Translating Data

Daniel Hofer

Manager- State of Good Repair

Utah Transit Authority

About UTA

- **Public Transit District** – Nine Counties
- **Population** – approx. 2.3 million
- **Linear Geographic Area** – 108 miles long by 50 miles wide
- **Currently Employs** - approx. 2400
- **Operate** - 737 Buses, 475 Vans, 117 LRVs, and 69 Commuter Rail Vehicles

Budget Projections

Performance Measurements

Deterioration Forecasting
- Tied to TERM Decay Curves

Condition Rating Application

Risk Evaluation

PM Programs

Inventory

- Key components identified in UTA as necessary for a complete asset management system.

- Vehicle Age
- Track Performance Restrictions
- Facilities Condition Ratings

I've got this data, now what??

How to understand what data is telling you

- Establishing Metrics
- Establishing Thresholds
- Establishing means of separation
  - More advanced condition assessments
  - Risk Evaluation
- Establishing consumable formats
  - Colors are helpful

UTA

- Vehicles
  - Age (FTA Required)
  - Consider Cost per Mile
- Linear Assets
  - Track
    - Performance Restrictions (FTA Required)
    - Consider Wear
  - Overhead Wire
    - Performance Restrictions (FTA Required)
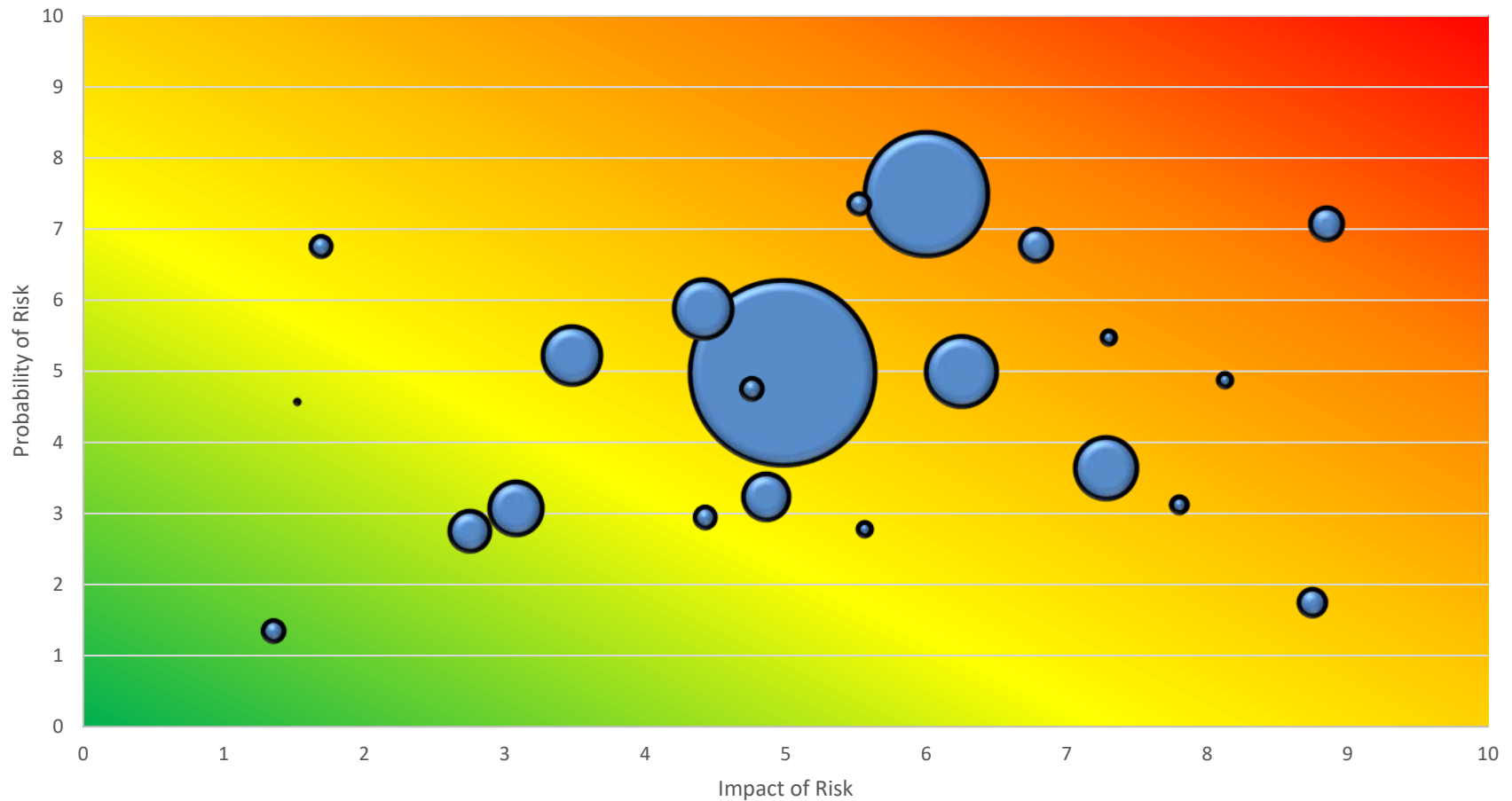   - Consider Wear
- Facilities
  - Condition Assessments (FTA Required)
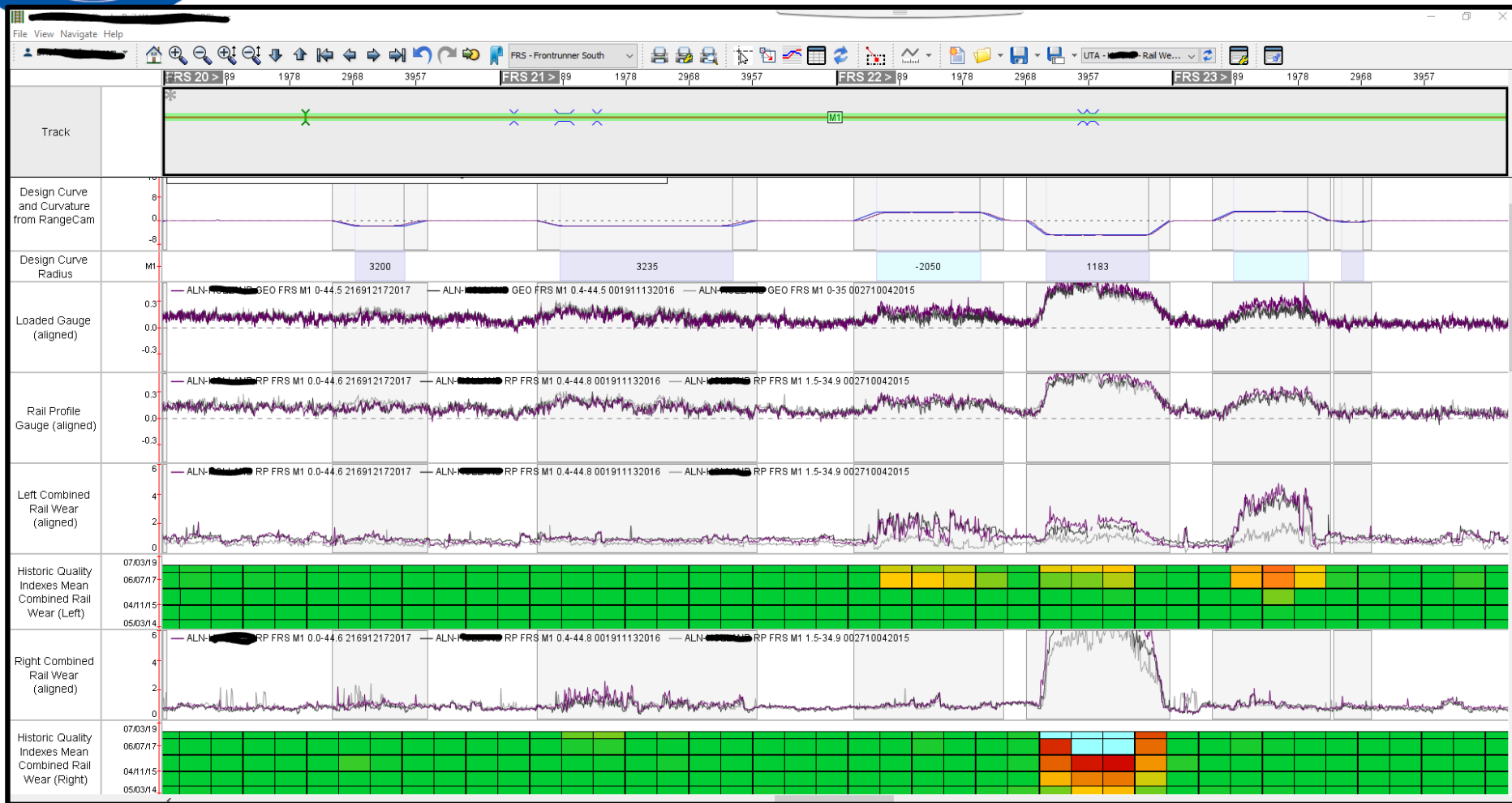
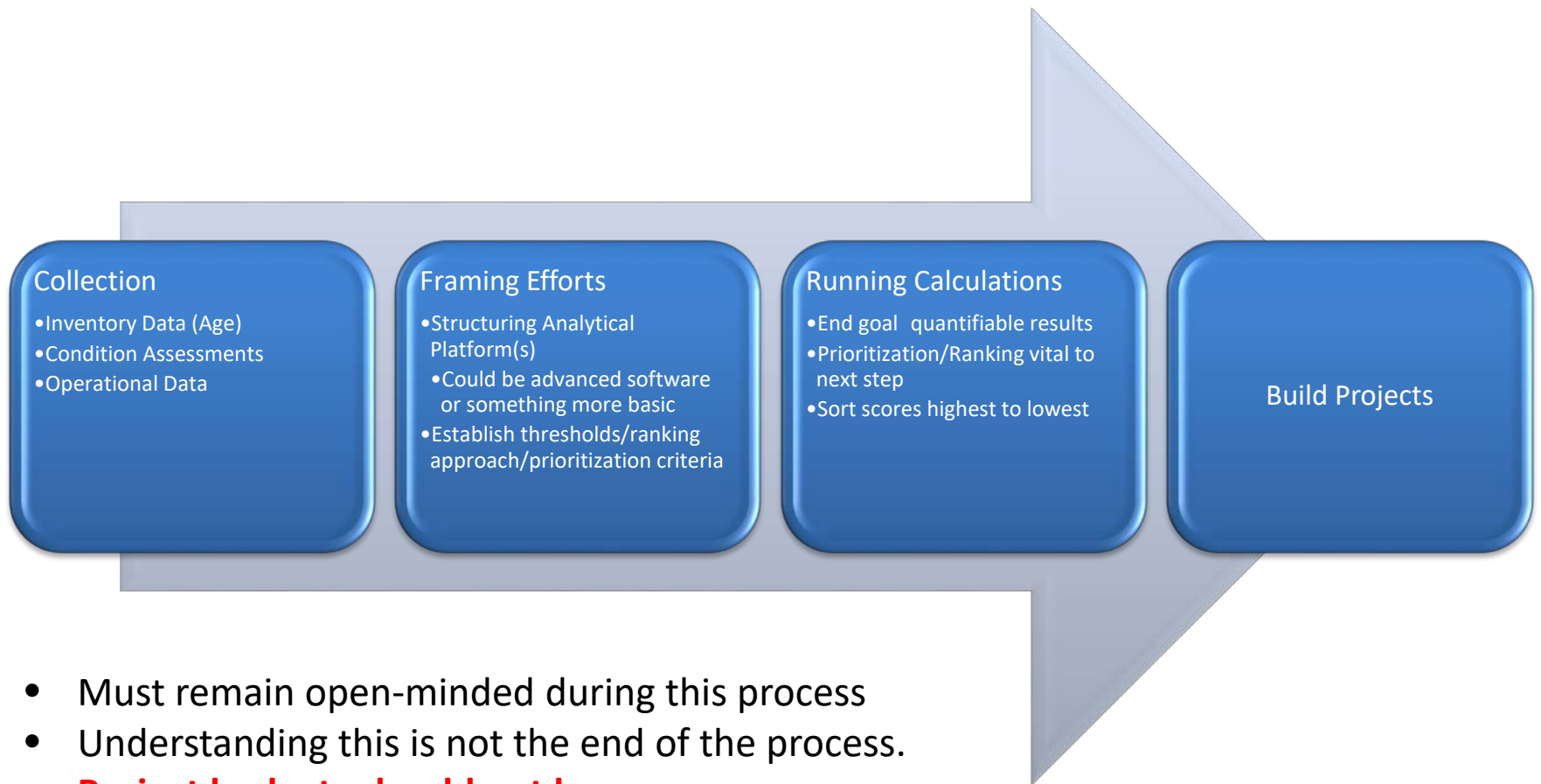|	Foundation, Basement , Sub-structure	Exterior Walls/Envelope	Exterior Windows	Exterior Doors	Roof (Surfaces, Drain System)	Skylights	
Building Substructure							
	1	2	3	4	5	6	
	3.00	3.00		2.20	2.10		2
	3.00	2.60	2.40	2.40	2.60		3
	4.00	4.00	3.00	3.50	4.00	4.00	4
	3.00	4.00	3.50	3.00	2.50	4.00	4
	4.00	4.00	4.00	4.00	2.20	3.00	4
	3.40	3.00	2.60	2.80	2.00		2
	2.60	2.70		2.10	2.10		2

- After running calculations:
  - Likely get a number of items with the same score/ranking
  - Likely need a separation value
    - Need to decide whether to apply at asset or project level.

Risk = Consequence * Probability

Project Risk Comparison

Collection
- Inventory Data (Age)
- Condition Assessments
- Operational Data

Framing Efforts
- Structuring Analytical Platform(s)
  - Could be advanced software or something more basic
- Establish thresholds/ranking approach/prioritization criteria

Running Calculations
- End goal quantifiable results
- Prioritization/Ranking vital to next step
- Sort scores highest to lowest

Build Projects

- Must remain open-minded during this process
- Understanding this is not the end of the process.
- **Project budgets should not be constrained/trimmed at this point**

U T A

- State of Good Repair vs Positive Train Control Comparison
  - o Two of the biggest Federal initiatives currently underway
  - o Both heavily dependent on data analysis
    - Root Cause/Action Plan development
  - o Decisions based on data
  - o Agencies/properties are required to collect, analyze, and report on performance of systems
- Effort geared towards helping agencies/properties make correct decisions in regards to their operation based on risk evaluations and need.