



Notes from the Metrolink Field

Our Approach to Building an Integrated TAM-EAM System

PLANNING + DEVELOPMENT DEPARTMENT

MAY 2017

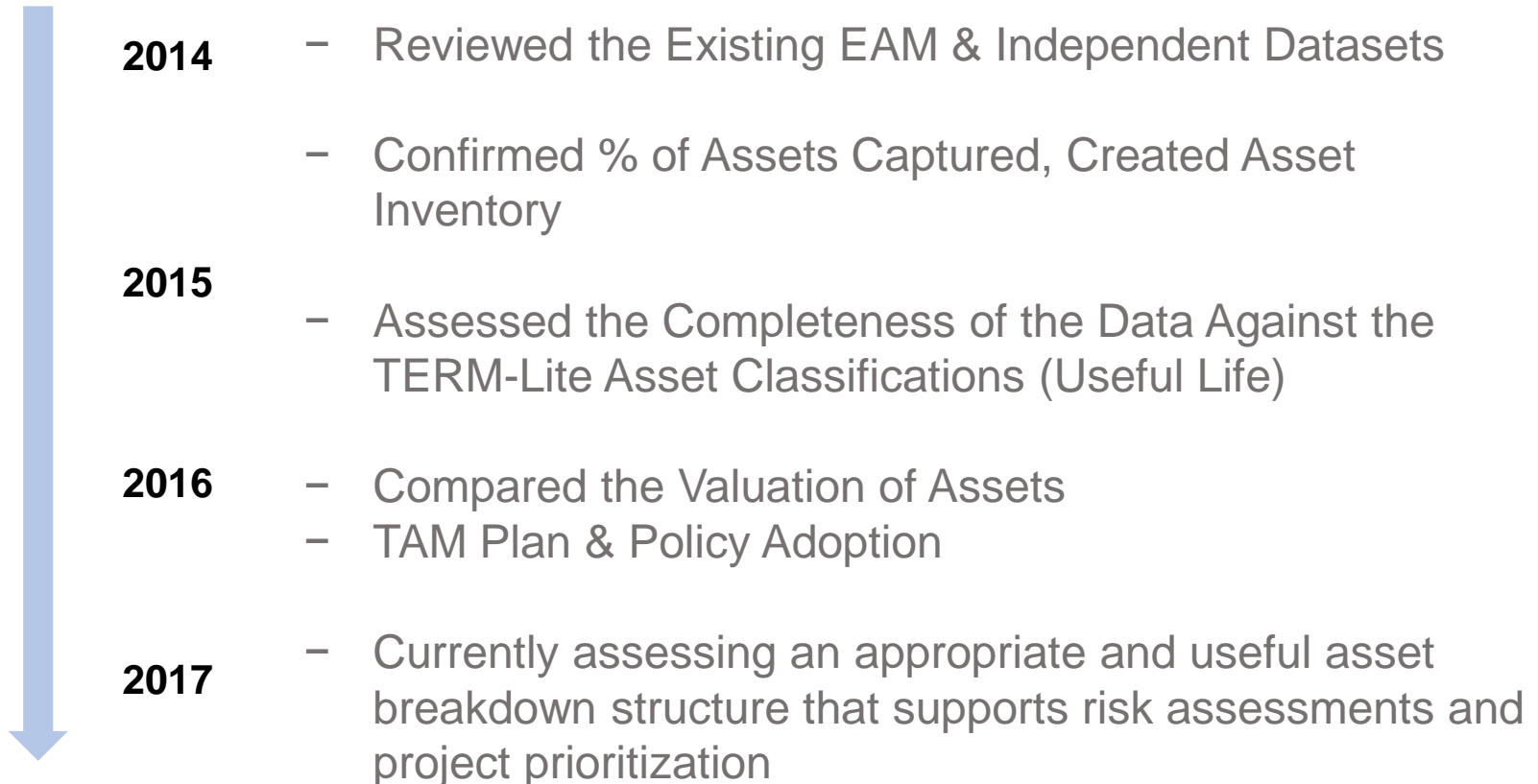
SNAPSHOT OF THE METROLINK FIELD

Number of Routes	7
Route Miles	534
Trains Operated (Weekdays)	171
Average Ridership (Weekdays)	39,368
Stations in Service	59
Total Passenger Miles	100,351,867
Number of Locomotives	55
Number of Passenger Cars	258
Annual Budgeted Revenues	\$102M
Annual Operating Budget	\$244
Revenue Recovery Ratio	47%



Building Our Asset Inventory...

A Brief History of TAM @ Metrolink

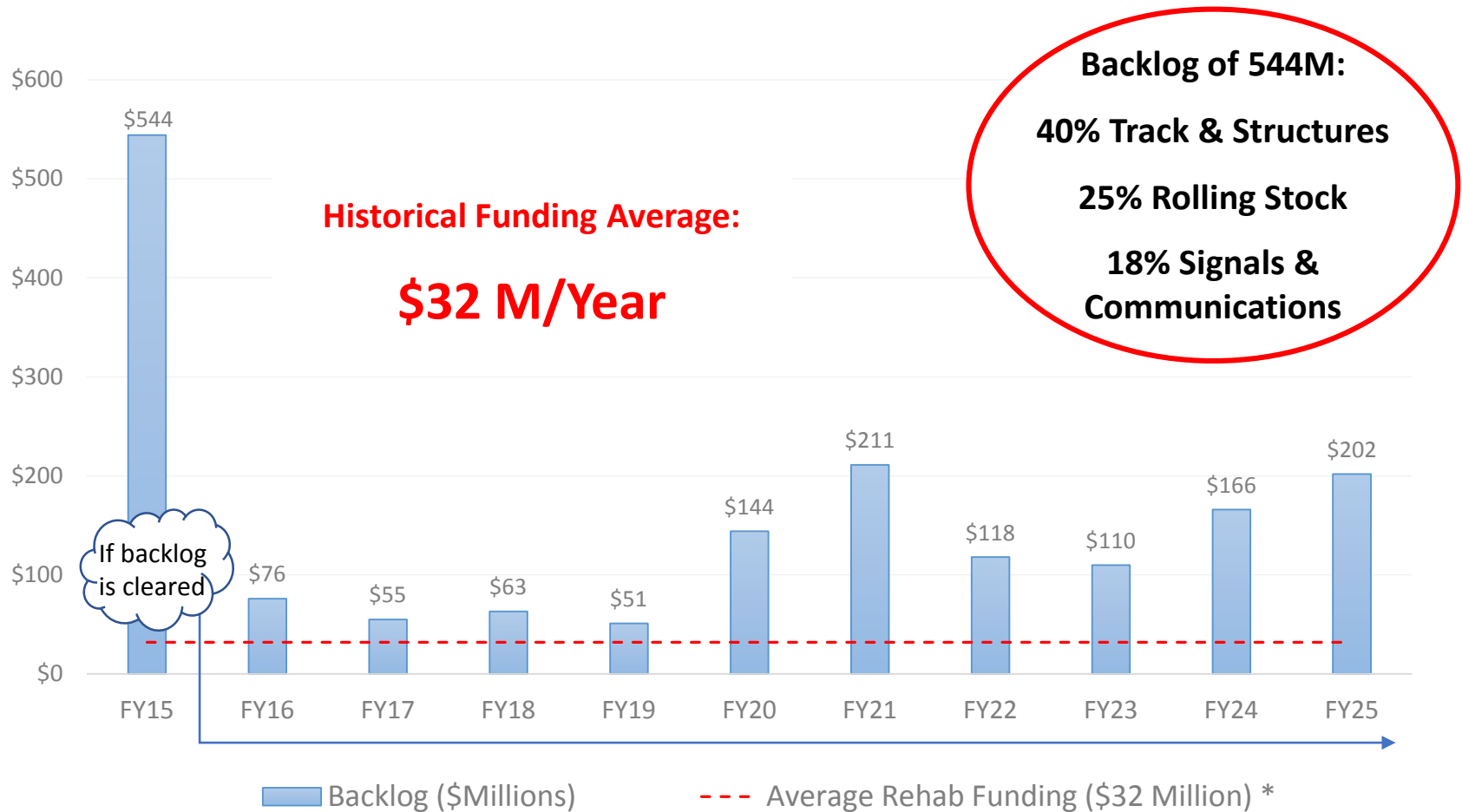




PORTFOLIO OF METROLINK ASSETS

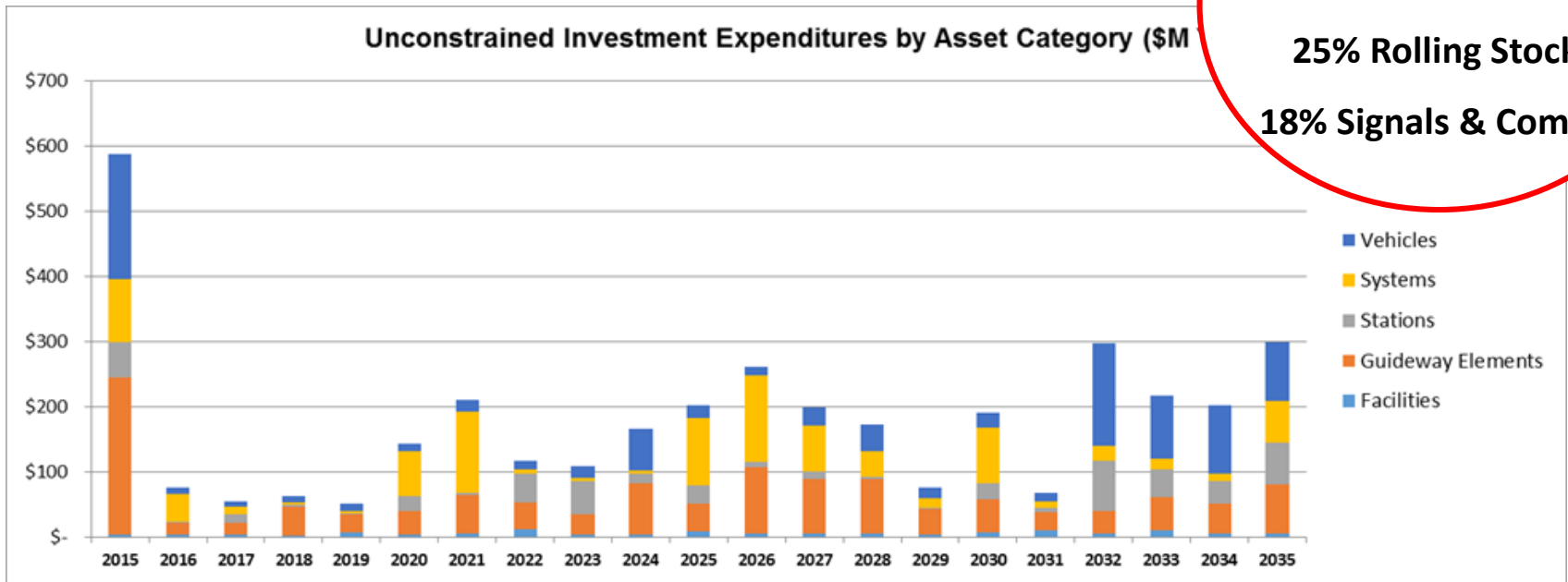
Asset Category	Valuation (\$2015)	% of Asset Base
Track	\$1,308,413,247	22.4%
Bridges/Culverts	\$1,138,143,766	19.5%
Tunnels	\$609,697,973	10.4%
Revenue Vehicles	\$1,151,057,689	19.7%
Non-Revenue Vehicles	\$15,968,218	0.3%
Signals & Train Control	\$543,719,834	9.3%
Systems, Other	\$101,440,210	1.7%
Stations	\$508,185,000	8.7%
Facilities	\$474,920,496	8.1%
Total	\$5,851,516,433	100.0%

PROJECTED STATE OF GOOD REPAIR INVESTMENT NEEDS



Understanding the Backlog: Where is the Money Critically Needed?

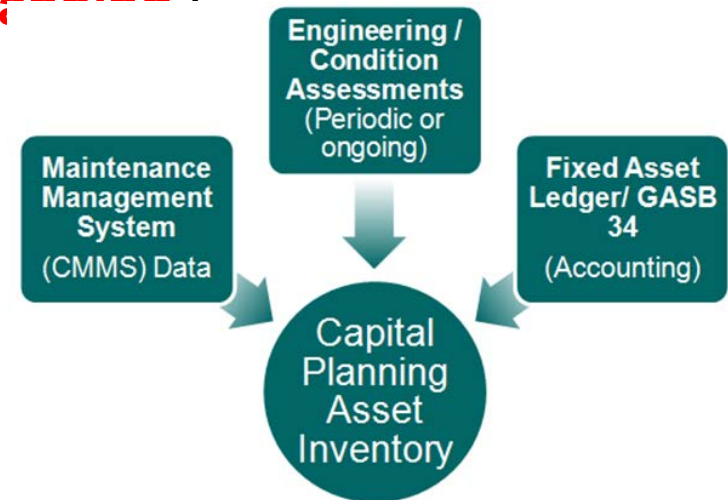
**Backlog of 544M:
40% Track & Structures
25% Rolling Stock
18% Signals & Comm.**



Source: TERM Lite, 2015

Our TAM Question:

How do we **sustain** a unified asset inventory and **create** condition assessment scale that **encapsulates risk** and is **useful for operational staff & long term capital planning**?



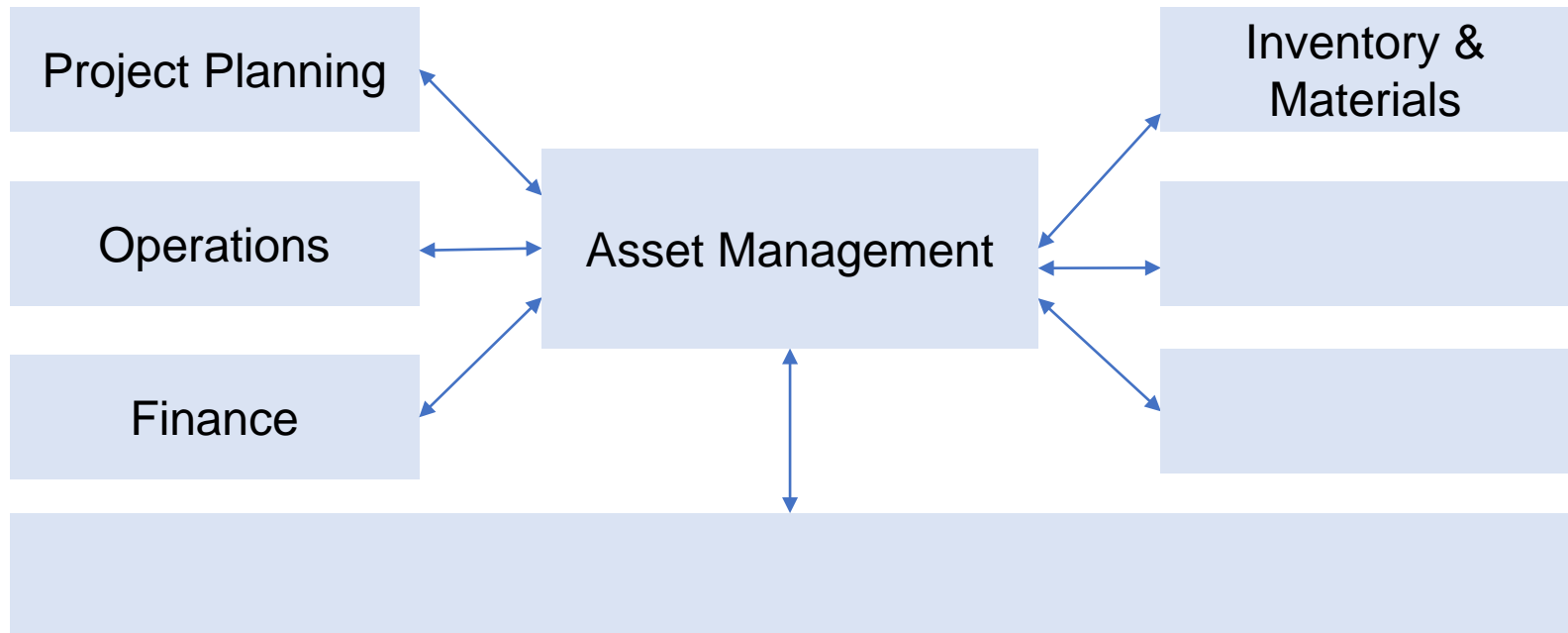


AGENDA

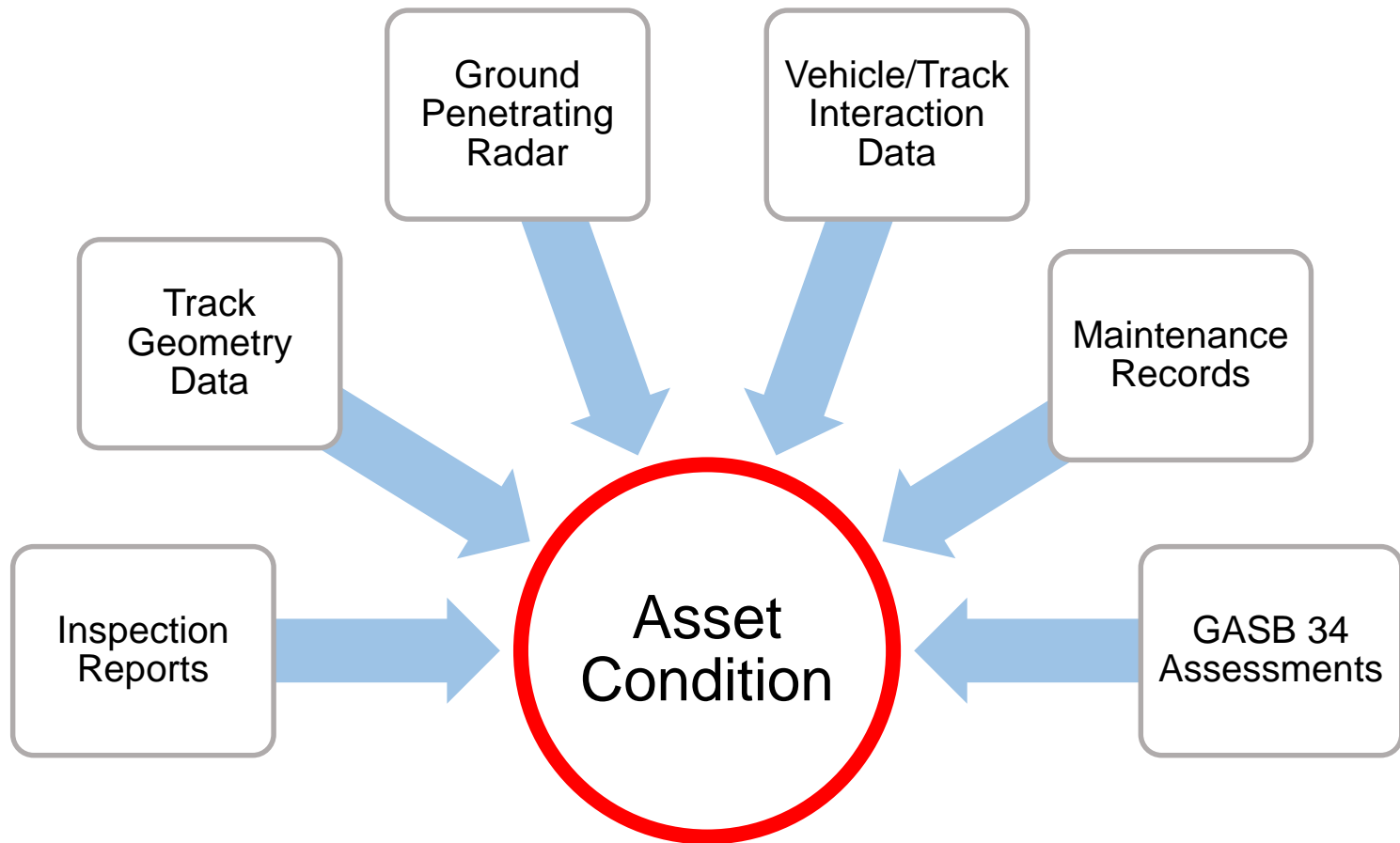
- I. Navigating a Solution: Understanding Inventory Data
- II. Defining EAM-TAM System Criteria
- III. Lessons Learned

I. Navigating a Solution

To understand the need, expectation, granularity and approach, pros & cons of all our data inventories



Need to Understand Asset Data





Need to Integrate Asset Data

	Condition Assessment Method	GASB 34	NetFacilities	RAMS	AssetWorks	TERM Lite
Asset Type	Equipment				X	X
	Rolling Stock				X	X
	Infrastructure	X		X		X
	Facilities		X			X
	Rating Scale	0 to 100	None	1 to 6	None	1 to 5
	<i>Approach</i>	<i>On-site Assessment</i>	<i>On-site Assessment</i>	<i>On-site Assessment</i>	<i>On-site Assessment</i>	<i>Estimated Condition</i>



What are we currently doing?

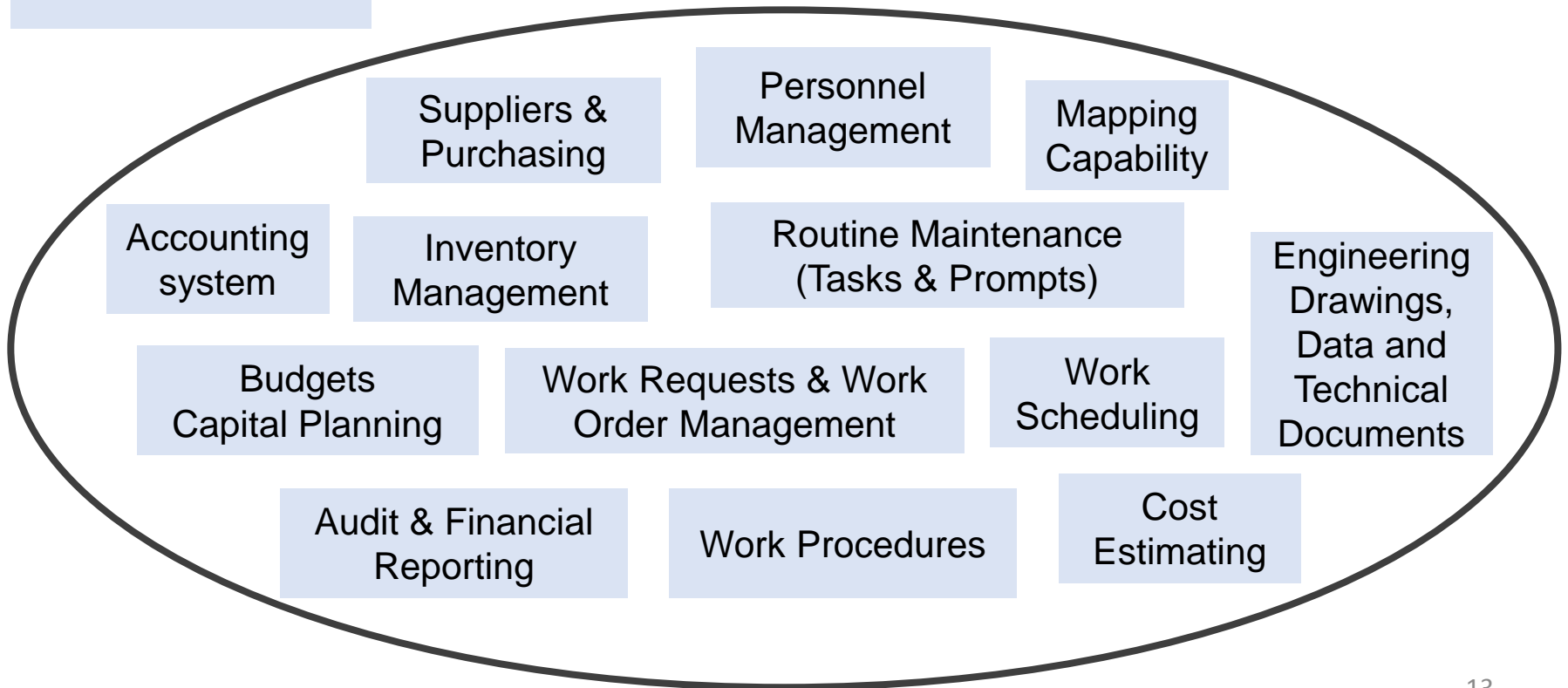
- Working to determine interrelationships of inventories
- Confirming Relationships Between Life Cycle & Cost Factors
- Connecting Inventory and Condition Data to a Risk Based Prioritization
- Incorporating Risk & Condition Analysis into Project Criteria
- Developing an integrated Enterprise Asset Management Program with the Information Technology (IT) department

III. Defining EAM-TAM System Criteria

Asset Inventory
(TERM Lite)



Base Data: Need for Consistent Coding that allows for cross functional system linkage



IV. Lessons Learned

Software isn't the solution, it's apart of a whole.

But before buying software....

- ❖ Create a process map of all business processes that surround the asset inventory. Find the right incentives. Be clear on the TAM-EAM long term goal.
- ❖ Full utilization of an integrated TAM-EAM software requires buy-in and particular needs to be addressed.
- ❖ Normalizing data sets and coding is very important to ensure that data relationships are streamlined.
- ❖ Inventory fields need to be driven by the user of the data.

Data Gap Analysis

What assets are we missing?

Is process repeatable (with reasonable effort)?

EAM Gap Assessment

Can our EAM support our inventory needs?

Are current capabilities being used?

Data Strategy

How do we close the gaps?

Single EAM solution?



Acknowledgements

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CH2M Hill Transit Asset Management Team

MARTA Asset Management & Capital Planning Staff



Resources

- (1) Anthony, Nicholas. *Physical Asset Management*. Springer, 2015
- (2) Blanchard, Ben. *Logistics Engineering & Management*. Pearson, 2003
- (3) Wireman, Terry. *Developing Performance Indicators for Maintenance*. Industrial Press, 2005