2008 Vehicle Registration Data

Travel Management Subcommittee

March 24, 2009

2008 Vehicle Registration Data

- ## Background
  - Vehicle data used in air quality planning
  - Emissions vary by vehicle type, fuel used
  - Vehicle data updated every three years; last update in 2005
  - We obtained 2008 vehicle registration data with DC, MD, and VA air agency assistance
  - From data obtain number of vehicles by vehicle type, age distribution and diesel sales fractions

2008 Vehicle Registration Data

- Methods
  - Electronic file of VIN Numbers as of July 1st 2008
  - VIN decoder software used to decode and obtain Mobile 6.2 vehicle types
  - 95% to 98% success rate of decoding
  - Quality control and quality assurance undertaken
  - Tabulate data and analyze results
  - Compare 2008 results with 2005 results

- Results
  - Older fleet compared to 2005
  - Fleet growth slower than projected
  - More light duty vehicles purchased in first year of 2008 than light duty trucks.

Exhibit 1. VIN Decoder Control Totals

	DC	%	MD	%	VA	%
DMV Vehicle Registration VINs Received	**243,249**		**2,802,158**		**1,661,930**	
List of Vins for Decoding **(After Remove Duplicate VINS)**	**243,164**	100.00%	**1,734,903**	100.00%	**1,661,822**	100.00%
VINs 25 years or older	**3,432**	1.41%	**43,828**	2.53%	**30,651**	1.84%
Decoded VINs without Vinpower Error Code	**238,462**	98.07%	**1,651,941**	95.22%	**1,602,793**	96.45%
Vins with Values for Vehicle Type and year(Year 1-24)	**234,481**	96.43%	**1,598,954**	92.16%	**1,560,453**	93.90%
Final Aggregated Database(16 Vehicle Types by 25 Years)	**237,913**	97.84%	**1,642,782**	94.69%	**1,591,104**	95.74%

Exhibit 2. 2008 Vehicle Class by State

State	Class	Counts	
		2008	%
DC	LDV(*)	161,749	68.02%
	LDT	67,077	28.21%
	HDV(**)	8,980	3.78%
	TOTAL	237,806	100.00%
MD	LDV(*)	936,215	57.04%
	LDT	616,741	37.57%
	HDV(**)	88,499	5.39%
	TOTAL	1,641,455	100.00%
VA	LDV(*)	913,326	57.41%
	LDT	608,744	38.26%
	HDV(**)	68,817	4.33%
	TOTAL	1,590,887	100.00%
Regional	LDV(*)	2,011,290	57.96%
	LDT	1,292,562	37.25%
	HDV(**)	166,296	4.79%
	TOTAL	3,470,148	100.00%

*Including Motorcycles

**Not including Transit and School Buses

Exhibit 3.2008 Vehicle Type Distributions(1-24 year)

	DC		MTG		FFX	
	Count	Percentage	Count	Percentage	Count	Percentage
LDV	156,513	66.34%	393,106	58.69%	445,293	56.49%
LDT1	1,510	0.64%	4,693	0.70%	6,138	0.78%
LDT2	47,962	20.33%	177,184	26.46%	222,492	28.23%
LDT3	13,122	5.56%	43,018	6.42%	53,046	6.73%
LDT4	3,761	1.59%	14,293	2.13%	16,920	2.15%
HDV2B	4,752	2.01%	15,881	2.37%	16,436	2.09%
HDV3	837	0.35%	3,021	0.45%	3,701	0.47%
HDV4	1,736	0.74%	2,172	0.32%	2,607	0.33%
HDV5	338	0.14%	841	0.13%	939	0.12%
HDV6	387	0.16%	1,521	0.23%	1,975	0.25%
HDV7	302	0.13%	526	0.08%	759	0.10%
HDV8A	503	0.21%	1,284	0.19%	1,711	0.22%
HDV8B	68	0.03%	336	0.05%	297	0.04%
HDBS	292	0.12%	938	0.14%	1,679	0.21%
HDBT	969	0.41%	1,323	0.20%	684	0.09%
MC	2,884	1.22%	9,607	1.43%	13,553	1.72%
Total	235,936	100.00%	669,744	100.00%	788,231	100.00%

2008 Montgomery County Light Duty Vehicles

Number of Vehicles

Yr	LDV	LDT1	LDT2	LDT3	LDT4
1	26,030	218	11,743	4,156	936
2	30,323	360	15,481	3,285	2,012
3	27,557	303	15,572	4,352	1,205
4	28,258	266	17,217	3,832	1,468
5	28,570	97	18,574	4,750	1,862

Percentages

| Yr	LDV	LDT1	LDT2	LDT3	LDT4
1	57.89%	0.48%	26.11%	9.24%	2.08%
2	55.68%	0.66%	28.43%	6.03%	3.70%
3	52.19%	0.57%	29.49%	8.24%	2.28%
4	51.94%	0.49%	31.65%	7.04%	2.70%
5	50.07%	0.17%	32.55%	8.32%	3.26%

2008 Age Fractions Jurisdiction=MTG
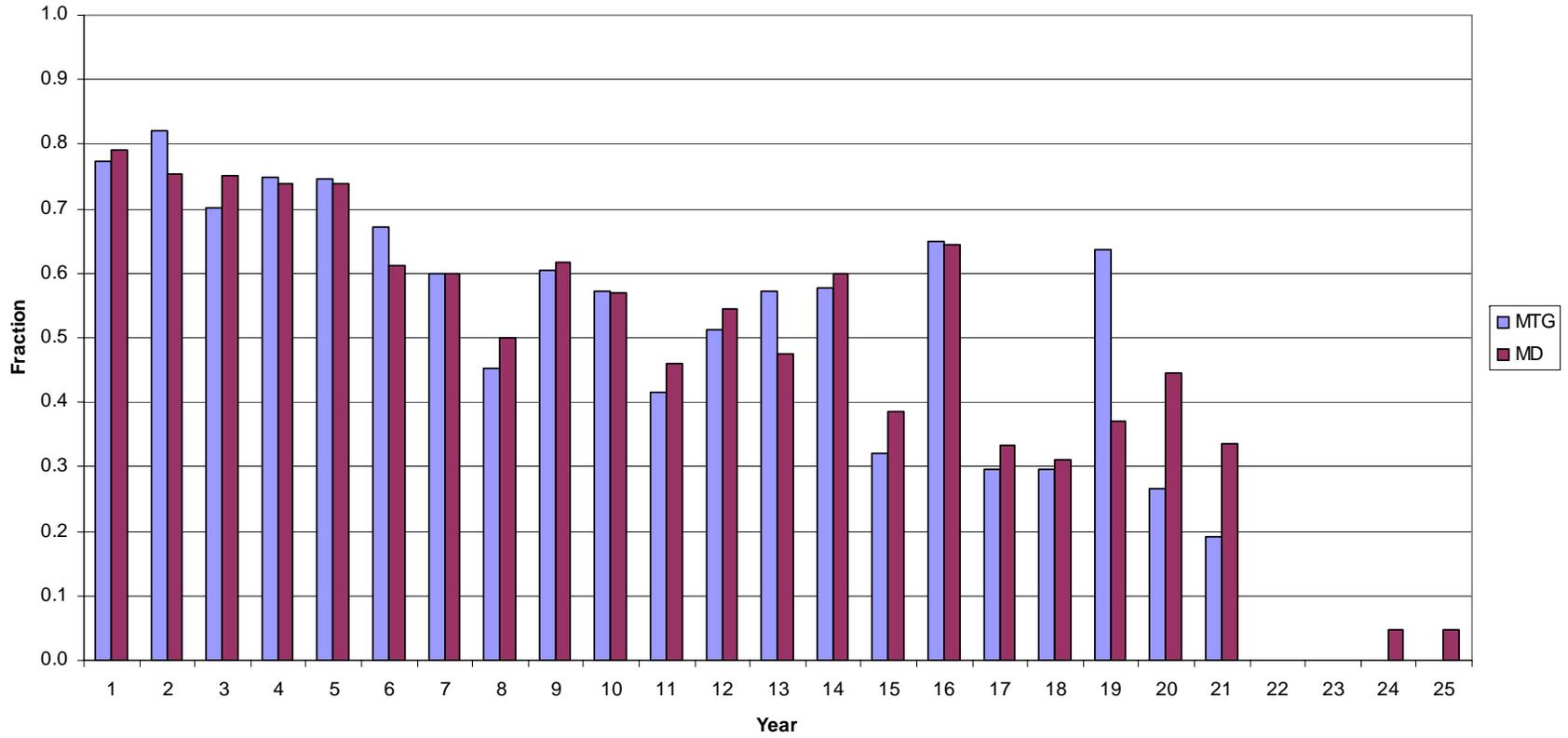**Vehicle Type=LDV**
Number of Decoded Vins=402813
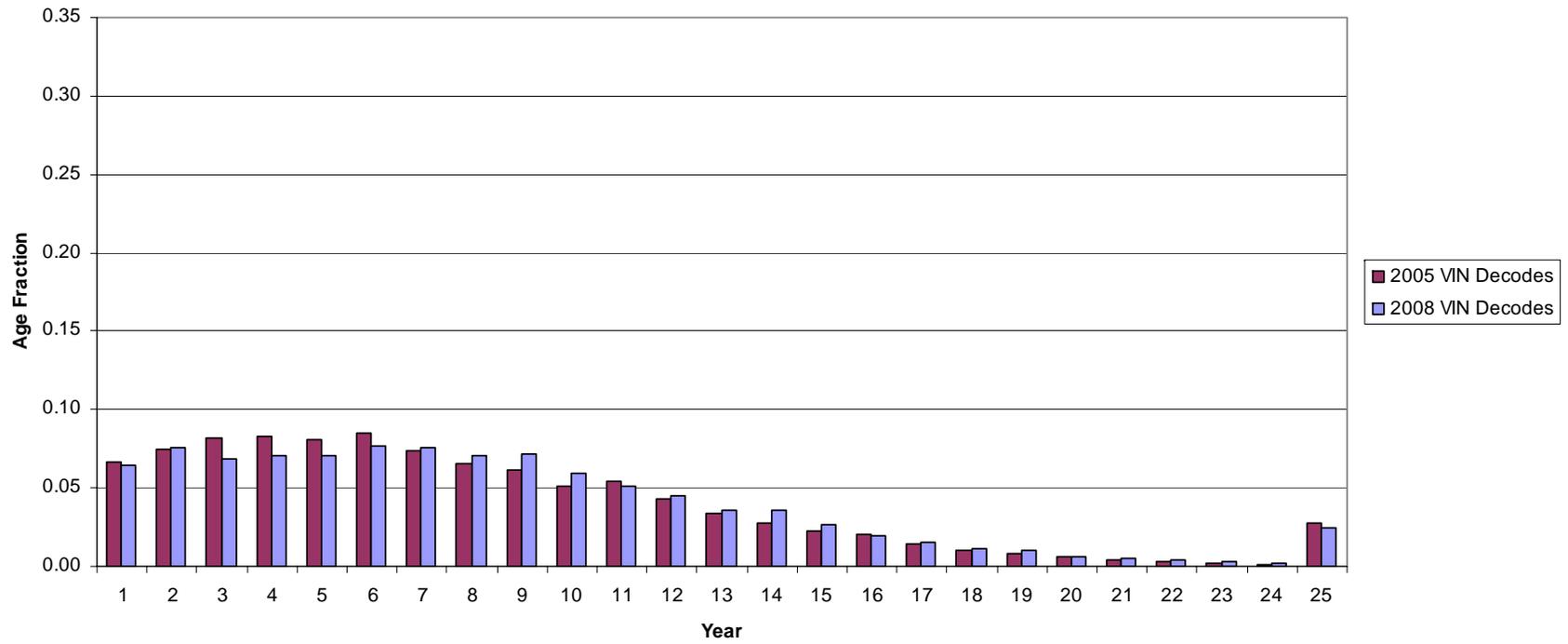
2008 Age Fractions Jurisdiction=MTG
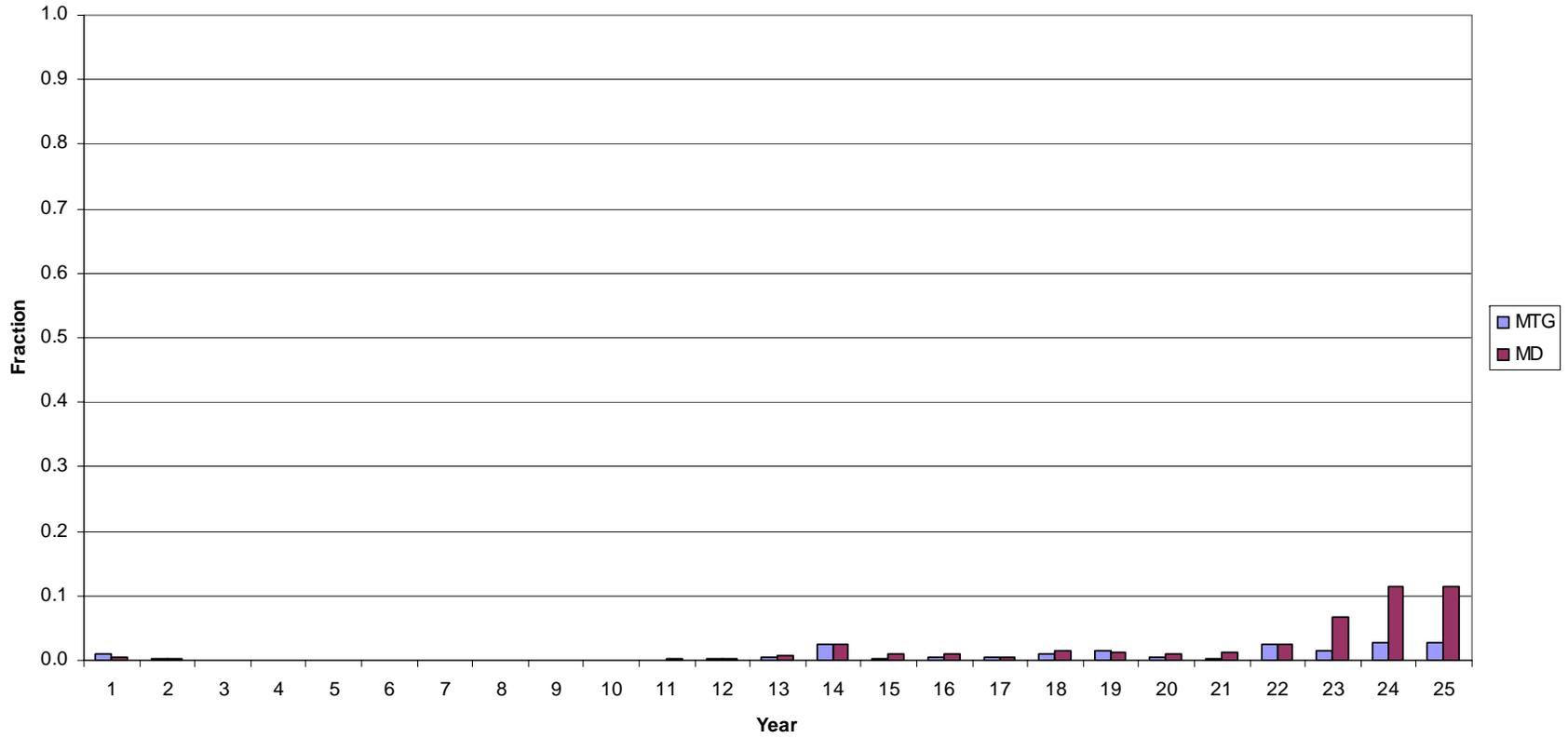**Vehicle Type=LDT2**
Number of Decoded Vins=180607
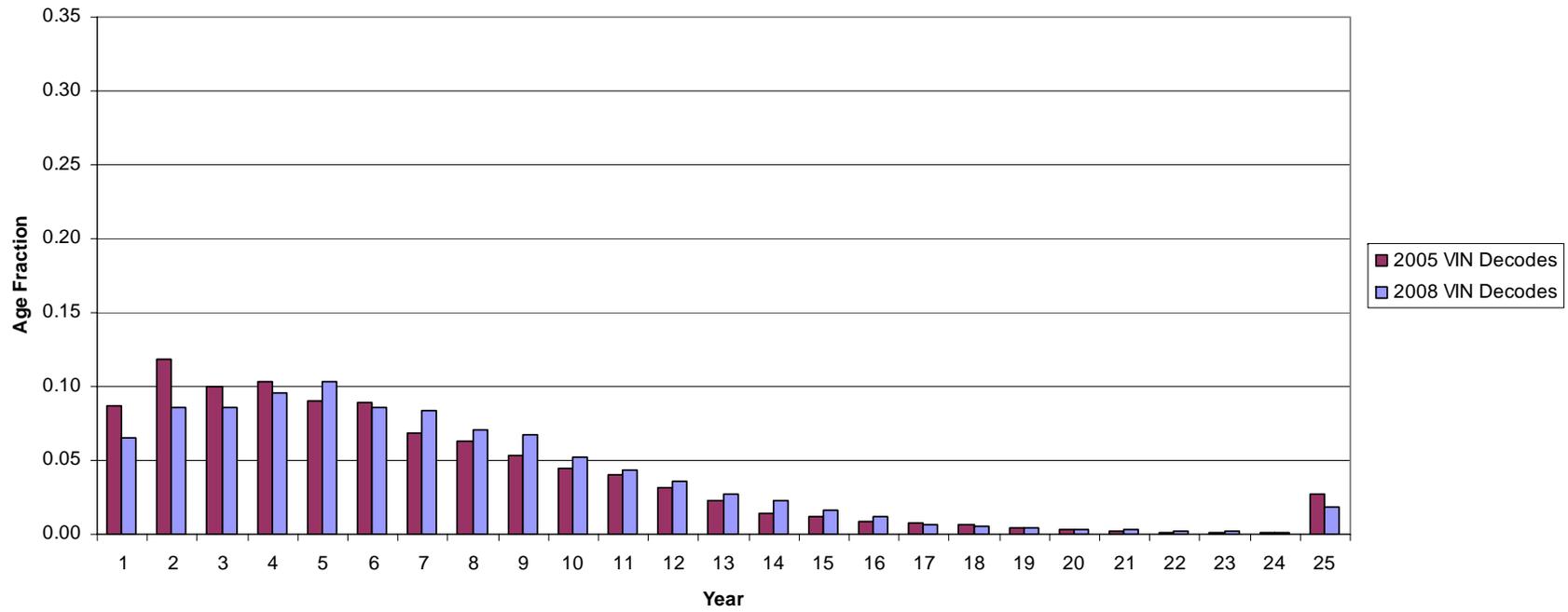
2008 Age Fractions Jurisdiction=MTG
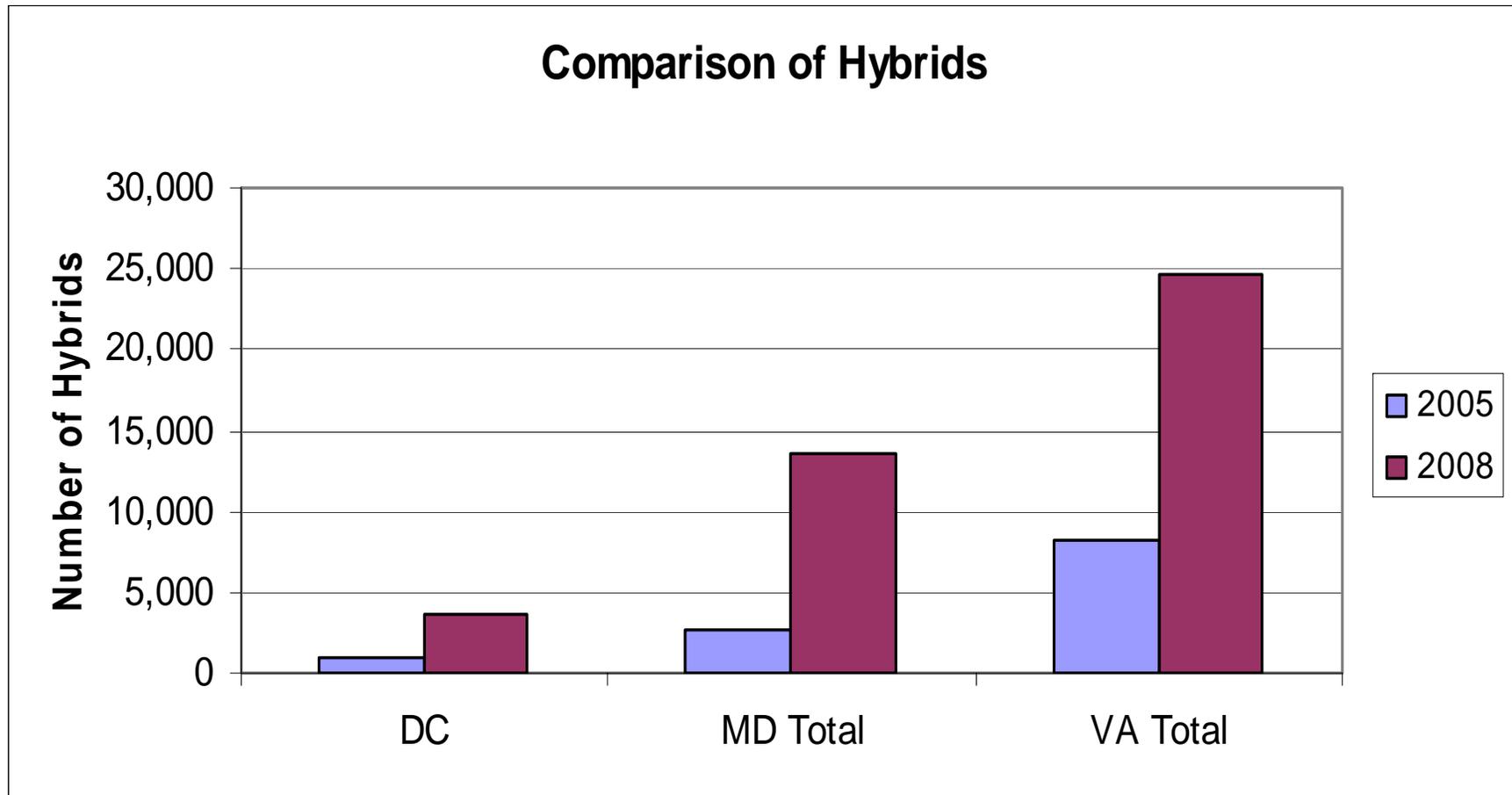**Vehicle Type=HDV4**
Number of Decoded Vins=2268
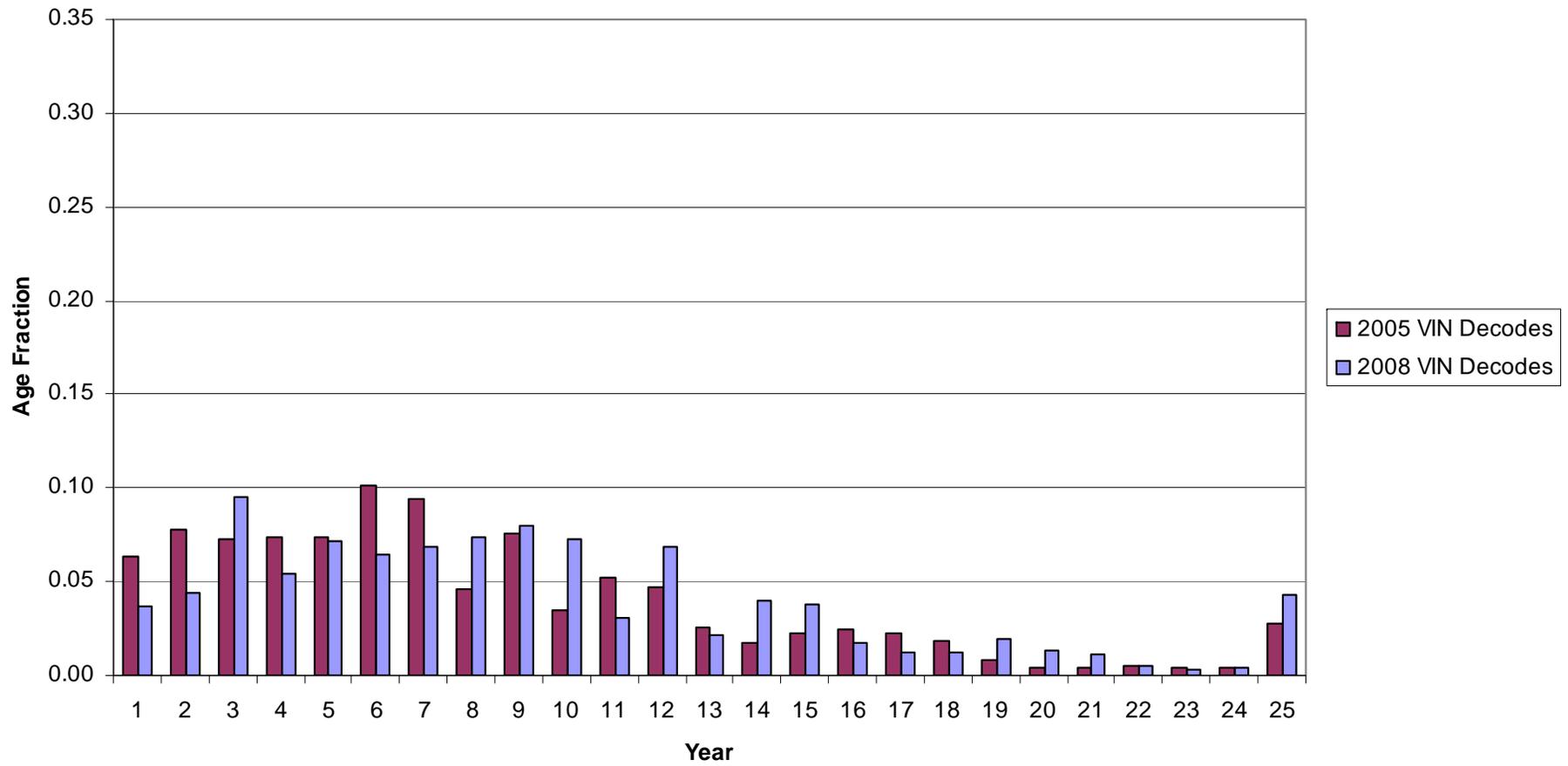
2008 Diesel Sales Fractions
Vehicle Type = HDV4

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2008 Diesel Sales Fractions
Vehicle Type = LDT4

2008 Vehicle Registration Data

Comparison of Hybrids

2008 Vehicle Registration Data

Recommendations For Developing Age Distribution (RDT) and Diesel Sales Percentages (DSF) Files

Jurisdictional RDT files for all vehicle types except school bus and transit bus

Regional RDT and DSF files for School bus and transit bus

State level DSF files for Maryland and Virginia, and Urban area DSF files for the District of Columbia

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- ## Next Steps
  - Complete RDT and DSF file preparation
  - Apply in Mobile 6.2 to generate emissions factors
  - Compare emissions factors with 2005 emissions factors