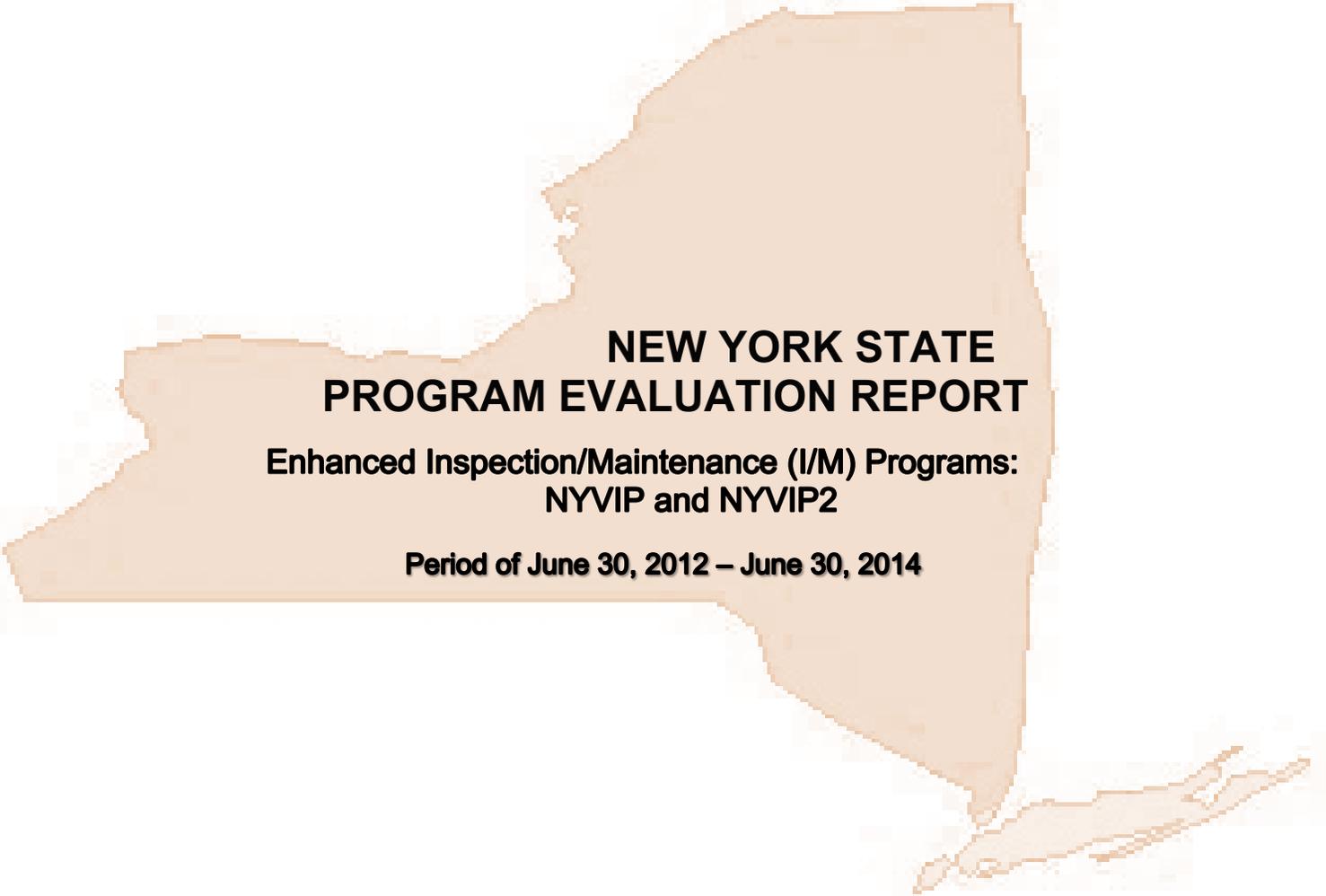




**Department of  
Environmental  
Conservation**

A large, semi-transparent orange map of New York State, including Long Island, serves as a background for the title text.

# **NEW YORK STATE PROGRAM EVALUATION REPORT**

**Enhanced Inspection/Maintenance (I/M) Programs:  
NYVIP and NYVIP2**

**Period of June 30, 2012 – June 30, 2014**

**January 2015**

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**New York State Enhanced Inspection/Maintenance Programs  
Program Evaluation Report for the Period of 6/30/12 - 6/30/14**

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## **A. EXECUTIVE SUMMARY**

Biennial long-term program evaluations are required for enhanced I/M programs under 40 CFR Part 51.353(c)(1) of the federal Inspection/Maintenance (I/M) rule. Program evaluation provides a mechanism for I/M jurisdictions to evaluate the effectiveness of their programs, and if appropriate, to make enhancements to operating programs. The New York State Department of Environmental Conservation (DEC) submitted seven biennial program evaluations to the United States Environmental Protection Agency (EPA), as dated January 2001, November 2002, October 2004, February 2007, March 2009, October 2010, and October 2012. This document retains the reporting format used for the past submissions.

Previous program evaluation reports devoted sections specifically to the former tailpipe-based New York Transient Emission Short Test (NYTEST) I/M program. NYTEST emissions inspections were completed in the nine-county New York Metropolitan Area (NYMA) I/M area from November 15, 1998 to December 31, 2010. NYMA includes New York City (Bronx, Kings, New York, Queens, and Richmond Counties), Long Island (Nassau and Suffolk Counties), Rockland County, and Westchester County. This and future program evaluation reports will no longer include emissions testing completed under the former NYTEST I/M program.

DEC and the New York State Department of Motor Vehicles (DMV) jointly administer New York's I/M programs. During the subject time period, New York State operated two enhanced I/M programs, the former New York Vehicle Inspection Program (NYVIP) and its successor, the New York Vehicle Inspection Program 2 (NYVIP2). During October 2013 to January 2014, both NYVIP and NYVIP2 equipment were in use to allow for transition to NYVIP2 only. The last NYVIP inspection was completed on January 15, 2014.

The NYVIP and NYVIP2 programs have effectively reduced hydrocarbon, carbon monoxide, and nitrogen oxide emissions from applicable motor vehicles through required emissions inspections and proper vehicle maintenance and repair. This report also details the overall progression of New York's enhanced I/M programs. The following components have contributed to the effectiveness of NYVIP/NYVIP2 programs:

1. New York State requires mandatory, statewide (62 counties) emissions inspections on an annual frequency and upon change of ownership. NYMA complies with the high enhanced performance standard defined under 40 CFR Subpart S §51.351(f). The 53-county "Upstate I/M Area" complies with the Ozone Transport Region (OTR) low enhanced I/M performance standard defined under §51.351(h);
2. Through the combination of sticker and registration-based denial enforcement (RBE), New York's motorist compliance rate exceeds the minimum performance standard requirements for enhanced I/M programs;
3. Since May 2005, mandatory on-board diagnostic (OBD II) inspections have been required statewide. New York's on-board diagnostics emissions inspection was developed in accordance with EPA's final OBD implementation guidance and 40 CFR Parts 51 and 86. New York outlined the components of the OBD II-based NYVIP program within its March 2006 and July 2009 State Implementation Plan (SIP) revisions. These SIP revisions have been approved by EPA with final approval of the 2009 Revision being published in the *Federal Register* on February 28, 2012;
4. DMV completed sticker compliance and program (enforcement) audits to ensure that New York's I/M programs maximize emission reductions. Several enforcement investigations involving DMV, DEC, and other governmental agencies were completed during the reporting period; and
5. Since December 2003, the New York City Taxi and Limousine Commission (TLC) has operated a centralized, test-only OBDII inspection facility in Queens (Woodside). Applicable yellow medallion taxicabs and for-hire livery vehicles (FHVs) are required to receive safety/emissions inspections three times a year. All of the yellow medallion taxicab inspections are completed at the Woodside facility.

New York State also requires mandatory, annual emissions inspections for applicable heavy-duty, diesel-fueled vehicles (HDDVs) registered within NYMA. This report does not include an evaluation of the HDDV I/M program, but a general fact sheet can be found at: <http://www.dec.ny.gov/chemical/48153.html>. Section F of this report includes a brief description of the proposal to record HDDV I/M data into the NYVIP2 database.

## B. BACKGROUND

EPA revised the federal I/M regulation to include onboard diagnostic (OBD) emissions inspections in 2001. This regulatory change occurred after the NYTEST start date (November 1998). As an interim measure, optional OBD testing was offered (in NYMA only) by two NYTEST equipment providers (April 2004 to May 2005). Beginning in May 2005, mandatory OBD testing was required statewide through the NYVIP equipment and the optional NYTEST OBD program was discontinued.

With the end of the NYTEST program on January 1, 2011, New York State has continued to meet the federal I/M requirements and its clean air obligations through the statewide NYVIP/NYVIP2 I/M programs. These programs require both OBDII and low enhanced emissions inspections for applicable vehicles. As noted above, the NYVIP program formally ended on January 15, 2014. All OBDII and low enhanced emission inspections are now completed through the statewide NYVIP2.

Effective July 13, 2011, revisions to Section 79.7 were adopted to allow the Commissioner of Motor Vehicles to limit the number of new official emission inspection stations licensed within New York State. If the maximum number of inspection stations is reached in any county, DMV will place subsequent inspection station applications on a waiting list. If the number of stations falls below the designated maximum in a given county, the applicant who has been on the list the longest will be considered for an inspection station license. DMV's fact sheet related to these changes can be found at: <http://www.dmv.ny.gov/vs-iscap.htm>. During Calendar Year 2013, a total of 6,410 licensed public inspection stations operated Upstate, while 3,782 public inspection stations operated in NYMA.

Since July 1, 2012, NYVIP/NYVIP2 have required OBDII inspections for applicable model year 1997 and newer light-duty diesel vehicles.

Table 1 below provides a summary of the NYVIP and NYVIP2 I/M programs during the reporting period:

TABLE 1 : I/M Program Summary

COMPONENT	NYVIP / NYVIP2
Network Type	Decentralized Test-and-Repair
Geographic Distribution	Statewide (62 Counties)
Test Frequency	Annual / Change of Ownership
Fuel Type	All non-electric fuels
Vehicle Type Coverage and Emissions Test Type (NYMA and Upstate)	<u>Light Duty Vehicles &amp; Trucks up to 8,500 lbs GVWR</u> - MY1996 to 2 MYs old, non-diesel: <b>OBD</b> - MY 1997 to 2 MYs old, diesel: <b>OBD</b> (after 6/30/12) - 25 MYs old to MY1995: <b>low enhanced</b> <u>Medium and Heavy Duty Vehicles, 8,501 lbs up to 18,000 lbs: low enhanced</u>
Model Year Coverage (Emissions)	Statewide, 25 MYs old to 2 MYs old
Evaporative Emissions	OBD II

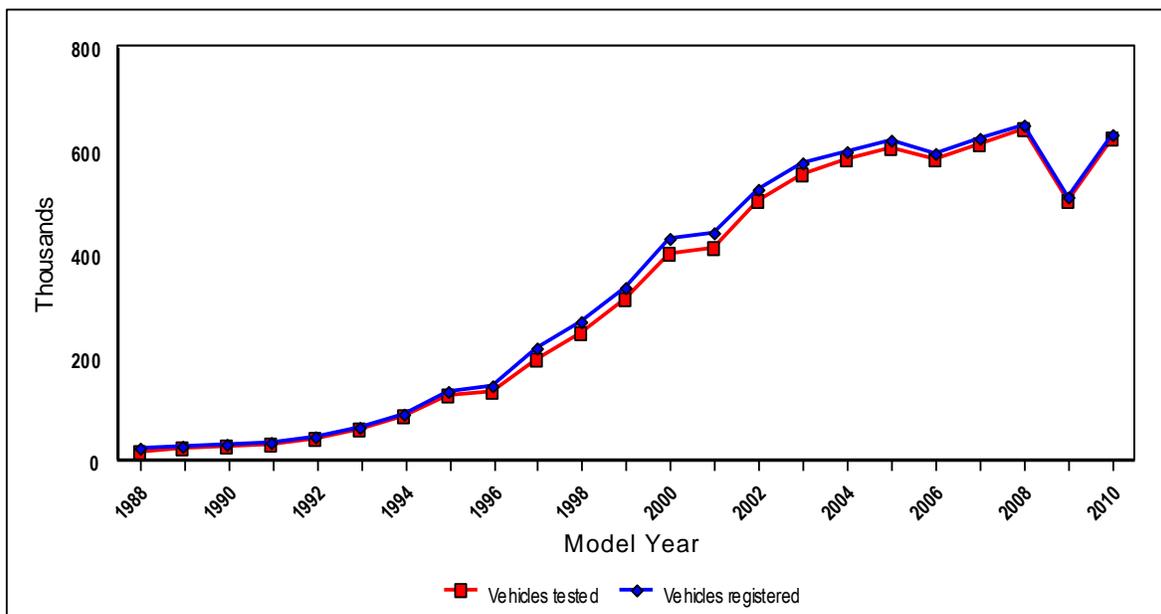
## C. Motorist Compliance

### Comparison of Registered Vehicles and Vehicles Receiving Emissions Inspections

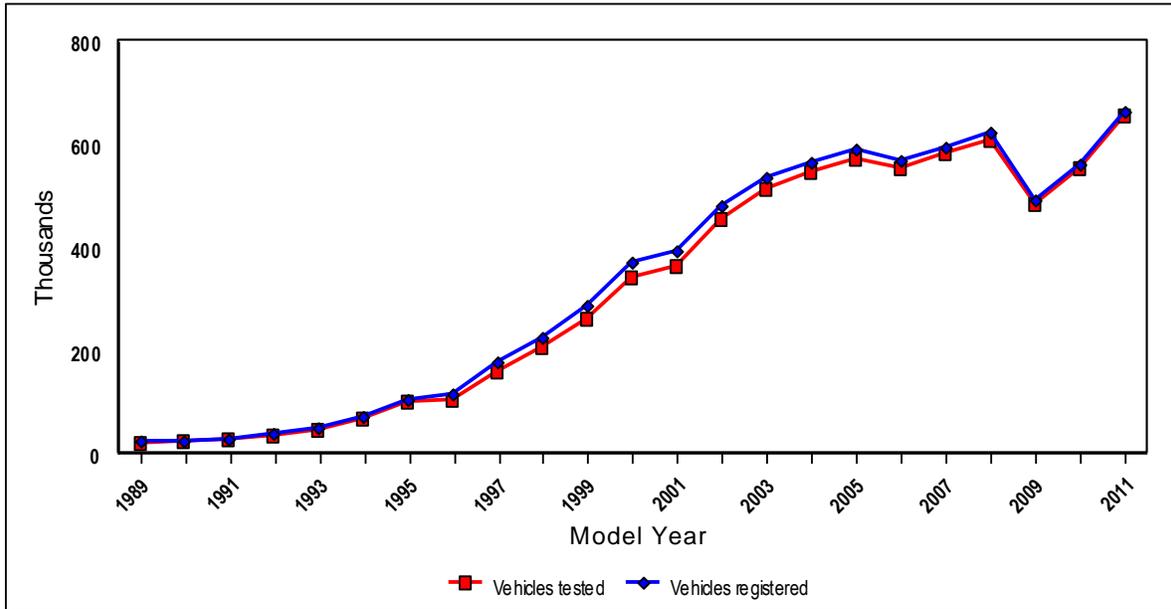
Estimated, statewide vehicle counts for Calendar Years 2012 and 2013, as derived from the NYS DMV registration database, are presented in Appendix A.

The Departments previously completed comparisons of the estimated number of emissions inspections (based on vehicle information within the DMV registration database) versus actual I/M emissions inspections by I/M area (NYMA, Upstate) for the Calendar Year 2012 and Calendar Year 2013 Enhanced I/M Annual Reports. These findings are now presented as statewide results for Calendar Years 2012 and 2013 below in Graphs 1 and 2:

GRAPH 1 : Emissions Applicable Registrations vs. Initial Emissions Inspections  
(Statewide, Calendar Year 2012)



GRAPH 2 : Emissions Applicable Registrations vs. Initial Emissions Inspections  
(Statewide, Calendar Year 2013)



The screening procedure used to determine the potential I/M applicability using DMV registration data is included within Appendix B. Several factors add to the overall uncertainty of this comparison:

1. The analysis must screen the registration file to exclude registrations exempt from emissions testing by regulation (i.e., exempt registration classes, vehicle age, vehicle weight, vehicle fuel type);
2. New York State’s annual inspection frequency differs from the biennial registration renewal cycle. As such, the comparison must include a “look back” period exceeding 12 months to search for emissions inspections from a fixed registration file date;
3. The statewide vehicle registration file represents a snapshot of New York State’s vehicle registrations on the specific dates that the DMV database queries were completed (i.e., March 8, 2013 and March 8, 2014); and
4. There are differences between how the former NYVIP and current NYVIP2 software determined emissions test applicability (i.e., VIN validation, GVWR determination). NYVIP2 uses a more comprehensive VIN-decoding component that depends less on motorist registration data and certified inspector data entry. Despite these differences, vehicle information, including model year, GVWR, and fuel type as determined by NYVIP and NYVIP2, is deemed more accurate than the same data elements contained within the DMV registration file.

**NYMA Sticker Compliance**

DMV conducts quarterly sticker compliance surveys to provide an independent assessment of motorist compliance. These surveys are based on field audits. Appendix C includes the results for Calendar Years 2012 and 2013 and the first two quarters of 2014.

## ***D. NEW YORK VEHICLE INSPECTION PROGRAMS (NYVIP and NYVIP2)***

### **NYVIP2 OBD II Implementation**

New York State currently requires annual on-board diagnostic testing (OBD II) for applicable vehicles through the statewide NYVIP2. New York based the NYVIP2 OBD II technical specifications in part on the final federal guidance, *Performing Onboard Diagnostic System Checks as Part of a Vehicle Inspection and Maintenance Program* (EPA420-R-01-015, June 2001) and federal I/M regulation. The NYVIP2 inspection software establishes five possible OBD failure criteria:

1. The vehicle's Malfunction Indicator Light (MIL) does not illuminate when the ignition is in the key on/engine off (KO/EO) position;
2. The vehicle's MIL remains illuminated when the ignition is in the key on/engine running (KO/ER) position;
3. Inability to communicate with the vehicle;
4. The vehicle reports the MIL is commanded on and diagnostic trouble code(s) are reported;
5. The vehicle fails the monitor readiness evaluation.

Since combinations of the failure criteria are possible, close scrutiny is required when evaluating failure rate statistics. For example, a common OBD II failure would include both the "MIL on during KO/ER" visual inspection and the presence of a "diagnostic trouble code (DTC) with the MIL commanded on" criteria.

The transition from NYVIP to NYVIP2 was not completed until January 15, 2014. The data presentations and analyses within this program evaluation report focus primarily on NYVIP inspection data. A NYVIP2 program summary for the period of October 2013 (Start of NYVIP2) to June 15, 2014 (End of NYVIP) is included as Table 3 under Section F.

### **NYVIP "Data Trigger" Audits**

During the initial development of NYVIP, DEC and DMV (the Departments) defined the content and reporting rules for the electronic OBD II inspection record, or "INSPREC.DAT file." This record was transmitted electronically from the inspection stations, through the NYVIP Program Manager, to both Departments. These records served several purposes. DMV used these records to ensure that motorists comply with the annual inspection requirement via registration-based denial. These records were the basis of New York's annual, biennial, and program evaluation reports. These records were also used for station and certified inspector auditing and enforcement as the file contains information specific to the station, inspector, vehicle, and safety/emissions inspection.

During an OBD II inspection, the NYVIP inspection software made standardized requests for information. The vehicle, in turn, provided electronic responses that were captured by NYVIP. The type and amount of information reported by each vehicle varies (i.e., by model year, emissions test type, initial/re-inspection requirements, vehicle manufacturer differences). The Departments developed a series of queries to identify possible fraudulent testing during OBDII inspections using certain data fields. Under this design, the Departments could identify potentially fraudulent practices without conducting a station visit. These queries have been proven to be highly effective, and these have documented the illegal use of electronic simulators and the use of substitute vehicles ("clean scanning"). The resulting data analysis has been used as evidence in DMV and DEC administrative enforcement hearings and in separate criminal investigations. For example, the Departments and other governmental entities (i.e., New York State Office of the Attorney General, Westchester County District Attorney's Office) completed joint investigations during the evaluation period, and these associated press releases are included in Appendix D.

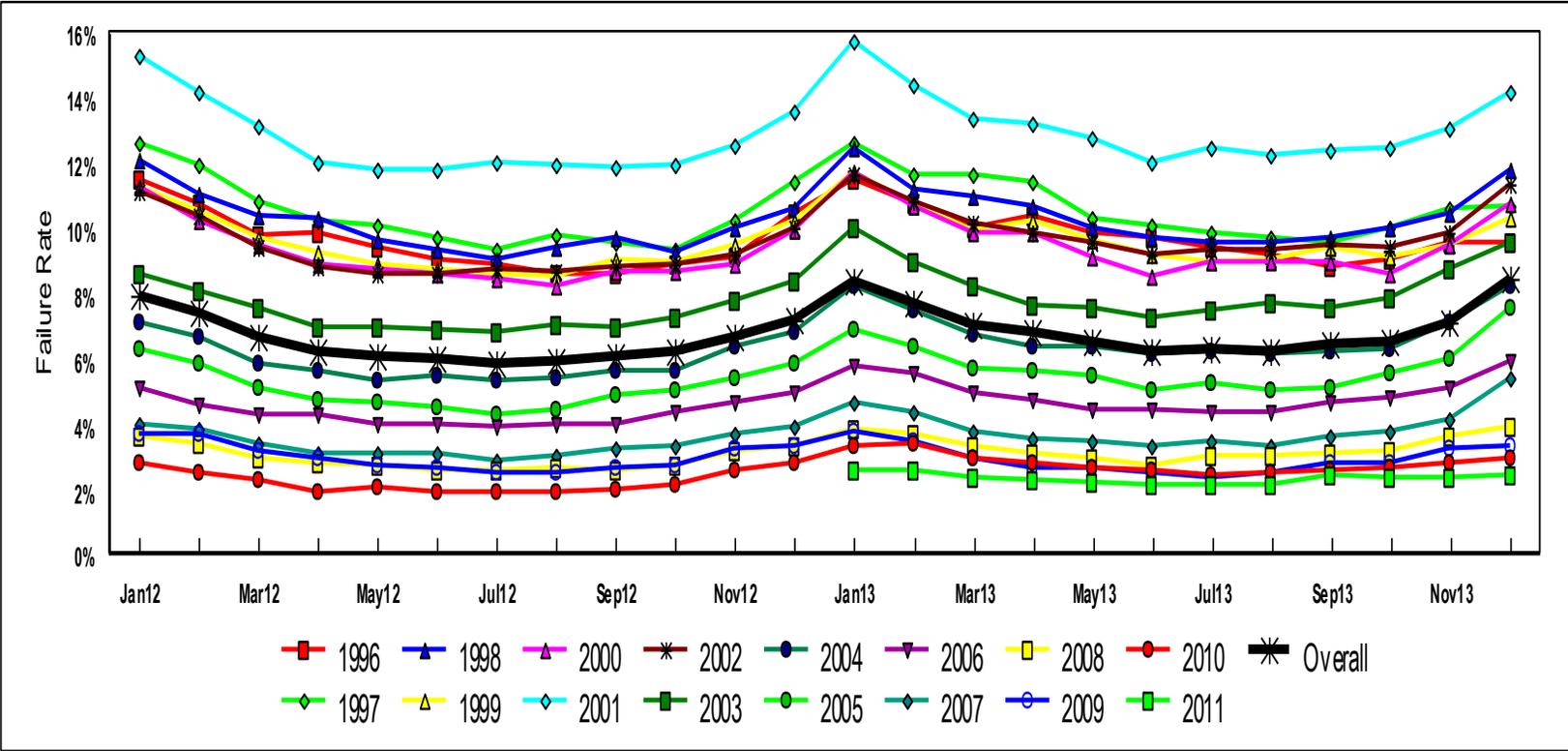
### **I/M Program Reporting**

The Departments monitor the initial inspection failure rates and waiver rates by I/M area on a monthly basis. The NYVIP initial OBD II failure rate and waiver rates (statewide) are presented in Graphs 3 and 4, respectively.

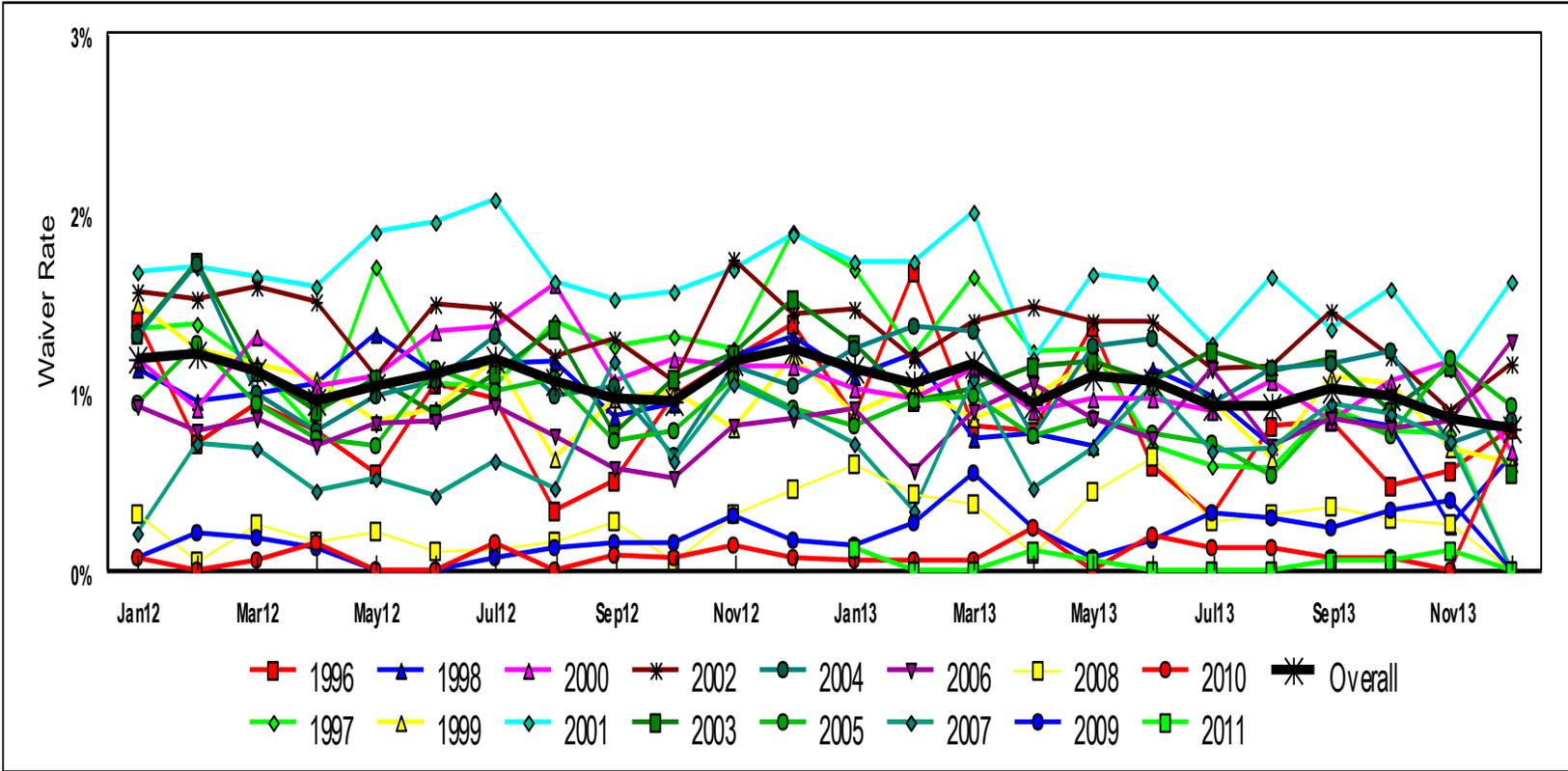
Graph 3 indicates the monthly NYVIP OBD II failure rate for initial inspections during Calendar Years 2012 and 2013. The initial OBD II failure rate averaged 6.61% during the 2-year reporting period.

Graph 4 displays the monthly statewide NYVIP waiver rate during Calendar Years 2012 and 2013. During this period, the statewide NYVIP waiver rate averaged 1.06%, while the NYMA and Upstate waiver rates were 0.93% and 1.07%, respectively.

GRAPH 3 : NYVIP Statewide OBD II Failure Rate (Initial Inspections)  
(Calendar Years 2012 and 2013)



GRAPH 4 : NYVIP Statewide OBD II Waiver Rate  
(Calendar Years 2012 and 2013)



## ***E. NEW YORK CITY TAXI AND LIMOUSINE COMMISSION (TLC)***

Since 1977, yellow medallion taxi cabs operating within New York City have been subject to emissions testing at a frequency of three times per year. The New York City Taxi and Limousine Commission (TLC) upgraded their Woodside (Queens) testing facility and commenced mandatory OBD II inspections for applicable yellow medallion cabs beginning on December 8, 2003. The Departments completed acceptance testing of the TLC test equipment and software from August 2004 to June 2006. The Departments found the TLC inspection program, which includes OBD II, emission control device (ECD), and safety component checks, to be equivalent to New York State requirements (NYVIP). The Departments jointly approved the TLC inspection program on October 4, 2006.

For-Hire vehicles (FHV) were previously required to receive three inspections a year at licensed decentralized testing locations (NYVIP, NYTEST). Effective September 1, 2009, TLC required FHVs associated with a new application or a vehicle transfer (i.e., replacement vehicle) to pass a NYS inspection, including an OBD II emissions inspection, at the Woodside test-only facility. As of February 1, 2010, the FHV renewal applications were also required to pass a NYS inspection. The TLC now requires applicable FHVs to receive one inspection (of the required six) at the Woodside facility during a 2-year period, with the remaining inspection completed at licensed NYVIP2 stations.

The TLC provided OBDII emissions test results to the Departments on a monthly frequency. A summary of the TLC OBDII inspections completed during Calendar Year 2012, Calendar Year 2013, and the first two quarters of Calendar Year 2014 is provided as Table 2.

Graph 5 displays the monthly TLC OBDII failure rate during Calendar Years 2012 and 2013.

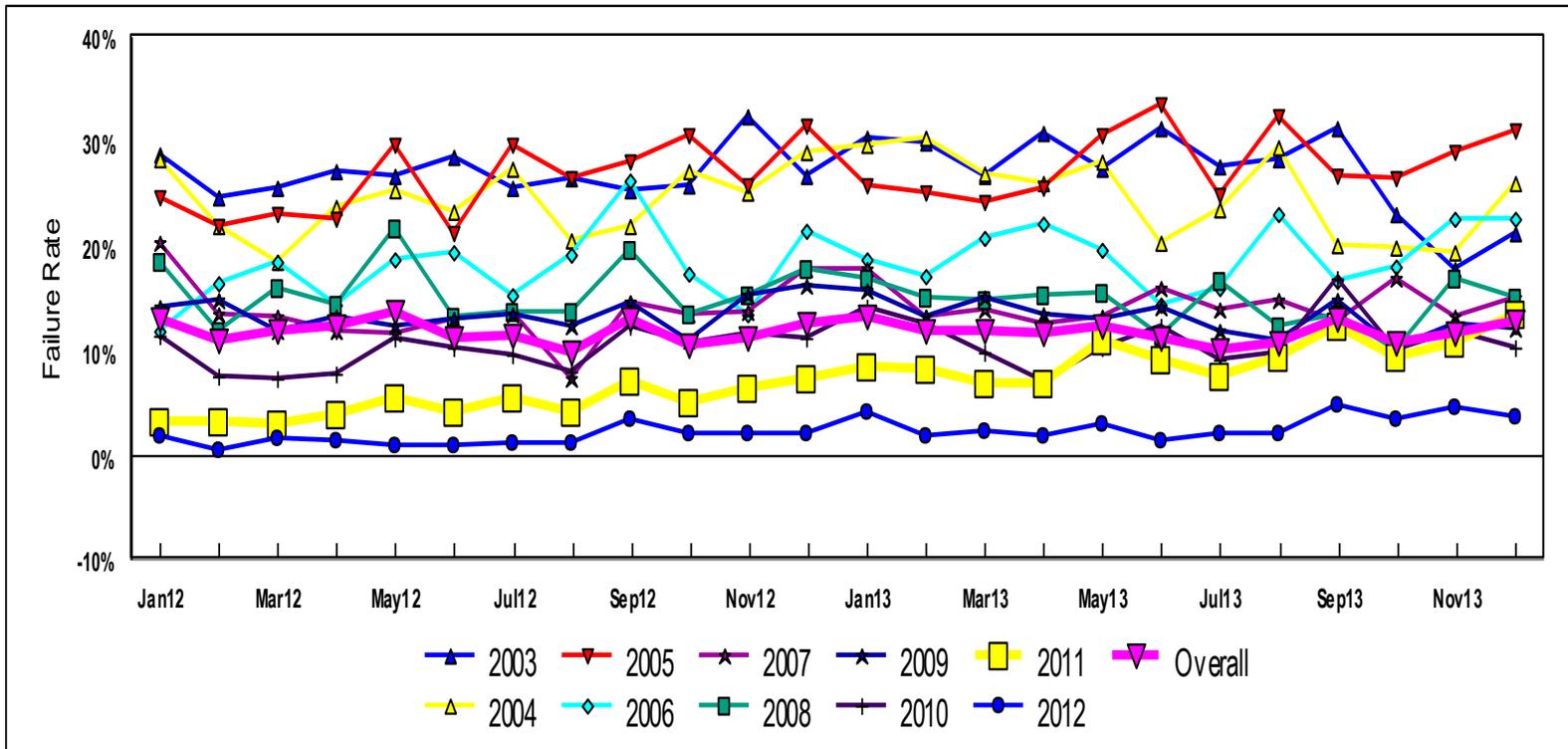
TABLE 2 : New York City Taxi and Limousine Commission (TLC) OBDII Summary

TOTALS				PASSED	FAILED OBD II INSPECTION												
Calendar Year	Model Year	Sample Count	Average Odometer	Pass Count	Fail Count	Average Odometer	Failed	Fail Communication		Fail KOEO		Fail KOER		Fail ML Command		Fail Readiness	
								Count	%	Count	%	Count	%	Count	%	Count	%
<b>2012</b>	1996	2	197,946	2	0		0.0%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	0	0.0%
	1997	5	326,997	4	1	392,067	20.0%	0	0.0%	0	0.00%	1	20.0%	1	20.0%	0	0.0%
	1998	30	273,146	25	5	238,995	16.7%	0	0.0%	0	0.00%	1	3.3%	4	13.3%	4	13.3%
	1999	103	293,675	83	20	251,217	19.4%	4	3.9%	1	0.97%	2	1.9%	13	12.6%	4	3.9%
	2000	178	261,733	143	35	311,028	19.7%	5	2.8%	2	1.12%	4	2.2%	17	9.6%	18	10.1%
	2001	311	255,716	209	102	308,657	32.8%	13	4.2%	3	0.96%	13	4.2%	30	9.6%	77	24.8%
	2002	343	216,822	224	119	242,940	34.7%	19	5.5%	7	2.04%	13	3.8%	38	11.1%	84	24.5%
	2003	2,647	254,779	1,941	706	279,359	26.7%	94	3.6%	41	1.55%	70	2.6%	233	8.8%	512	19.3%
	2004	2,417	225,972	1,841	576	259,369	23.8%	77	3.2%	46	1.90%	70	2.9%	217	9.0%	377	15.6%
	2005	2,634	233,477	1,957	677	304,128	25.7%	78	3.0%	22	0.84%	93	3.5%	224	8.5%	504	19.1%
	2006	3,084	236,091	2,545	539	246,987	17.5%	53	1.7%	10	0.32%	73	2.4%	146	4.7%	400	13.0%
	2007	4,261	210,492	3,686	575	267,363	13.5%	72	1.7%	9	0.21%	70	1.6%	161	3.8%	392	9.2%
	2008	8,219	246,779	6,923	1,296	263,516	15.8%	87	1.1%	9	0.11%	216	2.6%	425	5.2%	933	11.4%
	2009	9,338	195,808	8,085	1,253	215,990	13.4%	44	0.5%	1	0.01%	214	2.3%	422	4.5%	922	9.9%
	2010	7,988	140,972	7,202	786	162,463	9.8%	54	0.7%	2	0.03%	121	1.5%	256	3.2%	537	6.7%
	2011	14,916	87,246	14,188	728	101,857	4.9%	53	0.4%	4	0.03%	132	0.9%	266	1.8%	468	3.1%
	2012	6,025	31,728	5,923	102	38,514	1.7%	43	0.7%	2	0.03%	7	0.1%	18	0.3%	50	0.8%
	2013	125	5,077	125	0		0.0%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	0	0.0%
<b>Total</b>	<b>62,626</b>			55,106	7,520		<b>12.0%</b>	696	1.1%	159	0.25%	1,100	1.8%	2,471	3.9%	5,282	8.4%
<b>2013</b>	1996	1	297,044	1	0		0.0%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	0	0.0%
	1997	3	346,641	2	1	279,205	33.3%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	1	33.3%
	1998	6	253,922	4	2	210,721	33.3%	0	0.0%	0	0.00%	0	0.0%	1	16.7%	1	16.7%
	1999	29	276,222	26	3	389,326	10.3%	1	3.4%	0	0.00%	1	3.4%	1	3.4%	3	10.3%
	2000	78	266,315	67	11	301,472	14.1%	0	0.0%	0	0.00%	1	1.3%	6	7.7%	5	6.4%
	2001	118	233,258	87	31	223,834	26.3%	3	2.5%	2	1.69%	5	4.2%	7	5.9%	22	18.6%
	2002	142	233,511	99	43	251,628	30.3%	2	1.4%	4	2.82%	5	3.5%	14	9.9%	35	24.6%
	2003	1,863	265,677	1,345	518	292,280	27.8%	67	3.6%	22	1.18%	70	3.8%	171	9.2%	372	20.0%
	2004	2,036	242,060	1,516	520	270,134	25.5%	70	3.4%	35	1.72%	79	3.9%	192	9.4%	350	17.2%
	2005	2,440	235,407	1,767	673	263,974	27.6%	62	2.5%	30	1.23%	110	4.5%	229	9.4%	496	20.3%
	2006	2,437	243,811	1,964	473	220,076	19.4%	45	1.8%	9	0.37%	77	3.2%	128	5.3%	363	14.9%
	2007	3,886	206,084	3,328	558	226,831	14.4%	63	1.6%	9	0.23%	76	2.0%	140	3.6%	425	10.9%
	2008	4,972	258,046	4,250	722	280,641	14.5%	55	1.1%	1	0.02%	108	2.2%	203	4.1%	550	11.1%
	2009	7,316	236,066	6,356	960	263,619	13.1%	55	0.8%	5	0.07%	189	2.6%	331	4.5%	689	9.4%
	2010	7,708	181,757	6,852	856	210,785	11.1%	66	0.9%	3	0.04%	146	1.9%	267	3.5%	617	8.0%
	2011	17,363	132,622	15,735	1,628	158,093	9.4%	65	0.4%	5	0.03%	325	1.9%	559	3.2%	1,158	6.7%
	2012	11,809	70,288	11,474	335	84,805	2.8%	63	0.5%	0	0.00%	55	0.5%	87	0.7%	207	1.8%
	2013	5,261	19,964	5,187	74	28,620	1.4%	25	0.5%	0	0.00%	3	0.1%	5	0.1%	45	0.9%
	2014	294	8,303	293	1	2,382	0.3%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	1	0.3%
<b>Total</b>	<b>67,762</b>			60,353	7,409		<b>10.9%</b>	642	0.9%	125	0.18%	1,250	1.8%	2,341	3.5%	5,340	7.9%

TABLE 2 : New York City Taxi and Limousine Commission (TLC) OBDII Summary (Continued)

TOTALS				PASSED	FAILED OBD II INSPECTION												
Calendar Year	Model Year	Sample Count	Average Odometer	Pass Count	Fail Count	Average Odometer	Failed	Fail Communication		Fail KOEO		Fail KOER		Fail ML Command		Fail Readiness	
								Count	%	Count	%	Count	%	Count	%	Count	%
2014 partial	1996	1	331,016	1	0		0.0%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	0	0.0%
	1997	1	372,006	1	0		0.0%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	0	0.0%
	1998	6	321,652	5	1	318,250	16.7%	0	0.0%	0	0.00%	1	16.7%	1	16.7%	0	0.0%
	1999	11	283,703	10	1	526,779	9.1%	0	0.0%	1	9.09%	0	0.0%	0	0.0%	0	0.0%
	2000	21	289,013	13	8	310,911	38.1%	2	9.5%	0	0.00%	1	4.8%	1	4.8%	6	28.6%
	2001	44	268,562	33	11	317,543	25.0%	1	2.3%	0	0.00%	0	0.0%	3	6.8%	9	20.5%
	2002	79	229,844	50	29	244,809	36.7%	2	2.5%	2	2.53%	7	8.9%	12	15.2%	24	30.4%
	2003	715	290,471	506	209	294,269	29.2%	34	4.8%	18	2.52%	23	3.2%	64	9.0%	145	20.3%
	2004	1,016	257,217	742	274	270,843	27.0%	55	5.4%	18	1.77%	28	2.8%	92	9.1%	172	16.9%
	2005	1,325	245,323	922	403	264,327	30.4%	44	3.3%	23	1.74%	64	4.8%	140	10.6%	297	22.4%
	2006	1,370	232,391	1,044	326	265,001	23.8%	29	2.1%	3	0.22%	49	3.6%	94	6.9%	261	19.1%
	2007	2,058	211,797	1,685	373	245,380	18.1%	30	1.5%	4	0.19%	55	2.7%	88	4.3%	298	14.5%
	2008	2,172	248,745	1,858	314	265,731	14.5%	34	1.6%	5	0.23%	51	2.3%	82	3.8%	238	11.0%
	2009	3,202	243,757	2,809	393	270,205	12.3%	19	0.6%	2	0.06%	69	2.2%	116	3.6%	306	9.6%
	2010	3,662	222,862	3,140	522	244,737	14.3%	26	0.7%	3	0.08%	73	2.0%	152	4.2%	398	10.9%
	2011	8,593	178,126	7,475	1,118	199,095	13.0%	33	0.4%	6	0.07%	195	2.3%	384	4.5%	821	9.6%
	2012	6,678	110,696	6,342	336	128,124	5.0%	39	0.6%	4	0.06%	51	0.8%	81	1.2%	222	3.3%
	2013	5,504	44,882	5,356	148	55,382	2.7%	30	0.5%	0	0.00%	14	0.3%	25	0.5%	103	1.9%
2014	2,391	14,865	2,358	33	11,757	1.4%	6	0.3%	1	0.04%	3	0.1%	3	0.1%	21	0.9%	
2015	35	4,514	34	1	524	2.9%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	1	2.9%	
<b>Total</b>	<b>38,884</b>			<b>34,384</b>	<b>4,500</b>		<b>11.6%</b>	<b>384</b>	<b>1.0%</b>	<b>90</b>	<b>0.23%</b>	<b>684</b>	<b>1.8%</b>	<b>1,338</b>	<b>3.4%</b>	<b>3,322</b>	<b>8.5%</b>

GRAPH 5 : New York City Taxi and Limousine Commission (TLC) OBD II Failure Rate  
(Calendar Years 2012 and 2013)



Note: Model Years 1996 through 2002 vehicles are not included in the above chart.

## **F. NYVIP2 IMPLEMENTATION**

The start of the NYVIP2 I/M occurred within the subject program evaluation period. This section summarizes the issues encountered during the implementation, the current status of each issue, and a summary of NYVIP2 data from October 1, 2013 to June 30, 2014.

### **Transition from NYVIP to NYVIP2**

The NYVIP I/M program was scheduled to end on November 30, 2013. This original date was extended twice (by 31 and 15 days, respectively) to provide additional time for a greater number of stations to activate their NYVIP2 equipment. The logistics of the NYVIP2 roll-out required licensed inspection stations to purchase new NYVIP2 equipment; Opus Inspection to configure and deliver this equipment; and for the stations to physically connect their NYVIP2 equipment to the Opus vehicle inspection database (VID). These time extensions successfully assured that the NYVIP2 decentralized network provided sufficient geographic coverage (statewide) for the motoring public. DMV provided notice of these extensions through NYVIP station messages #110 and #115. These messages are included in Appendix E.

The statewide transition from NYVIP to NYVIP2 occurred between October 21, 2013<sup>1</sup> and January 15, 2014. During this transition period, both NYVIP and NYVIP2 equipment platforms were in use, and inspection data was received by both SGS TESTCOM (NYVIP) and Opus Inspection (NYVIP2).

### **Loss of “10-day Extension” Capability, Readiness Evaluation Criteria**

Since 2005, the NYVIP inspection software was configured with the ability to authorize 10-day time extensions. These 10-day time extensions are allowed whenever a vehicle fails for only the monitor readiness evaluation of the OBDII inspection and the vehicle’s current inspection certificate (sticker) is expired. The inspector is directed to remove the expired sticker from the vehicle, and the motorist is provided a “10-day extension,” which is printed by the NYVIP/NYVIP2 equipment. In this manner, the motorist can legally drive their vehicle for up to 10 days in an attempt to set a sufficient number of monitors to “Ready.” The motorist is still required to have the subject vehicle re-inspected. The inspection software will only authorize a vehicle one 10-day extension per inspection cycle.

The initial NYVIP2 inspection software release (2013) properly authorized 10-day extensions; however, this functionality stopped unexpectedly on January 1, 2014. The error could not be corrected through the VID, and Opus Inspection was required to develop a new software release. As an interim measure, the general program-wide readiness evaluation criteria<sup>2</sup> was disabled. As a consequence, all OBDII inspections completed during the affected time period were completed without the readiness evaluation. All of the remaining failure criteria (OBDII communication, KO/EO and KO/ER visual MIL checks, and MIL commanded on with stored diagnostic trouble codes) were maintained. The issue was resolved on February 1, 2014 when the program-wide readiness failure criteria was restored.

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<sup>1</sup> Beta testing at select stations started during the first week of October 2013.

<sup>2</sup> The general NYVIP-NYVIP2 readiness evaluation criteria was based on EPA guidance, *Performing Onboard Diagnostic System Checks as Part of a Vehicle Inspection and Maintenance Program* (EPA 420-R-01-015). For the MY1996-MY2000 vehicles: fail/reject if 3 or more non-continuous monitors are reported as Not Ready. For MY2001 and newer vehicles: fail/reject if 2 or more non-continuous monitors are reported as Not Ready.

### **NYVIP2 Reporting – Legacy Data, Database Design, Query Development**

Several aspects related to NYVIP2 data reporting remain incomplete at this time and are under NYS review for formal approval:

All previous inspection records maintained by the original NYVIP contract (SGS TESTCOM, 2004-2014) were transferred to the NYVIP2 contractor (Opus Inspection). The NYVIP ‘legacy data’ has been incorporated into the Opus Inspection VID, and the records are being reviewed for format, content, and final acceptance by DMV and DEC. This effort remains in development.

The NYVIP2 Request for Proposals (RFP) and subsequent contract with Opus Inspection requires the NYVIP2 inspection record to be consistent with all applicable rules and precedents established by the original NYVIP inspection record. The Departments are currently reviewing a NYVIP2 software release proposed by Opus Inspection to demonstrate agreement with the original NYVIP data fields. Of note, all NYVIP2 software versions released to date have demonstrated compliance with the New York State pass/fail criteria. This effort remains in development.

Opus Inspection is also required to develop a web-based application that allows multiple approved users to complete pre-defined queries utilizing the contractor’s database (VID). At this time, the dynamic query and reporting suite is partially complete and remains under development. Some of the queries previously developed by DEC and DMV under NYVIP remain in development, and these represent a program priority as they affect reporting and station/inspector enforcement. This same web-based application will also be used to complete the EPA reporting requirements. Table 3 below represents the results of the “NYVIP2 Program Summary” query for the time period of October 1, 2013 to June 30, 2014.

TABLE 3 : NYVIP2 Program Summary (October 1, 2013 to June 30, 2014)

<b>NYVIP2 Summary</b>	<b>Statewide</b>
<u>Total Inspections (Initial and Re-Test)</u>	6,750,976
a. Light-duty Vehicles	3,695,424
b. Light-duty Trucks	2,713,538
c. Heavy-duty Vehicles	342,014
<u>Number of Initial Inspections</u>	6,387,406
a. Light-duty Vehicles	3,489,726
b. Light-duty Trucks	2,559,264
c. Heavy-duty Vehicles	338,416
<u>Number of Re-Inspections</u>	363,570
a. Light-duty Vehicles	205,698
b. Light-duty Trucks	154,274
c. Heavy-duty Vehicles	3,598

TABLE 3 Continued : NYVIP2 Program Summary (October 1, 2013 to June 30, 2014)

<b>NYVIP2 Summary</b>	<b>Statewide</b>
<u>Number of Inspections (Initial and Re-Test) by Test Type</u>	
a. Safety-Only	1,556,041
b. <a href="#">Low Enhanced</a>	362,745
c. <a href="#">OBD</a>	4,832,190
<u>Safety Component Initial Failure Rates (All Test Types)</u>	
a. Number of Initial Safety Inspections	6,386,947
b. Initial Safety Failure Rate	2.14%
c. Light-duty Vehicles - Safety Failure Rate	2.30%
d. Light-duty Trucks - Safety Failure Rate	2.06%
e. Heavy-duty Vehicles - Safety Failure Rate	1.09%
<u>Gas Cap Component Initial Failure Rates (Low Enhanced &amp; OBD)</u>	
a. Number of Initial Gas Cap Inspections	4,762,445
b. Initial Gas Cap Failure Rate	0.01%
c. Light-duty Vehicles - Gas Cap Failure Rate	0.01%
d. Light-duty Trucks - Gas Cap Failure Rate	0.01%
e. Heavy-duty Vehicles - Gas Cap Failure Rate	0.01%
<u>ECD Check Component Initial Failure Rates (Low Enhanced &amp; OBD)</u>	
a. Number of Initial ECD Check Inspections	4,821,859
b. Initial ECD Check Failure Rate	0.05%
c. Light-duty Vehicles - ECD Check Failure Rate	0.05%
d. Light-duty Trucks - ECD Check Failure Rate	0.05%
e. Heavy-duty Vehicles - ECD Check Failure Rate	0.04%
<u>Low Enhanced Emissions Initial Failure Rates</u>	
a. Number of Initial Low Enhanced Inspections	356,667
b. Initial Low Enhanced Failure Rate	0.10%
c. Light-duty Vehicles - Low Enhanced Failure Rate	0.15%
d. Light-duty Trucks - Low Enhanced Failure Rate	0.16%
e. Heavy-duty Vehicles - Low Enhanced Failure Rate	0.05%
<u>OBD Initial Emissions Failure Rates (All Fuel Types)</u>	
a. Number of Initial OBD Inspections	4,477,846
b. Initial OBD Failure Rate	5.91%
c. Light-duty Vehicles - OBD Failure Rate	5.83%
d. Light-duty Trucks - OBD Failure Rate	6.00%
e. Heavy-duty Vehicles (3,288) - OBD Failure Rate	19.07%
f. Number of Initial OBD Failures (Used for Waiver Rate)	264,694

TABLE 3 Continued : NYVIP2 Program Summary (October 1 to June 30, 2014)

NYVIP2 Summary	Statewide
<u>OBD Re-Inspection Emissions Failure Rates (All Fuel Types)</u>	
a. Number of OBD Re-Inspections	354,344
b. OBD Re-Inspection Failure Rate	16.23%
c. Light-duty Vehicles - OBD Re-Inspection Failure Rate	15.93%
d. Light-duty Trucks - OBD Re-Inspection Failure Rate	16.60%
e. Heavy-duty Vehicles (202) - OBD Re-Inspection Failure Rate	31.20%
<u>Total Number of OBD Waivers</u>	
a. Light-duty Vehicles	897
b. Light-duty Trucks	834
c. Heavy-duty Vehicles	4
d. Overall OBD Waiver Rate	0.66%
<u>Total Number of OBD 10-Day Extensions</u>	
a. Light-duty Vehicles	42,292
b. Light-duty Trucks	37,306
c. Heavy-duty Vehicles	115
<u>OBD Initial Emissions Failure Rates (Diesel Vehicles Only)</u>	
a. Number of Initial OBD Diesel Inspections	12,732
b. Initial Diesel - OBD Failure Rate	7.61%
c. Number of Initial OBD Diesel Inspections (Light Vehicle)	9,640
d. LDDV - OBD Failure Rate	7.08%
e. Number of Initial OBD Diesel Inspections (Light Trucks)	2,672
f. LDDT - OBD Failure Rate	7.49%
g. Number of Initial OBD Diesel Inspections (Heavy Trucks)	420
h. HDDV - OBD Failure Rate	20.48%

During the NYTEST, NYVIP, and the majority of the New York City Taxi and Limousine Commission I/M programs, DEC required the NYVIP and TLC data managers (SGS TESTCOM, Systech International) to electronically transmit inspection data directly to DEC at defined intervals. DEC, in turn, maintained functionally independent FoxPro databases. These databases were used extensively to prepare the EPA Annual and Biennial reports, EPA Program Evaluation reports, and to respond to Freedom of Information Act requests. Under the proposed NYVIP2 design, DEC would no longer maintain its NYVIP2 or TLC databases. DMV would still maintain its existing I/M database separate from the NYVIP2 contractor, used primarily for registration-based enforcement. Those queries, previously established by DEC to support EPA reporting requirements, will now be completed through the Opus VID. This effort remains in development.

## ***G. PROPOSED NYVIP2 ENHANCEMENTS***

### **Inclusion of Heavy Duty Diesel I/M**

The New York State “heavy duty vehicle emissions reduction act” (1998) required the implementation of a Heavy Duty Diesel Vehicle I/M program (HDDV I/M). Pursuant to this legislation, the New York State Vehicle and Traffic, Transportation, and Environmental Conservation Laws were amended to implement a HDDV I/M program with two distinct components:

- a) An annual Heavy Duty Diesel I/M program for applicable vehicles registered within the nine-county NYMA, and
- b) Roadside emissions enforcement (regardless of county registration) statewide.

New York State regulations, under 15 NYCRR Part 79 (revised) and 6 NYCRR Subpart 217-5 (new), were subsequently adopted. Since 1999, the annual HDDV I/M program has operated independently from the Clean Act required light-duty I/M programs (NYTEST, NYVIP, and NYVIP2). DEC has certified smoke opacity meters from seven different manufacturers, and DMV has licensed approximately 500 official diesel emissions inspection stations statewide. DEC and DOT have enforced the roadside provisions of the act.

There are several significant design differences between HDDV I/M and the other I/M programs. The inspection results from HDDV I/M are currently manually recorded on “paper-based” forms (DMV VS-1074SD) and are not transmitted to a centrally located database. Registration-based denial enforcement does not apply, as motorist compliance efforts (with the annual I/M requirement) are accomplished through sticker-based enforcement, roadside efforts, and consumer complaints. The HDDV legislation did not provide for age-based, model year exemptions. The HDDV legislation did provide for a potential penalty reduction following a roadside enforcement citation if repairs are documented.

Opus Inspection has also proposed an integrated opacity meter solution into the NYVIP2 equipment. If approved, the integrated opacity meter would be offered as an optional upgrade to licensed official diesel emissions inspection stations. The integrated option requires certification/approval by DEC and DMV and is not bound to a contractual schedule.

### **Additional OBDII Data Fields**

The NYVIP2 contract requires Opus Inspection to report additional OBDII-based data fields not previously reported within the original NYVIP record. The Departments required this information to evaluate modifications to the existing OBDII pass/fail criteria, to consider new pass/fail criteria, and to enhance established (NYVIP) enforcement routines. As such, the current NYVIP2 OBDII interface requires modification to request ~~“new”~~ data from SAE J1979 (“E/E Diagnostic Test Modes”) service levels \$01, \$06, \$09, and \$0A. This requirement will need to be addressed through future software update(s) and modifications to the VID.

### **Integrated Cameras**

As required by the NYVIP2 RFP and subsequent contract, NYVIP2 will integrate a camera into the inspection sequence. The camera hardware was included with the initial equipment delivery, but the existing test sequence does not use the camera. New York will also evaluate the feasibility of including facial recognition into the NYVIP2 test sequence.

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APPENDIX A

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(Based on Data Collected from DMV Registration File Dated 3/8/2013)

New York Metropolitan Area (9 Counties)

	Total Vehicles	MYR Distribution	Gasoline Powered**		Diesel Powered		Other Fuels***	
			Light Duty	Heavy Duty	Light Duty	Heavy Duty	Light Duty	Heavy Duty
Pre-1987	118,088	2.38%	92,482	11,722	8,333	5,449	75	27
1987	12,488	0.25%	10,364	760	324	1,039	1	0
1988	13,132	0.26%	11,037	907	156	1,032	0	0
1989	15,902	0.32%	13,906	716	192	1,086	2	0
1990	18,191	0.37%	16,072	729	210	1,179	1	0
1991	20,920	0.42%	18,981	477	274	1,180	7	1
1992	26,058	0.52%	24,371	415	271	997	4	0
1993	35,604	0.72%	33,541	475	405	1,180	2	1
1994	48,443	0.97%	45,434	739	434	1,826	10	0
1995	71,126	1.43%	66,678	1,075	643	2,710	19	1
1996	77,620	1.56%	74,040	801	579	2,191	9	0
1997	112,618	2.27%	107,385	1,557	850	2,813	13	0
1998	137,706	2.77%	133,134	1,176	715	2,646	31	4
1999	173,346	3.49%	165,310	2,264	1,229	4,485	53	5
2000	219,871	4.42%	210,129	3,040	1,194	5,455	49	4
2001	223,767	4.50%	215,070	2,987	1,080	4,560	66	4
2002	262,720	5.29%	253,411	3,339	1,425	4,365	176	4
2003	283,211	5.70%	272,684	4,088	1,511	4,713	118	97
2004	290,650	5.85%	278,598	4,378	1,401	6,134	131	8
2005	288,343	5.80%	275,939	4,169	1,749	6,334	144	8
2006	284,922	5.73%	269,273	5,750	2,163	7,510	215	11
2007	299,291	6.02%	286,591	3,704	1,097	7,512	362	25
2008	301,825	6.07%	289,431	4,829	1,427	5,745	327	66
2009	244,369	4.92%	236,420	2,393	1,669	3,074	764	49
2010	330,742	6.66%	322,956	2,480	1,951	3,085	193	77
2011	415,502	8.36%	405,333	3,726	3,134	3,138	133	38
2012	446,902	8.99%	434,738	4,101	3,811	3,852	347	53
2013	196,168	3.95%	192,126	894	1,169	1,912	27	40
Total	4,969,525	100.00%	4,755,434	73,691	39,396	97,202	3,279	523
% of Total			95.69%	1.48%	0.79%	1.96%	0.07%	0.01%

Upstate New York (53 Counties)

	Total Vehicles	MYR Distribution	Gasoline Powered**		Diesel Powered		Other Fuels***	
			Light Duty	Heavy Duty	Light Duty	Heavy Duty	Light Duty	Heavy Duty
	162,296	3.11%	128,334	15,044	6,065	12,800	43	10
	14,361	0.28%	11,179	1,267	331	1,583	1	0
	16,643	0.32%	12,833	1,638	208	1,962	2	0
	18,210	0.35%	14,561	1,347	332	1,970	0	0
	19,492	0.37%	15,744	1,186	412	2,146	4	0
	20,742	0.40%	17,544	969	412	1,815	1	1
	25,623	0.49%	22,541	1,013	451	1,618	0	0
	34,721	0.67%	30,604	1,360	581	2,173	3	0
	50,214	0.96%	45,071	1,756	757	2,622	6	2
	72,744	1.40%	65,748	2,183	1,083	3,720	7	3
	77,654	1.49%	71,216	2,044	1,170	3,214	7	3
	115,436	2.22%	106,979	2,881	1,598	3,960	13	5
	142,957	2.74%	135,840	2,389	1,005	3,604	113	6
	180,460	3.46%	168,053	3,738	2,320	6,199	135	15
	227,542	4.37%	214,038	4,281	1,957	7,091	152	23
	234,738	4.50%	220,551	5,242	2,279	6,472	173	21
	282,373	5.42%	267,847	5,295	2,754	6,101	360	16
	312,317	5.99%	295,655	6,612	3,207	6,631	181	31
	330,276	6.34%	312,153	7,630	2,722	7,581	164	26
	355,953	6.83%	335,802	7,402	2,999	9,645	86	19
	338,292	6.49%	315,447	7,802	3,247	11,559	211	26
	351,605	6.75%	331,006	5,765	1,922	12,372	537	3
	373,819	7.17%	353,543	8,568	1,911	9,424	371	2
	282,226	5.42%	269,710	5,409	1,838	5,111	144	14
	315,488	6.05%	303,234	4,922	2,559	4,614	131	28
	361,785	6.94%	341,331	8,796	2,936	8,481	188	53
	371,261	7.12%	350,585	7,687	3,617	8,820	369	183
	121,696	2.34%	114,842	1,568	1,249	3,914	73	50
Total	5,210,924	100.00%	4,871,991	125,794	51,922	157,202	3,475	540
% of Total			93.50%	2.41%	1.00%	3.02%	0.07%	0.01%

\* Excluding vehicle types exempted from I/M Program (trailers, ATVs, motor boats, motorcycles, and locomotives)

\*\* Including Hybrid Vehicles.

\*\*\* Including CNG, Propane, Flex-Fueled, and Electric Vehicles.

(Based on Data Collected from DMV Registration File Dated 3/8/2014)

New York Metropolitan Area (9 Counties)

Upstate New York (53 Counties)

Vehicle Model Year	Total Vehicles	MYR Distribution	Gasoline Powered**		Diesel Powered		Other Fuels***		Total Vehicles	MYR Distribution	Gasoline Powered**		Diesel Powered		Other Fuels***	
			Light Duty	Heavy Duty	Light Duty	Heavy Duty	Light Duty	Heavy Duty			Light Duty	Heavy Duty	Light Duty	Heavy Duty	Light Duty	Heavy Duty
Pre-1988	119,705	2.37%	97,463	12,285	3,017	6,835	74	31	165,844	3.17%	126,589	17,367	3,886	17,949	41	12
1988	11,939	0.24%	9,789	849	201	1,100	0	0	16,248	0.31%	11,657	1,645	346	2,597	2	1
1989	14,089	0.28%	12,043	672	235	1,136	3	0	17,070	0.33%	12,744	1,382	444	2,500	0	0
1990	15,640	0.31%	13,420	714	241	1,262	3	0	17,759	0.34%	13,488	1,172	510	2,584	4	1
1991	17,527	0.35%	15,553	468	298	1,201	6	1	18,281	0.35%	14,656	951	481	2,189	2	2
1992	21,126	0.42%	19,421	390	288	1,024	3	0	21,953	0.42%	18,501	996	537	1,914	5	0
1993	28,901	0.57%	26,790	460	477	1,172	1	1	28,947	0.55%	24,400	1,305	718	2,519	5	0
1994	39,537	0.78%	36,584	707	440	1,792	13	1	41,780	0.80%	36,316	1,666	827	2,962	5	4
1995	58,523	1.16%	54,086	989	669	2,763	13	3	59,696	1.14%	52,362	2,089	1,209	4,026	7	3
1996	63,796	1.27%	60,236	747	609	2,196	8	0	63,352	1.21%	56,648	1,974	1,220	3,499	8	3
1997	94,619	1.88%	89,423	1,440	908	2,836	12	0	95,217	1.82%	86,314	2,773	1,749	4,366	11	4
1998	117,515	2.33%	112,850	1,066	837	2,717	35	10	118,636	2.27%	111,386	2,330	1,055	3,752	107	6
1999	151,008	3.00%	142,905	2,095	1,449	4,497	55	7	152,509	2.91%	140,086	3,577	2,480	6,215	133	18
2000	195,550	3.88%	185,674	2,837	1,460	5,525	51	3	195,046	3.73%	181,991	4,106	2,105	6,670	148	26
2001	203,121	4.03%	194,271	2,749	1,267	4,776	52	6	207,784	3.97%	193,976	4,986	2,442	6,192	166	22
2002	242,940	4.82%	233,610	3,033	1,674	4,454	166	3	255,756	4.88%	241,536	5,053	2,907	5,903	340	17
2003	266,186	5.28%	255,824	3,799	1,663	4,762	96	42	288,308	5.51%	272,034	6,309	3,359	6,407	165	34
2004	276,687	5.49%	264,630	4,217	1,536	6,174	122	8	310,176	5.92%	292,521	7,418	2,929	7,125	157	26
2005	277,426	5.50%	264,615	4,070	1,989	6,665	69	18	336,359	6.42%	317,325	7,121	3,218	8,599	78	18
2006	273,054	5.42%	257,370	5,493	2,372	7,767	41	11	321,742	6.14%	300,230	7,493	3,552	10,263	181	23
2007	287,533	5.70%	274,545	3,570	1,298	7,965	125	30	334,683	6.39%	316,541	5,581	2,137	9,891	528	5
2008	288,355	5.72%	275,658	4,730	1,679	6,053	163	72	359,173	6.86%	339,603	8,420	2,104	8,690	352	4
2009	232,938	4.62%	225,267	2,333	1,821	3,327	143	47	273,621	5.23%	261,745	5,291	1,938	4,486	146	15
2010	271,278	5.38%	263,218	2,453	2,068	3,305	157	77	302,237	5.77%	290,592	4,803	2,712	3,976	142	12
2011	343,475	6.81%	333,474	3,729	2,721	3,358	161	32	338,918	6.47%	319,292	8,716	3,133	7,568	160	49
2012	431,844	8.57%	418,302	4,780	3,840	4,476	389	57	382,502	7.31%	361,604	8,651	3,877	7,790	399	181
2013	519,996	10.31%	506,767	4,123	3,585	4,476	867	178	381,506	7.29%	363,713	7,326	3,994	5,924	463	86
2014	177,470	3.52%	172,637	1,098	1,571	2,030	58	76	130,882	2.50%	124,032	2,468	1,276	2,935	73	98
Total	5,041,778	100.00%	4,816,425	75,896	40,213	105,644	2,886	714	5,235,985	100.00%	4,881,882	132,969	57,145	159,491	3,828	670
% of Total			95.53%	1.51%	0.80%	2.10%	0.06%	0.01%			93.24%	2.54%	1.09%	3.05%	0.07%	0.01%

\* Excluding vehicle types exempted from I/M Program (trailers, ATVs, motor boats, motorcycles, and locomotives)

\*\* Including Hybrid Vehicles.

\*\*\* Including CNG, Propane, Flex-Fueled, and Electric Vehicles.

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APPENDIX B

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## APPENDIX B

### Procedure to Sort the DMV Registration File and Matching of Emissions Inspections - I/M Program Evaluation

1. Obtain a statewide registration database from the NYS DMV (March 8, 2013; March 8, 2014).
2. Delete registration records associated with "duplicate" VINs to ensure only unique VINs.
3. Delete registration records for vehicles exempt from emissions testing based on registration type code (see next page). For this evaluation, Registration Classes 77 and 88 (state or political subdivisions) were removed as these could be "special purpose commercial vehicles."
4. Delete registration records for any VIN containing less than 17 digits.
5. Delete registration records for vehicles registered as diesel and >8,500 lbs, electric, "Other" and blank fuel types.
6. Delete registration records for vehicles exempt from emissions testing due to model year. For purposes of this evaluation, remove from consideration the three newest MYs using the calendar year of the registration query. For example, given the March 2014 registration run, ignore the 2012, 2013, and 2014 model years. Also, remove from consideration those vehicles older than 25 model years. Considering the March 2014 registration query, ignore vehicles registered as model year 1988 and older.
7. Delete the registration records for vehicles with a registered weight (actually seating capacity) from "11"- "100", inclusive. This will remove buses with a seating capacity greater than 11 that are inspected by the NYSDOT.
8. Remove the registration records for exempt vehicles with a registered weight over 18,000 lbs.
9. Sort the remaining registration records into two tables: Upstate (53 counties) and NYMA (9 counties) using the registration "county code." These tables represent vehicles potentially subject to NYVIP emissions inspections (OBDII, low enhanced) based on registration data.
10. Obtain all emissions inspections completed from January 1 of each calendar year to approximately 2 months after the registration query (i.e., January 1, 2012 to May 8, 2014). See Appendix E of both the 2012 and 2013 Annual Reports for additional details.
11. Using the unique VINs from the screened Upstate and NYMA registration tables (Step #9), search the statewide NYVIP and NYVIP2 inspection databases to "find" passing or waived OBDII inspections (Test Type "B") using the Initial Emission Inspection Result and Waiver Issued fields. Search the same databases for passing low enhanced inspections (Test Type "L") using the Gas Cap Check and ECD Check fields.
12. Tabulate and graph the registration vs. emissions tested by model year for Calendar Years 2012 and 2013 (Graphs #1 and #2). The registration file data were used for both vehicle MY and I/M area.

**APPENDIX B (Continued)**  
**REGISTRATION TYPE CODES**

	NYVIP Exempt		Diesel Exempt	
01		VPL		VAN POOL
02		WUG		WORLD UNIVERSITY GAMES
03		JWV		JEWISH WAR VETERANS
04		MCL		MARINE CORP LEAGUE
05		CLG		COUNTY LEGISLATORS
06		CBS		COUNTY BOARD OF LEGISLATORS
07		PPH		PURPLE HEART
08		EDU		EDUCATOR
10		LOC	Y	LOCOMOTIVE <b>Exempt from Diesel Inspection</b>
11		SRF		SPECIAL PASSENGER
12		SRN		SPECIAL PASSENGER (Judges/Officials)
13		GSC		GOVERNOR'S SECOND CAR
14		NYS		NEW YORK SENATE
15		NYA		NEW YORK ASSEMBLY
16		PAS		PASSENGER OR SUBURBAN (Regular)
17		USC		US CONGRESS
18		USS		US SENATE
19	Y	SCL	Y	SCHOOL CAR <b>Exempt, inspected by DOT</b>
20		HIR		HEARSE COACH (Hearse or Hearse Invalid Regular)
21	Y	HIS	Y	HISTORICAL <b>No emissions inspection</b>
22		HIF		SPECIAL REG. HEARSE
23	Y	HSM	Y	HISTORICAL MOTORCYCLE <b>No emissions inspection</b>
24	Y	LUA	Y	LIMITED USE AUTOMOBILE <b>Exempt - Includes Low Speed Vehicles</b>
25		JCA		COURT OF APPEALS
26	Y	SPC	Y	SPECIAL PURPOSE COMMERCIAL <b>No inspection required</b>
27		NYC		NEW YORK COUNCIL
28		JSC		SUPREME COURT (ADJ)
29		MED		MEDICAL DOCTOR
30		JCL		COURT OF CLAIMS
31		GAC		GOVERNOR'S ADDITIONAL CAR
32		CMH		CONGRESSIONAL MEDAL-OF-HONOR
33		SUP		SUPREME COURT JUSTICE
34		CCK		COUNTY CLERK
35	Y	ATV	Y	ALL TERRAIN VEHICLE <b>No inspection required</b>
36	Y	MOT	Y	MOTORCYCLE A <b>No emissions inspection</b>
37	Y	LMA	Y	LIMITED USE MOTORCYCLE-TYPE A <b>No emissions inspection</b>
38	Y	LMB	Y	LIMITED USE MOTORCYCLE-TYPE B <b>No emissions inspection</b>
39	Y	LMC	Y	LIMITED USE MOTORCYCLE-TYPE C <b>No emissions inspection</b>
40		ARG		AIR NATIONAL GUARD

**APPENDIX B (Continued)**  
**REGISTRATION TYPE CODES**

	NYVIP Exempt		Diesel Exempt	
41		AYG		ARMY NATIONAL GUARD
42		NLM		NAVAL MILITIA
43		STG		STATE NATIONAL GUARD
44		FPW		FORMER PRISONER OF WAR
45		HAM		HAM OPERATOR
46	Y	FAR	Y	FARM <b>No inspection required</b>
47		BOB		BIRTHPLACE OF BASEBALL
48		VAS	Y	VOLUNTEER AMBULANCE SERVICES
49		SOS		SURVIVORS OF THE SHIELD
50				OMNIBUS (Out-of-State) <b>May be inspected out of state</b>
51		AMB	Y	AMBULANCE <b>Exempt from Diesel Emissions Insp.</b>
52		OMS		(Special) OMNIBUS
53		OMF		(Public Service) OMNIBUS
54		OMT		(Taxi) OMNIBUS
55		OML		(Livery) OMNIBUS
56		OMR		(Regular) OMNIBUS <b>Exempt - Inspected by DOT</b>
57		OMV		(Vanity) OMNIBUS <b>Exempt - Inspected by DOT</b>
58		PHS		PEARL HARBOR SURVIVORS
59		GSM		GOLD STAR MOTHERS
60		CME		CORONER/MEDICAL EXAMINER
61				INTRANSIT PERMIT
62		DLR		DEALER
64		MCD		MOTORCYCLE DEALER <b>Plates only, no vehicles, no inspection</b>
65		ATD		ALL TERRAIN DEALER
66		TRA		TRANSPORTER
67		RGL		REGIONAL
68		SPO		SPORTS
69		ORG		ORGANIZATIONS
70		IRP		INTERNATIONAL REG.PLAN <b>May be inspected out of state</b>
71				HAM - COMM
72		AGR	Y	AGRICULTURAL TRUCK <b>Exempt from Diesel Emissions Insp.</b>
73		RGC		REGIONAL COMMERCIAL
74		CSP		SPORTS COMMERCIAL
75		ORC		COMMERCIAL ORGANIZATIONS
76		COM		(Regular) COMMERCIAL
77		STA		STATE AGENCIES
78		CHC		(Household Carrier) COMMERCIAL
79				(Agricultural) COMMERCIAL
80		TOW		TOW TRUCK
81		TRC		(Regular) TRACTOR

**APPENDIX B (Continued)**  
**REGISTRATION TYPE CODES**

	NYVIP		Diesel	
	Exempt		Exempt	
82		THC		(Household Carrier) TRACTOR
83	Y	ORM		MOTORYCLE HOG <b>No emissions inspection</b>
84	Y	LTR		(Light Trailer) <b>No emissions inspection</b>
85	Y	SEM		(Commercial Semi-Trailer) <b>No emissions inspection</b>
86	Y	TRL		(Regular) TRAILER <b>No emissions inspection</b>
87	Y	HOU		HOUSE OR COACH TRAILER <b>No emissions inspection</b>
88		PSD		POLITICAL SUBDIVISION (Municipal or Thruway)
90	Y	BOT		MOTORBOATS <b>No inspection required</b>
93	Y	-		SNOWMOBILES <b>No inspection required</b>

**NOTES:**

Busses and other vehicles inspected by DOT do not require any inspection under this program, no matter what type of fuel. DOT only performs emissions inspection on Diesel vehicles, no gas emissions inspections

Reg Classes 77 & 88 both include some Special Purpose Commercial vehicles that are exempt from any inspection.

**APPENDIX C**  
**STATEWIDE STICKER COMPLIANCE SURVEY**  
**January 1, 2012 - June 30, 2014**

Year	Vehicles surveyed per quarter				Total Vehicles	No Sticker				Improper Sticker				Sticker Expired 30 days or Less				Sticker Expired 31-60 Days				Sticker Expired Over 60 Days				Total No. Expired Stickers	Percent of Non-Compliance			
	1	2	3	4		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
2012	2536	2536	2536	2536	10144	1	1	2	2	0	2	0	0	24	40	44	41	13	12	16	19	10	19	37	38	321	1.89%	2.92%	3.90%	3.94%
<b>Totals</b>						6				2				149				60				104				321	3.16%			
2013	2536	2536	2536	2536	10144	5	7	4	1	1	2	1	2	40	42	38	51	21	12	8	7	18	21	23	32	336	3.35%	3.31%	2.92%	3.67%
<b>Totals</b>						17				6				171				48				94				336	3.31%			
2014	2536	2536	NA	NA	5072	4	5			5	5			37	36			28	13			13	23			169	3.43%	3.23%	NA	NA
<b>Totals</b>						9				10				73				41				36				169	NA			