Transportation Committee Staff:
Kelly E. Taylor, Counsel
Gafar Zaaloff, Policy Analyst
Jonathan Masserano, Policy Analyst
Chima Obichere, Finance Analyst
Rui Xu, Finance Analyst

THE COUNCIL OF THE CITY OF NEW YORK

COMMITTEE REPORT OF THE HUMAN SERVICES DIVISION
Matthew Gewolb, Legislative Director

COMMITTEE ON TRANSPORTATION

Hon. Ydanis Rodriguez, Chair

April 18, 2016

Oversight - Examining the City's Steps Toward Reducing Emissions From Vehicles, Including by Encouraging Electric Vehicle Use

INT. NO. 1124: By Council Members Constantinides, Rodriguez, Richards, Cornegy, Cabrera, Greenfield, Rose, Chin, Espinal, Ferreras-Copeland, Garodnick, Gentile, Grodenchik, Koo, Lander, Levin, Torres, Treyger, Vallone, Van Bramer, Menchaca, Cohen, Kallos, Lancman, Rosenthal and Ulrich

TITLE: A Local Law in relation to establishing a pilot program for the installation of street parking electric vehicle charging stations.

INTRODUCTION

On April 18, 2016, the Committee on Transportation, chaired by Council Member Ydanis Rodriguez, will hold a hearing on Int. No. 1124, in relation to establishing a pilot program for the installation of street parking electric vehicle charging stations. In addition, the hearing will examine the City's steps toward reducing emissions from vehicles, including by encouraging electric vehicle use. This will be the first hearing on Int. No. 1124. The Committee expects to hear testimony from the New York City Department of Transportation ("DOT") and other interested stakeholders.

BACKGROUND

Introduction

New York City has one of the largest and most complex transportation infrastructures in the world, and automobiles are a crucial component of that infrastructure. In addition to private automobiles, large government and industrial fleets support the City economy. As oil and gas prices have become more volatile in recent years, and environmental conservation has become more important, the City has moved to make its transportation system greener.[1] It is estimated that by 2030, 44 percent of all gas emissions in New York City will come from the transportation sector, up from 22 percent in 2010.[2]

On December 1, 2015, Mayor Bill de Blasio announced the NYC Clean Fleet initiative.[3] The NYC Clean Fleet initiative aims to make the City the largest operator of electric vehicles in

[1] For discussion regarding oil consumption in transportation sector, *see* Electrification Coalition, *Electrification Roadmap: Revolutionizing Transportation and Achieving Energy Security* (Nov. 2009), *available at* http://www.electrificationcoalition.org/sites/default/files/SAF_1213_EC-Roadmap_v12_Online.pdff.
[2] City of New York, *PlanNYC: Exploring Electric Vehicle Adoption in New York City* 2 (Jan. 2010), *available at* http://www.nyc.gov/html/om/pdf/2010/pr10_nyc_electric_vehicle_adoption_study.pdf.
[3] Press Release, City of New York, *With Paris Climate Talks Underway, Mayor de Blasio Announces NYC Clean Fleet – Launching the Largest Municipal Electric Fleet in the U.S.*, Dec. 1, 2015, *available at* http://www1.nyc.gov/office-of-the-mayor/news/898-15/with-paris-climate-talks-underway-mayor-de-blasio-nyc-clean-fleet---launching-the.

the United States; moreover, Mayor de Blasio's plan establishes the goal of reducing municipal vehicle emissions by 80 percent by 2035.[4] Mayor de Blasio ambitious plan builds upon efforts of Mayor Michael R. Bloomberg, who in 2011, announced that the City would be increase its fleet of electric vehicles by 70 cars.[5] At the time of the 2011 announcement, New York City already had one of the largest fleets of hybrid and electric vehicles in the nation.[6]

However, the promise of decreased reliance on fossil fuels and better environmental outcomes also poses a number of challenges to EV adoption, including the high cost of vehicles and the lack of infrastructure to support the vehicle charging. A subset problem of a lack of charging infrastructure is concern about the vehicles' driving range, or "range anxiety."

Sample Comparison of Electric Vehicles[7]

Model	Price $ (MSRP)	Driving Range (miles)
Smart ForTwo Electric	25,750	68
Chevrolet Spark EV	25,995 – 26,385	82
Nissan Leaf	29,860 – 37,640	84
Fiat 500E	32,795	87
Honda Clarity	60,000	300
Tesla Model S	71,200 – 109,200	240

According to recent research by Bloomberg New Energy Finance ("BNEF"), the dramatic fall in the cost of batteries over the new few years will mean that in the 2020s the cost of electric vehicle would be comparable, if not lower, than cars powered by internal

[4] *Id.*
[5] Press Release, City of New York, *Mayor Bloomberg announces addition of 70 new electric vehicles to City's fleet and launches new City efforts to inform the public about electric vehicles*, Jul. 12, 2012, *available at* http://www1.nyc.gov/office-of-the-mayor/news/248-11/mayor-bloomberg-addition-70-new-electric-vehicles-city-s-fleet-launches-new.
[6] *Id.*
[7] Car and Driver Magazine, Hybrid and Electric Cars 2016-2017: The Best and the Rest, http://www.caranddriver.com/best-hybrid-electric-cars (*last accessed* Apr. 14, 2016).

combustion.[8] Consequently, the authors of the BNEF report predict that that the 2020s will be the "start of a real mass-market liftoff for electric cars."[9]

Electric Vehicles

Currently, three types of electric vehicles exist on the market: hybrid electric vehicles ("HEV"), plug-in hybrid electric vehicles ("PHEV"), and battery electric vehicles ("BEV"). Hybrid electric vehicles operate on conventional fossil fuels, but can also charge an electric battery by converting fuel into electricity.[10] Plug-in hybrid electric vehicles are powered by a combination of fuel and electricity, and the battery is recharged through an external source (examples of a PHEV include the Toyota Prius and Chevy Volt).[11] Battery electric vehicles operate exclusively by a rechargeable electric pack (an example of a BEV is the Nissan Leaf).[12]

PHEVs and BEVs each require that the vehicle has access to an external charging station, since these vehicles are either partly or exclusively charged by an electric battery. The first public charging station in New York City opened in July 2010.[13] The charging station, located in a publically-accessible parking lot near the Port Authority Bus Terminal was made possible by a $37 million grant from the federal government.[14] According to DOT, New York City is home to 260 public charging sites, and additionally the City has installed over 200 chargers for charging

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[8] Press Release, Bloomberg New Energy Finance, *Electric Vehicles to be 35% of Global New Car Sales by 2040*, Feb. 25, 2016, *available at* http://about.bnef.com/press-releases/electric-vehicles-to-be-35-of-global-new-car-sales-by-2040/.

[9] *Id.*; *also see* Tom Randall, *Here's how electric cars will cause the next oil crises*, BLOOMBERG, Feb. 25, 2016, *available at* http://www.bloomberg.com/features/2016-ev-oil-crisis/.

[10] MIT Energy Initiative Symposium. *Electrification of the Transportation System* 2 (Apr. 2010), *available at* http://mitei.mit.edu/system/files/electrification-transportation-system.pdf.

[11] *Id.*

[12] *Id.*

[13] Press Release, City of New York, *Mayor Bloomberg, HUD Secretary Donovan and Coulomb Technologies announce first public electric vehicle charging stations in New York City*, Jul. 14, 2010, *available at* http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pageID=mayor_press_release&catID=1194&doc_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2010b%2Fpr313-10.html&cc=unused1978&rc=1194&ndi=1.

[14] *Id.*

its own EV fleet.[15] In 2015, the City reported that it installed an additional 33 chargers at municipal parking lots at the following locations:[16]

Location	Address	# of Chargers (installed)
Bay Ridge Municipal Parking	8501 Fifth Avenue, Brooklyn, NY 11209	3
Court Square Municipal Parking	45-40 Court Square, Long Island City, NY 11101	3
East 149th St. Municipal Parking	315 East 149th Street, Bronx, NY 104511	3
Jerome-Gun Hill Road Municipal Parking	3510 Jerome Ave Bronx, NY 10467	3
Flushing #3 Municipal Parking Field	133 41st Avenue, Flushing NY 11354	3
Delancey and Essex Municipal Parking	107 Essex Street, NY, NY 10002	3
St. George Courthouse Garage	54 Central Avenue, Staten Island, NY 10301	3
Queens Family Court Garage	150-07 Archer Avenue, Jamaica NY 11433	3
Jerome-190th Street Municipal Garage	2478 Jerome Ave. Bronx, NY 10468	3

Charging Infrastructure

Electric vehicles can be charged in a home garage using a conventional AC plug, or they can be charged at public charging stations. There are four levels of charging stations currently available, each of which corresponds to a different speed at which an EV can be charged. Level 1 charging is best for charging PHEVs, and uses a 110 volt AC.[17] Level 2 charging is typically necessary for BEVs, and uses a 220 volt AC, but allows a vehicle to be recharged in about 4

[15] Electric Vehicle Advisory *Committee*, *Report of Recommendations (*2015), *available at* http://www.nyc.gov/html/dot/downloads/pdf/2015-electric-vehicle-report.pdf.
[16] *Id.*
[17] *Id.*

hours.[18] DC Fast Chargers allow for the fastest recharging time, but uses a 480 Volt option and is limited to certain types of EVs.[19]

While DC Fast Chargers are the fastest, their prohibitive cost means that they are only available at public charging stations and public/private garages. Level 1 and Level 2 charging can be done in private homes; however, Level 2 charging requires an electric upgrade for which a Department of Building permit is necessary. Finally, Tesla Superchargers can charge a vehicle is a matter of minutes, but these chargers are proprietary and are available only to owners of Tesla vehicles. In 2016, Tesla Motors announced plans to expand its network of Superchargers in New York City to 105.[20]

Electric Vehicle Task Force

In 2013, the Council enacted Local Law 122, which mandated the establishment of the Electric Vehicle Task Force. The primary purpose of the Task Force was to bring together government, the private sector, and members of the advocacy community to discuss various ways to encourage the use of EV's in New York City. In 2015, the Advisory Committee issued its first report and recommendations. The Advisory Committee made the following findings:[21]

- EV ownership in New York City has been steadily increasing, but remains relatively low and, accordingly, so has the demand for additional charging solutions.
- The existing charging situation is mostly reliant on private parking facilities. New solutions may be needed in the future as electric vehicle populations continue to grow.
- Expanded publically available infrastructure could inspire purchaser confidence and stimulate additional market demand. This infrastructure does not necessarily require the City's involvement.

[18] *Id.*
[19] *Id.*
[20] James Covert, *Tesla stations in NYC on verge of outnumbering gas stations*, N.Y. POST, Mar. 17, 2016, a*vailable at* http://nypost.com/2016/03/17/tesla-stations-in-nyc-on-verge-of-outnumbering-gas-stations.
[21] Electric Vehicle Advisory, *supra*, note 15.

- Local law 130 of 2013 will provide some additional charging opportunities in private property in the near future.

In addition to passing Local Law 122, the Council in 2013 enacted Local Law 130 which requires that the electrical capacity in new and renovated garages and parking lots support EV charging in at least 20 percent of parking spaces.

Int. No. 1124 would require DOT to initiate a pilot program to install charging stations at various street parking locations throughout the City.

ANALYSIS OF INT. NO. 1124

Section one of Int. No. 1124 would require that DOT establish pilot program to install electric vehicle charging stations at designated locations in the City. The legislation would also require that within 180 days of the effective date of the legislation the department shall install electric charging stations on at least two but no more than seven on street locations in each of the five boroughs. DOT would also have to post the location of any such electric vehicle charging stations on its website and provide a written report to the speaker of the council on or before March 1, 2018. Finally, the legislation would state that the pilot shall cease to exist on March 1, 2020.

Section two of Int. No. 1124 would provide that the proposed local law would take effect immediately.

Int. No. 1124

By Council Members Constantinides, Rodriguez, Richards, Cornegy, Cabrera, Greenfield, Rose, Chin, Espinal, Ferreras-Copeland, Garodnick, Gentile, Grodenchik, Koo, Lander, Levin, Torres, Treyger, Vallone, Van Bramer, Menchaca, Cohen, Kallos, Lancman, Rosenthal and Ulrich

A LOCAL LAW

In relation to establishing a pilot program for the installation of street parking electric vehicle charging stations.

Be it enacted by the Council as follows:

Section 1. Street parking electric vehicle charging program. a. There shall be a pilot program established by the department of transportation to install electric vehicle charging stations at designated locations in the City.

b. No later than 180 days after the effective date of this local law, the department of transportation shall install electric charging stations on at least two but no more than seven on street locations in each of the five boroughs.

c. The department of transportation shall post the location of any such electric vehicle charging stations on its website. The department of transportation shall further post on its website and provide a written report to the speaker of the council on or before March 1, 2018. Such report shall include, but not be limited to, the cost of such pilot program, the rate of utilization of each charging station, the department's recommendations with respect to expanding or making the pilot program permanent, and any other recommended changes to such program.

d. The pilot program shall cease to exist on March 1, 2020.

§ 2. This local law shall take effect immediately.

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