

Vermont Weights & Measures EVSE 2025 Summary

Scott Dolan

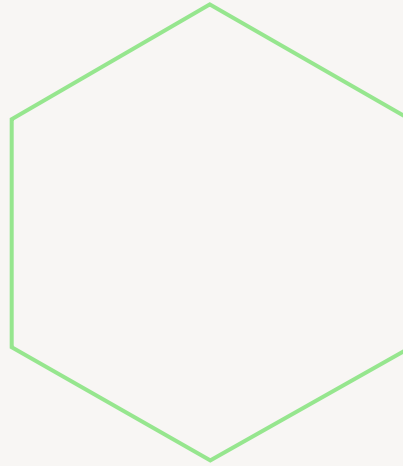




Topics



Commercial EVSE Infrastructure

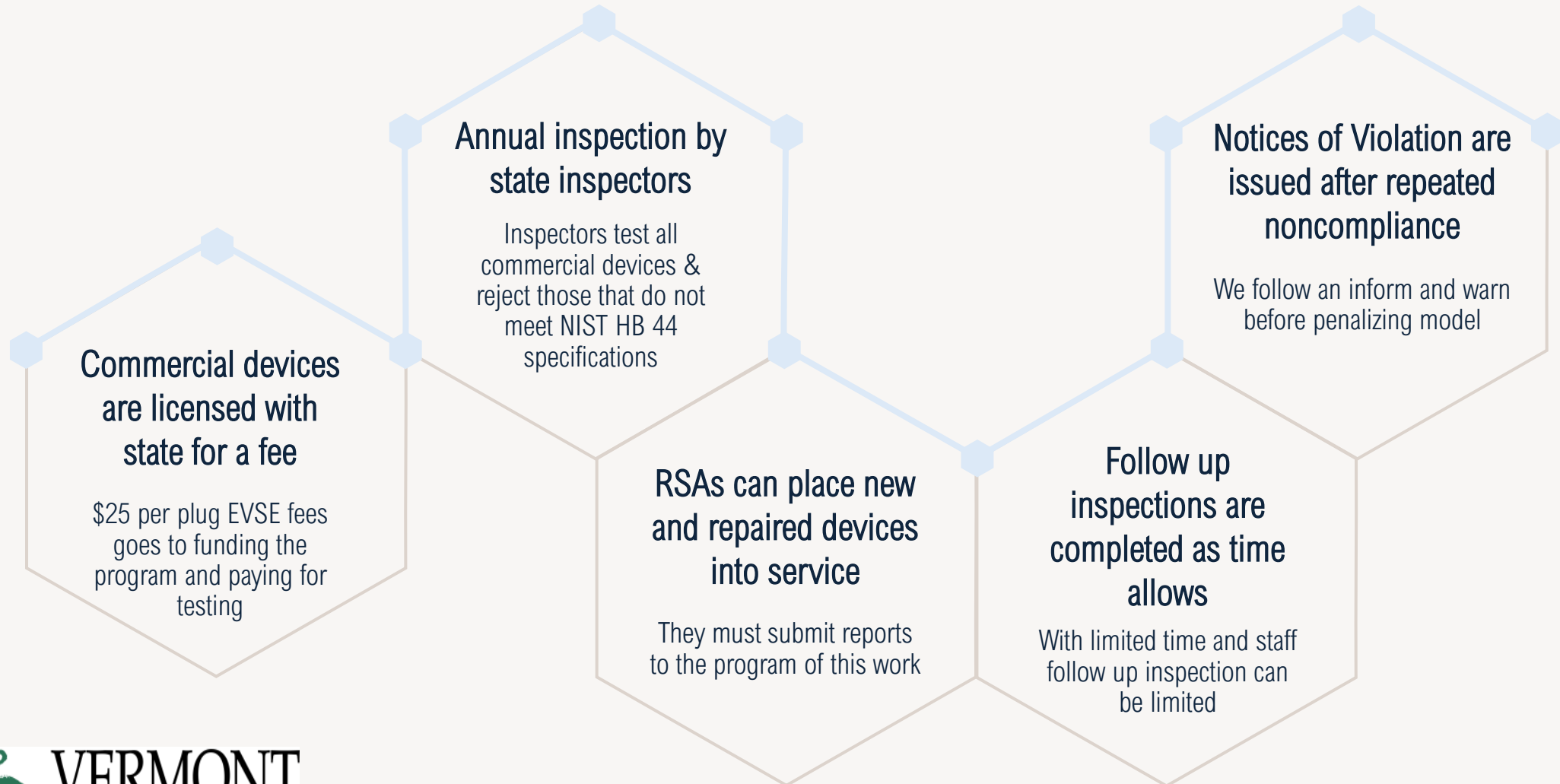


	Number of Meters*	Labelled kW Rating^	Functional Issues
DC Fast	~200	25 to 300	>10%
AC Level 2	~800	3.3 to 21.6	>1%

*Data based federally provided information and inspection work.
^Labelled ratings do not always match with field tests.



Weights & Measures Inspection Program



Equipment & Testing



Equipment

DC & AC: T4350 & PL4150
AC Only: T4000 & PL4000



DC

Full Load Test (100%)
Light Load Test (20%)



AC

Full Load Test (100%)
Midrange Test (60%)
Light Load Test (30%)

Logistics of Testing

Money & Time



Fees Associated with EVSE Testing

- Cost for power (\$0.19 to \$1.00 per kWh)
 - DC Average Cost: \$0.42 per kWh
 - AC Average Cost: \$0.27 per kWh
- Session fees (\$0.49 to \$10.49 per test)
- Time based fees (\$1.00 to \$60.00 per hour)
- Sales Tax (6% to 7%)

Meters Inspected	Total Cost	Average Cost per Meter
370	\$216.57	\$0.59

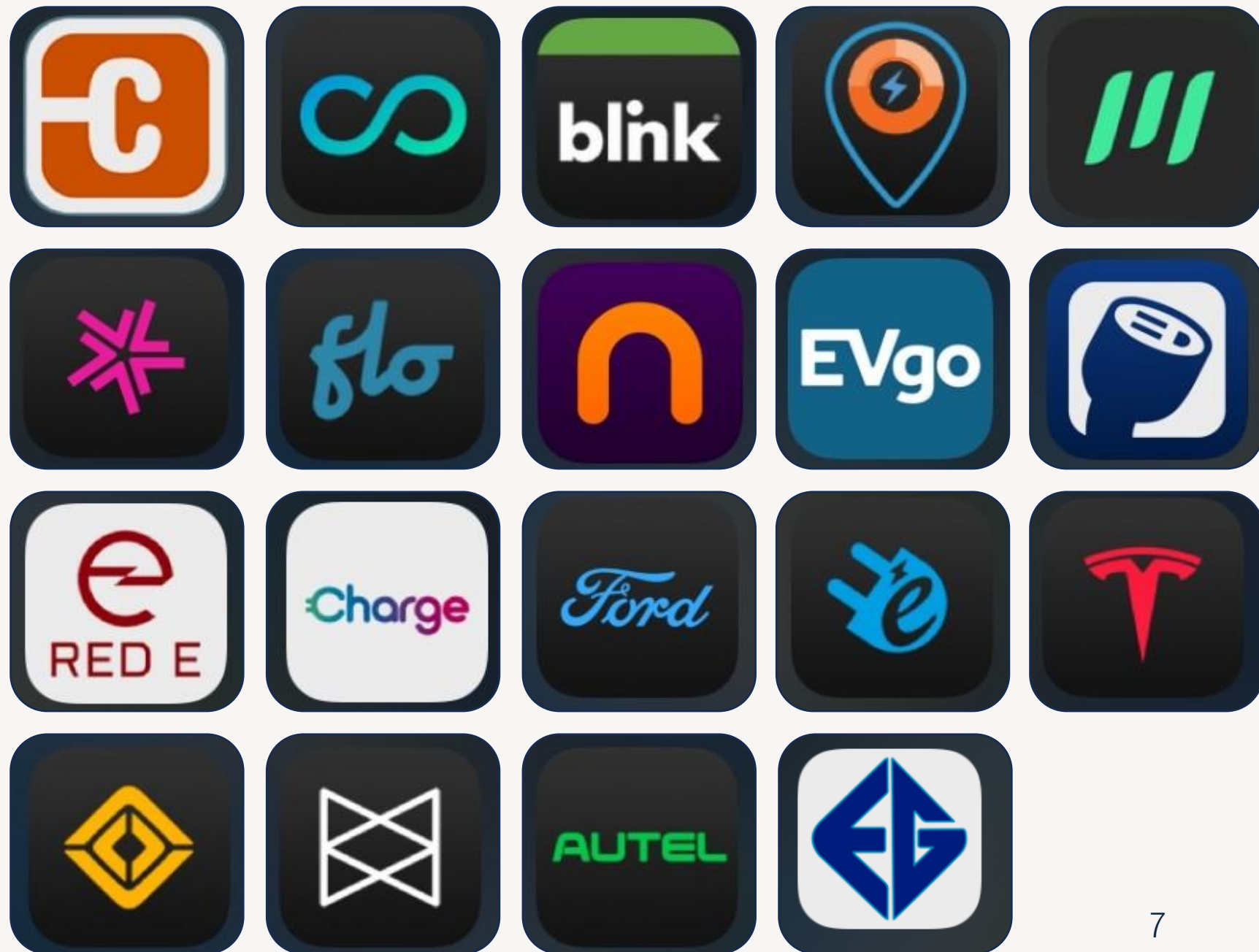


Inspector Time & Equipment

- AC Level 2 Meters: 20 to 30 minutes
- DC Fast Meters: 15 to 20 minutes
- Initial cost of testing equipment (2 units) ~\$180,000
- Annual calibration of testing equipment ~\$3000

Apps for Testing

This is only the beginning

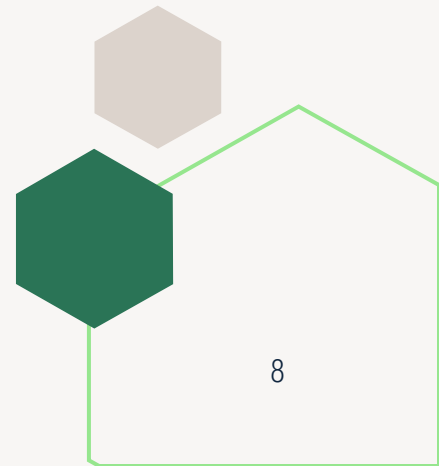


2025 EVSE Testing Data

Type	Devices	Meters	Approved	Rejected	Meters Out of Tolerance*	Range of Errors^
DC Fast	84	96+	26	7	3	-1.18% to 4.71%
AC Level 2	189	274	47	24	13	-13.44% to 5.47%
*Meters failing 2 or more tolerance tests (2% tolerance) ^Outliers not included *Unable to test 78 Tesla devices/meters due to communication with tester						

Notes

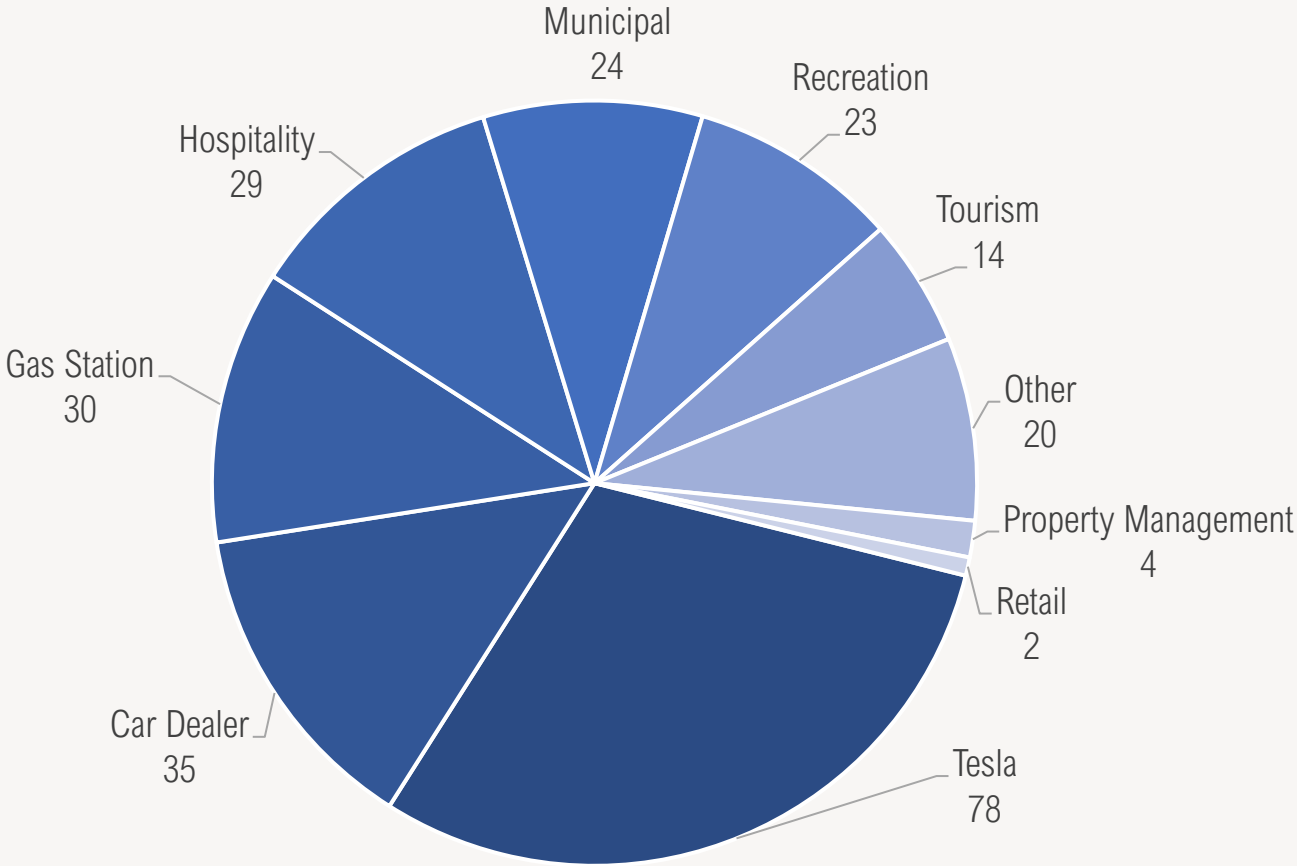
- These 370 devices have been located at 141 different locations
- Labeling of capacity of EVSE and pricing has been an issue
- Many businesses own devices in numerous locations



2025 Licensing Data

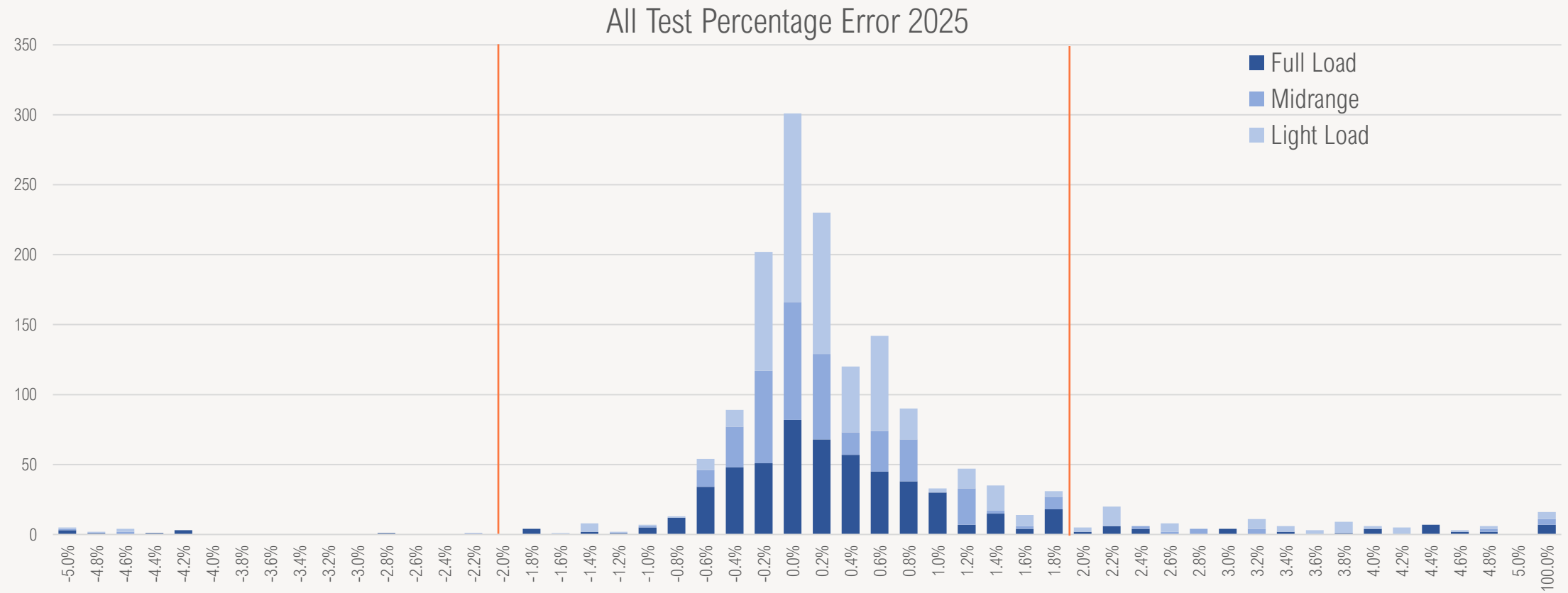
Plugs Licensed	259
Number of Locations	54
Number of Businesses	40
Dealer Repair Persons Licensed	17
Number of Businesses	7

We believe about 1/3 of the commercially available devices are owned by public utilities.

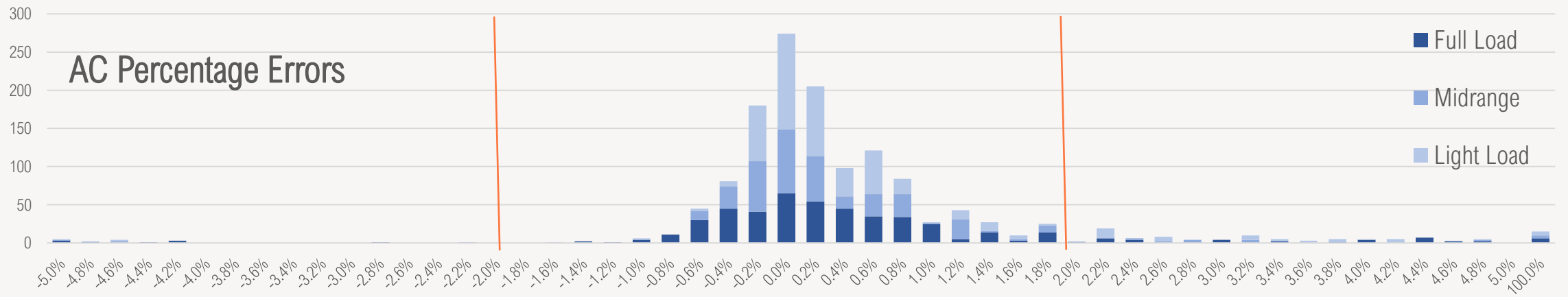
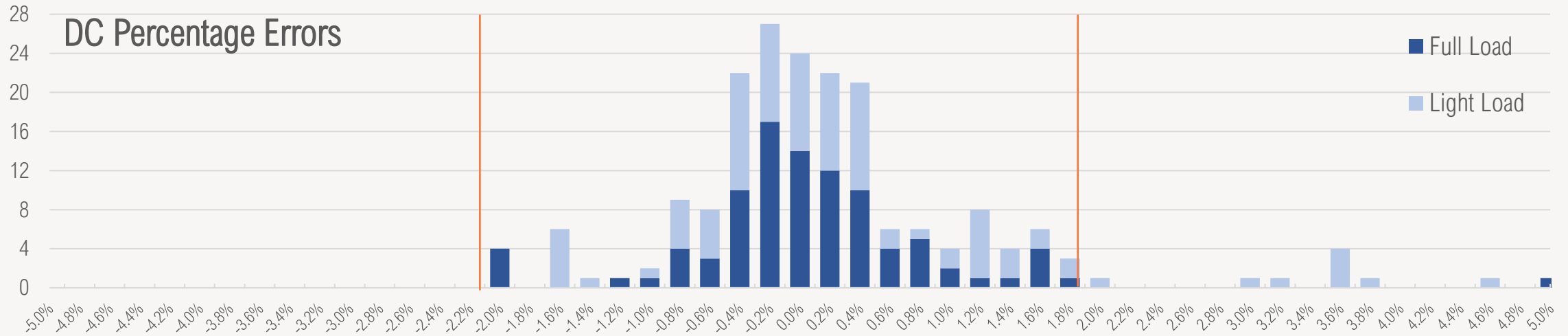


Type of Business

Histograms of Errors



DC & AC Histograms of Errors



Display vs App

38% (433 of 1151) of tests show a difference between the primary indicating element of the device and the app use to complete the transaction

Number of Tests with Differences	433
Number of Difference in Consumer's Favor	194
Number of Difference in Business's Favor	239
Maximum Differences	80% to -33%
Average Difference	0.29%
Median Difference	-0.05%
Number of Test with a Difference >2%	20
2025 Data	



VS

★★★★★ 1 reviews	
Aug 18, 2025 10:46AM	
Station ID	108948
Time Connected	0h 1min
Charge Time	0h 1min
Parking Time	0h 0min
Energy Provided	0.202 kWh
Total Price	\$0.06
View Pricing Details	

Miscellaneous Findings

- EVSE experienced a network loss and did not time out
 - W&M was billed when someone else plugged in hours later
- Device do not have all the fees listed on the face or app used to operate them
- Devices labeled with different capacities

AUK-00516 Up to **75.0 KW**

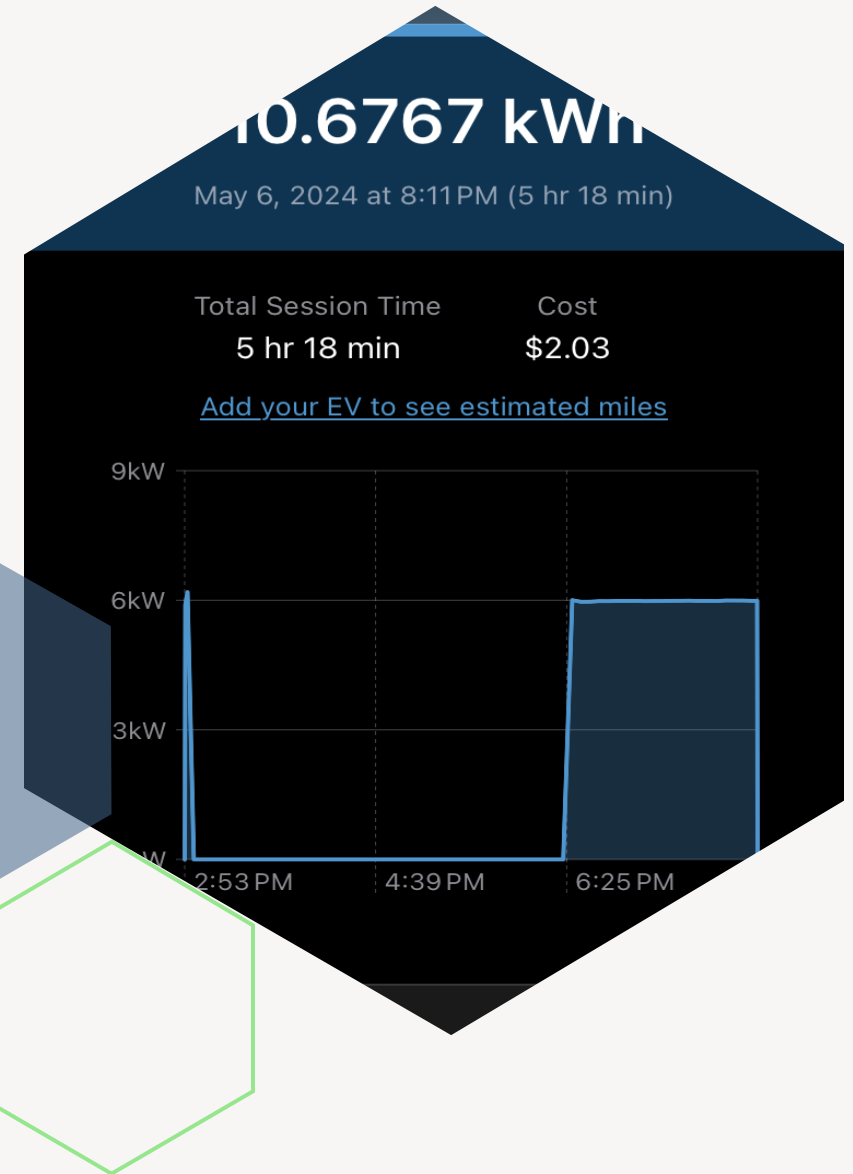
CCS • CHAdeMO **Start**

Type	DC Fast
Max output	25.0 KW

Available

300 mi / hour
100 kW
(DC Fast)

DC Fast
CHAdeMO /
Combo



2026 Inspection Priorities

Vermont Weights & Measures is trying to ensure legacy equipment is adequate for consumer protection while keeping as many devices in service as practical.

- Inspect all commercial DC EVSE available to the public
- Inspect as many commercial AC EVSE available to the public as time allows
- Work toward 100% compliance with licensing of EVSE
- Begin formally rejecting devices that fail to comply with NIST Handbook 44 or 130
 - Measurement
 - Labeling
 - Receipts (available and correct)

Most rejected device will have an extended timeline for compliance (3 to 6 months)

Thank you

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