



Federal Automotive Statistical Tool: FY 2022 Federal Fleet Trends and Data Quality

July 2023

Changing the World's Energy Future

Ron Stewart



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Ron Stewart
FAST Support Team

Federal Automotive Statistical Tool

FY 2022 Federal Fleet Trends & Data Quality

FedFleet Quarterly Meeting • July 2023



FY 2022 Federal Fleet Data

Datacall Overview • Comparison to Recent Years • High-level Trends

Data Call Overview

- **Fleet data submissions from 47 agencies**
- **Timeline**
 - Data call opened October 1, 2022
 - ... closed December 15, 2022
 - Review feedback to agencies January 18, 2023
 - Agency updates due February 24, 2023
 - Dataset declared final March 1, 2023
- **Dataset**
 - 698K vehicles
 - 1.03M fuel entries
 - ~32M data points



FY 2022 Federal Fleet by the Numbers



Inventory

656K vehicles

vs FY 2021: -0.04% ↓

vs FY 2020: -0.1% ↓

vs FY 2019: +1.9% ↑



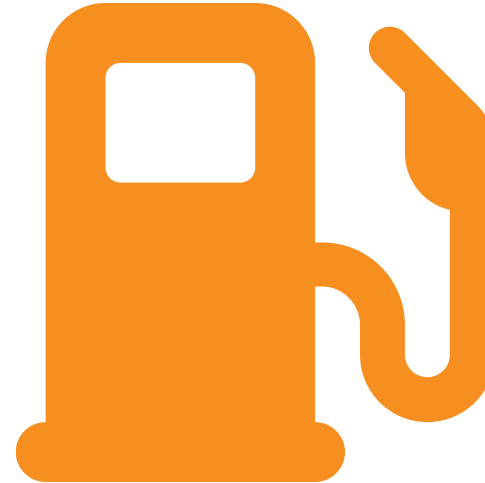
Miles

4.30B miles

vs FY 2021: +1.8% ↑

vs FY 2020: +1.5% ↑

vs FY 2019: -7.1% ↓



Fuel

379M GGEs

vs FY 2021: +3.0% ↑

vs FY 2020: -1.1% ↓

vs FY 2019: -3.8% ↓



Cost

\$ 5.04B

vs FY 2021: +13.4% ↑

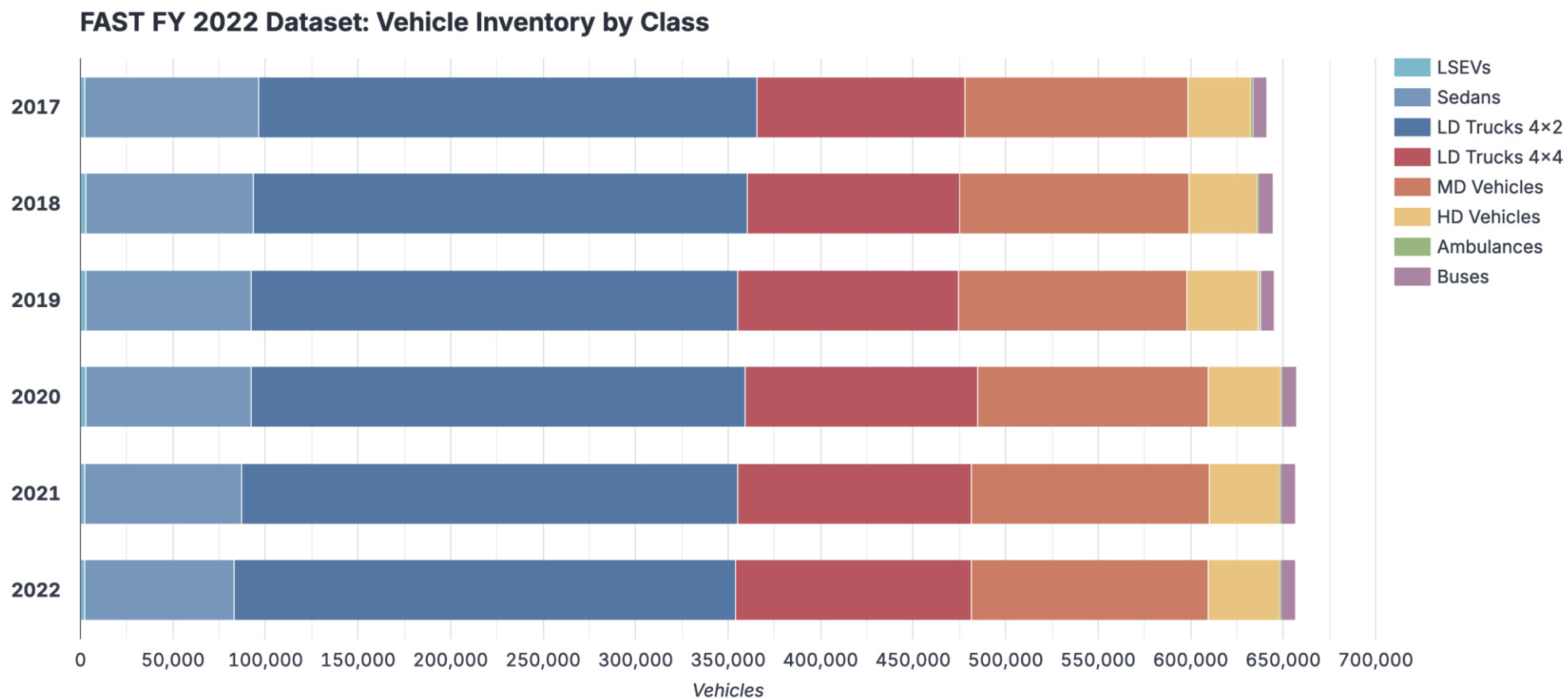
vs FY 2020: +5.2% ↑

vs FY 2019: +3.4% ↑

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

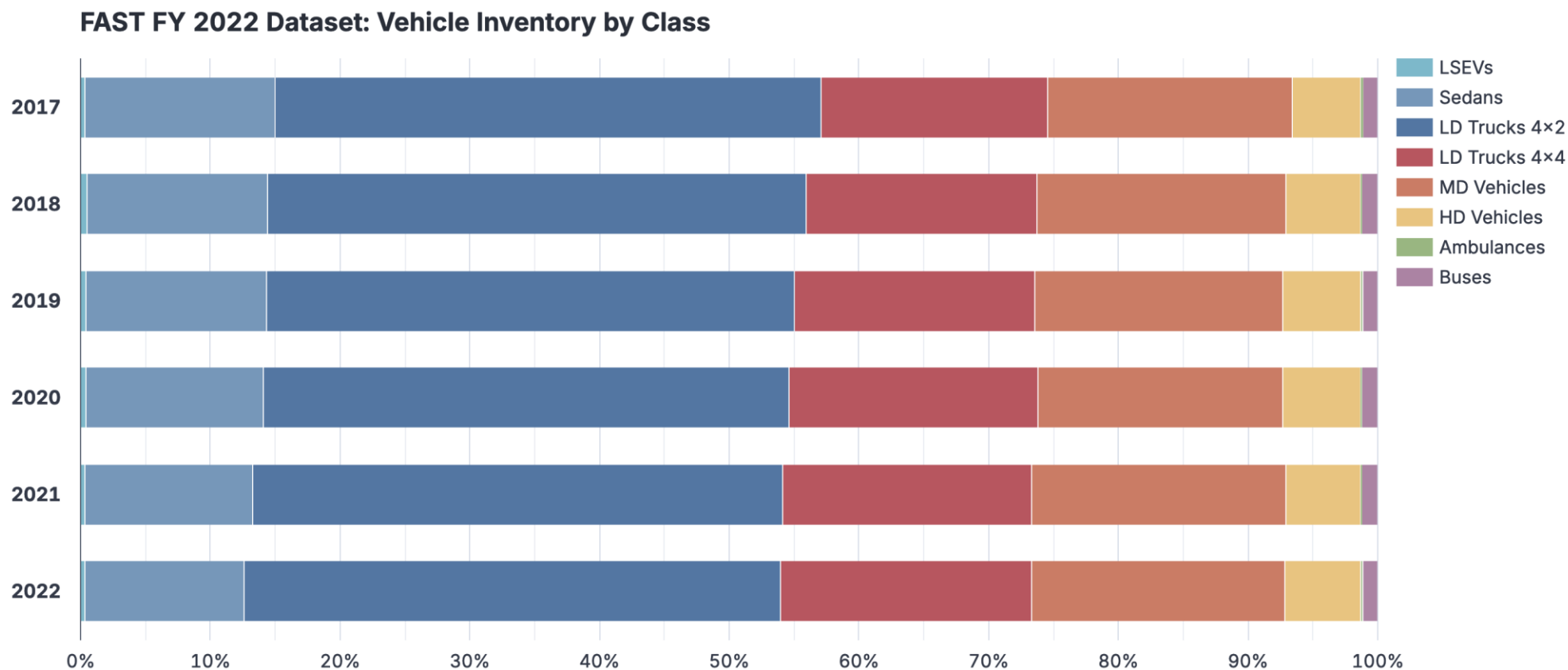
Cost figures include only operating costs (lease, maintenance, accident repair, fuel, indirect costs, depreciation) and do not include costs associated with vehicle acquisition or disposal

Fleet Trends: Vehicle Inventory



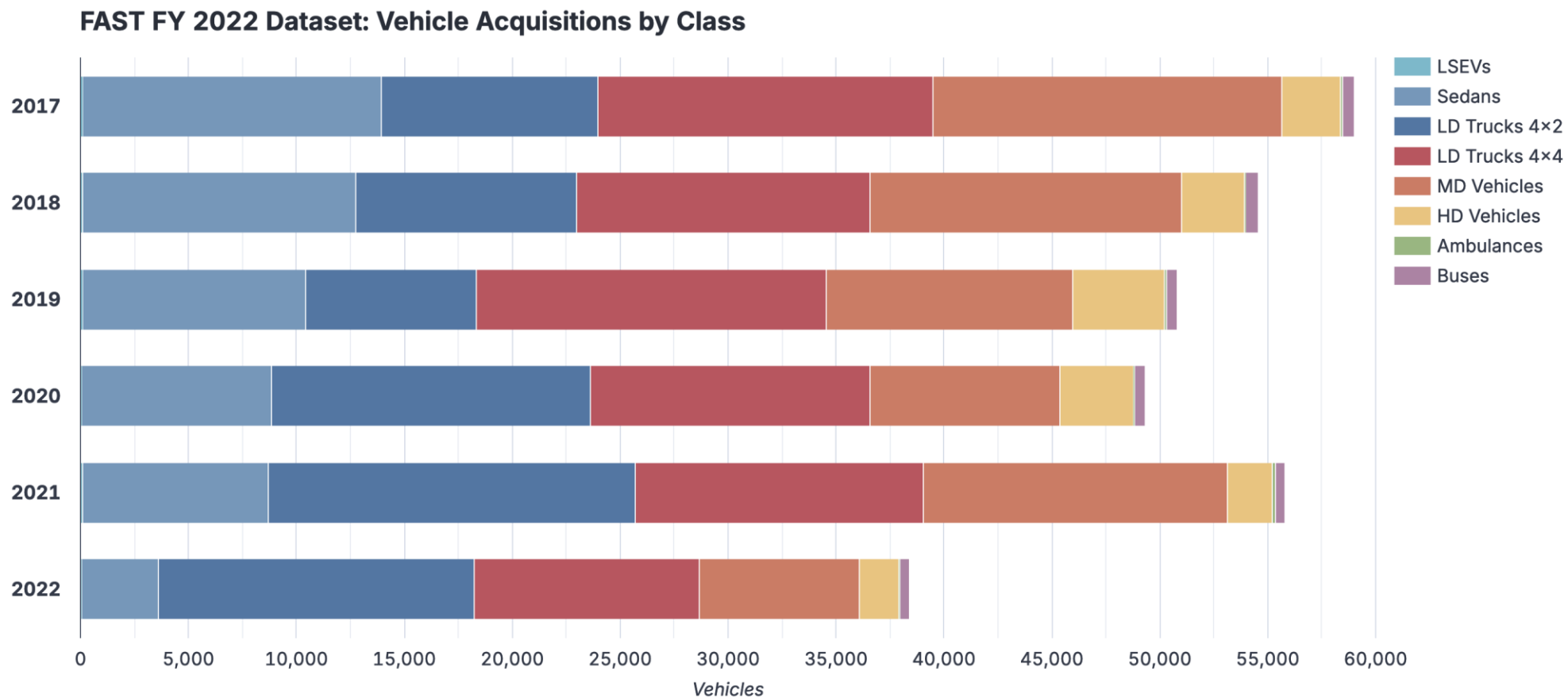
Source: Federal Automotive Statistical Tool, <https://fastweb.inl.gov/>

Fleet Trends: Vehicle Inventory



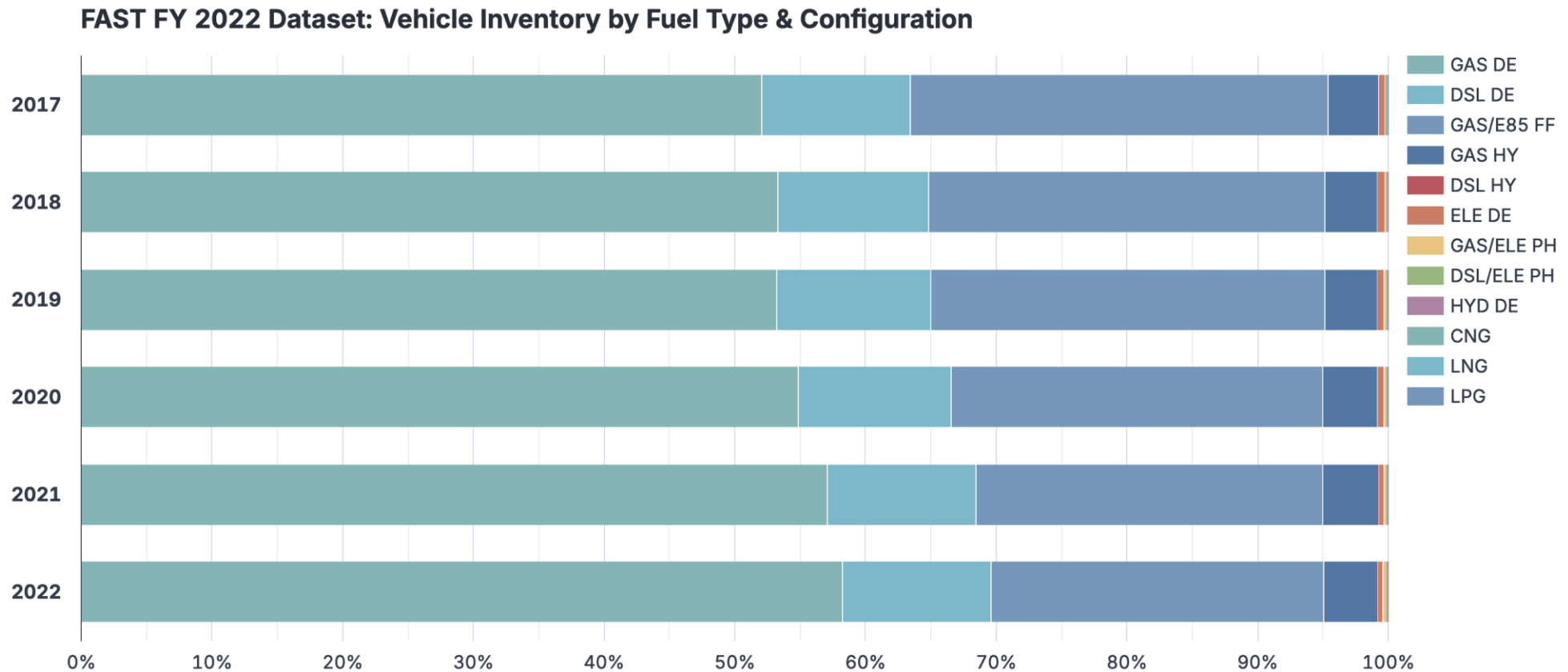
Source: Federal Automotive Statistical Tool, <https://fastweb.inl.gov/>

Fleet Trends: Vehicle Acquisitions



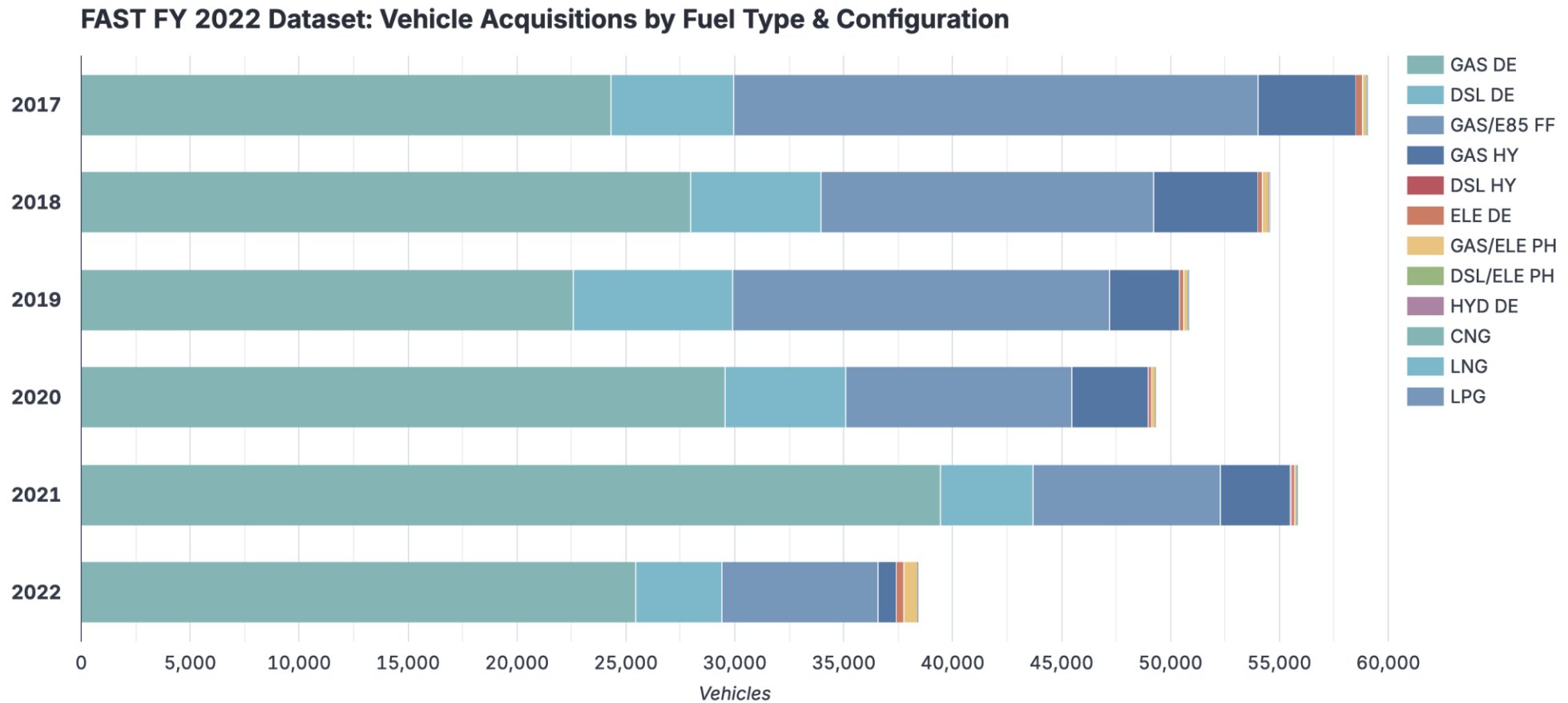
Source: Federal Automotive Statistical Tool, <https://fastweb.inl.gov/>

Fleet Trends: Vehicle Fuel Type/Configuration



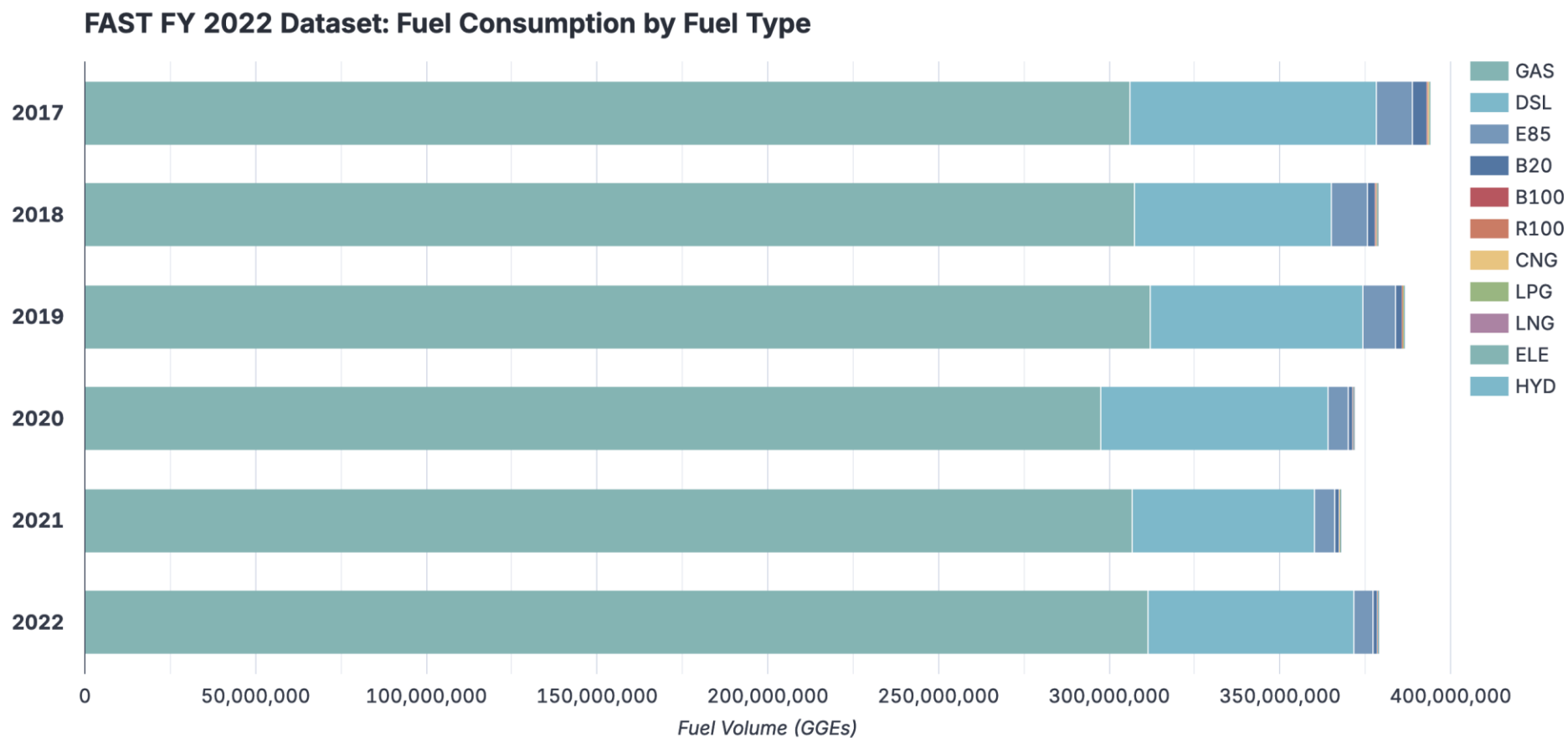
Source: Federal Automotive Statistical Tool, <https://fastweb.inl.gov/>

Fleet Trends: Vehicle Fuel Type/Configuration



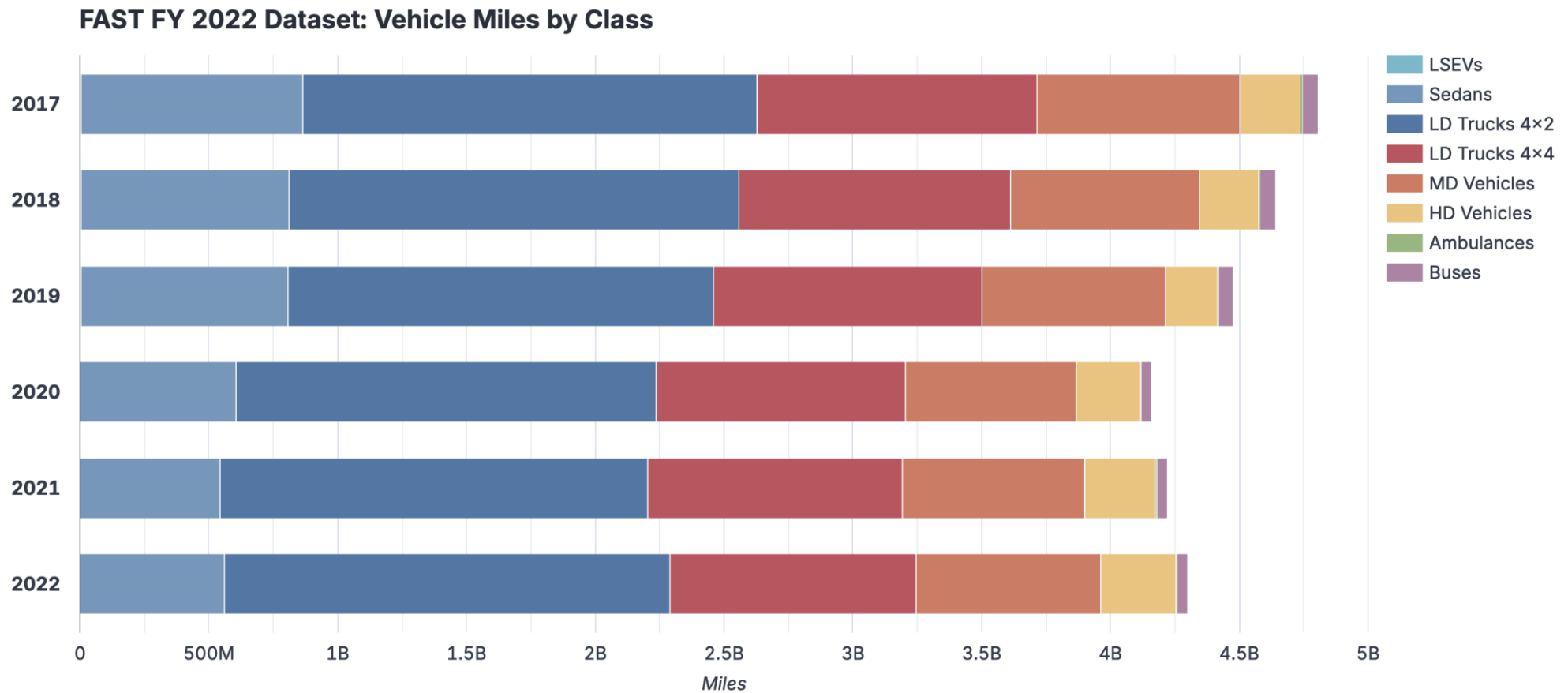
Source: Federal Automotive Statistical Tool, <https://fastweb.inl.gov/>

Fleet Trends: Fuel Consumption



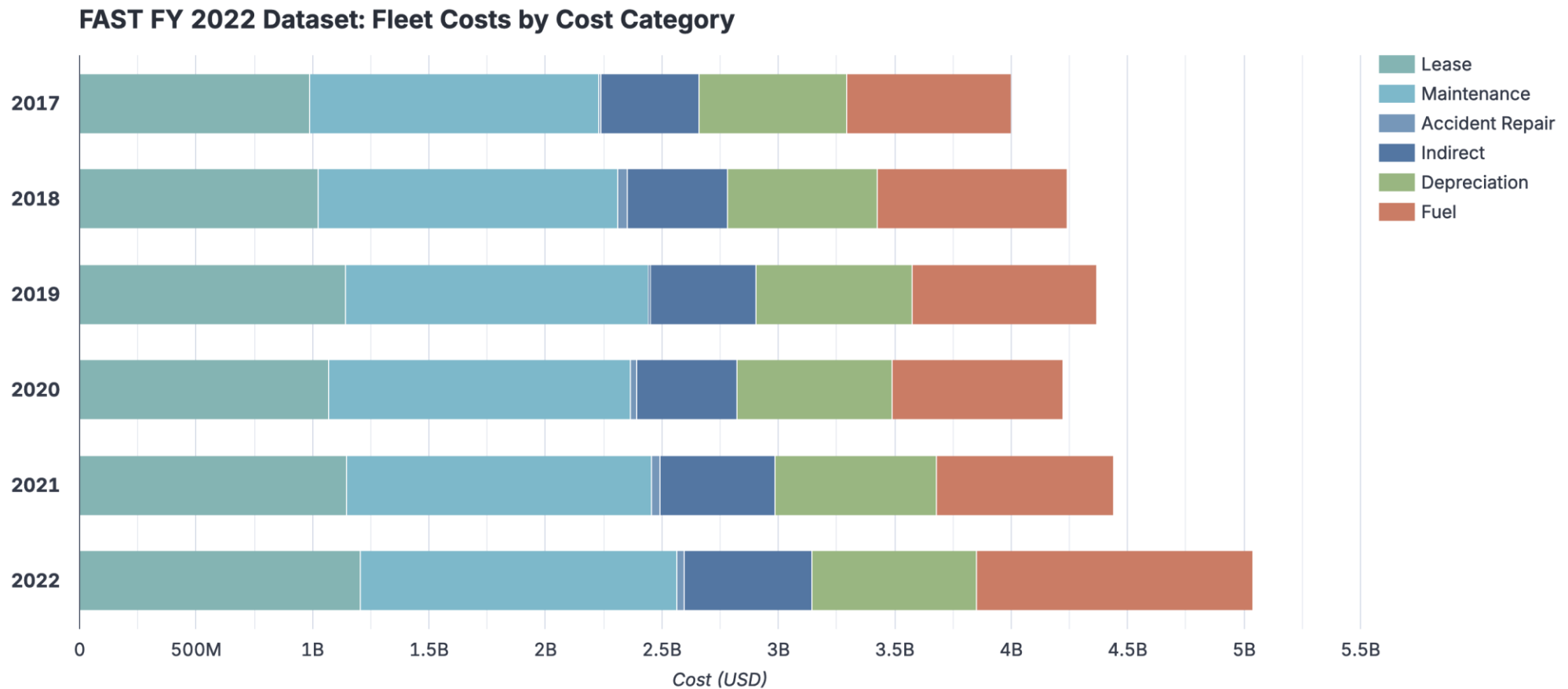
Source: Federal Automotive Statistical Tool, <https://fastweb.inl.gov/>

Fleet Trends: Fleet Miles



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

Fleet Trends: Fleet Costs



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



Data Quality





Review Process • Quality Metric

Data Quality: Our Review Process

- **Agency submissions reviewed against 8 groups of measures**
 - 5 groups look at aggregated data for consistency with prior submissions
 - 3 groups look at individual vehicle-level data for specific types of year-to-year consistency, completeness, and quality concerns
- **All organizations received written feedback, with opportunity to provide updates to address any identified concerns**
 - EAct-covered/scorecard agencies received additional compliance impact review



Data Quality: Fleet Data Quality Metric

- **FY 2020, we piloted “Concerns per Vehicle” (CpV) quality metric**
 - Aggregate of occurrences of 12 types of potential problems
 - Enables comparison of quality over time or between agencies
 -  Metric decreases? Fewer issues, improved quality
 -  Metric increases? More issues, decreased quality
- **Measures come from both input validation and post-submission review**
- **Overall CpV scores**
 - FY 2020: 0.76
 - FY 2021: 0.60 (~20% improvement) 
 - **FY 2022: 0.64** (~7% regression) 

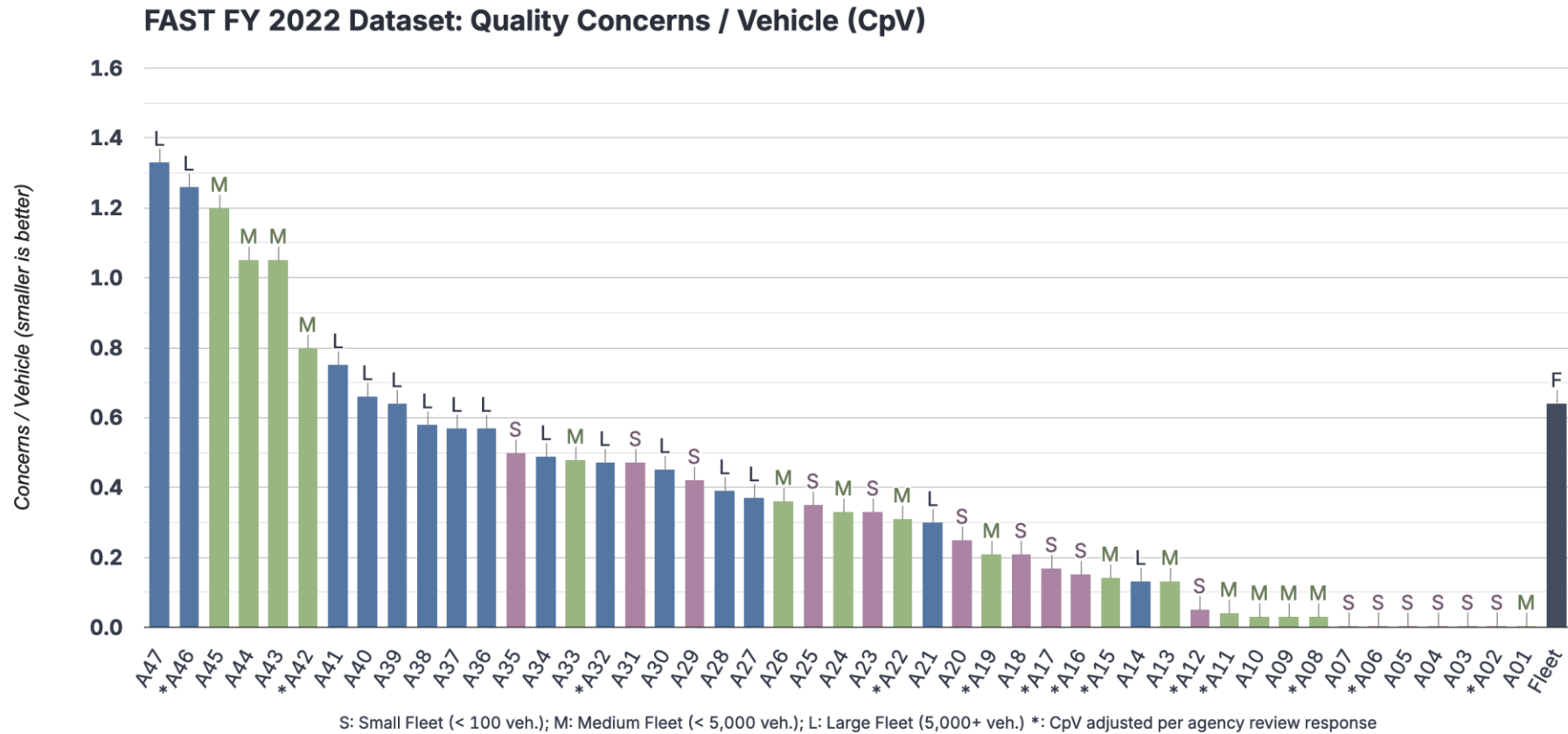


Data Quality: Fleet Data Quality Metric

Quality metric aggregates counts of individual measures:

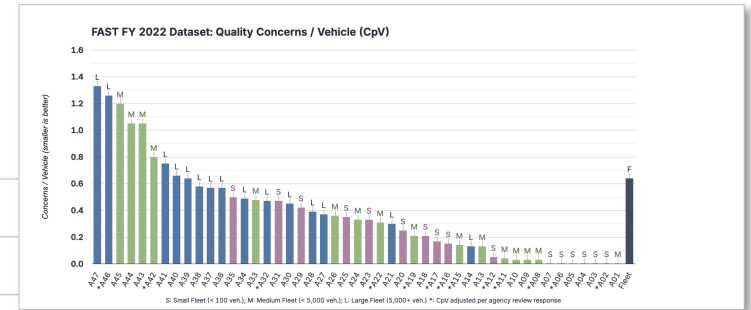
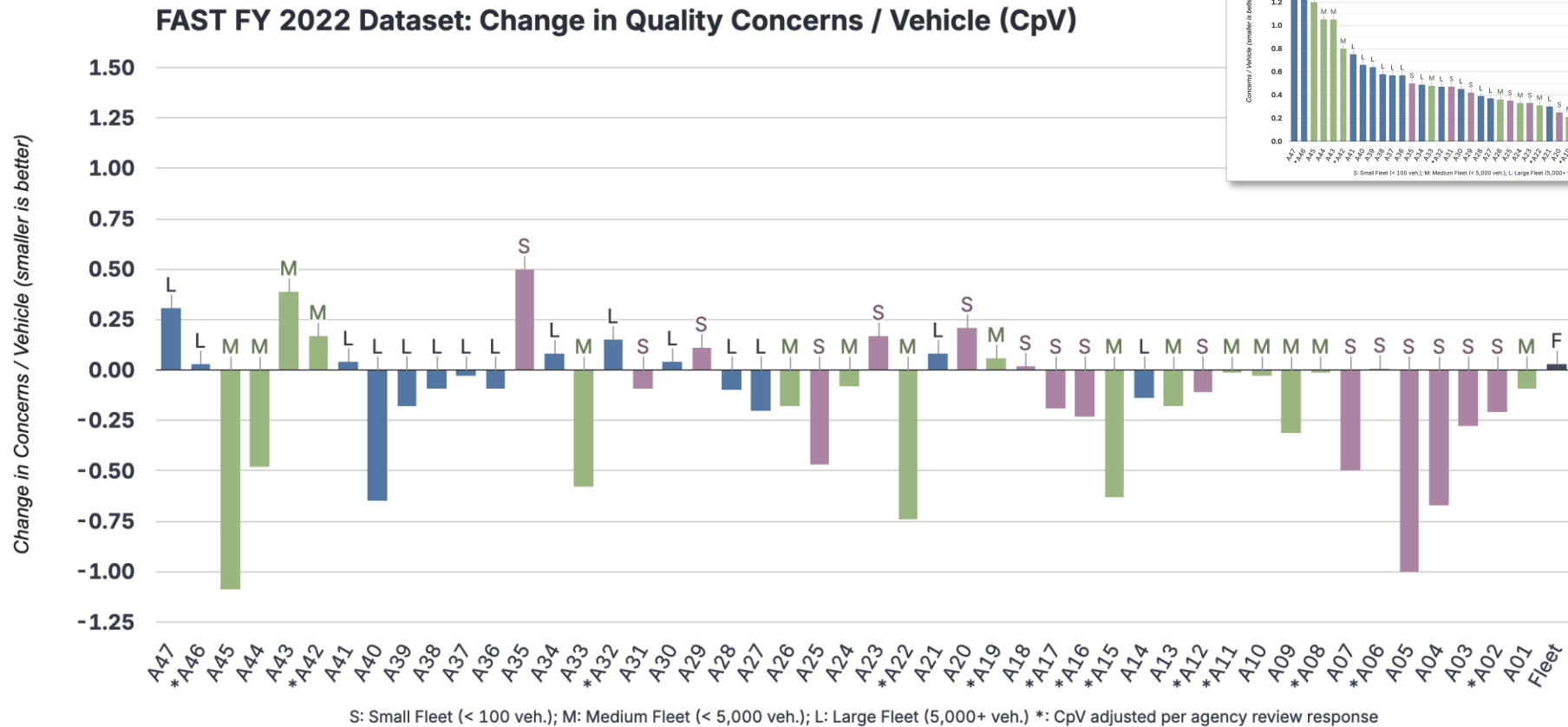
- ↓ **OC-1.5:** Inconsistent year-to-year acquisition costs
- ↑ **F-2.2:** Consumption of fuel inconsistent with vehicle fuel type/config
- ↑ **F-2.3:** Consumption of B100 w/o DSL
- ↑ **F-2.4:** PHEVs w/o ELE consumption
- ↓ **F-4.6:** Invalid high fuel efficiency
- ↑ **F-5.5:** Unreasonable fuel cost
- ↓ **M7(a):** Acquisition dates in current year and reported in prior year
- ↑ **M7(b):** Acquisition dates in prior year and not reported in prior year
- ↓ **M7(c):** Disposal information reported in prior year and reported again in current year
- ↓ **M7(d):** Reported in prior year and not reported in current year
- ↓ **M7(e):** Year-to-year changes of static vehicle attributes
- ↑ **M8:** Use placeholder values for key vehicle attributes

Data Quality: Fleet Data Quality Metric

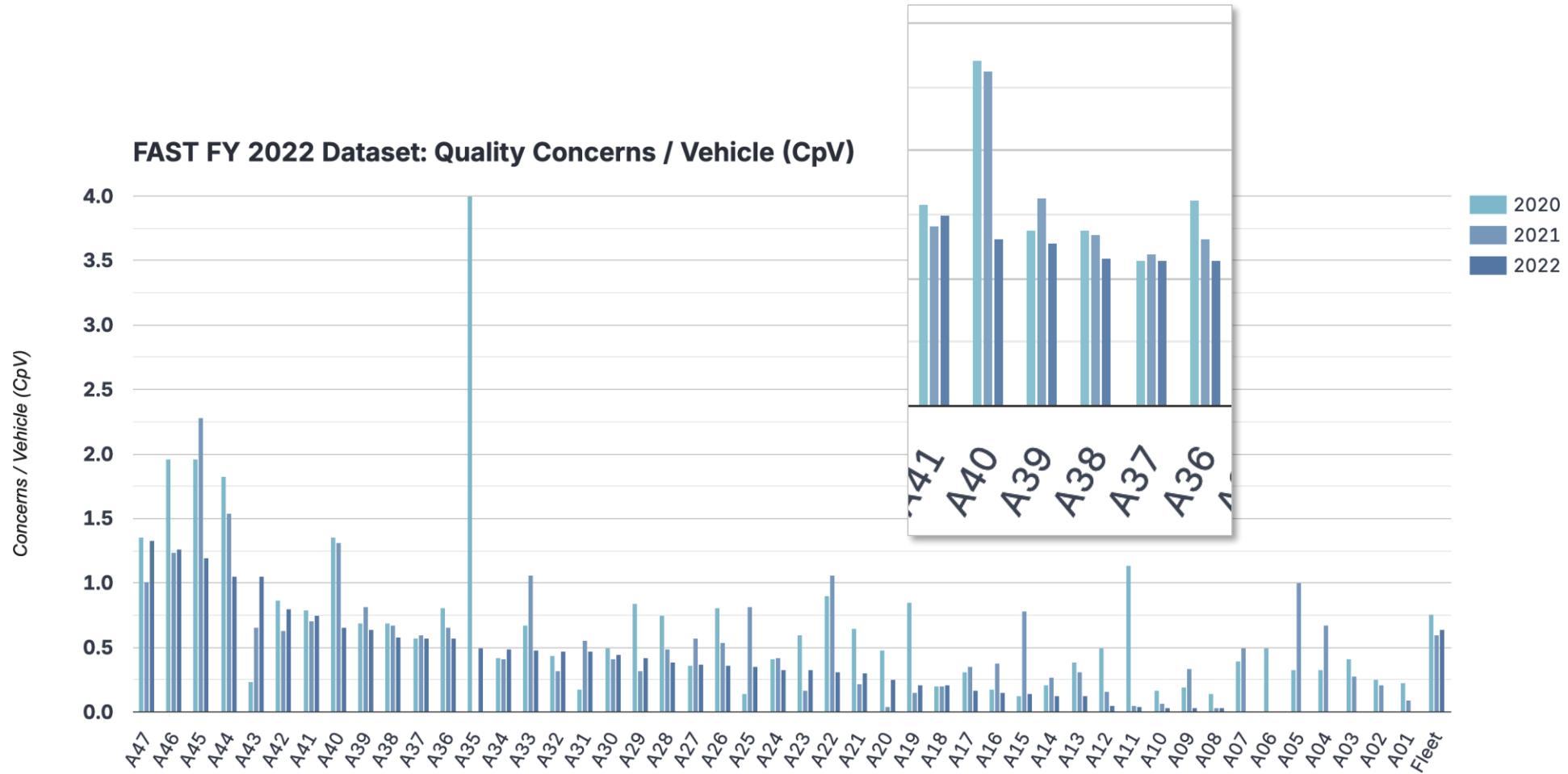


Source: Federal Automotive Statistical Tool, <https://fastweb.inl.gov/>

Data Quality: Fleet Data Quality Metric

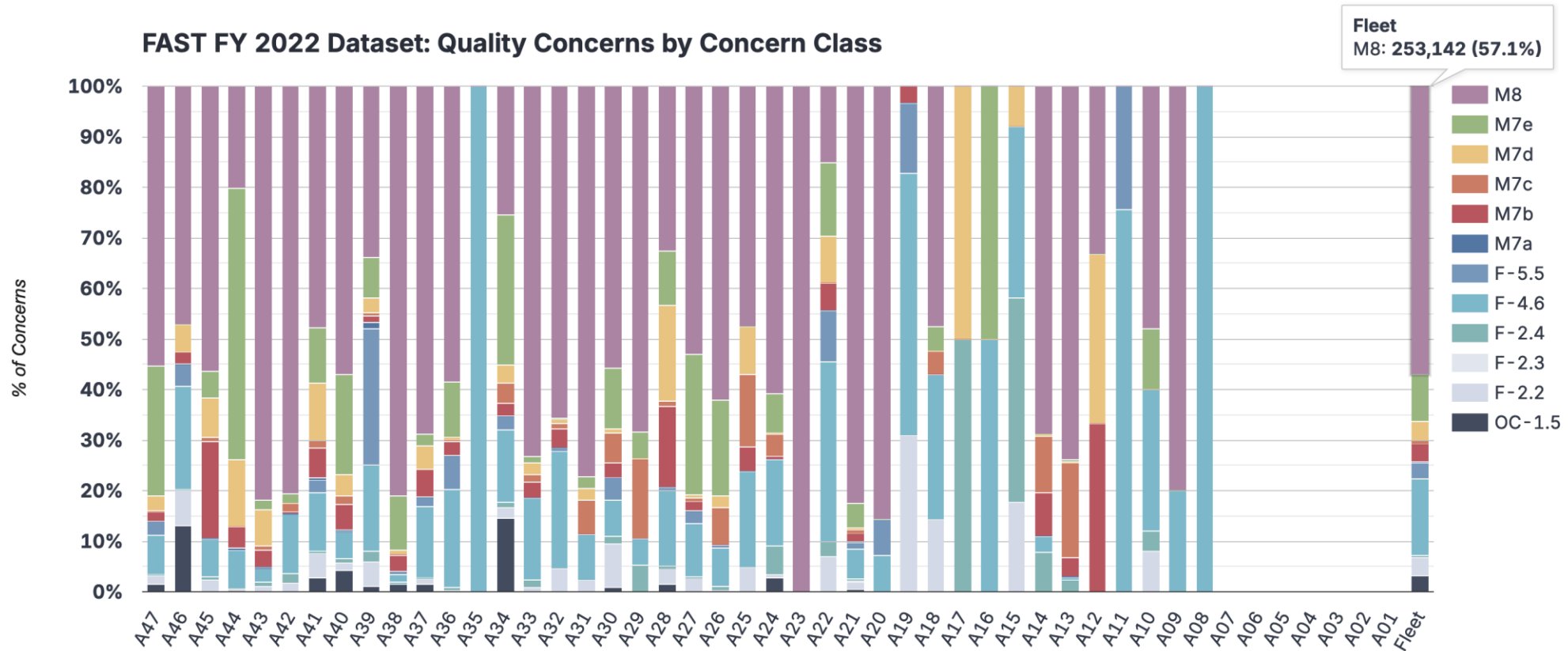


Data Quality: Fleet Data Quality Metric



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

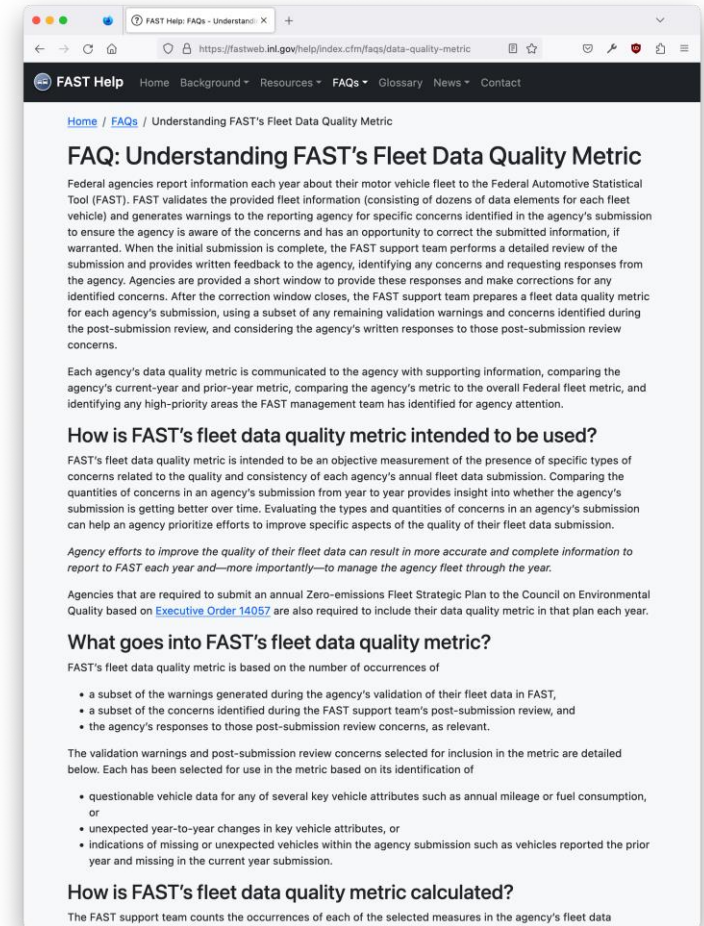
Data Quality: Fleet Quality Metric



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

Data Quality: Fleet Data Quality Metric

- Communicated to agency HQ fleet POCs, agency CSOs, CEQ, OMB
 - Data quality metric
 - Background information on metric, interpretation, use
 - Comparison to prior year and to overall Federal fleet
 - High priority areas for agency focus for improvement
- To be incorporated into agency “Zero Emission Vehicle Strategic Plan”, per EO 14057 implementing instructions
- To help agencies prioritize areas for improving quality and completeness of their fleet data



Contact Info

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Discussion



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