MDOT MTA Asset Management Pilot

Field Inventory Verification

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&

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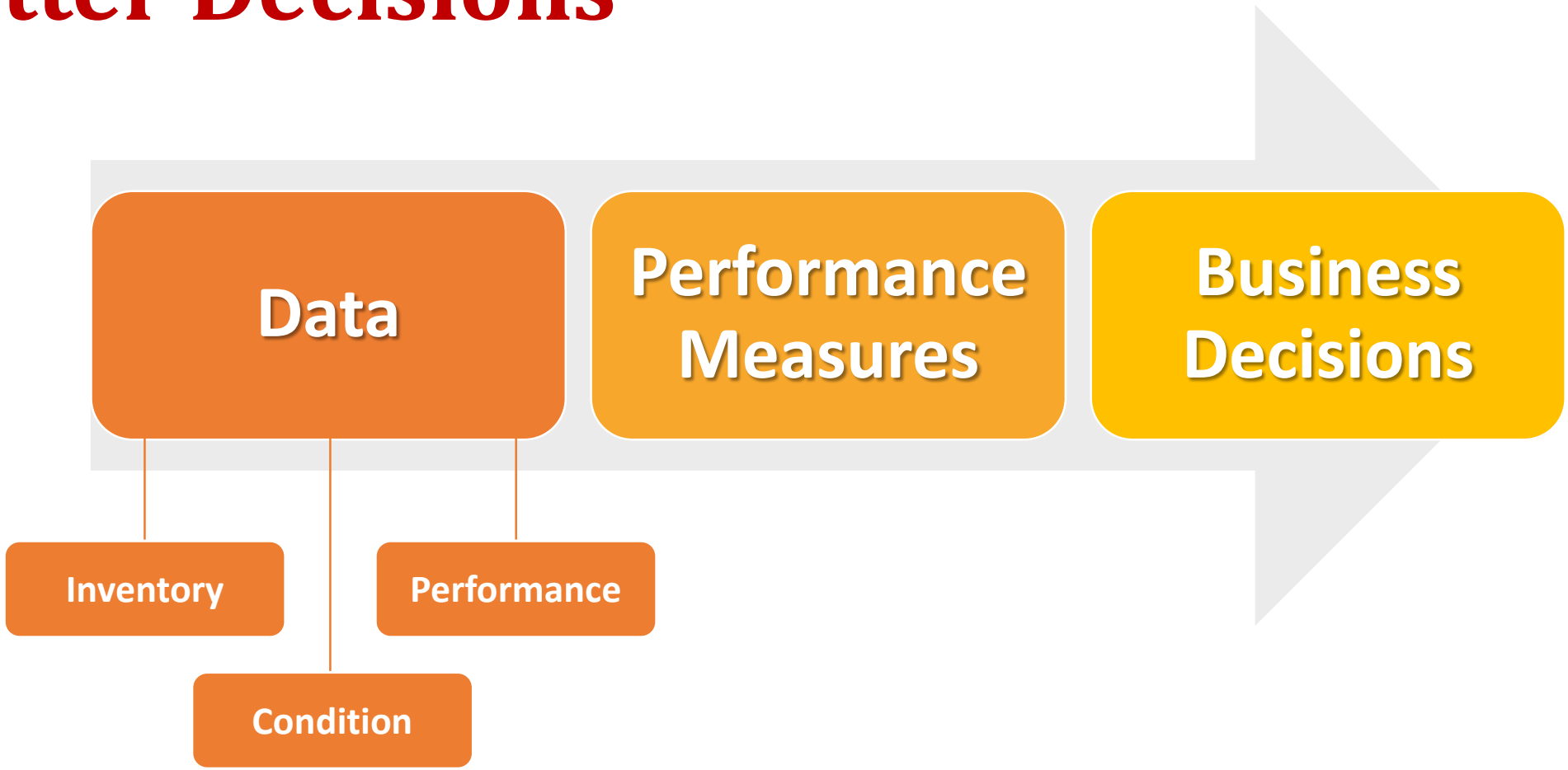
MDOT MTA Asset Management

1,795 sq. miles
Service Area

$9.25 Billion
Asset Base (2017)

23
Locally Operated
Transit Systems

Goal is to Use Data to Make Better Decisions

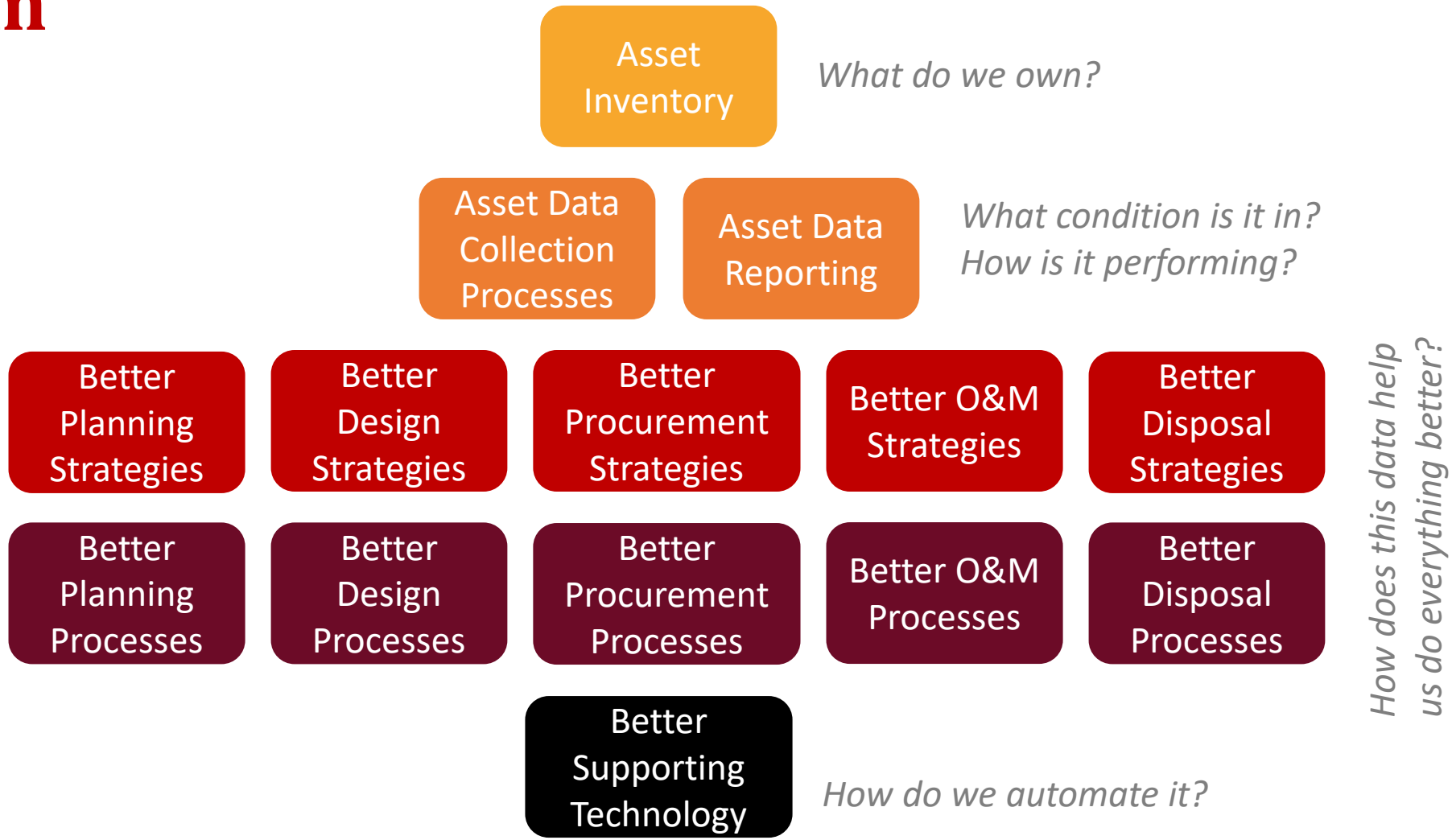


Asset Data Challenges

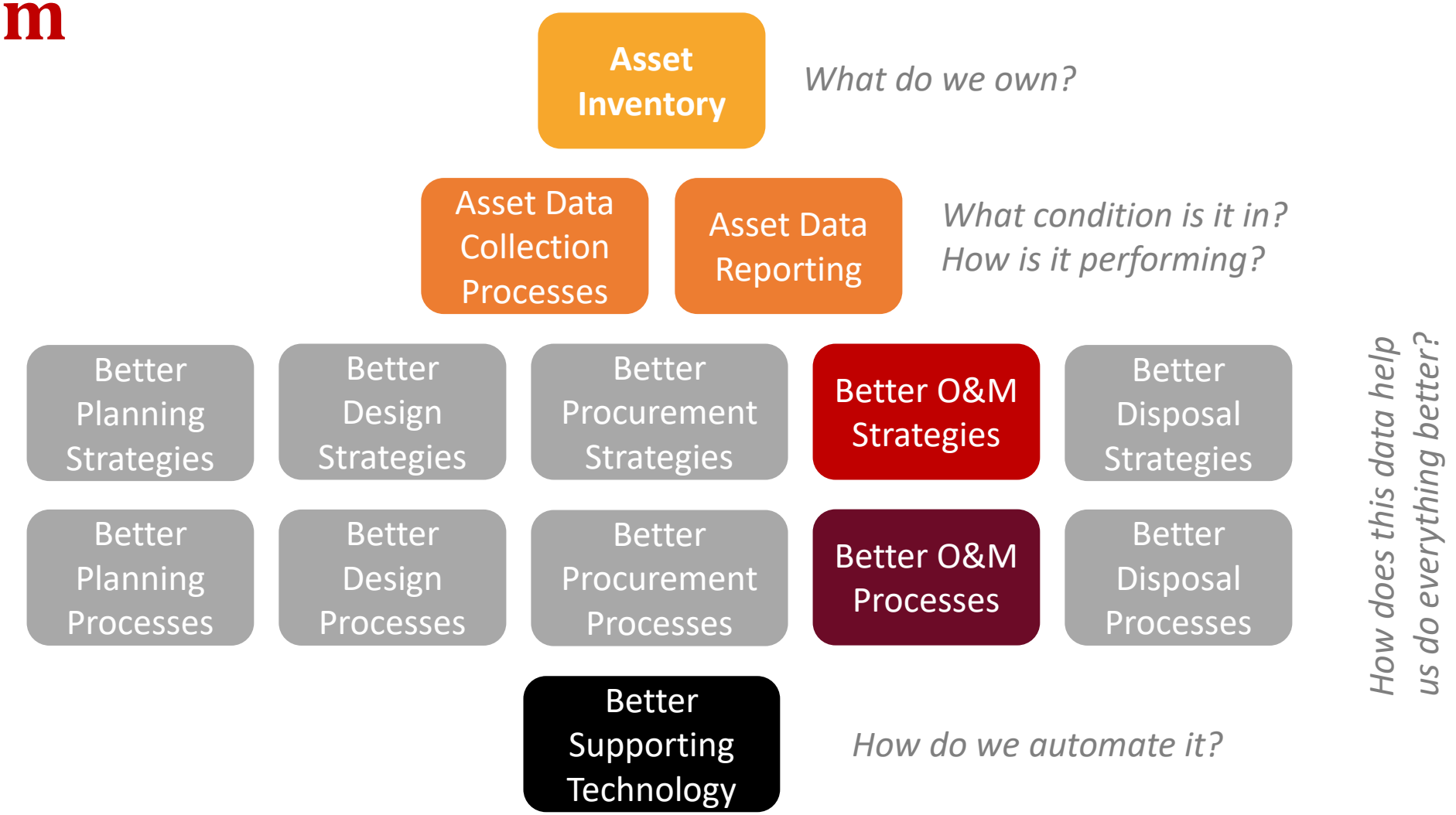
- Inconsistent records on assets owned by MDOT MTA
- Unknown asset data attributes
- Incompatible Maryland State, TERM, and FTA/NTD asset hierarchies
- Not up-to-date
  - Annual snapshot
  - Records coming from multiple sources
  - Not all records are in “system of record”

Asset Management System Pilot at Eastern Bus Division

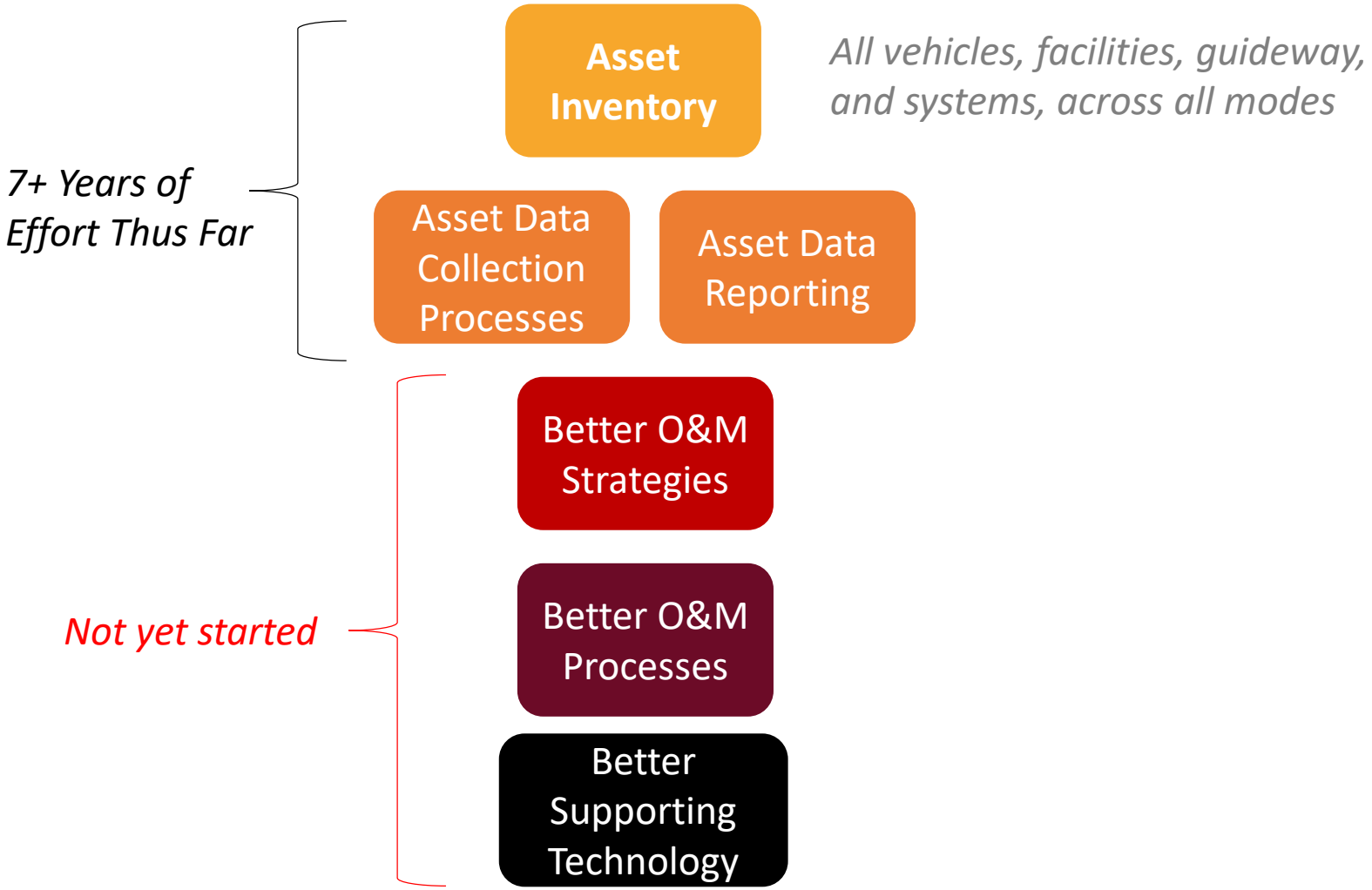
Scope of an Asset Management System



Focus of an Asset Management System



Whole Agency At Once



Eastern Bus Division Pilot

14?

~~12~~ *months projected effort*

Asset Inventory

Just the vehicles, facilities, and systems at the bus division

Asset Data Collection Processes

Asset Data Reporting

Better O&M Strategies

Better O&M Processes

Includes a pilot Asset Inventory maintenance SOP

Better Supporting Technology

Proposed Approach

Pilot for Eastern Bus Depot

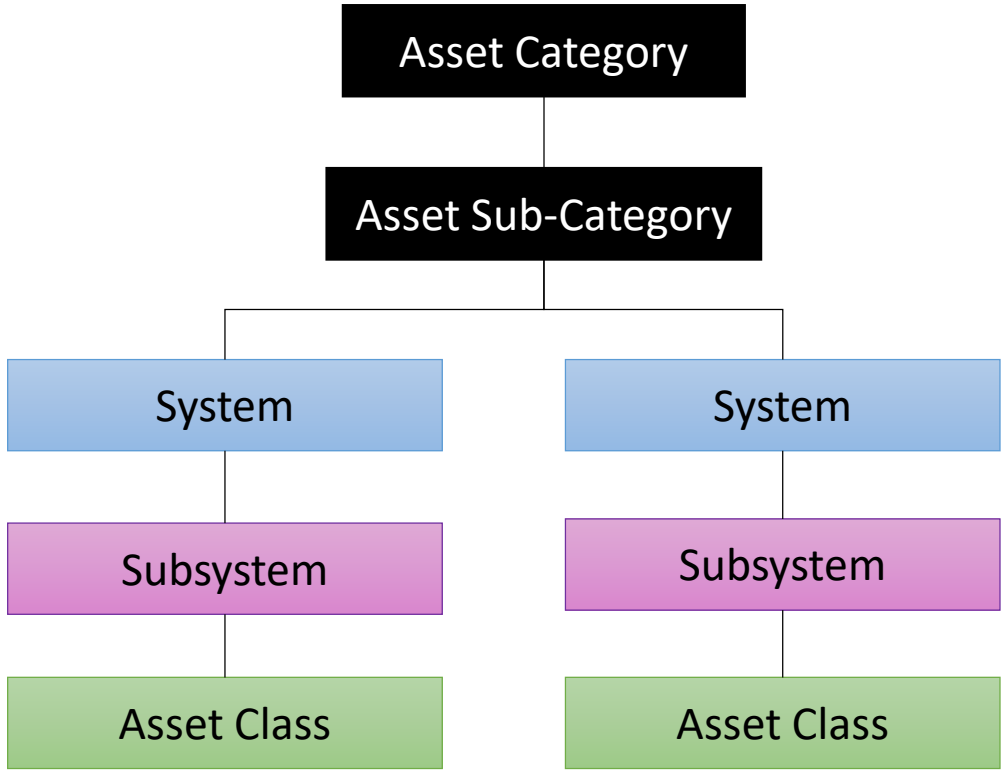
Scope: 3 Buildings / Facilities, 2 Parking Lots, ~175 Buses, Numerous Systems

Milestone	**Comprehensive Asset Inventory**	**Condition and Performance Analysis**	**Asset Management Strategies**	**Repeatable Processes**	**Software Requirements**
Description	Build a data foundation	Analyze asset condition and performance	Develop lifecycle plans	Document workflows	Plan Maximo configuration changes
Target End Date	August 2018	February 2019	March 2019	June 2019	July 2019
Department Responsibilities	Identify fatal flaws in inventory hierarchy and standard attributes	Identify fatal flaws in condition and performance analysis requirements and approaches	Help identify strategies for achieving asset condition and performance targets	Help develop SOPs related to inventory maintenance, condition and performance assessment	Identify fatal flaws in approaches to software configuration

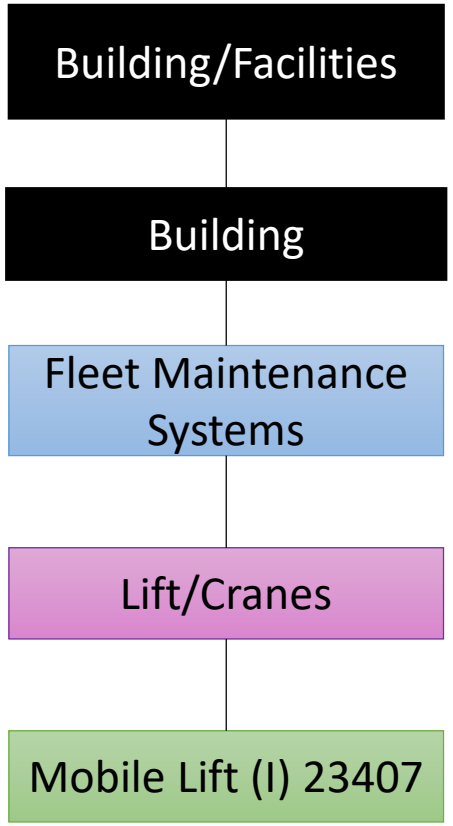
"2 Day" Field Verification & Condition Assessment

for 3 Buildings / Facilities, 2 Parking Lots,
~175 Buses, Numerous Systems

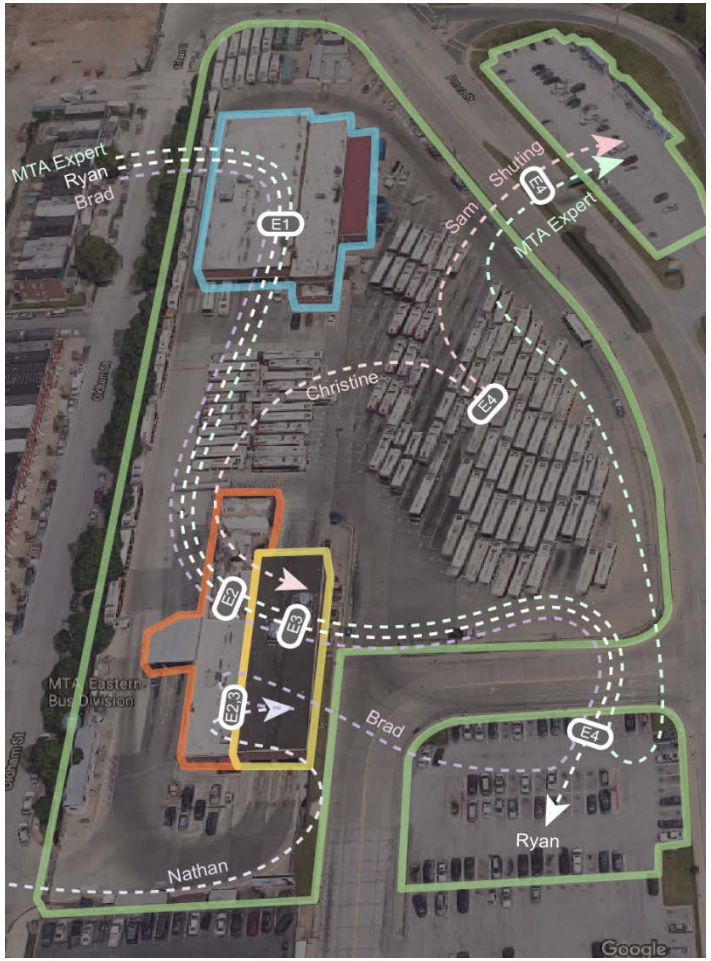
Asset Hierarchy



Example:

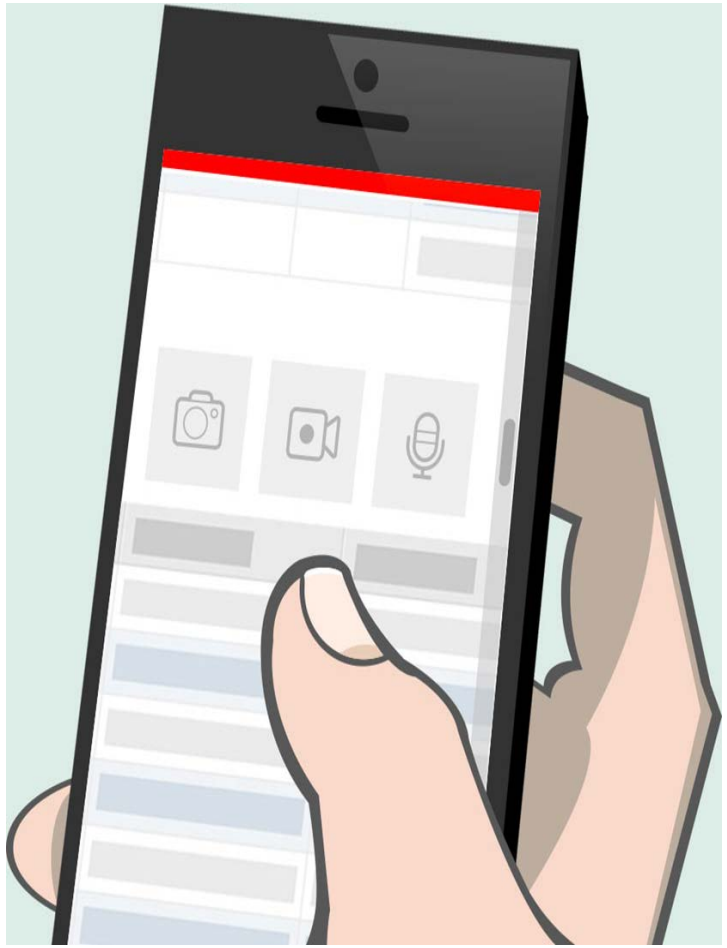


Field Verification & Condition Assessment



Attributes collected in-field

- Unique Object ID
- Location of Asset
- Description
- Manufacturer/Make
- Model Number
- Serial Number
- Year Manufactured or Age
- Physical Condition
- Dimensions Features
- Picture of Asset



Condition Assessment Approach

Site/Facility Condition Assessment

- Visual/Physical Score (1-5 scale)

Overall Facility Condition Score (1-5 scale)

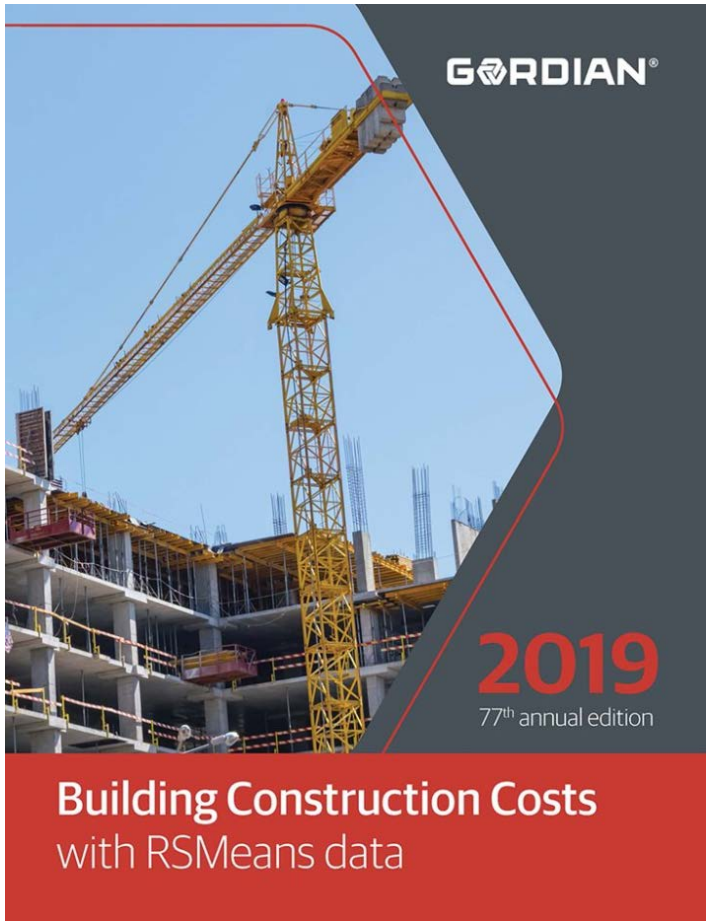
Revenue Vehicle Condition Assessment

- Visual/Physical Score (1-5 scale)
- Age Score (1-5 scale)
- Mileage Score (1-5 scale)
- Maintenance History Score (1-5 scale)

Overall Bus Condition Score (1-5 scale)

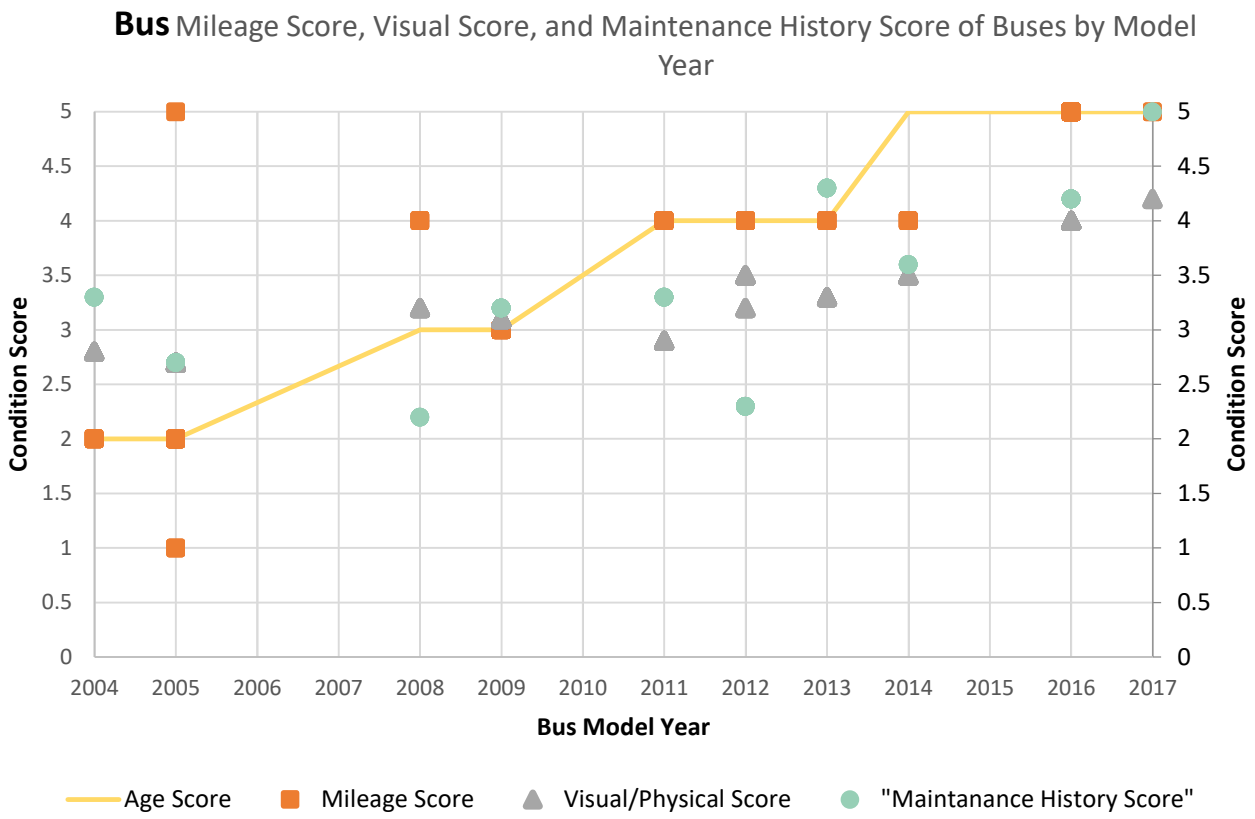
Desktop Review and Data Infill after Site Visit

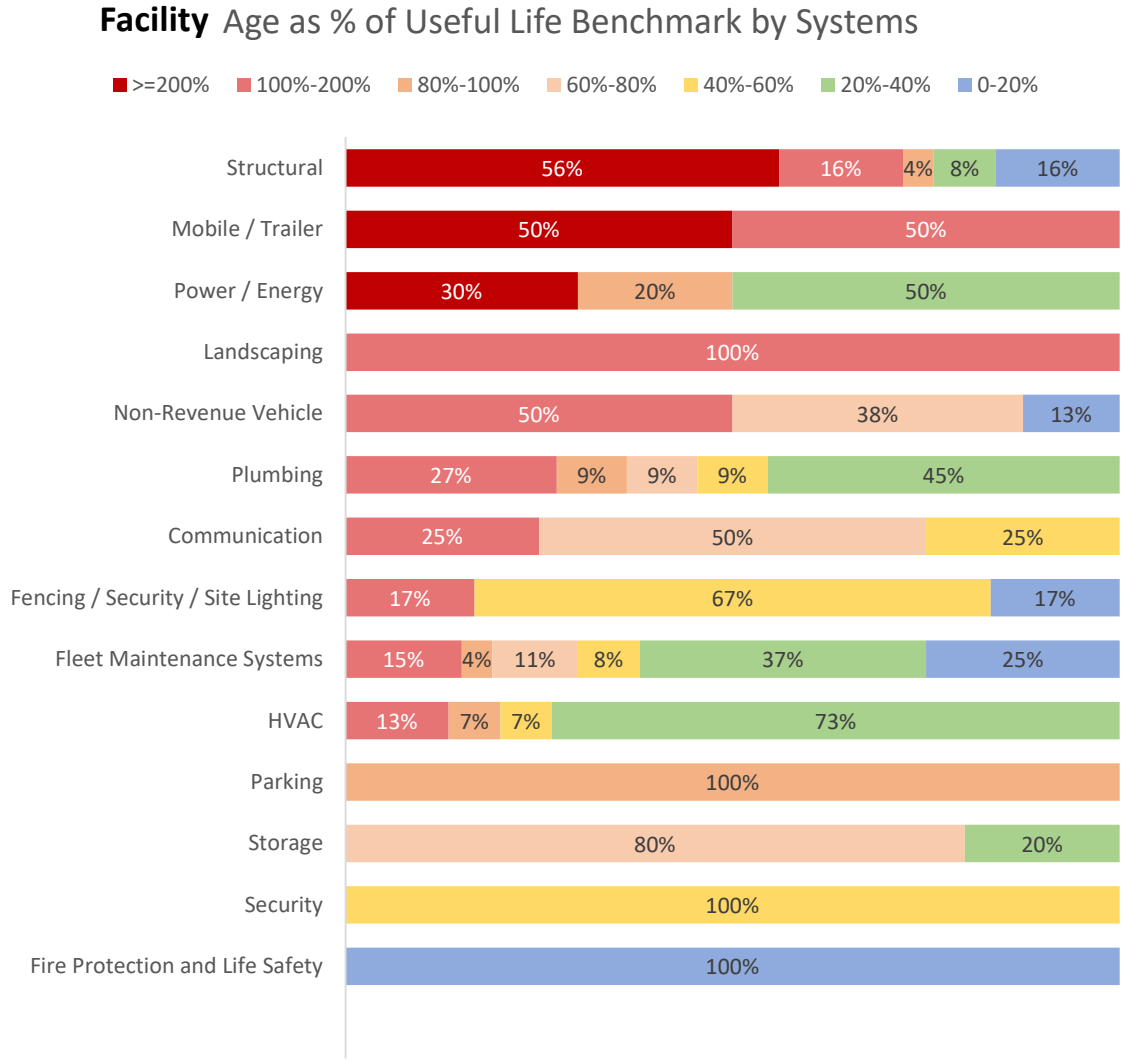
- Data Additions Off Site:
  - Replacement Cost
  - Soft Cost
  - Age
  - Useful Life
  - Maintenance History
- Sources: RSMeans, MTA internal records, Maximo, Maintenance Staff



Analysis of the Data

(10/20/2018 inventory)





Lessons Learned & Next Steps

Lessons Learned

- Preplan the site visit
- Mobile app is essential
- Data that we thought was good was actually not
- Field verification increases data confidence
- Greater confidence in data = better confidence in analysis

Next Steps

- Assess Functional Conditions for the Assets
- Determine Criticality for the Assets
- Develop Risk Scale (Overall Condition X Overall Criticality = Risk Score)
- Update Lifecycle Plans
- Pilot SOP for Inventory Maintenance for entire Bus Mode and perform field inventory verification for all of Bus
  - Adapt for each additional mode

Thank You!

Questions?

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