GORDIAN®
Building knowledge

RSMeans Data for DOE

Agenda

- Introductions
- Gordian
- History
- Estimates and Estimating
- RSMeans Data
  - Unit Prices, Assemblies, Square Foot Models
  - City Cost Index
- The Future of RSMeans
- Questions

Introduction

- Bob Mewis, Principal Engineer
  - 30th Year with Gordian / RSMeans
- Scott Keller, Engineer
  - 4th Year with Gordian / RSMeans

Gordian

- **Job Order Contracting**
  - Construction Delivery Method, Software, Services
- **RSMeans Product Line**
  - Construction Cost Estimating Products and Services
- **Sightlines**
  - Facilities Benchmarking Products
- **VFA**
  - Facilities Capital Planning Software
- **Kykloud**
  - Facilities Inspection Sofware

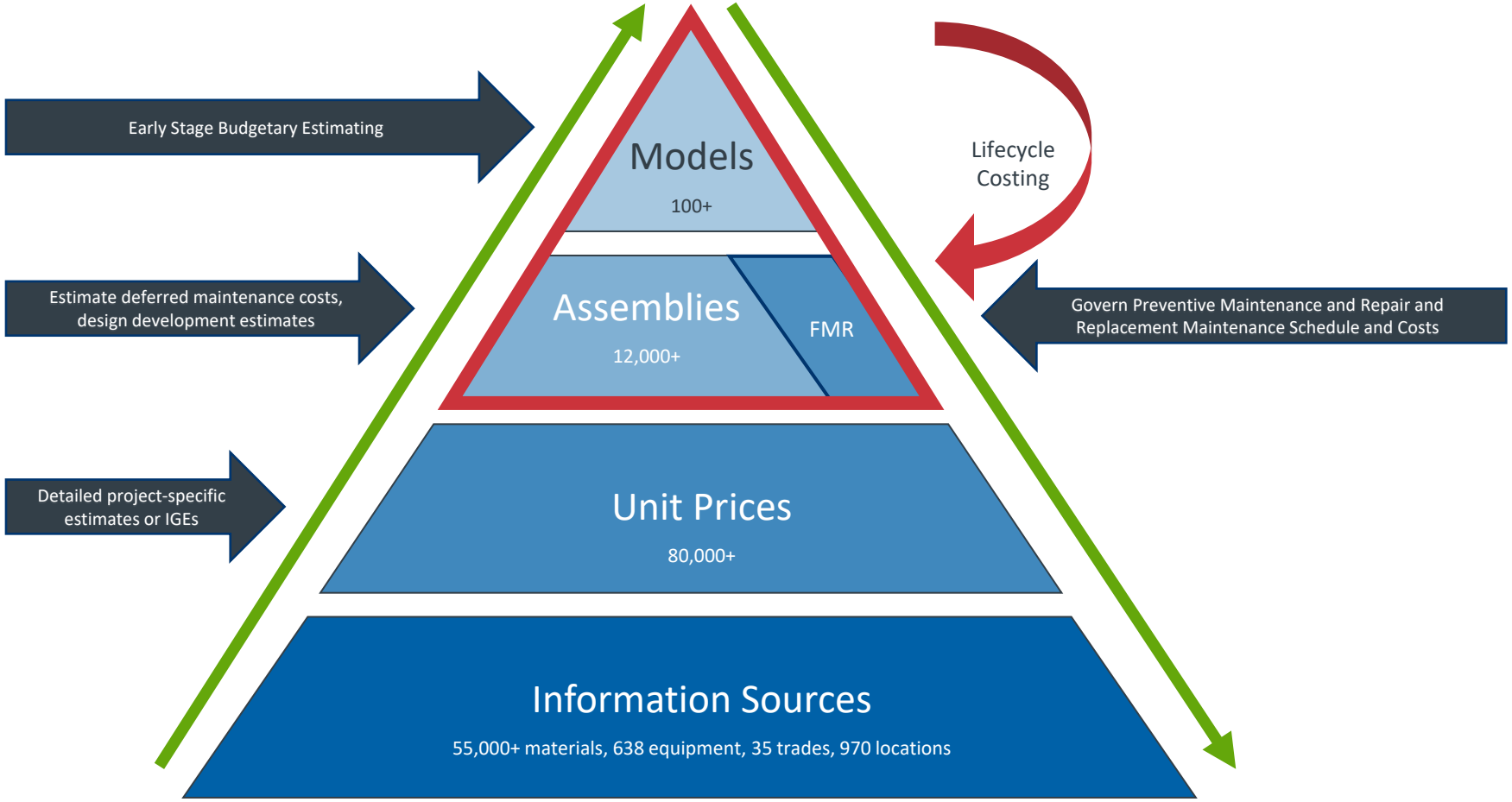
History

GORDIAN®

Postal Services Delivery Receptacle

GARDIAN®

Review of RSMeans Database Structure



GORDIAN®

Construction Formats

- MasterFormat® 2022
  - The current industry-standard fifty divisional format for construction specifications
- UNIFORMAT II (ASTM E-1557-9)
  - Originally set up by the General Services Administration and the American Institute of Architects.
  - Utilized by RSMeans to format assembly pricing.

Unit Prices

- All costs are based upon the Unit of Measure

ID and Descriptions

- 12 Digit ID Number
  - First 6 or 8 digits follow CSI MasterFormat
  - Final 6 or 4 digits are set by RSMeans engineers

- Description of the installation or action
  - When in doubt, do not assume
  - Read carefully, be sure to review inclusions and exclusions
  - Check the crew to assist in understanding

Crew

GORDIAN®

Crew

GORDIAN®

Crew

GORDIAN®

Daily Output

- How many units of work the crew can install/perform in one eight-hour day
  - Based upon actual working conditions
  - Developed over an extended period to eliminate abnormal variations
- Includes time spent during a normal workday on tasks other than actual installation, such as……

Daily Output

Material receiving, handling and site movement

GORDIAN®

Daily Output

Reading blueprints or specifications

GORDIAN®

Daily Output

Receiving instructions

GORDIAN®

Daily Output

Breaks and clean-up

GORDIAN®

Costs - Materials

- Mathematical average of all sources
- Includes:
  - Quantity sufficient for commercial construction project
  - Delivery to the job-site
  - Fasteners for a normal installation
- Does not include:
  - Sales tax

Costs - Labor

- Mathematical combination of wages and daily output
- Includes:
  - Union wages (30 major cities average)
  - Fringe benefits
- Does not include:
  - Overhead or profit

Costs - Equipment

- Mathematical combination of rental rate, hourly operating cost and daily output
- Includes:
  - Equipment rental, fuel, lubrication, maintenance
- Does not include:
  - Operator
  - Mobilization/demobilization

Types of Costs in RSMeans Data

- **Direct Costs:**
  - Materials
  - Labor (Fringes)
  - Equipment
- **Indirect Costs:**
  - Workers Compensation
  - FUTA, SUTA, FICA
  - Insurances
  - Office Overhead
  - Profit

Office Overhead

- Owner
- Principals/Manager
- Estimator(s)
- Clerks/Administrators
- Bookkeeper
- Office (Rent & Utilities)
- Accountant Fees
- Legal Fees
- Medical & Workers' Compensation
- Advertising
- Auto/Truck Expenses
- Association Dues
- Training & Travel
- Entertainment
- Bad Debts

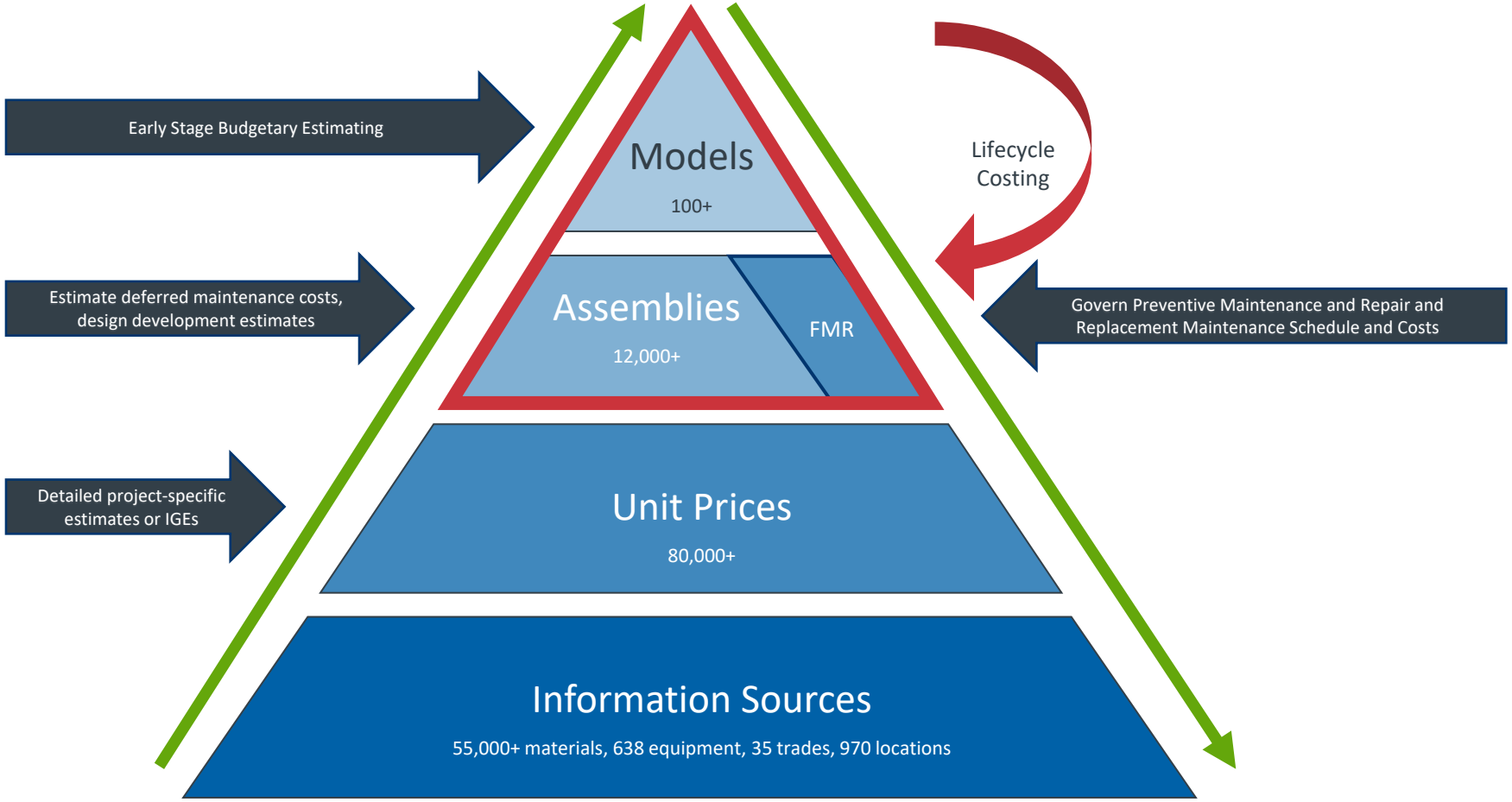
Markups

- Material + 10%
- Labor Direct Costs + Indirect Costs (50% or more)
- Equipment + 10%

Costs – Incl. O & P

- Mathematical combination of bare costs plus burdens and mark-ups
- Includes:
  - Installing contractor's overhead and profit
- Does not include:
  - General Conditions
  - General Contractor's overhead and profit

Review of RSMeans Database Structure



GORDIAN®

Construction Formats

- MasterFormat® 2022
  - The current industry-standard fifty divisional format for construction specifications
- UNIFORMAT II (ASTM E-1557-9)
  - Originally set up by the General Services Administration and the American Institute of Architects.
  - Utilized by RSMeans to format assembly pricing.

Assemblies

- UNIFORMAT II Organization Structure
- 7 Elements
  - A Substructure
  - B Shell
  - C Interiors
  - D Services
  - E Equipment
  - F Special Construction & Demolition
  - G Sitework

Assemblies

- Groups of Unit Cost Lines that make up major components of a structure
- Composed of:
  - Unit Cost Line
  - Quantity
- Based on a convenient unit of measure

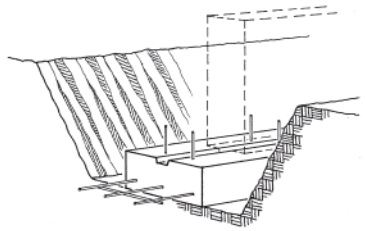
Assemblies

- Groups of Unit Cost Lines that make up major components of a structure
- Composed of:
  - Unit Cost Line
  - Quantity
- Based on a convenient unit of measure

Assemblies

A10 Foundations

A1010 Standard Foundations



The Strip Footing System includes: excavation; hand trim; all forms needed for footing placement; forms for 2″ x 6″ keyway (four uses); dowels; and 3,000 p.s.i. concrete.

The footing size required varies for different soils. Soil bearing capacities are listed for 3 KSF and 6 KSF. Depths of the system range from 8″ and deeper. Widths range from 16″ and wider. Smaller strip footings may not require reinforcement.

Please see the reference section for further design and cost information.

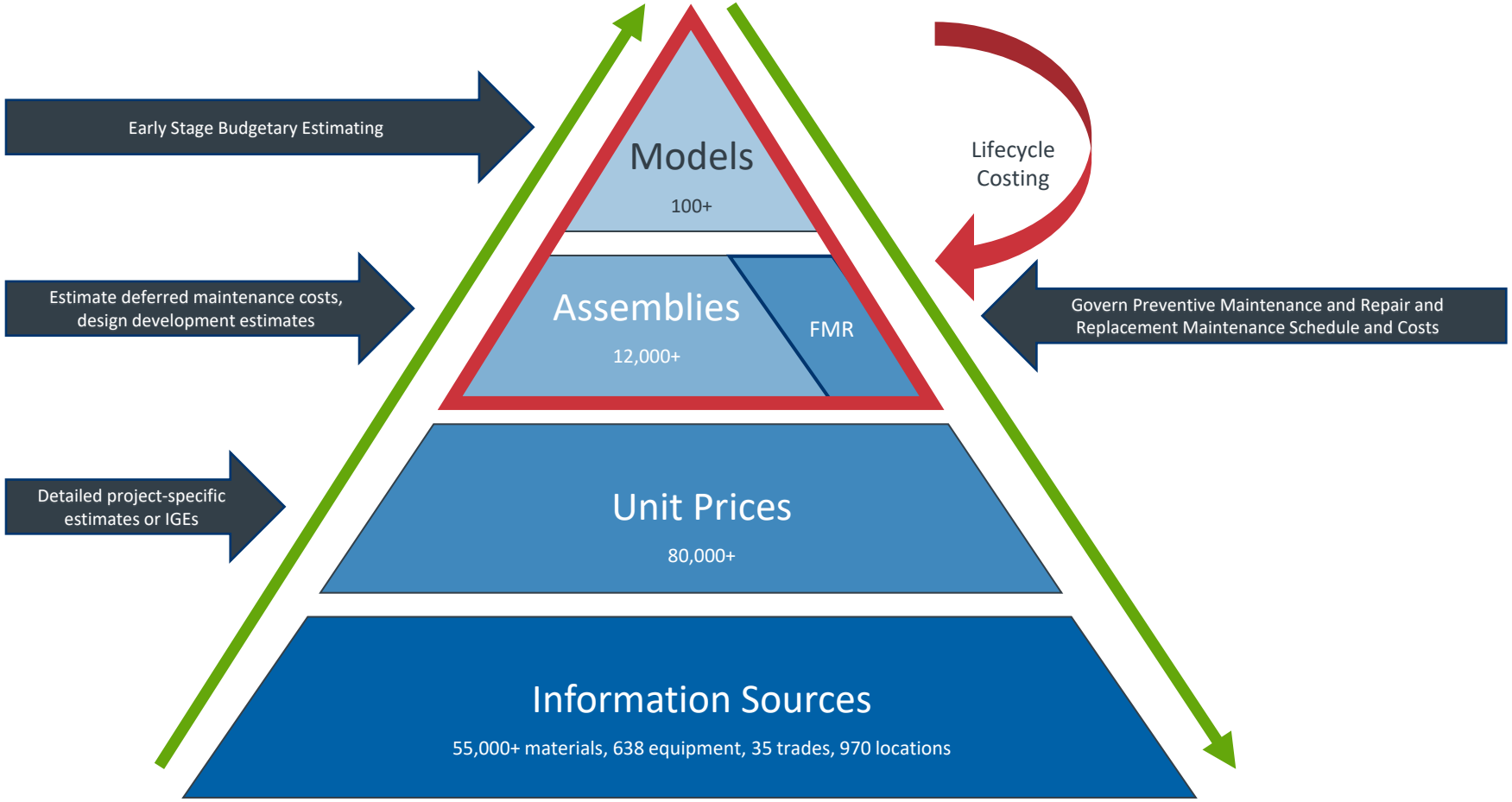
System Components	QUANTITY	UNIT	COST PER L.F. MAT.	INST.	TOTAL
SYSTEM A1010 110 2500					
STRIP FOOTING, LOAD 5.1 KLF, SOIL CAP. 3 KSF, 24″ WIDE X 12″ DEEP, REINF.					
Trench excavation	.148	C.Y.		1.60	1.60
Hand trim	2.000	S.F.		2.40	2.40
Compacted backfill	.074	C.Y.		.33	.33
Formwork, 4 uses	2.000	S.F.	5.64	10.50	16.14
Keyway form, 4 uses	1.000	L.F.	.53	1.34	1.87
Reinforcing, fy = 60000 psi	3.000	Lb.	2.49	2.07	4.56
Dowels	2.000	Ea.	2.34	6.04	8.38
Concrete, f'c = 3000 psi	.074	C.Y.	12.95		12.95
Place concrete, direct chute	.074	C.Y.		2.11	2.11
Screed finish	2.000	S.F.		.90	.90
TOTAL			23.95	27.29	51.24

GORDIAN®

Assemblies

- Included:
  - All burdens and mark-ups
  - Items selected by RSMeans engineers
  - Quantities selected by RSMeans engineers
- Not included:
  - General Conditions
  - General Contractor’s Overhead and Profit

Review of RSMeans Database Structure



GORDIAN®

Models

- UNIFORMAT II Organization Structure
- Groups of Assemblies
  - Components of the specific building type
  - Quantified by mathematical algorithms
- Included:
  - All costs and all mark-ups except Sitework
- Not Included:
  - Contingencies

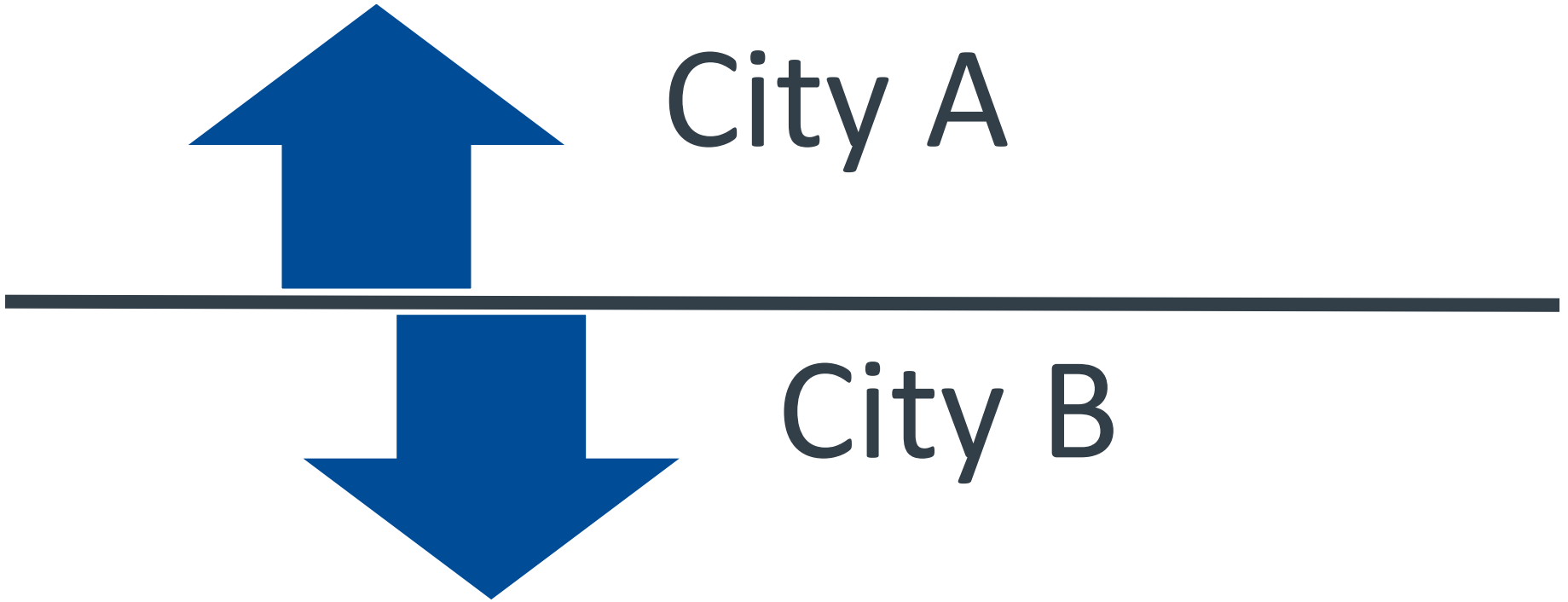
City Cost Index (Geographical Adjustment)

The City Cost Index is a measurement of the differences in the cost of construction in a specific location as measured from a baseline.

The baseline does not change during a **given year**. Therefore, because the City Cost Index is released quarterly, it also shows the changes over each quarter.

RSMeans also produces a Construction Cost Index. The baseline for the Construction Cost Index does not change and is based on the costs as of January 1, 1993

City Cost Index (Geographical Adjustment)



Baseline (Average Cost of CCI Model)

GORDIAN®

Construction Cost Index (aka Historical) (Time Adjustment)

The Construction Cost Index is a measurement of the differences in the cost of construction in a specific location as measured from a baseline.

The baseline does not change. It is based on the costs as of January 1, 1993

Construction Cost Index (Time Adjustment)

Baseline (Average Cost of CCI Model on Jan. 1, 1993)

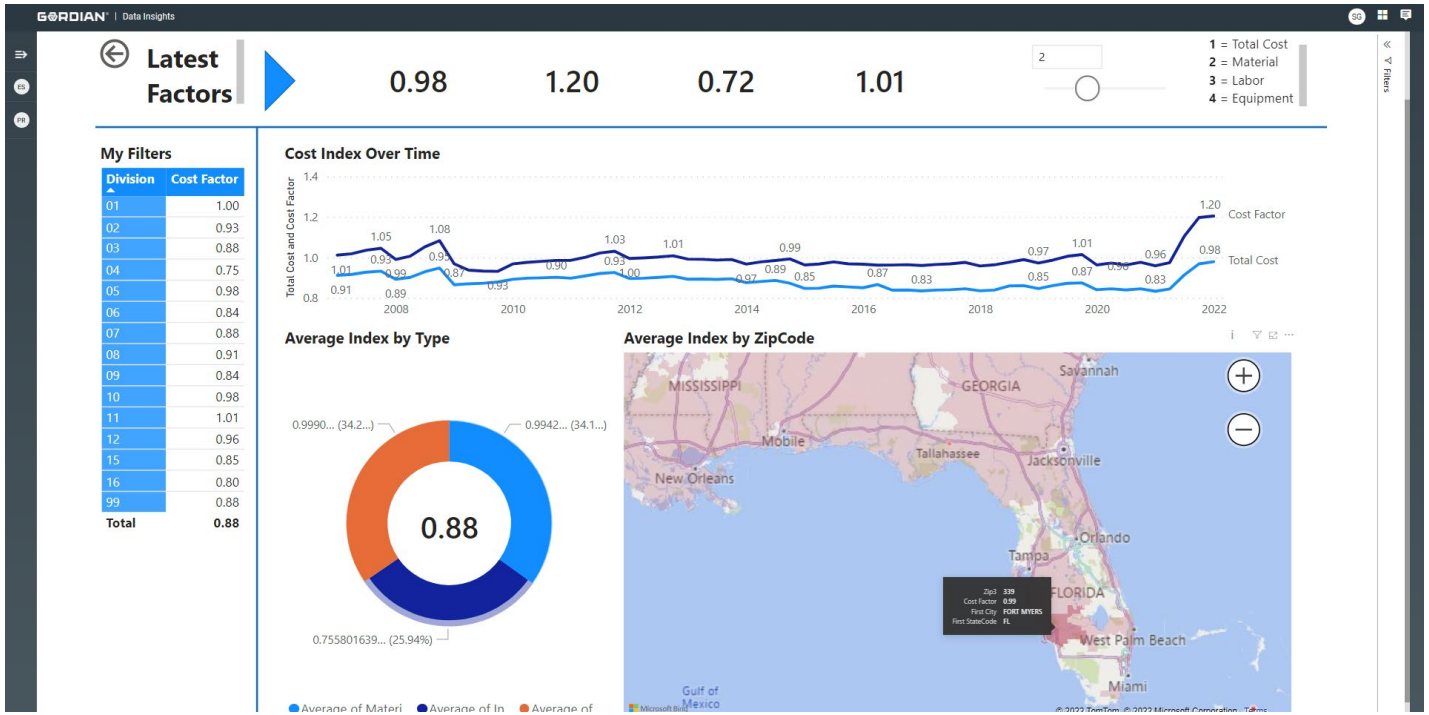
GORDIAN®

GORDIAN®
Building knowledge

RSMeans: Looking Ahead

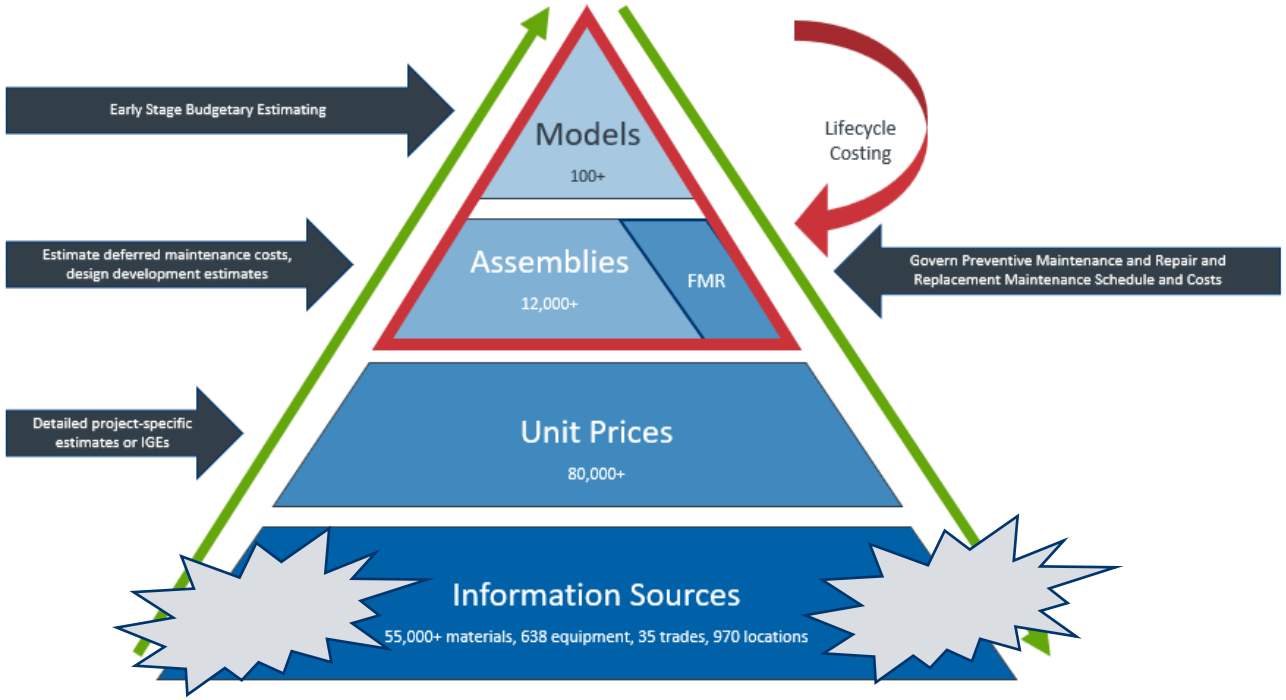
Data Insights

- Delivering RSMeans research and data as interactive data rather than static files
- Customizable dashboards provide many ways to slice and filter
- Securely web-hosted and accessible anywhere



Client-Specific Cost Books

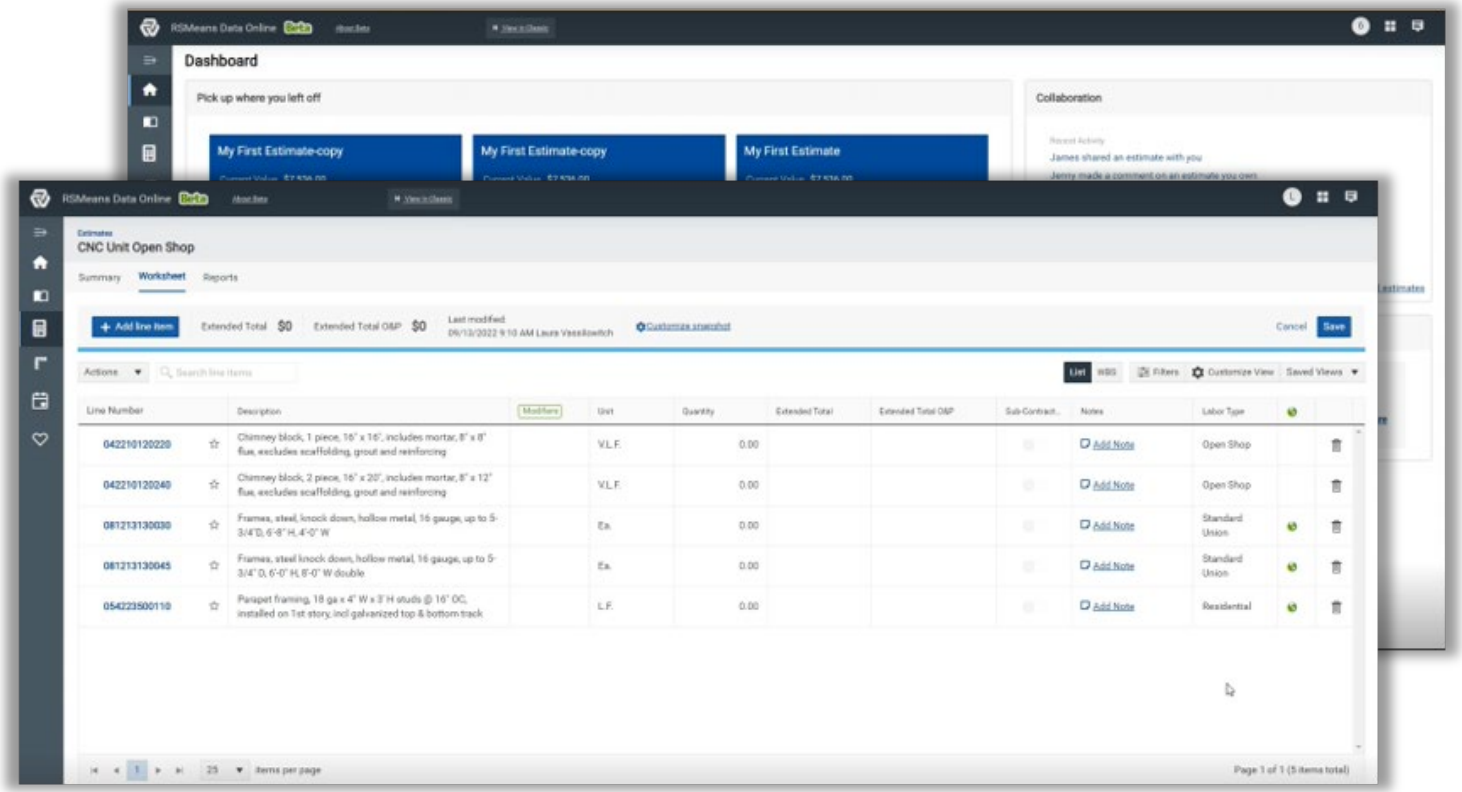
- Bring your own material, labor, and/or equipment costs
- Customized versions of the complete RSMeans catalog powered by your specific cost inputs



GORDIAN®

RSMeans Online 2.0 (w/ FedRamp)

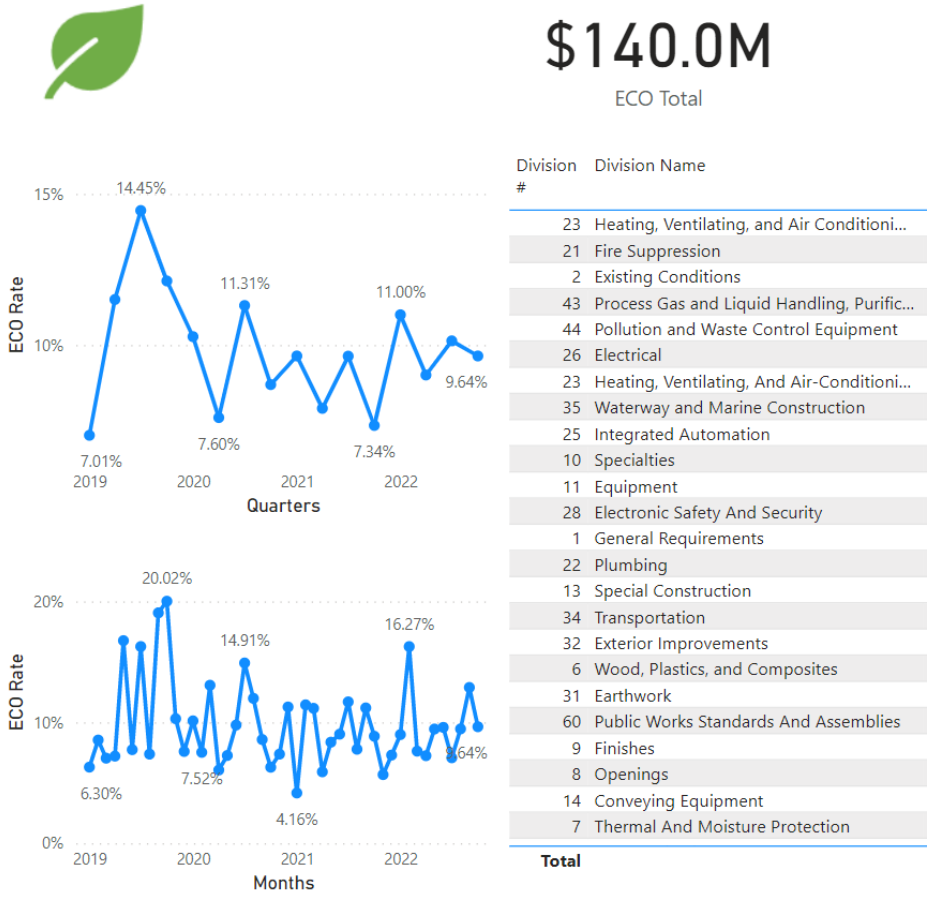
- RSMeans Online redesigned from the ground up to provide easier search, enhanced estimating features, and more
- First integrated data/cost estimating software to achieve FedRAMP compliance for federal agencies



GORDIAN®

New Data Features

- Research into sustainable and eco-friendly materials, tasks
- Continued development of predictive models to better support cost forecasting



GORDIAN®

GORDIAN®

Building knowledge

THANK YOU!!!

Formulas

- Labor hours per unit = [total crew L.H. per day]/daily output
- Material price = Material delivered to 20 miles (no sales tax)
- Labor price = [total daily bare labor cost/daily output]
- Equipment cost = [total daily bare equipment cost/daily output]
- Crew equipment cost = [weekly rentals/5] + [hourly operating cost × 8]

Crew

GORDIAN®