

From BAMS/DSS to Data Analytics

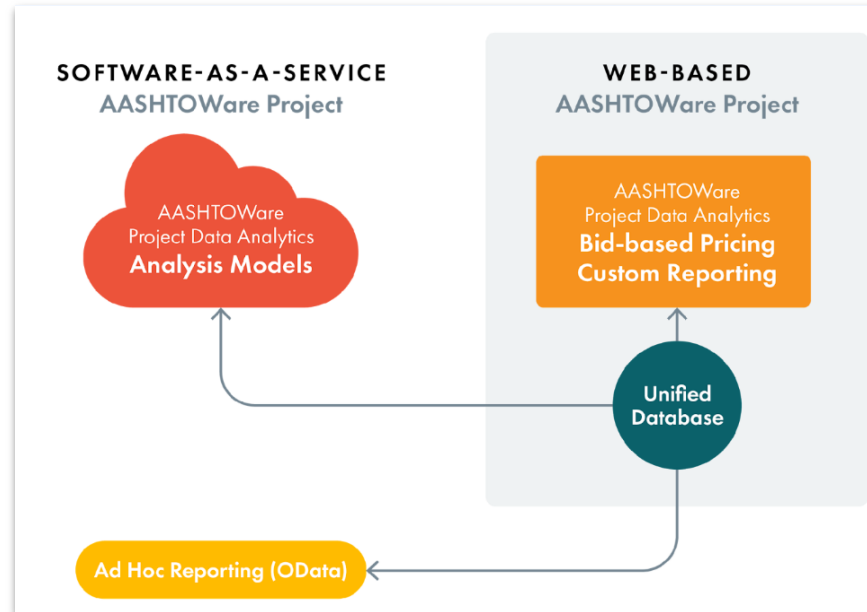
Overview & Best Practices

What is DA SaaS?

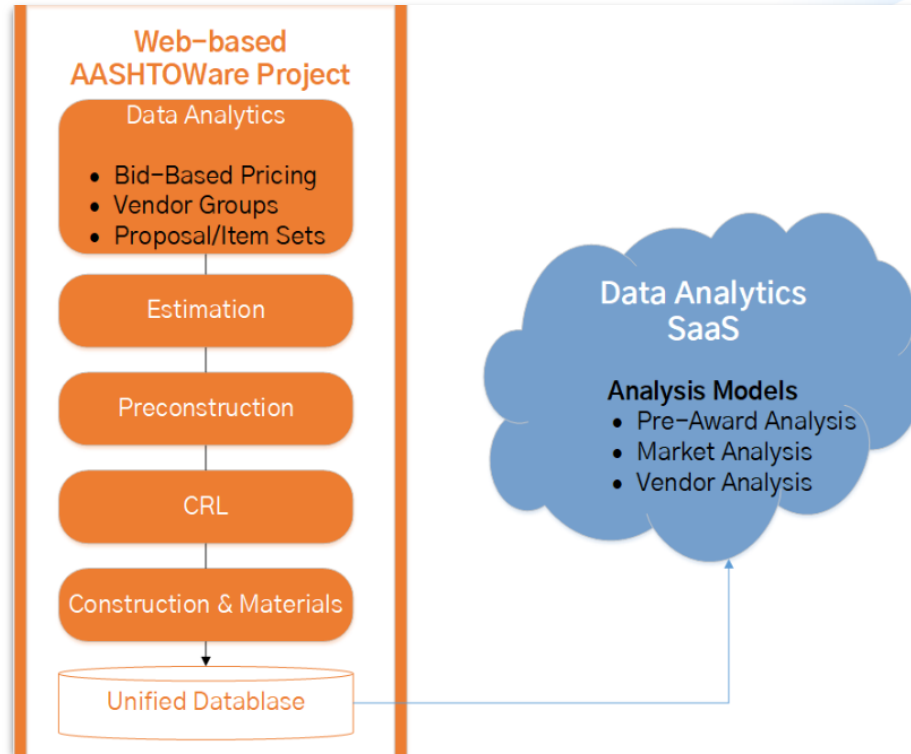
- AASHTOWare Project Data Analytics Software-as-a-Service, or DA SaaS, is the the next generation for the AASHTOWare Project BAMS/DSS analytical models.
 - AASHTOWare Project BAMS/DSS set to sunset in June 2027
- DA SaaS helps agencies analyze data from the AASHTOWare Project unified database to make well-informed, data-driven decisions for:
 - Pre-award analysis
 - Market analysis
 - Item analysis
 - Construction
- Agencies with a paid BAMS/DSS license can use DA SaaS and DA Web at no additional cost
- Agencies with a paid DA SaaS license no longer need to pay a SAS license required for BAMS/DSS

DA Web & DA SaaS

2 parts, 1 license



DA Web & DA SaaS



Data Analytics vs BAMS/DSS

BAMS/DSS Overview

	BAMS/DSS	DA Web	DA SaaS
Purpose	Historical Database Statistical Analysis Bid-Based Pricing Adhoc Reporting	Unified Database Bid-Based Pricing Reporting	Statistical Analysis
Software Architecture	Client/Server Architecture Client = .exe on the PC for each person	Web-Based Users access the software via a web browser	Cloud-Based Software-as-a-Service Users access the software via a web browser.
Historical Data	Historical data is periodically imported/pulled into BAMS/DSS from other sources	Uses the AASHTOWare Project unified database	Data is copied and transferred to the cloud from the AASHTOWare Project unified database.
Analysis Models	Users can perform statistical analysis through various analysis models.	N/A	Users can perform statistical analysis through various analysis models.

BAMS/DSS Overview

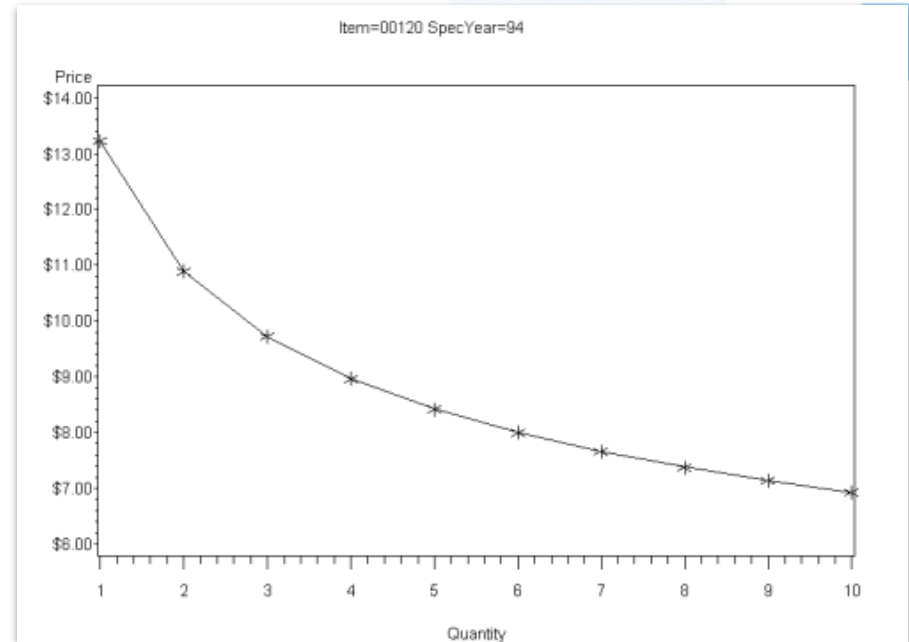
	BAMS/DSS	DA Web	DA SaaS
Bid-Based Pricing	Supports pricing for Estimator and Estimation	Supports pricing for Preconstruction, Estimation, & legacy Estimator	Includes Item Pricing Analysis Supports the Estimator SaaS pricing engine
Parameters	Static	Static	Dynamic
Reporting	Adhoc Reports	Options for Reporting: 1. ODATA 2. Custom Reports in AWP	PDF outputs for bid review and standard browser print. Notebook notes print to PDF.
Feedback	Call Tickets	Call Tickets	Feedback is submitted, ranked and viewed in-app and can be viewed on Aashtowareproject.org

Analyses Comparison

Item & Pricing Analysis

HIREG (BAMS/DSS)

- Historical Item Price Regression (HIREG) is a regression model that is used to price items:
 - Preconstruction
 - Estimator
 - BEREV



IRANK (BAMS/DSS)

- The Item Rank Analysis (IRANK) model identifies which items have the greatest dollar impact in a specified time period.

- Used for pricing analysis
- Item Rank Listing Report

13:00 TUESDAY, MARCH 20, 1990

TOP STANDARD ITEMS BETWEEN AUGUST 3, 1989 AND AUGUST 3, 1989
RANKED BY TOTAL AWARDED DOLLARS

4 CONTRACTS - AWARDED TOTAL: \$6,463,536

OVERALL RANK	ITEM NUMBER	ITEM DESCRIPTION	UNITS	QUANTITY	DOLLARS (IN 000S)	AVERAGE PRICE	PERCENT DOLLARS	CONTRACT OCCURRENCES
1	203-00060	EMB MATL (CIP)	CY	280,081	\$955	\$3.41	14.78	1
2	403-03024	HSP (GR C) (H-ASPH) (R)	TON	20,868	\$689	\$33.00	10.65	1
3	203-00010	UNCL EXCAV (CIP)	CY	91,271	\$344	\$3.76	5.32	2
4	626-00000	MOBILIZATION	LS	5	\$320	\$63980.00	4.95	4
5	201-00000	CLEAR AND GRUB	LS	2	\$300	150000	4.64	1
6	403-03024	HSP (GR E) (H-ASPH) (R)	TON	9,522	\$276	\$29.00	4.27	1
7	614-00000	FLAGGING	HOOR	20,100	\$287	\$13.27	4.13	4
8	403-03010	HSP (GR E) (H)	TON	18,448	\$247	\$13.40	3.82	1
9	201-00001	CLEAR AND GRUB	ACRE	21	\$235	11200.00	3.64	1
10	410-01524	PMG COAT (TY AB) (H-ASPH) (R)	TON	5,782	\$202	\$35.00	3.13	1
11	304-06010	ABC (CL 6) (H)	TON	30,362	\$191	\$6.29	2.96	2
12	403-03070	HSP (GR E) (H-ASPH) (SPEC)	TON	7,460	\$177	\$23.70	2.74	1
13	406-09500	COLD BITUM PVMT (RECYCLE)	SV	119,796	\$168	\$1.40	2.59	1
14	411-01204	ASPH CEMENT (AC-20) (RUB)	TON	819	\$164	\$200.00	2.53	1
15	606-00301	GD RAIL TY 3 (6-3)	LF	15,875	\$159	\$9.99	2.45	2
16	207-00205	TOPSOIL (H)	CY	25,979	\$151	\$5.82	2.34	3
17	304-03010	ABC (CL 3) (H)	TON	40,347	\$115	\$2.83	1.78	1
18	606-00302	GD RAIL TY 3 (12-6)	LF	15,250	\$109	\$7.15	1.69	1
19	626-00000	CONSTRUCTION SURVEYING	LS	4	\$105	\$26250.00	1.62	3
20	403-03520	HSP (GR EK) (H-ASPH)	TON	4,381	\$92	\$21.00	1.42	1
21	411-10276	EMUL ASPH (HMMS-2SP)	GAL	100,906	\$87	\$0.86	1.34	1
22	410-01510	PMG COAT (TY AB) (H)	TON	4,464	\$74	\$16.60	1.15	1
23	614-00002	TRAF CONTROL SUPERVISOR	DAY	380	\$65	\$169.93	1.00	4
24	411-01101	ASPH CEMENT (AC-10) (F)	TON	512	\$56	\$110.00	0.87	1
25	601-00030	CONCRETE CL A (BOX)	CY	225	\$22	\$222.40	0.77	1
26	607-01000	FENCE BW MP	LF	19,591	\$46	\$22.36	0.72	3
27	606-01350	END ANCHOR TY 3E	EACH	63	\$39	\$625.40	0.61	2
28	624-14024	24 IN CULVERT PIPE (CR 4)	LF	1,330	\$35	\$26.00	0.54	1
29	403-03020	HSP (PATCHING) (H-ASPH)	TON	534	\$61	\$61.34	0.52	2
30	627-00001	PVMT MFG PAINT	GAL	1,696	\$31	\$18.08	0.47	4
31	603-10240	24 IN CSP	LF	1,094	\$28	\$25.43	0.43	2
32	601-01030	CONCRETE CL B (WALL)	CY	122	\$27	\$220.00	0.42	1
33	614-00001	PILOT CAR OPERATION	HOOR	1,200	\$24	\$20.00	0.37	1
34	614-00370	CONCRETE BARRIER (TEMP)	LF	928	\$22	\$24.15	0.35	2
35	620-00012	FIELD LABORATORY (CL 2)	EACH	3	\$22	\$166.67	0.33	3
36	306-00001	HEAVY RIPRAP	CY	4,072	\$20	\$5.00	0.31	1
37	601-00030	CONCRETE CL A (WALL)	CY	107	\$20	\$189.65	0.31	1
38	411-01020	LSQ ASPH MATL (MC-70)	GAL	33,851	\$20	\$0.60	0.31	1
39	202-00240	REM ASPHALT MAT (PLANING)	SV	42,718	\$20	\$0.47	0.31	1
40	627-00005	EPOXY PAVEMENT MFG	GAL	329	\$20	\$60.00	0.31	1
					\$6,005		\$2.90	

Pricing (DA Web & Estimation)

- A pricing profile or bid history profile is a collection of settings used to gather historical bid data for pricing items in AASHTOWare Project Preconstruction™ and Estimation™
- You can use a pricing profile to determine which historical bid data is included in the calculations generated by the pricing service

Pricing Profile Summary

▼ Pricing Profile: 2-Yr Pricing Profile -

General

Data Selection

Basic Parameters

Advanced Parameters

Advanced Filters

Source Data

Pricing Profile *

2-Yr Pricing Profile

Type *

Item

Tech Upgrade for Estimator

- Estimator recently underwent a tech upgrade and is now available on a SaaS platform for agencies and their consultants
- Estimator connects to AASHTOWare Project through OpenAPI or OData to build the catalog, based on the settings and parameters in Estimator
- With the tech upgrade, it no longer requires uploading HREG files from BAMS/DSS or building the catalog from the AWP DA Pricing Profile

The screenshot displays the infotech Estimator web application interface. The main panel shows a list of estimates under the heading 'WI', with 2 of 3 seats assigned. A search bar and sorting options are visible. The list includes estimates with dates, IDs, and prices, such as 'Apr 30, 2026 WI 01234 \$1,789,655.22'. A warning banner at the bottom of the list reads 'Review Estimate for potential changes caused by Catalog or Estimator'. Overlaid on the right is the 'Catalogs' modal window, which contains fields for 'Catalog name' (4_year Avg and Reg), 'Description' (4 years Average and Regression), 'BID DATA' (Start: Jan 1, 2020, End: Dec 6, 2024), 'Work types' (Any work type), 'Bids' (All selected), 'PRICING OPTIONS' (Market area: Any market area), and 'Prefer' (Both selected). It also includes an 'Include with regressions' checkbox (Season checked) and buttons for 'Delete', 'Build', 'Cancel', and 'Save'.

Price History – Analyst (DA SaaS)

- Slice and dice data on the fly with data selection parameters
- Supports percent based estimates for Maintenance of Traffic and Mobilization items (percentage of the overall project cost) - regression analysis based on the size of the project
- Additional item price analyses:
 - price trends
 - price frequency analysis
 - price by area

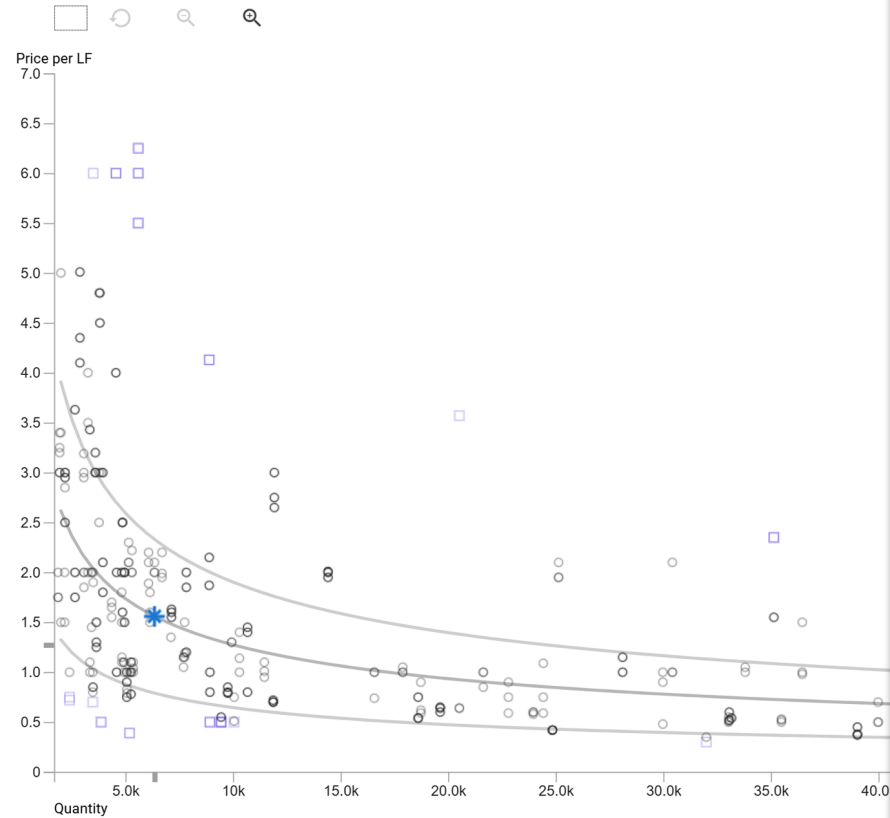


Item 685.1102 - LF

White Epoxy ReflectORIZED Pavement Stripes - 20 mil

Quantity

Date



Regression  \$1.56
C ±0.81
379 \$0.30 - \$14.26
0.7797 0.7729

Data Selection

Data History

Proposal Selection Sr 

Start Letting Month/Year
09/2023

End Letting Month/Year
09/2025

Market Area 

Worktypes 

Functional Work 

Bids

Include
Low 3 

Exclude Token Bids at or Under
\$ 0.01

Items

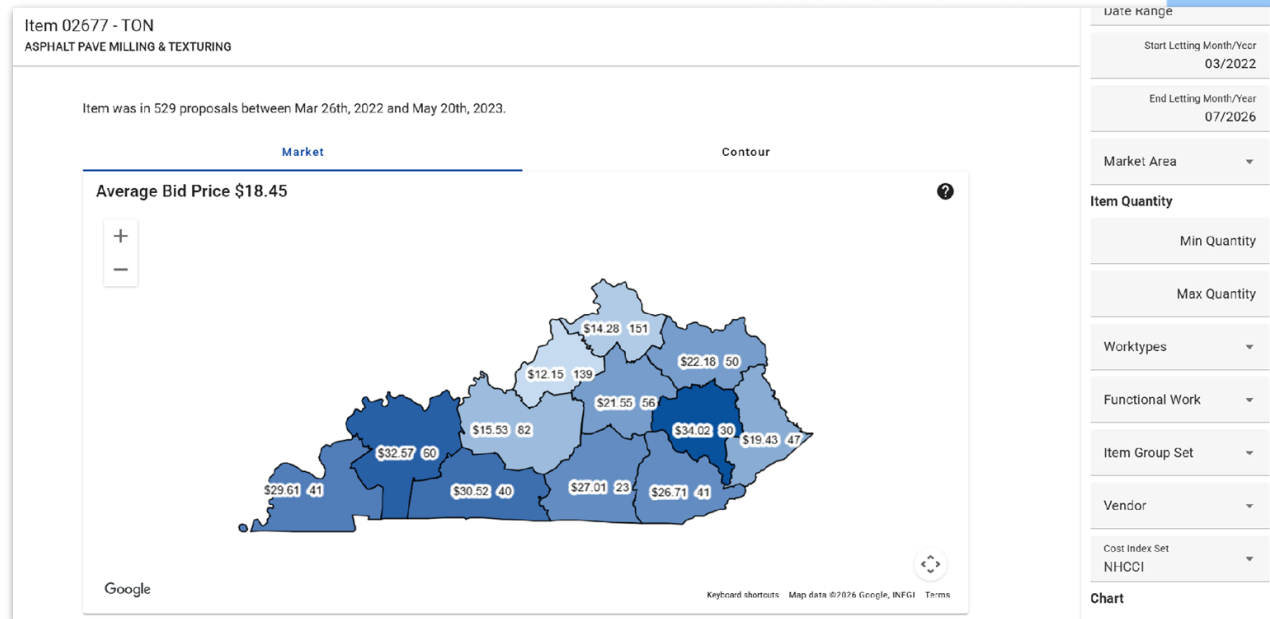
Min Quantity

Max Quantity

Item Group Set 

Bid History – Reviewer (DA SaaS)

- Review historical average bid prices across the state
- View historical trends for prices by region and statewide
- Use cost index sets to adjust past prices for comparison



Top N - Analyst (DA SaaS)

- Search across items that account for the majority of the awarded dollars

↑ Top N Items Analyst

🔍 Search Items

☰

⋮

The top 100 items make up 67% of total awarded dollars.

Top	Cumulative	Item	Proposals	Amount	Total	
1	3%	763000 - LS INITIAL EXPENSE/DE-MOBILIZATION	250	\$57,142,945	3.4%	⋮
2	7%	401005 - TON SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)	135	\$54,389,125	3.3%	⋮
3	10%	401046 - TON SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)	50	\$52,577,585	3.1%	⋮
4	13%	615001 - LS STEEL STRUCTURES	7	\$47,393,489	2.8%	⋮
5	15%	616000 - LS CLEANING AND PAINTING EXISTING STEEL	12	\$46,998,828	2.8%	⋮
6	18%	211000 - LS REMOVAL OF STRUCTURES AND OBSTRUCTIONS	114	\$41,387,136	2.5%	⋮
7	20%	202000 - CY EXCAVATION AND EMBANKMENT	181	\$33,413,190	2.0%	⋮
8	22%	301001 - CY GABC	181	\$29,498,515	1.8%	⋮

Data History

Proposal Selection S€ ▾

Start Letting Month/Year
03/2020

End Letting Month/Year
10/2025

Items

Top

☒ Count

☐ Percent

Count
100

Percent
80%

Grouping

☐ Item Class

☐ Item Type

☐ Contract Class

☐ Item First 3 Chars

☒ None

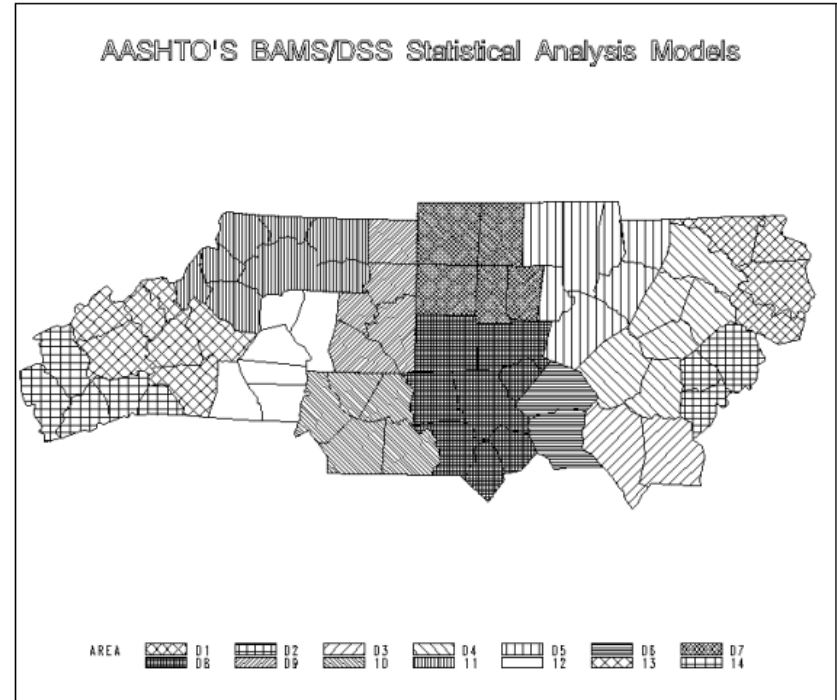
Specbooks

CLOSE RESET

Market Definition

AREAS (BAMS/DSS)

- AREAS is an analysis model used for market analysis
- Used for cutting up markets into sub-regions based on vendor activity



Define Markets (DA SaaS)

- Allows users to quickly cut markets on the fly manually
- Auto-Market generates market areas using a similar algorithm to BAMS/DSS
- Can utilize market definitions in analyses throughout DA SaaS, and can be imported back into DA Web to use for Estimation



Define Market

Top Cities - alex



Google

Keyboard shortcuts Map data ©2025 Google, INEGI Terms

Bids

Wins

Dollars

☐ Show Areas as Percent ?

		Bidder	Region	CSum	↓ Statewide	%SW	Spencer	Oldham	Shelby	Bullitt	Jefferson
		NICHOLSO...	116	19%	152	76%		4	4	7	101
		H G MAYS ...	2	20%	137	1%				1	1
		LANGEN H...	0	20%	132	0%					

Regions

[JOIN](#)

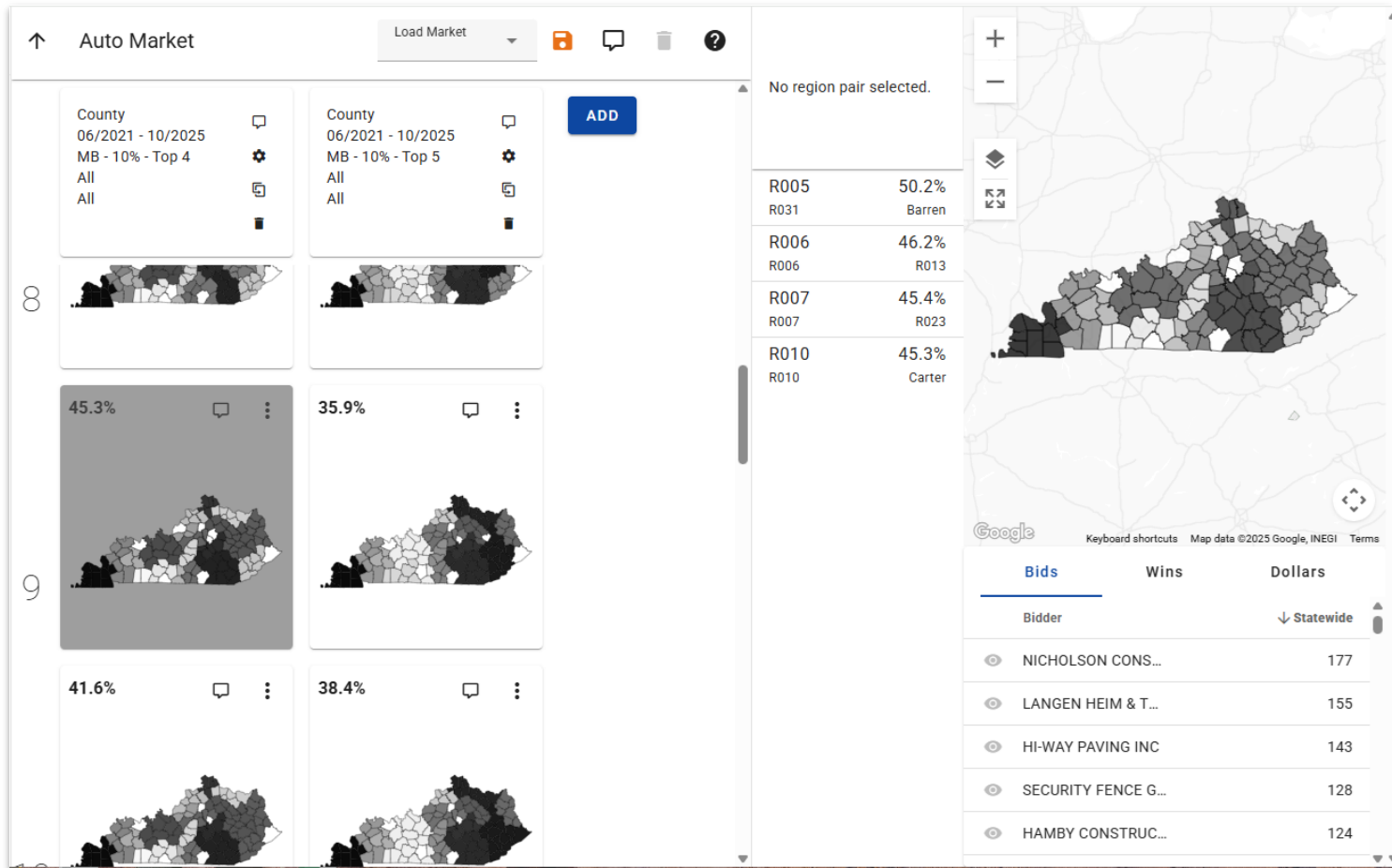
[RENAME](#)

Add Region

Press enter to add a region.



Assigned



Thank you!
Questions?

TEA 2026

Estimation and Estimator Updates

Introduction



Erica Daughtry

Product Group Lead

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Agenda

- + Cost-Based Tools in Estimation
- + Estimator Updates

Demo

Questions?