

2015 HAIL
MARKET
ANALYSIS

NYC
Taxi & Limousine
Commission

Executive Summary

To bring safe, convenient, and legal street-hail service to all five boroughs of New York City (“NYC”), the New York Legislature enacted Chapter 602 of the Laws of 2011, amended by Chapter 9 of the Laws of 2012 (the “HAIL Law”). The HAIL Law, among other things, authorized the NYC Taxi and Limousine Commission (“TLC”) to issue HAIL licenses (better known as Boro Taxi Permits), allowing specially-licensed for-hire vehicles (“Boro Taxis”) to legally pick up street-hailing passengers outside the Manhattan Core¹ and the airports. The HAIL Law also required TLC to publish a HAIL market analysis prior to the second and third issuances, examining issues including the demand for additional Boro Taxi Permits, the impact of the Program on the yellow taxi and For-Hire Vehicle (“FHV”) markets, the impacts on street congestion and safety, and the effectiveness of TLC enforcement and regulations. TLC released the [first HAIL market analysis](#) in December 2013. As of June 2015, TLC has sold 8,050 Boro Taxi Permits. The key findings of this HAIL market analysis are:

Boro Taxi passenger demand remains strong. Unmet passenger demand is demonstrated by Boro Taxi trip records, which show that even as more Boro Taxis enter service (providing nearly three times as many daily trips in May 2015 compared to December 2013), the average number of trips per day per Boro Taxi remains steady. E-hail² data, specifically the number and location of unfulfilled E-hail requests, provide additional confirmation that the current size of the Boro Taxi fleet is unable to meet existing demand. Additionally, competition resulting from the growing Boro Taxi fleet has the additional benefit of encouraging operators to expand the service area, thereby providing street-hail service to new areas of the city.

Boro Taxis extend the reach and fill in the gaps of the public transit system. Because many New Yorkers do not own a personal vehicle, they rely heavily on taxis and FHV’s to perform trips that are not fast or convenient by public transit. A sampling of Boro Taxi trips from January through June of 2015 indicate that over half of the trips (approximately 59%) either begin or end in close proximity to subway or commuter rail stations and, of those trips that begin near a subway stop, 80% terminate in an area that is not within a short walk of public transit. This suggests that Boro Taxis complement public transit for the “last mile” of a trip.

Boro Taxis create a more accessible New York City.

Before the Boro Taxi Program, there were 231 yellow taxis accessible to passengers who use a wheelchair and only a handful of wheelchair-accessible FHV’s. Under the HAIL Law, 20% of Boro Taxi Permits sold must be used with wheelchair-accessible vehicles. As of June 2015, over 1,800 wheelchair-accessible Boro Taxis permits have been sold, representing over half of the 3,600 required by the HAIL Law at full implementation. In August 2014, as part of TLC’s [Disabled Accessibility Plan](#), TLC increased its commitment to providing accessible for-hire service, with plans for the Boro Taxi fleet to ultimately be 50% accessible with 9,000 wheelchair-accessible Boro Taxis on the road, well above the one-fifth requirement provided in the HAIL Law. Passengers who use a wheelchair will be able to street-hail, E-hail, or call ahead for these vehicles and pay the same fare as other passengers—in cash or by credit card—providing them with unprecedented access to on-demand, for-hire transportation.

The Boro Taxi Program offers a small business opportunity for licensees.

In the first five months of 2015, 76% of all Boro Taxis were leased to another driver at least some of the time. This generates income for the permit holder while also allowing a second driver to provide service without being burdened with the cost of owning a vehicle and without placing an additional vehicle on the already-crowded city streets.

¹ The Manhattan Core is defined as the area of Manhattan south of East 96th Street and West 110th Street.

² E-hail applications allow passengers to electronically hail a yellow taxi or Boro Taxi through a TLC-licensed software program.

Glossary and List of Acronyms

AAR Access-a-Ride. The NYC paratransit service administered by the Metropolitan Transportation Authority.

Accessible Dispatch The TLC-managed program that allows passengers in wheelchairs or with other mobility disabilities to request a pick up from a wheelchair-accessible taxi.

Boro Taxi A specially-licensed for-hire vehicle that legally picks up street-hailing passengers outside of the Manhattan Core and airports. Sometimes referred to as a Green Cab or Street Hail Livery.

Boro Taxi Base Endorsement The regulatory instrument that allows a TLC-licensed base to affiliate and dispatch Boro Taxis.

Boro Taxi Permit The regulatory instrument that allows a vehicle to operate as a Boro Taxi.

Boro Taxi Zone The areas in NYC where Boro Taxis are permitted to pick up passengers – the Bronx, Brooklyn, Queens, Staten Island and Northern Manhattan. Everywhere outside the HEZ.

CBD Central Business District. The main economic engine of NYC, defined as Manhattan below 60th Street.

E-Hail A yellow taxi or Boro Taxi hail requested through a software program on a smartphone or other electronic device.

FHV For-Hire Vehicle. A vehicle, classified as a black car, livery or luxury limousine, affiliated to a car service company and licensed by TLC to transport passengers through pre-arrangement. Boro Taxi Permits must be placed into service with a FHV.

HAIL Hail Accessible Inter-borough License. Also called a Boro Taxi Permit.

HAIL Law Chapter 602 of the Laws of 2011, as amended by Chapter 9 of the Laws of 2012, authorizing the creation and licensure of Boro Taxis.

HEZ HAIL Exclusionary Zone. The areas in NYC where Boro Taxis are not permitted to pick up street-hailing passengers. Specifically, the Manhattan Core, John F Kennedy Airport and LaGuardia Airport. Boro Taxis may pick up prearranged passengers at the airports.

LPEP Livery Passenger Enhancements Program, also known as the Boro Taxi Technology System. A system that interfaces with taximeters and roof lights in Boro Taxis containing driver and passenger information monitors, a credit/debit card payment system, and a GPS tracker that records trip activity.

Manhattan Core Manhattan south of West 110th St. and East 96th St.

MTA Metropolitan Transportation Authority.

Taxi Zone TLC-designed geographic boundaries to aid in the analysis of taxi activity. Taxi Zones often align with NYC neighborhood boundaries.

TLC The Taxi and Limousine Commission.

TLC Commissioners Members of the Taxi and Limousine Commission who vote on rules and regulations such as metered rates, standards of service and safety. The Commission's Board consists of nine members (eight unsalaried) who are appointed by the Mayor with the advice and consent of the City Council.

USB Uniformed Services Bureau. TLC's enforcement arm.

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Introduction

The Boro Taxi Program was borne out of decades of dissatisfaction with the lack of legal street-hail service outside of the Manhattan Core. Although FHV bases provided prearranged for-hire travel options, outer borough residents and visitors lacked the benefit of legal, spontaneous hail service. The limited number of yellow taxis—13,237 in 2013—and the rich passenger density of the Manhattan Core meant that, in actuality, yellow taxis rarely provided hail service in the outer boroughs. Past attempts to remedy this inadequacy failed. For example, outer borough yellow taxi stands were created but quickly fell into disuse. The need for street-hail service outside the Manhattan Core resulted in a large illegal market, with many FHV drivers and wholly unlicensed drivers providing illegal street-hail service in the boroughs without the consumer or safety protections yellow taxi passengers enjoy.

Through the HAIL Law, TLC was empowered to develop rules and policies to implement the Boro Taxi Program. The rules were adopted by the TLC Commissioners on April 19, 2012.³ During the same month, a group representing yellow taxi medallion owners challenged the HAIL Law in court and the court issued a temporary restraining order, preventing TLC from issuing Boro Taxi Permits until the litigation was resolved. Ultimately, the Law was unanimously upheld by the Court of Appeals in June 2013. Shortly thereafter, TLC issued the first Boro Taxi Permit from the initial tranche of 6,000 permits, followed by the second tranche of 6,000 permits beginning on August 18, 2014. Boro Taxis now provide both legal street-hail and pre-arranged services in Brooklyn, Queens, Bronx, Staten Island and Northern Manhattan (north of East 96th St. and West 110th St.), as well as pre-arranged service at city airports.

1. HAIL Law and Boro Taxi Program Implementation

1.1 Boro Taxi Program Enacting Legislation

In June of 2011, a bill that provided some of the provisions of the HAIL Law was passed by the State Assembly and Senate. On December 21, 2011, this bill was signed into law under the condition that a chapter amendment clarifying the bill's intent and adding additional provisions would accompany the bill at the start of the next legislative session. The chapter amendment was signed into law on February 17, 2012. Both laws together comprise the HAIL Law.

The HAIL Law authorizes TLC to sell 18,000 Boro Taxi Permits in three tranches of 6,000 permits. One-fifth

(specifically 200 out of every 1,000 permits sold) are required by the Law to be put into service with wheelchair-accessible vehicles. The HAIL Law provided the price for permits in each of the three tranches: \$1,500 for permits in the first tranche; \$3,000 for permits in the second tranche; and \$4,500 for permits in the third tranche.

Section 6 of the HAIL Law requires TLC to perform an analysis before the second and third issuances. The full text from the HAIL Law pertaining to the HAIL market analysis is below:

§ 6. HAIL market analysis. Prior to the second issuance and third issuance, the TLC shall prepare and submit (i) to the council of the city of New York for its comments, (ii) for public comment, and (iii) to the New York state department of transportation for its comments, a HAIL market analysis examining HAIL vehicle rider demand, shortages, and the need for adequate and affordable transportation, including an analysis of (a) the need for additional HAIL licenses to meet rider demand, (b) the adequacy of enforcement provisions governing HAIL licenses, (c) the adequacy of the HAIL exclusionary zone, (d) the state of the market for issuance or other transfer of such licenses, (e) the impact of such new licensing on for-hire vehicle license owners, taxicab license owners and other industry participants that have not obtained such license, (f) the impact of additional license issuance on traffic safety and street congestion within the city of New York, (g) the need for related statutory or regulatory changes, (h) actions by the TLC on: (i) the promulgation of rules and regulations governing HAIL vehicles and the enforcement of existing laws, rules and regulations governing for-hire vehicles, taxicabs, HAIL vehicles and vehicles that operate without a valid license issued by the TLC, (ii) the allocation of resources for enforcement and (iii) deterring and punishing individuals who repeatedly violate such laws, rules and regulations; and (i) implementation of the HAIL license system and its integration into the New York city transit system.

1.2 Boro Taxi Program Features

Boro Taxi Permit issuance is limited to current FHV vehicle or driver licensees who are in good standing and have held a license for at least one year.⁴ A Boro Taxi must have both an FHV license and a Boro Taxi Permit to operate. Licensees operating Boro Taxis may perform both traditional prearranged FHV service anywhere in the city outside the Manhattan Core as well as on-demand street-hail service outside of the HAIL Exclusionary Zone (“HEZ”).⁵ Boro Taxi are restricted as to where they can begin trips, although Boro Taxis may drop off anywhere (see Figure 1). Yellow taxis retain the exclusive right to pick up passengers hailing anywhere in the city.

³ The full text of the Boro Taxi Program rules is available on the [TLC website](#).

⁴ During a portion of the first issuance, permits restricted for use with wheelchair-accessible vehicles were also authorized to be issued to individuals not holding a prior TLC FHV license.

⁵ The HAIL Exclusionary Zone includes the Manhattan Core and both city airports.

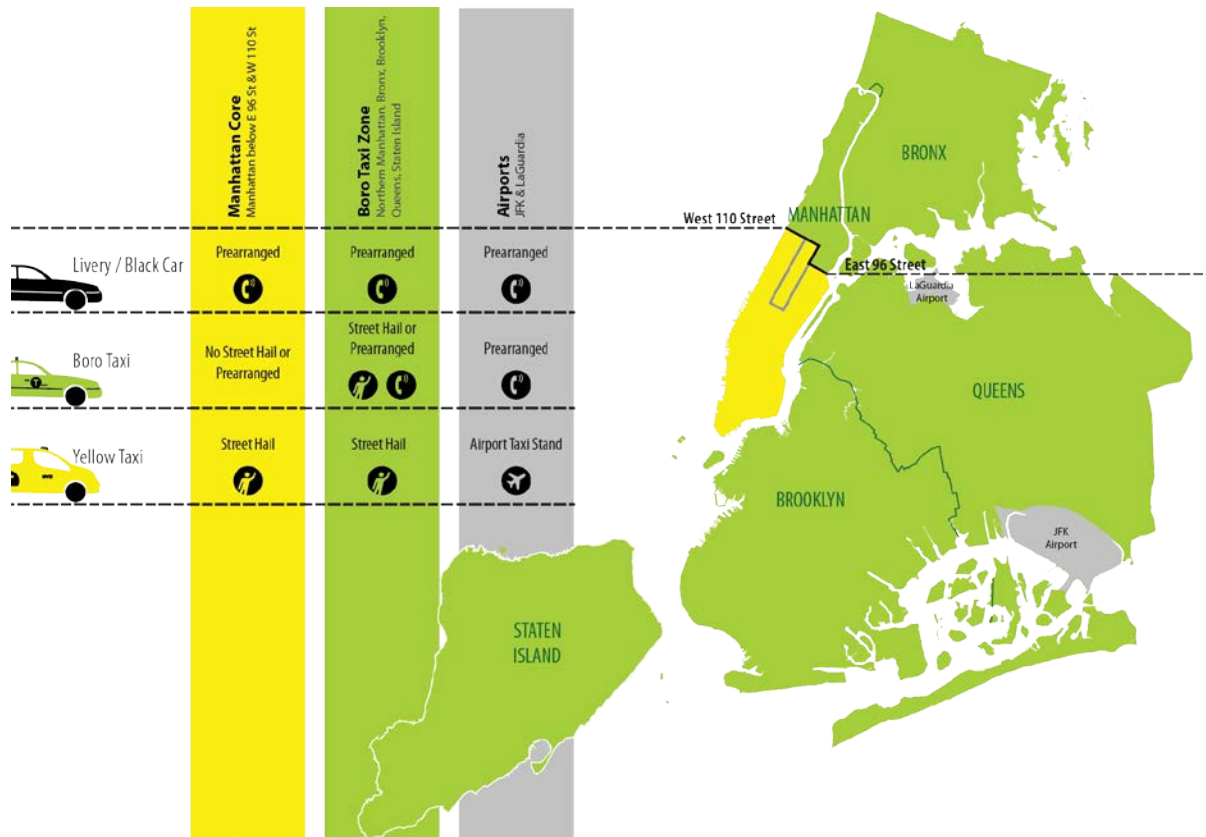


Figure 1: Livery/Black Car, Boro Taxi, and Yellow Taxi Service Areas

Much like yellow taxis, Boro Taxis are uniform in color (apple green) with specified markings (as shown in Figure 2) and technology equipment required under the Livery Passenger Enhancement Program (“LPEP”). The LPEP system includes the taximeter, a debit/credit card reader, and a GPS locator. In Boro Taxis, these GPS locators are utilized in a geofencing feature which automatically extinguishes the roof light and disables the vehicle’s taximeter when a Boro Taxi enters the Manhattan Core. This makes it clear to passengers, who are familiar with the roof light signaling availability, that the Boro Taxi is not available to provide service.

With these markings and equipment requirements, Boro Taxis are easily recognizable and allow passengers outside the HEZ to hail them with the confidence they are entering a TLC-licensed vehicle. Passengers have peace of mind that the vehicle undergoes routine inspection and has necessary insurance coverage⁶, the trip will be completed at a set (and thereby predictable) metered rate of fare, and the vehicle is operated by a TLC-licensed driver who has undergone a background check for criminal convictions, (including drinking and driving offenses) as well as a thorough review of their traffic violation histories.



Figure 2: Boro Taxi Color and Exterior Markings
Source: Smart Design

⁶ TLC insurance requirements exceed New York State minimum insurance requirements.

Beyond providing additional service to street-hailing passengers, Boro Taxis, like yellow taxis, generate a steady source of revenue for the Metropolitan Transit Authority (“MTA”). For all metered trips, passengers pay a \$0.50-per-trip MTA tax. Since the Boro Taxi Program began in 2013, the Program has generated over \$12 million in taxes for the MTA.

1.3 Boro Taxi Program Rules

TLC rules specify requirements for drivers, vehicle owners and base operators providing Boro Taxi service. As with those operating yellow taxis, drivers picking up a street-hailing passenger must complete the trip on the taximeter; must transport passengers to any destination within NYC, Westchester and Nassau Counties or Newark Airport, and must comply with reasonable passenger requests. For pre-arranged trips, Boro Taxi drivers are required to comply with the same service rules as any FHV driver. Finally, Boro Taxi drivers are prohibited from picking-up street-hailing passengers in the HEZ and picking-up any passenger – either pre-arranged or via street-hail –in the Manhattan Core.

Throughout the implementation of the Program, TLC has modified regulations as issues surfaced. For example, identifying a need to clearly inform passengers where Boro Taxis are not permitted to pick up, the TLC Commissioners, on September 18, 2014, adopted a rule change requiring additional markings on the exterior of the Boro Taxis. Figure 3 shows the exclusionary zone decal now required on all Boro Taxis.



Figure 3: TLC-required Exclusionary Zone Decal

In addition, on June 22, 2015, the TLC Commissioners adopted rules establishing a Boro Taxi vehicle license renewal fee of \$900 for a three-year term (\$300 per year). As the first Boro Taxi Permits were issued in the summer of 2013, the first renewal fees will be paid in 2016.

Finally, TLC has proposed Boro Taxi rule changes that will be the subject of a Fall 2015 public hearing. The proposed rules would, among other things, establish or clarify those procedures used to transfer Boro Taxi Permits between licensees as well as remove permits and equipment from those vehicles that are no longer licensed to provide Boro Taxi service. TLC continues to address implementation challenges and identify improvements that can be made to the Boro Taxi Program

1.4 Improving Accessibility of For-Hire Fleet

A central objective of the Boro Taxi Program was making it easier for everyone—including individuals who use wheelchairs—living, working or visiting one of the outer boroughs or Northern Manhattan to reach their

destinations. Before the Boro Taxi Program there were 231 yellow taxis and only a handful of FHV’s that were accessible to passengers in wheelchairs. In its first year, the Boro Taxi Program put 1,200 wheelchair-accessible Boro Taxis on the road. To incentivize the sale of wheelchair-restricted Boro Taxi Permits, TLC waived the \$1,500 permit fee in the first tranche and made available, as required in the HAIL Law, grants of up to \$15,000 for each accessible vehicle placed into service with those permits.

As part of the [Disabled Accessibility Plan](#) released in June 2014, 45% of the permits sold in the second tranche will ultimately be restricted to use with wheelchair-accessible vehicles.⁷ With the sale of permits from the third tranche, the Boro Taxi fleet will eventually be 50% accessible with 9,000 wheelchair-accessible Boro Taxis on the road, well above the one-fifth requirement provided in the HAIL Law. Since current vehicle grant funding is only available for the percentage of vehicles mandated by the HAIL Law to be accessible, TLC rules were amended to include a \$0.30 surcharge for all metered trips to fund grants for the additional accessible vehicles and their drivers.

On May 12, 2015, TLC released a Request for Proposals for a Citywide Accessible Dispatch Program. Beginning in 2016, this program will allow passengers in wheelchairs and passengers with other mobility disabilities to request a pick-up from a wheelchair-accessible yellow taxi or Boro Taxi anywhere in NYC at no extra cost to the passenger. Responses were received July 2015, and the review of these proposals is currently underway.

Members of City Council have also expressed interest in pursuing synergies between the Access-A-Ride (“AAR”) program and the growing fleet of accessible TLC-regulated vehicles, and TLC is exploring with the MTA how the for-hire services regulated by TLC can help provide service to AAR users. This could provide more timely and efficient service than is currently available to AAR passengers and would likely cost the MTA significantly less than today. Improvements in service to persons in wheelchairs have the added benefit of providing an additional income stream for owners of wheelchair-accessible vehicles operating for hire.

Figure 4 on the following page summarizes the major implementation milestones of the Boro Taxi Program.

⁷ In addition to the 1,200 required under the HAIL Law, 500 more permits will gain an accessibility requirement upon first renewal (three years after issuance), followed by 500 more upon second renewal (six years after issuance), and 500 more upon third renewal (nine years after issuance).

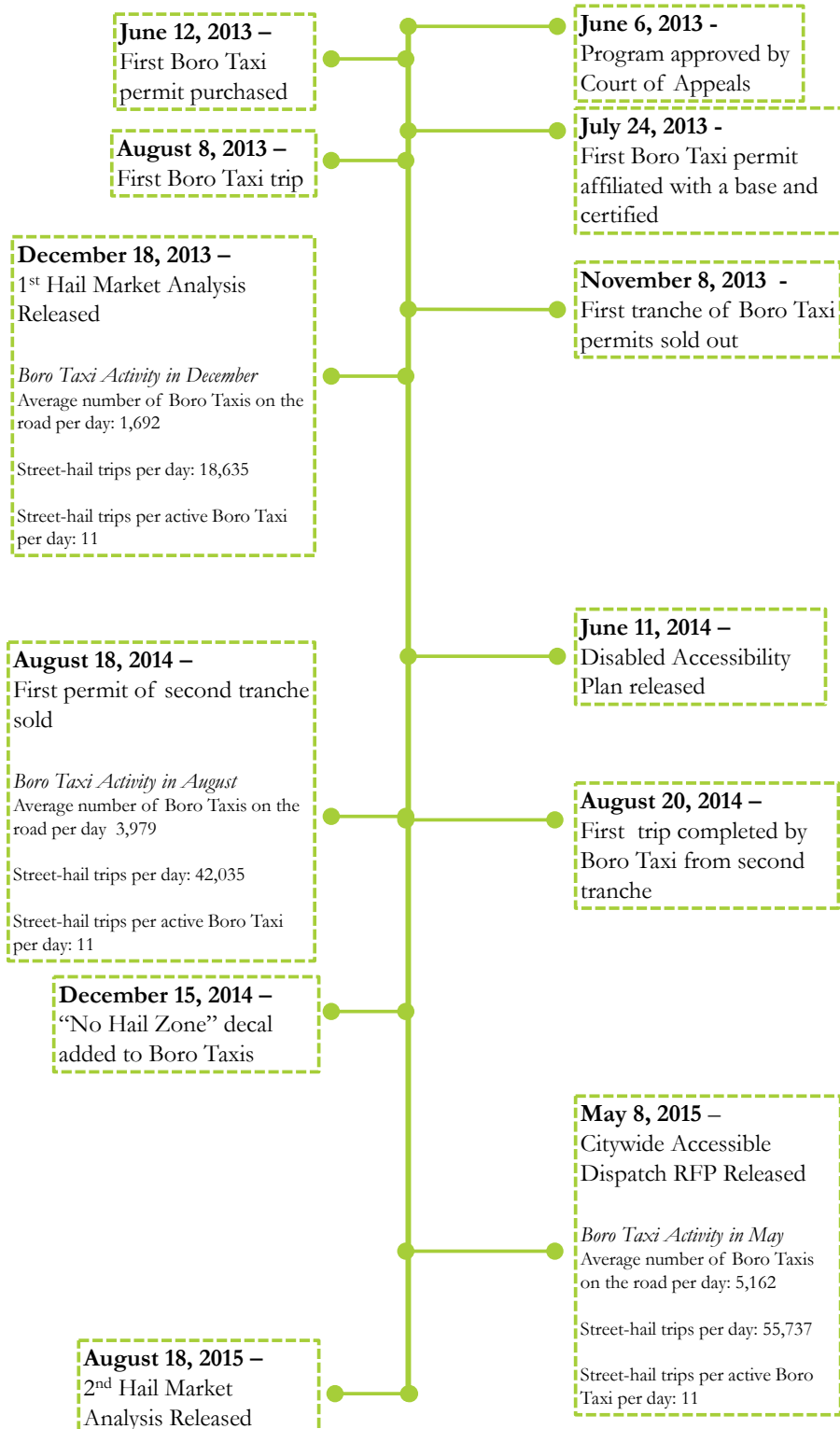


Figure 4: Boro Taxi Program Implementation Timeline

2. Enforcement

TLC’s Uniformed Services Bureau (“USB”), along with administrative enforcement staff, enforces TLC and applicable NYC Administrative Code rules governing for-hire service in the city. USB provides 24/7 field enforcement in the five boroughs, while administrative enforcement staff investigate passenger complaints and monitor yellow taxi and Boro Taxi trip records for violations such as overcharges and service refusals. Since 2013, TLC has increased USB staffing considerably, in part to support the Boro Taxi Program. Starting with 138 officers in August 2013, staff levels peaked at 196 (nearly a 30% increase) in May 2015.

TLC rules specify the service that can be provided by each class of license. As previously discussed, yellow taxis are the only vehicles legally permitted to pick up street-hailing passengers anywhere in NYC. Boro Taxis provide additional street-hail service in the Boro Taxi Zone. FHV’s—including liveries, black cars, and luxury limousines—provide prearranged service throughout the city. The NYC Administrative Code empowers TLC to

issue summonses against those vehicles and drivers wholly unlicensed by TLC caught providing for-hire service in the city. The NYC Administrative Code also authorizes TLC to seize vehicles whose operators are caught providing illegal for-hire service, including TLC licensees operating beyond the scope of their license as well as wholly-unlicensed vehicles and drivers. Table 1 summarizes the penalties imposed on those who provide illegal for-hire service in the city.

Throughout the rollout of the Boro Taxi Program, TLC has actively enforced the HEZ service area restrictions. As of June 2015, USB has issued 835 illegal street hail summonses to Boro Taxi drivers. To complement field enforcement of the HEZ, the exclusionary zone decal (see Figure 3, above) and LPEP geofencing functionality inform passengers that Boro Taxis are unable to pick up passengers in the Manhattan Core. Taken together, these various approaches help to ensure Boro Taxi licensees provide only the safe and legal for-hire service their permits entitle them to provide.

	Rule #	Party	Fines			Vehicle Seized?
			1st Violation	2nd Violation†	3rd Violation‡	
Illegal Street Hails <i>TLC Licensees</i>	TLC Rules 55-19(a)	Driver	\$500	\$1,500	Revocation	N
	TLC Rules 59A-25(a)(1)	Owner	\$100	\$200	\$300	Y
Unlicensed Operations <i>Non-TLC licensees</i>	NYC Administrative Code 19-506B	Owner	\$1000 to \$2000	\$1000 to \$2000	\$1000 to \$2000	Y
	NYC Administrative Code 19-506C	Owner/Driver	\$200 to \$1500	\$200 to \$1500	\$200 to \$1500	Y
	NYC Administrative Code 19-506D	Driver	\$500 to \$1000	\$500 to \$1000	\$500 to \$1000	N

Table 1: NYC Administrative Code and TLC Rules Related to Illegal For-Hire Service

† 55-19(a), if 2nd violation within 24 months; 59A-25(a)(1), increases \$100 for each violation in same license term up to \$10,000

‡ 55-19(a), if 3rd violation within 36 months

3. Boro Taxi Program Impact

3.1 Traffic Safety and Congestion

Current TLC data suggest that Boro Taxis have minimal impact on NYC’s traffic safety. Boro Taxi drivers have, on average, slightly more experience than the typical TLC-licensed driver. Despite logging many miles each year, 68% of all Boro Taxi drivers have not had a collision—not even a fender-bender—in the last 12 months while 87% of Boro Taxi drivers have not accrued penalties under TLC’s driver safety program.

Boro Taxi drivers and vehicle owners continue welcoming new, safe driving initiatives as part of the Vision Zero mayoral plan. TLC’s Vision Zero initiatives include the “[Drive Like Your Family Lives Here](#)” educational film highlighting the potentially devastating effects of unsafe driving, a dedicated USB squad using speed-detecting equipment to ensure TLC drivers follow the speed limit, and TLC’s [Vehicle Safety Technology Pilot](#) evaluating the efficacy of black boxes, anti-speeding technologies, driver alert systems and related analytic software.

Since Boro Taxis are restricted from picking up passengers in the Manhattan Core (which includes the CBD), the majority of Boro Taxi trips occur outside of the CBD. Only 19% of all trips end in the Manhattan Core, and the prohibition on pick-ups within this area removes the incentive to cruise there for the next fare opportunity following a drop-off. As to congestion throughout all five boroughs outside of the Manhattan Core, average Boro Taxi trip speeds have remained steady over the last year, even as more Boro Taxis have entered into service. Comparing trips completed in January through June across the five boroughs, the average trip speed was 11.2 mph in 2014, compared to 11.3 mph in 2015.

3.2 Impact on Other Industries

The HAIL Law includes provisions such as the designations of the HEZ to ensure only a minimal impact on existing industries regulated by TLC. When investigating any potential impact of the Boro Taxi Program on the yellow taxi industry, TLC trip data, including trip volumes and revenue, generated by yellow taxi and Boro Taxis in-vehicle technology systems offers reliable insight. For yellow taxis, approximately 93% of trips originate in the Manhattan Core or at one of the city’s airports. This trend is inverted for Boro Taxis, where 98% of street-hail trips originate outside the Manhattan Core and city airports.

Figure 5 compares average daily yellow taxi trip volume with the daily fares those trips generate. Since the spring of 2012, yellow taxi trip volumes have declined; however, the decline in trips has occurred both inside and outside of the HEZ. Farebox revenue has also declined, though less so than trip volumes, as a result of a September 2012 fare increase of 17% (which lowered the level of demand for trips) and a simultaneous increase in average trip distance (which increased the average fare per trip). The citywide decline in trip volumes is likely due to at least two larger changes in the for-hire industries beyond the issuance of Boro Taxi Permits. First there is the aforementioned 2012 fare increase, which consultants for TLC estimated would ultimately result in a 4.25% drop in trip volumes. Another reason is the significant increase in the size of the FHV industry discussed below.

Given these changes and also given that the HEZ still preserves the largest share of the street-hail market, the Manhattan Core, for yellow taxi service only, it appears Boro Taxis have a minimal impact on the yellow taxi industry.

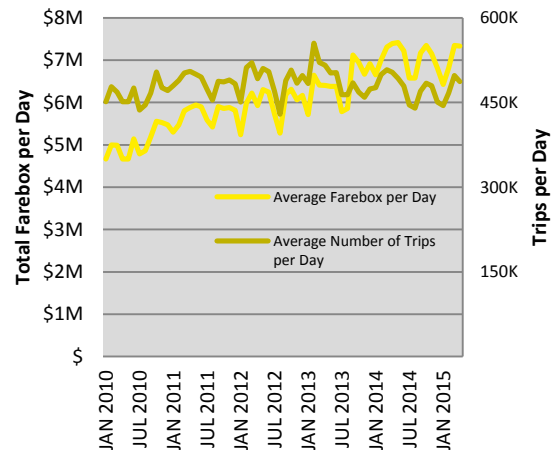


Figure 5: Yellow Taxi, Average Daily Trips and Farebox including Credit Card Tips

Source: TPEP trip-sheet data, August 2013 through May 2015

As Table 2 shows, the FHV industry has experienced unprecedented growth through the rollout of the Boro Taxi program, spurred by the popularity of app-based dispatch services. Between 2012 and 2015, the number of FHV drivers increased by 48%, from approximately 55,000 to approximately 81,000, and the number FHV vehicles increased by 57%, from approximately 40,000 to

approximately 63,000. Growth in FHV vehicles has been particularly concentrated in the Black Car segment, which increased by nearly 17,000 vehicles (over 300%) from 2011 to 2015. Accordingly, it appears Boro Taxis have had little to no negative impact on the FHV industry.

						Percent Change			
	2011	2012	2013	2014	2015	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015
FHV Drivers	54,543	55,350	56,693	61,752	81,243	1%	2%	9%	32%
FHV Vehicles	36,195	40,356	40,339	48,580	63,261	11%	0%	20%	30%
Livery Cars (incl. Boro Taxis)	22,874	25,945	25,002	28,417	32,329	13%	-4%	14%	14%
Black Cars	7,890	7,980	9,163	13,870	24,954	1%	15%	51%	80%
Luxury Limousines	5,431	6,431	6,174	6,293	5,978	18%	-4%	2%	-5%

Table 2: Number of TLC FHV Licenses

Source: TLC Annual Reports, 2011 to 2014

4. Passenger Demand

4.1 Boro Taxi Passenger Demand Remains Strong

Approximately 68,300 passengers per day hail Boro Taxis. On Saturday, May 2, 2015, 5,400 Boro Taxis set a record high of 80,740 street-hail trips. However, there is still unmet passenger demand, confirmed by surveys, Boro Taxi trip records and E-hail requests in the Boro Taxi Zone.

Between January 1, 2015 and May 31, 2015, approximately 7,000 passengers were asked in a TLC-conducted survey if they were unable to hail a taxi within the last month. Fifty-three percent of passengers responded that they had wanted to hail a taxi but none were available at least once in the last month – 87% of which were in the Boro Taxi Zone the last time it happened. This is a strong indication of demand for Boro Taxi service that is not being met.

This unmet passenger demand is also evident in Boro Taxi trip records. Figure 6 demonstrates that even as more Boro Taxis go into service, the average number of trips per day per Boro Taxi remains steady. The growing fleet of Boro Taxis is not cannibalizing one another's business—rather, ridership keeps growing—showing a demand for more Boro Taxis than are currently in service.

Finally, E-hail data also indicate the demand for additional Boro Taxi service. In 2013, TLC approved a pilot program and eventually adopted permanent rules allowing

passengers to E-hail a yellow taxi or Boro Taxi using a smartphone. E-hail requests, specifically the volume and location of unfulfilled requests, can reveal unmet passenger demand. As shown in Figure 7, 99,440 E-hail requests made outside the Manhattan Core went unfulfilled in the first half of 2015. This represents approximately 538 trips per day that could have occurred had a Boro Taxi been nearby.

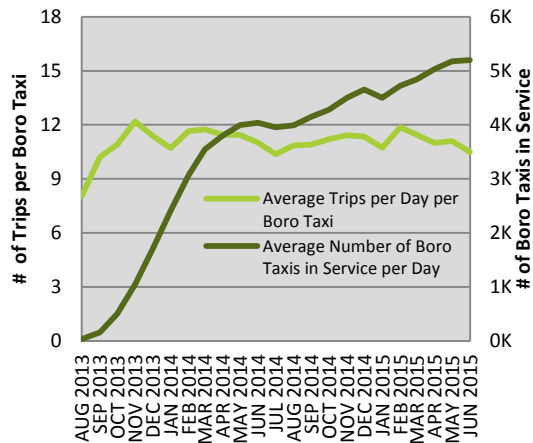


Figure 6: Number of Boro Taxi in Service and Number of Trips per Boro Taxi per Day

Source: TLC analysis of LPEP trip data, August 8 to June 30, 2015

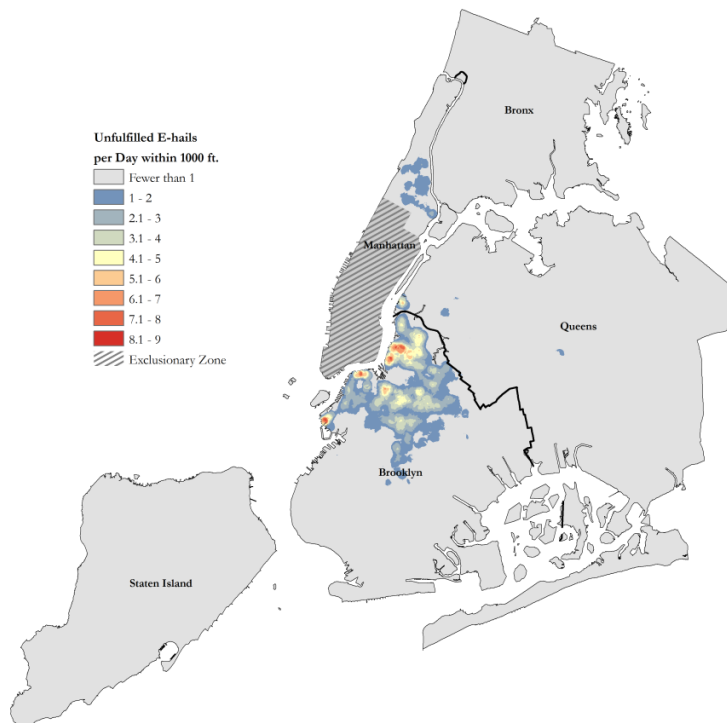


Figure 7: Unmet E-hail Demand Outside the Manhattan Core

Source: TLC analysis of E-hail records, January 1 to July 5, 2015

4.2 Boro Taxis Fill a Gap in Public Transit

Boro Taxis are an important transportation link near transit stations. According to the 2013 American Community Survey, 91% of households nationwide own a car, while NYC households have much lower car ownership rates: 22% in Manhattan; 41% in the Bronx; 46% in Brooklyn; 62% in Queens; and 82% in Staten Island. Thus, many residents rely on public transit and for-hire service to travel within the city.

Examining trips from January through June of 2015, over half of Boro Taxi trips (approximately 59%) either begin or end in close proximity to transit (within 1/8-mi of NYC subway stations). More striking is that 80% of the trips beginning within 1/8-mi of a subway station terminate in an area that is not within a short walk of transit. This suggests that passengers use Boro Taxis to reach destinations that are less accessible by transit or as a way to complement transit for the “last mile” of a trip

Figure 8 shows the top 15 subway stations for Boro Taxi pick-up activity. The top station for pick-ups is the 125th Street stop on the Lexington Avenue Line (4-5-6), where

an average of 1,137 daily pick-ups occurred within 1/8-mile of the station between January 2015 and June 2015. An overwhelming majority of the top subway stations are located in Queens, especially along the Queens Boulevard Line (E-F-M-R). The second-most popular station for Boro Taxi pick-ups is the Forest Hills – 71st Avenue stop, where 929 daily pick-ups occurred within 1/8-mi of the station, on average. The nearby Forest Hills station on the Long Island Railroad provides additional demand for service.

Figure 9 shows the top 15 subway stations for Boro Taxi drop-off activity. Drop-offs are not as heavily concentrated around subway stations as pick-ups. In fact, no one station has more than 500 daily drop-offs within a 1/8-mile radius. The top station for drop-offs is the same as for pick-ups, the 125th Street stop on the Lexington Avenue Line (4-5-6), with 383 Boro Taxis dropping-off passengers each day, on average, within 1/8-mi of the station. An overwhelming majority of the top subway stations for drop-off activity are located in Northern Manhattan.



Figure 8: Top Fifteen Subway Stations for Pick-ups by Boro Taxis, January 2015 to June 2015

Source: LPEP trip-sheet data from sample of trips, June 2015

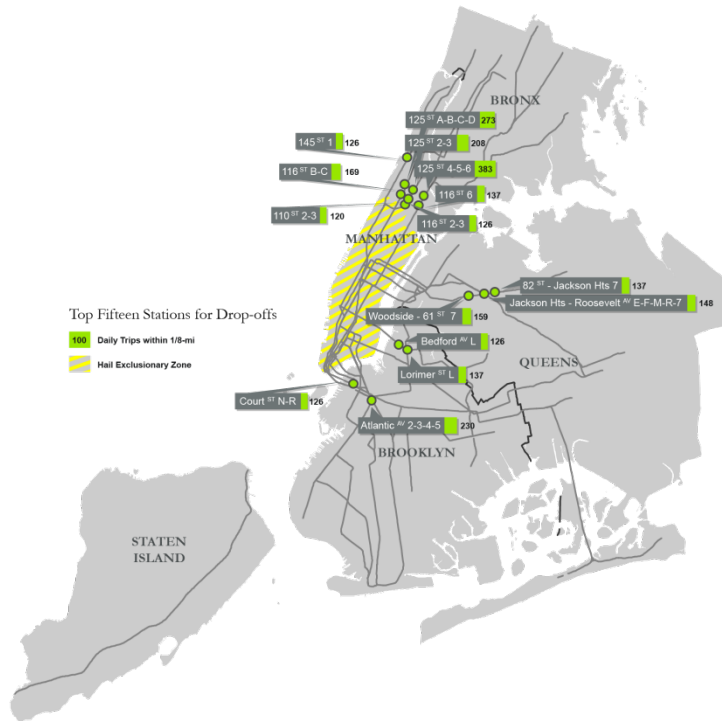


Figure 9: Top Fifteen Subway Stations for Drop-offs by Boro Taxis, January 2015 to June 2015
 Source: LPEP trip-sheet data from sample of trips, June 2015

4.3 Additional Boro Taxis Needed to Continue Expansion of Service

Over the entirety of the Program to date, overall pick-up volumes are highest in 24 Taxi Zones⁸ split among Brooklyn, Queens and Northern Manhattan (see Figure 10). The highest concentrations of pick-ups occur in Astoria, Williamsburg, and Harlem. As of May 2015, 34% of pick-ups were in Brooklyn, 30% were in Northern Manhattan, 28% were in Queens, 7% were in the Bronx and less than 1% were in Staten Island.

Boro Taxi drop-offs have been less concentrated than pick-ups. Figure 11 shows that 27% of Boro Taxi drop-offs were in Brooklyn, 27% were in Queens (including the airports), 17% were in Northern Manhattan, 9% were in the Bronx, and less than 1% were in Staten Island. The other 19% of drop-offs were in the Manhattan Core, where drivers drop off and return to the Boro Taxi Zone without a passenger.

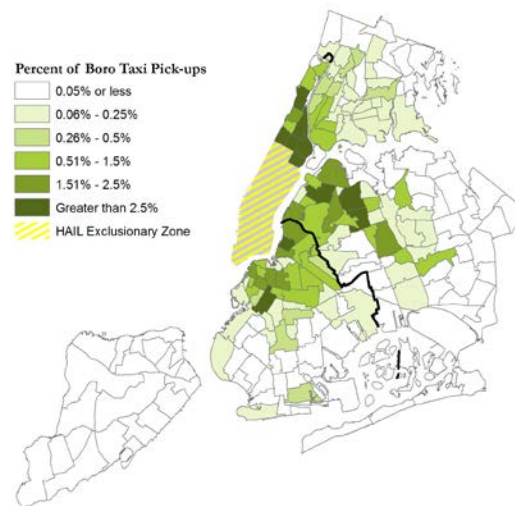


Figure 10: Distribution of Boro Taxi Pick-ups by TLC Taxi Zone
 Source: TLC analysis of TLC LPEP Data, August 8, 2013 to May 31, 2015

⁸ Taxi Zones are geographic boundaries TLC designed to aid in the analysis of taxi activity. They often align with NYC neighborhood boundaries.

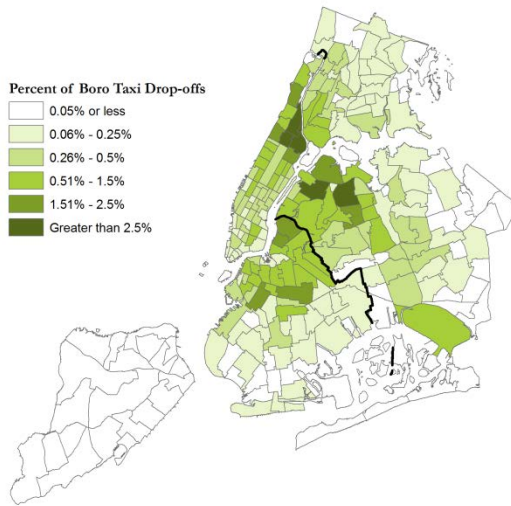


Figure 11: Distribution of Boro Taxi Drop-offs by TLC Taxi Zone

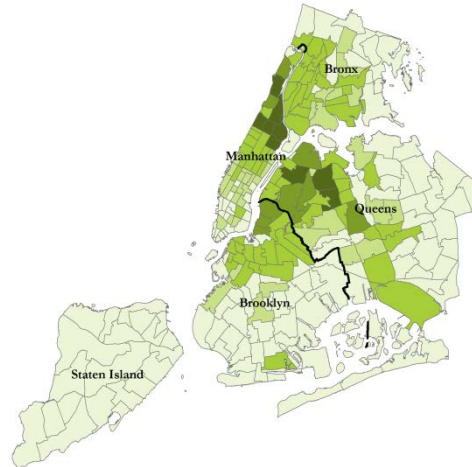
Source: TLC analysis of TLC LPEP Data, August 8, 2013 to May 31, 2015

As more Boro Taxis enter service and increase competition for passengers, drivers find new pockets of demand for service throughout the boroughs. Figure 12 shows the average number of daily pick-ups and drop-offs by Taxi Zone for three months: December 2013, when the first HAIL market analysis was submitted; December 2014, a year after when second-tranche permits were hitting the road; and June 2015, the most recent month where data are available.⁹ Between December 2013 and December 2014, the number of Boro Taxis in service grew significantly from 1,692 to 4,639. During this time of high growth, 132 zones experienced growth in Boro Taxi service. This is particularly apparent in Brooklyn, which saw expanded service to 45 zones. Additionally, neighborhoods that were already serviced by Boro Taxis continued to see an increase in the number of pick-ups within their areas. As of June 2015, levels of service increased in additional neighborhoods including Brownsville and East New York in Brooklyn and Soundview in the Bronx. A similar pattern is observable in drop-offs, which mirror the increase in service to the outer boroughs. Between December 2013 and June 2015, NYC saw an increase of service to over half of all Taxi Zones.

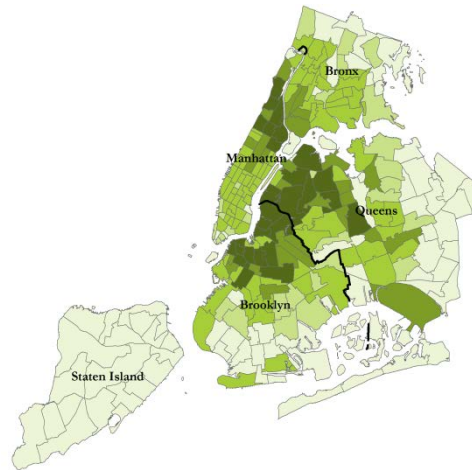
As anticipated, trip data clearly show an expansion of service throughout the boroughs as new Boro Taxis are added to the Program. By continuing to offer for sale those permits in the second tranche and, once those permits are exhausted, offering for sale permits from the third tranche, TLC expects street-hail service to expand further throughout the boroughs.

⁹ To offer three snapshots over the duration of the Program, trips in December 2013 and 2014 are compared to trips in June 2015, a conservative comparison since summer months are typically slower than winter months for for-hire service.

December 2013



December 2014



June 2015

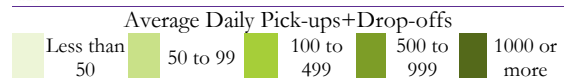
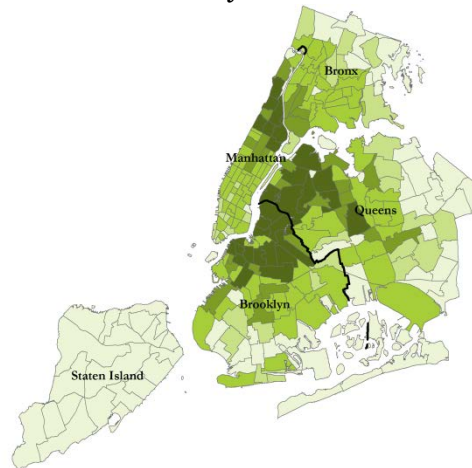


Figure 12: Boro Taxi Spread of Service – Pick-ups and Drop-offs by Taxi Zone for December 2013, December 2014, and June 2015

Source: TLC analysis of TLC LPEP Data, December 2013, December 2014, and June 2015

4.4 Boro Taxis Provide Needed Accessible For-Hire Service

Boro Taxis bring a dedicated fleet of wheelchair-accessible vehicles to areas of the city that have been underserved for years. Over 1,800 wheelchair-accessible Boro Taxi permits have been sold so far, and as of June 2015, there were over 1,200 wheelchair-accessible Boro Taxis in service providing over 9,000 trips each day.¹⁰ Clearly, Boro Taxis are providing a much needed transportation option for individuals with disabilities, and the demand for service will continue to grow.

As previously discussed, TLC is currently in the process of expanding the successful Accessible Dispatch Program citywide to make it even easier for residents to hail a wheelchair-accessible taxi. This new centralized citywide service will connect customers to the growing fleet of wheelchair-accessible vehicles.

To meet the transportation needs of the riding public who use a wheelchair as well as those citizens who utilize TLC's Accessible Dispatch Program, TLC will continue to ensure the accessible commitments detailed in the Disabled Accessibility Plan are met. Through the sale of permits in third tranche, the majority of which will be required to be used with a wheelchair-accessible vehicle, TLC would achieve a 50% accessible Boro Taxi fleet.

¹⁰ Purchasers of the remaining 600 accessible Boro Taxi Permits sold to date are in the process of purchasing an accessible vehicle and obtaining grant funding.

5. Supply and Demand for Boro Taxi Permits

As of the end of June 2015, TLC has sold 8,050 Boro Taxi Permits. After licensees eagerly purchased permits from the first tranche after years of fighting for the ability to provide legal street-hail service in the boroughs, TLC has sold approximately 340 Boro Taxi Permits per month during the second tranche. One reason for the more steady growth is that there is a cost for all permits in the second tranche (20% of the first tranche were given away for free). Additionally, that cost, \$3,000, is twice that of the first tranche permits. Furthermore, the added time it takes owners to purchase accessible vehicles and secure grant funding has also slowed the pace at which these vehicles are placed into service.

For those licensees who have purchased a Boro Taxi Permit, leasing a Boro Taxi to drivers has become an increasingly popular choice similar to the leasing model prevalent in the yellow taxi industry. This model allows owners to generate income during those times the owner is not driving. Since the first HAIL market analysis in December 2013, the share of Boro Taxis leased to non-owner drivers has increased. Figure 13 shows the percent of Boro Taxis leased out to a driver who does not own the permit, comparing leasing behavior in 2013 to leasing behavior in 2015.

In the first five months of 2015, 24% of all Boro Taxis were driven exclusively by the permit holder; meaning over three-quarters of all Boro Taxi owners leased the vehicle to another driver at least some of the time. In total, 46% of Boro Taxis were leased out to other drivers part-time, and 31% of Boro Taxi Permit holders exclusively leased out to other drivers. In November 2013, only 26% of permit owners leased their vehicles at least some of the time. As more vehicles have entered service, leasing has become a more prevalent model with between 70% and 80% of permits leased each day.

The existence and growth in leasing shows there is demand to operate Boro Taxis from qualified drivers who do not yet own permits themselves. That owners are leasing their permits instead of simply transferring them also suggests that owners view their permits as revenue-generating assets worth owning even while not personally driving.

The value of Boro Taxi Permits remains steady. Sales of Boro Taxi Permits on the secondary market are required to be filed with TLC. Between January and May 2015, there were 273 Boro Taxi Permit transfers. Sometimes permits and vehicles are sold together, so in many cases the sales price reported to TLC includes the price of the car as well. For the purposes of this report, TLC assumes, based on the distribution of sale prices, any sale of over \$5,000 in 2015 includes a car or other asset in addition to the permit. There were 34 permit transfers in this category, ranging from \$5,200 to \$27,000. Thirty-six transfers were for \$0, which typically are the result of name changes (i.e., change from an individual name to a corporation name), as opposed to a true sale to a different owner. Excluding the permit-vehicle bundles and name changes, there were 203 permit-only transfers between January and May 2015. The average sale price of these transfers was \$3,000, the same price as the licensing fee under the second tranche. As TLC continues to sell the remaining Boro Taxi permits, TLC expects the average price of permits in the secondary market will likely not rise above the initial sales price until permits are sold out.

In addition to Boro Taxi Permits, the HAIL Law authorizes the issuance of up to 450 Boro Taxi Base Endorsements, which permit FHV bases to affiliate and dispatch Boro Taxis. TLC rules do not limit the number vehicles a base may affiliate. As of June 2015, there were 196 bases with endorsements. Boro Taxis have affiliated with 163 out of the 196 bases. Because less than half of the 450 available Boro Taxi Base Endorsements have been purchased, the supply of Boro Taxi Base Endorsements seems sufficient at this time.

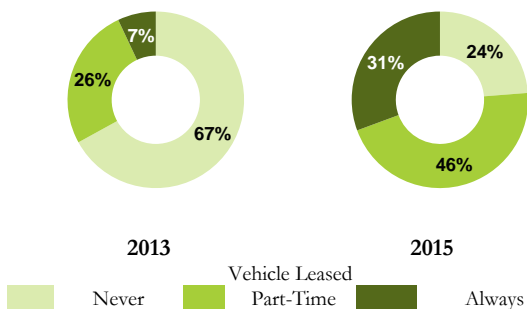


Figure 13: Distribution of Permits Leased in 2013 and 2015

Source: TLC analysis of TLC licensing and Boro Taxi trip-sheet data January 1, 2015 to May 30, 2015

6. Findings

The Boro Taxi Program has extended safe, convenient, accessible, and legal street-hail service to all five boroughs. Passenger demand for Boro Taxis continues to grow, so that even as the numbers of Boro Taxis increase, the average number of trips taken per day in each Boro Taxi remains consistent. Passengers use Boro Taxis as a predictable and affordable way to reach destinations that are not accessible by public transit or as a way to complement public transit for the “last mile” of a trip. The Boro Taxi Program provides a needed accessible transportation option to people with disabilities.

The higher permit fees for the second tranche have contributed to a slower, more deliberate rollout of additional Boro Taxis. TLC should continue making available for sale the remaining permits in the second tranche at the current price of \$3,000. When those permits are exhausted, TLC should make the third tranche of permits available for sale.

Although yellow taxi trip volumes have decreased, TLC does not recommend a change to the HEZ boundaries. The decrease in trip volumes is observed in both the HEZ and Boro Taxi Zone, likely due to larger changes in the for-hire industries. The HEZ still preserves the largest share of the street-hail market, the Manhattan Core, for yellow taxi service only. TLC should continue to monitor the Program, especially in its reach to neighborhoods throughout the boroughs and to individuals with disabilities, and adjust regulations accordingly.