



U.S. DEPARTMENT
of **ENERGY**

Federal Energy
Management Program

Tips and Tricks for FAST (and Furious) Compliance

T03-S06, August 6th, 2025

Leidy Boyce, NREL

Session Moderator

FEMP Summer CAMP (Courses Aligned with Mission Priorities)

Agenda

- Session Learning Objectives
- Michelle Kirby, Idaho National Laboratory ~ 10 min
- Ron Rodger, Federal Aviation Administration ~ 20 min
- Julian Bentley, Bentley Energy Consulting LLC ~ 20 min
- Q&A session ~10 min

Session Learning Outcomes

1. Identify mechanisms to streamline the process to improve data quality through FAST data reporting.
2. Recognize effective strategies for identifying and resolving common data quality issues.
3. Identify best practices to reduce errors and avoid operational mistakes.
4. Recognize tools to ensure compliance and increase efficiency in handling and reporting data.



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FAST Basics

Michelle Kirby, 6 August 2025

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Michelle Kirby

FAST Support Team

Department of Energy's Idaho National Laboratory

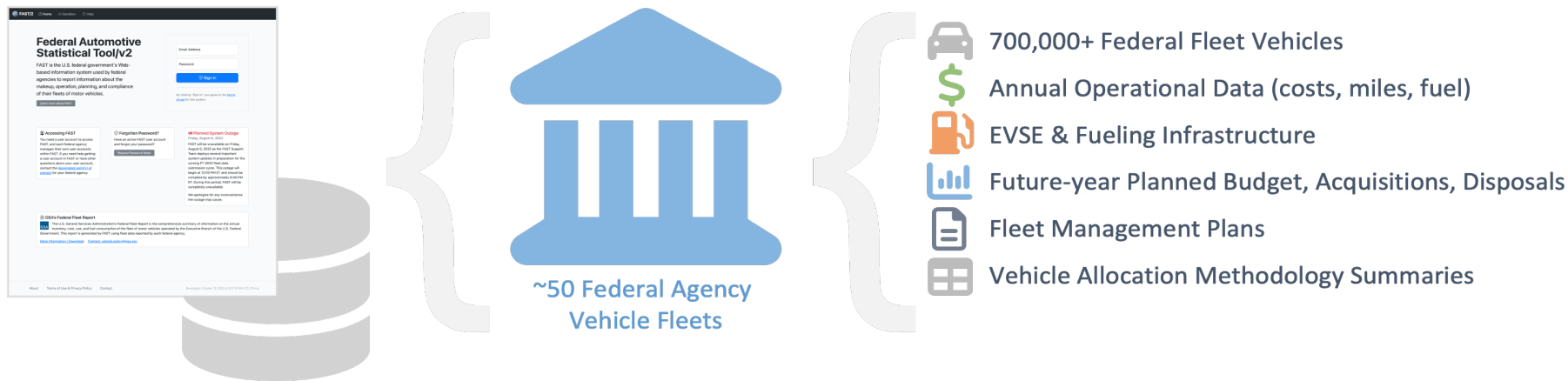
Agenda

- What is FAST?
- Policy Drivers
- Types of FAST Reporting
- Summary of Federal Fleet Reporting
- FAST Reporting Timeline
- FAST Contacts


What is FAST?


Federal Automotive Statistical Tool (FAST)


System ▪ Information Resource ▪ Partnership



PARTNERS

 U.S. DOE Federal Energy Management Program

 U.S. GSA Office of Government-wide Policy

 Idaho National Laboratory

Additional Stakeholders

Office of Management & Budget
Council on Environmental Quality
U.S. Environmental Protection Agency

Underlying Requirements

EPACT 1992/2005
EISA 2007
FAST Act of 2015
41 CFR 102-34
40 U.S. Code § 17503
OMB Circular A-11

Policy Drivers

Agencies submit vehicle-level data on their fleet every fiscal year in FAST

Annual fleet reporting is mandatory to assess statutory compliance



**Federal Automotive
Statistical Tool**
<https://fastweb.inl.gov/>



Types of FAST Reporting



Year-end Vehicle Level Data (VLD) Submission - reporting for each individual vehicle in an agency fleet, including vehicle's attributes and operational information (mileage, costs, and fuel consumption).



Annual Fueling Center and EVSE Inventory Report - collects information about the Federal government's vehicle fueling infrastructure and electric vehicle supply equipment (EVSE) annually



Office of Management and Budget (OMB) Circular A-11 Annual Fleet Budget Summary Submission – collects future-year estimates for vehicle acquisitions, vehicle disposals, and fleet costs cover the three fiscal years as well as the Fleet Management Plan & Budget Narrative



Optimal Fleet Profile (Optional) - product of the agency's most recent vehicle allocation methodology (VAM) study

Summary of Federal Fleet Statutes

	Statute	Requirement
Fuel Use	Petroleum Reduction <i>EISA §142</i>	Requires 20 percent total reduction from FY05
Alternative Fuel Use	Alternative Fuel Use <i>EISA §142</i>	Requires 10 percent total increase from FY05
	Alternative fuel use in AFVs <i>EPAct 2005 § 701</i>	All dual-fueled vehicles must use alternative fuel if reasonably available
	Alternative fuel infrastructure <i>EISA § 246</i>	Every federal fleet fueling center must install a renewable fuel pump
Vehicle Acquisition	Acquisition of AFVs <i>EPAct 1992</i>	At least 75% of LDVs acquired in MSAs/CMSAs must be AFVs
	Acquisition of low GHG-emitting vehicles <i>EISA §141</i>	Prohibits agencies from acquiring vehicles that are not low-GHG-emitting vehicles



FEMP, GSA, and EPA use the vehicle and fueling center data submitted in FAST to monitor and track compliance with these statutes.

FAST Report Used to Track Compliance with Federal Fleet Statutes

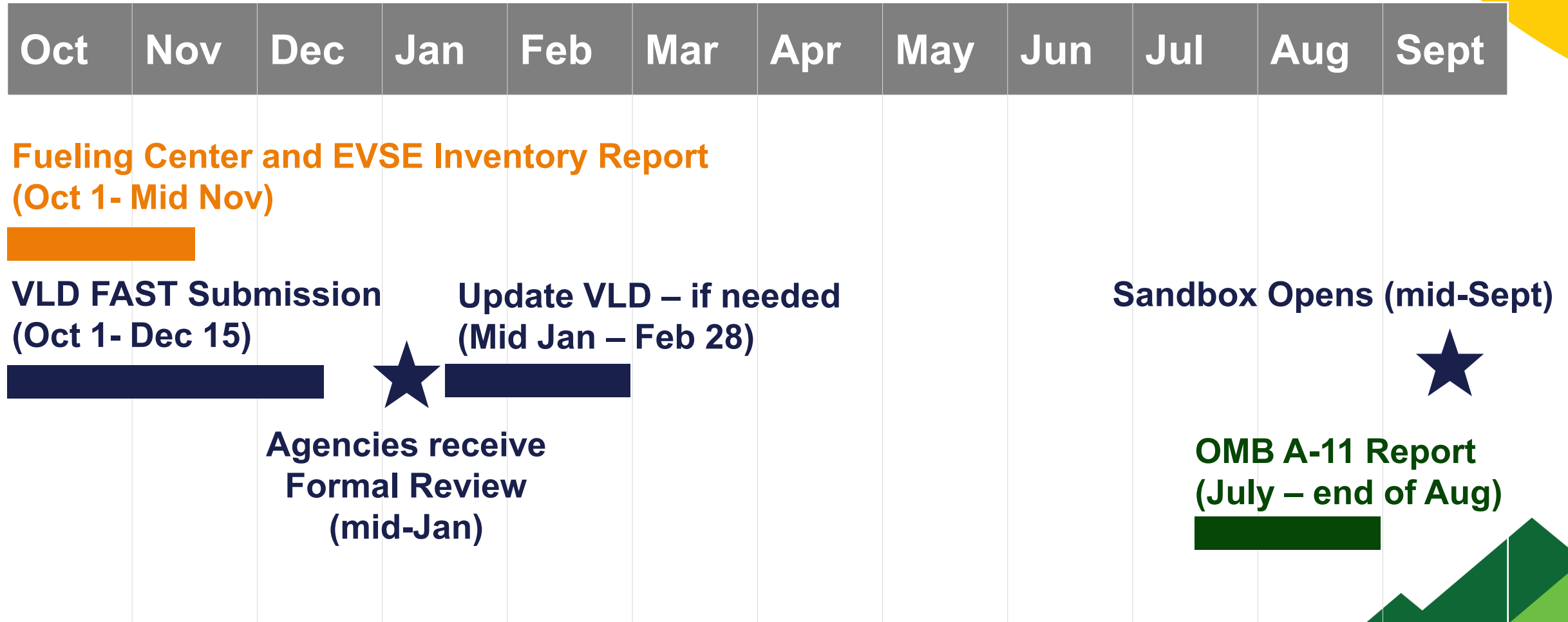
	Statute	FAST Report
Fuel Use	Petroleum Reduction <i>EISA §142</i>	VLD Submission
Alternative Fuel Use	Alternative Fuel Use <i>EISA §142</i>	VLD Submission
	Alternative fuel use in AFVs <i>EPAct 2005 § 701</i>	VLD Submission
	Alternative fuel infrastructure <i>EISA § 246</i>	Fueling Center and EVSE Inventory Report
Vehicle Acquisition	Acquisition of AFVs <i>EPAct 1992</i>	VLD Submission
	Acquisition of low GHG-emitting vehicles <i>EISA §141</i>	VLD Submission

FAST Underlying Requirements

Visit FAST's Underlying Requirements webpage for a summary of the federal motor vehicle fleet requirements that guide FAST's annual data collection.

<https://fastweb.inl.gov/help/index.cfm/background/underlying-requirements>

FAST Reporting Timeline



FAST Contacts

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Federal Automotive Statistical Tool (FAST)

<https://fastweb.inl.gov/>

FAST Sandbox

<https://fastweb.inl.gov/sandbox/>

Help

<https://fastweb.inl.gov/help/>



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Leveraging FAST Flags to Strength Fleet Oversight

Ron Rogers, August 6, 2025

FEMP Summer CAMP (Courses Aligned with Mission Priorities)



Ron J. Rogers

National Fleet Manager

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Topics

- Integrating FAST Compliance into Daily Fleet Management
- Monitoring Critical Metric Proactively
- Supporting Broader Fleet Objectives
- Best Practices & Lessons Learned

Integrating FAST Compliance into Daily Fleet Management

At the FAA, compliance with FAST requirements is achieved by leveraging data from both **GSAFleet.gov** and the FAA's internal **Motor Vehicle System (FAAMVS)** to maintain accurate, current vehicle-level data (VLD).

- Vehicle data is downloaded monthly from **GSAFleet.gov** and then imported into **FAAMVS**.
- The data undergoes a series of automated audits to evaluate compliance with FAST standards.
- In addition to key vehicle data elements, we create flagging alerts for:
 - Mileage
 - Telematics communication status
 - Garage addresses
 - Fuel type
 - Cost center assignments
 - Vehicle assignment types

This process ensures continuous monitoring and validation of fleet data to support operational efficiency and regulatory compliance.

Why We Monitor Key Data Elements

- **Mileage:** Identify excess, zero, or negative mileage for accuracy and compliance
- **Telematics:** Flag devices that haven't reported odometer readings in 30+ days
- **Fuel Type:** Verify alignment with VIN data to ensure correct reporting and compliance
- **Cost Centers:** Ensure accurate billing and financial accountability
- **Assignment Type:** Understand vehicle utilization for right-sizing and optimization

Compliance Flags

Flag	Description of Flag
Missing Assignment Type	Indicates that the assignment type (Office/Pool/Shared) is blank for this vehicle
Zero Miles	Indicates that a vehicle reported zero miles for one or more months in the reporting period
Negative Miles	Indicates that a vehicle reported negative miles for one or more months in the reporting period
Monthly Miles > 2500	Indicates that a vehicle reported miles greater than 2500 for one or more months in the reporting period
MPG < 1	Indicates that a vehicle's calculated MPG is less than 1
Zero Miles / Zero Fuel	Indicates that a vehicle reported zero miles driven and zero fuel consumed within the reporting period

Monthly FAST Report

Class & Tag	VIN	Flags	Assignment Type	April Monthly Miles Driven	May Monthly Miles Driven	June Monthly Miles Driven	Total Miles Driven Q3	Total Fuel Consumed Q3 (Gallons)	MPG	Fuel Type
DOT-20000	1J4FF28B09D249571	Zero Miles Driven, MPG < 1, Zero Miles / Zero Fuel	OFFICE	0	0	0	0	0	0	0 Gasoline - Dedicated
DOT-20001	1FVDCXC9Y9FHGJ8051	Zero Miles Driven, MPG < 1, Zero Miles / Zero Fuel	OFFICE	0	0	0	0	0	0	0 Diesel - Dedicated
DOT-20004	3GNKBHR45NS124991	Zero Miles Driven, MPG < 1, Zero Miles / Zero Fuel	OFFICE	0	0	0	0	0	0	0 Gasoline - Dedicated
DOT-20006	1FTEW1EP1PFA25061	Zero Miles Driven, MPG < 1	OFFICE	0	0	0	0	17.9	0	0 Gasoline - Dedicated
DOT-20010	1HTSHNYR2MH361922	MPG < 1	OFFICE	1	163	4	168	0	0	0 Diesel - Dedicated
DOT-20315	1FTDR15U8SPA34951	MPG < 1	OFFICE	1	0	1	2	26.651	0.075044088	0 Gasoline - Dedicated
DOT-20328	1B7KF26Z2TS709398	MPG < 1	OFFICE	0	1	0	1	0	0	0 Gasoline - Dedicated
DOT-20336	2FDKF38F6TCA50007	MPG < 1	OFFICE	29	0	23	52	0	0	0 Gasoline - Dedicated
DOT-20337	1FMCU24X5VUC37440	MPG < 1	OFFICE	1	6	0	7	0	0	0 Gasoline - Dedicated
DOT-20342	1GCDT14X2V8188759	MPG < 1	OFFICE	1	6	0	7	0	0	0 Gasoline - Dedicated
DOT-20345	1FTJW36H3VEC15691	MPG < 1	OFFICE	1	0	0	1	0	0	0 Gasoline - Dedicated
DOT-20346	1B6MF3657VJ604185	Zero Miles Driven, MPG < 1, Zero Miles / Zero Fuel	OFFICE	0	0	0	0	0	0	0 Gasoline - Dedicated
DOT-20353	1GCGK24R8WE185892	Zero Miles Driven, MPG < 1, Zero Miles / Zero Fuel	OFFICE	0	0	0	0	0	0	0 Gasoline - Dedicated
DOT-20369	1FTNW21S4YEE28099	MPG < 1	OFFICE	0	1	0	1	0	0	0 Gasoline - Dedicated
DOT-20374	1FT2R15EX1PB77364	MPG < 1	OFFICE	0	1	0	1	0	0	0 Gasoline - Dedicated
DOT-20375	1FTZR15E31PB77366	MPG < 1	OFFICE	0	1	0	1	0	0	0 Gasoline - Dedicated
DOT-20383	1FTNW21L34EA24052	Zero Miles Driven, MPG < 1, Zero Miles / Zero Fuel	OFFICE	0	0	0	0	0	0	0 Gasoline - Dedicated
DOT-20384	1GCDT19X838224136	MPG < 1	OFFICE	1	0	0	1	0	0	0 Gasoline - Dedicated

Monthly FAST Flag Alerts – Key Takeaways

Why It Matters

- **Early Issue Detection** – Identifies data gaps and discrepancies monthly using a rolling 3-month review, avoiding surprises during the annual reporting cycle.
- **Enhanced Data Accuracy** – Aligns fleet management system and GSA Fleet data with FAST requirements for consistent, reliable records.
- **Reduced Rework** – Minimizes last-minute fixes and eliminates emergency data calls at year-end.
- **Audit-Ready Compliance** – Demonstrates strong internal controls and a proactive approach to meeting federal reporting standards.

What's Included:

- **Critical FAST Flags** – Key compliance indicators affecting your fleet.
- **Actionable Review Lists** – Vehicles or records that require updates or corrections.
- **Data-Driven Insights** – Tools and guidance for proactive, year-round data management.

FAST Reports for Fleet Card Oversight

Purpose:

Enhance oversight of **fleet card transactions** and ensure **accurate reporting** of vehicle activity by leveraging the **Monthly FAST Report**.

FAST Related Areas of Reviewed:

1. **Negative or Zero Mileage with Fuel/Maintenance Recorded** – Possible data entry or reporting errors
2. **Miles Driven with Zero Gallons Reported** – Indicates fuel reporting gaps
3. **Fuel/Maintenance Purchases with Zero Miles Reported** – Suggests misreporting or missing odometer data
4. **No Maintenance and/or Fuel Reported** – Investigate reporting omissions
5. **Zero Miles, Maintenance, and Fuel** – Possible inactive or untracked vehicles
6. **Zero Miles but Maintenance Reported** – Verify accuracy of work orders

Monthly Review of Customer Driven Data

FAA reviews its Customer Driven Data (CDD) for errors monthly.

During the bulk upload process, GSAFleet.gov and our internal procedures identify errors associated with:

- **Garage Addresses:** Missing or non-standardized entries *(FAA internal process)*
- **Vehicle Fuel Type:** Correct classification *(Updated by GSA FSR)*
- **Vehicle Type:** Verify correct category assignment *(Updated by GSA FSR)*
- **Gross Vehicle Weight Rating (GVWR):** Validate specifications *(Updated by GSA FSR)*

(DON'T ASSUME GSA's DATA IS CORRECT)

Telematics Report – No Communication (30+ Days)

Identify vehicles with no odometer data reported in **30+ days**.

Data Source:

GSAFleet.gov – Centralized data via **CIR (Custom Inventory Report)**

FAA RPA BOT – Automates data extraction, flagging, and report generation

Why it happens:

- The telematics device may be disconnected or malfunction.
- Vehicle's OEM telematics device has not been activated.
- The vehicle has not been driven, preventing new data from being captured.
- The vehicle's battery may have been disconnected or depleted, interrupting telematics transmission.
- Cellular connectivity issues may be preventing the device from sending data.

Key Concerns:

- No Mileage Reported
- GSA Billing – GSA may be using an average mileage to bill, under- or overbilling
- Incorrect Annual Mileage Calculations
- Inability to Manually Enter Mileage

Use of RPA to Enhance Fleet Management

What is RPA?

Robotic Process Automation (RPA) uses software bots to automate repetitive, rule-based tasks, reducing manual workload and errors.

Automates Data Extraction & Validation:

Pulls data from **GSAFleet.gov** (CIR) and FAA Motor Vehicle System (FAAMVS).

Key Benefits:

- ✓ **Time Savings:** Automates high-volume data tasks
- ✓ **Error Reduction:** Improves data accuracy
- ✓ **Compliance:** Supports proactive FAST reporting
- ✓ **Scalability:** Can expand to additional fleet functions

Use of RPA to Enhance Fleet Management

Generates Monthly & Quarterly Reports

Telematics Reports:

- Activations & Activation Rate (%)
- Vehicles without telematics devices
- Non-communication flags (30+ days without odometer)

Garage Addresses:

- Missing Garage Addresses
- Garage Address Standardization (aligns vehicles with FAA locations)

Additional Checks:

- Assignment of Facility IDs & Real Property UIDs
- Enforcement of standardized garage addresses
- Identification of Vehicle Type and Fuel Type by location
- Battery Electric Vehicle alignment with FAA locations



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FAST Data Quality Best Practices

Julian Bentley, August 6th, 2025

FEMP Summer CAMP (Courses Aligned with Mission Priorities)



Julian Bentley

Bentley Energy Consulting LLC

Supporting NREL and DOE FEMP

Agenda

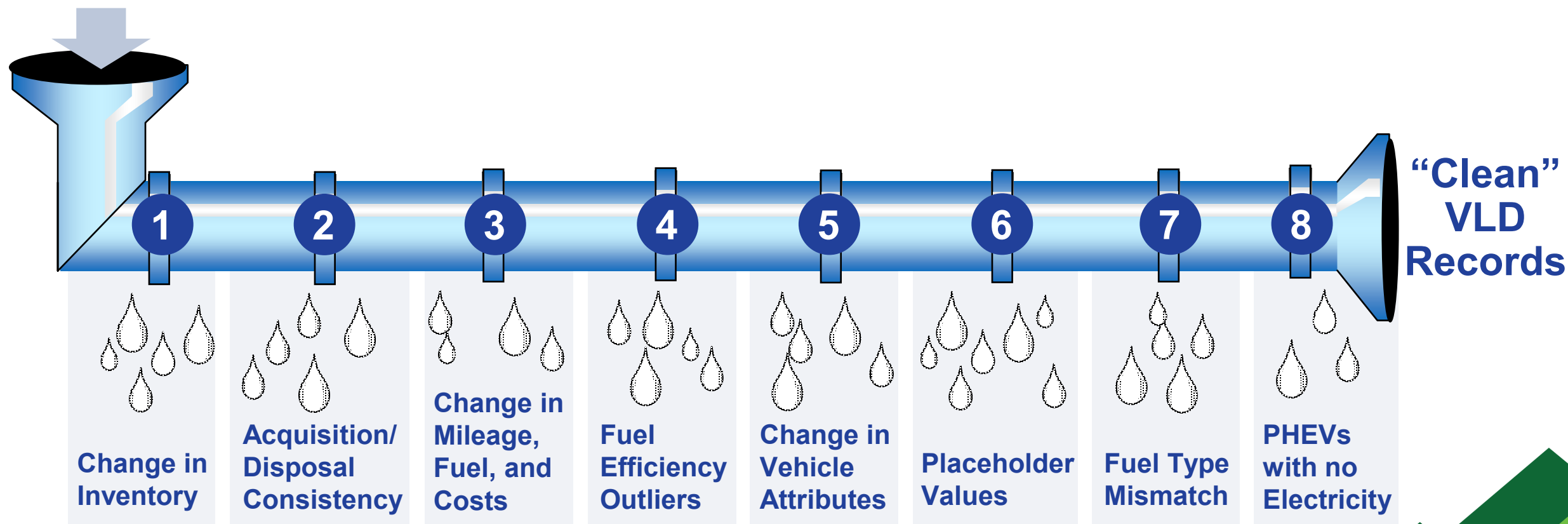
- 1 Why Data Quality is Important**
- 2 Data Quality Best Practices**
- 3 Examples**
- 4 Institutionalizing Data Quality Improvement**

Why Data Quality Is Important



Primary Data Quality Issues

Agency VLD Data
Submission



Four Keys to Data Quality



Document

Routine Checks

Train

Example: Researching MPG Outliers

Calculated MPG Mismatch (High MPG)

vehMiles	TotalFuelGGE	MPG_Reported	vehFuelConfig	vehMake	VehModel	vehType
179,999	6	29,999.8	GAS DE	FORD	EXPLORER	LD SUV 4x4
179,999	11	16,363.5	GAS DE	CHEVROLET	EXPRESS	LD Other 4x2
179,999	15	11,999.9	GAS/E85 FF	RAM	1500	LD Pickup 4x2
179,999	17	10,588.2	DSL DE	FORD	F350	MD Pickup
179,999	18	9,999.9	GAS/E85 FF	FORD	F150	LD Pickup 4x2
179,999	18	9,999.9	DSL DE	INTERNATIONAL	PROSTAR	HD
179,999	20	9,000.0	DSL DE	VOLVO	VNVNL	HD
179,999	20	9,000.0	GAS/E85 FF	CHEVROLET	SILVERADO	LD Pickup 4x2
179,999	20	9,000.0	GAS/E85 FF	RAM	1500	LD Pickup 4x4

Calculated MPG Mismatch (Low MPG)

vehMiles	TotalFuelGGE	MPG_Reported	vehFuelConfig	vehType	vehMake	VehModel
730	2,332	0.3	DSL DE	HD	INTERNATIONAL	4300M7
824	1,673	0.5	DSL DE	HD	FREIGHTLINER	MM106064S
203	1,456	0.1	GAS/E85 FF	MD Other	FORD	F250
328	1,347	0.2	DSL DE	HD	ROSENBAUER	FLF 10500/650/3
478	1,280	0.4	DSL DE	HD	FREIGHTLINER	M2106
87	1,257	0.1	GAS HY	Sedan/St Wgn Compact	CHEVROLET	MALIBU
240	1,205	0.2	DSL DE	HD	FORD	F800

- Try to store the fuel economy of vehicles in your FMIS
- Compare calculated MPG to expected MPG
- Set the variance that you consider an outlier
- Take into account low use vehicles

Example: Researching Placeholders

Fuel or Mileage Placeholder

vehMiles	TotalFuelGGE	vehFuelConfig	vehType	vehMake	VehModel
157,576	1	GAS DE	LD Minivan 4x2 (Passenger)	FORD	WINDSTAR
133,930	1	GAS DE	MD Van (Passenger)	FORD	E-350
72,990	1	GAS DE	LD Minivan 4x2 (Passenger)	FORD	WINDSTAR
62,875	1	GAS DE	MD Van (Passenger)	FORD	TRANSIT
62,425	1	GAS/E85 FF	LD Minivan 4x2 (Passenger)	DODGE	GRAND CARAVAN
56,633	1	GAS DE	LD SUV 4x4	FORD	FLEX
47,424	1	GAS DE	LD Van 4x2 (Passenger)	FORD	E-350
44,241	1	GAS DE	MD Van (Passenger)	FORD	E-350
42,535	1	GAS DE	MD Van (Passenger)	FORD	TRANSIT 350
39,006	1	GAS/E85 FF	LD Van 4x2 (Passenger)	FORD	TRANSIT

- Add data quality checks to identify values of “1” for fuel and/or mileage
- Find vehicles with equivalent values for mileage and fuel
- Search calculated MPG’s for common multiples

Example: Research Data Errors



Find the root causes driving data errors

Suspect 1 – Manual Entry Typos: *Missed digits at pump or on paper logs*

Suspect 2 – Late/Missing Feeds: *Fuel card, bulk-fuel, or telematics gaps*

Suspect 3 – Timing Mismatch: *Fuel and mileage dates out of sync*

Suspect 4 – Fuel Allocation: *Gallons or kWh not linked to vehicles*

Example: Correcting Data

1 Critical and High Impact



Triage

- Impact on key metrics
- Number of issues

2 Common Source



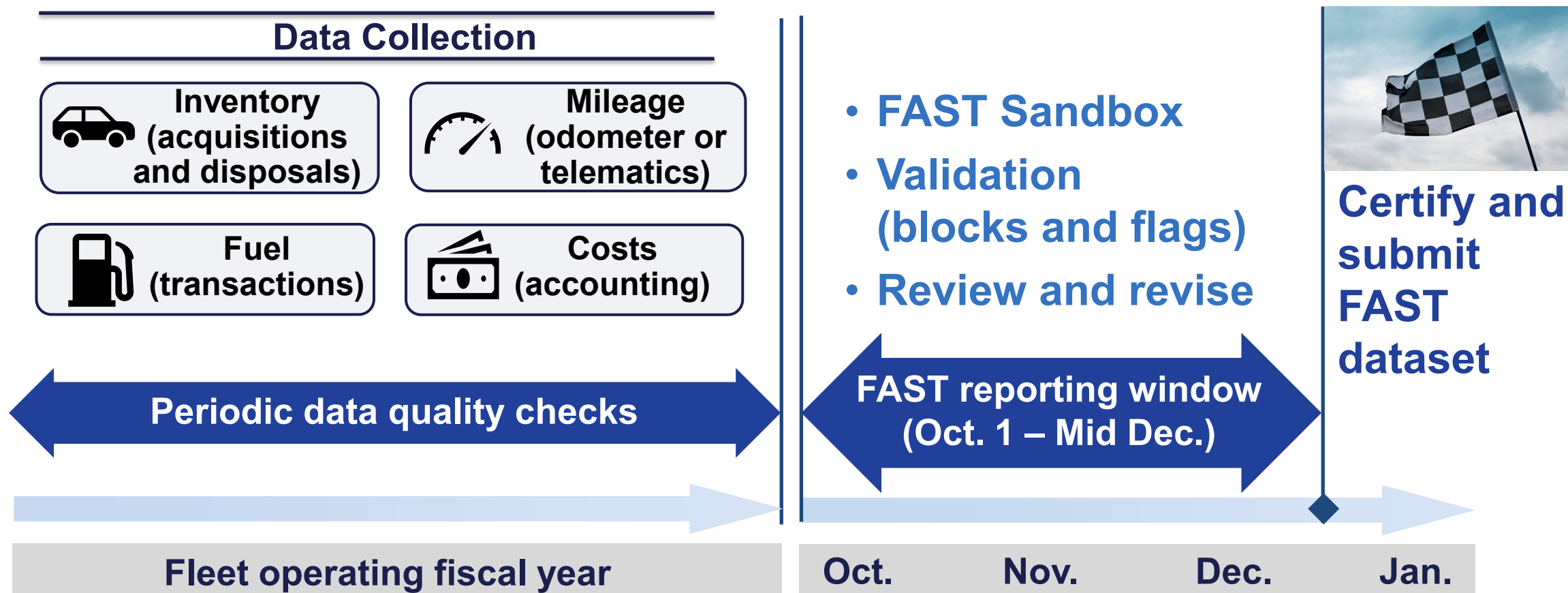
Group Flags

- Same fuel-card feed?
- Region or location?
- Telematics vendor?

3 Data Management Solution

- Cross check fuel card data feeds with telematics
- Review pump data entry procedures
- More frequent quality checks

Data Quality Throughout the Fiscal Year



Document and Continuously Improve



- Centralize institutional learning
- Update after every correction



- Process updates
- New feed and validation rules



- Measure progress
- Graph trends and gains

Document, update, repeat. Data gets cleaner, reporting gets easier

Train and Communicate

Online Community and Training



- Short how-to videos
- Monthly 'Keep It Clean' emails

Recognize the Champions



- Clean-data leaderboard
- Name data champions

Keep the Conversation Alive



- Regular data huddles
- Share flags, root causes, next fixes

Share, reward, and repeat to make data quality a daily habit



Thank you!

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FEMP Summer CAMP (Courses Aligned with Mission Priorities)

**DOE Federal Energy
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Q&A Session

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FAST Fleet Data Automation, Streamlining, and Quality

Sept. 16, 2–3:30 p.m. ET

Register at:

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