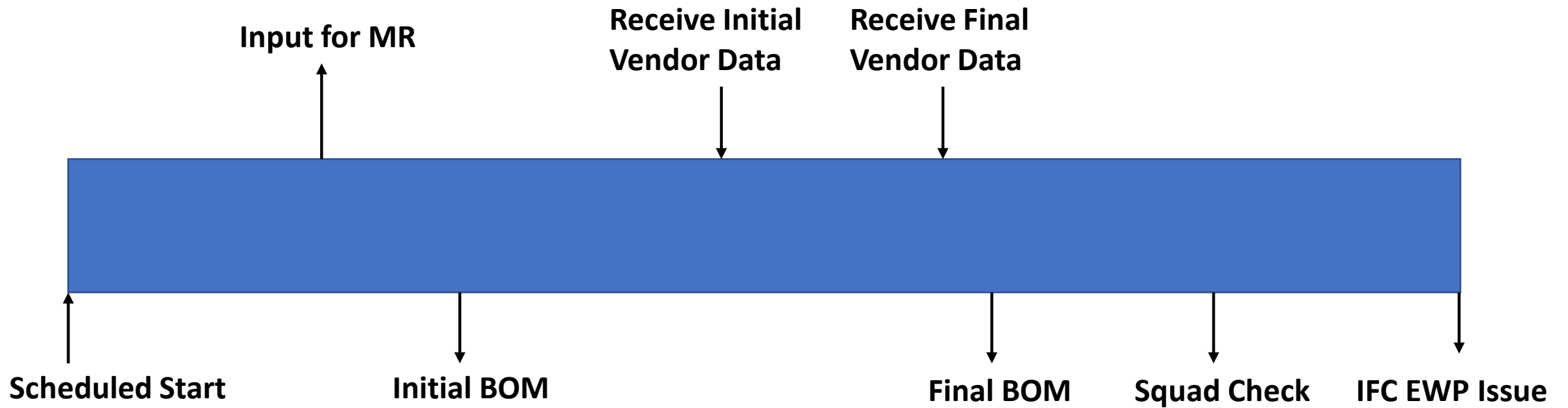
What information (data) is to be tracked?



Engineering Cycle (Model Development)					
Attribute		Engineering	ECI	Data Input Cycle	Comments
EWP #		Piping Eng		Continuous	
CWP #		Piping Eng		Continuous	
CWA#		Piping Eng		Continuous	
Specification		Piping Eng		Continuous	
Short Description		Piping Eng		Continuous	
Commodity Code		Piping Eng		Continuous	
Tagged Equipment Number		Piping Eng		Continuous	
Quantity		Piping Eng		Continuous	
Line Number		Piping Eng		Continuous	
System		Piping Eng		Continuous	
Isometric Number		Piping Eng		Continuous	
Field Weld Locations		Piping Eng	ECI Planner	Continuous	Construction input to locations
Spool Number		Piping Eng		Continuous	
P&ID		Piping Eng		Continuous	P&ID issued IFC for specific EWP Scope
Line Designation Table		Piping Eng		Continuous	LTD Issued IFC for specific EWP Scope
Drawing Number		Piping Eng		Continuous	
Module Number		Piping Eng		Continuous	
Material shipped loose for Modules		Piping Eng		Continuous	
Test Pressure		Piping Eng		Continuous	
Insulation (Type, Thickness etc)		Piping Eng		Continuous	
Heat Tracing Information		Piping Eng		Continuous	



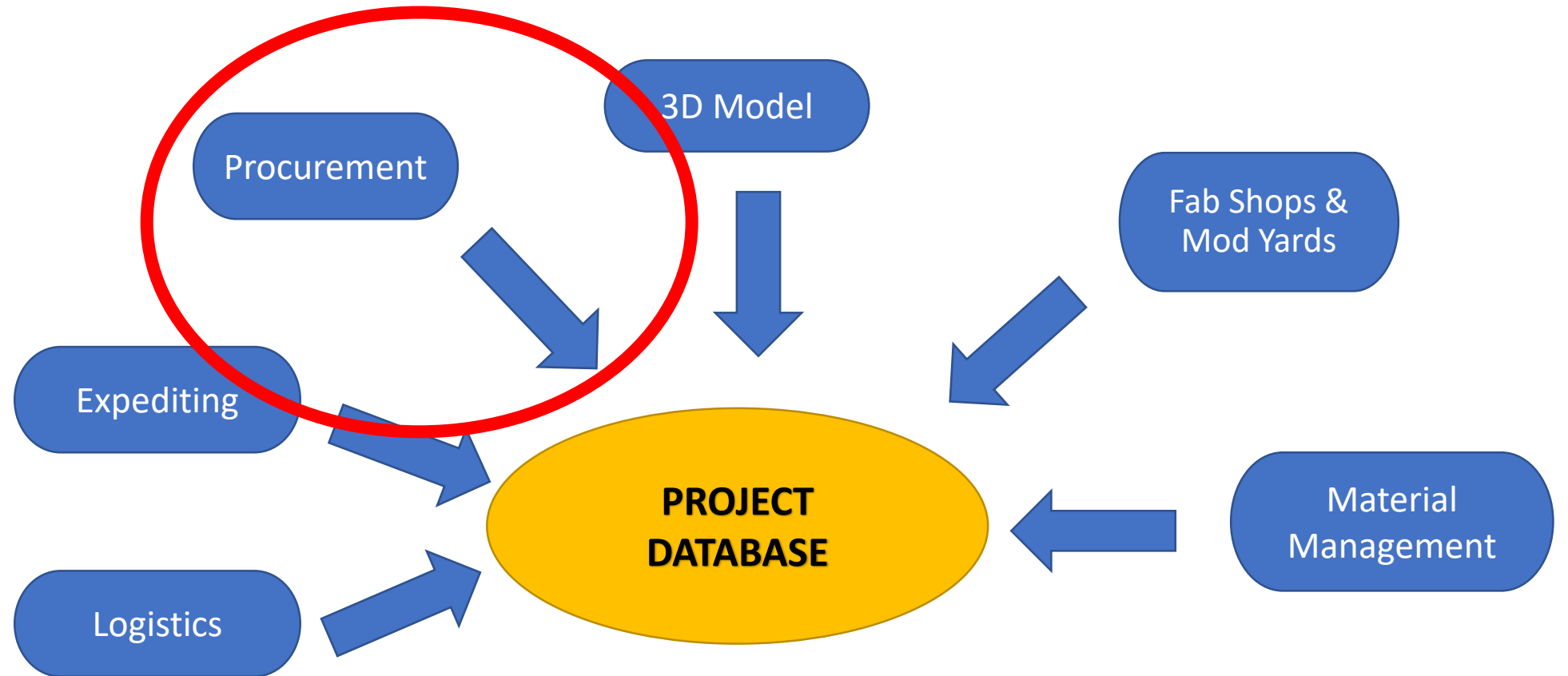
Example of Piping EWP



EWP DEVELOPMENT					
Attribute				Data Input Cycle	Comments
		Engineering	Expediting		
Commence EWP Activities					
Activity ID	Baseline Date	Piping Lead		From Baseline Schedule	
Activity ID	Forecast Date	Piping Lead		Weekly Update	
Activity ID	Actual Date	Piping Lead		Actual date	
Date for Preliminary Bill of Material					
Activity ID	Baseline Date	Piping Lead		From Baseline Schedule	
Activity ID	Forecast Date	Piping Lead		Weekly Update	
Activity ID	Actual Date	Piping Lead		Actual date	
Date to deliver MR for any Engineered (tagged) equipment - if applicable					ER - Equipment Requisition (could be MR - Material Requisition)
Activity ID	Baseline Date	Piping Lead		From Baseline Schedule	
Activity ID	Forecast Date	Piping Lead		Weekly Update	
Activity ID	Actual Date	Piping Lead		Actual date	
Date to receive preliminary Vendor Data for Engineered Equipment - if needed					Not applicable if no tagged equipment in EWP
Activity ID	Baseline Date	Piping Lead		From Baseline Schedule	
Activity ID	Forecast Date		Expeditor	Weekly Update	
Activity ID	Actual Date		Expeditor	Actual date	
Date to deliver final BOM					
Activity ID	Baseline Date	Piping Lead		From Baseline Schedule	
Activity ID	Forecast Date	Piping Lead		Weekly Update	
Activity ID	Actual Date	Piping Lead		Actual date	
Date to receive final (approved for construction) Vendor Data - if required					Not applicable if no tagged equipment in EWP
Activity ID	Baseline Date	Piping Lead		From Baseline Schedule	
Activity ID	Forecast Date		Expeditor	Weekly Update	
Activity ID	Actual Date		Expeditor	Actual date	
Date to complete EWP					
Activity ID	Baseline Date	Piping Lead		From Baseline Schedule	
Activity ID	Forecast Date	Piping Lead		Weekly Update	
Activity ID	Actual Date	Piping Lead		Actual date	



What information (data) is to be tracked?

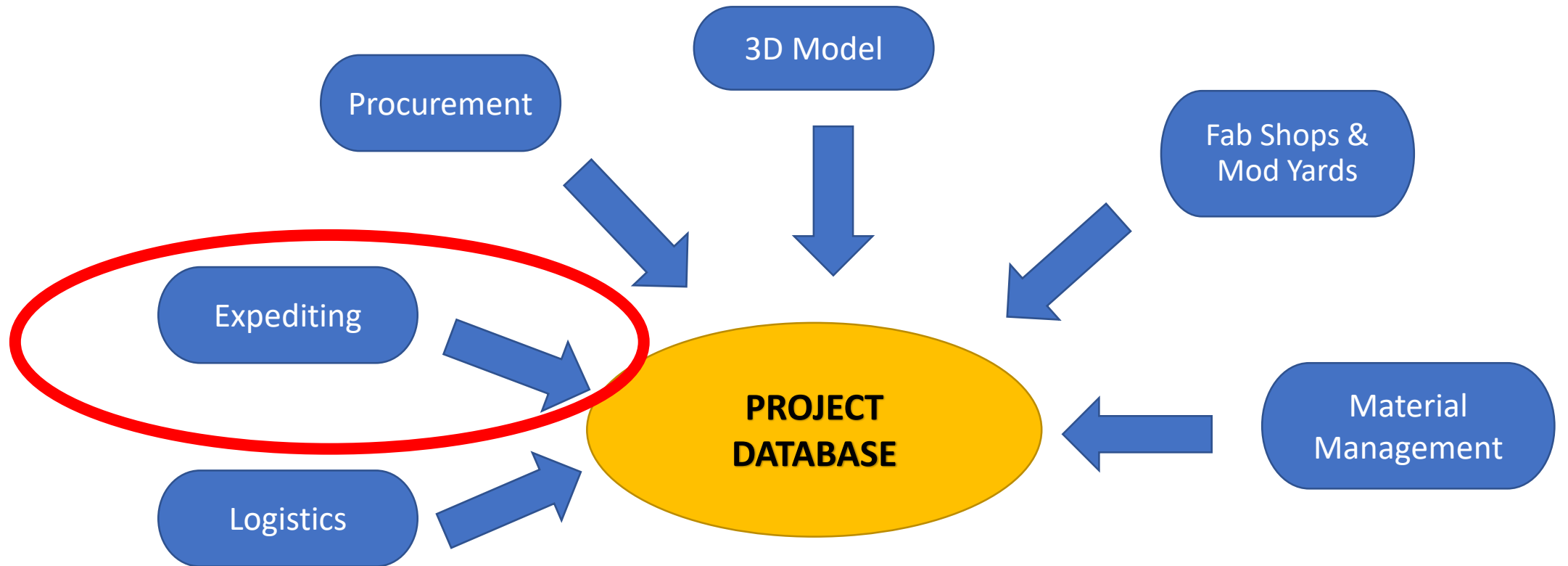


PROCUREMENT CYCLE				
Attribute		Procurement	Data Input Cycle	Comments
Purchase Order Number		Purchaser		
Line Item in PO		Purchaser		
Commencement of Procurement Work Process				
Activity ID	Baseline Date	Purchaser	From Baseline Schedule	
Activity ID	Forecast Date	Purchaser	Weekly Update	
Activity ID	Actual Date	Purchaser	Actual date	
Purchase Order Issued				Specifies where material is to be shipped
Activity ID	Baseline Date	Purchaser	From Baseline Schedule	
Activity ID	Forecast Date	Purchaser	Weekly Update	
Activity ID	Actual Date	Purchaser	Actual date	

KEY – ensure each line item in each PO has commodity code or tagged equipment number



What information (data) is to be tracked?

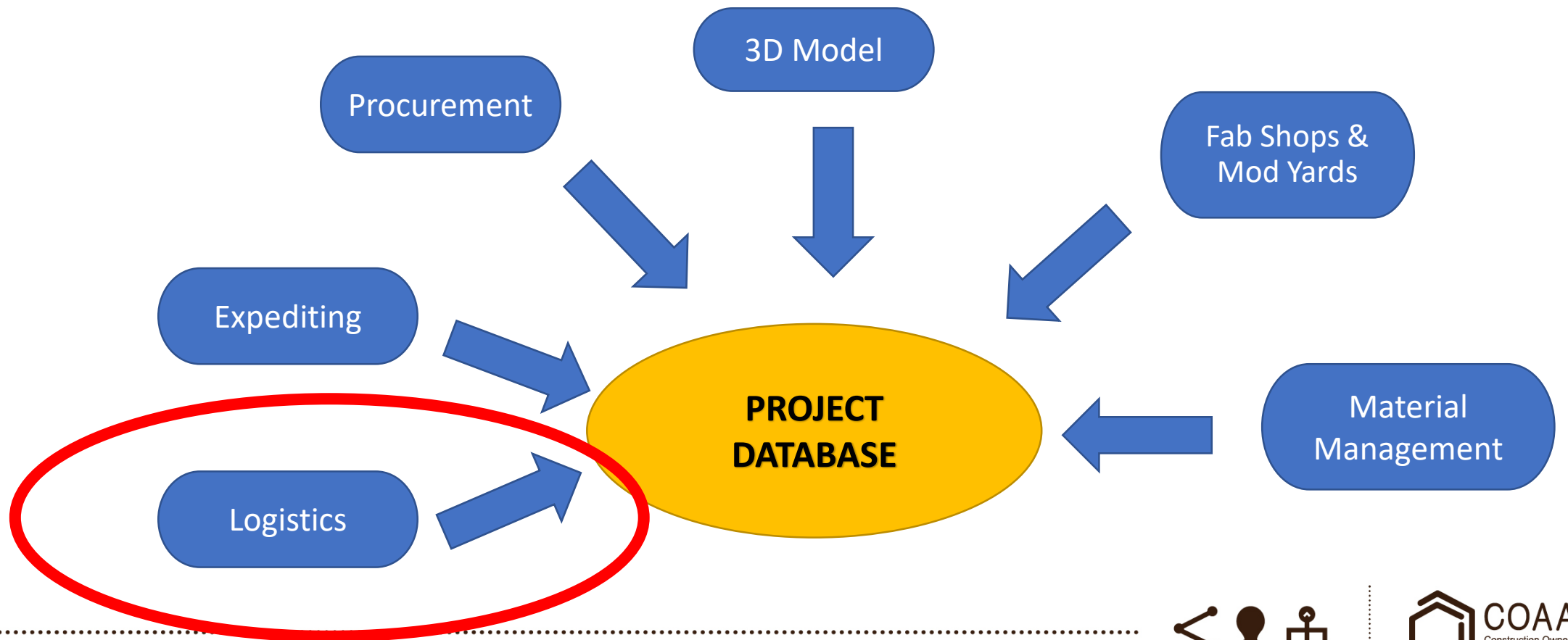


EXPEDITING				
Attribute			Data Input	
		Expediting	Cycle	Comments
Ready for Shipment				
Activity ID	Baseline Date	Expeditor	From Baseline Schedule	
Activity ID	Forecast Date	Expeditor	Weekly Update	
Activity ID	Actual Date	Expeditor	Actual date	

KEY – ensure expediting report has commodity code or tagged equipment number noted for each line item



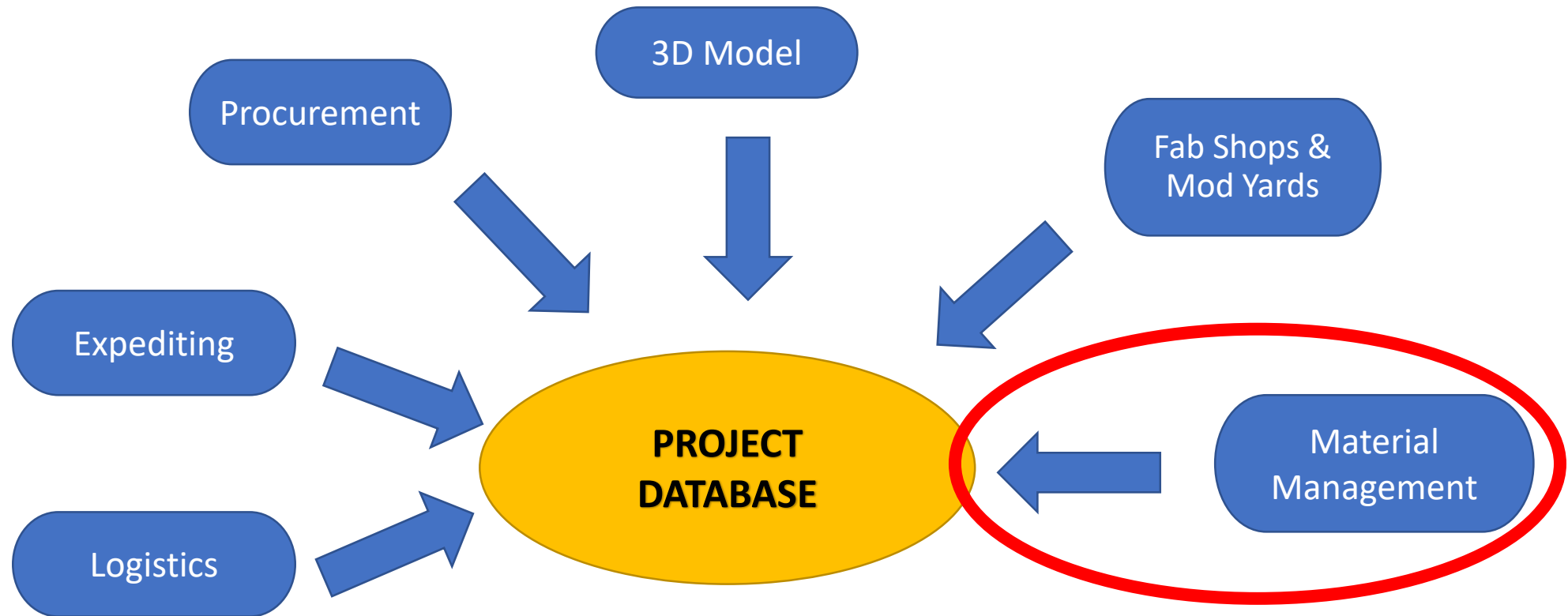
What information (data) is to be tracked?



LOGISTICS				
Attribute			Data Input	
		Logistics	Cycle	
DATE EXPECTED TO ARRIVE (SITE, FAB SHOP, MOD YARD)				
Activity ID	Baseline Date	Logistics	From Baseline Schedule	
Activity ID	Forcast Date	Logistics	Weekly Update	
Activity ID	Actual Date	Logistics	Actual date	



What information (data) is to be tracked?

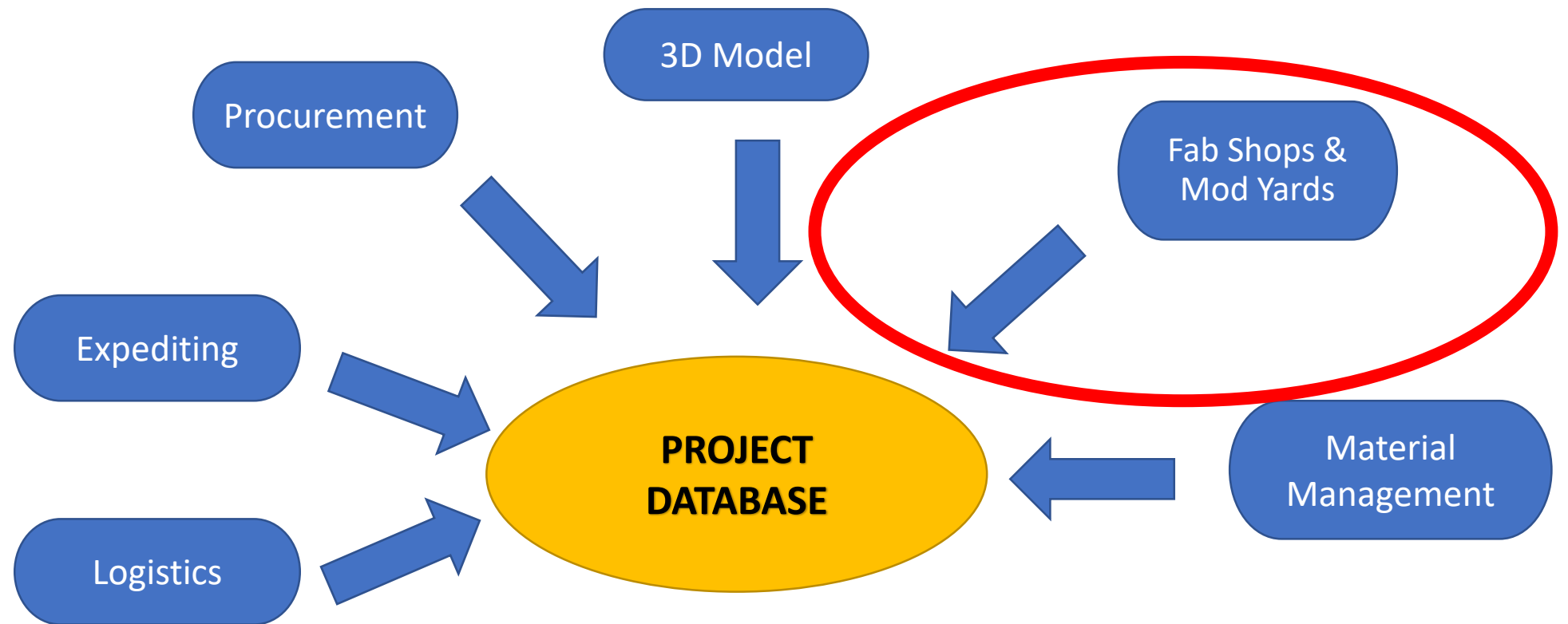


MATERIAL MANAGEMENT					
Attribute		Material Management	Fab Shop Mod Yard	Data Input Cycle	Comments
Received (Site, Fab Shop, etc)					
Activity ID	Baseline Date	Receiver	Receiver	From Baseline Schedule	
Activity ID	Forecast Date	Receiver	Receiver	Weekly Update	
Activity ID	Actual Date	Receiver	Receiver	Actual date	
Soft Allocation					
	Actual Date	Mat Manager	Mat Manager	Weekly	Process for preliminary allocation of material
Hard Allocation					
	Actual Date	Mat Manager	Mat Manager	Weekly	Material is allocated to CWP

KEY – ensure bulk material is received by commodity code, tagged equipment by ID and all pipe spools by ID, and structural steel by piece marks (as noted on erection drawing).



What information (data) is to be tracked?



CWP ACTIVITIES							
Attribute		Material Management	ECI	Fab Shop Mod Yard	Construction	Data Input Cycle	Comments
Commence CWP Preparations							
Activity ID	Baseline Date		ECI Planner	Shop WFPlanner	Const WFPlanner	From Baseline Schedule	Depending on Project Contracting Strategy
Activity ID	Forcast Date		ECI Planner	Shop WFPlanner	Const WFPlanner	Weekly Update	Depending on Project Contracting Strategy
Activity ID	Actual Date		ECI Planner	Shop WFPlanner	Const WFPlanner	Actual date	Depending on Project Contracting Strategy
BOM for Site Procured Material/Tagged Equipmnet							
Activity ID	Baseline Date		ECI Planner	Shop WFPlanner	Const WFPlanner	From Baseline Schedule	Depending on Project Contracting Strategy
Activity ID	Forcast Date		ECI Planner	Shop WFPlanner	Const WFPlanner	Weekly Update	Depending on Project Contracting Strategy
Activity ID	Actual Date		ECI Planner	Shop WFPlanner	Const WFPlanner	Actual date	Depending on Project Contracting Strategy
CWP Complete and issued for Execution							
Activity ID	Baseline Date		ECI Planner	Shop WFPlanner	Const WFPlanner	From Baseline Schedule	Depending on Project Contracting Strategy
Activity ID	Forcast Date		ECI Planner	Shop WFPlanner	Const WFPlanner	Weekly Update	Depending on Project Contracting Strategy
Activity ID	Actual Date		ECI Planner	Shop WFPlanner	Const WFPlanner	Actual date	Depending on Project Contracting Strategy
CWP Received to Commence Exeution							
Activity ID	Baseline Date			Shop WFPlanner	Const WFPlanner	From Baseline Schedule	
Activity ID	Forcast Date			Shop WFPlanner	Const WFPlanner	Weekly Update	
Activity ID	Actual Date			Shop WFPlanner	Const WFPlanner	Actual date	
Field Procured Material Purchased and Received							
Activity ID	Baseline Date			Shop WFPlanner	Const WFPlanner	From Baseline Schedule	
Activity ID	Forcast Date			Shop WFPlanner	Const WFPlanner	Weekly Update	
Activity ID	Actual Date			Shop WFPlanner	Const WFPlanner	Actual date	
Commence Execution (IWPs)							
Activity ID	Baseline Date			Shop WFPlanner	Const WFPlanner	From Baseline Schedule	
Activity ID	Forcast Date			Shop WFPlanner	Const WFPlanner	Weekly Update	
Activity ID	Actual Date			Shop WFPlanner	Const WFPlanner	Actual date	
CWP Execution Complete							
Activity ID	Baseline Date			Shop WFPlanner	Const WFPlanner	From Baseline Schedule	
Activity ID	Forcast Date			Shop WFPlanner	Const WFPlanner	Weekly Update	
Activity ID	Actual Date			Shop WFPlanner	Const WFPlanner	Actual date	
Fabrication/Mod Assembly Complete and ready to ship							
Activity ID	Baseline Date			Shop WFPlanner		From Baseline Schedule	Capability of Fab Shop /Mod Yard to provide input direct?
Activity ID	Forcast Date			Shop WFPlanner		Weekly Update	Capability of Fab Shop /Mod Yard to provide input direct?
Activity ID	Actual Date			Shop WFPlanner		Actual date	Capability of Fab Shop /Mod Yard to provide input direct?
Fabrication/Mod Assembly Received at Site							
Activity ID	Baseline Date				Const WFPlanner	From Baseline Schedule	
Activity ID	Forcast Date				Const WFPlanner	Weekly Update	
Activity ID	Actual Date				Const WFPlanner	Actual date	



How do we use this information?

- Set up report to allocate all commodity codes and tagged equipment received (or expected to be received by specified date) to CWP's based on start dates.
- Sort to find any dates that are forecasted to be complete after the date per baseline schedule (Leading Indicators).
- Use reports to promote proactive discussion to mitigate any of these Leading Indicators



How do we use this information?

- Use as a basis for contractors (or fab shops and mod yards as applicable) to plan CWP execution and associated IWPs.



Questions?



PURPOSE

To provide guideline of actions required to ensure ALL relevant AWP data attributes are:

- **Identified early**
- **Input into single database with correct format and content**
- **Assigned for timely input to specific project personnel**
- **Readily available to appropriate project personnel for planning**



SCOPE

This playbook is intended to provide guidance for:

- **Developing your project or corporate playbook(s)**
- **Establishing the AWP data attributes for your project.**
- **Assigning responsibilities to appropriate individuals within the project organization (Key supplier organization capabilities?)**
- **Establishing clear expectations of the implementation process.**

GOAL

- **AWP deliverables are completed on or before the dates set in the project baseline schedule.**
- **Establish Leading Indicators**



INTENDED AUDIENCE OR USERS

This playbook is intended to provide guidance to Stakeholders responsible for:

- **Establishing the list of database attributes (format, content, timing cycle)**
- **Setting up database(s)**
- **Expectations for Input of DATA**
- **Setting up typical project reports**
- **Risk Analysis**
- **Audit Protocol**



IMPACTS TO EXISTING PRACTICES

- **Information input to single database**
- **Minimizing (eliminating) spread sheets etc, for reporting**
- **Attributes included during modelling (EWP, CWP)**
- **Reporting ER (MR) progress and forecasting**
- **More focus on tracking Vendor Data deliverables**
- **Purchase Order (commodity codes and tagged equipment numbers for each line item)**
- **Purchase Order – clear expectations of Vendor Data by discipline**
- **Expediting and Logistics (reported at level of commodity code and tagged equipment numbers)**
- **All reports capable to track at CWP level**
- **All dates include baseline schedule date, forecast date, and date completed**



IMPLEMENTING THE PLAYBOOK

- **Determine the approved list of AWP attributes for the project.**
- **Set up the Project Database.**
- **Determine format, content and timing cycle of each data point.**
- **Set up standard Project Reports to utilize the database.**
- **Assign responsibilities for input of each attribute**
- **Audit**



ASSUMPTIONS FOR IMPLEMENTING PLAYBOOK

- **Path of Construction**
- **Commodity Codes / Tagged Equipment #s are aligned for all reporting**
- **Procurement Strategy aligned to Playbook**
- **Material Management Strategy aligned to Playbook**
- **Training is provided as required**



WHAT DOES SUCCESS LOOK LIKE?

- **Construction has access to timely and accurate data so that they can plan the execution of their CWP's in accordance with the Path of Construction (Baseline Schedule).**
- **All AWP Data is available in one location (one platform)**



SUPPORT FROM INDUSTRY NEEDED?

Support for the Committee working on this Playbook

- Review of sections of the Playbook as they are developed
- Review of data attributes for each discipline



Questions?







COAA

Construction Owners
Association of Alberta