NYC
Environmental Protection

Vincent Sapienza, P.E.
Acting Commissioner

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-6565
Fax (718) 595-3525
vsapienza@dep.nyc.gov

March 7, 2017

Honorable Bill de Blasio
Mayor
The City of New York
City Hall
New York, NY 10007

Re: Local Law Air Reports for Fiscal Year 2016

Dear Mayor de Blasio:

Attached are the Local Law Air Reports for Fiscal Year 2016 as required by Local Laws 38, 39, 40, 41 and 42 of 2005. These reports document the use of ultra-low sulfur diesel fuel and the best available control technologies to reduce particulate matter and nitrogen oxides in the environment.

Regards,

Vincent Sapienza, P.E.

c. Hon. Melissa Mark Viverito, New York City Council
Hon. Scott Stringer, Comptroller
Anthony Shorris, First Deputy Mayor
Lisette Camilo, Commissioner DCAS
Carmen Farina, Chancellor, DOE
Kathryn Garcia, Commissioner, DSNY
Lorelei Salas, Commissioner, DCA

NYC Environmental Protection

Local Law 38 Annual Report Fiscal Year 2016

This report details New York City's purchase of fuel efficient light and medium duty cars (typically, cars and vans respectively). The aim of Local Law 38 (LL38) is to achieve a 20% reduction in fuel consumption by 2015 and thereafter as compared to baseline fuel efficiency data from 2004. This drop in fuel consumption would reduce the amount of greenhouse gas being released and would improve the city's air quality.

The milestones in the legislation are as follows:

- October 1, 2005: The City will complete a fuel economy inventory of all light-duty vehicles purchased by the City during Fiscal Year 2005 and will calculate the average fuel economy of these vehicles.

- July 1, 2006: Each light-duty vehicle and medium-duty vehicle that the City purchases will achieve the highest California LEV II standards. The City will also achieve a 5% increase in average fuel economy in all light duty vehicles.

- January 1, 2007: The City will report for the last time, whether it has complied with the Local Law standard that 80% of the light duty vehicles are alternative fuel vehicles.

Following the July 2006 fuel economy milestone, the City is to achieve an increase of 8% in average fuel economy in 2007; 10% in 2008; 12% in 2009; 15% in 2010; 18% by 2012; and 20% for fiscal year 2015 and thereafter.

As of Fiscal Year 2016, the City exceeded the mandated 20% increase in fuel economy for light duty vehicles. Gasoline usage by light and medium duty vehicles has decreased from 2005, but diesel consumption increased because emergency services makes greater use of the gas card program for diesel fueling. This trend does not represent total fuel use, which combines in-house, and gas card (private) fueling. The City exceeded the legislative goal that 95% of purchases be of the lowest polluting vehicles in their class, by purchasing 98.4% of the City's fleet in the lowest polluting class. The City made a policy decision to purchase CNGs, which are in a lower polluting category than the non-CNG vehicles. However, not all agencies have the capacity for this charging infrastructure.

The answers below describe the status of the City's implementation of the law and respond to the specific questions posed in the legislation.[1]

[1]Section 24-163.1 (e)(1) of the Administrative Code sets forth seven questions to which the Annual Report is required to provide an answer.

1. *What is the total number of light-duty vehicles and medium-duty vehicles purchased by each agency?*

Agency	Light Duty	Medium Duty	Total
Dept. of Health & Mental Hygiene (DOHMH)	19	0	19
Dept. of Environmental Protection (DEP)	82	62	144
Dept. of Transportation (DOT)	218	24	242
Dept. of Citywide Administrative Services (DCAS) & Managed by DCAS	367	6	373
Dept. of Sanitation (DSNY)	121	0	121
Dept. of Parks & Recreation (DPR)	43	22	65
Dept. of Education (DOE)	34	1	35
Total	**884**	**115**	**999**

NB: FDNY and PD are exempt from this reporting requirement as they are emergency vehicles.

2. *What is the total number of light and medium duty vehicles purchased in each rating category, disaggregated by vehicle model?*
   a. *The total number of zero emission vehicles (ZEV) purchased*
   b. *The total number of advanced technology partial zero emission vehicles (ATPZEV) purchased*
   c. *The total number of partial zero emission vehicles (PZEV) purchased*
   d. *The total number of super ultra-low emission vehicles (SULEV) purchased*
   e. *The total number of ultra-low emission vehicles (ULEV) purchased and*
   f. *The total number of low emission vehicles (LEV) purchased*

Total ZEV	Total ATPZEV	Total PZEV	Total SULEV	Total ULEV	Total LEV	Vehicle Total
112	471	0	120	280	16	**999**

Note: Please see Attachment A for the breakdown of the above numbers disaggregated by vehicle model. It shows that the vehicles purchased were within the highest fuel efficiency ratings.

3. *How many Alternative Fuel Buses were purchased?*
   Zero buses were purchased.

4. *What is the percentage of light and medium duty vehicles purchased as the lowest polluting vehicle in each category? Target of 95%.*

Lowest Category	Other	Vehicle Type
584*	0	Medium Size Sedan
41	0	Regular Size Van
140***	0	Small-size Sports Utility
41	0	Large size Sports Utility
78	16	Medium Duty Vans
84	0	Medium Duty Pick-ups
15	0	Heavy Duty Pick-ups
Total: 983* vehicles**	**Total: 16** vehicles**	
Total: 98.4%(accounting for the 5% exemption)**		

*As per 24-163.1(b)(2), the city shall not be required to purchase a zero emission vehicle or advanced technology partial zero emission vehicle in accordance with paragraph one of this subdivision if the only available vehicle or vehicles that achieve such a rating cost greater than fifty percent more than the lowest bid as determined by the applicable procurement process for a vehicle available in the next highest rating category that meets the requirements for the intended use by the city of such vehicle. EVs and plug-in vehicles fall within this exception.
**As per 24-163.3 (b)(3) five percent of light and medium duty vehicles are not subject to the purchasing requirements.
***At the time the Chevy Trax and Equinox were ordered, they were the most compliant vehicle available. The RAV4 Hybrid contract was registered on 1/1/16.

5. *What is the average fuel economy of light duty vehicle purchases?*

   The average fuel economy is 55.0 miles per gallon. Please see Attachment B for details.

6. *If a vehicle was not purchased in the highest fuel rating category, what was the basis for purchasing a vehicle in the next highest fuel rating category?*

   A waiver is needed from DEP in order to select a vehicle in the next rating category. In FY 2016, DEP issued no waivers.

7. *What is the percentage increase in fuel economy? Target of 5% to 20%.*

   The increase in average fuel economy was 55.0%, which exceeds the required reduction of 20% by Fiscal Year 2016. The baseline 2005 average fuel economy was 31.1 miles per gallon.

8. *What is the estimated amount of fuel consumed by motor vehicle, disaggregated by vehicle type?*

   The chart below is based on the Gas Card System, which shows an increase in consumption of diesel since 2005. The increase in diesel use is because emergency services makes greater use of the gas card program for diesel fueling. This trend does not represent total fuel use which combines in-house and gas card (private) fueling. There was a decrease in gasoline consumption across the entire city fleet (light and medium duty vehicles) since 2005 as well as in FY 2016, when 2,314,630 gallons were consumed.

2005 Gallons of Diesel	2016 Gallons of Diesel
337,554	848,492

2005 Gallons of Gasoline	2016 Gallons of Gasoline
2,828,217	2,314,630

9. *What is the estimated total amount of equivalent carbon dioxide emitted for each type of fuel consumed by motor vehicles, disaggregated by fuel type?*

CO_2 Calculations for LL38 Fiscal Year 2016		
Year	**2005**	**2016**
Gasoline Consumed (gal)	2,828,217	2,314,630
CO_2 emissions (lbs)	54,867,410	44,903,822
Diesel Consumed (gal)	337,554	848,492
CO_2 emissions (lbs)	7,493,699	18,836,522.4
Total CO_2 Emissions (lbs)	62,361,109	63,740,344.4
Reduction (lbs)	*NA*	(1,379,235.4)
Reduction (%)	*NA*	(2.21%)

Attachment A

Emissions Ratings on City Requirements Contracts for Fiscal Year 2016

Vehicle Type	ZEV	AT PZEV	PZEV	LEV II SULEV	LEV II ULEV	LEV II LEV
Light Duty Vehicles						
Medium Sedan						
Toyota Camry, Hybrid		47				
Toyota Prius		350				
Ford Fusion, Energi		74				
Nissan Leaf	112*					
Toyota Avalon				1**		
Regular Size Van						
Ford Transit 150					18	
Dodge Grand Caravan					23	
Small-Size Sports Utility Vehicles						
Toyota Rav 4 Hybrid				78***		
Chevrolet Trax					2***	
Chevrolet Equinox					60***	
Mid-size Sport Utility Vehicles						
Toyota Highlander Hybrid				41		
Light Duty Pickups						
Chevrolet Colorado					1	
Chevrolet Silverado 2500						16**
Dodge Ram 1500					2	
Ford F-150					75	
Medium Duty Vehicles						
Medium Duty Vans						
Chevrolet Express Van					13	
Chevrolet Express Cargo					1	
Medium Duty Pickups						
Ford F-250					70	
Heavy Duty Vehicles						
Dodge Ram 2500					15	

* As per 24-163.1(b)(2), the city shall not be required to purchase a zero emission vehicle or advanced technology partial zero emission vehicle in accordance with paragraph one of this subdivision if the only available vehicle or vehicles that achieve such a rating cost greater than fifty percent more than the lowest bid as determined by the applicable procurement process for a vehicle available in the next highest rating category that meets the requirements for the intended use by the city of such vehicle. EVs and plug-in vehicles fall within this exception.
**As per 24-163.3 (b)(3) five percent of light and medium duty vehicles are not subject to the purchasing requirements.
***At the time the Chevy Trax and Equinox were ordered, they were the most compliant vehicle available. The RAV4 Hybrid contract was registered on 1/1/16.

Emission Ratings
(As defined by the California Air Resources Board)
www.driveclean.ca.gov

ZEV: Zero Emission Vehicles
ZEVs have zero tailpipe emissions and are 98% cleaner than the average new model year vehicle. These include battery electric vehicles and hydrogen fuel cell vehicles.

AT PZEV: Advanced Technology PZEVs
AT PZEVs meet the PZEV requirements and have additional "ZEV-like" characteristics.
A dedicated compressed natural gas vehicle or a hybrid vehicle with engine emissions that meet the PZEV standards would be an AT PZEV.

PZEV: Partial Zero Emission Vehicle
PZEVs meet SULEV tailpipe emission standards; have zero evaporative emissions and a 15 year/150,000 mile warranty. No evaporative emissions means that they have fewer emissions while being driven than a typical gasoline car has while just sitting.

SULEV: Super Ultra Low Emission Vehicle
SULEVs are 90% cleaner than the average new model year car.

ULEV: Ultra Low Emission Vehicles
ULEVs are 50% cleaner than the average new model year car.

LEV: Low Emission Vehicle
Minimum rating that will meet California Air Resources Board standards.

Attachment B

CITYWIDE LIGHT DUTY VEHICLE PURCHASES FY'16 CALCULATION OF AVERAGE CITY MILEAGE AS REQUIRED FOR LL38 REPORTING TYPE VEHICLE	NUMBER PROCURED IN FY'16	FUEL TYPE	EPA MPG CITY	WEIGHTED FACTOR (COL. B x COL. C)
CHEVROLET COLORADO	1	GAS	17	17
CHEVROLET EQUINOX	60	GAS	20	1,200
CHEVROLET TRAX	2	GAS	24	48
DODGE GRAND CARAVAN	23	GAS	17	391
DODGE RAM 1500	2	GAS	17	34
FORD F150	75	GAS	18	1,350
FORD FUSION ENERGI, PLUGIN	74	ELECTRIC/GAS	88	6,512
FORD TRANSIT	18	GAS	15	270
NISSAN LEAF	112	ELECTRIC	126	14,112
TOYOTA AVALON HYBRID	1	ELECTRIC/GAS	40	40
TOYOTA CAMRY HYBRID	47	ELECTRIC/GAS	43	2,021
TOYOTA HIGHLANDER HYBRID	41	ELECTRIC/GAS	27	1,107
TOYOTA PRIUS HYBRID	350	ELECTRIC/GAS	54	18,900
TOYOTA RAV4 HYBRID	78	ELECTRIC/GAS	34	2,652
GRAND TOTALS	**884**			**48,654**
AVERAGE CITY MILEAGE FOR LIGHT DUTY VEHICLES PURCHASED IN FY'16				**55.0**

NYC Environmental Protection

Local Law 39 Annual Report Fiscal Year 2016

Local Law 39 (LL39) requires all City owned and operated diesel powered vehicles greater than 8,500 lbs., such as garbage collection trucks and DEP's truck fleet, to use ultra-low sulfur diesel (ULSD) to reduce pollutants. In order to lower the emission of harmful pollutants into the environment, these vehicles also must install emission reduction devices.

All on-road diesel vehicles are powered by ULSD (since the passage of LL39, the EPA has required ULSD to be sold nationwide for the on-road fleet). The City Council passed Local law 73 of 2013 (LL73) to further strengthen that the City fleet is using the cleanest vehicles. This law requires that as of Jan 1, 2017, 90% of on-road vehicles are equipped with Diesel Particulate filters. The City met this mandate by achieving a 90.31% compliance rate as shown in the Table for Q1 under the heading 'Percent of all Non-Emergency Vehicles in compliance'.

The answers below describe the status of the City's implementation of the law and respond to the specific questions set forth in Section 24-163.4 (g)(1) of the Administrative Code.

1. *What is the total number of diesel fuel powered motor vehicles owned or operated by each City agency? (Ad. Code 24-163.4(g)(1)(i))*

   Please see table below for each City agency under the column 'All Non-Emergency Diesel Vehicles'. There are in total 6241 non-emergency vehicles owned or operated by the City.

AGENCY	TOTAL NUMBER OF PRE 2007 NON EMERGENCY DIESEL VEHICLES WITHOUT DPFs or MISSING DATA (1)	TOTAL NUMBER OF PRE 2007 NON EMERGENCY DIESEL VEHICLES RETROFITT WITH DPFs	TOTAL NUMBER OF PRE 2007 NON EMERGENCY DIESEL VEHICLES LISTED FOR SALVAGE	IN PROGRESS OF INSTALLATION BY DCAS	TOTAL NUMBER OF PRE 2007 NON EMERGENCY DIESEL VEHICLES	TOTAL NUMBER OF 2007 AND LATER NON EMERGENCY DIESEL VEHICLES	ALL NON EMERGENCY DIESEL VEHICLES	PERCENT of All NON EMERGENCY DIESEL VEHICLES IN COMPLIANCE (2)
DCAS/DCAS CLIENTS	1	21	0	11	38	99	137	95.62%
DEP	13	90	61	0	165	355	520	97.31%
DOT	314	114	71	0	516	487	1003	67.00%
PARKS	12	33	25	0	70	457	527	97.72%
DSNY	242	202	0	0	444	3606	4050	94.02%
DHMH	0	3	0	0	3	1	4	100.00%
TOTAL	**582**	**463**	**157**	**11**	**1236**	**5005**	**6241**	**90.31%**

'(1) This column includes the 501 Diesel Vehicles that have a Diesel Oxidation Catalyst (DOC) installed. While LL73 calls for the tracking of DPF compliance, the reduction in diesel pollutants by using these devices should be noted.

'(2) Compliance includes units with retrofit DPFs, units purchased 2007 or later and governed by federal law on DPFs, units currently scheduled for salvage and units currently being retrofitted by DCAS.

2. *What is the number of such diesel fuel powered motor vehicles that used best available retrofit technology (BART) to reduce the emission of pollutants, including a breakdown by vehicle model and the type of technology used for each vehicle? (Ad. Code 24-163.4(g)(1)(iii))*

463

Refer to the table above for Q1 for the total under the column 'Total Number of Pre 2007 Non-Emergency Diesel Vehicles retrofitted with DPFs.

The Table below shows a sample breakdown by vehicle model, type and technology.

Agency & Vehicle	BART Manufacturer	BART Type
DSNY Collection Truck	Clearie	Diesel Particulate Filter (DPF)
DSNY Collection Truck	Fleetguard	DPF
DSNY Mechanical Truck	Engine Control Systems	DPF
DPR 16 Yard Dump	OEM	DPF
DOT Utility Truck	ESW Thermacat	DPF
DOT Mack Dump Truck	Clearie	DPF
DOT Collection Truck	Engine Control Systems	DPF
DEP Mack CV713	Clearie	DPF
DEP Freightliner FL 70	HUG	DPF
DEP Sterling Acterra	HUG	DPF
DEP CAT L9500	Engine Control Systems	DPF
DEP Heavy Duty	ESW ThermaCat	DPF

Note: For a complete list of diesel equipment, engine details, and agency-specific vehicle counts, please contact DEP.

3. *What is the number of such diesel fuel powered motor vehicles that used other authorized technology in accordance with this section, including a breakdown by vehicle model and the type of technology used for each vehicle? (Ad. Code 24-163.4(g)(1)(iv))*

   501

   The table below shows a sample breakdown by vehicle model, type and technology.

Agency & Vehicle	BART Manufacturer	BART Type
DPR 16 Yard Packer	Donaldson	Diesel Oxidation Catalyst (DOC)
DOT Dump Truck Crew Cab	Nelson	DOC
DOT International 4700 LP	Cummings	DOC w/o CCV(technological concerns)

Note: For a complete list of diesel equipment, engine details, and agency-specific vehicle counts, please contact DEP.

4. *What were the number of such motor vehicles equipped with the applicable 2007 EPA standard for particulate matter as set forth in §86.007-11 of title 40 of the CFR? (24-163.4(g)(1)(v))*

   5005

   Refer to Table above for Q.1 under the column 'Total Number of 2007 and Later Non-Emergency Vehicles'.

5. *Were any findings made or waivers issued pursuant to §24-163.4(g)(1)(vii)?*[2]

   No waivers were issued.

[2]These waivers are granted for vehicles that do not use ultra-low sulfur diesel fuel. These waivers were contemplated during the enactment of this legislation, as it was uncertain a sufficient supply of vehicles that run on ULSDF would be available.

NYC Environmental Protection

Local Law 40 Annual Report Fiscal Year 2016

Local Law 40 (LL40) requires all contractors managing the City's solid waste disposal program or recycling program for the Department of Sanitation to use ultra-low sulfur diesel fuel (ULSD). It also requires these vehicles to be equipped with emissions reduction technology to reduce the pollutants their vehicles emit into the environment.

As of Fiscal Year 2016, all contractor vehicles were in compliance with this legislation.

Below are answers to the questions posed in the legislation describing the City's status in achieving these milestones. The data for these questions was provided from the Department of Sanitation and their contractors.

1. *What is the total number of diesel fuel-powered motor vehicles and diesel powered off road vehicles, respectively, used in the performance of solid waste contracts or recyclable materials contracts? (Ad. Code 24-163.5(j)(1)(i))*

   There were 76 vehicles used for these contracts and all of them are off road vehicles.

No.	Type of Vehicle	Make	Model	Year	EPA Certified Engine / BART
1	Loader	Caterpillar	CAT 966	1996	ESW/Thermacat ADPF
2	Loader	Caterpillar	CAT 950	1994	ESW/Thermacat ADPF
3	Loader	Caterpillar	CAT 966M	2014	Tier 4 Final
4	Front Loader	Komatsu	WA-500	1996	DCL MINE-X SootFilter
5	Front Loader	Komatsu	WA-500	1997	DCL MINE-X SootFilter
6	Excavator	Komatsu	PC 200	1998	DCL MINE-X SootFilter
7	Excavator	Komatsu	PC 300	1998	DCL MINE-X SootFilter
8	Waste Handler	Komatsu	WA-470	2010	DCL MINE-X SootFilter
9	Waste Handler	Caterpillar	CAT-966H	2008	DCL MINE-X SootFilter
10	Waste Handler	Komatsu	WA470	2014	Tier 4 Interim
11	Wheel Loader	Volvo	L180F	2016	Tier 4 Final
12	Wheel Loader	Volvo	L180F	2016	Tier 4 Final
13	Forklift	Hyster	H80FT	2007	HUSS/ADPF
14	Wheel Loader	Volvo	L70	2009	HUSS/ADPF
15	Excavator	Volvo	EC300	2014	Tier 4 Final
16	Container Handler	Taylor	SK1	2008	HUSS/ADPF
17	Container Handler	Taylor	975	2012	Tier 4 Interim
18	Switcher	Shuttle Wagon	SWX525BE	2010	HUSS/ADPF
19	Railcar Switcher	Shuttle Wagon	SWX 465	2002	HUSS/ADPF
20	Wheel Loader	Volvo	L120	2015	Tier 4 Final
21	Wheel Loader	Volvo	EC88	2016	Tier 4 Final
22	Wheel Loader	Volvo	L180	2012	Tier 4 Interim

No.	Type of Vehicle	Make	Model	Year	EPA Certified Engine / BART
23	Wheel Loader	Volvo	L 60	2012	Tier 4 Interim
24	Excavator	Volvo	330	2007	HUSS/ADPF
25	Excavator	Volvo	EC300EL	2016	Tier 4 Final
26	Compactor	Caterpillar	826K	2014	Tier 4 Final
27	Wheel Loader	Caterpillar	980H	2007	HUSS/ADPF
28	Wheel Loader	Volvo	L 180 G	2013	Tier 4 Interim
29	Wheel Loader	Volvo	L 180 G	2014	Tier 4 Interim
30	Compactor	Caterpillar	826G	2005	ESW/ADPF
31	Railcar Switcher	Shuttle Wagon	NVX8040	2015	Tier 4 Final
32	Railcar Switcher	Shuttle Wagon	SWX605C	2007	HUSS/ADPF
33	Wheel Loader	Volvo	L70 H	2016	Tier 4 Final
34	Wheel Loader	Volvo	L180 H	2016	Tier 4 Final
35	Wheel Loader	Volvo	L180 H	2015	Tier 4 Final
36	Wheel Loader	Volvo	L70 H	2015	Tier 4 Final
37	Excavator	Volvo	EC 300	2015	Tier 4 Final
38	Reach Stacker	Taylor	TS9972	2015	Tier 4 Interim
39	Reach Stacker	Taylor	TS9972	2015	Tier 4 Interim
40	Rail Switcher	Shuttle Wagon	NVX6030	2015	Tier 4 Interim
41	Switcher	Rail King	SS4600	2000	HUSS/ADPF
42	Wheel Loader	Volvo	L180 H	2016	Tier 4 Final
43	Forklift	Hyster	H80FT	2007	HUSS/ADPF
44	Wheel Loader	Volvo	L 150	2012	Tier 4 Interim
45	Excavator	Caterpillar	320E	2013	Tier 4 Interim
46	Top Pick / Kalmar	Kalmar	DCF410CSG	2006	Cleaire Phoenix
47	Top Pick / Kalmar	Kalmar	DCF410CSG	2006	Cleaire Phoenix
48	Wheel Loader	Caterpillar	903C	2015	Tier 4 Interim
49	Switch Yard Jocky	Ottawa	Ottawa 4X2	2007	Cleaire Phoenix
50	Switch Yard Jocky	Ottawa	Ottawa 4X2	2007	Cleaire Phoenix
51	Switch Yard Jocky	Ottawa	Ottawa 4X2	2007	Cleaire Phoenix
52	Mech. Broom	Elgin	Elgin/Pelican	2006	Cleaire Phoenix
53	Front End Loader	Caterpillar	962G	1999	DCL/DPF
54	Front End Loader	Caterpillar	966H	2010	DCL/DPF
55	Front End Loader	Caterpillar	966H	2010	DCL/DPF
56	Skid Steer	Caterpillar	262D	2017	Tier 4 Final
57	Front End Loader	Caterpillar	966G	2002	JM/CCRT
58	Front End Loader	Caterpillar	966H	2008	JM/CCRT
59	Skid Steer	Caterpillar	262D	2017	Tier 4 Final
60	Loader	Caterpillar	966FII	1998	DCL/DPF
61	Excavator	Caterpillar	320EL	2013	Tier 4 Interim
62	Loader	Volvo	L120G	2013	Tier 4 Interim
63	Material Handler	Sennebogen	830M'E'	2012	Tier 4 Interim
64	Loader	Volvo	L120G	2014	Tier 4 Interim

No.	Type of Vehicle	Make	Model	Year	EPA Certified Engine / BART
65	Material Handler	Seenebogen	830M'E'	2012	Tier 4 Interim
66	Loader	Volvo	L150G	2013	Tier 4 Interim
67	Material Handler	Sennebogen	840M'E'	2013	Tier 4 Interim
68	Material Handler	Sennebogen	840M'E'	2013	Tier 4 Interim
69	Loader	Caterpillar	938K	2014	Tier 4 Interim
70	Loader	Komatsu	WA380-7	2012	Tier 4 Interim
71	Loader	Caterpillar	324e	2011	Tier 4 Interim
72	Loader	Komatsu	290C	2017	Tier 4 Final
73	Loader	Caterpillar	972K	2013	Tier 4 Interim
74	Loader	Caterpillar	938K	2014	Tier 4 Interim
75	Excavator	Caterpillar	336EL	2013	Tier 4 Interim
76	Excavator	Caterpillar	336EL	2013	Tier 4 Interim

Unavailability waivers expired could not renew because of Local Law 74 of 2013, therefore, contractors have to replace their older equipment's with newer ones which complies with current EPA standards.

2. *What is the number of such vehicles that were powered by ultra-low sulfur diesel fuel (ULSDF)? (Ad. Code 24-163.5(j)(1)(ii))*

   All 76 vehicles used for these contracts were powered by ULSDF.

3. *What is the number of such vehicles that used the best available retrofit technology (BART), including a breakdown of such vehicles by model, engine year, and technology? (Ad. Code 24-163.5(j)(1)(iii))*

   The above chart shows that out of the seventy-six vehicles, thirty-one of these vehicles used Classification Level 4 Diesel Particulate Filters. Twenty-seven vehicles are equipped with Tier IV Interim Certified Engines. Eighteen equipment's are equipped with Certified Tier IV Final Engines. Certified Tier IV Final Engines are the most effective way to decrease pollutants as it uses a diesel particulate filter along with NOx reduction technology as well to reduce Nitrogen Oxide.

4. *What is the number of such vehicles that used other authorized technology? (Ad. Code 24-163.5(j)(1)(iv))*

   No technology, other than those discussed above, were used.

5. *What is the number of vehicles equipped with an engine certified to the applicable 2007 EPA standard for particulate matter as set forth in section 86.007-11 of title 40 of the Code of Federal Regulations (CFR)? (Ad. Code 24-163.5(j)(1)(v))*

   There are 45 vehicles certified to comply with section 86.007-11 of Title 40 of the CFR as they are model engine year 2007 or later.

6. *What were the locations where such vehicles were used? (Ad. Code 24-163.5(j)(1)(vi))*

   The locations were as follows:

1) Brooklyn Transfer Inc.
105-115 Thames Street
Brooklyn, NY 11237

2) American Recycling Mgmt.
172-33 Douglas Ave
Jamaica, NY 11433

3) Tully Environmental Inc.
127-20 34th Ave
Flushing, NY 11368

4) Waste Management of NY LLC
221 Varick Ave
Brooklyn, NY 11237

5) Waste Management of NY LLC
98 Lincoln Ave
Bronx, NY 11237

6) Waste Management of NY LLC
38-50 Review Ave
Brooklyn, NY 11101

7) Waste Management of NY LLC
475 Scott Ave
Brooklyn, NY 11222

8) Regal Recycling
172-02 Douglas Ave
Jamaica, NY 11433

9) Allied Waste Systems
600 West Service Road
Staten Island, NY 10314

10) IESI NY Corporation
110 50th Street
Brooklyn, NY 11232

11) IESI NY Corporation
577 Court Street
Brooklyn, NY 11231

12) Action Environmental Systems, LLC
941 Stanley Ave
Brooklyn, NY 11208

13) Sims Municipal Recycling of NY
30-27 Greenpoint Ave
Long Island City, NY 11101

14) Sims Municipal Recycling of NY
850 Edgewater Road
Bronx, NY 10474

15) Sims Municipal Recycling of NY
472 2nd Ave
Brooklyn, NY 11232

16) Pratt Industries
4435 Victory Blvd.
Staten Island, NY 10314

17) Flag Container Services
11 Ferry Street
Staten Island NY 10302

18) Action Environmental
920 East 132nd Street
Bronx NY 10454

7. *What waivers were issued for ULSDF (Ad. Code 24-163.5(j)(1)(vii))*

There were no waivers requested.

8. *What waivers were issued for the use of other authorized technology in lieu of the best available technology (Ad. Code 24-163.5(j)(1)(viii))*

There were no waivers issued because of Local Law no. 74 of 2013 states, *the commissioner shall not renew any waiver issued pursuant to this subdivision after January 1, 2014.*

Local Law 73 of 2013 states, as of January 1, 2017, all diesel fuel-powered motor vehicles used in the performance of such contract shall utilize the best available retrofit technology that meets the level IV emission control strategy or be equipped with an engine certified to the applicable 2007 United States Environmental Protection Agency (EPA) standard.

Therefore, contractors had to replace their older vehicles with newer ones, which comply with current EPA standard.

NYC Environmental Protection

Local Law 41 Annual Report Fiscal Year 2016

Local Law 41 (LL41) requires all City-licensed sightseeing diesel buses to use Ultra Low Sulfur diesel (ULSD) to reduce pollutants. In addition, to lower the emission of harmful pollutants into the environment, these vehicles must install emission reduction devices (BART).

As of Fiscal Year 2016, 100% of the required vehicles are in compliance by use of classification level 4 (BART) or equipped with 2007 or newer certified engines. Also, all diesel vehicles are powered by ULSD (since the passage of LL41, the EPA has required ULSD to be sold nationwide).

LL41 codified at Section 24-163.6 (g) (1) of the Administrative Code, sets forth seven questions to be answered in the Annual Report. The questions and the charts below summarize those responses from Sightseeing Bus Companies and City Agencies.

1. *What is the total number of diesel fuel-powered sightseeing buses licensed pursuant to subchapter 21 of chapter 2 of title 20 of the administrative code? (Ad. Code 24-163.6(g) (1) (i))*

   There are 237 diesel sightseeing buses.

2. *What is the number of such buses that utilized the best available retrofit technology? (24-163.6(g) (1) (ii))*

Sight Seeing Bus Company	Number Licensed by DCA	Number with BART	Type of Technology
Gray Line New York Tours Inc.	93	93	**There are 93 Classification Level IV Johnson Matthey CRT's.**
CitySights New York LLC	11	11	**There are 11 Classification Level IV Diesel Particulate Filter (DPF's). Continuous Regenerating Traps (CRT's).**
Go New York Tours Inc.	18	16	**Six CDTI Active Electrical Regeneration units, Ten CDTI Passive units and Two are certified 2014 model year engines (OEM Installed Technology).**
Skyline Tours, LLC	5	0	**All five are certified 2012, 2013 model year engines (OEM Installed Technology).**
Experience the Ride	4	0	**All four are certified as 2008 model year engines. (OEM Installed Technology).**
Big Bus New York / Taxi Tours Inc.	61	28	**There are Twenty Eight Classification Level IV (DPF)'s. There are Thirty Three Buses equipped with 2010 or newer Certified Model Year Engines**. (OEM Installed Technology).**
RDSL Urban NY / Open Tours NY	38	15	**Fifteen are 2014 "Glider Vehicles" retrofitted with Donaldson LNF DPF's. Twenty Three buses are equipped with 2010 or newer Certified Model Year Engines**. (OEM Installed Technology).**
Skyliner Travel & Tour Bus Corp.	**10**	**0**	**Seven 2007 or newer Certified Model Year Engines. (OEM's) *(Three are Gasoline Vehicles).***

* Pursuant to EPA regulations, all 2007 and later model engine years are certified to be at least or more stringent as "BART" requirements because the manufacturer (OEM) pre-retrofits the majority of them with DPFs. These are EPA Certified engines, therefore, meet LL41 requirements.

2007 and newer engines meet applicable United States Environmental Protection Agency (EPA) standards for particulate matter (PM) as set forth in section 86.007-11 of title 40 of the Code of Federal Regulations.* (2010 or newer Certified Engines gives NOx benefit in addition to PM)**.

According to Local Laws of the City of New York for the year 2013 no.73 and no.74.
None of these buses are under any waiver provisions and they all meet level 4 emission control strategy.

3. *What is the number of such buses that utilized other authorized technology? (24-163.6(g)(1)(iii)?*

Not applicable. All were either Level IV (DPF's) or equipped with 2007 or newer model year engine.

4. *What is the number of such buses that are equipped with engines certified to the applicable 2007 USEPA standard for particulate matter as set forth in §86.007-11 of title 40 of the CFR? (24-163.4(g)(1)(iv)*

There are 74 such buses out of the 237 that are certified to the applicable 2007 USEPA standard. The remainder equipped with BART (Classification Level IV).

5. *What were the locations where such buses utilized the best available retrofit technology? (24-163.6(g)(1)(v))*

These buses tour all of New York City, and as a result, this report provides the permanent addresses for the sightseeing companies.

Sight Seeing Bus Co.	Permanent Address	Mailing Address
Gray Line New York Tours Inc.	43 2nd Avenue, Brooklyn, NY 11215	1430 Broadway, New York, NY 10018
CitySights New York LLC	33 2nd Avenue, Brooklyn, NY 11215	1430 Broadway, New York, NY 10018
Go New York Tours Inc.	2 East 42nd Street, New York, NY 10017	Same
Experience The Ride NY LLC	545 8th Avenue, New York, NY 10018	Same
Big Bus New York / Skyline LLC / Taxi Tours Inc.	723 7th Avenue (5th Floor) New York, NY 10019	Same
RDSL Urban NY, LLC/ DBA Open Tour NY	785 8th Avenue, NY 10036	Same
Skyliner Travel & Tour Bus Corp.	19-41 42nd Street Astoria, NY 11105	Same

6. *What was the age of the engine that did not utilize BART? (§ 24-163.6(g)(l)(vi))?*

All were equipped with BART classification level 4 device or were certified to 2007 and later model year engines, which are exempt from BART pursuant to 40 C.F.R. § 86.007-11.

7. *Were any waivers issued for failure to use BART? (§24-163.6(g) (1)(vii))?*

No waivers were issued. There were no waivers issued because of Local Law no.74 of 2013 states, the commissioner shall not renew any waiver issued pursuant to this subdivision after January 1, 2014.

Local Law 73 of 2013 states, as of January 1, 2017, all diesel fuel-powered motor vehicles used in the performance of such contract shall utilize the best available retrofit technology that meets the level 4 emission control strategy or be equipped with an engine certified to the applicable 2007 United States Environmental Protection Agency (EPA) standard.

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Local Law 42 Annual Report Fiscal Year 2016

Local Law 42 (LL42) required that by September 1, 2006, certain General Education (GE) diesel fuel-powered school buses be powered by a specific diesel fuel, ultra-low sulfur diesel fuel (ULSD). In addition, LL 42 required that by September 1, 2007, all of these school buses use best available retrofit technology (BART) to reduce emissions. The above has been combined into LL38 and is being reported by the NYCDOE as such.

Of NYCDOE's GE diesel fueled fleet, 95.2% are using emission control devices with 87.8% using the best available devices.

Below are answers to the questions required by LL 42 legislation describing the City's status in achieving these milestones. Table 1 summarizes the answers to questions one through five.

1. *What is the total number of school buses used to fulfill the requirements of school bus contracts? (Ad. Code 24-163.7(j)(1)(i))*

   There is a fleet of 2142, Type C and D, general education school buses used to fulfill the requirements.

2. *What is the total number of such buses that were powered by ULSD? (Ad. Code 24.163.7 (j)(1)(ii))*

   All buses are powered by ULSD.

3. *What is the number of such buses that used BART, including a breakdown by vehicle model, engine year, and the type of technology used for each vehicle? (Ad. Code 24.163.7(j)(1)(iii))*

   886 buses used this technology. Please see Table 1 for further breakdown.

Year	Retrofitted with DPF Count
1998*	1*
1999*	29*
2000	78
2001	59
2002	27
2003	126
2004	119
2005	184
2006	263
Grand Total	**886**

Note: *these 30 vehicles are being used as spare vehicles.

4. *What is the number of such buses that used other authorized technology in accordance with the law, including a breakdown by model and engine age technology? (Ad. Code 24.163.7 (j)(1)(iv))*

   104 buses used other authorized technology. Please see Table 1 for the breakdown.

5. *What is the number of such buses that are equipped with an engine certified to the applicable 2007 EPA standard for particulate matter in accordance with the law? (Ad. Code 24.163.7(j)(1)(v))*

   995 buses are equipped with the applicable 2007 EPA standard engines.

6. *Where were the locations of the school districts where such buses were powered by ULSDF, used BART or other authorized technology in accordance with this section, or were equipped with an engine certified to the applicable 2007 EPA standard for particulate matter? (Ad. Code 24.163.7(j)(1)(vi))*

   All 32 community school districts within the five boroughs of New York City used these buses as well as school districts in Westchester, Rockland, Nassau, and Suffolk counties in New York.

7. *Were any waivers granted pursuant to 24-163.7(h) of this law?*[12]

   Yes; three (3) vehicles cannot be retrofitted due to the technology not being compatible with the engine type.

Table 1

Technology	Manufacturer	Engine-Type	ULSD	Meets 2007 EPA Standard	No. of Buses*
Diesel Particulate Filter (DPF)	IC, Bluebird, Thomas	Cummins/IC-Navistar/Caterpillar/Freightliner/Ford	Yes	995	1881
Diesel Oxidation Catalyst (DOC) with Closed Crankcase Ventilation System (CCVS)	IC, Bluebird, Thomas	Cummins/IC-Navistar/Caterpillar/ Freightliner/Ford	Yes		104
DOC Only	IC, Bluebird, Thomas	Cummins/IC-Navistar/Caterpillar/Freightliner/Ford	Yes		3
CCVS Only	IC, Bluebird, Thomas	Cummins/Navistar/Caterpillar/Freightliner/Ford	Yes		52
NONE	IC, Bluebird, Thomas	Cummins/Navistar/Caterpillar/Freightliner/Ford	Yes		102
Retrofit in Process	IC, Bluebird, Thomas	Cummins/Navistar/Caterpillar/Freightliner/Ford	Yes		41
Not Required to Retrofit	IC, Bluebird, Thomas	Cummins/Navistar/Caterpillar/Freightliner/Ford	Yes		116
Total GE Diesel Fueled Bus Fleet	See Above	Cummins/Navistar/Caterpillar/Freightliner/Ford	Yes	995	2142

Note: *bus count from Dec 20, 2016